Our Interconnected

BACO 2025

Busan IAMAS-IACS-IAPSO Joint Assembly

20-25 July 2025

BEXCO, Busan, Republic of Korea

Program Book

20 July 2025

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Busan Dadaepo Beach

Overview

Title Busan IAMAS-IACS-IAPSO Joint Assembly 2025

Date 20-25 July 2025

Theme Our Interconnected Earth

Venue BEXCO, Busan, Republic of Korea

Hosted by IUGG, IAMAS, IAPSO, IACS

Organized by 사단법인 한국기상학회, (사)한국해양학회, 대한지질학회

Local Organizing Committee of BACO-25

Sponsored by 부산광역시, 기상청, 국립기상과학원, KOPRI 극지연구소, APCC, IBS Center for Climate Physics, KIAPS, OCEANTECH, 부산대학교, KIOST, GeoSR, AGU, Korea Tourism Organization, BTO Busan

Welcome from the LOC Chair

Welcome everyone,

On behalf of the Local Organizing Committee (LOC), we are honored to host the Busan IAMAS-IACS-IAPSO Joint Assembly 2025 (BACO-25) in Busan, Republic of Korea. I am Kyung-Ja Ha, the LOC Chair and a professor in the Department of Atmospheric Science at Pusan National University.

Korea has achieved remarkable scientific and technological advancements alongside its rapid economic growth. However, the country has also increasingly faced natural disasters, highlighting the global climate change crisis. At this crucial time, when the importance of the Earth's environment is more emphasized than ever, this assembly will serve as a platform to share the latest discoveries in earth sciences and collaborate on strategies to overcome the climate crisis.

We anticipate that this event will not only foster academic progress in geosciences but also encourage the participation of young geoscientists from the world to promote international cooperation programs.

BACO-25 will be organized jointly by the Korean Meteorological Society, the Korean Society of Oceanography, and the Geological Society of Korea, with enthusiastic support from the Korean government and Busan Metropolitan City, ensuring a professional and successful conference.

BACO-25 will take place from July 20 to 25, 2025. Over these six days, esteemed colleagues from academia, government, and industry worldwide will engage in scientific presentations, discussions, information exchanges, and international cooperation in earth sciences. Participants will enjoy exceptional scientific programs, exhibitions, and exciting supporting events.

Busan, Korea's second-largest city, boasts numerous world-class institutions and universities renowned for earth and ocean science research, such as the Korea Institute of Ocean Science & Technology (KIOST), the APEC Climate Center (APCC), the IBS Center for Climate Physics, and the National Institute of Fisheries Sciences. Busan is a dynamic metropolis where modern life harmonizes with traditional hospitality. The city offers extensive multilingual signage, efficient public transportation, ICT-based infrastructure, and eco-friendly technologies, making it a convenient place for residents and visitors. Busan is truly a destination of excitement, sensory richness, and warmth.

As an ocean tourism city, Busan features seven beautiful beaches. It is also a city of festivals, hosting events year-round, including the Busan International Film Festival and the Busan International Fireworks Festival. Its close proximity to UNESCO World Heritage sites in Gyeongju and the stunning Jeju Island, just a short flight away, provides unique experiences for international delegates.

On behalf of the LOC, we are preparing a variety of academic and cultural programs to ensure the successful hosting of the BACO-25 Joint Assembly in Korea. We sincerely hope to welcome you to Busan in 2025.

Sincerely yours,

Kyung-Ja Ha

Kyung-Ja Ha
Chair, Local Organizing Committee of BACO-25

Local Organizing Committee

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Kyung-Ja Ha
Pusan National University (PNU)

Co-Chair
Seon-Ki Park
Korean Meteorological Society

Co-Chair
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The Korean Society of Oceanography

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Planning and Supporting Events
Sang-Woo Kim
Seoul National University

Media and Communication
Won Sang Lee
Korea Polar Research Institute

Sponsoring and Fundraising
Jae-Hun Park
Inha University

LOC Secretariat
Joonlee Lee
Ulsan National Institute of Science and Technology (UNIST)

Local Organizing Committee

IAMAS
International Association of Meteorology and Atmospheric Sciences

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Ulsan National Institute of Science and Technology (UNIST)

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SeHyun Kim
Korea Broadcasting System

IAPSO

Byoung-Ju Choi
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Sung-Hyun Nam
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Dong Eun Lee
Chungnam National University

Taewook Park
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Hyung-Gyu Lim
Korea Institute of Ocean Science & Technology (KIOST)

IACS

Emilia Kyung Jin
Korea Polar Research Institute (KOPRI)

Hyangsun Han
Kangwon National University

Eunji Byun
Yonsei University

Seung Hee Kim
Korea Polar Research Institute (KOPRI)

International Union of Geodesy and Geophysics (IUGG)

IUGG

International Union of Geodesy and Geophysics

International Union of Geodesy and Geophysics (IUGG) is a non-governmental, scientific organization, established in 1919. IUGG is one of the 40 scientific Unions and Associations presently grouped within the International Science Council (ISC). The ISC is a Lead Coordinator of the UN Major Group for Science and Technology.

This conference is jointly organized by IACS, IAMAS, and IAPSO, which are three of the eight associations under the International Union of Geodesy and Geophysics (IUGG: IACS, IAG, IAGA, IAHS, IAMAS, IAPSO, IASPEI, and IAVCEI).

IAMAS President
Andrea Flossmann

IAMAS
International Association of Meteorology and Atmospheric Sciences

IAPSO President
Hans van Haren

IAPSO

IACS

IACS President
Liss M. Andreassen

Important Dates

Content	Dates	
	Open	Close
Form Scientific Program Committee (SPC)	31 Jan 2024	
Call for Sessions	4 Mar 2024	
Session Proposal Due	30 Apr 2024	
Notification of Session Selection	15 May 2024	
1st Circular	1 July 2024	
Finalizing Sessions & Programs	17 July 2024	
Abstract Submission	16 Nov 2024	25 Feb 2025
2nd Circular	25 Nov	
Travel grant application submission	1 Dec 2024	25 Feb 2025
Early bird registration	1 Dec 2024	7 May 2025
Online accommodation reservations	1 Dec 2024	30 Jun 2025
Final author registration	6 Jun 2025	
3rd Circular release	30 Apr 2025	
Regular registration	8 May 2025	18 Jul 2025
Field trip reservation	1 April	25 Jun 2025
Final Circular release	12 Jul 2025	
On-site registration	19 Jul 2025	25 Jul 2025
Sponsorship & Exhibition	30 Jun 2025	

Program at a Glance

	Sunday 20 July	Monday 21 July	Tuesday 22 July	Wednesday 23 July	Thursday 24 July	Friday 25 July
14:00 – 17:00	Registration					
08:00 – 18:00		Registration				
08:00 – 12:00						Registration
11:00 – 18:00	Business Meetings					
10:00 – 18:30		Exhibition				
08:30 - 09:00						Oral Sessions (AM1)
09:00 - 09:30		Oral Sessions (AM1)				
09:30 - 10:00						
10:00 - 10:30						Break
10:30 - 11:00		Break				Oral Sessions (AM2)
11:00 - 11:30		Oral Sessions (AM2)	Plenary Speeches	Plenary Speeches		
11:30 - 12:00			IAMAS Early Career Award Ceremony (11:35-12:00)	Lunch		
12:00 - 12:30			Lunch			Closing Ceremony
12:30 - 13:30		Lunch				
13:30 - 14:00		Oral Sessions (PM1)				
14:00 - 14:30						
14:30 - 15:00						
15:00 - 15:30	Earth Film Festival	Break				
15:30 - 16:00		Oral Sessions (PM2)		IAPSO Medal Ceremony (15:00-17:00)		
16:00 - 16:30						
16:30 - 17:00						
17:00 - 17:30		Opening Ceremony & Keynote Speech	Poster Sessions			
17:30 - 18:00					IACS Early Career Award winners (18:00-19:00)	
18:00 - 18:30						
18:30 - 19:00		Welcome Reception				
19:00 - 19:30			Field Trip (Half Day/Busan) 13:00 - 17:30	Field Trip (Full Day/Gyeongju) 09:00 - 18:00	Public Lecture 12:00 - 15:30	
19:30 - 20:00						
20:00 - 20:30						

Joint Assembly Information

Opening Hours

Registration (1F Lobby)

Sunday, 20 July 2025	14:00 – 17:00
Monday, 21 July 2025	08:00 – 18:00
Tuesday, 22 July 2025	08:00 – 18:00
Wednesday, 23 July 2025	08:00 – 18:00
Thursday, 24 July 2025	08:00 – 18:00
Friday, 25 July 2025	08:00 – 12:00

Speaker Ready Room (2F C208-2)

Sunday, 20 July 2025	15:00 – 18:00
Monday, 21 July 2025	08:00 – 17:00
Tuesday, 22 July 2025	08:00 – 17:00
Wednesday, 23 July 2025	08:00 – 17:00
Thursday, 24 July 2025	08:00 – 17:00
Friday, 25 July 2025	07:30 – 12:00

Exhibition (3F Lobby)

Sunday, 20 July 2025	-
Monday, 21 July 2025	10:00 – 18:30
Tuesday, 22 July 2025	10:00 – 18:30
Wednesday, 23 July 2025	10:00 – 18:30
Thursday, 24 July 2025	10:00 – 18:30
Friday, 25 July 2025	-

Poster Session (3F C301)

Sunday, 20 July 2025	-
Monday, 21 July 2025	-
Tuesday, 22 July 2025	17:00 – 18:30
Wednesday, 23 July 2025	17:00 – 18:30
Thursday, 24 July 2025	17:00 – 18:30
Friday, 25 July 2025	-

Opening Hours

Ceremony & Reception

Monday, 21 July 2025	Opening Ceremony (C301)	17:00 – 18:30
	Welcome Reception (C301)	18:30 – 20:00
Friday, 25 July 2025	Closing Ceremony (C205)	12:00 – 12:30

Plenary Speeches (2~3F)

Monday, 21 July 2025	BACO-25 (C301)	17:00 – 17:30
Tuesday, 22 July 2025	IAMAS (C205)	11:00 – 12:00
Wednesday, 23 July 2025	IAPSO (C205)	11:00 – 11:30
Thursday, 24 July 2025	IACS (C205)	11:00 – 11:30

Scientific Program Committee

The Scientific Program Committee (SPC) has prepared the program consisting of regular symposia scoped by three associations, as well as the joint symposia prepared by the collaboration of different association members.

The regular symposia of the International Association of Meteorology and Atmospheric Sciences (IAMAS) encompass a broad range of topics within the field of atmospheric and meteorological sciences. Key areas of focus include atmospheric chemistry and global pollution, climate, clouds and precipitation, dynamical meteorology, middle atmosphere, planetary atmospheres and their evolution, polar meteorology, ozone, radiation, weather and climate extremes, and atmospheric electricity.

The symposia in the International Association for the Physical Sciences of the Oceans (IAPSO) focus on a wide array of topics related to the physical sciences of the oceans. Key areas of focus include the mean sea level and tides, air-sea interaction, ocean mixing, ocean salinity, Tsunamis and other ocean hazards, ocean model development, marine meteorology, and marine geodesy and geophysics.

The symposia in the International Association of Cryospheric Sciences (IACS) focus on the study of snow, ice, and frozen ground on Earth and other planets. Key areas of focus include snow and avalanches, glaciers and ice sheets, sea ice, interactions with atmosphere and climate, permafrost, planetary, and other ices of the solar system.

Scientific Program Committee Chair

Seon-Ki Park

Korean Meteorological Society

Secretary General

Keith Alverson

(IAMAS)

Secretary General

Silvia Blanc

(IAPSO)

Secretary General

Richard Essery

(IACS)

Plenary Speakers

Hoesung Lee
(BACO-25)

Monday, 21 July, 2025 17:00-17:30
#301, Convention Hall, BEXCO

Climate Action for All

Dr. Hoesung Lee currently serves as the President of the Carbon Free Alliance based in Seoul, Korea, and as a Special Ambassador for Carbon Free Energy for the Republic of Korea. His work focuses on the economics of climate change, energy, and sustainable development. He chairs the Asian Development Bank President's Advisory Board on Climate Change and Sustainable Development. He is also a member of the Board of Directors of the Korean Academy of Environmental Sciences.

Tong Zhu
(IAMAS)

Tuesday, 22 July, 2025, 11:00-11:30
#205, Convention Hall, BEXCO

The Health Impacts of Air Pollution and Climate Change

Dr. Tong ZHU is a Boya Chair Professor at College of Environmental Sciences and Engineering, the founding Director of the Institute of Tibetan Plateau, Peking University. He is elected as a Member of the Chinses Academy of Sciences, a member of the Chinese Academy of Medical Sciences, a Fellow of the World Academy of Sciences, and a Fellow of American Geophysical Union (AGU). He is appointed as a Counsellor of the State Council of the People's Republic of China.

Dr. Roxy Mathew Koll
(IAPSO)

Wednesday, 23 July, 2025, 11:00-11:30
#205, Convention Hall, BEXCO

Tropical Climate Shifts: the Indo-Pacific Warm Pool, the MJO, and Monsoon in a Warming World

Dr. Roxy Mathew Koll is a Climate Scientist at the Indian Institute of Tropical Meteorology and a leading expert on ocean-atmosphere interactions, climate dynamics, and extreme weather events in the Indo-Pacific region. His research focuses on advancing the understanding of monsoon variability, floods, droughts, heatwaves, and cyclones to improve the region's food, water, and economic security.

Ayako Abe-Ouchi
(IACS)

Thursday, 24 July, 2025, 11:00-11:30
#205, Convention Hall, BEXCO

Dynamics of Ice Sheet and Sea Ice under Changing Climate in the Geological Past and Future

Dr. Ayako Abe-Ouchi is a Professor at the Atmosphere and Ocean Research Institute, The University of Tokyo, and a leading expert in paleoclimate modeling, ice sheet dynamics, and Antarctic climate systems. Her research focuses on understanding the interactions between climate and ice sheets, particularly on orbital and millennial timescales, as well as external forcings such as greenhouse gases and Earth's orbital changes.

Scientific Program

Oral Session

IAMAS Individual Symposia

	DATE	FROM	TO	ROOM	SESSION	TITLE
Mon	21.07.2025	9:00	10:30	C101-102	M01	Atmospheric Chemistry in the Anthropocene: From the Urban to Global Scales
	21.07.2025	11:00	12:30	C101-102	M01	Atmospheric Chemistry in the Anthropocene: From the Urban to Global Scales
	21.07.2025	13:30	15:00	C101-102	M01	Atmospheric Chemistry in the Anthropocene: From the Urban to Global Scales
	21.07.2025	15:30	17:00	C101-102	M01	Atmospheric Chemistry in the Anthropocene: From the Urban to Global Scales
	21.07.2025	9:00	10:30	C101-102	M01	Atmospheric Chemistry in the Anthropocene: From the Urban to Global Scales
	21.07.2025	9:00	10:30	C109-110	M05	Advances in Dynamic Meteorology
	21.07.2025	11:00	12:30	C109-110	M05	Advances in Dynamic Meteorology
	21.07.2025	13:30	15:00	C109-110	M05	Advances in Dynamic Meteorology
	21.07.2025	15:30	17:00	C109-110	M05	Advances in Dynamic Meteorology
	21.07.2025	15:30	17:00	C108	M06	Dynamics of Mountain Weather and Climate: Observations, Modeling and Prediction at all scales
	21.07.2025	9:00	10:30	C103	M13	Advances in Atmospheric Radiation
	21.07.2025	11:00	12:30	C103	M13	Advances in Atmospheric Radiation
	21.07.2025	13:30	15:00	C103	M13	Advances in Atmospheric Radiation
	21.07.2025	15:30	17:00	C103	M14	Lightning, Thunderstorms and Atmospheric Electricity
	21.07.2025	9:00	10:30	C106-107	M18	Monsoon systems: variability, processes, predictability, change and extremes
	21.07.2025	11:00	12:30	C106-107	M18	Monsoon systems: variability, processes, predictability, change and extremes
	21.07.2025	13:30	15:00	C106-107	M18	Monsoon systems: variability, processes, predictability, change and extremes
	21.07.2025	15:30	17:00	C106-107	M18	Monsoon systems: variability, processes, predictability, change and extremes
Tue	22.07.2025	9:00	10:30	C101-102	M01	Atmospheric Chemistry in the Anthropocene: From the Urban to Global Scales
	22.07.2025	13:30	15:00	C101-102	M04	Cloud-Precipitation-Aerosol Studies
	22.07.2025	15:30	17:00	C101-102	M04	Cloud-Precipitation-Aerosol Studies
	22.07.2025	13:30	15:00	C103	M08	Dynamics and microphysics of moist convection
	22.07.2025	15:30	17:00	C103	M08	Dynamics and microphysics of moist convection
	22.07.2025	13:30	15:00	C106-107	M10	Middle Atmosphere Symposium
	22.07.2025	15:30	17:00	C106-107	M10	Middle Atmosphere Symposium
	22.07.2025	9:00	10:30	C106-107	M18	Monsoon systems: variability, processes, predictability, change and extremes
	22.07.2025	13:30	15:00	C108	M20	High resolution modelling of regional and local climate
	22.07.2025	9:00	10:30	C103	M21	Earth-Atmosphere interaction and Boundary Layer Processes
Wed	23.07.2025	9:00	10:30	C101-102	M04	Cloud-Precipitation-Aerosol Studies
	23.07.2025	13:30	15:00	C101-102	M04	Cloud-Precipitation-Aerosol Studies
	23.07.2025	15:30	17:00	C101-102	M04	Cloud-Precipitation-Aerosol Studies
	23.07.2025	13:30	15:00	C105	M09	Mesoscale meteorology
	23.07.2025	15:30	17:00	C105	M09	Mesoscale meteorology

	23.07.2025	9:00	10:30	C106-107	M10	Middle Atmosphere Symposium
	23.07.2025	13:30	15:00	C106-107	M10	Middle Atmosphere Symposium
	23.07.2025	15:30	17:00	C106-107	M10	Middle Atmosphere Symposium
	23.07.2025	9:00	10:30	C103	M11	Polar weather and climate extremes
	23.07.2025	13:30	15:00	C103	M12	Earth's Energy Budget
	23.07.2025	15:30	17:00	C103	M12	Earth's Energy Budget
	23.07.2025	13:30	15:00	C104	M16	The Mechanism and Prediction of Tropical Cyclones
	23.07.2025	15:30	17:00	C104	M16	The Mechanism and Prediction of Tropical Cyclones
Thu	24.07.2025	9:00	10:30	C202	M02	Atmospheric Composition and the Asian Monsoon
	24.07.2025	13:30	15:00	C202	M02	Atmospheric Composition and the Asian Monsoon
	24.07.2025	9:00	10:30	C103	M07	Tropical Meteorology
	24.07.2025	13:30	15:00	C103	M07	Tropical Meteorology
	24.07.2025	15:30	17:00	C103	M07	Tropical Meteorology
	24.07.2025	9:00	10:30	C106-107	M10	Middle Atmosphere Symposium
	24.07.2025	13:30	15:00	C106-107	M10	Middle Atmosphere Symposium
	24.07.2025	15:30	17:00	C106-107	M10	Middle Atmosphere Symposium
	24.07.2025	9:00	10:30	C101-102	M15	Advances in the Remote Sensing of Aerosols, Clouds, Precipitation and Radiation
	24.07.2025	13:30	15:00	C101-102	M15	Advances in the Remote Sensing of Aerosols, Clouds, Precipitation and Radiation
	24.07.2025	15:30	17:00	C101-102	M15	Advances in the Remote Sensing of Aerosols, Clouds, Precipitation and Radiation
	24.07.2025	9:00	10:30	C108	M19	Understanding and Modeling of Weather and Geophysical Extremes and Related Complex Risks
	24.07.2025	13:30	15:00	C108	M19	Understanding and Modeling of Weather and Geophysical Extremes and Related Complex Risks
	24.07.2025	15:30	17:00	C108	M19	Understanding and Modeling of Weather and Geophysical Extremes and Related Complex Risks
Fri	25.07.2025	8:30	10:00	C103	M03	Weather modification: theory, practice and technology
	25.07.2025	10:30	12:00	C103	M03	Weather modification: theory, practice and technology

IAPSO Individual Symposia

	DATE	FROM	TO	ROOM	SESSION	TITLE
Mon	21.07.2025	9:00	10:30	C104	P01	General Topics in Oceanography (physics and biogeochemistry)
	21.07.2025	11:00	12:30	C104	P01	General Topics in Oceanography (physics and biogeochemistry)
	21.07.2025	9:00	10:30	C105	P02	Physics and Biogeochemistry of Semi-Enclosed, Shelf Seas and Coastal Zones
	21.07.2025	11:00	12:30	C105	P02	Physics and Biogeochemestry of Semi-Enclosed, Shelf Seas and Coastal Zones
	21.07.2025	13:30	15:00	C104	P03	Storm Surges, Waves and Coastal Hazards
	21.07.2025	15:30	17:00	C104	P03	Storm Surges, Waves and Coastal Hazards
	21.07.2025	13:30	15:00	C105	P06	Physical, Biogeochemical and Climate-Relevant Processes in the Southern Ocean through Observations, Theory, State Estimation, Modeling
	21.07.2025	15:30	17:00	C105	P06	Physical, Biogeochemical and Climate-Relevant Processes in the Southern Ocean through Observations, Theory, State Estimation, Modeling
Tue	22.07.2025	9:00	10:30	C201	P04	The Meridional Overturning Circulation (MOC)
	22.07.2025	13:30	15:00	C201	P04	The Meridional Overturning Circulation (MOC)
	22.07.2025	15:30	17:00	C201	P04	The Meridional Overturning Circulation (MOC)
Wed	23.07.2025	9:00	10:30	C201	P05	Regional ocean modelling
	23.07.2025	13:30	15:00	C201	P07	Thermophysical and chemical properties of Seawater

IACS Individual Symposia

	DATE	FROM	TO	ROOM	SESSION	TITLE
Mon	21.07.2025	9:00	10:30	C202	C03	Modelling and observations of snow processes
	21.07.2025	9:00	10:30	C205	C05	Cryospheric biogeochemical cycles and environmental effects
	21.07.2025	11:00	12:30	C205	C05	Cryospheric biogeochemical cycles and environmental effects
	21.07.2025	13:30	15:00	C205	C05	Cryospheric biogeochemical cycles and environmental effects
	21.07.2025	15:30	17:00	C205	C05	Cryospheric biogeochemical cycles and environmental effects
	21.07.2025	11:00	12:30	C202	C08	Modelling and observations of glaciers and ice sheets
	21.07.2025	13:30	15:00	C202	C08	Modelling and observations of glaciers and ice sheets
	21.07.2025	15:30	17:00	C202	C08	Modelling and observations of glaciers and ice sheets
Tue	22.07.2025	13:30	15:00	C202	C07	Glaciers, glacial lakes and water resources in High Mountain Asia
	22.07.2025	15:30	17:00	C202	C07	Glaciers, glacial lakes and water resources in High Mountain Asia
Thu	24.07.2025	9:00	10:30	C109-110	C01	Advances in Remote Sensing of the Cryosphere
	24.07.2025	9:00	10:30	C204	C02	Advances in Sea Ice Forecasting and Modelling
	24.07.2025	13:30	15:00	C204	C02	Advances in Sea Ice Forecasting and Modelling
	24.07.2025	15:30	17:00	C204	C02	Advances in Sea Ice Forecasting and Modelling
	24.07.2025	15:30	17:00	C202	C14	Special session celebrating the international year of glaciers' preservation (invited presentations)
Fri	25.07.2025	10:30	12:00	C204	C13	Societal impacts of changing cryosphere and development of resilience pathways

Joint Sessions led by IAMAS

	DATE	FROM	TO	ROOM	SESSION	TITLE
Mon	21.07.2025	9:00	10:30	C204	JMP05	Variability and change in Pacific Ocean-Atmosphere system
	21.07.2025	11:00	12:30	C204	JMP05	Variability and change in Pacific Ocean-Atmosphere system
	21.07.2025	13:30	15:00	C204	JMP05	Variability and change in Pacific Ocean-Atmosphere system
	21.07.2025	15:30	17:00	C204	JMP05	Variability and change in Pacific Ocean-Atmosphere system
	21.07.2025	9:00	10:30	C203	JMP02	Machine Learning in atmospheric, ocean and earth-system prediction: forecasting, simulation and scientific analysis
	21.07.2025	11:00	12:30	C203	JMP02	Machine Learning in atmospheric, ocean and earth-system prediction: forecasting, simulation and scientific analysis
	21.07.2025	13:30	15:00	C203	JMP02	Machine Learning in atmospheric, ocean and earth-system prediction: forecasting, simulation and scientific analysis
	21.07.2025	15:30	17:00	C203	JMP02	Machine Learning in atmospheric, ocean and earth-system prediction: forecasting, simulation and scientific analysis
Tue	22.07.2025	9:00	10:30	C203	JMP09	El Niño/Southern Oscillation and its Global and Regional Impacts
	22.07.2025	13:30	15:00	C203	JMP09	El Niño/Southern Oscillation and its Global and Regional Impacts
	22.07.2025	15:30	17:00	C203	JMP09	El Niño/Southern Oscillation and its Global and Regional Impacts
	22.07.2025	9:00	10:30	C104	JMP04	Antarctic Bottom Water formation, variability and trends
	22.07.2025	13:30	15:00	C104	JMP04	Antarctic Bottom Water formation, variability and trends
	22.07.2025	15:30	17:00	C104	JMP04	Antarctic Bottom Water formation, variability and trends
	22.07.2025	13:30	15:00	C109-110	JMP03	High-impact Weather and Climate Extremes
	22.07.2025	15:30	17:00	C109-110	JMP03	High-impact Weather and Climate Extremes
	22.07.2025	9:00	10:30	C109-110	JMCP19	Biogeochemical interactions across the atmosphere-ice-ocean interface
Wed	23.07.2025	9:00	10:30	C203	JMP10	Ocean-Atmosphere Mechanisms of Climate Variability, Change and Predictability
	23.07.2025	13:30	15:00	C203	JMP10	Ocean-Atmosphere Mechanisms of Climate Variability, Change and Predictability
	23.07.2025	15:30	17:00	C203	JMP10	Ocean-Atmosphere Mechanisms of Climate Variability, Change and Predictability
	23.07.2025	9:00	10:30	C109-110	JMP03	High-impact Weather and Climate Extremes

	23.07.2025	13:30	15:00	C109-110	JMP03	High-impact Weather and Climate Extremes
	23.07.2025	15:30	17:00	C109-110	JMP03	High-impact Weather and Climate Extremes
	23.07.2025	9:00	10:30	C105	JMCP20	Responses of Antarctic ice shelves to changing atmospheric and oceanic forcing
Thu	24.07.2025	9:00	10:30	C203	JMP10	Ocean-Atmosphere Mechanisms of Climate Variability, Change and Predictability
	24.07.2025	9:00	10:30	C201	JMP07	Past climate changes and their relevance for the future
	24.07.2025	13:30	15:00	C201	JMP07	Past climate changes and their relevance for the future
	24.07.2025	15:30	17:00	C201	JMP07	Past climate changes and their relevance for the future
	24.07.2025	13:30	15:00	C109-110	JMCP18	Sub-seasonal to Decadal Prediction (S2S-S2D)
	24.07.2025	15:30	17:00	C109-110	JMCP18	Sub-seasonal to Decadal Prediction (S2S-S2D)
	24.07.2025	9:00	10:30	C104	JMC14	Climate Change in the Polar Regions: Observing, Modelling and Predicting High Impact Transitions
	24.07.2025	13:30	15:00	C104	JMC14	Climate Change in the Polar Regions: Observing, Modelling and Predicting High Impact Transitions
	24.07.2025	15:30	17:00	C104	JMC14	Climate Change in the Polar Regions: Observing, Modelling and Predicting High Impact Transitions
	24.07.2025	9:00	10:30	C105	JMC12	Multi-scale processes of hydrological cycles and impacts of the climate change
Fri	25.07.2025	8:30	10:00	C203	JMP06	Advancing air-sea flux process understanding across diverse conditions
	25.07.2025	10:30	12:00	C203	JMP06	Advancing air-sea flux process understanding across diverse conditions
	25.07.2025	8:30	10:00	C109-110	JMCP18	Sub-seasonal to Decadal Prediction (S2S-S2D)
	25.07.2025	10:30	12:00	C109-110	JMCP18	Sub-seasonal to Decadal Prediction (S2S-S2D)
	25.07.2025	10:30	12:00	C104	JMC13	Tropical-polar interactions under rapid climate change: Processes and influences
	25.07.2025	8:30	10:00	C104	JMC11	Exploration of the Diversity of Planetary Atmospheres and Surfaces

Joint Sessions led by IAPSO

	DATE	FROM	TO	ROOM	SESSION	TITLE
Tue	22.07.2025	9:00	10:30	C204	JPCM07	Turbulence, Internal Waves and Mixing on all scales
	22.07.2025	13:30	15:00	C204	JPCM07	Turbulence, Internal Waves and Mixing on all scales
	22.07.2025	15:30	17:00	C204	JPCM07	Turbulence, Internal Waves and Mixing on all scales
	22.07.2025	9:00	10:30	C108	JPM01	Interdisciplinary Tsunami Science
Wed	23.07.2025	9:00	10:30	M211	JPCM08	Impacts of climate change on the ocean
	23.07.2025	13:30	15:00	M211	JPCM08	Impacts of climate change on the ocean
	23.07.2025	15:30	17:00	M211	JPCM08	Impacts of climate change on the ocean
Thu	24.07.2025	13:30	15:00	C105	JPM03	Ocean and climate seamless forecasting
	24.07.2025	15:30	17:00	C105	JPM03	Ocean and climate seamless forecasting
	24.07.2025	15:30	17:00	C203	JPM05	Heatwaves in the atmosphere and ocean
Fri	25.07.2025	8:30	10:00	C202	JPC06	Understanding and predicting the Arctic Ocean and Sea Ice states: Insights, Challenges, and Future Directions.
	25.07.2025	10:30	12:00	C202	JPC06	Understanding and predicting the Arctic Ocean and Sea Ice states: Insights, Challenges, and Future Directions.
	25.07.2025	8:30	10:00	C201	JPCM10	The interactions between atmosphere-ocean-cryosphere in recent Antarctic climate change
	25.07.2025	8:30	10:00	C108	JPM02	Ocean dynamics and climate variability in the North Pacific
	25.07.2025	10:30	12:00	C108	JPM02	Ocean dynamics and climate variability in the North Pacific
	25.07.2025	8:30	10:00	C105	JPM04	Indian Ocean Sciences
	25.07.2025	10:30	12:00	C105	JPM04	Indian Ocean Sciences

Joint Sessions led by IACS

	DATE	FROM	TO	ROOM	SESSION	TITLE
Tue	22.07.2025	9:00	10:30	C105	JCM03	Permafrost under changing climate
	22.07.2025	13:30	15:00	C105	JCM03	Permafrost under changing climate
	22.07.2025	15:30	17:00	C105	JCM03	Permafrost under changing climate
	22.07.2025	9:00	10:30	C202	JCM01	Coupling between the atmosphere and snow/ice surfaces: Observations and modelling
Wed	23.07.2025	9:00	10:30	C204	JCP05	Ice sheet-ocean interactions and impacts
	23.07.2025	13:30	15:00	C204	JCP05	Ice sheet-ocean interactions and impacts
	23.07.2025	15:30	17:00	C204	JCP05	Ice sheet-ocean interactions and impacts
	23.07.2025	9:00	10:30	C108	JCMP08	Connecting Polar to lower latitudes: A global perspective on climate change and impacts for Future Earth Strategies
	23.07.2025	13:30	15:00	C108	JCMP08	Connecting Polar to lower latitudes: A global perspective on climate change and impacts for Future Earth Strategies
	23.07.2025	15:30	17:00	C108	JCMP08	Connecting Polar to lower latitudes: A global perspective on climate change and impacts for Future Earth Strategies
	23.07.2025	13:30	15:00	C202	JCM04	Recent Advances in Ice Core Science
	23.07.2025	15:30	17:00	C202	JCM04	Recent Advances in Ice Core Science
	23.07.2025	9:00	10:30	C202	JCM02	Cryosphere changes and potential drivers in High Mountain Asia
Thu	24.07.2025	9:00	10:30	M211	JCMP10	The atmosphere, cryosphere and oceans in Earth System Models
	24.07.2025	13:30	15:00	C203	JCMP09	Ice sheet mass loss: A driver of sea level rise
Fri	25.07.2025	8:30	10:00	C106-107	JCP07	Remote Sensing of Sea Ice from Satellite Microwave Measurements and its Applications
	25.07.2025	10:30	12:00	C106-107	JCP07	Remote Sensing of Sea Ice from Satellite Microwave Measurements and its Applications

Poster Session

DATE		NO.	Session
Tue	22.07.2025	M01	Atmospheric Chemistry in the Anthropocene: From the Urban to Global Scales
		M05	Advances in Dynamic Meteorology
		M06	Dynamics of Mountain Weather and Climate: Observations, Modeling and Prediction at all scales
		M08	Dynamics and microphysics of moist convection
		M14	Lightning, Thunderstorms and Atmospheric Electricity
		M20	High resolution modelling of regional and local climate
		M21	Earth-Atmosphere interaction and Boundary Layer Processes
		JMP02	Machine Learning in atmospheric, ocean and earth-system prediction: forecasting, simulation and scientific analysis
		JMP03	High-impact Weather and Climate Extremes
		JMP04	Antarctic Bottom Water formation, variability and trends
		JMP05	Variability and change in Pacific Ocean-Atmosphere system
		JMCP19	Biogeochemical interactions across the atmosphere-ice-ocean interface
		P01	General Topics in Oceanography (physics and biogeochemistry)
		P02	Physics and Biogeochemistry of Semi-Enclosed, Shelf Seas and Coastal Zones
		P06	Physical, Biogeochemical and Climate-Relevant Processes in the Southern Ocean through Observations, Theory, State Estimation, Modeling
		JPM01	Interdisciplinary Tsunami Science
		C03	Modelling and observations of snow processes
		C05	Cryospheric biogeochemical cycles and environmental effects
		C08	Modelling and observations of glaciers and ice sheets
		JCM01	Coupling between the atmosphere and snow/ice surfaces: Observations and modelling
		JCM03	Permafrost under changing climate
Wed	23.07.2025	M04	Cloud-Precipitation-Aerosol Studies
		M09	Mesoscale meteorology
		M11	Polar weather and climate extremes
		M12	Earth's Energy Budget
		M16	The Mechanism and Prediction of Tropical Cyclones
		M18	Monsoon systems: variability, processes, predictability, change and extremes
		JMP09	El Niño/Southern Oscillation and its Global and Regional Impacts
		JMCP20	Responses of Antarctic ice shelves to changing atmospheric and oceanic forcing
		P05	Regional ocean modelling
		P07	Thermophysical and chemical properties of Seawater
		JPCM07	Turbulence, Internal Waves and Mixing on all scales
		JPCM08	Impacts of climate change on the ocean
		C01	Advances in Remote Sensing of the Cryosphere
		C07	Glaciers, glacial lakes and water resources in High Mountain Asia
		JCM02	Cryosphere changes and potential drivers in High Mountain Asia
		JCM04	Recent Advances in Ice Core Science
		JCP05	Ice sheet-ocean interactions and impacts
		JCMP08	Connecting Polar to lower latitudes: A global perspective on climate change and impacts for Future Earth Strategies
Thu	24.07.2025	M02	Atmospheric Composition and the Asian Monsoon
		M03	Weather modification: theory, practice and technology
		M07	Tropical Meteorology
		M10	Middle Atmosphere Symposium
		M15	Advances in the Remote Sensing of Aerosols, Clouds, Precipitation and Radiation

		M19	Understanding and Modeling of Weather and Geophysical Extremes and Related Complex Risks
		JMP06	Advancing air-sea flux process understanding across diverse conditions
		JMP07	Past climate changes and their relevance for the future
		JMP10	Ocean-Atmosphere Mechanisms of Climate Variability, Change and Predictability
		JMC12	Multi-scale processes of hydrological cycles and impacts of the climate change
		JMC13	Tropical-polar interactions under rapid climate change: Processes and influences
		JMC14	Climate Change in the Polar Regions: Observing, Modelling and Predicting High Impact Transitions
		JMCP18	Sub-seasonal to Decadal Prediction (S2S-S2D)
		JPM02	Ocean dynamics and climate variability in the North Pacific
		JPM03	Ocean and climate seamless forecasting
		JPM04	Indian Ocean Sciences
		JPM05	Heatwaves in the atmosphere and ocean
		JPC06	Understanding and predicting the Arctic Ocean and Sea Ice states: Insights, Challenges, and Future Directions.
		JPCM10	The interactions between atmosphere-ocean-cryosphere in recent Antarctic climate change
		C02	Advances in Sea Ice Forecasting and Modelling
		C13	Societal impacts of changing cryosphere and development of resilience pathways
		JCP07	Remote Sensing of Sea Ice from Satellite Microwave Measurements and its Applications
		JCMP09	Ice sheet mass loss: A driver of sea level rise
		JCMP10	The atmosphere, cryosphere and oceans in Earth System Models

Business Meeting

Place	Time	Convention Hall 2F			Exhibition Hall 1: 2F				Other Places
		C201	C203	C204	C205	M211	M212	M213	Hotel/Restaurant
Sunday July 20th	12:00 - 14:00		IAMAS - ICCP	IAMAS iCACGP					
	14:00 - 15:00								
	17:00 - 18:00	IAMAS - ECS							
Monday July 21st	11:00 - 12:00								
	12:00 - 12:30							IAMAS Joint EC and General Assembly Meeting - I	
	12:30 - 13:00					AGU Sponsorship	IAPSO EC Meeting - I		
	13:00 - 13:30								
	13:30 - 15:00								
	15:00 - 15:30								
	15:30 - 17:00								
	17:00 - 17:30								
	17:30 - 18:00								
Tuesday July 22nd	12:00 - 13:30					IAMAS - ICTM	IAMAS - ICDM	IAMAS - ICCL	
	13:30 - 15:00								
	15:00 - 15:30					JCS (Workshop)			
	15:30 - 17:00								
	17:00 - 18:00							IAMAS - IRC	
Wednesday July 23rd	12:00 - 13:30					IAMAS - ICPM	IAMAS - ICMA	IAMAS - ICAE	
	13:30 - 15:00								
	15:00 - 15:30				IAPSO Medal Ceremony				
	15:30 - 17:00								
	17:00 - 17:30								
	17:30 - 18:00							IAPSO General Business Meeting	
	18:00 - 18:30								
	18:30 - 19:00								
	19:00 - 19:30								
Thursday July 24th	12:00 - 12:30					IAMAS Joint EC and General Assembly Meeting - II		IACS Business Meeting	
	12:30 - 13:00								
	13:00 - 13:30								
	13:30 - 15:00								
	15:00 - 15:30								
	15:30 - 17:00								
	17:00 - 18:00						IAMAS - ICPAE		
	18:00 - 18:30							IACS Plenary Meeting	
	18:30 - 19:00								
Friday July 25th	12:30 - 15:00					IACS EC Meeting	IAPSO EC Meeting - II		
Saturday July 26th									IACS Bureau Meeting

List of Business Meeting

AGU

	DATE	FROM	TO	VENUE	ROOM	MEETING
Mon	21.07.2025	12:30	13:30	Exhibition Hall	M211	AGU Sponsorship

IAMAS

	DATE	FROM	TO	VENUE	ROOM	MEETING
Sun	20.07.2025	12:00	14:00	Convention Hall	C203	ICCP
	20.07.2025	12:00	15:00	Convention Hall	C204	iCACGP
	20.07.2025	17:00	18:00	Convention Hall	C201	ECS
Mon	21.07.2025	12:00	18:00	Exhibition Hall	M213	Joint EC and General Assembly Meeting - I
Tue	22.07.2025	12:00	13:30	Exhibition Hall	M211	ICTM
	22.07.2025	12:00	13:30	Exhibition Hall	M212	ICDM
	22.07.2025	12:00	13:30	Exhibition Hall	M213	ICCL
	22.07.2025	17:00	18:00	Exhibition Hall	M213	IRC
Wed	23.07.2025	12:00	13:30	Exhibition Hall	M211	ICPM
	23.07.2025	12:00	13:30	Exhibition Hall	M212	ICMA
	23.07.2025	12:00	13:30	Exhibition Hall	M213	ICAE
Thu	24.07.2025	12:00	15:00	Exhibition Hall	M211	Joint EC and General Assembly Meeting - II
	24.07.2025	17:00	18:00	Exhibition Hall	M212	ICPAE

IAPSO

	DATE	FROM	TO	VENUE	ROOM	MEETING
Mon	21.07.2025	12:30	15:00	Exhibition Hall	M212	EC Meeting - I
Tue	22.07.2025	15:00	18:00	Exhibition Hall	M211	JCS (Workshop)
Wed	23.07.2025	15:00	17:00	Convention Hall	C205	Medal Ceremony
	23.07.2025	18:00	19:30	Exhibition Hall	M213	General Business Meeting
Fri	25.07.2025	12:30	15:00	Exhibition Hall	M212	EC Meeting - II

IACS

	DATE	FROM	TO	VENUE	ROOM	MEETING
Thu	24.07.2025	12:00	15:00	Exhibition Hall	M213	Business Meeting
	24.07.2025	18:00	19:00	Exhibition Hall	M213	Plenary Meeting
Fri	25.07.2025	12:30	15:00	Exhibition Hall	M212	EC Meeting

Acknowledgments

The organizers of the BACO-25 in Busan gratefully express their gratitude to the following organizations who, through their generosity, have helped to make this Assembly possible.

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ICCP
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KIAPS

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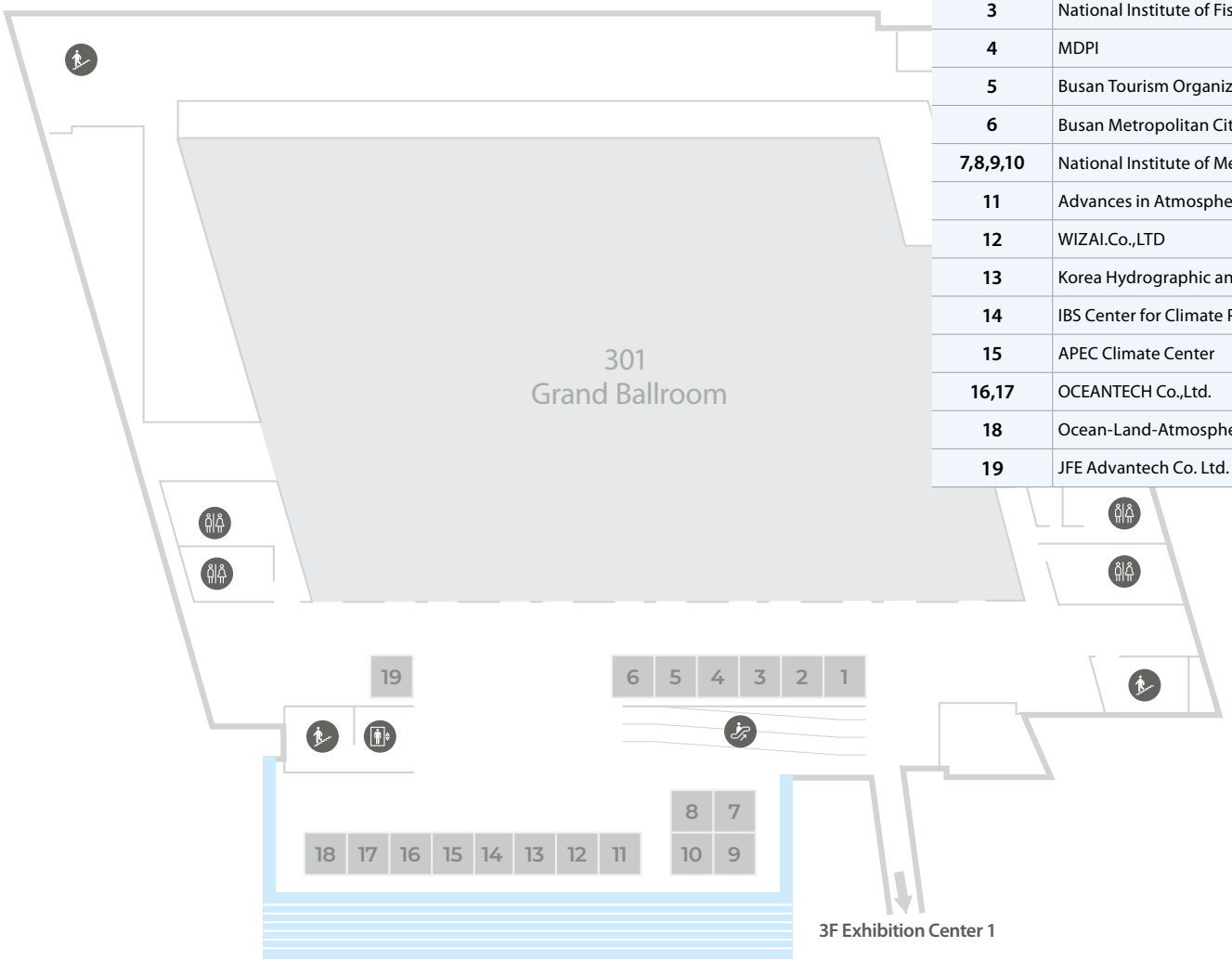
GeoSR
GeoSystem Research Corporation
㈜지오시스템리서치

AGU ADVANCING EARTH AND SPACE SCIENCE

Exhibition Floorplan

Convention Hall
3F



Booth No.	Exhibitors
1	Frontiers Media SA
2	Korea Institute of Atmospheric Prediction Systems (KIAPS)
3	National Institute of Fisheries Science
4	MDPI
5	Busan Tourism Organization
6	Busan Metropolitan City
7,8,9,10	National Institute of Meteorological Sciences
11	Advances in Atmospheric Sciences
12	WIZAI.Co.,LTD
13	Korea Hydrographic and Oceanographic Agency
14	IBS Center for Climate Physics
15	APEC Climate Center
16,17	OCEANTECH Co.,Ltd.
18	Ocean-Land-Atmosphere Research, a Science Partner Journal
19	JFE Advantech Co. Ltd.

Company Profiles (in alphabetical order)

Booth No. 11

Advances in Atmospheric Sciences

IAMAS' associated journal Advances in Atmospheric Sciences aims to rapidly publish the latest achievements and developments on the dynamics, physics and chemistry of the Earth's atmosphere and ocean. Its latest SCI Impact Factor is 6.5.

Website: https://link.springer.com/journal/376

Booth No. 15

APEC Climate Center (APCC)

The APEC Climate Center (APCC), established in 2005 with APEC's unanimous support, enhances socio-economic well-being in the Asia-Pacific region by providing timely and reliable climate predictions using advanced science and technology. Serving as a key hub for climate data and tools, APCC delivers solutions through interconnected areas: climate prediction services, application of climate information for climate change response, and capacity building.

Website: https://www.apcc21.org/?lang=en

Booth No. 6

Busan Metropolitan City

Busan Metropolitan City, South Korea's second-largest city, is a leading hub in the global marine and port industry. Committed to sustainability, it is a repository of rich geological heritage and serves as a key center for global climate change initiatives, with the APEC Climate Center located in the city.

Website: https://www.busan.go.kr/eng/index

Booth No. 1

Frontiers Media SA

Frontiers is one of the world's largest and most impactful research publishers, dedicated to making peer-reviewed, quality-certified science openly accessible. Our mission is to make science open – so that scientists can collaborate better and innovate faster to deliver the solutions that enable healthy lives on a healthy planet.

Website: https://www.frontiersin.org/

Booth No. 14

IBS Center for Climate Physics

The IBS Center for Climate Physics is an international climate research center. Mission is to enhance the understanding of natural climate variability and man-made climate change. We provide basic scientific knowledge on the evolution of the climate system and its environmental and potential economic impacts.

Website: https://ibsclimate.org/

Company Profiles (in alphabetical order)

Booth No. 23

JFE Advantech Co. Ltd.

JFE Advantech specializes in advanced instruments for environmental monitoring and ocean and river research. Our innovative solutions utilize unique technologies to measure various parameters, including conductivity, temperature, pressure, and dissolved oxygen, among others. We are dedicated to supporting research that advances ocean and river studies.

Website: https://www.jfe-advantech.co.jp/eng/

Booth No. 13

Korea Hydrographic and Oceanographic Agency (KHOA)

KHOA conducts ocean observation, hydrographic survey and collects and analyzes ocean observation data, as well as conducting marine forecasting for the Korean sea areas. We also publish nautical publications such as nautical charts and electronic nautical charts. We support shipping, fishing and marine industries, the military and research institutes by providing various ocean information. To help with that, we cooperate with the IHO (International Hydrographic Organization) to be a leader in technical development throughout the world. In addition, we aim to discover new marine geographic features and register their names internationally.

Website: https://www.khoa.go.kr/eng/Main.do

Booth No. 2

Korea Institute of Atmospheric Prediction Systems (KIAPS)

KIAPS is a research institution committed to advancing Korea's numerical weather prediction capabilities through the development of next-generation models and data assimilation systems, based on the Korean Integrated Model (KIM). Our research focuses on developing a unified framework for seamless predictions up to 30 days by integrating earth system components.

Website: https://www.kiaps.org/en/main.do

Booth No. 4

MDPI

A pioneer in scholarly, open access publishing since 1996.

Website: https://www.mdpi.com/

Booth No. 3

National Institute of Fisheries Science

The National Institute of Fisheries Science (NIFS) is the only comprehensive national research institute in Korea dedicated to marine and fisheries science, conducting research on the marine environment, fisheries resource, and aquaculture to achieve sustainable marine and fisheries management.

Website: https://www.nifs.go.kr/eng/main.do

Company Profiles (in alphabetical order)

Booth No. 7,8,9,10

National Institute of Meteorological Sciences

The National Institute of Meteorological Sciences is an institution that leads value-oriented research and development to protect the public from meteorological disasters and preserve the global environment, and is creating current and future meteorological/climate science services that the public wants.

Website: http://www.nims.go.kr/AE/MA/main.jsp

Booth No. 18

Ocean-Land-Atmosphere Research, a Science Partner Journal

The open access journal Ocean-Land-Atmosphere Research (OLAR), published in association with SML, publishes technologically innovative research in marine, terrestrial, and atmospheric studies and the interactions among them.

Website: https://spj.science.org/journal/olar

Booth No. 16,17

OCEANTECH Co.,Ltd.

Oceantech was founded in 1997 as a supplier of special equipment for the oceanographic, meteorological and maritime field. Oceantech has undergone a continuous growth adding and supporting the extensive number of agencies for sales and services of equipment. Oceantech contributed to improve marine technique by providing the best instruments and maintenance service.

Website: https://www.oceantech.co.kr/EOT/index.php

Booth No. 12

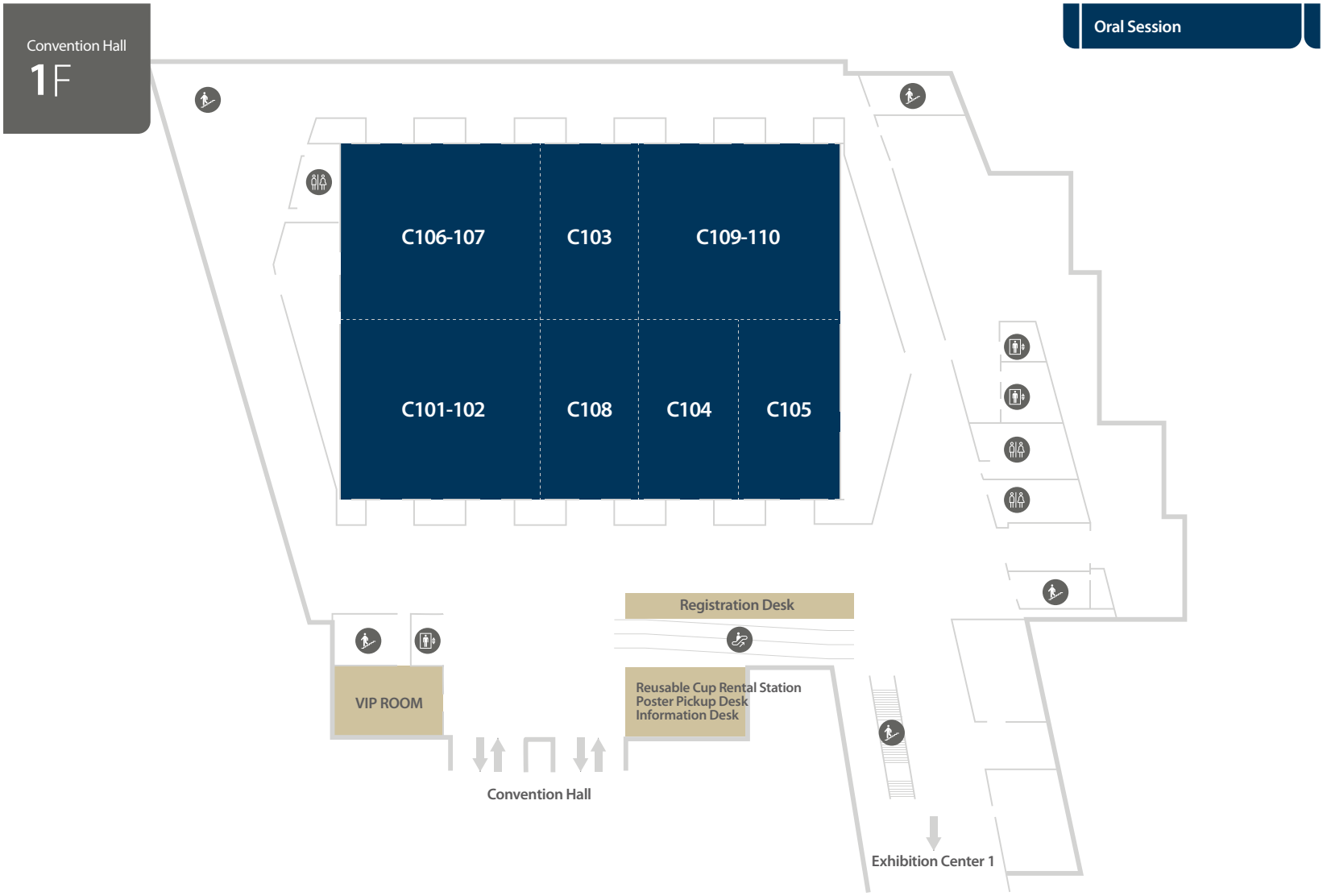
WIZAI.Co.,LTD

Meteorological and Climate Big Data Integration Technologies & Applications
- AI-based Near-Future Climate Prediction and Integration Technologies (Extreme Weather, Hydrology, Energy, Abnormal Sea Surface Temperature, etc.)
-AI-based Energy Forecasting/Management, Weather-Impact Modeling for Healthcare, and Integration Technologies
- Advanced Utilization of Weather, Climate, Ocean, and Environmental Data & User-Centered Information Systems

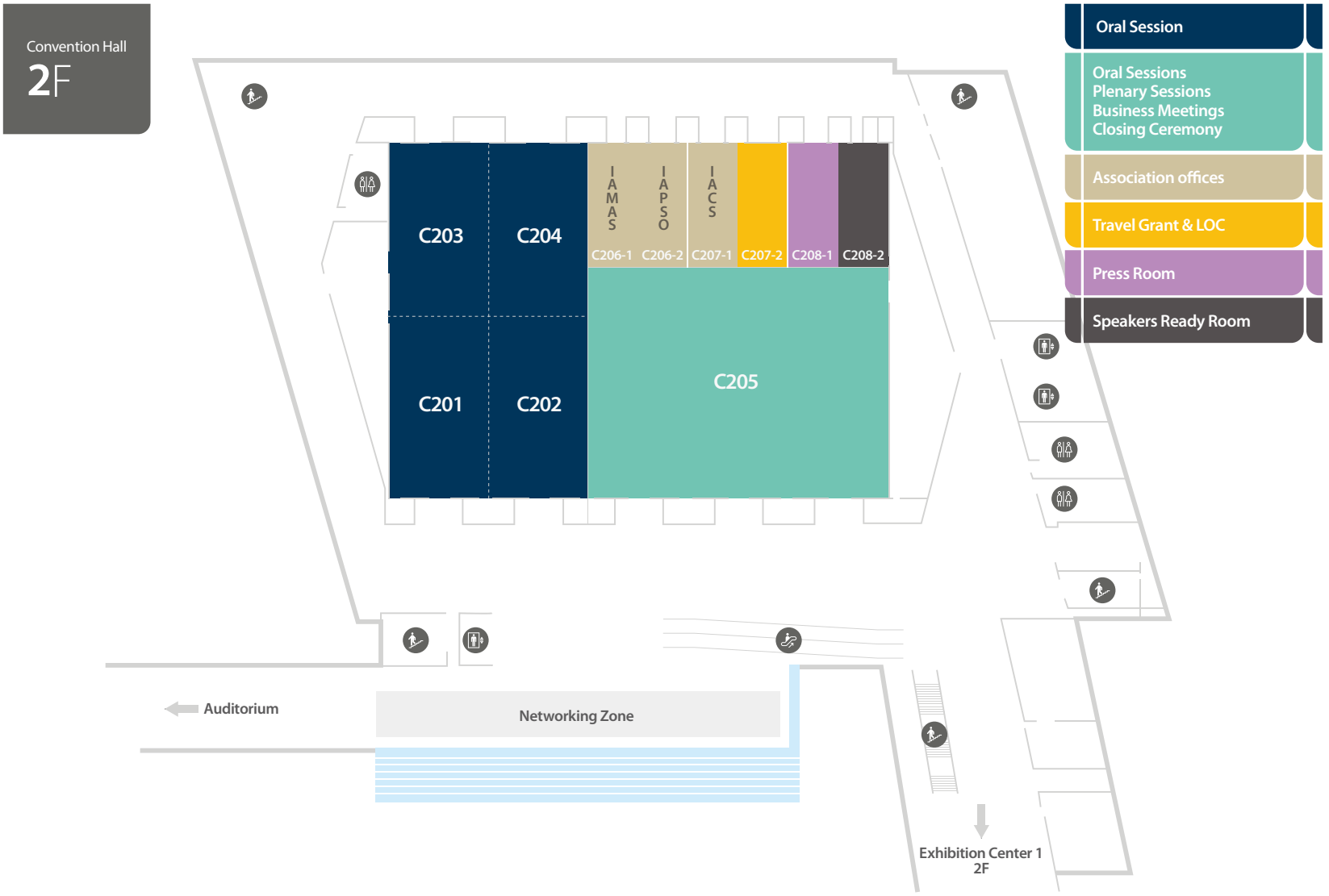
Website: http://www.wizai.co.kr/

General Floorplan

General Floorplan



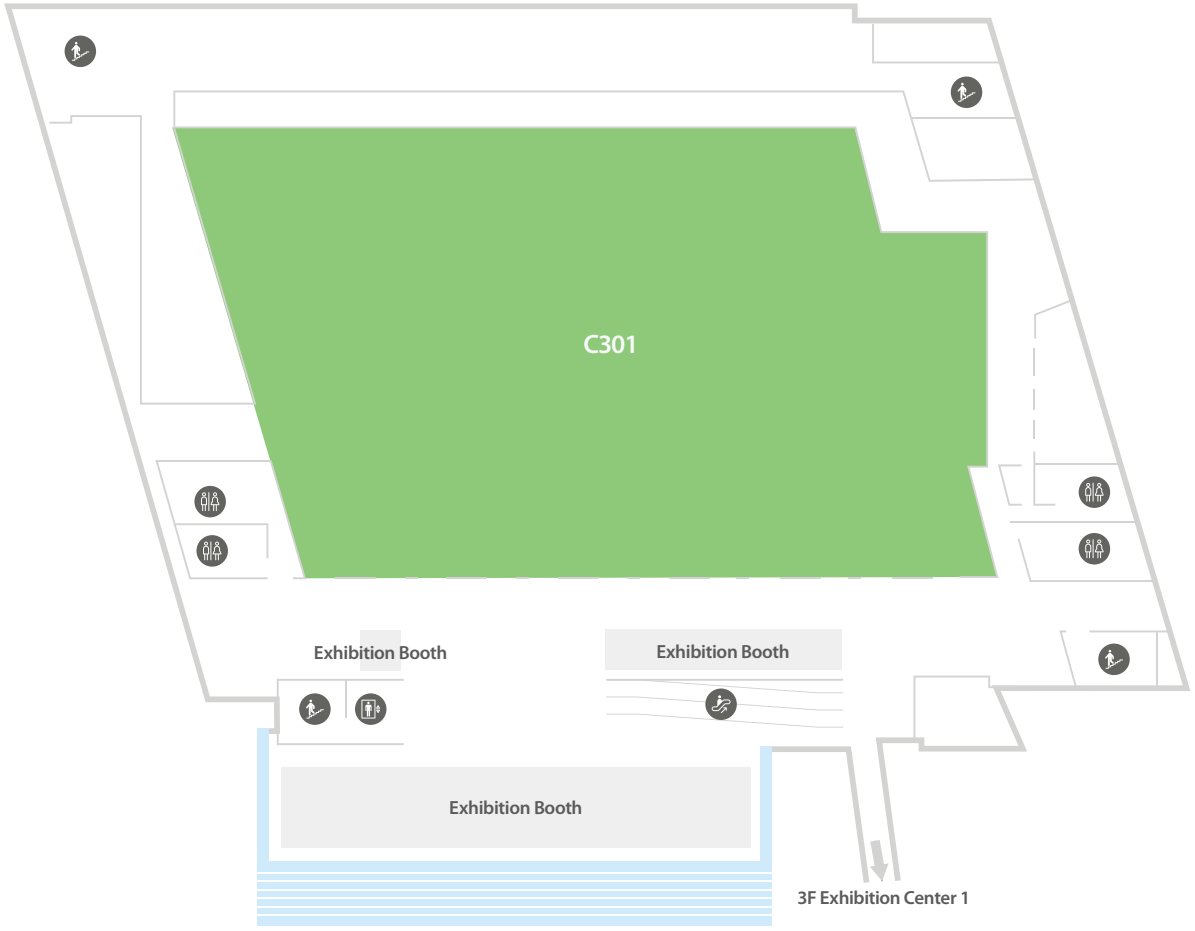
General Floorplan



General Floorplan

Convention Hall
3F

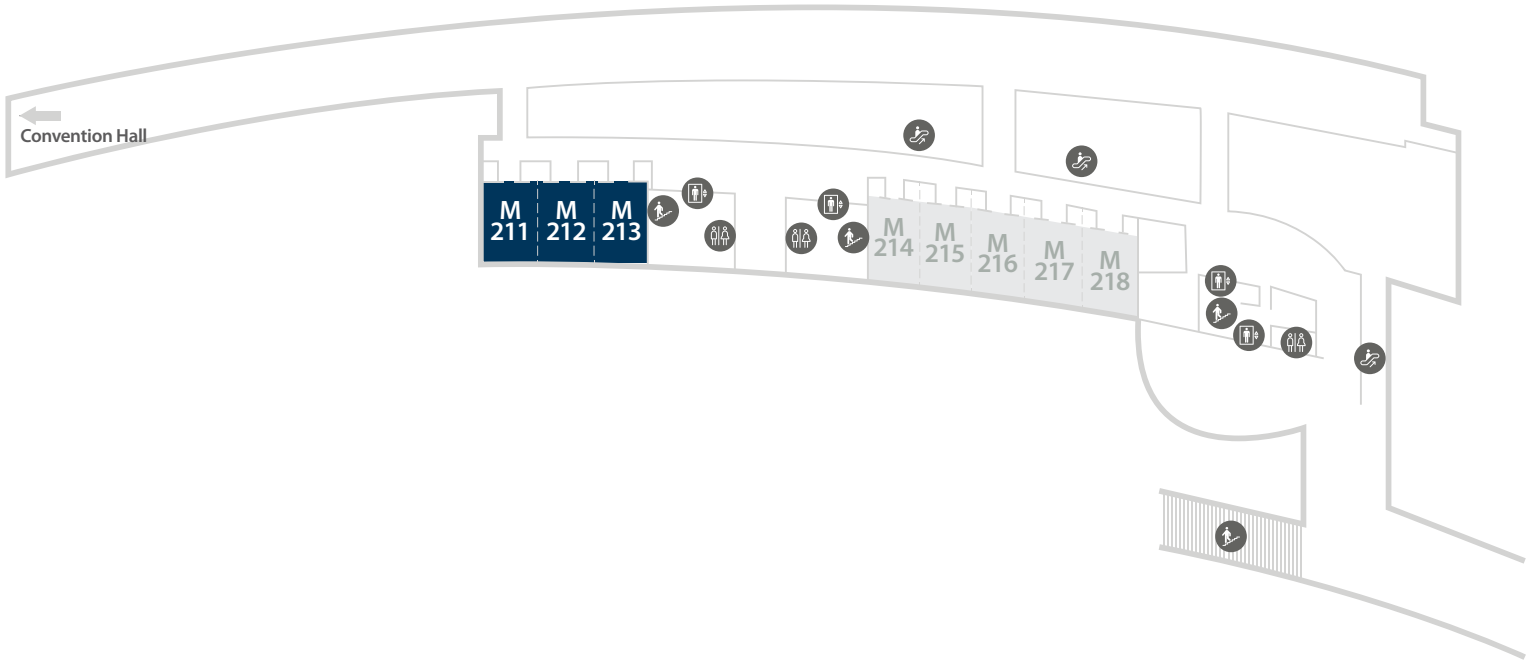
Opening Ceremony
Welcome Reception
Post Sessions



General Floorplan

Exhibition Center 1
2F

Oral Sessions
Business Meetings



Becoming one of the front runners With our in-house developed Korean Integrated Model(KIM)

- The Korean Meteorological Administration (KMA) launched the Korean Integrated Model(KIM) as an operational Numerical Weather Prediction model, enabling Korea to lead the field of NWP

Korea Meteorological Administration

IBS Center for Climate Physics

부산대학교 PUSAN NATIONAL UNIVERSITY

IBS Center for Climate Physics

ibs 기초과학연구원 Institute for Basic Science

Know+How

KIAPS has in-depth knowledge and experience in developing the Korean Integrated Model (KIM).

Innovation

KIAPS develops a next-generation numerical weather prediction (NWP) model.

Forecast the Future with KIAPS!

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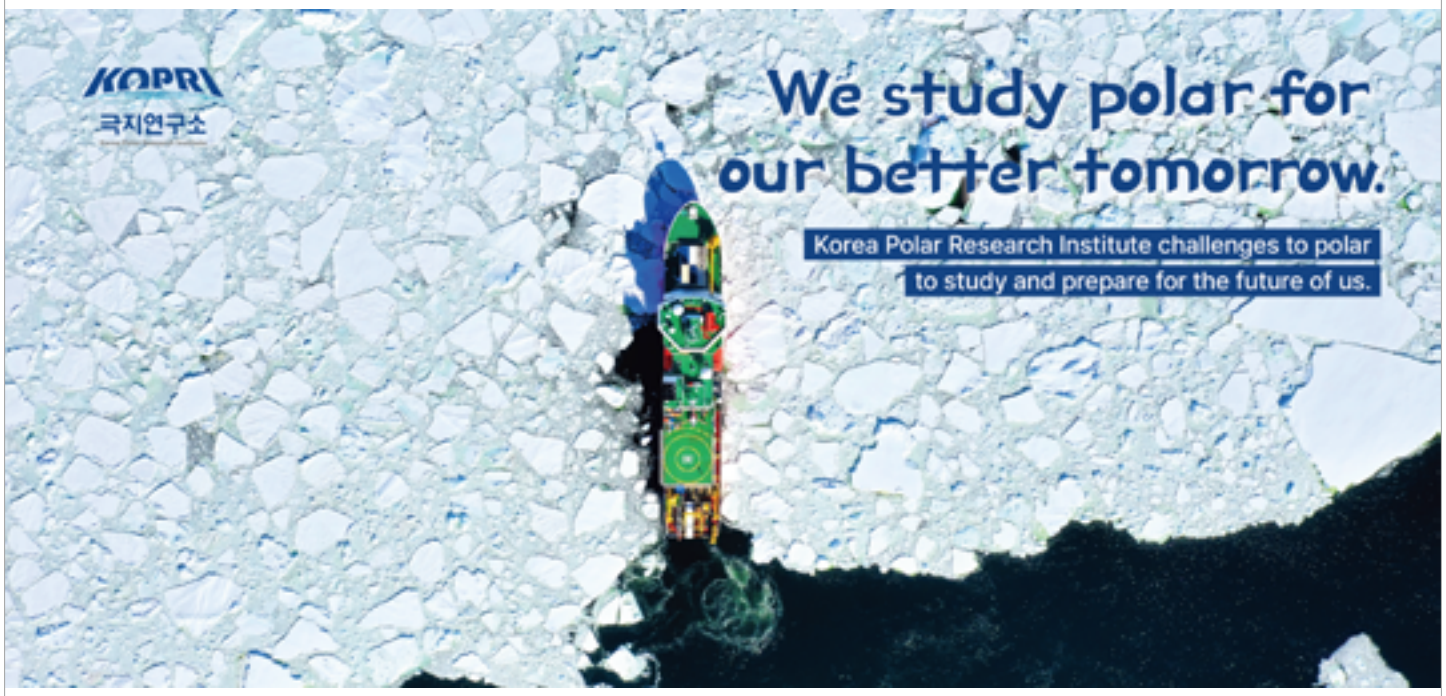
Korea Institute of Atmospheric Prediction Systems
4F, 35, Boramae-ro 5-gil, Dongjak-gu, Seoul, Republic of Korea T. 02-6480-6300 F. 02-6480-6497 www.kiaps.org

KIAPS



APEC Climate Center

The APEC Climate Center (APCC) develops expert climate prediction technology and empowers innovative collaboration within the climate sector through international cooperation.

APCC also strives to become a leading climate information service institute in the Asia-Pacific region by producing and sharing optimal climate prediction information, as well as monitoring and analyzing extreme climates.

Notes

BACO 2025

Busan IAMAS-IACS-IAPSO Joint Assembly

Scientific Program List

Oral Session : IAMAS

[M01]	Atmospheric Chemistry in the Anthropocene: From the Urban to Global Scales	
AM1	Chair: Melita Keywood, CSIRO	Monday, 21 July 2025, 09:00 - 10:30 Convention Hall 1F, C101 - 102

09:00~09:30	(Invited) **Interfacial chemistry of secondary organic aerosol : a key process for oxidants production** **Christian George** CNRS-IRCELYON
09:30~09:45	**Resolving aqueous organic aerosol formation in Shanghai by integrating online aerosol mass spectrometry** **Defeng Zhao** Fudan University
09:45~10:00	**Increased multi-day high-PM2.5 episodes in Seoul, Korea in recent decades** **Ka-Young Kim** School of Earth and Environmental Sciences, Seoul National University
10:00~10:15	**Future changes in tropical belt width under regional aerosol mitigation** **Joongu Jeon** Hanyang University
10:15~10:30	**Evolution of Passive Remote Sensing for Atmospheric Trace Gas Monitoring** **John P. Burrows** Institute of Environmental Physics, University of Bremen

[M01]	Atmospheric Chemistry in the Anthropocene: From the Urban to Global Scales	
AM2	Chair: Hiroshi Tanimoto, National Institute for Environmental Studies	Monday, 21 July 2025, 11:00 - 12:30 Convention Hall 1F, C101 - 102

11:00~11:30	(Invited) **A 25-year record of atmospheric deposition in the East Mediterranean: pH change and impact on iron speciation** **Maria Kanakidou** Institute for Environmental Research and Sustainable Development, National Observatory of Athens, GR-15236 Palea Penteli, Greece
11:30~11:45	**Temporal variations of carbonaceous aerosols at Anmyeon-do Global Atmosphere Watch station in relation to wildfires occurrence** **Euna Lee** Department of Environmental & IT Engineering, Chungnam University, Daejeon, Republic of Korea
11:45~12:00	**Smoke in the City: Contrasting Impacts of Prescribed Burns and Residential Wood Heating on Urban Air Quality** **Maximilien Desservettaz** The University of Wollongong

12:00~12:15 **Evaluating Ozone and Nitrate Formation Pathways in Taichung, Taiwan: A Case Study Using the Master Chemical Mechanism**
Ting-Yu Chiang
Taiwan International Graduate Program (TIGP)-Earth System Science Program,Academia Sinica and National Taiwan University

12:15~12:30 **Hindcasting simulation of global methane concentration with a Chemistry Climate Model**
Tatsuya Nagashima
National Institute for Environmental Studies

[M01] Atmospheric Chemistry in the Anthropocene: From the Urban to Global Scales

PM1

Chair: Mary Barth, National Center for Atmospheric Research

Monday, 21 July 2025, 13:30 - 15:00
Convention Hall 1F, C101 - 102

13:30~14:00 (Invited) **Solar Absorption by Black Carbon and Brown Carbon Aerosols in East Asian Outflow: Key Findings from Two Decades of Observations**
Sang-Woo Kim
Seoul National University

14:00~14:15 **Evolution of Wildfires Contribution to Atmospheric CO distribution: A 20-Year Global Study**
Nikos Daskalakis
LAMOS/IUP,UBremen,Bremen,Germany

14:15~14:30 **Developing KRISS CO2 and CH4 scales and isotope reference materials for supporting global and national efforts to mitigate climate change**
Sangil Lee
KRISS

14:30~14:45 **Identifying Sources and Sinks of Atmospheric CO2 and CH4 in the Seoul Megacity Using Stable Isotope Analysis**
Jeongeun Kim
Seoul National University

14:45~15:00 **The GOSAT-GW observations of greenhouse gases and air pollutants from the urban to global scales: The plan and status**
Hiroshi Tanimoto
National Institute for Environmental Studies

[M01]

PM2

Atmospheric Chemistry in the Anthropocene: From the Urban to Global Scales

Chair: Christian George, University of Lyon

Monday, 21 July 2025, 15:30 - 17:00
Convention Hall 1F, C101 - 102

15:30~16:00
(Invited) **The worldwide COVID-19 lockdown impacts on global secondary inorganic aerosols and radiative budget**
Takashi Sekiya
Japan Agency for Marine-Earth Science and Technology

16:00~16:15
An assessment of atmospheric hydrogen sulphide at a site on the industrialised South African Highveld
Pieter Gideon van Zyl
North-West University

16:15~16:30
Comparison for the diurnal variation of surface PM2.5 in South Korea
Seonggyun Na
Yonsei University

16:30~16:45
Light Absorption Enhancement of Black Carbon in PM2.5 Observed at Daejeon Metropolitan City During the Winter of 2024-2025
I Seul Cho
Department of Environmental & IT Engineering, Chungnam National University, Republic of Korea

16:45~17:00
Long-term trends and characteristics of surface ozone concentration in Seoul John Minju Yeo
Yonsei university

[M01]

AM1

Atmospheric Chemistry in the Anthropocene: From the Urban to Global Scales

Chair: Maximilien Desservettaz, University of Wollongong

Tuesday, 22 July 2025, 09:00 - 10:30
Convention Hall 1F, C101 - 102

09:00~09:30
(Invited) **Heatwave impacts on organic aerosol in highly polluted urban environments**
Qi Chen
Peking University

09:30~09:45
Project FOCI - Non-CO2 Forcers and Their Climate, Weather, Air Quality and Health Impacts: Modelling of Chemistry-Climate Interactions Across the Scales
Tomas Halenka
Charles University

09:45~10:00
A Study on the Targeted Observation of Pollutants During an Air Pollution Event in the Beijing-Tianjin-Hebei Region
Wanning Song
Institute of Atmospheric Physics,Chinese Academy of Sciences

10:00~10:15 **Unprecedented East Siberian wildfires intensify Arctic snow darkening through enhanced poleward transport of black carbon**
Yeonsoo Cho
Seoul National University

10:15~10:30 **Characterization of atmospheric aerosols and fog droplets during fog events at urban environment of Taiwan.**
Hing Cho Cheung
Academia Sinica

[M02] Atmospheric Composition and the Asian Monsoon

AM1 | Chair: Mary Barth, NSF NCAR | Thursday, 24 July 2025, 09:00 - 10:30 | Convention Hall 2F, C202

09:00~09:30 (Invited) **Interannual variations of the East Asian summer monsoon's first rainy season precipitation and the underlying mechanism**
Lin Wang
Institute of Atmospheric Physics,Chinese Academy of Sciences

09:30~09:45 **Convective transport of aerosols and ozone precursors Contrasting local to regional to global scale model results with observations**
Mary C Barth
NSF National Center for Atmospheric Research

09:45~10:00 **The long-term feature of hydrocarbons over East-Asian Upper Troposphere (UT) from Siberian wildfire during Asian Summer Monsoon (ASM) season**
DONGHEE LEE
Yonsei University

10:00~10:15 **Highlights of the applications of EarthCARE ATLID aerosol products**
Ping Wang
Royal Netherlands Meteorological Institute

[M02] Atmospheric Composition and the Asian Monsoon

PM1 | Chair: Jonathon Wright, Tsinghua University | Thursday, 24 July 2025, 13:30 - 15:00 | Convention Hall 2F, C202

13:30~13:45 **Characterizing Intraseasonal and Interannual Variability in the Composition of the Asian Summer Monsoon Anticyclone using Aura Microwave Limb Sounder Measurements**
Michelle L Santee
Institute of Atmospheric Physics,Chinese Academy of Sciences

13:45~14:00 **Sources and Regional Attributions to Upper Troposphere Nitrogen Oxides during the Asian Summer Monsoon**
Jun Zhang
NSF National Center for Atmospheric Research

14:00~14:15 **NO2 and HCHO Vertical Column Densities in two Polluted Megacities, Bangkok (Thailand) and Dhaka (Bangladesh), from Pandora Measurements**
Minjee Kim
Yonsei University

14:15~14:30 **GEMS HONO (Nitrous Acid) Retrieval Algorithm: an algorithm description and retrieval results on Asian wildfire events**
Hyeji Cha
Royal Netherlands Meteorological Institute

14:30~14:45 **Spaceborne Monitoring of Long-Term Air Pollution Trends and The Impact of COVID-19 in East Asia**
DhaHyun Ahn
Royal Netherlands Meteorological Institute

14:45~15:00 **Analysis of PM2.5 concentration in South Korea using CMIP6 models and future projections**
Taegyung Lee
Royal Netherlands Meteorological Institute

[M03] AM1 Weather modification: theory, practice and technology

Chair: Jing Duan, CMA Weather Modification Centre

Friday, 25 July 2025, 08:30 - 10:00

Convention Hall 1F, C103

08:30~08:45 **Hygroscopic Seeding Simulation Using a Superdroplet-Bin Hybrid Microphysical Scheme**
Shaofeng Hua
CMA Weather Modification Centre

08:45~09:00 **Research on the Explosion Effect of Hail Suppression Based on Phased Array Radar Observation Data**
Hui Wang
Weather Modification Center,China Meteorological Administration

09:00~09:15 **Are models missing aerosol-cloud-ice processes in the assessment of the rain enhancement effectiveness?**
Silvia Margarita Calderón
Finnish Meteorological Institute,Kuopio,Finland

09:15~09:30 **Cloud seeding experiment and effect research on Lushan Experimental Base for Fog and Cloud Physics (LBCP), China**
Jing Duan
China Meteorological Administration Cloud-Precipitation Physics and Weather Modification Key Laboratory

09:30~09:45 **Physical Evaluation of Wintertime Cloud Seeding Experiment in the Mountainous Region of Korea**
Byung Gon Kim
Gangneung-Wonju National University

[M03] AM2 Weather modification: theory, practice and technology

Chair: Jing Duan, CMA Weather Modification Centre

Friday, 25 July 2025, 10:30 - 12:00

Convention Hall 1F, C103

10:30~10:45 **Vertical dependency of aerosol impact on precipitation intensity and implications to weather modification**
Chuanfeng Zhao
Peking University

10:45~11:00 **Physical Test of the Effectiveness of Precipitation Enhancement Operation Processes over Southern Mountainous Areas in Ningxia, Northwest China**
Haoran Zhu
CMA in Ningxia

11:00~11:15 **Microphysical and vertical structure evolution of cumulonimbus clouds observed by radar under the influence of cloud seeding**
Yang Ju
Weather modification Office of Heilongjiang Province

11:15~11:30 **Cloud Formation Experiments Using the Korea Cloud Physics Experimental Chamber (K-CPEC): Establishing a Scientific Basis for Weather Modification**
Jeonggyu Kim
Pusan National University

[M04] PM1 Cloud-Precipitation-Aerosol Studies

Chair: Greg McFarquhar, University of Oklahoma

Tuesday, 22 July 2025, 13:30 - 15:00
Convention Hall 1F, C101 - 102

13:30~13:45 **Aircraft-based observations of ice concentrations in a midlatitude mixed-phase stratiform cloud system with embedded convection**
Tuanjie Hou
China Meteorological Administration Weather Modification Centre

13:45~14:00 **A Large-Eddy Simulation Study on the Formation and Evolution of Dusty Cirrus Clouds**
Kasper Juurikkala
Finnish Meteorological Institute

14:00~14:15 **Assessment of uncertainties in morphological variables of ice crystals and microphysical properties of ice clouds due to ice-crystals nonsphericity**
Sungmin Park
Pusan National University

14:15~14:30 **Chain Aggregates Observations during Recent Field Campaigns**
David James Delene
University of North Dakota

[M04] PM2 Cloud-Precipitation-Aerosol Studies

Chair: Hugh Coe, University of Manchester

Tuesday, 22 July 2025, 15:30 - 17:00
Convention Hall 1F, C101 - 102

15:30~15:45 **The Southern Ocean Clouds (SOC) field campaign in November and December 2024**
Amelie Kirchgaessner
British Antarctic Survey

15:45~16:00 **Aerosol properties during the Cloud And Precipitation Experiment at Kennaook (CAPE-k)**
Melita Keywood
CSIRO

16:00~16:15 **Increase of ice fog in the Arctic Ocean: 17 years of CALIOP measurements**
Olijmpia Bruno
Karlsruhe Institute of Technology

16:15~16:30 **Regional aerosol characteristics from in situ measurements for improved prediction of droplet nucleation**
MERCY VARGHESE
Indian institute of Tropical Meteorology,Pune

16:30~16:45 **Vertical Structure of Summertime Low-Level Clouds over the Western North Pacific Based on Aircraft Observations**
Akira Yamada
The University of Tokyo

[M04] Cloud-Precipitation-Aerosol Studies

AM1 Chair: Chungsong Lu, NUIST

Wednesday, 23 July 2025, 09:00 - 10:30
Convention Hall 1F, C101 - 102

09:00~09:30 (Invited) **Quantifying the turbulent entrainment-mixing processes based on Z-LWC relationships of cloud droplets**
Chungsong Lu
Nanjing University of Information Science and Technology

09:30~09:45 **Modeling Entrainment at the Top of Stratocumulus Clouds and Vertical Movement within the Clouds**
Sanggyeom Kim
Yonsei University

09:45~10:00 **How cloud-top entrainment instability drives diluted parcel descent in marine stratocumulus clouds: observational evidence**
Seong Soo Yum
Korea Institute of Science and Technology

10:00~10:15 **“Millipede Clouds” over the Global Oceans: An Observational and Modelling Study**
Gang FU
Ocean University of China; Pilot National Laboratory for Marine Science and Technology (Qingdao)

10:15~10:30 **Using statistical learning methods and ensemble modeling to determine the role of aerosols and environmental conditions on convective cloud properties**
Zachary Lebo
University of Oklahoma

[M04] Cloud-Precipitation-Aerosol Studies

PM1

Chair: Mary Barth, NSF NCAR

Wednesday, 23 July 2025, 13:30 - 15:00

Convention Hall 1F, C101 - 102

13:30~13:45

Variation Characteristics and Source Analysis of Cloud Condensation Nuclei at the Ridge of Liupan Mountain Located in Western China

Tong Lin

Ningxia Meteorological Disaster Prevention Technology Center

13:45~14:00

Characteristics of Marine Cloud Condensation Nuclei Measured onboard the R/V ISABU in 2024

Chanwoo Ahn

Center for Climate and Carbon Cycle Research,Climate Environmental Research Institute,Korea Institute of Science and Technology,Seoul,Republic of Korea / Department of Atmospheric Sciences,Yonsei University,Seoul,Republic of Korea

14:00~14:15

Seasonal and Diurnal Characteristics of Aerosols and CCN in Seoul measured from 2019 to 2021 and CCN prediction using Random Forest

Pyosuk Seo

Yonsei University

14:15~14:30

The impact of CCN and IN on liquid-ice phase transition in mixed-phase stratiform clouds

Yan Yin

Nanjing University of Information Science & Technology

14:30~14:45

Assessment of precipitation diurnal cycle in satellite and reanalysis datasets using ground-based observations

Gyuyeon Choi

Pukyong National University

14:45~15:00

Effects of aerosols on cloud and precipitation at different time scales in East-Asian drylands

Run Luo

Ningxia Meteorological Disaster Prevention Technology Centre

[M04] Cloud-Precipitation-Aerosol Studies

PM2

Chair: Greg McFarquhar, University of Oklahoma

Wednesday, 23 July 2025, 15:30 - 17:00

Convention Hall 1F, C101 - 102

15:30~15:45

Unraveling the Role of Secondary Ice Processes in Monsoon Clouds: Insights from Large scale High-Resolution Simulations.

Thara Prabhakaran

Indian Institute of Tropical Meteorology

15:45~16:00

Dependence of Convective Cell Properties on Meteorological and Aerosol Conditions: Insights from the TRACER Field Campaign

Dhwanit J. Mise

1-Center for Analysis and Prediction of Storms,University of Oklahoma,Norman OK 73072,USA 2-Cooperative Institute for Severe and High-Impact Weather Research and Operations,University of Oklahoma,Norman OK 73072,USA 3-School of Meteorology,University of Oklahoma,Norman OK 73072,USA

16:00~16:15 **Influence of Secondary Ice Production on cloud and rain properties: Analysis of the HYMEX IOP7a Heavy Precipitation Event**
Wolfram Wobrock
Université Clermont Auvergne

16:15~16:30 **Heavy Metal and Water-soluble Ion Composition in Hailstone and Its Associated Vertical CCNC Effects on Hail**
Xiaofei Li
Northwest University

16:30~16:45 **Advancing the Super-Droplet Method for Severe Convective Clouds: Evaluating Cloud Seeding Under Varying Aerosol Conditions**
Manhal Alhilali
University of Hyogo

[M05] Advances in Dynamic Meteorology

AM1

Chair: Yang Zhang, Nanjing University

Monday, 21 July 2025, 09:00 - 10:30
Convention Hall 1F, C109 - 110

09:00~09:30 (Invited) **Compensation between high- and low-frequency anomalies of jet stream**
Noboru Nakamura
University of Chicago

09:30~09:45 **Role of weather features for upper tropospheric eddy momentum flux convergence**
Thomas Spengler
University of Bergen

09:45~10:00 **An idealized model for the spatial structure of the eddy-driven Ferrel cell in mid-latitudes**
Woosok Moon
Pukyong National University

10:00~10:15 **Modulation of Winter Storm Tracks and Jet Streams by the Quasi-Biennial Oscillation**
Hua Lu
British Antarctic Survey

10:15~10:30 **Building blocks of storm tracks: revisiting asymmetries between the NH and SH in storm track strength**
Chaim I Garfinkel
Hebrew University

[M05] Advances in Dynamic Meteorology

AM2

Chair: Thomas Spengler, University of Bergen

Monday, 21 July 2025, 11:00 - 12:30
Convention Hall 1F, C109 - 110

11:00~11:15 **Perspective of Explosive Cyclones with Three Shapes of Upper-Level Potential Vorticity over the Northern Atlantic Ocean**
Jing Ni
Ocean University of China

11:15~11:30 **Summer and Autumn Arctic Cyclones Dominate the Increase in Polar Region Moisture Transport**
Yanting Liu
Nanjing University

11:30~11:45 **Dynamical processes controlling the evolution of early summer cut off lows in Northeast Asia**
Yang Zhang
Nanjing University

11:45~12:00 **Mechanisms for an Early Spring Peak of Extratropical Cyclone Activity in East Asia**
Satoru Okajima
University of Tsukuba

12:00~12:15 **Simulated climatologies of Northern Hemisphere blocking and storm tracks in an AGCM**
Akira Yamazaki
JAMSTEC

12:15~12:30 **Features Forecast Errors associated with Synoptic Weather Features**
Qidi Yu
University of Bergen

[M05] Advances in Dynamic Meteorology

PM1 Chair: Julian Quinting, KIT

Monday, 21 July 2025, 13:30 - 15:00
Convention Hall 1F, C109 - 110

13:30~14:00 (Invited) **Will winter midlatitude circulation become wavier under climate change?**
Yu Nie
National Climate Center,China Meteorological Administration

14:00~14:15 **Emerging Changes in Boreal Summer Rossby Wave**
EI Noh
Kongju National University

14:15~14:30 **On the Dynamics and Impacts of the Summertime Southern Hemisphere Dominant Wave Mode**
Yuanrui Chen
Department of Earth System Science,Tsinghua University

14:30~14:45 **Significance of baroclinic high-frequency disturbances in the baroclinic annular mode in the Southern Hemisphere**
Morio Nakayama
Research Center for Advanced Science and Technology,The University of Tokyo,Tokyo,Japan

14:45~15:00 **Dynamical characteristics of the summer Arctic Oscillation**
Seungseok Lee
UNIST

[M05] PM2

Advances in Dynamic Meteorology

Chair: Thomas Spengler, University of Bergen

Monday, 21 July 2025, 15:30 - 17:00
Convention Hall 1F, C109 - 110

15:45~16:00 **Relaxation Experiments on the Sub-seasonal Time Scale Using ML-based Weather Prediction Models**
Julian Quinting
Karlsruhe Institute of Technology

15:45~16:00 **On the dichotomy between lower and upper troposphere in storm track variability**
Andrea Marcheggiani
Geophysical Institute,University of Bergen,and Bjerknes Centre for Climate Research,Bergen,Norway

16:00~16:15 **Historical single-forcings responses over the North-Atlantic, Europe, and the Mediterranean in the LESFMIP simulations**
David Avisar
Hebrew University of Jerusalem

16:15~16:30 **ThermalNew Insights in the Role of Arctic Amplification for Stratospheric Wave Forcing**
Ulrike Langematz
Freie Universität Berlin

16:30~16:45 **The role of atmospheric dynamics in modulating the global monsoon system**
Vinay Kumar
Radio and Atmospheric Physics Lab.,Rajdhani College,University of Delhi,Delhi-110015,India

16:45~17:00 **Surface impacts of Stratospheric Sudden Warmings (SSWs): Comparison of 2018 and 2019 SSWs in SNAPSI experiments**
Dong-Chan Hong
Seoul National University

[M06] PM2

Dynamics of Mountain Weather and Climate: Observations, Modeling and Prediction at all scales

Chair: Daniel Kirshbaum, McGill University, Canada

Monday, 21 July 2025, 15:30 - 17:00
Convention Hall 1F, C108

15:30~16:00 (Invited) **Distinct Generation Mechanisms of Two Downslope Windstorm Events Responsible for Historical Wildfires in Korea**
Jung-Hoon Kim
Seoul National University

16:00~16:15 **Long term Wind and Temperature Variability in the Manjil Region, Iran (1990 2024): Synoptic and Local Influences**
Jeff Sepehri
York University

[M07] **Tropical Meteorology**

AM1

Chair: Daniel Kirshbaum, McGill University

Thursday, 24 July 2025, 09:00 - 10:30

Convention Hall 1F, C103

09:00~09:30

(Invited) **On Convective Couplings with Equatorial Rossby Waves and Equatorial Kelvin Waves**

Yukari N. Takayabu

The University of Tokyo

09:30~09:45

Global influence of tropical easterly waves and tropical cyclone genesis

Xueqing Du

City University of Hong Kong

09:45~10:00

Development of a simple linear model for tropical easterly waves variability in the Atlantic Ocean

Jung-Eun Chu

City University of Hong Kong

10:00~10:15

Tropical intraseasonal variability as a leading moisture dynamic mode of the warm-pool background state in a linear baroclinic model

Michiya Hayashi

Earth System Division,National Institute for Environmental Studies

[M07] **Tropical Meteorology**

PM1

Chair: Sam Stechmann, University of Wisconsin

Thursday, 24 July 2025, 13:30 - 15:00

Convention Hall 1F, C103

13:30~14:00

(Invited) **Recent advances in the research of atmospheric global free modes**

Takatoshi Sakazaki

Kyoto University

14:00~14:15

Energy budget of the equatorial Kelvin wave: The roles of adiabatic and diabatic processes

Katharina Meike Holube

Meteorological Institute Universität Hamburg

14:15~14:30

Multiscale Convective Circulations and Scale Interactions in a Global Storm-Resolving Model

Daehyun Kim

Seoul National University

14:30~14:45

The Gill and non-Gill equatorial wave circulations associated with convective variability over the subtropical western North Pacific

Peishan chen

National Key Laboratory of Earth System Numerical Modeling and Application,Institute of Atmospheric Physics,Chinese Academy of Sciences

[M07] Tropical Meteorology

PM2

Chair: Sam Stechmann, University of Wisconsin

Thursday, 24 July 2025, 15:30 - 17:00
Convention Hall 1F, C103

15:30~16:00 (Invited) **Volcanically forced MJO triggers the immediate onset of El Nino**
Hyemi Kim
Ewha Womans University

16:00~16:15 **Inter-seasonal Difference in MJO Propagation during the Extended Boreal Winter: Observations and Climate Model Simulations**
Seung-Yoon Back
School of Earth and Environmental Sciences,Seoul National University

16:15~16:30 **The relationship between cloud feedback and climate sensitivity over the tropical Pacific region in climate models**
Yoon-Kyoung Lee
Ewha Womans University

16:30~16:45 **A "bottom-up" pathway for the tropical precipitation response to SSWs: the role of trade winds for the convective response in SNAPSI**
Wuhan Ning
Hebrew University of Jerusalem

16:45~16:00 **Hot season gets hotter due to rainfall delay over tropical land in a warming climate**
Fengfei Song
Ocean University of China

[M08] Dynamics and microphysics of moist convection

PM1

Chair: Daniel Kirshbaum, McGill University

Tuesday, 22 July 2025, 13:30 - 15:00
Convention Hall 1F, C103

13:30~14:00 (Invited) **Very high resolution simulations of a cumulus congestus: implications for cloud droplet formation and growth**
Wojciech W. Grabowski
NCAR

14:00~14:15 **Drop size distribution and environmental properties observed in eastern Japan**
Takashi Unuma
Meteorological Research Institute

14:15~14:30 **Tropical cloud classification with a clustering analysis applied to CloudSat and CALIPSO observations**
Dea Tania Octarina
Graduate School of Environmental Studies,Nagoya University

14:30~14:45 **Non-conservation and conservation for different formulations of moist, cloudy potential vorticity**
Samuel N Stechmann
University of Wisconsin-Madison

[M08] Dynamics and microphysics of moist convection

PM2

Chair: Hugh Morrison, NSF National Center for Atmospheric Research

Tuesday, 22 July 2025, 15:30 - 17:00

Convention Hall 1F, C103

15:30~16:00 (Invited) **Updraft and downdraft properties in isolated versus organized deep convection at two tropical continental sites**
Courtney Schumacher
Texas A&M University

16:00~16:15 **Studying the organization of convective cloud fields in the Amazon using high-resolution modeling and radar observations**
Gabriel Ghiraldello Balestra
University of São Paulo

16:15~16:30 **Estimation of Entrainment and Detrainment Rates in Cumulus Clouds Using Global Satellite Observations**
Lei Zhu
Nanjing University of Information Science and Technology

16:30~16:45 **Sensitivity of deep-convection initiation to properties of subcloud updrafts**
Daniel Kirshbaum
McGill University

[M09] Mesoscale meteorology

PM1

Chair: M. Marcello Miglietta, CNR-ISAC

Wednesday, 23 July 2025, 13:30 - 15:00

Convention Hall 1F, C105

13:30~14:00 (Invited) **Mesoscale processes and scale interactions in extratropical cyclones - the North Atlantic Waveguide, Dry Intrusion and Downstream Impact Campaign**
Julian Quinting
Karlsruhe Institute of Technology

14:00~14:15 **Recent results on Mediterranean tropical-like cyclones (medicanes)**
Mario Marcello Miglietta
Institute of Atmospheric Sciences and Climate,National Research Council,Padua,Italy

14:15~14:45 **Hybrid dynamics of extratropical transition in idealized experiments**
Wataru Yanase
Meteorological Research Institute

14:45~15:00 **Analysis of Sea Breeze Front Dynamics in the Southwestern Caspian Sea Using Observations, WRF Simulations, and Machine Learning.**
Jeff(Jafar) Sepehri
York University

[M09] Mesoscale meteorology

PM2

Chair: Daniel Kirshbaum, McGill University

Wednesday, 23 July 2025, 15:30 - 17:00

Convention Hall 1F, C105

15:30~16:00

(Invited) **The Relationship between Marine Boundary Layer Jet and Heavy Rainfall during the Pre-Summer Rainy Season of South China**

Yu Du

Sun Yat-sen University

16:00~16:15

Realistic Precipitation Diurnal Cycle in Global Convection-Permitting Models by Resolving Mesoscale Convective Systems

Jinyan Song

Ocean University of China

16:15~16:30

Impact of Observation Error and Control Variables on the Assimilation of GK-2A All-Sky Radiance

Ki-Hong min

Kyungpook National University

16:30~16:45

Historical Changes and Future Projections of Extreme Temperature and Precipitation along the Sichuan-Tibet Railway

Tianbao Zhao

Institute of Atmospheric Physics,Chinese Academy of Sciences

[M10] Middle Atmosphere Symposium

PM1

Chair: Natalia Calvo, Universidad Complutense de Madrid, Spain

Tuesday, 22 July 2025, 13:30 - 15:00

Convention Hall 1F, C106 - 107

13:30~14:00

(Invited) **How well do we understand stratosphere-troposphere coupling and why does it matter?**

Peter Hitchcock

Cornell University

14:00~14:15

The tropospheric response to the zonal asymmetric momentum torques: implications for the downward response to wave reflection and SSW events

Wuhan Ning

Hebrew University of Jerusalem

14:15~14:30

Decoding the Holton-Tan Effect: Insights into QBO and Polar Vortex Interactions

Hua Lu

British Antarctic Survey

14:30~15:00

(Invited) **Understanding historical changes in the stratosphere and in stratosphere-troposphere coupling: insights from the Large Ensemble Single Forcing Model Intercomparison Project**

Chaim Garfinkel

Hebrew University

[M10] **Middle Atmosphere Symposium**

PM2

Chair: Seok-Woo Son, Seoul National University, Republic of Korea

Tuesday, 22 July 2025, 15:30 - 17:00

Convention Hall 1F, C106 - 107

15:30~15:45 **Intermodel spread in the mean strength of the Arctic polar vortex in CMIP6 models**
Alvaro de la Cámara
Universidad Complutense de Madrid Spain

15:45~16:00 **Modulations of the 3-Dimensional structure of the stratospheric polar vortex by ENSO**
Froila M Palmeiro
CMCC Foundation - Euro-Mediterranean Center on Climate Change

16:00~16:15 **Diversity in Future Changes of Sudden Stratospheric Warming Frequency Depending on Sea Surface Temperature Conditions**
Shunsuke Noguchi
Kyushu University

16:15~16:45 (Invited) **The dynamics of South African weather systems**
Thando Ndarana
University of Pretoria

16:45~17:00 **Impacts of QBO on Stratospheric and Tropospheric Ozone**
Wuke Wang
China University of Geosciences

[M10] **Middle Atmosphere Symposium**

AM1

Chair: Froila Palmeiro, CMCC, Italy

Wednesday, 23 July 2025, 09:00 - 10:30

Convention Hall 1F, C106 - 107

09:00~09:30 (Invited) **Past success and future challenges for improving chemistry climate models through coordinated multi-model intercomparisons**
David Plummer
Environment and Climate Change Canada

09:30~09:45 **How does Antarctic ozone depletion affect the Southern Hemisphere climate?**
Dong-Chan Hong
Seoul National University

09:45~10:00 **On the time scales of the Brewer-Dobson circulation response to an abrupt quadrupling of CO2 and the role of ozone feedbacks.**
Natalia Calvo
Universidad Complutense de Madrid

10:00~10:15 **Tropical upwelling in observations and reanalyses**
Susann Tegtmeier
University of Saskatchewan Canada

10:15~10:30

Variability in UTLS transport from model age of air
Katharina Turhal
Forschungszentrum Jülich,Institute of Climate and Energy Systems,Stratosphere (ICE-4)

[M10]
PM1

Middle Atmosphere Symposium

Chair: Peter Hitchcock, Cornell University, USA

Wednesday, 23 July 2025, 13:30 - 15:00
Convention Hall 1F, C106 - 107

13:30~13:45

The Madden-Julian Oscillation's Influences on Stratospheric Moisture
Joowan Kim
Kongju National University

13:45~14:00

Evaluating tropopause heights and characteristics in Antarctica springtime based on long-term ozonesonde observations.
Minju Park
Yonsei University

14:00~14:15

Observed trends in lapse rate tropopause temperature and height over the past two decades
Andrea Steiner
Wegener Center for Climate and Global Change,University of Graz

14:15~14:30

Modulation of the Northern Polar Vortex by the Hunga Tonga-Hunga Ha'apai Eruption
Ales Kuchar
BOKU University

[M10]
PM2

Middle Atmosphere Symposium

Chair: Joowan Kim, Kongju National University, Republic of Korea

Wednesday, 23 July 2025, 15:30 - 17:00
Convention Hall 1F, C106 - 107

15:30~16:00

(Invited) **Volcanic impact on the middle atmosphere: selected results joint research project VolImpact**
Christian von Savigny
University of Greifswald

16:00~16:30

(Invited) **Impacts of stratospheric aerosol injections on the middle atmosphere and its coupling to surface climate: risks and benefits of alternative materials**
Timofei Sukhodolov
Physikalisch-Meteorologisches Observatorium Davos and World Radiation Center,Davos,Switzerland

16:30~16:45

Effects of sulfate aerosol injections on stratospheric composition and dynamics in a coordinated multi-model CCMI experiment
Andrin Jörimann
Physikalisch-Meteorologisches Observatorium Davos/World Radiation Center,Davos,Switzerland

16:45~17:00 **Understanding and narrowing the uncertainties in atmospheric circulation, ozone and climate response to Stratospheric Aerosol Injection**
Ewa M. Bednarz
CIRES (CU Boulder) & NOAA CSL

[M10] AM1

Middle Atmosphere Symposium

Chair: Alvaro de la Camara, Universidad Complutense de Madrid, Spain

Thursday, 24 July 2025, 09:00 - 10:30
Convention Hall 1F, C106 - 107

09:00~09:30 (Invited) **A Review of Gravity Wave Studies in the Mesosphere and Lower Thermosphere**
Kaoru Sato
Department of Earth and Planetary Science,The University of Tokyo

09:30~09:45 **Improving a non-orographic gravity wave parameterization scheme using calibration**
Robert Christopher King
Stanford University

09:45~10:00 **Estimation of turbulent energy dissipation rates in the mesosphere by a VHF radar in the Antarctic region**
Masashi Kohma
Department of Earth and Planetary Science,Graduate School of Science The University of Tokyo

10:00~10:30 (Invited) **Interaction between Planetary Waves and Gravity Waves in the Middle Atmosphere**
Hye-Yeong Chun
Yonsei University,Korea

[M10] PM1

Middle Atmosphere Symposium

Chair: Miriam Sinnhuber, KIT, Germany

Thursday, 24 July 2025, 13:30 - 15:00
Convention Hall 1F, C106 - 107

13:30~13:45 **Common excitation and/or amplification mechanisms of Rossby and Rossby-gravity normal modes revealed by long-term reanalysis data for the whole middle atmosphere**
Hiroto Sekido
Department of Earth and Planetary Science,Graduate School of Science,The University of Tokyo

13:45~14:00 **On wave activities and temperature-depleted layer obtained from high-altitude radiosonde observations**
Takenari KINOSHITA
JAMSTEC

14:00~14:15 **Monitoring middle atmosphere dynamics using infrasound observations**
Patrick Hupe
BGR,Germany

14:15~14:30 **Mesospheric thermo-dynamics from mid-and high latitudes**
Yuchen Zhao
Utah State University

14:30~14:45 **Seasonal and Interannual Variation of the Interhemispheric Coupling during the Austral Winter in WACCM6**
Dai Koshin
NSF NCAR HAO

14:45~15:00 **Developing a pathway to improved predictability of the middle atmosphere**
Tracy Moffat-Griffin
Britsh Antarctic Survey

[M10] Middle Atmosphere Symposium

PM2

Chair: Hye-Yeong Chun, Yonsei University, Republic of Korea

Thursday, 24 July 2025, 15:30 - 17:00
Convention Hall 1F, C106 - 107

15:30~16:00 (Invited) **Solar forcing of the middle atmosphere: From process understanding to solar forcing data for CMIP7**
Miriam Sinnhuber
Karlsruhe Institute of Technology

16:00~16:15 **Assessment of the 11-year solar cycle signals in the middle atmosphere during boreal winter with multiple-model ensemble simulations**
Wenjuan Huo
GEOMAR Helmholtz Centre for Ocean Research Kiel

16:15~16:30 **Global impacts of an extreme solar particle event under different geomagnetic field strengths**
Pavle Arsenović
Institute of Meteorology and Climatology,Department of Water,Atmosphere,and Environment,BOKU University,Vienna 1180,Austria

[M11] Polar weather and climate extremes

AM1

Chair: Tracy Moffat-Griffin, British Antarctic Survey

Wednesday, 23 July 2025, 09:00 - 10:30
Convention Hall 1F, C103

09:00~09:15 **A Fast and Efficient Method for Deriving 20 years of Climate Data Records from Multiple Satellite IR Sounders**
Xu Liu
NASA Langley Research Center

09:15~09:30 **Rapid summer Russian Arctic sea-ice loss enhances the risk of recent Eastern Siberian wildfires**
Binhe Luo
Beijing Normal University

09:30~09:45 **Measured and modeled thermodynamic and cloud transformations during strong warm air intrusions and cold air outbreaks in the Arctic**
Manfred Wendisch
Leipzig University

09:45~10:00 **Antarctic Peninsula temperature extremes in austral summer and the links with local and large-scale modes of climate variability**
William J. Dow
University of Leeds

10:00~10:15 **Spatiotemporal variation of temperature extremes over the Arctic lands and Antarctic Peninsula**
Shoudong Zhao
Chinese Academy of Meteorological Sciences

10:15~10:30 **A zonal asymmetry in boreal winter surface temperature trend and its recent reversal over the Northern Hemisphere**
Ye-Jun Jun
Seoul National University

[M12] Earth's Energy Budget

PM1 Chair: Martin Wild, ETH Zurich

Wednesday, 23 July 2025, 13:30 - 15:00
Convention Hall 1F, C103

13:30~14:00 (Invited) **Global and Regional Drivers for Exceptional Climate Extremes in 2023-2024: Beyond the New Normal**
Shoshiro Minobe
Hokkaido University,Sapporo,Japan

14:00~14:15 **The triple-dip La Nina was key to Earth's extreme heat uptake in 2022-2023**
Ko Tsuchida
Research Center for Advanced Science and Technology,The University of Tokyo

14:15~14:30 **The interpretation of temperature and salinity variables in numerical ocean model output, and the calculation of heat fluxes and heat content**
Trevor J McDougall
University of New South Wales

14:30~14:45 **The Global Atmospheric Energy Cycle in TaiESM1: Present and Future**
Chia-Chi Wang
Chinese Culture University

14:45~15:00 **Planetary Albedo-driven surface warming: A Perspective from Cloud Transformation**
Ruixue Li
Lanzhou University,College of atmospheric Sciences

[M12] Earth's Energy Budget

PM2 Chair: Martin Wild, ETH Zurich

Wednesday, 23 July 2025, 15:30 - 17:00
Convention Hall 1F, C103

15:30~15:45 (Invited) **Locally Stationary Mapping and Uncertainty Quantification of Ocean Heat Content Based on Argo Profiles During 2004-2022**
Mikael Kuusela
Carnegie Mellon University

15:45~16:00 **Investigating ocean heat content changes with an ensemble ocean reanalysis system**
Andrea Storto
CNR ISMAR

16:00~16:15 **Evidence and Causes of the Diurnal Cycle of Sunshine Duration over China**
RuxueYang
Ocean University of China

16:15~16:30 **Enhancing the Understanding and Application of the Clearness Index**
Yawen Wang
Ocean University of China

16:30~16:45 **Activities and Updates of the International Radiation Commission's Solar Irradiance Working Group (SIWG)**
Odele Coddington
LASP/University of Colorado

16:45~17:00 **Stratospheric aerosol radiative forcing and climate feedbacks**
Matthew Toohey
Institute of Space and Atmospheric Studies,University of Saskatchewan

[M13] AM1

Advances in Atmospheric Radiation

Chair: Manfred Wendisch, Leipzig University

Monday, 21 July 2025, 09:00 - 10:30

Convention Hall 1F, C103

09:00~09:30 (Invited) **Optical and microphysical properties of inhomogeneous cloud revealed by three-dimensional radiative transfer-based remote sensing**
Hironobu Iwabuchi
Tohoku University

09:30~09:45 **A fast polarized radiative transfer model for multi-layer cloudy atmospheres**
Chao Liu
NUIST

09:45~10:00 **Intercomparison of radiative transfer simulations of the oxygen absorption bands**
Ping Wang
Royal Netherlands Meteorological Institute

10:00~10:15 **Modeling of Radiative Transfer Illuminated by Moon: Uncertainty Analysis and Applications**
Jun Wang
The University of Iowa

[M13] **Advances in Atmospheric Radiation**

AM2 | Chair: Hajime Okamoto, Kyushu University | Monday, 21 July 2025, 11:00 - 12:30 | Convention Hall 1F, C103

11:00~11:30
(Invited) **Preparing for Libera: Spatiotemporal variability of visible and near-infrared radiation in Global Circulation Models**
Maria Hakuba
JPL-Caltech

11:30~11:45
Report of the IRC Working Group Global Energy Balance: The representation of the Global Energy Balance in Reanalyses
Martin Wild
ETH Zurich Institute for Atmospheric and Climate Science

11:45~12:00
The Value of Spectrally Resolved Measurements in Understanding Earth's Energy Flows
Peter Pilewskie
LASP/CU

[M13] **Advances in Atmospheric Radiation**

PM1 | Chair: Manfred Wendisch, Leipzig University | Monday, 21 July 2025, 13:30 - 15:00 | Convention Hall 1F, C103

13:30~14:00
(Invited) **Reflecting Change: Challenges and Opportunities in measuring and modeling Arctic surface albedo**
Patrick Charles Taylor
NASA Langley Research Center

14:00~14:15
Analysis of Upwelling Far- and Mid-Infrared Radiances in All-Sky conditions
Tiziano Maestri
University of Bologna,Physics and Astronomy Department "Augusto Righi",Bologna

14:15~14:30
Twilight Radiative Transfer Modeling in Spherical Atmospheres: Insights into Aerosol Vertical Distribution from Ground-Based Observations
Li Li
Aerospace Information Research Institute, Chinese Academy of Sciences

14:30~14:45
Exploring how uncertainties in NWP model microphysics are carried through to microwave radiance space
Vito Sol Galligani
CIMA-UBA-CONICET

[M14] Lightning, Thunderstorms and Atmospheric Electricity

PM2 | Chair: Colin Price, Tel Aviv University | Monday, 21 July 2025, 15:30 - 17:00 | Room : Convention Hall 1F, C103

15:30~15:45
(Invited) **Physical-chemical detection, mechanism and effects of thunderstorm and lightning in the SHAndong Triggering Lightning Experiment (SHATLE)**
Rubin Jiang
State Key Laboratory of Atmospheric Environment and Extreme Meteorology / Key Laboratory of Middle Atmosphere and Global Environment Observation,Institute of Atmospheric Physics,Chinese Academy of Sciences

15:45~16:00
Structural Characteristics of Thunderstorms Associated with Negative Triggered Lightning Flashes
Xiaojie Liu
State Key Laboratory of Severe Weather & CMA Key Laboratory of Lightning,Chinese Academy of Meteorological Sciences

16:00~16:15
Local modulation of atmospheric electricity caused by the 2011 Fukushima nuclear power plant accident
Masashi Kamogawa
University of Shizuoka

16:15~16:30
Climatological Comparison of Terrestrial and Marine Cloud-to-Ground Lightning in South China
Mingyi Xu
Meteorological Observation Center,China Meteorological Administration,Beijing,China; Key Laboratory of Transportation Meteorology of China Meteorological Administration,Nanjing Joint Institute for Atmospheric Sciences,Nanjing,China; University of Bath,Department of Electronic & Electrical Engineering,Bath,United Kingdom of Great Britain and Northern Ireland

16:30~16:45
Thunderstorms as a driver of Climate Feedbacks
Colin Price
Tel Aviv University

16:45~17:00
Charge structure of an isolated thunderstorm on the Tibetan Plateau and the formation of bolt-from-the-blue lightning
Xiushu Qie
Institute of Atmospheric Physics, Chinese Academy of Sciences

[M15] Advances in the Remote Sensing of Aerosols, Clouds, Precipitation and Radiation

AM1 | Chair: Jing Li, Peking University | Thursday, 24 July 2025, 09:00 - 10:30 | Convention Hall 1F, C101 - 102

09:00~09:30
(Invited) **Satellite Remote Sensing of Aerosols in Asia from Geostationary Earth Orbit: GEMS, GOCI-II, AMI, and Data fusion by DNN**
Jhoon Kim
Department of Atmospheric Sciences,Yonsei University,Seoul,Korea

09:30~09:45
Diagnosis and Post-Processing of Aerosol Optical Depth Retrieval Errors of GOCI-II
Joonhee Kim
Seoul National University

09:45~10:00 **Recent improvements of forward modeling for atmospheric and surface observations in GRASP versatile algorithm**
Masahiro Momoi
GRASP SAS

10:00~10:15 **Application of the Super-Ellipsoidal Model for Characterizing Ice Crystal Optical Properties and Enhancing Ice Cloud Optical Thickness Retrieval**
Yizhen Meng
Zhejiang University

[M15] PM1 — Advances in the Remote Sensing of Aerosols, Clouds, Precipitation and Radiation

Chair: Masahiro Momoi, GRASP SAS

Thursday, 24 July 2025, 13:30 - 15:00
Convention Hall 1F, C101 - 102

13:30~14:00 (Invited) **Cloud microphysics and vertical air motion using EarthCARE**
Hajime Okamoto
Research Institute for Applied Mechanics,Kyushu University

14:00~14:15 **Tracking water vapor transport in boreal summer and the role of North Pacific High using satellite observations**
Seoeun Choi
Seoul National University

14:15~14:30 **What can radars tell us about snowfall microphysics? Insights from a Markov chain Monte-Carlo approach**
Alexis Berne
EPFL-LTE

14:30~14:45 **The algorithm development of High-Resolution Infrared Atmospheric Sounder (HIRAS) Outgoing Longwave Radiation (OLR) based on FY-3D satellite observations**
Wanchun Zhang
NSMC, CMA

[M15] PM2 — Advances in the Remote Sensing of Aerosols, Clouds, Precipitation and Radiation

Chair: Sang-Moo Lee, Seoul National University

Thursday, 24 July 2025, 15:30 - 17:00
Convention Hall 1F, C101 - 102

15:30~15:45 **Aerosol component concentration derived by the GRASP algorithm from multi-angular polarimetric satellite observations**
Lei LI
Chinese Academy of Meteorological Sciences

15:45~16:00 **Improvement of an aerosol retrieval algorithm from multi-wavelength and multipixel satellite observations**
Minho Sekiguchi
Tokyo University of Marine Science and Technology

16:00~16:15 **Surface solar radiation compositions observed from the geostationary satellites**
Chong Shi
Aerospace Information Research Institute,Chinese Academy of Sciences

16:15~16:30 **Study of Missed Nighttime Sea Fog / Low Stratus detection in China Adjacent Sea based on Geostationary Satellite Data**
Yuanzhen Zhang
Physical Oceanography Laboratory,Frontiers Science Center for Deep Ocean Multispheres and Earth System,College of Oceanic and Atmospheric Sciences,Ocean University of China,Qingdao,China

[M16] The Mechanism and Prediction of Tropical Cyclones

PM1 Chair: Bolei Yang, Peking University

Wednesday, 23 July 2025, 13:30 - 15:00
Convention Hall 1F, C104

13:30~14:00 **(Invited) A new approach to represent model uncertainty in the forecasting of tropical cyclones: The orthogonal nonlinear forcing singular vectors**
Wansuo Duan
Institute of Atmospheric Physics,Chinese Academy of Sciences

14:00~14:15 **Reasons for Different Predictability of Tropical Cyclone Tracks in the Western North Pacific and Atlantic Oceans**
Feifan Zhou
Institute of Atmospheric Physics,Chinese Academy of Sciences

14:15~14:30 **Enhancing tropical cyclone track and intensity predictions with the OWZP-Transformer model**
Zihao Lin
City University of Hong Kong

14:30~14:45 **Forecasting the genesis frequency of the tropical cyclone in western north Pacific**
Chunlei Liu
Guangdong Ocean University

14:45~15:00 **Ocean and High Impact Tropical Cyclones: Category '6', Marine Heat Wave and Ocean Internal Tides**
I-I Lin
National Taiwan University

[M16] The Mechanism and Prediction of Tropical Cyclones

PM2 | Chair: Bolei Yang, Peking University | Wednesday, 23 July 2025, 15:30 - 17:00 | Convention Hall 1F, C104

15:30~16:00
(Invited) **Tropical cyclone response to ambitious decarbonization scenarios**
Mincheol Moon
Pohang University of Science and Technology

16:00~16:15
Global Warming Influences on Intense Tropical Cyclones in the Arabian Sea: Convection-Permitting Model Experiments
Akash pathaikara
Division of Environmental Science and Engineering,POSTECH

16:15~16:30
Present climate and future changes in the annual cycle of TC activity in the WNP investigated by HighResMIP GCMs
Kuan-Chieh Chen
University of Taipei

16:30~16:45
Supportive Environmental Conditions for Rapid Intensification of TCs in the HighResMIP Simulations
Jihong Moon
Seoul National University

16:45~17:00
The Role of Tropical Cyclone Seeds on Modulating the Seasonal Cycle of Tropical Cyclone Frequency in the Northern Indian Ocean
Muchan Kim
School of Earth and Environmental Sciences,Seoul National University,Seoul,South Korea

[M18] Monsoon systems: variability, processes, predictability, change and extremes

AM1 | Chair: Jianping Li, Ocean University of China | Monday, 21 July 2025, 09:00 - 10:30 | Convention Hall 1F, C106 - 107

09:00~09:15
Asian Precipitation Experiment (AsiaPEX) and Western North Pacific monsoon
Toru Terao
Kagawa Unviersity

09:15~09:30
A novel Asian Summer Monsoon Index reconstructed from mixed approach and the multidecadal variability revealed in 1400-1900s
Wan-Ling Tseng
National Taiwan University

09:30~09:45
Tropical Cyclones Enhancing Climate Variability in Monsoons — An Evaluation Based on a TC-Removed Global Reanalysis
Huang-Hsiung Hsu
Academia Sinica Taiwan

09:45~10:00
Factors influencing to the frequency of heavy rainfall around the western periphery of the North Pacific High
Kazuya Wakao
Graduate School of Environmental Science,Hokkaido University

10:00~10:15 **Energetic connection between the South China Sea summer monsoon and Indian Ocean dipole from the perspective of perturbation potential energy**
Jianping Li
Ocean University of China

10:15~10:30 **Another look at interannual variations of the Asian-Australian monsoon during boreal summer: Effects of sea surface temperatures in three tropical oceans**
Tao Zhou
Fudan university

[M18] AM2 **Monsoon systems: variability, processes, predictability, change and extremes**
Chair: Kyung-Ja Ha, Pusan National University
Monday, 21 July 2025, 11:00 - 12:30
Convention Hall 1F, C106 - 107

11:00~11:15 **Optimal atmospheric heat sources for the interannual variability of South Asian summer monsoon**
Tong Lu
Institute of Atmospheric Physics,Chinese Academy of Sciences

11:15~11:30 **Emerging influence of the Australian Monsoon on Indian Ocean interannual variability in a warming climate**
Mengyan Chen
South China Sea Institute of Oceanology,Chinese Academy of Sciences

11:30~11:45 **Robust increase in Indian summer monsoon intraseasonal variability in the warmer climate**
Gopinadh Konda
Pusan National University

11:45~12:00 **Variability in the Western North Pacific Summer Monsoon in 140-Year-Long AGCM Hindcast Experiments: SST Impact on the Cyclonic Anomaly Around 1890s 1930s**
Tomomichi Ogata
JAMSTEC

12:00~12:15 **MONSOON SEASONAL VARIABILITY IN WEST COAST OF SABAH, MALAYSIA**
NURUL RABITAH DAUD
UNIVERSITI TEKNOLOGI MARA

12:15~12:30 **The impact of the QBO vertical structure on June extreme high temperatures in South Asia**
Fuhai Luo
School of Systems Science,Beijing Normal University

[M18] PM1 **Monsoon systems: variability, processes, predictability, change and extremes**
Chair: Ruiqiang Ding, Beijing Normal University
Monday, 21 July 2025, 13:30 - 15:00
Convention Hall 1F, C106 - 107

13:30~13:45 **Reconciling Roles of the South China Sea Summer Monsoon and ENSO in Prediction of the Indian Ocean Dipole**
Yazhou Zhang
Ocean University of China

13:45~14:00 **Advancing Subseasonal to Seasonal Prediction Science: Progress and Future Directions**
Yuhei Takaya
Meteorological Research Institute,Japan Meteorological Agency

14:00~14:15 **Seasonal Predictability and Key Drivers of East Asian Winter Monsoon Variability Using JMA/MRI-CPS3**
Reina Sakamoto
University of Tsukuba

14:15~14:30 **Preceding winter Sea Surface Interhemispheric Dipole (SSTID) as a predictor for summer monsoon Sahel rainfall.**
Ahmad Abdullahi Bello
Frontiers Science Center for Deep Ocean Multispheres and Earth System (DOMES)/ Key Laboratory of Physical Oceanography/Academy of Future Ocean/College of Oceanic and Atmospheric Sciences/Center for Ocean Carbon Neutrality,Ocean University of China,Qingdao 266100,China/National Weather Forecasting and Climate Research Center,Nigerian Meteorological Agency,Abuja,Nigeria

14:30~14:45 **Future projections of hourly extreme rainfall events over South Korea using convection permitting climate model**
Seung-Ki Min
Division of Environmental Science and Engineering,Pohang University of Science and Technology

14:45~15:00 **Influence of northern Eurasian continent warming on projected uncertainty in East Asian summer monsoon precipitation**
Hirokazu Endo
Meteorological Research Institute

[M18] Monsoon systems: variability, processes, predictability, change and extremes

PM2

Chair: Yuhei Takaya, Meteorological Research Institute, Japan Meteorological Agency

Monday, 21 July 2025, 15:30 - 17:00
Convention Hall 1F, C106 - 107

15:30~15:45 **Future projection of East Asian atmospheric rivers in high-resolution climate models**
Yeeun Kwon
Seoul National University

15:45~16:00 **Projection of the Impact of Indian Summer Monsoon on ENSO Evolution under Global Warming**
Song Yang
Sun Yat-sen University,China

16:00~16:15 **Phase and Amplitude Changes in Rainfall Annual Cycle Over Global Land Monsoon Regions Under Global Warming**
Songxin Lv
Ocean University of China

16:15~16:30 **Shortened Wet Seasons in the Southern Hemisphere Land under Global Warming**
Jinyuan Guo
Ocean University of China

16:30~16:45 **Future Changes in East Asian Summer Monsoon Frontal Precipitation under Anthropogenic Warming**
Suyeon Moon
APEC Climate Center

16:45~17:00 **Delayed Southern Ocean warming will weaken the interhemispheric asymmetry of land monsoon precipitation beyond 2100**
Kangnian Ren
Institute of Atmospheric Physics,Chinese Academy of Sciences

[M18] Monsoon systems: variability, processes, predictability, change and extremes

AM1 Chair: Song Yang, Sun Yat-sen University
Tuesday, 22 July 2025, 09:00 - 10:30
Convention Hall 1F, C106 - 107

09:00~09:15 **How Is the Tibetan Plateau Heating as a Strong Signal Acting on the Atmospheric River Activity in the North Pacific?**
Yang ZHAO
Ocean University of China

09:15~09:30 **Impact of 3-D Radiation-Topography Interactions on Indian Summer Monsoon Onset**
Ya-Lan Lo
Academia Sinica

09:30~09:45 **Changes in land-atmosphere coupling increase compound drought and heatwaves over northern East Asia**
Ye-Won Seo
IBS Center for Climate Physics

09:45~10:00 **Changes in atmospheric water vapor holding capacity and land-atmosphere coupling over Asian Monsoon region**
Ha Kyung Ja
Pusan National University

10:00~10:15 **Impact of Climate Engineering on the Future Asian Monsoon Climate**
YOUNGJOO CHO
Ewha womans university

10:15~10:30 **Extreme precipitation and associated synoptic weather system responses to CO2 emission reduction**
Seungmok Paik
Seoul National University

[M19]	Understanding and Modeling of Weather and Geophysical Extremes and Related Complex Risks	
AM1	Chair: Christian Franzke, Center for Climate Physics, Pusan National University	Thursday, 24 July 2025, 09:00 - 10:30 Convention Hall 1F, C108

09:00~09:15	**Climate Change Signature on the North Atlantic Circulation Regimes** **Susmit Subhransu Satpathy** IBS Center for Climate Physics
09:15~09:45	(Invited) **Emergent Constraints on global and regional future projections of extreme hot temperatures** **In-Hong Park** Hangyang University ERICA
09:45~10:00	**How unusual were the compound heat and drought events over the North China region in 2024?** **Lichao Yang** Capital Normal University
10:00~10:30	(Invited) **Mitigation needed to avoid unprecedented multi-decadal North Atlantic Oscillation magnitude** **Doug Smith** Met Office

[M19]	Understanding and Modeling of Weather and Geophysical Extremes and Related Complex Risks	
PM1	Chair: Lichao Yang, Capital Normal University	Thursday, 24 July 2025, 13:30 - 15:00 Convention Hall 1F, C108

13:30~13:45	**Time of Emergence and Future Projections of Extremes of Malaria Infections in Africa** **Christian Franzke** IBS Center for Climate Physics
13:45~14:00	**Short-Term Rainfall and Flood Risk Forecasting Using DI CAST** **Yeji Choi** DI Lab Inc.
14:00~14:15	**Impact of historical global warming on a heavy snowfall event in northern Japan in mid-December 2021 evaluated by a new pseudo global warming method** **Tomonori Sato** Hokkaido University

[M19] Understanding and Modeling of Weather and Geophysical Extremes and Related Complex Risks

PM2

Chair: Delei Li, Institute of Oceanology

Thursday, 24 July 2025, 15:30 - 17:00
Convention Hall 1F, C108

15:30~15:45
From Local to Global: Unveiling the Dynamics of Drought Awareness
MURTAZA AHMAD DAR
POSTECH,South Korea

15:45~16:00
Projection for the occurrence dates of heat stress in North China
Lulei Bu
Shanghai Climate Center

16:00~16:15
Weather Shocks to Cascading Disasters: A Panel Regression Approach to Climate Economics
Rhea Gaur
Department of Climate System,Pusan National University

16:15~16:30
The Changing Seasons: Anthropogenic Shifts in Flash Drought Patterns
Vecchia Ravinandrasana
IBS Center for Climate Physics/ Pusan National University

[M20] High resolution modelling of regional and local climate

PM1

Chair: Tomáš Halenka, Charles University

Tuesday, 22 July 2025, 13:30 - 15:00
Convention Hall 1F, C108

13:30~13:45
High resolution, kilometer-scale, convection permitting Regional Earth System modeling of the Northern Mediterranean region
Marco Reale
National Institute of Oceanography and Applied Geophysics-OGS

13:45~14:00
Impact of global warming on recent heavy snowfall events in Japan
Hiroaki Kawase
Meteorological Research Institute

14:00~14:15
Spectral nudging effects on extreme precipitation events over South Korea: Dependence on domain size and synoptic characteristics
Daeun Kwon
Pohang University of Science and Technology

14:15~14:30
CORDEX Flagship Pilot Study URB-RCC: Urban Environments and Regional Climate Change Where We Are and Where We Would Like to Go
Tomas Halenka
Charles University

[M21] AM1

Earth-Atmosphere interaction and Boundary Layer Processes

Chair: Jinkyu Hong, Yonsei University

Date : 09:00 - 10:30
Convention Hall 1F, C103

09:00~09:15
Intercomparison of land reanalysis datasets for land-atmosphere coupling with ground-based observations
Bora Lee
Pukyong national university

09:15~09:30
Comparison between Counter Gradient approach and Eddy Diffusion/Mass-Flux approach using Korea Integrated Model
Wonheung kim
kiaps

09:30~09:45
Carbon Dioxide Flux Measurements in an Urban Residential Area in Seoul, Korea
Sungsoo Jo
Ecosystem-Atmosphere Process Lab,Yonsei University,Korea

09:45~10:00
Estimation of Planetary Boundary Layer at JangBogoStation at Antarctica Using Radon Concentration and Machine Learning (2016-2020)
Wonseok Seo
Gangneung-wonju National University,Gangneung,South Korea

10:00~10:15
Investigating the Impact of Complex Terrain on the Structure of Planetary Boundary Layer by Vehicle-based Wind Lidar
Wei Nai Chen
Academia Sinica

[JMP02] AM1

Machine Learning in atmospheric, ocean and earth-system prediction: forecasting, simulation and scientific analysis

Chair: Hannah Christensen, University of Oxford

Monday, 21 July 2025, 09:00 - 10:30
Convention Hall 2F, C203

09:00~09:30
(Invited) **Data-driven global atmosphere-ocean-land coupled model**
Yoo-Geun Ham
Seoul National University

09:30~09:45
AI deep learning for weather-climate forecasts
Jing-Jia Luo
Nanjing University of Information Science and Technology

09:45~10:00
KAAI: Ultralight CNN structure for Global Weather Forecast
Minjong Cheon
Korea Advanced Institute of Science and Technology

10:00~10:15
Deep learning-based atmosphere-land coupled model for heatwave prediction
Dongjin Cho
Seoul National University

10:15~10:30	**PINT: Physics-Informed Neural Time Series Models with Applications to Long-term Inference on WeatherBench 2m-Temperature Data** **Keon Vin Park** Interdisciplinary Program in Artificial Intelligence, Seoul National University

[JMP02]

AM2

Machine Learning in atmospheric, ocean and earth-system prediction: forecasting, simulation and scientific analysis

Chair: Yoo-Geun Ham, Seoul National University

Monday, 21 July 2025, 11:00 - 12:30

Convention Hall 2F, C203

11:00~11:30	(Invited) **Nonlocal Deep Learning Parameterization for Climate Model Representation of Atmospheric Gravity Waves** **Aditi Sheshadri** Stanford University
11:30~11:45	**Using machine learning to correct sea surface biases in ocean models** **Andrea Storto** CNR ISMAR
11:45~12:00	**High-Resolution Short-Term Prediction of Sea Surface Currents Around the Korean Peninsula Using a Physics-Informed Neural Networks** **Ho-Jeong Ju** Department of Ocean Sciences, Inha University
12:00~12:15	**Physically-constrained Multi-scale channel Attention and Nudging for Downscaling Surface Meteorological Variables (PcMAN-DS)** **Eunhan Goo** Korea Advanced Institute of Science and Technology

[JMP02]

PM1

Machine Learning in atmospheric, ocean and earth-system prediction: forecasting, simulation and scientific analysis

Chair: Hannah Christensen, University of Oxford

Monday, 21 July 2025, 13:30 - 15:00

Convention Hall 2F, C203

13:00~13:45	**Investigating the predictability source of the MJO by using AI-based weather and climate emulators** **Younghoon Mo** School of Earth and Environmental Sciences, Seoul National University, Seoul, South Korea
13:45~14:00	**Investigating Track Forecast Uncertainty of Super Typhoon Hinnamnor using an AI-based Weather Prediction Model** **Jaeeon Kim** Seoul National University

14:00~14:15	**Predictability Study of Weather and Climate Events Related to Artificial Intelligence Models** **Mu Mu** Fudan University
14:15~14:30	**Investigation of the predictability in data-driven models with relaxation experiments** **Guokun Dai** Fudan University

[JMP02] PM2

Machine Learning in atmospheric, ocean and earth-system prediction: forecasting, simulation and scientific analysis

Chair: June-Yi Lee, Pusan National University

Monday, 21 July 2025, 15:30 - 17:00
Convention Hall 2F, C203

15:30~15:45	**Advancing Global Soil Moisture Estimation Using Multiple Satellite Sensors based on the Local Ensemble Transform Kalman Filter** **Sunlae Tak** Ulsan National Institute of Science and Technology
15:45~16:00	**Model Uncertainty MIP** **Hannah Christensen** University of Oxford
16:00~16:15	**Reconstruction of T/S Profiles from Satellite-Derived SSH Using Hybrid Machine Learning and Data Assimilation.** **Geon Min Lee** Pukyong National University

[JMP03] PM1

High-impact Weather and Climate Extremes

Chair: Dong-Hyun Cha, UNIST

Tuesday, 22 July 2025, 13:30 - 15:00
Convention Hall 1F, C109 - 110

13:30~14:00	(Invited) **Human contribution to the intense tropical cyclones over the Arabian Sea: Role of atmosphere-ocean thermodynamic factors** **Seung-Ki Min** Pohang University of Science and Technology
14:00~14:15	**Storyline frameworks to assess future changes in tropical cyclones** **Kevin A Reed** Stony Brook University

14:15~14:30 **Changes in Heavy Rainfall Patterns in Korea and Forecasting Improvement**
Haerin Park
Ulsan National Institute of Science and Technology, Republic of Korea

14:30~14:45 **Multiscale drivers of catastrophic heavy rainfall event in early August 2022 in South Korea**
Seok-Woo Son
Seoul National University

14:45~15:00 **Impact of land use changes and global warming on extreme precipitation patterns in the Maritime Continent**
Jie Hsu
National Taiwan University

[JMP03] High-impact Weather and Climate Extremes

PM2 Chair: Dong-Hyun Cha, UNIST

Tuesday, 22 July 2025, 15:30 - 17:00
Convention Hall 1F, C109 - 110

15:30~16:00 (Invited) **Top-down control of extreme heat events**
Noboru Nakamura
University of Chicago

16:00~16:15 **Exploring Multi-year Predictability of Terrestrial Heatwaves in Global Hotspot Regions**
Alexia Karwat
Research Center for Climate Sciences,Pusan National University

16:15~16:30 **More Active and Severe Heatwaves during La Nina-developing Northern Summers**
Huang-Hsiung Hsu
Academia Sinica Taiwan

16:30~16:45 **Heatwaves Similar to the Unprecedented One in Summer 2021 Over Western North America Are Projected to Become More Frequent in a Warmer World**
Zizhen Dong
Yunnan University,China

16:45~17:00 **Different roles of land-atmosphere coupling in compound drought-heatwave events**
Donghyuck Yoon
Princeton University

[JMP03] High-impact Weather and Climate Extremes

AM1 | Chair: Seok-Woo Son, SNU | Wednesday, 23 July 2025, 09:00 - 10:30 | Convention Hall 1F, C109 - 110

09:00~09:15
East Asian Heatwaves: Dominant Teleconnection Patterns and Predictability Assessment Using Climate Models
Hyerin Kim
UNIST

09:15~09:30
Marine heatwave significantly exacerbates the record-breaking 2023 East Asian summer heatwave
Satoru Okajima
University of Tsukuba

09:30~09:45
Linking the Pacific Meridional Mode to Decadal Heatwave Prediction in Taiwan and East Asia
Chieh Ting Tsai
Academia Sinica, Taiwan

09:45~10:00
Arctic-Siberian Plain Warming and Its Role in East Asian Heat Waves: Mechanisms and CMIP6 Evaluation
Jeong-Hun Kim
Kongju National University

10:00~10:15
Large-Scale Factors for the Extreme Heat over Japan in 2024 Summer
Hisashi Nakamura
University of Tokyo

10:15~10:30
Unveiling the Heatwave Effect: How Extreme Temperatures Alter Precipitation Patterns in Northern Australia s Summer Seasons
Sarthak Mohanty
Center for Climate Physics, Institute for Basic Science

[JMP03] High-impact Weather and Climate Extremes

PM1 | Chair: Kevin Reed, Stony Brook University | Wednesday, 23 July 2025, 13:30 - 15:00 | Convention Hall 1F, C109 - 110

13:30~13:45
The non-linear responses of Maritime continent deforestation on local extreme heat events.
TIG-HUI LEE
Department of Atmospheric Sciences, National Taiwan University

13:45~14:00 **Storylines reveal contrasting thermodynamic effects of climate change on 2020/21 East Asian cold extremes**
Wnqin Zhuo
Yunnan University, Kunming, China

14:00~14:15 **Extreme Cold Air Outbreaks on the North American West Coast have Tropical Links**
Richard Grotjahn
UC Davis

14:15~14:30 **Toward a South American High-Impact Weather Reports Database**
Vito Galligani
CIMA-UBA-CONICET

14:30~14:45 **A dynamical systems approach to study sea level extremes**
Théophile Caby
LOPS (UBO)

[JMP03] PM2

High-impact Weather and Climate Extremes

Chair: Kevin Reed, Stony Brook University

Wednesday, 23 July 2025, 15:30 - 17:00

Convention Hall 1F, C109 - 110

15:30~15:45 **Impact of Diabatic Heating on Forecast Biases of Cyclones**
Qidi Yu
University of Bergen

15:45~16:00 **Attribution of extreme wind gusts to weather features**
Andrea Marcheggiani
Geophysical Institute,University of Bergen, and Bjerknes Centre for Climate Research, Bergen, Norway

16:00~16:15 **Climatology and Trends in Compound Climate Extremes in the Global Extratropics**
Gabriele Messori
Uppsala University

16:15~16:30 **Climate change drives prolonged wind droughts in mid-latitudes**
Meng Qu
Peking University

16:30~16:45 **Evaluating Trends of Mesoscale Convective Systems in East Asia Using a Convection-Permitting Model**
Taeho Mun
Ulsan National Institute of Science and Technology, Republic of Korea

16:45~17:00 **Mesoscale Convective Systems in a Warming World: New Insights from a Multiscale Modeling Framework**
Guangxing Lin
Xiamen University

[JMP04] Antarctic Bottom Water formation, variability and trends

AM1

Chair: Matthew England, University of New South Wales

Tuesday, 22 July 2025, 09:00 - 10:30
Convention Hall 1F, C104

09:00~09:30 (Invited) **Processes of high ice production and subinertial variability toward the formation of Antarctic Bottom Water off Cape Darnley**
Kay I. Ohshima
Institute of Low Temperature Science, Hokkaido University

09:30~09:45 **A dataset of the daily edge of each polynya in the Antarctic**
Yichen Lin
School of Atmospheric Sciences, Sun Yat-sen University, and Southern Marine Science and Engineering Guangdong Laboratory (Zhuhai)

09:45~10:00 **Interannual Salinity Variability on the Ross Sea Continental Shelf in a Regional Ocean-Sea Ice-Ice Shelf Model**
Zhaomin Wang
Southern Marine Science and Engineering Guangdong Laboratory (Zhuhai)

10:00~10:15 **Circum-Antarctic bottom water formation mediated by tides and topographic waves**
Xianxian Han
Southern Marine Science and Engineering Guangdong Laboratory (Zhuhai),Zhuhai,China

[JMP04] PM1

Antarctic Bottom Water formation, variability and trends

Chair: Xianxian Han, Southern Marine Science and Engineering Guangdong Laboratory (Zhuhai)

Tuesday, 22 July 2025, 13:30 - 15:00
Convention Hall 1F, C104

13:30~14:00 (Invited) **Substantial Contraction of Dense Shelf Water in the Ross Sea under Future Climate Scenarios**
Zhaoru Zhang
Shanghai Jiao Tong University

14:00~14:15 **Impact of Atmospheric Variability on the Modulation of Dense Shelf Water in the Ross Sea**
Sung-Ho Choo
Jeju National University

14:15~14:30 **Dynamics of Water Mass Exchanges across the Central Ross Sea Slope**
Yuanjie Chen
Shanghai Jiao Tong University

14:30~14:45 **Bottom water river off Cape Darnely, East Antarctica**
Vigan Mensah
Institute of Low Temperature Science, Hokkaido University, Japan

14:45~15:00 **Emerging outflow of not-so-dense shelf water from an East Antarctic polynya**
Kaihe Yamazaki
University of Tasmania

[JMP04] PM2

Antarctic Bottom Water formation, variability and trends

Chair: Alessandro Silvano, University of Southampton

Tuesday, 22 July 2025, 15:30 - 17:00
Convention Hall 1F, C104

15:30~16:00 (Invited) **How much Upwelling occurs in the Abyssal Bottom Boundary Layer?**
Trevor J McDougall
University of New South Wales

16:00~16:15 **Over 50 years of observed Antarctic Bottom Water variability and change**
Annie Foppert
UTAS / AAPP

16:15~16:30 **Sensitivity of Antarctic dense water formation to surface vertical resolution**
Wilton Aguiar
Australian National University (ANU), ACEAS

16:30~16:45 **Sea surface height as a proxy for watermass volume change**
James Wyatt
Institute for Marine and Antarctic Studies

16:45~17:00 **Antarctic meltwater spread pattern and its duration modulate abyssal circulation**
Jun-Young Moon
Department of Atmospheric Sciences, Yonsei University, Seodaemun-gu, Seoul, 03722, Republic of Korea

[JMP05] Variability and change in Pacific Ocean-Atmosphere system

AM1

Chair: Bolan Gan, Ocean University of China

Monday, 21 July 2025, 09:00 - 10:30
Convention Hall 2F, C204

09:00~09:15 (Invited) **On the causes of tropical eastern Pacific cooling trend over the satellite era**
Eui-Seok Chung
Korea Polar Research Institute

09:15~09:30 **Understanding multi-model ensemble project warming pattern variability**
Shayne McGregor
Monash University

09:30~09:45 **North Atlantic influence reconciling model-observation discrepancy in the tropical Pacific warming pattern**
Yueh-Chi Lin
AORI, the University of Tokyo

09:45~10:00 **Uncertainty in the past and future changes of tropical Pacific SST zonal gradient: Internal variability v.s. model spread**
Zheng Wang
Ocean University of China

10:00~10:15 **Recent Walker circulation strengthening driven by sea surface temperature changes outside the tropics**
Yu Kosaka
Research Center for Advanced Science and Technology, The University of Tokyo

10:15~10:30 **A simple coupled model for understanding forced mechanisms of the tropical Pacific SST pattern change**
Masahiro Watanabe
University of Tokyo

[JMP05] AM2

Variability and change in Pacific Ocean-Atmosphere system

Chair: Sang-Wook Yeh, Hanyang University
Monday, 21 July 2025, 11:00 - 12:30
Convention Hall 2F, C204

11:00~11:30 (Invited) **Influence of Midlatitude North Pacific SST Anomalies on Boreal Summer Climate Under ENSO and Non-ENSO Conditions**
Lingfeng Tao
Nanjing University of Information Science and Technology

11:30~11:45 **What Controls the Evolution of Pacific Coastal Nino Events in the CESM Large Ensemble?**
Daniel Rudloff
Geomar Helmholtz Centre for Ocean Research Kiel

11:45~12:00 **Extreme Ventilation of the North Pacific Central Mode Water by El Nino During Positive Phase of the Pacific Decadal Oscillation**
Lixio Xu
Ocean University of China

12:00~12:15 **External Forcing of Historical Multidecadal Variability in the Pacific in Large Ensembles**
Melissa Seabrook
Met Office

12:15~12:30 **A dominant impact of off-equatorial subsurface temperature anomalies in Tropical Pacific Decadal Variability**
Yu-heng Tseng
National Taiwan University

[JMP05] PM1

Variability and change in Pacific Ocean-Atmosphere system

Chair: Bolan Gan, Ocean University of China
Monday, 21 July 2025, 13:30 - 15:00
Convention Hall 2F, C204

13:30~14:00 (Invited) **Habitable Japan (Climatic Hotspot3) Project for Sustainability of Atmospheric and Oceanic Environment as a Survival Basis of Island Country Japan**
Eitarou Oka
Atmosphere and Ocean Research Institute, The University of Tokyo

14:00~14:15 **On Recent Regime Shift in the Northwestern Pacific Ocean and Climate System**
Bo Qiu
University of Hawaii at Manoa

14:15~14:30 **Intensified East Asian Winter Monsoon and cooling since the 2000s: The role of the negative Pacific Decadal Oscillation**
Doo Young Lee
Hanyang University

14:30~14:45 **Enhanced Influence of Late-winter Arctic Oscillation on Early-spring Temperature in North and Northeast Asia**
Tingting Han
Nanjing University of Information Science and Technology

[JMP05] Variability and change in Pacific Ocean-Atmosphere system

PM2

Chair: Bo Qiu, University of Hawaii at Manoa

Monday, 21 July 2025, 15:30 - 17:00
Convention Hall 2F, C204

15:30~16:00 (Invited) **Extreme northward meander of the Kuroshio Extension in 2023 in an eddying OGCM**
Masami Nonaka
JAMSTEC

16:00~16:15 **Modulation of oceanic CO2 uptake by the Kuroshio Extension decadal variability**
Xueyin Li
Ocean University of China

16:15~16:30 **Nonstationary relationship between the Kuroshio Extension and the central tropical Pacific modulated by the North Pacific Oscillation in an eddy-resolving CESM**
Yukito Tamura
The Unviersity of Tokyo

16:30~16:45 **Future weakening of the Kuroshio Extension decadal variability revealed by an eddy-resolving model**
Xin Wang
Ocean University of China

16:45~17:00 **Importance of the meridional heat transport through the western boundary pathway of the Subtropical Cells in Tropical Pacific Decadal Variability**
Takeshi Anami
The University of Tokyo

[JMP06]

AM1

Advancing air-sea flux process understanding across diverse conditions

Chair: Tomoki Tozuka, University of Tokyo

Friday, 25 July 2025, 08:30 - 10:00

Convention Hall 2F, C203

08:30~09:00

(Invited) **Marine Heatwave: a Supercharger for Typhoons**

Iam-Fei Pun
National Central University

09:00~09:15

Impacts of subsurface ocean variability on tropical cyclone genesis

Lei Zhou
Shanghai Jiao Tong University

09:15~09:30

Modulation of Typhoon Intensity by Current-Wind Interaction

Ajin Cho
Yonsei University

09:30~09:45

Investigating the relationship between wind stress, drag coefficient and surface waves under hurricane conditions measured by the Uncrewed Surface Vehicle Saildrones

Dongxiao Zhang
CICOES/University of Washington and NOAA/Pacific Marine Environmental Laboratory

[JMP06]

AM2

Advancing air-sea flux process understanding across diverse conditions

Chair: Dongxiao Zhang, University of Washington, CICOES

Friday, 25 July 2025, 10:30 - 12:00

Convention Hall 2F, C203

10:30~11:00

(Invited) **J-OFURO: Toward the Advancement of Air-Sea Flux and State Estimation from Space**

Hiroyuki Tomita
Faculty of Environmental Earth Science, Hokkaido University

11:00~11:15

The effect of shallow mixed layer on the development of the boreal summer intraseasonal oscillation over the western North Pacific in 2024

Ayako Seiki
JAMSTEC

11:15~11:30

Unveiling the drivers of tropical Indian Ocean warming through machine learning-assisted surface wind

Weihao Guo
South China Sea Institute of Oceanology, Chinese Academy of Sciences, Guangzhou, China

11:30~11:45 **Wind-driven zonal jets in tropical Pacific and Atlantic derived from satellite observation**
Linlin Zhang
Institute of Oceanology, Chinese Academy of Sciences

11:45~12:00 **Dynamic Changes of Radiocarbon in the Surface Ocean and Lower Atmosphere Boundary Observed in the Northwest Pacific**
Yonggi Liang
Peking University,China

[JMP07] AM1 Past climate changes and their relevance for the future

Chair: Qiuzhen Yin, Université catholique de Louvain, Belgium — Thursday, 24 July 2025, 09:00 - 10:30 — Convention Hall 2F, C201

09:00~09:15 **Control of the North Atlantic circulation on the heat transport into the Nordic Seas during abrupt glacial AMOC weakening events**
Malin Ödalen
Potsdam Institute for Climate Impact Research

09:15~09:30 **Contrasting Arctic sea-ice and ocean circulation response to the early Last Interglacial and future warming**
Marie Sicard
Stockholm University, Department of Geological Sciences, Bolin Centre for Climate Research

09:30~09:45 **Insolation induced abrupt changes and multi-centennial variability of AMOC**
Qiuzhen Yin
Université catholique de Louvain

09:45~10:00 **Dipole Pattern of Hydroclimate in East Asia Over the Past Two Millennia Linked to North Hemisphere Temperature and ENSO**
Haiwei Zhang
Xi'an Jiaotong University

[JMP07] PM1 Past climate changes and their relevance for the future

Chair: Haiwei Zhang, Xi'an Jiaotong Univerisity, China — Thursday, 24 July 2025, 13:30 - 15:00 — Convention Hall 2F, C201

13:30~14:00 (Invited) **Simulating terrestrial mammals (including humans) in the context of the changing climate climate of the Pleistocene**
Axel Timmermann
IBS Center for Climate Physics, South Korea

14:00~14:15 **Impact of Ocean Physical Conditions on Ocean Carbon Pumps and Atmospheric CO2 Concentration at the Last Glacial Maximum**
Miyano Nishida
Atmosphere and Ocean Research Institute, The University of Tokyo

14:15~14:30 **Marine carbon cycle responses across interglacial periods: Insights from past warm climates**
Hidetaka Kobayashi
University of Toyama

14:30~14:45 **Insights from coupled CESM1.2-PSUIM climate-ice sheet model: past and future perspectives**
Kyung-Sook Yun
IBS Center for Climate Physics

14:45~15:00 **Cause of the Recent Tendency of Tropical Cyclones Approaching Coasts as Revealed by HighResMIP-PRIMAVERA Simulations**
Fumiaki Ogawa
Mie University

[JMP07] Past climate changes and their relevance for the future

PM2

Chair: Agatha de Boer, Stockholm University, Sweden

Thursday, 24 July 2025, 15:30 - 17:00

Convention Hall 2F, C201

15:30~16:00 (Invited) **Early warning signals for Asian summer monsoon tipping and implications for future monsoon changes**
Hai Cheng
Xi'an Jiaotong University

16:00~16:15 **Control of deglacial sea level rise on East Asian marginal seas circulation**
Xun Gong
China University of Geosciences (Wuhan)

16:15~16:30 **Climate change over East Asia during the Last Interglacial and associated underlying mechanisms: From numerical modeling perspective**
Nanxuan Jiang
Climate Change Research Centre, Institute of Atmospheric Physics, Chinese Academy of Sciences, Beijing, China

16:30~16:45 **Hydroclimate scenario in the Indo-Pacific warm pool linked to global climate variability on prolonged interglacials MIS 15-13**
Pai-Sen Yu
Taiwan Ocean Research Institute, National Applied Research Laboratories

16:45~17:00 **Forcing mechanisms of the half-precession cycle in the western equatorial Pacific temperature**
Zhipeng Wu
Université catholique de Louvain

[JMP09] AM1

El Niño/Southern Oscillation and its Global and Regional Impacts

Chair: Jianping Li, Ocean University of China

Tuesday, 22 July 2025, 09:00 - 10:30
Convention Hall 2F, C203

09:00~09:15 **Ambiguity in the relationship between Korean winter temperatures and El Nino-Southern Oscillation**
Seungwoo Yoo
Seoul National University

09:15~09:30 **Understanding the Diverse Impact of EP/CP ENSO Events on Australian Spring Rainfall**
Linyuan Sun
UNSW Sydney

09:30~09:45 **Synergistic effect of El Nino and negative phase of Arctic Oscillation on winter precipitation over southern China**
Xinxin Tang
Ocean University of China

09:45~10:00 **ENSO impacts on vegetable prince in China**
Jin-Soo Kim
City University of Hong Kong

10:00~10:15 **Distinct Hadley Circulation attributable to Rapid and Slow El Nino Decay and its Regional Impacts**
Juan Feng
Beijing Normal University

10:15~10:30 **Global climate mode resonance due to rapidly intensifying El Nino-Southern Oscillation**
Malte F Stuecker
University of Hawaii at Manoa

[JMP09]

PM1

El Niño/Southern Oscillation and its Global and Regional Impacts

Chair: Malte F Stuecker, University of Hawaii at Manoa

Tuesday, 22 July 2025, 13:30 - 15:00

Convention Hall 2F, C203

13:30~13:45

Precipitation anomaly enhances the development of El Nino/Southern Oscillation

Takahito Kataoka
JAMSTEC

13:45~14:00

The Interplay of Tropical and Subtropical ENSO Dynamics: Why the 2023/24 El Nino Didn't Become a Super El Nino Like 1997/98 and 2015/16

Jin-Yi Yu
University of California,Irvine

14:00~14:15

Increased multi-year La Nina since 1960s driven by internal climate variability

Shichu Liu
Ocean University of China

14:15~14:30

Understanding the Driving Mechanisms behind Triple-Dip La Ninas: Insights from the Prediction Perspective

Han-ching Chen
Nanjing University of Information Science & Technology

14:30~14:45

How important is the negative feedback associated with phytoplankton to ENSO?

Tomoki Tozuka
The University of Tokyo

14:45~15:00

Diverse Response of Western North Pacific Anticyclone to Fast-decay El Nino during Decaying Summer

Leishan Jiang
Nanjing University of Information Science and Technology

[JMP09]

PM2

El Niño/Southern Oscillation and its Global and Regional Impacts

Chair: Jin-Yi Yu, University of California,Irvine

Tuesday, 22 July 2025, 15:30 - 17:00

Convention Hall 2F, C203

15:30~15:45

Drivers of subseasonal ENSO-East Asia teleconnections and their applications to subseasonal-to-seasonal predictions

Chang-Hyun Park
Seoul National University

15:45~16:00 **ENSO-Driven Inter-Seasonal Variability in the Predictability of Seasonal Precipitation in South China**
Shixin Zhen
Ocean University of China

16:00~16:15 **Improvement of ENSO Simulation by the Conditional Multi-model Ensemble Method**
Jianping Li
Ocean University of China

16:15~16:30 **Amplified El Nino-induced Global SST Variability in a Warming World**
Seung-Jae Hong
School of Earth and Environmental Sciences, Seoul National University, Seoul, South Korea

16:30~16:45 **Greenhouse Gas Forcing Amplifies North Pacific Influence on El Nino-Southern Oscillation**
Yuqiong Zheng
Yunnan University

16:45~17:00 **ENSO changes until the 25th century under multiple global warming scenarios in an Earth System Model**
Michiya Hayashi
Earth System Division, National Institute for Environmental Studies

[JMP10] Ocean-Atmosphere Mechanisms of Climate Variability, Change and Predictability

AM1

Chair: Hisashi Nakamura, University of Tokyo

Wednesday, 23 July 2025, 09:00 - 10:30

Convention Hall 2F, C203

09:00~09:30 (Invited) **Assessing Future Changes in Wintertime Atmospheric Waviness Using Local Wave Activity**
Ayako Yamamoto
J. F. Oberlin University

09:30~09:45 **Impact of the distribution of sea surface temperature on the maintenance of storm tracks**
Andrea Marcheggiani
Geophysical Institute, University of Bergen, and Bjerknes Centre for Climate Research, Bergen, Norway

09:45~10:00 **Arctic Amplification as the Most Excitable Mode Intrinsic to the Coupled Climate System**
Jian Lu
Ocean University of China

10:00~10:15 **Inferring Climate Forcings from Observed Responses Using Model-Derived Linear Response Functions**
Zaiyu Wang
Ocean University of China

10:15~10:30 **Effect of Summertime Cyclones on Surface Turbulent Heat Exchanges in the Arctic**
Yanting Liu
Nanjing University

[JMP10] Ocean-Atmosphere Mechanisms of Climate Variability, Change and Predictability

PM1 Chair: Jingjia Luo, NUIST

Wednesday, 23 July 2025, 13:30 - 15:00
Convention Hall 2F, C203

13:30~13:45 **Surface air temperature adjustment over the warm ocean**
Bunmei Taguchi
University of Toyama

13:45~14:00 **Coupled climate effects of eddy rich model resolution in and south of the Agulhas**
Malin Ödalen
Potsdam Institute for Climate Impact Research

14:00~14:15 **Identification of a new asymmetric internal variation in global sea level**
Sandeep Mohapatra
University of Tasmania,Hobart,Australia

14:15~14:30 **Asymmetries between Phases of Atlantic Multi-Decadal Variability in the CMIP6 Multi Models**
Haedo Baek
Chungnam National University

14:30~14:45 **Large-scale atmospheric response to anomalies in the sea surface temperatures and sea ice in the 2021-22 winter**
Kazuaki Nishii
Graduate School of Bioresouces,Mie University

14:45~15:00 **The NIMS/KMA Argo Program: Current Status and Future Perspective**
Baek-Jo KIM
NIMS/KMA

[JMP10]

PM2

Ocean-Atmosphere Mechanisms of Climate Variability, Change and Predictability

Chair: Yukio Masumoto, University of Tokyo

Wednesday, 23 July 2025, 15:30 - 17:00
Convention Hall 2F, C203

15:30~16:00

(Invited) **Effect of Northeast Pacific wind on the improvement of El Nino prediction in a climate model**
Jing Huang
South China Sea Institute of Oceanology, Chinese Academy of Sciences

16:00~16:15

Importance of the vertical mixing process in the development of El Nino Modoki
Tomoki Tozuka
The University of Tokyo

16:15~16:30

Robustness of Atlantic Nino mechanisms in global warming projections
Ingo Richter
Japan Agency for Marine-Earth Science and Technology

16:30~16:45

Emergence of positive IOD-like warming pattern driven by greenhouse gases and anthropogenic aerosols during the recent four decades
Lu Dong
Ocean University of China

16:45~17:00

Exploring Ocean-Driven Multi-year Predictability of Terrestrial Ecosystem Components
Jeog-Eun Yun
Research Center for Climate Sciences

[JMP10]

AM1

Ocean-Atmosphere Mechanisms of Climate Variability, Change and Predictability

Chair: Yang Zhang, Nanjing University

Thursday, 24 July 2025, 09:00 - 10:30
Convention Hall 2F, C203

09:00~09:15

Interactions of Recent Extreme Marine Heatwaves around Japan with Record Atmospheric Heatwaves
Hisashi Nakamura
University of Tokyo

09:15~09:30

Impact of a wintertime marine heatwave on a heavy rainfall event in northern Japan in January 2024
Shito Fukuda
Graduate School of Bioresources, Mie University

09:30~09:45 **Impact of Sea Surface Temperature Anomalies in the East China Sea and Western Subtropical Pacific on the August 2021 Northern Kyushu Heavy Precipitation**
Atsuyoshi Manda
Mie University

09:45~10:00 **Enhanced seasonal prediction skill of the Western Pacific Subtropical High over the past century**
Wanheng Ye
Institute of Atmospheric Physics,Chinese Academy of Sciences

10:00~10:15 **The energetics of meridional teleconnection patterns over the North Pacific in winter: The internally-driven atmospheric variability and their modulations under different SST conditions**
Ryo Satoh
Research Center for Climate Sciences

10:15~10:30 **Recent pronounced warming on the Mongolian Plateau boosted by internal climate variability**
Cai Qingyu
Yunnan University

[JMC11] Exploration of the Diversity of Planetary Atmospheres and Surfaces

AM1

Chair: Yeon Joo Lee, Institute for Basic Science

Friday, 25 July 2025, 08:30 - 10:00

Convention Hall 1F, C104

08:30~08:45 **Comparative characteristics of the atmospheres of the terrestrial planets and Titan**
Athena Coustenis
LIRA, Paris Observatory, 92195 Meudon, France

08:45~09:00 **Sensitivity study of the Venus' Reflectance Spectra**
Ashimananda Modak
Institute for Basic Science

09:00~09:15 **Dynamic model for Jupiter's polar vortex crystals**
Tao CAI
Macau University of Science and Technology

09:15~09:30 **Characterization of small-scale UV contrasts at Venus s cloud top level**
Hyeonju Kang
Yonsei University

09:30~09:45 **Local time dependence of phase curves in Venusian clouds**
Rommy L.S.E.
Planetary Atmospheres Group/Institute for Basic Science (IBS)

09:45~10:00 **Exploring mesoscale phenomena in Venusian cloud tops using scattering transform**
Dongho You
KAIST/IBS

[JMC12] Multi-scale processes of hydrological cycles and impacts of the climate change

AM1

Chair: Woosok Moon, Pukyong National University

Thursday, 24 July 2025, 09:00 - 10:30
Convention Hall 1F, C105

09:00~09:15 **Understanding Water Resources in a Warming Western US**
Jin Ho Yoon
GIST

09:15~09:30 **Correction of diurnal error in soil moisture in-situ measurements using Fourier transform**
Junnyeong Han
Pukyong National University

09:30~09:45 **Analysis of Building Energy Consumption Under Climate Variability**
Soohyun Ahn
Pukyong, Division of Earth Environmental System Science

09:45~10:00 **Stochastic modeling and analysis using ERA5 2m atmospheric temperature data**
Geun Yeong Kim
Division of Earth and Environmental System Sciences, Pukyong National University, Busan, Korea

10:00~10:15 **Development of a stochastic model representing seasonal variability in river discharge**
Seola Park
Division of Earth and Environmental System Sciences, Pukyong National University, Busan, Korea

10:15~10:30 **Exploring Urban Heat Islands with a simple thermodynamic model**
Mijeong Jeon
Pukyong National University

[JMC13] Tropical-polar interactions under rapid climate change: Processes and influences

AM2

Chair: Lin Wang, Institute of Atmospheric Physics

Friday, 25 July 2025, 10:30 - 12:00
Convention Hall 1F, C104

10:30~11:00
(Invited) **Forthcoming tipping point of Atlantic Meridional Overturning Circulation and its climate impacts**
Jong Seong Kug
School of Earth and Environmental Sciences, Seoul National University, Seoul, South Korea

11:00~11:30
(Invited) **Impact of the Arctic climate system on ENSO: characteristics and mechanisms**
Wen Chen
Yunnan University

11:30~11:45
Centennial-Scale Variability in Antarctic Surface Mass Balance and its Linkages to Tropical Oceans
Kai Man
Institute of Atmospheric Physics Chinese Academy of Sciences, China

11:45~12:00
Influence of the April May Southern Annular Mode on Central Pacific Ocean SST in the Following Winter
Ting Liu
SOED, SIO

[JMC14] Climate Change in the Polar Regions: Observing, Modelling and Predicting High Impact Transitions

AM1

Chair: David B. Reusch, University of Washington

Thursday, 24 July 2025, 09:00 - 10:30
Convention Hall 1F, C104

09:00~09:30
(Invited) **From enhanced Arctic amplification to Tropical Eastern Pacific & Southern Ocean cooling since 1980: The role of internal variability**
Muyin Wang
University of Washington

09:30~09:45
Unraveling the Warm Arctic-Cold Eurasia Pattern: Interplay of Arctic Amplification and Internal Variability in Shaping Mid-latitude Weather
HOYOUNG KU
Pukyong National University

09:45~10:00
Response of changes in sea ice thickness to cyclones: new insights from the MOSAiC expedition
Yu Liang
Ocean University of China

10:00~10:15 **Interannual variability of sea ice dynamics conditions in the northern hemisphere and its likely factors**
Takenobu Toyota
Hokkaido University

10:15~10:30 **Dependence of High Latitude Boundary Layer Properties on Environmental Conditions over the North Atlantic and Southern Ocean: Results from Recent Field Campaigns**
Greg M McFarquhar
CIWRO/SoM, University of OKlahoma

[JMC14] Climate Change in the Polar Regions: Observing, Modelling and Predicting High Impact Transitions

PM1

Chair: David B. Reusch, University of Washington

Thursday, 24 July 2025, 13:30 - 15:00
Convention Hall 1F, C104

13:30~14:00 (Invited) **Investigating the driving condition for Precipitation Transition in Arctic Environments**
Lekhraj Saini
Department of Astronomy, Astrophysics and Space Engineering, Indian Institute of Technology Indore, India

14:00~14:15 **AWACA: instrument deployment and first months of data**
Alexis Berne
EPFL-LTE

14:15~14:30 **Observations of Polar Clouds and Boundary Layer Processes from the Integrated Cloud Observatory at Troll Station, Antarctica**
Michael Town
Earth and Space Research

14:30~14:45 **Projected Amplification of Moisture Fluxes towards Antarctica by Synoptic Eddies**
Partrick Martineau
Japan Agency for Marine-Earth Science and Technology

14:45~15:00 **Climate warming amplified the extreme warm events in the East Antarctic interior**
Naoyuki Kurita
Nagoya University

[JMC14]

PM2

Climate Change in the Polar Regions: Observing, Modelling and Predicting High Impact Transitions

Chair: Amelie Kirchgaessner, British Antarctic Survey

Thursday, 24 July 2025, 15:30 - 17:00

Convention Hall 1F, C104

15:30~15:45

Antarctic sub-regions projected to be ice-free in the 2070s under high emission scenarios

Yeon Hee Kim
Pohang University of Science and Technology

15:45~16:00

Are Antarctic surface winds going to weaken with climate change? Investigation of the drivers of surface wind under a high emission scenario.

Anais Oris
University of British Columbia

16:00~16:15

Quasi-quantitative evaluation of the processes involved in the interannual variation of the annual surface mass balance of the Antarctic ice sheet - Analysis of AWS snow depth data

Naohiko Hirasawa
National Instutute of Polar Research

16:15~16:30

Sailing the Belgica Through Modern Seas: Recent and Historical Change in Antarctic Sea Ice

David B. Reusch
University of Washington

[JMCP18]

PM1

Sub-seasonal to Decadal Prediction (S2S-S2D)

Chair: June-Yi Lee, Pusan National University

Thursday, 24 July 2025, 13:30 - 15:00

Convention Hall 1F, C109 - 110

13:30~14:00

(Invited) **Soil moisture-surface temperature interaction in monsoons**

Yuhei Takaya
Meteorological Research Institute, Japan Meteorological Agency

14:00~14:15

A process-based evaluation of biases in extratropical stratosphere-troposphere coupling in subseasonal forecast systems

Chaim I Garfinkel
Hebrew University

14:15~14:30

Impact of Deforestation in the Maritime Continent on the Madden ulian Oscillation

Chiung-wen June Chang
Chinese Cultural University

14:30~14:45 **Investigating the Forecasting Performance of MJO and its Teleconnections in the Korean Integrated Model**
Hye Jin Park
Korea Institute of Atmospheric Prediction Systems (KIAPS)

14:45~15:00 **The Intraseasonal Northwest outheast Oscillations of the Tropical Easterly Jet Core: Dynamical Mechanisms and Modulation by the Boreal Summer Intraseasonal Oscillation**
shihua Liu
State Key Laboratory of Tropical Oceanography, South China Sea Institute of Oceanology

[JMCP18] Sub-seasonal to Decadal Prediction (S2S-S2D)

PM2 Chair: Frederic Vitart, ECMWF

Thursday, 24 July 2025, 15:30 – 17:00
Convention Hall 1F, C109 - 110

15:30~15:45 **Sensitivity of S2S prediction to land surface model in the Korean Integrated Model**
Jaeyoung Song
KIAPS

15:45~16:00 **Impacts of Atmosphere-Ocean Coupled Data Assimilation on the Subseasonal Prediction**
Myong-in Lee
Ulsan National Institute of Science and Technology

16:00~16:15 **Deep-learning-based prediction of Heatwave events over Asia linked to tropical and extratropical intraseasonal oscillations**
Vazhaparambil Arya
Department of Climate System, Pusan National University

16:15~16:30 **Sub-seasonal Prediction Skill of the Siberian Heatwave in April 2020 Based on Snow Initialization**
Joonlee Lee
Ulsan National Institute of Science and Technology

16:30~16:45 **Extreme Rainfall Events in Regions South of the Yangtze River of China During June 2024: Observational Cause Diagnosis and Dynamical Downscaling Prediction**
Chongbo Zhao
National Climate Center/China Meteorological Administration

16:45~17:00 **Numerical studies of spring initial land temperature anomalies of Tibetan Plateau impacts on summer extreme precipitation cases of the Yangtze River Basin**
Xueli Shi
CMA Earth System Modeling and Prediction Centre, China Meteorological Administration

[JMCP18]

AM1

Sub-seasonal to Decadal Prediction (S2S-S2D)

Chair: Seok-Woo Son, Seoul National University

Friday, 25 July 2025, 08:30 - 10:00

Convention Hall 1F, C109 - 110

08:30~09:00

(Invited) **Current Operations and Plans for the KMA's Sub-Seasonal to Decadal Forecasting System**

Yu-Kyung Hyun

National Institute of Meteorological Sciences (NIMS) / KMA

09:00~09:15

Quantifying the impact of ENSO on atmospheric predictability limits using conditional nonlinear local Lyapunov exponent with optimal local dynamic analogs

Houbin Song

Ocean University of China

09:15~09:30

Increased seasonal predictability of the North Atlantic Oscillation from the Central Pacific El Nino in boreal winter

Kiwook Kim

Ulsan National Institute of Science and Technology (UNIST)

09:30~09:45

Improving Seasonal Prediction Skill from Arctic Predictability Source

Ji-Han Sim

Pukyong National University

09:45~10:00

Seasonal Forecasts of Precipitation in the Mediterranean

Gayathridevi Salila

The Hebrew University of Jerusalem

[JMCP18]

AM2

Sub-seasonal to Decadal Prediction (S2S-S2D)

Chair: Myung-Seo Koo, Korean Institute for Atmospheric prediction Systems

Friday, 25 July 2025, 10:30 - 12:00

Convention Hall 1F, C109 - 110

10:30~10:45

External and Oceanic Processes on the Long-term Predictability of North Atlantic Climate Variability.

Abhinav Rajalakshmi Subrahmanian

IBS Center for Climate Physics, Pusan National University

10:45~11:00

Robust decadal predictability of cold surge frequency in Taiwan and East Asia through teleconnection of North Atlantic Oscillation

Wan-Ling Tseng

Ocean Center, National Taiwan University

11:00~11:15 **Robust Estimates of Earth System Predictability of the 1st kind using the CESM2 MultiyearPrediction System (CESM2-MP)**
June-Yi Lee
Research Center for Climate Sciences

11:15~11:30 **How well does CANARI large ensemble stimulate the stratospheric polar vortex, sudden stratospheric warmings, and stratospheric teleconnection?**
Hua Lu
British Antarctic Survey, High Cross, Madingley Road, Cambridge, England, CB3 0ET, UK

11:30~11:45 **Assessment of MJO detouring in the CMIP6 models**
Yumi Choi
Korea Institute of Science and Technology

11:45~12:00 **Evaluation of CMIP simulation in the Coupled Korean Integrated Model (KIM)**
Myung-Seo Koo
Korea Institute of Atmospheric Prediction Systems

[JMCP19] Biogeochemical interactions across the atmosphere-ice-ocean interface

AM1

Chair: Myung-Seo Koo, Korean Institute for Atmospheric prediction Systems

Tuesday, 22 July 2025, 09:00 - 10:30
Convention Hall 1F, C109 - 110

09:00~09:30 (Invited) **Unraveling Dimethyl Sulfide Hotspots in Polar Oceans**
Keyhong Park
Korea Polar Research Institute

09:30~09:45 **East Asia Air Pollutants Enhance Carbon Fixation of Phytoplankton induced by upwelling processes**
Chao Zhang
Ocean University of China

09:45~10:00 **Tides in coastal regions: the effect on algal toxins in sea spray aerosols**
Qi Yuan
Ocean University of China

10:00~10:15 **Formation and Optical Properties of Marine Organic Aerosols under the Interaction of Marine Emissions, Asian Dust and Anthropogenic Pollutants**
Yujue Wang
Ocean University of China

10:15~10:30

Chemical Structures of Organic Aerosols in the Western North Pacific: Results from FTIR analysis

Nkembeng Kenneth Fuanke
Graduate School of Environmental Studies, Nagoya University, Japan

[JMCP20]

AM1

Responses of Antarctic ice shelves to changing atmospheric and oceanic forcing

Chair: Chengyan Liu, Southern Marine Science and Engineering Guangdong Laboratory (Zhuhai)

Wednesday, 23 July 2025, 09:00 - 10:30
Convention Hall 1F, C105

09:00~09:30

(Invited) **The West Antarctic Ice Sheet Response to Tropical Forcing: a 30-year long observational perspective**

Pierre Dutrieux
British Antarctic Survey

09:30~09:45

Ocean processes at ice shelf cavity boundaries the Ross Ice Shelf

Craig Stevens
NIWA/UoAKL

09:45~10:00

Response of the Antarctic coastal ocean cryosphere system to air temperature anomalies

Kazuya Kusahara
JAMSTEC

10:00~10:15

The Coupled Southern Ocean-Sea Ice-Ice Shelf Model (SOSIM v1.0): configuration and evaluation

Chengyan Liu
Southern Marine Science and Engineering Guangdong Laboratory (Zhuhai), Zhuhai

Oral Session : IAPSO

[P01]
AM1

General Topics in Oceanography (physics and biogeochemistry)

Chair: Marie Sicard, School of Earth and Environment, University of Leeds, UK

Monday, 21 July 2025, 09:00 - 10:30
Convention Hall 1F, C104

09:00~09:15
Observing and Modelling Variability in the Southwest Indian Ocean: From Coastal Processes to Basin-Scale Dynamics
Juliet Hermes
NRF-SAEON

09:15~09:30
Subsurface manifestation of Marine Heatwaves in the South West Indian Ocean
Clea Baker Welch
University of Cape Town and South African Environmental Observation Network

09:30~09:45
Amplified SST variability along the pathways of Indonesian Throughflow: Role of remote and local ocean dynamics
Sougata Basak
Institute for Marine and Antarctic Studies,
University of Tasmania,Hobart,TAS,Australia

09:45~10:00
Drivers of seasonal and interannual changes in the northern Australian boundary currents
Ken Ridgway
CSIRO Environment

10:00~10:15
Long-term observations of near-inertial wave variability induced by parametric subharmonic instability in the subtropical Northwestern Pacific near 14°N
ChaeYeon Lee
Inha University,Korea

[P01]
AM2

General Topics in Oceanography (physics and biogeochemistry)

Chair: Marie Sicard, School of Earth and Environment, University of Leeds, UK

Monday, 21 July 2025, 11:00 - 12:30
Convention Hall 1F, C104

11:00~11:15
Emergence of an oceanic CO2 uptake hole under global warming
Huiji Lee
Seoul National University

11:15~11:30
Variable oceanic carbon sink driven by climate variability from 1955 to 2020
Yong-Yub Kim
Center for Climate Physics,Institute for Basic Science

11:30~11:45
Reassessing the Role of Ocean Circulation in Zn-Si Decoupling in the North Pacific
Kiminori Sugino
Atmosphere and Ocean Research Institute,The University of Tokyo

11:45~12:00
Impact of ocean freshening on the Arctic hyperiid amphipod Themisto libellula
Hyein Seo
Inha Universtiy

12:00~12:15	**Seasonal changes in diel vertical acoustic backscatters in Okinawa Trough** **Sun Min Choi** Inha Universtiy

[P02] AM1	Physics and Biogeochemistry of Semi-Enclosed, Shelf Seas and Coastal Zones
	Chair: Katrin Schroeder, CNR ISMAR, Venezia, Italy Monday, 21 July 2025, 09:00 - 10:30 Convention Hall 1F, C105

09:00~09:15	**Do interannual changes in ocean conditions affect higher trophic levels in the Salish Sea?** **Rich Pawlowicz** University of British Columbia
09:15~09:30	**Secular variations in carbon stable isotope of deep-sea zooplankton: implications for regional climate change impacts on a coastal ecosystem** **Hirota Katsuda** University of Toyama
09:30~09:45	**Distribution of Limiting Factors in the Yellow Sea Marine Ecosystem** **Jae-Sung Choi** Chonnam National University
09:45~10:00	**Ventilation Inefficiency and depletion of the dissolved oxygen concentration in Toyama Bay, Southern Japan Sea** **Shimpei Otsuka** University of Toyama
10:00~10:15	**Seasonal variability of carbon dioxide flux on the coastal zone of the Black Sea** **Alexander Polukin** Shirshov Institute of Oceanology,Russian Academy of Sciences
10:15~10:30	**Seasonal variability of the Yellow Sea Cold Water Mass during 1993-2022** **Sumin Hong** Division of Earth Environmental System Science, Pukyong National University,Busan, Republic of Korea

[P02] AM2	Physics and Biogeochemistry of Semi-Enclosed, Shelf Seas and Coastal Zones
	Chair: Peter Zavialov, Shirshov Institute of Oceanology, Russia Monday, 21 July 2025, 09:00 - 10:30 Convention Hall 1F, C105

11:00~11:15	**Toward Advanced and Sustainable Physical Oceanography of Coastal Sea** **Kiyoshi Tanaka** Atmosphere and Ocean Research Institute,University of Tokyo

11:15~11:30 **First Long-Term Measurements on Kazakhstan Shelf of the Caspian Sea Reveal Alternating Currents and Energetic Temperature Variability**
Peter O. Zavialov
Shirshov Institute of Oceanology

11:30~11:45 **Recent Changes and Variability in East Korea Warm Current Circulation Patterns Identified via Spectral Clustering**
Eun Young Lee
Chungnam National University

11:45~12:00 **New evidence of seafloor warming recorded by a new smart technology in the Ionian Sea (Mediterranean Sea)**
Nadia Lo Bue
INGV

12:00~12:15 **Heat flux interannual variability according to atmospheric reanalysis data in the Black Sea**
Julia Murzakova
Shirshov Institute of Oceanology,Russian Academy of Sciences

[P03] Storm Surges, Waves and Coastal Hazards

PM1

Chair: Xiangbo Feng, University of Reading

Monday, 21 July 2025, 13:30 - 15:00
Convention Hall 1F, C104

13:30~13:45 **A deep learning approach to reconstruct and extend high-frequency sea level records**
Angel Amores
IMEDEA (UIB-CSIC)

13:45~14:00 **A study of sea level oscillations on the East Coast of the Korean Peninsula during typhoons Maysak and Haishen, 2020**
Daria Smirnova
Shirshov Institute of Oceanology,Russian Academy of Sciences

14:00~14:15 **Constraining extreme sea levels along the European coasts from a large ensemble of climate models**
Marta Marcos
IMEDEA (UIB-CSIC)

14:15~14:30 **Observed changes of storm surge energy content from global and regional perspectives**
YICHENG TAN
Hohai University

14:30~14:45 **An Operational Tide and Storm Surge Numerical Forecasting System for the Yangtze River Estuary (YRE-SURGE)**
Guo Wenyun
Shanghai Maritime University

[P03] PM2

Storm Surges, Waves and Coastal Hazards

Chair: Marta Marcos, University of the Balearic Islands

Monday, 21 July 2025, 15:30 - 16:30

Convention Hall 1F, C104

15:30~15:45
Observations of extreme tides in Penzhin Bay, northeastern Sea of Okhotsk
Alexander B Rabinovich
Shirshov Institute of Oceanology,RAS,Moscow,Russia

15:45~16:00
Tidal resonance in the Strait of Tartary
Igor Medvedev
Shirshov Institute of Oceanology,Russian Academy of Sciences, Moscow, Russian Federation

16:00~16:15
Improving Global Wave Spectrum Representation Through SWH Assimilation and Spectral Reconstruction in WaveWatch III
Hyeonmin Lee
Pukyong National University

16:15~16:30
Global increase in tropical cyclone ocean surface waves
Jian Shi
Hohai University

[P04] AM1

The Meridional Overturning Circulation (MOC)

Chair: Elizabeth Maroon, University of Wisconsin-Madison

Tueseday, 22 July 2025, 09:00 - 10:30

Convention Hall 2F, C201

09:00~09:15
Decadal-scale AMOC and Sea Surface Height Changes in an Eddy-rich Ocean Model
Arne Biastoch
GEOMAR Helmholtz Centre for Ocean Research Kiel

09:15~09:30
Inter-model diversity of Southern Meridional Overturning Circulation in CMIP models
So-Eun Park
Department of Atmospheric Sciences,Yonsei University

09:30~09:45
Mechanism of multidecadal oscillation in north Atlantic ocean and implications for Asian climate
Cheng Sun
Beijing Normal University

09:45~10:00
Influence of model complexity on stability properties of the AMOC
Clark Zimmerman
University of Wisconsin-Madison

[P04] PM1

The Meridional Overturning Circulation (MOC)

Chair: Gerard McCarthy, Maynooth University

Tueseday, 22 July 2025, 13:30 - 15:30

Convention Hall 2F, C201

13:30~14:00 (Invited) **Interannual to Decadal Variability in the Atlantic Meridional Overturning Circulation from Observations**
Feili Li
Xiamen University

14:00~14:15 **Variability of the Canary Current from PIES Observations and Its Link to AMOC Transport**
Alonso Hernábdez Guerra
Instituto de Oceanografía y Cambio Global,Universidad de Las Palmas de Gran Canaria,Spain

14:15~14:30 **Deep Atlantic Multidecadal Variability and its relation with AMOC**
Jianping Li
Ocean University of China

14:30~14:45 **Two-decades of observations of the AMOC from the 26°N array**
Ben Moat
National Oceanography Centre,UK

14:45~15:00 **Mid-20th Century Atlantic Circulation informed by Modern Observations and Models**
Guillaume Hug
Maynooth University,Ireland & SFI iCRAG

[P04] PM2

The Meridional Overturning Circulation (MOC)

Chair: Ben Moat, NOC

Tueseday, 22 July 2025, 15:30 - 17:00

Convention Hall 2F, C201

15:30~16:00 (Invited) **Subpolar North Atlantic overturning: the 1990s versus the 2010s**
Who Myung Kim
NSF National Center for Atmospheric Research

16:00~16:15 **Optimal model simulation length to obtain a quasi-equilibrated Meridional Overturning Circulation**
Agatha De Boer
Stockholm University,Sweden

16:15~16:30 **Upper-ocean biases and the Atlantic meridional overturning circulation in OMIP simulations**
Elizabeth Maroon
University of Wisconsin-Madison

16:30~16:45 **Impact of enhanced Greenland melting on the subpolar North Atlantic: a high-resolution model perspective**
Torge Martin
GEOMAR Helmholtz Centre for Ocean Research Kiel

16:45~17:00 **Observed and Simulated trends in the AMOC**
Gerard D McCarthy
Maynooth University,Ireland

[P05] AM1

Regional ocean modelling

Chair: Young-Ho Kim, Pukyong National University — Wednesday, 23 July 2025, 09:00 - 10:30 — Convention Hall 2F, C201

09:00~09:15 **A high-resolution regional physical-biogeochemical model for Northwest Pacific (OPEM_MOM6_COBALT)**
Inseong Chang
Pukyong National University

09:15~09:30 **Two Skies, One Ocean: An intercomparison of regional model development and evaluation for the Maritime Continent**
Danielle Su
Centre for Climate Research,Meteorological Services Singapore,National Environment Agency

09:30~09:45 **Outflow patterns of the Yellow Sea water during summer using three-dimensional numerical simulations**
Dohyeop Yoo
Department of Oceanography,Chonnam National University,Gwangju,Republic of Korea

09:45~10:00 **Assimilation of Fishermen's Observation Data to a Regional Ocean Model Southwest of Japan**
Tianran Liu
Research Institute for Applied Mechanics,Kyushu University

10:00~10:15 **A novel method for estimating high-resolution three-dimensional current fields in Yeosu Bay, South Korea, with coastal acoustic tomography**
Yerin Hwang
Inha University,Incheon,Republic of Korea

10:15~10:30 **The importance of small-scale winds on realistic river water spread and estuarine circulation**
Yoo-Jun KIM
Atmosphere and Ocean Research Institute,the University of Tokyo

[P06] PM1

Physical, Biogeochemical and Climate-Relevant Processes in the Southern Ocean through Observations, Theory, State Estimation, Modeling

Chair: Joellen Russell, University of Arizona — Monday, 21 July 2025, 13:30 - 15:00 — Convention Hall 1F, C105

13:30~14:00 (Invited) **Satellite-detected surface salinification of the Southern Ocean heralds a new Antarctic sea ice state**
Alessandro Silvano
Ocean and Earth Science,University of Southampton,Southampton,UK

14:00~14:15	**Investigating Meltwater Pathways in the Bellingshausen Sea, Antarctica: Preliminary Results from a Schmidt Ocean Expedition.** **Joshua Lanham** University of Cambridge
14:15~14:30	**Physical-biogeochemical responses to Antarctic sea ice loss and implications for carbon uptake** **Alice Marzocchi** National Oceanography Centre,Southampton (UK)
14:30~14:45	**Irreversible contraction of Southern Ocean Silicate Front and its resultant global nutrient depletion** **Dong-Geon Lee** Seoul National Unviersity
14:45~15:00	**Interannual variability of the cross-frontal currents in the ACC Pacific sector: The role of ENSO-driven Stokes drift** **Jae-Hun Park** Department of Ocean Sciences,Inha University

[P06]

PM2

Physical, Biogeochemical and Climate-Relevant Processes in the Southern Ocean through Observations, Theory, State Estimation, Modeling

Chair: Malin Ödalen, Potsdam Institute for Climate Impact Research

Monday, 21 July 2025, 15:30 - 17:00

Convention Hall 1F, C105

15:30~16:00	(Invited) **The Impact of Model Resolution on Cross-Frontal Nutrient Transport in the Southern Ocean** **Elizabeth Ellison** The Australian National University
16:00~16:15	**Ineffectiveness of Iron Fertilization for Carbon Sequestration Beyond the Seasonally Ice-Covered Southern Ocean** **Kyung-Min Noh** Princeton University
16:15~16:30	**Imprints of centennial climate variability on the Southern Ocean's response to Antarctic meltwater** **Torge Martin** GEOMAR Helmholtz Centre for Ocean Research Kiel
16:30~16:45	**Roles of Surface Forcing in Shaping the Southern Ocean Rapid Warming** **Kewei Lyu** Xiamen University

[P07] PM1 — Thermophysical and chemical properties of Seawater

Chair: Rich Pawlowicz, University of British Columbia

Wednesday, 23 July 2025, 13:30 - 15:00

Convention Hall 2F, C201

13:30~13:45 **The past and future of the Thermodynamic Equation of Seawater 2010 (TEOS-10)**
Rich Pawlowicz
University of British Columbia

13:45~14:00 **High-Precision Measurement of Seawater Density and Absolute Salinity: Technological Advances, Challenges, and Future Perspectives for Deep-Sea Applications**
Chi Wu
South Marine Science and Engineering Guangdong Laboratory (Guangzhou),Guangzhou,China

14:00~14:15 **Improving long-term interlaboratory reproducibility of spectrophotometric measurements of pHT of seawater**
Steffen Seitz
Physikalisch-Technische Bundesanstalt

14:15~14:30 **Examination and Calibration of CTD under Simulated Full-Ocean Depth Pressure and Temperature Environment: Using SBE CTDs as an Example**
Chi Wu
South Marine Science and Engineering Guangdong Laboratory (Guangzhou),Guangzhou,China

14:30~14:45 **A thermodynamic potential of seawater in terms of Conservative Temperature**
Trevor J McDougall
University of New South Wales

[JPM01] AM1 — Interdisciplinary Tsunami Science

Chair: Yuichiro Tanioka, Hokkaido University

Tuesday, 22 July 2025, 09:00 - 10:30

Convention Hall 1F, C108

09:00~09:15 (Invited) **Meteorological Tsunamis in the World Ocean: Overview**
Alexander B. Rabinovich
Institute of Ocean Sciences,Fisheries and Oceans Canada,Sidney,British Columbia,Canada ; Shirshov Institute of Oceanology,Russian Academy of Sciences,Moscow,Russia

09:15~09:30 **Penetration of the trans-Pacific tsunamis into the Sea of Japan**
Elizaveta Tsukanova
Shirshov Institute of Oceanology,Russian Academy of Sciences

09:30~09:45 **Transoceanic tsunamis on the coast of the Sea of Japan and the Sea of Okhotsk from observations and numerical modelling**
Alisa Medvedeva
Shirshov Institute of Oceanology

09:45~10:00 **Tsunami Forecast Method for Future Nankai Earthquakes Using a Hybrid Method of Data Assimilation with Preliminary Estimated Fault Model**
Rinda Nita Ratnasari
Institute of Seismology and Volcanology,Hokkaido University

10:00~10:15 **The Current State of Early Tsunami Warning Using Observations of Tsunami-Originated Ionospheric Disturbances**
Masashi Kamogawa
University of Shizuoka

10:15~10:30 **Generation mechanisms of large tsunamis caused by deep-sea landslides the 1929 Grand Banks and the 1946 Aleutian events-**
Yuichiro Tanioka
Faculty of Science,Hokkaido University

[JPM02] AM1 Ocean dynamics and climate variability in the North Pacific

Chair: Young-Gyu Park, Korea Institute of Ocean Science and Technology

Friday, 25 July 2025, 08:30 - 10:00
Convention Hall 1F, C108

08:30~09:00 (Invited) **Exceptional Heat and Basin-Scale Connections in the Kuroshio-Oyashio Region in the Early 2020s**
Shoshiro Mionobe
Hokkaido University,Sapporo,Japan

09:00~09:15 **Projected Changes of Kuroshio and North Equatorial Current in a Warming Climate**
Jo-Hsu Huang
National Taiwan University

09:15~09:30 **Kuroshio Large Meander and its interaction with path variability of the Kuroshio Extension in a long-term simulation of an eddy-resolving CESM**
Yukito Tamura
The University of Tokyo

09:30~09:45 **Factors affecting the local variability of the Kuroshio: The Changjiang Diluted Water effect**
Eun-Seo Jeong
Department of Oceanography,Pukyong National University,45 Yongso-ro,Nam-gu, Busan 48513,Republic of Korea

[JPM02] AM2 Ocean dynamics and climate variability in the North Pacific

Chair: Young-Gyu Park, Korea Institute of Ocean Science and Technology

Friday, 25 July 2025, 10:30 - 12:00
Convention Hall 1F, C108

10:30~10:45 **Interannual variabilities of temperature and salinity in the southwestern Okhotsk Sea with its relation to the Japan Sea over the past 40 years**
Miriko Honda
Graduate scool of environmental science,Hokkaido University

10:45~11:00 **Long-term Rising Rates of Sea Level in the southwestern East Sea (Japan Sea) from 1993 to 2023**
Seungsoo Kim
Seoul National University

11:00~11:15 **Coherent subinertial variations of the Tsushima and Soya Currents under the Japan Sea Throughflow System**
Kay I. Ohshima
Institute of Low Temperature Science,Hokkaido University

11:15~11:30 **Observation of the Kuroshio meander and its propagation in the East China Sea**
SeungYong Lee
Seoul National University

11:30~11:45 **Comprehensive Assessment of Carbon Cycling in the Northwestern Pacific Using OPEM-MOM6 Coupling with Biogeochemistry Model (COBALTv3)**
Suzy Tae
Pukyong National University

[JPM03] Ocean and climate seamless forecasting

PM1

Chair: Fangli Qiao, First Institute of Oceanography, Ministry of Natural Resources, China

Thursday, 24 July 2025, 13:30 - 15:00
Convention Hall 1F, C105

13:30~13:45 **Improved ocean-related forecasting ability has been paving the way for providing actionable information for decision-making**
Fangli Qiao
First Institute of Oceanography,Ministry of Natural Resources,Qingdao,China

13:45~14:00 **Recent development of the global 1/32°surface wave-tide-circulation coupled ocean model: FIO-COM32**
Bin Xiao
FIO

14:00~14:15 **A short-term prediction system based on the earth system model FIO-ESM v2.0**
Yajuan song
First Institute of Oceanography,and Key Laboratory of Marine Science and Numerical Modeling,Ministry of Natural Resources

14:15~14:30 **Impacts of ocean observations on ocean and coupled predictions evaluated by SynObs international multi-system OSEs**
Yosuke Fujii
JMA/MRI

[JPM03] Ocean and climate seamless forecasting

PM2

Chair: Fangli Qiao, First Institute of Oceanography, Ministry of Natural Resources, China

Thursday, 24 July 2025, 15:30 - 17:00
Convention Hall 1F, C105

15:30~15:45
Arctic sea ice concentration and thickness data assimilation in the FIO-ESM climate forecast system
Qi Shu
First Institute of Oceanography,China

15:45~16:00
A dual-attention embedded CNN model for estimating mixed layer depths in the Bay of Bengal
Shanliang Zhu
Qingdao University of Science and Technology

16:00~16:15
Impact of sea surface temperature diurnal amplitude on tropical climate systems
Xiaodan Yang
First Institute of Oceanography (FIO),MNR

16:15~16:30
Development of Earth System Model FIO-ESM and its application on the climate effect of Tonga volcano
Ying Bao
First Institute of Oceanography,MNR

16:30~16:45
Advancing Seamless Forecasting: Development of OCEANUS for Ocean-Based Climate Solutions
Shizhu Wang
First Institute of Oceanography,Ministry of Natural Resources,China

[JPM04] Indian Ocean Sciences

AM1

Chair: Yukio Masumoto, University of Tokyo

Friday, 25 July 2025, 08:30 - 10:00
Convention Hall 1F, C105

08:30~08:45
Australia's boundary current connections to the Indian Ocean interior
Helen E Phillips
University of Tasmania

08:45~09:00
Long-term shift and recent early onset of chlorophyll-a bloom and coastal upwelling along the southern coast of Java
Takanori Horii
Japan Agency for Marine-Earth Science and Technology (JAMSTEC)

09:00~09:15
Tropical Indian Ocean tripole mode and its global effects
Yazhou Zhang
Ocean University of China

09:15~09:30
Marine aerosol particle chemical characterisation using SP-AMS over the Indian Ocean from BIOCAT-2024: Air-Sea interaction insights
Shravan Deshmukh
Leibniz Institute for Tropospheric Research,e.V. (TROPOS),Permoserstrasse 15,04318 Leipzig,Germany

09:30~09:45

Observations on Subantarctic Mode Water properties and its seasonal and interannual variability in the Southwest Indian Ocean

Somang Song
Seoul National University, Seoul, Republic of Korea

09:45~10:00

Characteristics of ITF bifurcation in the eastern Indian Ocean at the decadal timescale

Hiroki Iwasa
University of Tokyo, Japan

[JPM04]

AM2

Indian Ocean Sciences

Chair: Yukio Masumoto, University of Tokyo

Friday, 25 July 2025, 10:30 - 12:00
Convention Hall 1F, C105

10:30~10:45

Differences in subsurface Marine heatwave characteristics at two tropical South West Indian Ocean islands

Daneeja Mawren
South African Environmental Observation Network

10:45~11:00

Indian Ocean upwelling: Interactions between the Indonesian Throughflow and the Seychelles-Chagos Thermocline Ridge.

Matthew David Carr
University of Cape Town,South Africa.

11:00~11:15

Mesozooplankton dynamics in the Seychelles Chagos Thermocline Ridge: Influence of upwelling and mesoscale eddies in the western Indian Ocean

Minju Kim
Korea Institute of Ocean Science and Technology

11:15~11:30

Carbon Cycling Based on the Biochemical Composition of Particulate Organic Matter in the Seychelles-Chagos Thermocline Ridge of the Western Indian Ocean in 2023

Jae Ha Jeon
Department of Oceanography and Marine Research Institute,Pusan National University,Busan,South Korea

11:30~11:45

Interactions Among Tuna Catches, Prey Organisms, and Marine Environment in the Southwestern Indian Ocean

Myounghee Kang
Gyeongsang National University

11:45~12:00

The ERC Synergy project WHIRLS Exploring fine-scale processes in a key region for global climate

Arne Biastoch
GEOMAR Helmholtz Centre for Ocean Research Kiel

[JPM05]

PM2

Heatwaves in the atmosphere and ocean

Chair: Gyundo Park, Korea Institute of Ocean Science & Technology

Thursday, 24 July 2025, 15:30 - 17:00

Convention Hall 2F, C203

15:30~15:45 **Drivers of the extreme North Atlantic marine heatwave during 2023**
Matthew England
UNSW,Australia

15:45~16:00 **Teleconnections between the African Monsoon and Extreme Summer Temperatures in the Eastern Mediterranean**
Chaim Garfinkel
The Fredy & Nadine Herrmann Institute of Earth Sciences

16:00~16:15 **Understanding Multi-Year Marine Heatwaves in the Gulf of Alaska: A Trans-Basin Perspective**
Jin-Yi Yu
University of California,Irvine

16:15~16:30 **Roles of External Forcing and Internal Variability in Global Marine Heatwaves Change During 1982 2021**
Shijie Zeng
Ocean University of China

16:30~16:45 **LSTM Based Bias Correction in the Korean Marine Heatwave Prediction System**
Na Kyoung Im
Division of Earth Environmental System Science,Pukyong National University

16:45~17:00 **The Role of Upper Ocean Stratification in the Recent Two Marine Heatwave Events in the East/Japan Sea.**
Hye-Ji Kim
Chungnam National University

[JPC06]

AM1

Understanding and predicting the Arctic Ocean and Sea Ice states Insights, Challenges, and Future Directions.

Chair: Agatha de Boer, Stockholm University, Sweden

Friday, 25 July 2025, 08:30 - 10:00

Convention Hall 2F, C202

09:00~09:15 **Dominant inflation of the Arctic Ocean's Beaufort Gyre in a warming climate**
Qiang Wang
Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research

09:15~09:30 **Sources of the Arctic Atlantic Water biases in CESM2**
Who Myung Kim
NSF National Center for Atmospheric Research

09:30~10:00 (Invited) **Modeling the Arctic Ocean: Successes, Challenges, Lessons**
Hannah Zanowski
University of Wisconsin-Madison

[JPC06] Understanding and predicting the Arctic Ocean and Sea Ice states: Insights, Challenges, and Future Directions.

AM2

Chair: Agatha de Boer, Stockholm University, Sweden

Friday, 25 July 2025, 10:30 - 12:00

Convention Hall 2F, C202

10:30~10:45 **Response of the Nordic Seas to a Marine Cold Air Outbreak in the GLORYS12 Ocean Reanalysis**
Thomas Spengler
University of Bergen

10:45~11:15 (Invited) **The State-of-the-Arctic Observations**
Yueng-Djern Lenn
Bangor University

11:15~11:30 **Long-term observations of Atlantic Water Variability in the Northwind Abyssal Plain of the Western Arctic Ocean Using CPIES**
Sujin Park
Department of Ocean Science,INHA University,South Korea

11:30~11:45 **How the Multi-Year Ice Loss Affects the Decadal Variability of Freshwater Amount in the Beaufort Gyre?**
Yen-Chen Chen
Graduate School of Environmental Science,Hokkaido University

11:45~12:00 **Revisiting the Hydrographic Changes in the Upper Ocean of a Relaxing Beaufort Gyre During 2013-2019**
Wenli Zhong
Ocean University of China

[JPCM07] Turbulence, Internal Waves and Mixing on all scales

AM1

Chair: Toshiyuki Hibiya, Tokyo University of Marine Science and Technology, Japan

Tuesday, 22 July 2025, 09:00 - 10:30

Convention Hall 2F, C204

09:00~09:15 **Enhanced Internal Tide Generation by Typhoon Nepartak in the Luzon Strait and Kuroshio Region**
Yi-Chun Kuo
InstituteofOceanography,NationalTaiwanUniversity,Taipei,Taiwan

09:15~09:30 **Inversion of Internal Solitary Wave Vertical Structure from SAR Imagery Based on Neural Network**
Xixi Li
Aerospace Information Research Institute,Chinese Academy of Sciences

09:30~09:45 **Observation of spatio-temporal variability of semi-diurnal internal tides in the eastern Philippine Sea**
Kang Nyeong Lee
Inha University

09:45~10:00 **Decadal Variability of Internal Waves in the Ionian Sea: Insights from Long-Term Deep-Sea Time Series**
Beatrice Giambenedetti
INGV

10:00~10:15 **Phase-locked internal-wave triads observed in the Ogasawara Ridge: Implications for interplay between tides and winds**
Takashi Ijichi
University of Tokyo

10:15~10:30 **Tracing Oceanic Mixing: Multi-Chemical Tracer Insights into Nutrient Transport and Mixing Dynamics in the Northwestern Pacific and its Marginal Seas**
Jing Zhang
University of Toyama

[JPCM07] PM1 — Turbulence, Internal Waves and Mixing on all scales

Chair: Hans van Haren, Royal Netherlands Institute for Sea Research, the Netherlands

Tuesday, 22 July 2025, 13:30 - 15:00
Convention Hall 2F, C204

13:30~13:45 **Deep ocean mixing mismatch between model and observational estimates**
Akira Oka
Atmosphere and Ocean Research Institute,University of Tokyo

13:45~14:00 **Impacts of Rough Seafloor Topography and Tidal Flow Amplitude on Benthic Mixing Hotspots**
Toshiyuki Hibiya
Tokyo University of Marine Science and Technology

14:00~14:15 **Variability due to seasonal cycle, eddies, and tides enhances water mass transformation in the Indonesian Seas**
Chengyuan Pang
University of Tasmania

14:15~14:30 **Energetic turbulence and seafloor interactions in strongly tidal Cook Strait.**
Craig Stevens
NIWA/UniAuckland

14:30~14:45 **Downstream fate of an Intermittent Rotating Gravity Current in the Strait of Georgia**
Rich Pawlowicz
University of British Columbia

[JPCM07] PM2 — Turbulence, Internal Waves and Mixing on all scales

Chair: Yueng-Djern Lenn, Bangor University, the United Kingdom

Tuesday, 22 July 2025, 15:30 - 17:00
Convention Hall 2F, C204

15:30~15:45 **Generation of finescale thermohaline variability in the Antarctic Circumpolar Current**
Helen E. Phillips
Institute for Marine and Antarctic Studies

15:45~16:00 **Widespread intensified pycnocline turbulence in the summer stratified Yellow Sea**
Wei Yang
Tianjin University

16:00~16:15 **Observations of Internal Waves on the Northeastern Shelf and Slope of the Black Sea**
Elizaveta Khimchenko
Shirshov Institute of Oceanology,Russian Academy of Sciences

16:15~16:30 **Ocean Waves as a Link Between Metocean Time Scales: Turbulence, Waves, Weather, Climate; and Between Environments: Deep Water, Coasts, Marginal Ice Zone**
Alexander Babanin
University of Melbourne

16:30~16:45 **Influence of the Langmuir Turbulence on the Mixed Layer Depth under Surface Heating**
Koichiro Kikkawa
Kyoyo University Graduate School of Science

16:45~17:00 **Local power spectra in the atmosphere**
Salah Kouhen
University of Oxford

[JPCM08] Impacts of climate change on the ocean

AM1

Chair: Christian Franzke, Pusan National University

Wednesday, 23 July 2025, 09:00 - 10:30

Exhibition Hall 2F, M211

09:00~09:15 **Future sea level rise depends on how long we leave carbon in the air**
Jan D Zika
UNSW

09:15~09:30 **Near-term sea-level predictions for Southeast Asia**
Trina Ng
Centre for Climate Research Singapore

09:30~10:00 (Invited) **Future Oceans and Climate Adaptation**
Wonsun Park
IBS Center for Climate Physics,Pusan National University

10:00~10:15 **Adaptation and Mitigation Strategies for Coastal Communities to Adverse Impacts of Human-Induced Climate Change: Lessons from the Indian Metropolitan City**
Shailendra K. Mandal
National Institute of Technology Patna,India

[JPCM08] Impacts of climate change on the ocean

PM1

Chair: Christian Franzke, Pusan National University

Wednesday, 23 July 2025, 13:30 - 15:00

Exhibition Hall 2F, M211

13:30~14:00 (Invited) **Projected ENSO Variability and Teleconnection Changes in CMIP6**
Shayne McGregor
Monash University

14:00~14:15 **Quantifying Future Typhoon Intensity Near Korea and Its Potential Threat to Nuclear Power Plants**
Ger Anne Marie Duran
Typhoon Research Center,Jeju National University,Jeju City,South Korea

14:15~14:30 **Observed multi-decadal increase in the surface ocean's thermal inertia**
Hajoon Song
Yonsei University

14:30~14:45 **Long-term global temperature pathways driven by deep ocean**
Yong-Han Lee
Department of Marine Science and Convergent Technology,Hanyang University,Ansan,South Korea

[JPCM08] Impacts of climate change on the ocean

PM2

Chair: Christian Franzke, Pusan National University

Wednesday, 23 July 2025, 15:30 - 17:00

Exhibition Hall 2F, M211

15:30~15:45 **Tropical teleconnections through the Amundsen Sea Low impact Antarctic toothfish recruitment within the Ross Gyre**
Erik Behrens
NIWA

15:45~16:00 **Cross-shore eddy fluxes in the Agulhas Current**
Lisa Beal
University of Miami

16:00~16:15 **Metabolic Responses of Clownfish (Amphiprion ocellaris) to Marine Heatwaves**
Yijin Lee
Okinawa Institute of Science and Technology

16:15~16:30 **Effects of ocean acidification and freshening on the physiology, behavior, and shell integrity of the limpet Cellana toreuma**
Hyojin Chang
Program in Biomedical Science and Engineering,Department of Ocean Sciences,Inha University,Incheon,Republic of Korea

16:30~16:45 **Key Environmental Drivers of Phytoplankton Size-Class Variability in the East China Sea during summer**
Jung-Woo Park
National Institute of Fisheries Science

16:45~17:00	**Siberian Greening Enhances Coastal Spring Chlorophyll in Western North America** **Young-Min Yang** Jeonbuk National Univ

[JPCM10] AM1	**The interactions between atmosphere-ocean-cryosphere in recent Antarctic climate change** Chair: Taewook Park, Korea Polar Research Institute Friday, 25 July 2025, 08:30 - 10:00 Convention Hall 2F, C201
08:30~09:00	(Invited) **Development of ECCO downscaled regional simulations of the Antarctic continental shelves** **Yoshihiro Nakayama** Dartmouth College
09:00~09:15	**Does the Antarctic Slope Current control the heat transport towards Antarctica?** **Wilton Aguiar** The Australian National University (ANU)
09:15~09:30	**Impacts of interactive Antarctic ice shelf on the performance of a climate model** **Navajyoth Puthiyaveettil** Center for Climate Physics,Institute for Basic Science (IBS),Busan,Republic of Korea Department of Integrated Climate System Science,Pusan National University,Busan,Republic of Korea
09:30~09:45	**Interannual variations of modified Circumpolar Deep Water and Glacier Meltwater in the Dotson-Getz Trough in summer** **Chunhu Xie** Ocean University of China
09:45~10:00	**Future warming of Circumpolar Deep Water** **Hangyu Meng** Australian National University

Oral Session : IACS

[C01] Advances in Remote Sensing of the Cryosphere

AM1

Chair: Hyangsun Han, Kangwon National University

Thursday, 24 July 2025, 09:00 - 10:30

Convention Hall 1F, C109 - 110

09:00~09:15 **Subsea permafrost patterns imaged by electromagnetic surveys in the Laptev Sea**
Dmitry Alekseev
Moscow Institute of Physics and Technology; Melnichenko Foundation

09:15~09:30 **CAdvancements in observing floe size and floe-scale fragmentation of Arctic sea ice**
Byongjun Hwang
University of Huddersfield

09:30~09:45 **Enhanced Snow Depth Estimation Using Dual-Polarized Sentinel-1 SAR: A Study in the Himalayas and Alaska**
Sreelekshmi S
Indian Institute of Technology Bombay

09:45~10:00 **Glacier Velocity Changes and Influencing Factors in the Nathorstbreen Glacier System, Svalbard**
Supratim Guha
Korea Polar Research Institute

10:00~10:15 **SPACE-TIME DIMENSION SWAP: A NOVEL DEEP LEARNING BASED APPROACH TO EXTRACT CALVING FRONTS OF MARINE-TERMINATING GLACIERS FROM TIME-SERIES OF SENTINEL-1 IMAGERY**
Thomas Schellenberger
University of Oslo

10:15~10:30 **Using Sentinel-1 & 2 data and machine learning to update glacier lake inventories and assess glacier lake changes**
Ronja Lappe
Geography,Norwegian University of Science and Technology,Trondheim,Norway

[C02] Advances in Sea Ice Forecasting and Modelling

AM1

Chair: Clare Eayrs, Korea Polar Research Institute

Thursday, 24 July 2025, 09:00 - 10:30

Convention Hall 2F, C204

09:00~09:15 **Improving Arctic sea ice reanalysis and seasonal prediction with assimilation of sea ice thickness and drift observations**
Nicholas Williams
Nansen Environmental and Remote Sensing Center

09:15~09:30 **Development and Evaluation of the Atmosphere-Sea Ice Coupled Model in the Korean Integrated Model (KIM)**
Junseong Park
Korea Institute of Atmospheric Prediction Systems (KIAPS)

09:30~09:45 **Simulating sea ice kinematics in a diabatic version of the NeverWorld2 case with Adaptive Refinement in OMARE**
Chenhui Ning
Ministry of Education Key Laboratory for Earth System Modeling,Department of Earth System Science (DESS),Tsinghua University,Beijing,China

09:45~10:15 (Invited) **Coupled modeling system for polar sea ice and climate prediction**
Jiping Liu
Sun Yat-sen University

[C02] PM1 Advances in Sea Ice Forecasting and Modelling

Chair: Clare Eayrs, Korea Polar Research Institute — Thursday, 24 July 2025, 13:30 - 15:00 — Convention Hall 2F, C204

13:30~13:45 **Future Antarctic Marine Accessibility in a Warming World**
Yaqi Hou
School of Atmospheric Sciences,Sun Yat-sen University,and Southern Marine Science and Engineering Guangdong Laboratory (Zhuhai)

13:45~14:00 **Can S2S forecast systems predict exceptionally rapid decrease and slow growth of Antarctic sea ice during 2022-2023?**
Jingxu Chen
Sun Yat-sen University

14:00~14:30 (Invited) **Subseasonal Antarctic Sea Ice Predictions in Coupled Dynamical Systems and a Convolutional Long Short-Term Memory Network Model**
Yafei Nie
Southern Marine Science and Engineering Guangdong Laboratory (Zhuhai)

[C02] PM2 Advances in Sea Ice Forecasting and Modelling

Chair: Clare Eayrs, Korea Polar Research Institute — Thursday, 24 July 2025, 15:30 - 17:00 — Convention Hall 2F, C204

15:30~15:45 **PCAPS ORCAS Task Team: Observational Requirements in the Context of Ai prediction Systems**
Clare Eayrs
Korea Polar Research Institute

15:45~16:00 **Seasonal Predictability of Antarctic Sea Ice based on Deep-learning Approaches**
Gyeongmin Baek
Seoul National University

16:00~16:15 **AI-based Synoptic-to-Seasonal Scale Sea Ice Prediction in the Arctic**
Yibin Ren
Institute of Oceanology,Chinese Academy of Sciences

16:15~16:30 **Ice-kNN-South: a lightweight machine learning model for Antarctic sea ice prediction**
Yongcheng Lin
School of Atmospheric Sciences,Sun Yat-sen University,and Southern Marine Science and Engineering Guangdong Laboratory (Zhuhai)

16:30~16:45 **Principal Component Analysis for Antarctic Sea Ice Forecasting**
Sandra Barreira
Argentine Naval Hydrographic Service

[C03] Modelling and observations of snow processes

AM1

Chair: Melody Sandells, Northumbria University

Monday, 21 July 2025, 09:00 – 10:30

Convention Hall 2F, C202

09:00~09:15 **Modeling of snow water retention curves based on pore size measurements**
Satoru Yamaguchi
Snow and Ice Research Center,National Research Institute for Earth Science and Disaster Resilience

09:15~09:30 **Reproduction of spatial patterns of snow dimples using a simple computational model**
Hiraku Nishimori
Meiji Institute for Advanced Study of Mathematical Sciences,Meiji University

09:30~09:45 **Sensitivity analysis of lateral flow induced by hydraulic barriers using a water transport model**
Hiroyuki Hirashima
Snow and Ice Disaster Research Center,National Research Institute for Earth Science and Disaster Resilience

09:45~10:00 **Enhancing snow processes in Noah-MP within the KIM framework**
Hyeon-Ju Gim
Korea Institute of Atmospheric Prediction Systems (KIAPS),Seoul,South Korea

10:00~10:15 **Recent developments of the iSnobal model: Assessing improvements from an updated representation of the radiative balance in the Upper Colorado River Basin (USA)**
Alvaro Robledano
School of Environment,Society and Sustainability,University of Utah,Salt Lake City,Utah,USA

[C05] Cryospheric biogeochemical cycles and environmental effects

AM1

Chair: Shichang Kang, Chinese Academy of Sciences

Monday, 21 July 2025, 09:00 - 10:30

Convention Hall 2F, C205

09:00~09:30 (Invited) **Understanding of changes in the permafrost environment and carbon cycling in the Siberian Arctic seas**
Igor Semiletov
V.I. Il'ichev Pacific Oceanological Institute Far Eastern Branch Russian Academy of Sciences,Vladivostok,Russia; Melnichenko Foundation,Moscow,Russia

09:30~10:00 (Invited) **Anthropocene onset evidenced by an Everest ice core**
Shichang Kang
NIEER

10:00~10:15 **Glacial snow and ice Contribute Differentially to the dissolved organic matter in the runoff of Qiangyong Glacier Tibetan Plateau**
Yongqin Liu
Center for the Pan-Third Pole Environment,Lanzhou University,Lanzhou 730000

10:15~10:30 **An Unbalancing Act of Sulfuric Acid Weathering in Glacial Carbon Cycling**
Tanuj Shukla
Northwest Institute of Eco-environment and Resources,CAS

[C05] Cryospheric biogeochemical cycles and environmental effects

AM2

Chair: Shichang Kang, Chinese Academy of Sciences

Monday, 21 July 2025, 11:00 - 12:30
Convention Hall 2F, C205

11:00~11:15 **Greenhouse gas emissions from northern cryosphere inland waters**
Chunlin Song
Sichuan University

11:15~11:30 **Mosaic of CO2 sinks and sources in the Russian Arctic Seas: results of high resolution in situ survey in fall 2024**
Elena Latkovskaya
Sakhalin State University; Melnichenko Foundation

11:30~11:45 **Understanding of changes in the cryosphere environment and biogeochemical cycles at different scales using electromagnetic technique**
Andrey Koshurnikov
Lomonosov Moscow State University; Melnichenko Foundation

11:45~12:00 **The recent and future carbon exchanges between alpine lakes and the atmosphere on the Qinghai-Tibet Plateau**
Genxu Wang
Sichuan University

12:00~12:15 **Diversity of primary vegetation species of lake shore impacts largely carbon emissions in thermokarst lakes on the Qinghai-Tibet plateau**
Qian Xu
Center for Pan-Third Pole Environment,Lanzhou University

[C05] PM1

Cryospheric biogeochemical cycles and environmental effects

Chair: Shichang Kang, Chinese Academy of Sciences

Monday, 21 July 2025, 13:30 - 15:00

Convention Hall 2F, C205

13:30~13:45

Global geodynamic model of the Earth and its application for the Arctic region: high heat flow, intense permafrost degradation and methane emission from the shallow shelf of the Eastern Arctic Shelf

Alexey Baranov

Schmidt Institute of Physics of the Earth,Russian Academy of Sciences,Moscow,Russia; Melnichenko Foundation,Moscow,Russia

13:45~14:00

Influence of geodynamic processes on massive methane release and other geohazards manifestations in the Russian Sector of the Arctic Ocean

Artem Krylov

Shirshov Institute of Oceanology,Russian Academy of Sciences,Moscow,Russia; Melnichenko Foundation,Moscow,Russia

14:00~14:15

Pingo-like bottom structures - precursors of abrupt subsea permafrost decay and methane gas release: applications of electromagnetic technique in the Kara Sea and entire Siberian region.

Aleksei Gunar

Lomonosov Moscow State University; Melnichenko Foundation

14:15~14:30

Understanding the Cryosphere-Carbon-Climate Interactions in the Siberian Arctic Ocean: methane release is emerging driving force?

Ilya Tipunin

Melnichenko Foundation,Moscow,Russia

14:30~14:45

Subsea permafrost dynamics drives release of geological methane in the arctic seas: testing by electromagnetic profiling in the Laptev Sea and the East Siberian Sea

Ermolai Balikhin

Lomonosov Moscow State University; Melnichenko Foundation

14:45~15:00

Submarine permafrost degradation comparison of mathematical simulation and field works results

Vladimir Tumskoy

Melnikov Permafrost Institute,Siberian Branch of Russian Academy of Sciences; Melnichenko Foundation

[C05] PM2

Cryospheric biogeochemical cycles and environmental effects

Chair: Shichang Kang, Chinese Academy of Sciences

Monday, 21 July 2025, 15:30 - 17:00

Convention Hall 2F, C205

15:30~15:45

Occurrence and migration of mercury in the ablation zone and meltwater of the Tibetan Plateau glaciers

Jie Wang

Institute of Tibetan Plateau Research,Chinese Academy of Sciences,Beijing 100101,China

15:45~16:00

Enhanced Glacial Melt Fuels Trace Metal Mobilization from Mountain Glaciers and Ice Sheets

Sipika Sundriyal
Key Laboratory of Cryospheric Sciences and Frozen Soil Engineering,Northwest Institute of Eco-Environment and Resources,Lanzhou 730000,China

16:00~16:15

Glacial impact on mercury dynamics in proglacial systems: A case study from the Nam Co basin, Tibetan Plateau

Mingyue Li
State Key Laboratory of Tibetan Plateau Earth System,Environment and Resources (TPESER),Institute of Tibetan Plateau Research,Chinese Academy of Sciences,Beijing 100101,China

[C07] Glaciers, glacial lakes and water resources in High Mountain Asia

PM1

Chair: Zhongqin Li, Northwest Institute of Eco-Environment and Resources, CAS

Tuesday, 22 July 2025, 13:30 - 15:00

Convention Hall 2F, C202

13:30~13:45

The latest glacier inventory and glacier changes based on three glacier inventories of Xinjiang , China, central Asia

ZHONGQIN LI
Tianshan Glaciological Station/Norwest Institute Eco-Environment and Resources,Chinese Academy of Sciences

13:45~14:00

The dynamic face of Batura Glacier: An Analysis of Glacier Area and Snout Movements in the Karakoram Region

Fakhra Muneeb
University of Melbourne

14:00~14:15

Surging mechanisms of Garmo Glacier: integrating multi-source data for insights into acceleration and hydrological control

Kunpeng Wu
Yunnan University

14:15~14:30

Modeling the mass balance of debris-covered glaciers: A simulation and in-situ based approach

Puyu Wang
Key Laboratory of Cryospheric Science and Frozen Soil

14:30~14:45

Glacier Changes and Runoff Response in the Junggar Inland Drainage Basins: Current Status, Trends, and Projections

Yefei Yang
Nothwest Institute of Eco-Environment and Resources,CAS

[C07] Glaciers, glacial lakes and water resources in High Mountain Asia

PM2 | Chair: Yanjun Che, Yichun University | Tuesday, 22 July 2025, 15:30 - 17:00 | Convention Hall 2F, C202

15:30~15:45
Nearly linear sensitivity of temperature glacier to air temperature simulated by energy mass balance model in southeastern Qinghai-Tibet Plateau
Yanjun Che
Yichun University

15:45~16:00
Mitigating ice sheets and mountain glaciers melt with geoengineering
Wang Feiteng
Northwest Institute of Eco-Environment and Resources (NIEER),Chinese Academy of Sciences

16:00~16:15
Detecting glacial lake water quality indicators from RGB surveillance images via deep learning
Zijian Lu
State Key Laboratory of Tibetan Plateau Earth System,Environment and Resources (TPESER),Institute of Tibetan Plateau Research,Chinese Academy of Sciences

[C08] Modelling and observations of glaciers and ice sheets

AM2 | Chair: Ralf Greve, Hokkaido University | Monday, 21 July 2025, 11:00 - 12:30 | Convention Hall 2F, C202

11:00~11:15
An overview of resent glacier changes in mainland Norway using remote sensing and field observations
Liss Marie Andreassen
Norwegian Water Resources and Energy Directorate

11:15~11:30
Ice Thickness Measurement and Volume Modeling of Muztagh Ata Glacier No.16, Eastern Pamir
Yefei Yang
Northwest Institute of Eco-Environment and Resources,CAS

11:30~11:45
Investigation of the Bidirectional Feedback Mechanism Between Englacial Temperature Profiles and Mass Balance of the August 1st Glacier in the Qilian Mountains
Chuntan Han
Key Laboratory of Ecological Safety and Sustainable Development in Arid Lands,Northwest Institute of Eco-Environment and Resources,Chinese Academy of Sciences

11:45~12:00
Glacier evolution model based on physical processes: application to alpine glacier Laohugou No. 12, Qilian Mountains
Keqin Duan
Shaanxi Normal University

[C08] Modelling and observations of glaciers and ice sheets

PM1

Chair: Ralf Greve, Hokkaido University

Monday, 21 July 2025, 13:30 - 15:00

Convention Hall 2F, C202

13:30~13:45

Physically-based modelling of glacier mass balance

Richard Essery

University of Edinburgh

13:45~14:00

Global Glacier Climate Disequilibrium: Committed Mass Loss and Sea Level Rise

Andrew N Mackintosh

Securing Antarctica's Environmental Future,Faculty of Science,Monash University

14:00~14:15

Using a 1-D coupled SIA-SSA calving model to advance fundamental understanding on surging tide-water glacier evolution

Bas Blank

University of Utrecht

14:15~14:30

A Python library for solving ice sheet modeling problems using Physics Informed Neural Networks, PINNICLE

Gong Cheng

Dartmouth College

14:30~14:45

Impact of Glen s Law Fluidity Parameter on Ice Sheet and Shelf Dynamics: Insights from 2D Finite Element Simulations Using Elmer/Ice

Su Jeong Lim

Kangwon National University

[C08] Modelling and observations of glaciers and ice sheets

PM2

Chair: Andrew Mackintosh, Monash University

Monday, 21 July 2025, 15:30 - 17:00

Convention Hall 2F, C202

15:30~15:45

BedMachine Antarctica v4: Improved interior topography and continental shelf bathymetry

Mathieu Morlighem

Dartmouth

15:45~16:00

The impact of basal heat flow and sliding conditions on the stability of the Antarctic Ice Sheet

Tong Zhang

Beijing Normal University

16:00~16:15

Novel sensitivity factors explain uncertainty in basal melting and dynamic sea level rise in the ISMIP6 Antarctica 2300 projections

Felicity S McCormack

Securing Antarctica's Environmental Future, School of Earth, Atmosphere and Environment, Monash University, Clayton, Kulin Nations, Victoria, Australia

16:15~16:30

Influence of ice dynamics and spin-up methods on simulated future changes of the Greenland ice sheet

Ralf Greve

Hokkaido University,Sapporo,Japan

[C13]	Societal impacts of changing cryosphere and development of resilience pathways	
AM2	Chair: Bo Su, Stcockholm University, Beijing Normal University	Friday, 25 July 2025, 10:30 - 12:00 Convention Hall 2F, C204

10:30~10:45	**Climate and the Cryosphere** **Keith Alverson** WCRP-CliC
10:45~11:00	**The Cryosphere Chronotope: A typology for spatial and temporal resilience in ice-dependent social-environmental systems** **Amy Lauren Lovecraft** University of Alaska Fairbanks
11:00~11:15	**Research on water resources security in the Indus River Basin under the background of cryosphere changes** **Chunlan Li** East China Normal University
11:15~11:30	**Imminent collapse of a West Greenland tidewater outlet glacier and its implications on the local communities.** **Samuel D.X. Chua** University of Helsinki
11:30~11:45	**A safe operating space for Earth's cryosphere** **Bo Su** Stockholm Resilience Centre,Stockholm University,Sweden

[C14]	Special session celebrating the international year of glaciers' preservation (invited presentations)	
PM2	Chair: Liss M. Andreassen, NVE	Thursday, 24 July 2025, 15:30 - 17:00 Convention Hall 2F, C202

15:30~16:00	(Invited) **From the International Year of Glaciers' Preservation 2025 towards the Decade of Action for Cryospheric Sciences 2025-2034** **Anil Mishra** UNESCO
16:00~16:30	(Invited) **Limiting global warming to +1.5 is critical for glacier preservation** **Andrew Mackintosh** Monash University
16:30~17:00	(Invited) **What does the WMO Climate Report tell us about the changing global cryosphere?** **Keith Alverson** IAMAS

[JCM01] Coupling between the atmosphere and snow/ice surfaces: Observations and modelling

AM1

Chair: Michael Town, Earth and Space Research

Tuesday, 22 July 2025, 09:00 - 10:30

Convention Hall 2F, C202

09:00~09:30

(Invited) **Measuring and modeling surface-atmosphere exchange processes in East Antarctica**

Hendrik Huwald

Ecole Polytechnique Fédérale de Lausanne EPFL Valais/Wallis Sion Switzerland

09:30~09:45

Elucidation of Spatiotemporal structures from high-resolution blowing snow observations

Kouichi Nishimura

Nagoya University

09:45~10:00

Simplifying snow particle velocities to a modified wind field

Nikolas O. Aksamit

UiT - The Arctic University of Norway

10:00~10:15

The Impact of Combined Sea Ice and Snow Cover on Winter Temperature Variability in East Asia: Predictive Skill and Challenges of the GloSea6 Model

Gaeun Kim

APEC Climate Center

[JCM02] Cryosphere changes and potential drivers in High Mountain Asia

AM1

Chair: Mohd. Farooq Azam, Indian Institute of Technology Indore

Wednesday, 23 July 2025, 09:00 - 10:30

Convention Hall 2F, C202

09:00~09:15

Risk of Glacier Collapse in the Southeast Tibetan Basin

Minghu Ding

State Key Laboratory of Disaster Weather Science and Technology,Chinese Academy of Meteorological Sciences,China

09:15~09:30

Himalayan Rock Glaciers Pose Serious Threats to Infrastructure: A case study in a National Highway, Himachal Pradesh, India

Remya S N

Centre for Climate Change and Sustainability ,Azim Premji University ,Bengaluru,India.

09:30~09:45

Current trends and future of snow cover in alpine regions

Manuel Tobias

Center for Climate Physics,Institute of Basic Sciences,Busan,South Korea
Department of Climate System,Pusan National University,Busan,South Korea

09:45~10:00

Longest mass balance reconstruction of a few selected large glaciers of Himalaya-Karakoram: Climatic Forcing and Regional Variability

Md. Arif Hussain

Department of Civil Engineering,Indian Institute of Technology Indore,Simrol,India-453552

10:00~10:15 **Snowmelt-Driven Hydrology in the Eastern Himalayas: A SWAT-Based Analysis of Discharge and Snow Cover Changes in Mago Basin, Arunachal Pradesh**
Kainat Aziz
Indian Institute of Technology Guwahati

[JCM03] Permafrost under changing climate

AM1

Chair: Jinho Ahn, Seoul National University

Tuesday, 22 July 2025, 09:00 - 10:30
Convention Hall 1F, C105

09:00~09:15 (Invited) **Warming and permafrost degradation stimulates above and belowground processes to affect ecosystem greenhouse gas exchange**
Hanna Lee
NTNU Norwegian University of Science and Technology

09:15~09:30 **Impacts of snow physical properties on permafrost and greenhouse gas fluxes**
Hotaek Park
JAMSTEC

09:30~09:45 **The Characteristics of Summer CO_2 Exchange in the Canadian Arctic Permafrost**
Hyewon Hwang
Gangneung-Wonju National University

09:45~10:00 **Soil Respiration Estimation in Permafrost Regions**
Chenghai Wang
Key Laboratory of Climate Resource Development and Disaster Prevention of Gansu Province,Research and Development Center of Earth System Model,College of Atmospheric Sciences,Lanzhou University,Lanzhou 730000,PR China

10:00~10:15 **Hysteresis in permafrost response to increase and decrease of CO2 emissions**
Natsuki Watanabe
Atmosphere and Ocean Research Institute(AORI),The University of Tokyo

[JCM03] Permafrost under changing climate

PM1

Chair: Hotaek Park, JAMSTEC

Tuesday, 22 July 2025, 13:30 - 15:00
Convention Hall 1F, C105

13:30~13:45 (Invited) **Impacts of climate change on the permafrost of Northern Eurasia at the century time scale: numerical, experimental and remote sensing approach of the HiPerBorea project**
Laurent Orgogozo
Geoscience Environnement Toulouse (GET),CNRS,UMR5563,Toulouse,31400,France

13:45~14:00 **Hydrothermal Dynamics and Ground Temperature Change Speed: Indicators of Permafrost Stability in Siberian River Basins (1963 2022)**
Yeonjin Son
POSTECH

14:00~14:15 **Larger variability of winter snow thickness threatens permafrost hydrothermal stability**
Kai Yang
Key Laboratory of Climate Resource Development and Disaster Prevention of Gansu Province,Research and Development Center of Earth System Model,College of Atmospheric Sciences,Lanzhou University

14:15~14:30 **Analyzing the influence factors and assessment the risk of the freeze-thaw hazard along the National Highway G111 in permafrost regions**
Jianjun Tang
School of Civil Engineering and Transportation and Permafrost Institute,Northeast Forestry University,Harbin 150040,China

14:30~14:45 **Thermal performance of air convection embankment combined TPCT in snowy permafrost regions**
Lin Chen
Northwest Institute of Eco-Environment and Resources,Chinese Academy of Sciences

14:45~15:00 **River Talik Characteristics and Its Impact on Cryo-hydrological Processes and Infrastructure in Permafrost Regions**
Weibo Liu
Key Laboratory of Cryospheric Science and Frozen Soil Engineering,Northwest Institute of Eco-Environment and Resources,Chinese Academy of Sciences

[JCM03] Permafrost under changing climate

PM2 | Chair: Eunji Byun, Yonsei University | Tuesday, 22 July 2025, 15:30 - 17:00 | Convention Hall 1F, C105

15:30~15:45 **Investigation of Greenhouse Gas Formation Mechanisms in Ice Wedges and Their Formation Process**
Nayeon Ko
Seoul National University

15:45~16:00 **Influence of active layer development on sulfur isotope geochemistry of ice wedges**
Hyeonjeong Jeong
Seoul National University

16:00~16:15 **Mapping of peatland in Mongolia along the southern fringe of Siberian permafrost region**
Saruulzaya Adiya
Institute of Geography and Geoecology,Mongolian Academy of Sciences

16:15~16:30 **Degradation, Stabilization, and Recovery Signs of Post-Wildfire Permafrost in North Yukon Detected by ALOS/Sentinel-1 InSAR**
Zetao Cao
Hokkaido University

[JCM04] Recent Advances in Ice Core Science

PM1

Chair: Jinho Ahn, Seoul National University

Wednesday, 23 July 2025, 13:30 - 15:00

Convention Hall 2F, C202

13:30~13:45

Developing a Technique to Create Artificial Bubbly Ice with Specific Gas Compositions

Jaeyung Han
Seoul National University

13:45~14:00

High-resolution Atmospheric CO2 Records during the Holocene as a Key to Holocene Carbon Cycle Dynamics

Sohee Lee / Kwangjin Yim / Jinho Ahn
Seoul National University

14:00~14:15

(Invited) **Greenhouse gases (CO2, CH4) altered by UV photochemistry in shallow ice at Larsen blue-ice area, East Antarctica**

Giyoon Lee
Seoul National University

14:15~14:30

Impacts and Corrections of Post-Depositional Processes on Ice Core Trapped Gases: Insights from the Tibetan Plateau and Antarctic Blue Ice Areas

Huanting Hu
Shanghai Jiao Tong University

14:30~14:45

(Invited) **Global biosphere productivity during Heinrich Stadial 4 based on the triple isotope composition of O2 and using coupled climate model simulations**

Ji-Woong YANG
Laboratoire des sciences du climat et de l'environnement/Université de Versailles Saint-Quentin-en-Yveline

14:45~15:00

Progress in the Study of Blue Ice from Victoria Land, Antarctica: Focusing on Larsen Glacier and Elephant Moraine

Jinho Ahn
Seoul National University

[JCM04] Recent Advances in Ice Core Science

PM2

Chair: Youngchul Ha, Korea Polar Research Institute

Wednesday, 23 July 2025, 15:30 - 17:00

Convention Hall 2F, C202

15:30~15:45

Centennial-scale variability in atmospheric circulation in Antarctica: Insights from a coastal East Antarctic ice core record

Guitao Shi
East China Normal University

15:45~16:00

Identification of the source of the 1458/59 CE volcanic eruption using a novel quantitative SEM-EDX analysis of unpolished small (< 10 μm) glass shards in the Antarctic (Vostok) firn core

Seokhun Ro
Korea Polar Research Institute

16:00~16:15 (Invited) **Two new 150m ice cores and ground geophysics at Canisteo Peninsula, Amundsen Sea, West Antarctica: successful first fieldwork for the Ross-Amundsen Ice Core Array (RAICA) initiative**
Peter D Neff
University of Minnesota

16:15~16:30 **Historical Insight into Ammonia Emissions from Ice-Core Analysis in Caucasus**
Mstislav Alekseevich Vorobyev
Institute of Geography,Russian Academy of Sciences,Moscow 119017,Russia

16:30~16:45 **Seasonal variability of isotopes and chemistry in a coastal firn core from the Amundsen Sea, West Antarctica**
Jinhwa Shin
Korea Polar Research Institute

16:45~17:00 **Imprints of Sea Ice, Wind Patterns, and Atmospheric Systems on Summer Water Isotope Signatures at Hercules Neve, East Antarctica**
Songyi Kim
Ewha Womans University

[JCP05] Ice sheet-ocean interactions and impacts

AM1

Chair: Sue Cook, University of Tasmania

Wednesday, 23 July 2025, 09:00 - 10:30
Convention Hall 2F, C204

09:00~09:30 (Invited) **Drivers of Pine Island and Thwaites Ice Shelf Melting, Antarctica**
Taewook Park
Division of Ocean and Atmosphere Sciences,Korea Polar Research Institute,Incheon,Republic of Korea

09:30~09:45 **Seasonality in ocean-driven melting of the Amery Ice Shelf**
Sue Cook
Australian Antarctic Program Partnership,Institute for Marine and Antarctic Studies,University of Tasmania

09:45~10:00 **Investigating the Possibility of a Seafloor Anchor Curtain (SAC) at the Thwaites Glacier, West Antarctica, as an Ice Preservation Strategy**
David Michael Holland
New York University,USA

[JCP05] Ice sheet-ocean interactions and impacts

PM1

Chair: Joellen Russell, University of Arizona

Wednesday, 23 July 2025, 13:30 - 15:00
Convention Hall 2F, C204

13:30~14:00 (Invited) **The role of Antarctic meltwater for ocean dynamics and sea ice**
Wilma Huneke
ANU

14:00~14:15 **Fingerprints of Antarctic Ice Sheet melting at the ocean microscale**
Alberto Naveira Garabato
University of Southampton

14:15~14:45	(Invited) **Role of the Antarctic Slope and Coastal Current in the climate response to Antarctic meltwater** **Rebecca Beadling** Temple University
14:45~15:00	**Impacts of meltwater from giant iceberg A-68A on Southern Ocean stratification and vertical mixing** **J. Alexander Brearley** British Antarctic Survey

[JCP05] PM2	**Ice sheet-ocean interactions and impacts** Chair: Yoshihiro Nakayama, Dartmouth College Wednesday, 23 July 2025, 15:30 - 17:00 Convention Hall 2F, C204

15:30~15:45	**The glaciological community must be open to researching glacier interventions to slow sea-level rise** **Brent Minchew** California Institute of Technology and Arête Glacier Initiative
15:45~16:00	**Lateral Fluxes Drive Basal Melting Beneath Thwaites Eastern Ice Shelf, West Antarctica** **Peter Davis** British Antarctic Survey
16:00~16:15	**Two-year In-situ Monitoring of Iceberg B22A Drifting Away from the Thwaites Ice Tongue** **Choon Ki Lee** Korea Polar Research Institute
16:15~16:30	**Ocean variability beneath West Antarctica's Dotson Ice Shelf from multi-year sub-ice shelf observations** **Clare Eayrs** Korea Polar Research Institute
16:30~16:45	**Effect of an AMOC collapse on the stability of the Greenland ice sheet** **Sjoerd Terpstra** Utrecht University

[JCP07] AM1	**Remote Sensing of Sea Ice from Satellite Microwave Measurements and its Applications** Chair: Suman Singha, Danish Meteorological Institute Friday, 25 July 2025, 08:30 - 10:00 Convention Hall 1F, C106 - 107

08:30~09:00	(Invited) **Tracking Arctic change with sea ice motion and age estimates from enhanced passive microwave imagery** **Walter N Meier** National Snow and Ice Data Center,University of Colorado

09:00~09:15 **Assimilation of Satellite-derived Sea Ice Concentration into the CICE5 system with Regionally Varying Observation Errors**
Ji-Soo Kim
Seoul National University

09:15~09:30 **Data assimilation of Arctic Sea Ice Thickness During the Boreal Summer**
Jeong Gil Lee
Seoul National University

09:30~09:45 **Assimilating CryoSat2 Radar Freeboard to Improve Arctic Sea Ice Thickness**
Imke Sievers
DMI

09:45~10:00 **Classifying pan-Arctic Sea Ice with Synthetic Aperture Radar images Based on Deep Learning Network**
Yan Dai
Key Laboratory of Digital Earth Science,Aerospace Information Research Institute,Chinese Academy of Sciences,Beijing 100094,China

[JCP07] Remote Sensing of Sea Ice from Satellite Microwave Measurements and its Applications

AM2

Chair: Hoyeon Shi, Danish Meteorological Institute

Friday, 25 July 2025, 10:30 - 12:00
Convention Hall 1F, C106 - 107

10:30~11:00 (Invited) **Research Progress and Applications of Polar Sea Ice Products Based on Multi-Source Remote Sensing Payloads of Fengyun Satellites**
Xiaochun Zhai
National Satellite Meteorological Center,China Meteorological Administration

11:00~11:15 **Long-term Record of Snow Depth on Arctic Sea Ice from Combined Thermal Infrared and Microwave Observations**
Hoyeon shi
Danish Meteorological Institute (DMI)

11:15~11:30 **Pan-Arctic Near-Real-Time Sea Ice Concentration Products from Passive and Active Microwave Sensors**
Suman Singha
Danish Meteorological Institute (DMI)

11:30~11:45 **Effects of satellite sea-ice boundary conditions in km-scale regional climate simulations during polynya events**
Jose Abraham Torres
DMI

11:45~12:00 **Summer Arctic ice draft variability and trends: 2003-2021**
Jong Min Kim
Korea Polar Research Institute

[JCMP08] Connecting Polar to lower latitudes: A global perspective on climate change and impacts for Future Earth Strategies

AM1

Chair: Jiping Liu, Sun Yat-sen University

Wednesday, 23 July 2025, 09:00 - 10:30

Convention Hall 1F, C108

09:00~09:30

(Invited) **Two faces of polar climate change and their influences on midlatitudes**

Seong Joong Kim

Korea Polar Research Institute

09:30~09:45

(Invited) **Impact of Arctic sea ice decline on mid-latitude East Asia: the role of atmosphere-ocean-sea ice coupling**

Masato Mori

Kyushu University

09:45~10:00

Soil moisture feedback amplified the SNAO-induced North China record-breaking heatwave in 2023

Tianjun Zhou

Institute of Atmospheric Physics,Chinese Academy of Sciences

10:00~10:15

A Possible Two-Way Feedback Between El Nino Southern Oscillation and Arctic Stratospheric Ozone

Fuhai Luo

Being Normal University

10:15~10:30

Impacts of Antarctic Sea Ice Loss on Temperature and Precipitation Extremes over the Southern Extratropical Continents

Zhu Zhu

Sun Yat-sen University

[JCMP08] Connecting Polar to lower latitudes: A global perspective on climate change and impacts for Future Earth Strategies

PM1

Chair: Wenjie Dong, Sun Yat-sen University

Wednesday, 23 July 2025, 13:30 - 15:00

Convention Hall 1F, C108

13:30~13:45

(Invited) **Connecting Antarctic Observations to the World!**

Naoyuki Kurita

Nagoya University

13:45~14:00

(Invited) **The Polar Regions in the Earth System (PolarRES) project**

Jose Abraham Torres

DMI

14:00~14:15

(Invited) **Tropical Polar Interaction**

Xichen Li

Institute of Atmospheric Physics,Chinese Academy of Sciences

14:15~14:30

(Invited) **The possible linkage between Tropics and Arctic in summertime on quasi decadal timescales**

Wen Zhou

Fudan University

14:30~14:45 **East Antarctic interior summer warming in association with Indian Ocean warming**
Naoyuki Kurita
Nagoya University

14:45~15:00 **Asymmetric impacts of weak and strong La Nina on Antarctic sea ice in austral summer**
Chao Zhang
Associate professor,Beibu Gulf University

[JCMP08] Connecting Polar to lower latitudes: A global perspective on climate change and impacts for Future Earth Strategies

PM2 Chair: Jonghun Kam, POSTECH
Wednesday, 23 July 2025, 15:30 - 17:00
Convention Hall 1F, C108

15:30~15:45 (Invited) **Antarctic Ice Sheet Surface Mass Balance: impact of the Southern Annular Mode and El Nino Southern Oscillation on accumulation and melt**
Andrew Mackintosh
Securing Antarctica's Environmental Future,Monash University,Australia

15:45~16:00 (Invited) **Linking Radiative Advective Equilibrium Regime Transition to Arctic Amplification**
Yu-Chiao Liang
National Taiwan University

16:00~16:15 **Impacts of the MJO on the Antarctic Atmospheric Rivers**
Jihae Kim
Ulsan National Institute of Science and Technology

16:15~16:30 **Strong impact of the rare three-year La Nina event on Antarctic surface climate changes in 2021 2023**
Shaoyin Wang
School of Geospatial Engineering and Science,Sun Yat-sen University,and Southern Marine Science and Engineering Guangdong Laboratory (Zhuhai),Zhuhai,China

16:30~16:45 **Climate extremes in East Asia**
Sang Wook Yeh
Hanyang University,ERICA

16:45~17:00 **Underestimation of Arctic marine access in state-of-the-art climate models**
Chao Min
School of Atmospheric Sciences,Sun Yat-sen University,and Southern Marine Science and Engineering Guangdong Laboratory (Zhuhai)

[JCMP09] Ice sheet mass loss: A driver of sea level rise

PM1 Chair: Won Sang Lee, Korea Polar Research Institute
Thursday, 24 July 2025, 13:30 - 15:00
Convention Hall 2F, C203

13:30~13:45 **3D model of Antarctic ice sheet, importance of high subglacial heat flow, subglacial volcanoes and tectonic waves for stability of Doomsday and Pine glaciers**
Alexey Baranov
Schmidt Institute of Physics of the Earth,Russian Academy of Sciences,Moscow,Russia,Melnichenko Foundation,Moscow,Russia

13:45~14:00 **Investigating the response of Thwaites Glacier, West Antarctica, to sub-ice shelf melting parameterizations: From simple to complex approaches under climate changes**
In Woo Park
Division of Glacier and Earth Sciences,Korea Polar Research Institute,Incheon,South Korea

14:00~14:15 **Delayed Impact of the Southern Annular Mode on Antarctic Fast Ice**
Emilia Kyung Jin
Korea Polar Research Institute (KOPRI)

14:15~14:30 **Quantification of buffered water storage within the Greenland Ice Sheet using GPS data**
Pavel Ditmar
Department of Geoscience and Remote Sensing,Delft University of Technology,Delft,The Netherlands

[JCMP10] The atmosphere, cryosphere and oceans in Earth System Models

AM1

Chair: Anais Orsi, The University of British Columbia

Thursday, 24 July 2025, 09:00 - 10:30
Exhibition Hall 2F, M211

09:00~09:30 (Invited) **Characterization and causes of the Central North Atlantic cold bias in CMIP6 and HighResMIP simulations**
Xia Lin
Nanjing University of Information Science and Technology

09:30~09:45 **Evolution of Extreme Sea Ice Loss Events Under Anthropogenic Climate Forcings**
Anthony Chun Yin Chan
University of Exeter

09:45~10:00 **Reversibility of regional precipitation declines in global temperature stabilisation scenarios**
Andrea Dittus
University of Reading and National Centre for Atmospheric Science

10:00~10:15 **A New Research Initiative on Geoengineering in the Cryosphere and Ocean : A Model-Based Assessment of Climate-Intervention Technology Impact**
Seung-Tae Yoon
School of Earth System Sciences,Kyungpook National University,Republic of Korea

Poster Session : IAMAS

[M01] Atmospheric Chemistry in the Anthropocene: From the Urban to Global Scales

Tuesday, 22 July 2025, 17:00 - 18:30

Convention Hall 3F, C301

M01-1-061

Insights and limitations of AI model explainability in the vision transformer model: An example of PM2.5 estimation in Seoul, Korea

Ingyu Park
Seoul National University

M01-1-062

Impact of Drought on Tropospheric Ozone in South Korea

Sanghyuk Park
Department of Environment Energy, Sejong University, Seoul, South Korea

M01-1-063

Identification Key Sources of PM2.5 During High Pollution Episodes Using a Receptor Model Across Six Intensive Monitoring Station in South Korea (2015-2019)

Naser Mohammadzadeh
UNIST

M01-1-064

Vertical Distribution and Physical Properties of Black Carbon over Seoul Metropolitan Area

Siyoung Choi
Chungnam National University

M01-1-065

Estimating surface nitrogen dioxide of Taiwan from GEMS observations using machine learning

Yi-Chun Chen
Academia Sinica, Taipei, Taiwan

M01-1-066

Numerical Study of complex physical and chemical processes of a severe haze episode over central Taiwan

Chuan-Yao Lin
Research Center for Enivronmental Changes,Academia Sinica

M01-1-067

Size-resolved Arsenic species and Health Risk Assessment in the Urban Atmosphere of Korea

Haneul Im
Chungnam National University College of Engineering, Department of Environmental IT Convergence Engineering

M01-1-068

Analyses of methane distribution in the Korean peninsula using the GOSAT and ACE-FTS satellite measurements

Ja-Ho Koo
Yonsei University

M01-1-069

Estimation of Annual CO2 Emissions in East Asia Based on GEMS v3 Data

Jongcheon Chae
Yonsei University

M01-1-070

Comparison of Various UV-channel Aerosol Optical Depth Measured in Yonsei University, Seoul, Korea

Ji-Min Park
Yonsei University

[M02] Atmospheric Composition and the Asian Monsoon

Thursday, 24 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

M02-3-001

Mechanistic evaluation of reanalysis composition and circulation in the Asian monsoon tropopause layer

Shenglong Zhang
Tsinghua University

M02-3-002

Ozone Variability in the Upper Troposphere and Lower Stratosphere over Beijing: An Analysis of 20 Years Ozonesonde Profiles

DAN LI
Institute of Atmospheric Physics, Chinese Academy of Sciences

M02-3-003

Organic functional groups and other chemical components in atmospheric aerosols in Nagoya and Osaka, Japan: Results from a field study in February and March, 2024

Michihiro Mochida
Institute for Space-Earth Environmental Research,Nagoya University

M02-3-004

Comparison of the impact of stratospheric ozone on the troposphere between summer and winter in the west coast of South Korea

Sang Jun Kim
Department of Atmospheric Sciences, College of Science, Yonsei University, Republic of Korea

M02-3-005

NO2 Emission Estimation by Top-down Method in Korea during ASIA-AQ Campaign
Wook Kang
Yonsei University

M02-3-006

Evaluation and Improvement of GEMS HCHO Retrievals through ASIA-AQ Airborne Observations
Yejun Seo
Yonsei University, South Korea

[M03] Weather modification: theory, practice and technology

Thursday, 24 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

M03-3-007

Ensemble Forecast of Cloud Seeding Potential Using Multiple Microphysics Parameterization Schemes
Jiangshan Zhu
Institute of Atmospheric Physics, Chinese Academy of Sciences

M03-3-008

Analysis of Microtopography Atmospheric Precipitable Water Vapour over the Northeastern Margin of the Qinghai?Tibet Plateau
Zhiliang Shu
Ningxia Meteorological Disaster Prevention Technology Center

[M04] Cloud-Precipitation-Aerosol Studies

Wednesday, 23 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

M04-2-001

Long-Term Observational Analysis of Below-Cloud Scavenging of Aerosol Particles in South Korea
Seonghyeon Jang
Pusan National University

M04-2-003

The contribution of long-range transport to cloud formation around the Antarctic peninsula: airborne cloud observations from the Southern Ocean Clouds project
Amelie Kirchgaessner
British Antarctic Survey

M04-2-004

Retrieving microphysical properties of Arctic and Mediterranean clouds using a synergy of remote sensing and in situ instrumentation
Alexis Berne
EPFL-LTE

M04-2-005 **Diurnally Resolved Long-Term Variations in Cloud Droplet Number Concentration**
Jiayi Li
College of Atmospheric Sciences, Lanzhou University

M04-2-006 **MOF Assisted NaCl-based Bilayer Nanostructured Materials for Hygroscopic Cloud Seeding**
Syed Mushtaq
Korea Institute of Science and Technology

M04-2-007 **Characteristics of marine ice-nucleating particles over the Indian Ocean: Shipborne observation from ISABU R/V**
Najin Kim
Center for Climate and Carbon Cycle Research, Climate Environmental Research Institute, Korea Institute of Science and Technology, Seoul, Republic of Korea

M04-2-008 **Observational Analysis of the Transition of Low Cloud into Sea Fog in the Arctic Ocean in Summer**
Ning Meng
Ocean University of China

M04-2-009 **Observational analysis of the microphysical characteristics of an advection fog event along the coast of Qingdao in 2024**
LI YI
Ocean University of China

M04-2-010 **Anthropogenic aerosol influence on a mixed-phase cloud precipitation in early Meiyu season over Yangtze River Delta: simulated microphysical and thermodynamic effects**
Ruiyu Song
Nanjing University of Information Science and Technology

M04-2-011 **Upwind inhabitant and downwind enhancement effects of a Strong precipitation induced by urbanization over the Pearl River Delta, South China**
Lina Sha
Nanjing University of Information Science and Technology

M04-2-012 **Development of a Parameterization Scheme for Heterogeneous Ice Nucleation Based on PINE Instrument and Its Implementation in a Numerical Model**
Wooseok Kang
Ulsan National Institute of Science and Technology (UNIST)

[M05] Advances in Dynamic Meteorology

Tuesday, 22 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

M05-1-071
Weakened Subtropical Westerlies and Their Deflection by the Tibetan Plateau Contribute to Drying Southeastern China in Early Spring
Zhuoyu Zeng
Sun Yat-sen University, PhD student

M05-1-072
Observed changes of atmospheric fluctuations with different time scales in extratropical boreal winter
Hongjiang Liu
Nanjing University

M05-1-073
Diagnosis and Numerical Modeling of an Explosive Cyclone over the Northwestern Pacific
Pengyuan LI
Ocean University of China

M05-1-074
Inter-comparison of extratropical cyclone properties in five reanalysis datasets
GeonWoo Park
School of Earth and Environmental Sciences, Seoul National University, Seoul, Republic of Korea

M05-1-075
Difference in Hadley Circulation Intensity between Reanalysis Datasets
Seung-Ha Lee
Seoul National University

M05-1-076
Enhanced East Asian atmospheric circulation in boreal winter linked to changes in the NPO-NAO relationship
Sae-Yoon Oh
Hanyang University

M05-1-078
Diabatic processes on synoptic timescales drive variability in midlatitude storm tracks
Andrea Marcheggiani
Geophysical Institute, University of Bergen, and Bjerknes Centre for Climate Research, Bergen, Norway

M05-1-079
Seasonal Forecasting via Neural Ordinary Differential Equations
Jonghan Lee
Pukyong National University

M05-1-080 **Influence of baroclinic eddies on the Hadley cell edge**
Seungpyo Lee
Pukyong National University

M05-1-081 **Environmental Conditions in the Early Stage of Wintertime Cyclones formed over the East China Sea**
Taisei Ogawa
Graduate School of Science,Kyoto University

[M06] Dynamics of Mountain Weather and Climate: Observations, Modeling and Prediction at all scales

Tuesday, 22 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

M06-1-110 **Seeder Feeder Effect on Snowfall Characteristics In the Yeongdong Region of Korea**
Seok-Woo Park
Department of Atmospheric Environmental Sciences, Gangneung-Wonju National University, Gangnueng, Korea

M06-1-111 **Relative roles of mountain waves and low-level nonlinear drag in tropospheric and stratospheric mean circulation**
Jae-Hyeong Shin
Yonsei University

M06-1-112 **Orographic and Coastal Influences on the Lake-Effect Snow Event in the Seoul Metropolitan Area in South Korea**
Eun-Tae Kim
Seoul National University

M06-1-113 **Impact of topographic resolution on simulated summer daytime precipitation over the Himalayas**
Shiori Sugimoto
Japan Agency for Marine-Earth Science and Technology

[M07] Tropical Meteorology

Thursday, 24 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

M07-3-009 **Trade Winds in a Changing Climate**
Roxy Mathew Koll
Indian Institute of Tropical Meteorology, Pune

M07-3-010 **Mesoscale distribution of tropical precipitation and its response to atmospheric temperature**
Do-Yeon Kim
Seoul National University

M07-3-011 **Response of Thin Anvil Clouds to Surface Warming in RCEMIP Simulations**
Yugunn Lee
Seoul National University

M07-3-012 **Observational study on the vertical structure of cirrus clouds in the tropics**
Junko Suzuki
Japan Agency for Marine-Earth Science and Technology

M07-3-014 **Influence of Subtropical Jets on the Equatorial Spectrum: Implications for Future Changes in Kelvin Wave and MJO Variance**
Chaim Garginkel
Hebrew University of Jerusalem

[M08] Dynamics and microphysics of moist convection

Tuesday, 22 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

M08-1-091 **An quasi-stationary rainband developed in the Midwest Kochi, Japan on 4-5 July 2022**
Fumie Murata
Kochi University

M08-1-092 **Entrainment-mixing characteristics for non-precipitating stratocumulus clouds: a model intercomparison study**
KyoungOck Choi
Seoul National University

M08-1-093 **Factors governing the initiation of moist deep convection in homogeneous, weakly-sheared environments**
Hugh Morrison
NSF NCAR

M08-1-094 **Process-Level insights into Climate Model Biases in Amazonian Convective Heating Profiles: A Single-Column Model Perspective**
Shuaiqi Tang
Nanjing University

M08-1-095 **An observational evaluation of RKW theory over the US southern Great Plains**
Daniel Kirshbaum
McGill University

[M09] Mesoscale meteorology

Wednesday, 23 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

M09-2-037 **Impact of Urbanization on the Sea Breeze in the Seoul Metropolitan Area in South Korea**
Minhyuk Jung
School of Earth and Environmental Sciences,Seoul National University,Seoul,South Korea

M09-2-038 **Long-term variability analysis of precipitation in Korea using ground-based observation data**
Mi Eun PARK
KMA/NIMS

M09-2-039 **Mesoscale Mechanisms on the Record-Breaking Heavy Rainfall Event Occurred in Seoul Metropolitan Area in South Korea on 8 August 2022**
Yi-June Park
Seoul National University

M09-2-040 **High-resolution numerical simulation of a waterspout observed over Okinawa, Japan on 5 March 2024**
Sano Miyu
Mie university

[M10] Middle Atmosphere Symposium

Thursday, 24 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

M10-3-052 **DRivers and Impacts of Ionospheric Variability with EISCAT-3D (DRIIVE)**
Tracy Moffat-Griffin
British Antarctic Survey

M10-3-053 **Recent Lower Stratospheric Ozone Trends in CCMI-2022 models: Role of Natural 2 Variability and Transport**
Natalia Calvo
Universidad Complutense de Madrid

M10-3-054 **Large spread in sudden stratospheric warming wave forcing in CMIP6 models**
Alvaro de la Cámara
Universidad Complutense de Madrid Spain

M10-3-055 **The JAGUAR-DAS whole neutral atmosphere reanalysis: JAWARA**
Dai Koshin
NSF NCAR HAO

M10-3-056 **Precursory analysis ensemble spread signals that foreshadow stratospheric sudden warmings**
Akira Yamazaki
JAMSTEC

M10-3-057 **Representation of quasi-biennial oscillation (QBO) in zonal wind and ozone in JRA-3Q**
Hiroaki Naoe
Meteorological Research Institute

M10-3-058 **Understanding the influence of SSW seasonality on the associated tropospheric responses in ERA5 and CM4**
Alexis Claude Mariaccia
Program in Atmospheric and Oceanic Sciences,Princeton University,Princeton,New Jersey,United States

M10-3-059 **The Correlation analysis between Antarctic Stratospheric Ozone Depletion and Weddell Sea Ice Concentration**
Hyeogdo Kweon
Department of Atmospheric Sciences,Yonsei University,Seoul,Korea

[M11] Polar weather and climate extremes

Wednesday, 23 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

M11-2-016 **Arctic Amplification's Role in Intensifying East Asian Winter Cold Extremes**
YeongHwa Ko
Pusan National University

M11-2-017 **Understanding enhanced sub-seasonal predictability of cold spells with nudged experiments**
Irene Erner
Finnish Meteorological Institute

M11-2-018

Classification of residual circulation patterns according to Arctic Oscillation phases

Gamram Park
Yonsei University

M11-2-019

Forecast Impact of Additional Radiosonde Ascents During the Year of Polar Prediction Southern Hemisphere (YOPP-SH) Winter Campaign

Mariana Fontolan Litell
The Ohio State University

[M12] Earth's Energy Budget

Wednesday, 23 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

M12-2-013

Energy Budget Analysis of the North China Heat Wave in 2023

Yujie Jiang
Ocean University of China

[M14] Lightning, Thunderstorms and Atmospheric Electricity

Tuesday, 22 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

M14-1-096

Regular Pulse Bursts: Near-Light-Speed Breakdown and Slow Propagation in Lightning Discharges

Xiangpeng Fan
Department of Plateau Atmospheric Physics / Key Laboratory of Cryospheric Science and Frozen Soil Engineering,Northwest Institute of Eco-Environment and Resources,Chinese Academy of Sciences,Lanzhou 730000,Gansu,China

M14-1-097

A Case Study of the Stratospheric and Mesospheric Concentric Gravity Waves Excited by Thunderstorm in Northern China

Ying Wen
Civil Aviation Flight University of China

M14-1-098

The Relationship between the Lightning Channel Morphology and the Distribution of Turbulence in Thunderstorms

Yang Zhang
Chinese Academy of Meteorological Sciences

M14-1-099

Impact of initial and boundary data on lightning prediction in South Korea: Preliminary modeling results

Changgeun Park
Korea Meteorological Administration

[M15] Lightning, Thunderstorms and Atmospheric Electricity

Thursday, 24 July 2025, 17:00 - 18:30

Convention Hall 3F, C301

M15-3-016

MAIA Level 2 Aerosol Retrieval Algorithm Test and Improvement Using MISR and MODIS Measurements

Wenzhi Zhang
University of Oklahoma

M15-3-017

Aerosol Vertical Profile Estimation over China Using Orbiting Carbon Observatory-2 O2 A-Band Data and the Random Forest Model

Hailei Liu
Chengdu University of Information Technology (CUIT)

M15-3-018

Coupled Longwave Feedback of Upper-Tropospheric Cloud and Water Vapor over Tropical Western Pacific using GK2A

Yerim Seok
Ewha Womans University

M15-3-019

The status of FY-3G passive microwave precipitation products

Xiaoqing Li
NSMC,CMA

M15-3-020

Retrieval of Aerosol Optical Depth using AIRS Longwave Radiance Measurements

Jing Li
Peking University

M15-3-021

Consistency between In-situ and Radar Observation of Hail Storms

David James Delene
University of North Dakota

M15-3-022

A Novel Objective Labeling Approach for Arctic Sea Fog Detection Using Fully Convolutional Neural Networks

Ruyun Niu
Physical Oceanography Laboratory,Frontiers Science Center for Deep Ocean Multispheres and Earth System,College of Oceanic and Atmospheric Sciences,Ocean University of China,Qingdao,China

M15-3-023

A Physics-Based Synergistic GEO Satellite Algorithm for Aerosol Absorption Retrieval Enhanced by a Deep Learning Radiative Transfer Model

Minseok Kim
Yonsei University

M15-3-024 **Detection of Long-Range Transport of Aerosols to Seoul Using AMI during the ASIA-AQ Campaign**
Seungju Oh
Department of Atmospheric Sciences,Yonsei University,Seoul,Republic of Korea

M15-3-025 **Validation of MODIS MAIAC C6.1 aerosol products over southeast China using SONET**
Cheng Fan
Aerospace Information Research Institute,Chinese Academy of Sciences

M15-3-026 **Assessment of GEMS AOD and Plans for Future Improvements**
Yujin Chai
Yonsei University

[M16] The Mechanism and Prediction of Tropical Cyclones

Wednesday, 23 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

M16-2-023 **Extratropical transition pathways of tropical cyclones and their role in storm intensity and destructiveness**
Hung Ming Cheung
Ewha Womans University

M16-2-024 **Response of Tropical Cyclone Seed to Carbon Dioxide Removal**
Hyunsuk Yoon
School of Earth and Environmental Sciences,Seoul National University

M16-2-025 **Unraveling the Anisotropic Patterns of Uncertainty in Tropical Cyclone Tracks**
Ming Zhang
State Key Laboratory of Earth Surface Processes and Resource Ecology (ESPRE)/Key Laboratory of Environmental Change and Natural Disasters of Chinese Ministry of Education,Beijing Normal University,Beijing 100875,China

M16-2-026 **Performance of AI-based Global Models in Tropical Cyclone Forecasting**
Dong-Hoon KIM
Typhoon Research Center,Jeju National University,South Korea

M16-2-027 **Comparisons of Adjoint Sensitivity, Leading Singular Vector, and Conditional Nonlinear Optimal Perturbations in the Identification of Sensitive Areas for Tropical-Cyclone-Targeted Observations**
Yiwei Ye
Institute of Atmospheric Physics,Chinese Academy of Sciences

M16-2-028 **Statistically decreased weakening rate of typhoons in environments of the Northeast China cold vortex**
Na Wei
Nanjing Innovation Institute for Atmospheric Sciences,Chinese Academy of Meteorological Sciences-Jiangsu Meteorological Service,Nanjing,China

M16-2-029 **Factors affecting the weakening rate of landfalling tropical cyclones over China**
Lu Liu
Chinese Academy of Meteorological Sciences

[M18] Monsoon systems: variability, processes, predictability, change and extremes

Wednesday, 23 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

M18-2-041 **The effect of global mean sea-level rise to Maritime Continent and East Asia summer precipitation**
Caoyi Dong
CHINA UNIVERSITY OF GEOSCIENCES

M18-2-042 **Moisture Transport Patterns Associated with Dominant Modes of East Asian Summer Precipitation Variability**
Wenlan Ma
Department of Atmospheric Science,School of Environmental Studies,China University of Geosciences,Wuhan,China,China

M18-2-043 **Characteristics of Vegetation Response to Divergent Heatwaves in the Northern Mid-Latitudes**
Ji-Hye Yeo
Center for Climate Physics,Institute for Basic Science (IBS),Busan,South Korea

M18-2-044 **How well do recent reanalyses represent the dry-to-wet season transition in the southern Amazon?**
Jonathon Wright
Tsinghua University

M18-2-045 **Characteristics of Mean and Extreme Precipitation in Summer over Korean Peninsula**
Jin-Woo Ryu
BK21 School of Earth and Environmental Systems,Pusan National University,Busan,South Korea

M18-2-046 **Interdecadal modulation of the predictability of East Asia summer monsoon by the Interdecadal Pacific oscillation**
Ruiqiang Ding
Beijing Normal University

M18-2-047 **Landfalling Atmospheric Rivers are not Fully Recovered by CO2 Mitigation**
Seohyun Chung
Seoul National University

M18-2-048 **An analysis on the 2023/24 Amazon basin recorded drought**
Ping-Hao Liu
PCCU

M18-2-049 **Long-term precipitation changes in the Baiu and Akisame seasons in Japan over the past 120 years (1901 to 2020)**
Hirokazu Endo
Meteorological Research Institute

M18-2-050 **Seasonal delay of Sahelian rainfall driven by an east-west contrast in radiative forcing in idealized CESM experiments**
Hongqiang Dong
Ocean University of China

M18-2-051 **The impacts of East Siberian blocking on the development of a JPCZ**
Akira Yamazaki
JAMSTEC

M18-2-052 **Assessing the Variability of Asian and American Monsoons**
Feng Shi
Institute of Geology and Geophysics,Chinese Academy of Sciences

M18-2-053 **Monitoring and Prediction of Boreal Summer Intraseasonal Oscillation (BSISO) at the APEC Climate Center: Current status and its improvement**
A-Young LIM
APEC Climate Center

M18-2-054 **The role of regional SST changes on decadal variability in MJO propagation speed**
Hye-Ryeom Kim
Pusan National University

M18-2-055 **Long-term change of quasi-stationary fronts and its precipitation in East Asia during summer**
Hyeon-seok Do
National Institute of Meteorological Sciences

M18-2-056 **Seasonal cycle delay of tropical cyclone genesis frequency due to improper simulation of monsoon system**
Yi-Peng Guo
Nanjing University

M18-2-057 **Diagnostic metrics for evaluating climate model simulations of the East Asian monsoon**
Kang-Jin Lee
APEC Climate Center

M18-2-058 **Enhanced BSISO Northward Propagation and Its Impact on East Asian Climate in GloSea6**
Gayoung Kim
APEC Climate Center

M18-2-059 **Do CMIP6 HighResMIP Models Perform Better for the Global Monsoon?**
Jun Chiang
University of Taipei

M18-2-060 **Influences of the Indian Ocean SST on the Indian Summer Monsoon and its Seasonal Predictability: Case Study for the years 1997 and 1972**
Chul-Su Shin
GMU/COLA

[M19] Understanding and Modeling of Weather and Geophysical Extremes and Related Complex Risks

Thursday, 24 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

M19-3-028 **Impact of Climate Change on Atmospheric Rivers Over East Asia**
Tae-Jun Kim
National Institute of Meteorological Sciences

M19-3-029 **Modelling the Impact of Climate Change on Tick Abundance and Tick-Borne Disease Transmission**
Praise-God Madueme
IBS Center for Climate Physics

M19-3-030 **Attribution and Projection of 2020 summer-like hot-wet compound extremes in East Asia using large-ensemble regional climate simulations**
Chae-Yeon Shim
Division of Environmental Science and Engineering,Pohang University of Science and Technology,Pohang,Korea

[M20] High resolution modelling of regional and local climate

Tuesday, 22 July 2025, 17:00 - 18:30

Convention Hall 3F, C301

M20-1-107 **Characteristics of the mesoscale convective system based on convection-permitting simulations of heavy precipitation in Korea**

Eun-Soon IM

Division of Environment and Sustainability,The Hong Kong University of Science and Technology,Hong Kong,China

M20-1-108 **Methodological approach for generating high-resolution urban climate scenarios using WRF-UCM and LCZ classification: insights from Seoul**

Min-Hae Kim

National Institute of Meteorological Science

[M21] Earth-Atmosphere interaction and Boundary Layer Processes

Tuesday, 22 July 2025, 17:00 - 18:30

Convention Hall 3F, C301

M21-1-104 **Biophysical and biochemical temperature change under future SSP scenarios**

Jooyeop Lee

Yonsei University

M21-1-105 **Temperature characteristics of ABL at Zhongshan Station, Antarctica observed by MTP**

Enbo GE

Chinese Academy of Meteorological Sciences

[JMP02] Machine Learning in atmospheric, ocean and earth-system prediction: forecasting, simulation and scientific analysis

Tuesday, 22 July 2025

Convention Hall 3F, C301

JMP02-1-031 **DEEP LEARNING-BASED MESOSCALE OCEAN EDDY DETECTION IN THE BAY OF BENGAL**

Saurabh Rathore

Centre For Atmospheric Sciences,IIT Delhi,New Delhi,India

JMP02-1-032 **Forecasting the Fog: Machine Learning and Meteorological Drivers of Delhi's Air Pollution**

Pavan Kumar

Rani Lakshmi Bai Central Agricultural University

JMP02-1-033 **Regional ocean circulation predictions by Fourier Neural Operator for the East/Japan Sea**
Bataa Lkhagvasuren
Chonnam National University

JMP02-1-034 **Skillful seasonal prediction of Afro-Asian summer monsoon precipitation with a merged machine learning and large ensemble approach**
Yanyan Huang
Nanjing University of Information Science and Technology

JMP02-1-035 **Evaluation of XBT Observation Sensitivity in the East Sea Using 4D-Variational Method**
Dong-Heon Seong
Department of Mathematics,Pusan National University

JMP02-1-036 **Importance of Atlantic sea surface temperature to Arctic sea ice variability revealed by deep learning**
Yanqin Li
Ocean University of China

JMP02-1-037 **Evaluation and Development of Taiwan CorrDiff Regional Climate Downscaling Emulator**
Jr-Ben Tian
National Taiwan Normal University

JMP02-1-038 **Deep-learning-based Urban Microclimate Framework using Multi-GPU Simulation**
Jungwoo Kim
School of Mathematics and Computing (Computational Science and Engineering),Yonsei University

JMP02-1-039 **HYDRO: Hybrid Deterministic-Residual Diffusion Framework for Precipitation Nowcasting**
Jungho Im
Ulsan National Institute of Science and Technology

JMP02-1-040 **Assimilation of Snow Variables over the Tibetan Plateau Using Satellite Data and the JULES Land Surface Model**
MIN SON
UNIST

[JMP03] High-impact Weather and Climate Extremes

Tuesday, 22 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

JMP03-1-041 **Global Impact Assessment of Climate Change on Future Aviation Operations**
Joon Young KWAK
KAIST

JMP03-1-042 **Diurnal Characteristics and Long-Term Changes of Extreme Precipitation in the Republic of Korea (1973-2022)**
Do-Hyun Kim
National Institute of Meteorological Sciences (NIMS)

JMP03-1-043 **Comparative Validation of GPM IMERG V07B and V06B Using Ground-Based Radar Data Across Diverse Geographic Locations**
Sihan Zhang
Ocean University of China,Qingdao,China

JMP03-1-044 **Projected Ocean Warming Intensifies Temperature Extremes?in?the Upper Ocean**
Eun-Byeol Cho
Center for Climate Physics,Institute for Basic Science (ICCP),Busan,South Korea

JMP03-1-045 **Classification of Synoptic Patterns during Summer Heavy Rainfall Events over the Korean Peninsula**
Ju Heon Kim
Pukyong National University

JMP03-1-046 **Influence of the previous North Atlantic Oscillation (NAO) on the spring dust aerosols over North China**
Yan Li
Lanzhou University

JMP03-1-047 **Projection of extreme precipitation induced by Arctic amplification over the Northern Hemisphere**
Jun Liu
Key Laboratory for Semi-Arid Climate Change of the Ministry of Education,College of Atmospheric Sciences,Lanzhou University

JMP03-1-048 **Timing of carbon neutrality and its effects on climate extremes in East Asia**
Su-Jeong Kang
National Institute of Meteorological Sciences,Climate Change Research Team,Korea,Republic of

JMP03-1-049 **Classification of Climate Zones and Future Projections in South Korea Using High-Resolution Scenarios**
Jin-Uk Kim
National Institute of Meteorological Sciences

JMP03-1-050 **Synergy between Heatwaves and Urban Heat Island in Three Major Cities of Taiwan**
Chu-Yi Chang
Department of Atmospheric Sciences,National Taiwan University

JMP03-1-051 **Regional Influences on the Temporal Evolution of the 2020 East Asian Monsoon: A Replay Experiment Analysis**
Geonhee Bak
UNIST

JMP03-1-052 **Deep Learning Model for Predicting Sub-Seasonal Extreme Rainfall**
Miae Kim
APEC Climate Center

JMP03-1-053 **Projection of Climate Impact on Thermal Stress Risks in Korea Using High Resolution Scenarios**
Jae-Hee Lee
National Institute of Meteorological Sciences (NIMS)

JMP03-1-054 **Change in Mid-latitude weather extreme induced by Climate engineering**
Dahye Go
Ewha Womans University

JMP03-1-055 **Nonlinear increase of compound drought-heatwave events in recent decades**
Yong-Jun Kim
Hanyang University

JMP03-1-056 **Reducing the Underestimation of Eastern North Pacific Atmospheric River Forecasts through Radio Occultation Data**
Hsu-Feng Teng
National Taiwan University

JMP03-1-057 **Changes in Lake-Effect Snow Across the Great Lakes Revealed Using Dynamically Downscaled Climate Simulations**
Zachary Lebo
University of Oklahoma

[JMP04] Antarctic Bottom Water formation, variability and trends

Tuesday, 22 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

JMP04-1-083 **Generation of eddies and its role in the transformation of Dense Shelf Water into Antarctic Bottom Water off Cape Darnley**
Masashi Machida
Graduate School of Environmental Science,Hokkaido University

[JMP05] Variability and change in Pacific Ocean-Atmosphere system

Tuesday, 22 July 2025, 17:00 - 18:30

Convention Hall 3F, C301

JMP05-1-084 **Emerging human-induced changes in Southern Hemisphere ocean surface wind speed**
Yitong Xie
Ocean University of China

JMP05-1-085 **Deep reaching wave energy-flux in the off-equatorial central and western regions of the Pacific Ocean during the El Nino and La Nina events**
Borui Wu
Graduate School of Environmental Studies,Nagoya University

JMP05-1-086 **AIncreasing climate model resolution benefits Subantarctic Mode Water simulation**
Jingjie Yu
Frontier Science Center for Deep Ocean Multispheres and Earth System and Physical Oceanography Laboratory,Ocean University of China,Qingdao,China

JMP05-1-087 **Significant winter Atlantic Nino effect on ENSO and its future projection**
Jae-Heung Park
Seoul National University

JMP05-1-088 **Interaction between the tropical Indo-Pacific Climate Modes unraveled through a simple model framework**
Hyo-Jin Park
Department of Atmospheric Sciences,Yonsei University,Seodaemun-gu,Seoul,Republic of Korea

JMP05-1-089 **Seasonal Prediction of Spring Drought over Northeast China**
Wanying Sun
Nanjing University of Information Science & Technology

[JMP06] Advancing air-sea flux process understanding across diverse conditions

Thursday, 24 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

JMP06-3-062
Development of the Atmosphere-Ocean-Wave Coupled Model in the Korean Integrated Model (KIM)
Yong-Jae Han
KIAPS

JMP06-3-063
Quantifying the physical fluxes of manganese and iron in the Southern Ocean: Implications for iron-manganese co-limitation
Thapelo Ramalepe
Southern Ocean Carbon Climate Observatory

JMP06-3-064
An observation of the swell impact on the development of the wind-sea and the distortion of the vertical wind profile
Masanori Konda
SACRA,Kyoto University

[JMP07] Past climate changes and their relevance for the future

Thursday, 24 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

JMP07-3-066
Distinct responses of Asian summer monsoon circulation and precipitation to orbital forcing during six Heinrich events
Zhipeng Wu
Earth and Climate Research Center,Earth and Life Institute,Université catholique de Louvain,Louvain-la-Neuve 1348,Belgium

JMP07-3-068
Comparison of Arctic and Southern Ocean sea ice between the last nine interglacials and the future
Zhipeng Wu
Earth and Climate Research Center,Earth and Life Institute,Université catholique de Louvain,Louvain-la-Neuve,Belgium

JMP07-3-069
Late Holocene interannual climate variability in Botswana
Nitesh Sinha
Center for Climate Physics,Institute for Basic Science,Busan,Republic of Korea,46241; Pusan National University,Busan,Republic of Korea,446241

JMP07-3-070
Inter-crystalline nanoporosity triggering Aragonite to Calcite phase transformation
Anupam Samanta
Center for Climate Physics Institute for Basic Science Busan Republic of Korea 46241; Pusan National University Busan Republic of Korea 46241

JMP07-3-071 **Synchronous antiphase rainfall patterns in the tropical South Pacific during the Last Glacial Period: Evidence from the speleothem paleoclimate record.**

Gavin Holden
School of Geography,Environment and Earth Sciences,Victoria University of Wellington,Wellington,New Zealand.

JMP07-3-073 **Regional disparities in climatic impacts on rice production in Java, Indonesia: a 30-year analysis of precipitation and temperature variability**

Rika Reviza Rachmawati
NATIONAL RESEARCH AND INNOVATION AGENCY

JMP07-3-074 **Modelling the response of the South Pacific Convergence Zone to AMOC variability during the Last Glacial period**

Susan B. I. Al-Hafid
School of Geography,Environment and Earth Sciences,Victoria University of Wellington,Wellington,New Zealand.

JMP07-3-076 **Mechanisms of 400-kyr variability in climate and carbon during the Plio-Pleistocene**

Jyoti Jadhav
IBS Center for Climate Physics

JMP07-3-077 **Assessing the Uniqueness of the Current Warm Period in the Context of Millennial-Scale Climate Variability: Insights from Climate Proxy Records Over the Past Two Millennia**

Feng Shi
Institute of Geology and Geophysics,Chinese Academy of Sciences

JMP07-3-078 **Effects of CO2 level increase on APRP summer cloud characteristics in the Arctic region: Insights from the Eocene DeepMIP ensemble**

Igor Niezgodzki
Institute of Geological Sciences PAS

[JMP09] El Niño/Southern Oscillation and its Global and Regional Impacts

Wednesday, 23 July 2025, 17:00 - 18:30

Convention Hall 3F, C301

JMP09-2-031 **Interdecadal changes of ENSO spatio-temporal characteristics in the perspective of Recharge Oscillator theory**
Ruihuang Xie
Ocean University of China

JMP09-2-032 **On the spatial double peak of the 2023-24 El Nino event**
Xin Geng
Nanjing University of Information Science & Technology

JMP09-2-033 **Investigating decadal variations of the seasonal predictability limit of sea surface temperature in the tropical Pacific**
ZHAOLU HOU
Ocean University of China

JMP09-2-034 **Changing ENSO by climate engineering in CESM2 stratospheric aerosol injection experiment**
Jungeun Lee
Ewha Womans University

[JMP10] Ocean-Atmosphere Mechanisms of Climate Variability, Change and Predictability

Thursday, 24 July 2025, 17:00 - 18:30

Convention Hall 3F, C301

JMP10-3-079 **Wintertime Cold Air Outbreaks over the Northwest Pacific: A Lagrangian Climatology and Their Downstream Impacts**
Ayako Yamamoto
J. F. Oberlin University

JMP10-3-080 **Dynamics of the summertime waveguide teleconnection along the Eurasian polar-front jet and its influence on East Asian climate**
Saori Sakai
The University of Tokyo

JMP10-3-081 **Seasonal Variations in Dynamically Induced Surface Air Temperature Associated with the Atlantic Multidecadal Oscillation**
Dajeong Jeong
Ewha Womans University

JMP10-3-083 **Multi-centennial climate change in a warming world beyond 2100**
Sun-Seon Lee
IBS Center for Climate Physics

JMP10-3-084 **Estimating the decadal?scale climate predictability limit using nonlinear local Lyapunov exponent with optimal local dynamic analogues**
Ruize Li
College of Oceanic and Atmospheric Sciences,Ocean University of China

JMP10-3-085 **Weakening of the North Atlantic Oscillation under global warming in atmospheric large ensemble simulations**
Takashi Kawamura
Research Center for Advanced Science and Technology,the University of Tokyo

[JMC12] Multi-scale processes of hydrological cycles and impacts of the climate change

Thursday, 24 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

JMC12-3-041 **The potential impact of the enhanced spring vegetation growth on the summer land dryness over South Korea in recent decades**
Min-Seok Kim
Department of Environment,Energy & Geoinformatics,Sejong University,Seoul,South Korea

JMC12-3-042 **Change and Attribution of Frost Days and Frost-free Periods in China**
Luanxuan Zhu
Beijing Normal University

JMC12-3-043 **Intensifying Summer Drying Patterns across East Asia: Distinct Mechanisms between Southeastern China and the Yellow Sea Region**
Go-Un Kim
Korea Institute of Ocean Science and Technology

JMC12-3-044 **Analysis of regional energy consumption in Korea during heatwave period using Energy Plus model simulation**
Hyomin Kang
Major of Environmental Atmospheric Sciences,Division of Earth Environmental System Science,Pukyong National University

JMC12-3-045 **Deep Learning-Based Short-Term Weather Forecasting and Optimal Data Quantity Analysis for Urban Air Mobility**
Hyeyeong Kim
Pukyong National University

[JMC13] Tropical-polar interactions under rapid climate change: Processes and influences

Thursday, 24 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

JMC13-3-046
Tropical Atlantic - North Pacific Teleconnection
Weihan Ma
Institute of Atmospheric Physics,Chinese Academy of Sciences

JMC13-3-047
Modulation of the impact of winter-mean warm Arctic-cold Eurasia pattern on Eurasian cold extremes by the subseasonal variability
Minghu Ding
State Key Laboratory of Disaster Weather Science and Technology,Chinese Academy of Meteorological Sciences,China

[JMC14] Climate Change in the Polar Regions: Observing, Modelling and Predicting High Impact Transitions

Thursday, 24 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

JMC14-3-050
Unprecedented Antarctic Sea Ice Decline in 2023 and Its Link to Asymmetric Zonal Pressure Patterns
Yehyun Kim
Division of Environmental Science and Engineering,Pohang University of Science and Technology,Pohang,Korea

[JMCP18] Sub-seasonal to Decadal Prediction (S2S-S2D)

Thursday, 24 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

JMCP18-3-086
Improvement of Seasonal Soil moisture Forecasts using Multi-Model Ensemble Forecast products
Chanhyuk Choi
Department of Environmental Energy,Sejong University,Seoul,South Korea

JMCP18-3-087
Analysis of S2S Prediction Skill Based on Ensemble Generation Methods of the KMA's Climate Prediction System (GloSea6)
Heesook Ji
National Institute of Meteorological Sciences / KMA

JMCP18-3-088
Implementation and consistency assessment of the NIMS/KMA Decadal Prediction System (DePreSys4)
Minah Sun
National Institute of Meteorological Sciences

JMCP18-3-089 **BGC-Argo data assimilation: tuning and testing using a one-dimensional model**
Hakase Hayashida
JAMSTEC

JMCP18-3-090 **Analysis of Decadal Prediction System (DePreSys4) Results Using the Initial Conditions from the KMA Climate Prediction System (GloSea6)**
Inyong Jeong
NIMS (National Institute of Meteorogical Sciences)

JMCP18-3-120 **Assessment of 2024 annual forecast from NIMS/KMA Decadal Prediction System (DePreSys4)**
Soyeon Kim
NIMS (National Institute of Meteorogical Sciences)

[JMCP19] Biogeochemical interactions across the atmosphere-ice-ocean interface

Tuesday, 22 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

JMCP19-1-115 **Organic Pollutants in the Sea Surface Microlayer of the Seto Inland Sea: Identification of Organic Pollutants by Non-target Analysis**
Ziyue Qiu
School of Integrated Arts and Sciences,Hiroshima University

JMCP19-1-116 **Aerosol Nutrients Deposition and Its Implication on Ocean Biogeochemistry: A Case Study in the Subtropical Western North Pacific.**
Cheng Yi Tey
Graduate School of Integrated Sciences for Life,Hiroshima University,Higashi-Hiroshima,Japan

JMCP19-1-117 **Seasonal variations in the sources of atmospheric organic aerosols in northern Greenland**
Yuzo Miyazaki
Institute of Low Temperature Science,Hokkaido University

[JMCP20] Responses of Antarctic ice shelves to changing atmospheric and oceanic forcing

Wednesday, 23 July 2025, 17:00 - 18:30

Convention Hall 3F, C301

JMCP20-2-121

Impact of atmospheric forcing uncertainties on sea ice simulations in CMIP6 OMIP models

Xia Lin

Nanjing University of Information Science and Technology

JMCP20-2-122

The tidal simulation of high-resolution ocean model in the Ross Sea

Yue Xia

School of Atmospheric Sciences,Sun Yat-sen University; Southern Marine Science and Engineering Guangdong Laboratory (Zhuhai)

JMCP20-2-123

On the Mechanisms of Ross Sea Shelf Water Masses Variability Impacting the Basal Mass Balance of the Ross Ice Shelf

Liangjun Yan

School of Marine Sciences,Sun Yat-sen University

Poster Session : IAPSO

[P01] **General Topics in Oceanography (physics and biogeochemistry)**

Tuesday, 22 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

P01-1-001
Predicting the settling velocity of atmospheric particle in sea water: based on the interpretable machine learning model
Huiwang Gao
College of Environmental Science and Engineering竊뗉cean University of China

P01-1-002
The Argo data in ocean climatologies: a comparative analysis
Pedro Vélez-Belchí
Instituto Español de Oceanografía

P01-1-003
In Search of the FAIR Principles at IEOOS
Elena Tel
Spanish Institute of Oceanography (IEO-CSIC)

P01-1-004
Modelling Acoustic Scattering Response of Various Marine Organisms
Silvia BLANC
(RETIRED)Acoustic Propagation Department,Argentinian Navy Research Office (DIIV);UNIDEF (National Council of Scientific and Technical Reserch-Ministry of Defense

P01-1-006
Phytoplankton Diversity and Derived Chlorophyll-a Responses to Tropical Cyclones
Joonwoo Lee
Yonsei University,Korea,South

P01-1-007
The Sensitive Area for Targeting Observations of Mesoscale Eddies Associated With Sea Surface Height Anomaly Forecasts
Lin Jiang
Shandong University

P01-1-008
Artificial Intelligence for Sea Level Change Assessment: Observational and Reanalysis Insights from the East Sea and East China Sea (1993-2023)
MyeongHee Max Han
Korea Institute of Ocean Science and Technology

P01-1-009
The Fate of the Pacific Equatorial Under Current
Alexander Forryan
University of Southampton

P01-1-010

The path of Mediterranean Outflow Water in the North Atlantic detected by Argo floats

Enrico Zambianchi
Dept. of Earth Sciences - Sapienza University of Rome, Italy

[P02] Physics and Biogeochemistry of Semi-Enclosed, Shelf Seas and Coastal Zones

Tuesday, 22 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

P02-1-011

Impact of Temperature and Stratification, Modulated by Warming Tsushima Warm Current, on the Spatiotemporal Distribution of Picoplankton in the Northern East China Sea

Yoonja Kang
Department of Ocean Integrated Science, Chonnam National University, Yeosu, Republic of Korea

P02-1-012

Automated Detection of Drifting Seaweed in the East China Sea Using Multispectral Satellite Imagery

KAI HSIANG NG
Kagoshima University

P02-1-013

Two years of glider survey experience on the Ross Sea continental shelf (Antarctica)

Giannetta Fusco
University Parthenope of Naples

P02-1-014

Long-term variability and trends of Mediterranean Water Outflow from multi-platform observations

Giannetta Fusco
University of Naples Parthenope

P02-1-015

The Role of the Kuroshio and Yellow Sea subsurface cold water in oceanic responses to the large-sized Typhoon Hinnamnor (2022)

Hyojeong Lee
Pusan National University

P02-1-016

Axis Shifts of the East Korea Warm Current off Pohang in Summer 2023: Characteristics and Causes

jimin Choi
Department of Oceanography, Pukyong National University, 45 Yongso-ro, Nam-gu, Busan 48513, Republic of Korea

P02-1-017

Influence of the Yellow Sea Warm Current on the distribution pattern of the Yellow Sea Bottom Cold Water

Jiuk Hwang
Pusan National University

P02-1-019 **Sequential Evolution of Changjiang Diluted Water and Its Impact on Stratification and Phytoplankton Blooms in the East China Sea during Summer 2020**
Seung-Woo Lee
Korea Institute of Ocean Science & Technology

P02-1-021 **Residual overturning circulation and associated water-mass transformation in the East/Japan Sea**
Yujin Kim
Yonsei University

P02-1-022 **Long-term changes in the circulation and characteristics of the deep waters in the Ulleung Interplain Gap of the East Sea**
Hojun Lee
Republic of Korea Naval Academy

P02-1-023 **The evolving deep waters of the Western Mediterranean: observations from before, during and after the Western Mediterranean Transition (WMT)**
Katrin Schroeder
CNR ISMAR

[P05] Regional ocean modelling

Wednesday, 23 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

P05-2-065 **Intercomparison and Ensemble of Coastal Ocean Prediction Models in Japan: A Case Study in the Goto-nada**
Teiji In
Japan Marine Science Foundation

P05-2-066 **Accelerating Ocean Modelling: principles and practices for expediting configuration generation using NEMO**
Jeff Polton
National Oceanography Centre,UK

P05-2-067 **Analysis of the Origin and Variability of the Jeju Warm Current using Three-Dimensional Numerical Simulations**
Amirhossein Maktabi
Chonnam National University

P05-2-068 **Enhancing Coastal Current Predictions in Yeosu-Gwangyang Bay Using MOM6 and Coastal Acoustic Tomography Data Assimilation**
Nayoung Park
Division of Earth Environmental System Science,Pukyong National University

P05-2-069

High-Resolution Regional Simulation of Submesoscale Dynamics in the East/Japan Sea Using GFDL MOM6

Hae In Kim
Pukyong National University

P05-2-070

Evaluating the subsurface water mass of an eddy-resolving northwestern Pacific nested ocean model (NWPAC10)

Sang-Yeob Kim
Korea Institute of Ocean Science & Technology

[P06] Physical, Biogeochemical and Climate-Relevant Processes in the Southern Ocean through Observations, Theory, State Estimation, Modeling

Tuesday, 22 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

P06-1-024

Simulating the influence of grounding giant iceberg D15 on sea ice and polynyas with a sea ice-ice shelf-ocean numerical model of the Prydz Bay, Antarctica

Jiuxin Shi
Ocean University of China

P06-1-025

Reconstructing Global 3D Chlorophyll-a Using Physics Reanalysis and Profile Classification with Satellite and BGC-Argo data

Haneul CHO
Ulsan National Institute of Scienece and Technology

P06-1-026

Rafting of Growing Antarctic Sea Ice Enhances In-Ice Biogeochemical Activity in Winter

Riesna R. Audh
Department of Oceanography,University of Cape Town,Rondebosch,South Africa

P06-1-027

Building an observational estimate of subpolar gyre strength

Julia Neme
Australian National University

P06-1-028

Quantifying Eddy Heat Fluxes in the Lee of the Southeast Indian Ridge

Kathleen Donohue
University of Rhode Island

[P07] Thermophysical and chemical properties of Seawater

Wednesday, 23 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

P07-2-071 **Advancing calibration practices for total dissolved inorganic carbon measurements in seawater: Insights from an IAPSO Best Practice Study Group**
Steffen Seitz
Physikalisch-Technische Bundesanstalt

[JPM01] Interdisciplinary Tsunami Science

Tuesday, 22 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

JPM01-1-030 **Comparative analysis of the 2004 and 2005 tsunamis in the Indian Ocean: Statistical parameters, spectral properties and energy decay**
Alisa Medvedeva
Shirshov Institute of Oceanology,Russian Academy of Sciences,Moscow,Russia

[JPM02] Ocean dynamics and climate variability in the North Pacific

Thursday, 24 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

JPM02-3-091 **Comparison of Measurements from Pressure-recording Inverted Echo Sounders and Reanalysis Products in the North Equatorial Current region of the Western Pacific**
Chanhyung Jeon
Department of Oceanography,Pusan National University,Busan,Republic of Korea

JPM02-3-092 **Long-term variability and trend of the temperature in the Korea Strait (1982-2023)**
Suna Cho
Seoul National University

JPM02-3-093 **Decadal SST Variability in the East Asian Marginal Seas over Recent Decades: Warming, Hiatus, and Reacceleration**
Hyung Ju Park
Seoul National University

JPM02-3-094 **Enhanced North Pacific Victoria mode in a warming climate**
Ruiqiang Ding
Beijing Normal University

JPM02-3-095 **Identification of double diffusion and its seasonal variability in the East Sea**
Woo Jin Lee
Department of Ocean Sciences,Inha University,Incheon 22212,Republic of Korea

JPM02-3-096 **Decadal variability of Korea Strait transport and its connection to the source water masses in an eddying climate model**
Hyeju An
Center for Climate Physics,Institute for Basic Science,Busan,Republic of Korea

JPM02-3-097 **Summer surface warming driven by?the?strong El Nino in?the?South China Sea**
Qin-Yan LIU
South China Sea Institute of Oceanology

[JPM03] Ocean and climate seamless forecasting

Thursday, 24 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

JPM03-3-098 **Uncoupled vs. Coupled Models: A Comparative Study of Future Tropical Cyclone Intensity**
Ger Anne Marie Duran
Typhoon Research Center,Jeju National University,Jeju,Republic of Korea

[JPM04] Indian Ocean Sciences

Thursday, 24 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

JPM04-3-099 **Observations of the Seychelles-Chagos Thermocline Ridge Upwelling in the Western Tropical Indian Ocean during 2019-2024**
Suyun Noh
Korea Institute of Ocean Science & Technology

JPM04-3-100 **Future Indian Ocean Warming**
Sahil Sharma
IBS Center for Climate Physics, Pusan National University

JPM04-3-101 **Spatial Distribution and Isotopic Signatures of Dissolved and Particulate Organic Carbon in the Western Indian Ocean**
Sujin Kang
Korea Institute of Ocean Science and Technology,Busan,49111,South Korea

JPM04-3-102

Quantitative Analysis of Water Mass Distribution in the Western Indian Ocean Using Nutrient Tracers

DongYoub Shin
Departmant of Oceanography,Pusan National University

JPM04-3-103

Assessing Anthropogenic Carbon Through Stable Carbon Isotope Distribution of Dissolved Inorganic Carbon in the Western Equatorial and Subtropical Indian Ocean

Jisoon Lee
Department of Oceanography,Pusan National University,Busan,South Korea

JPM04-3-104

Extreme Suppression of Upwelling in the Seychelles-Chagos Thermocline Ridge: Role of Downwelling Rossby Waves

Eunsun Lee
eoul National University

JPM04-3-105

Physical connection between the tropical Indian Ocean tripole and western Tibetan Plateau surface air temperature during boreal summer

Mian Zhu
Ocean University of China

JPM04-3-106

Spatial characteristics of mesozooplankton communities and environmental drivers in the western Indian Ocean along 65°E meridional line

Hyeon Kim
1 Korea Institute of Ocean Science and Technology; 2 University of Science and Technology

[JPM05] Heatwaves in the atmosphere and ocean

Thursday, 24 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

JPM05-3-109

Unveiling the role of South Tropical Atlantic in winter Atlantic Nino inducing La Nina

Xin Wang
State Key Laboratory of Tropical Oceanography,South China Sea Institute of Oceanology,Chinese Academy of Sciences

JPM05-3-110

Interactions Between Marine Heatwaves, Terrestrial Heatwaves, and Typhoons: A Case of Compound Extreme Events in Summer 2018

Saranya JS
School of Earth and Environmental Sciences,College of Natural Sciences,Seoul National University,Seoul,Republic of Korea

JPM05-3-111

Different Characteristics of Two Types of Prolonged Heat Waves in South Korea

Minjeong Cho
Ewha Womans University

[JPC06] Understanding and predicting the Arctic Ocean and Sea Ice states: Insights, Challenges, and Future Directions.

Thursday, 24 July 2025, 17:00 - 18:30

Convention Hall 3F, C301

JPC06-3-113 **Freshwater Input climatology in the Baffin Bay and Labrador shelf and its interannual anomalies**

Vigan Mensah
Institute of Low Temperature Science,Hokkaido University,Japan

[JPCM07] Turbulence, Internal Waves and Mixing on all scales

Wednesday, 23 July 2025, 17:00 - 18:30

Convention Hall 3F, C301

JPCM07-2-126 **Spatiotemporal Variability of Vertical Turbulent Diffusivity in the Southwestern East Sea (Japan Sea)**

Sihyeong Kim
School of Earth and Environmental Sciences,Seoul National University,Republic of Korea

JPCM07-2-127 **Tidal mixing and Antarctic Bottom Water production and export**

Nancy Lucà
Università Ca' Foscari Venezia

JPCM07-2-128 **Structure of the thermocline near the western boundary of the Pacific Ocean shown by observation data and the Munk model**

Takao Ima-Izumi
JMA

JPCM07-2-129 **Diapycnal-isopycnal mixing modulates thermocline renewal in the subtropical North Atlantic**

Espe Broullón Mandado
Ocean and Earth Sciences,University of Southampton

JPCM07-2-130 **Spatiotemporal Variability of the Decay Timescale of Near-Inertial Oscillations in the East Sea (Japan Sea)**

Dongho Kim
School of Earth and Environmental Sciences,Seoul National University,Republic of Korea

JPCM07-2-131 **How climate change will impact internal wave mixing around New Zealand ? The I-Mix project**

Erik Behrens
National Institute of Water and Atmospheric Research

JPCM07-2-132 **Relating surface signatures to modeled turbulence dynamics in open channel flow**
Boqi Tian
Applied Physics Lab,University of Washington

JPCM07-2-133 **Impact of the waves and corresponding parameterization on the mean state and variability of sea surface temperature in a climate model**
Taek-bum Jeong
IBS Center for Climate Physics

[JPCM08] Impacts of climate change on the ocean

Wednesday, 23 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

JPCM08-2-136 **Prey capture dynamics of Weddell seals in the Amundsen Sea, Antarctica: Insights from seal-borne CTD data**
Ji-Yeon Cheon
Division of Glacier and Earth Sciences,Korea Polar Research Institute

JPCM08-2-137 **Classification of Seal-CTD profiles using machine learning approaches in the Ross Sea, Antarctica**
Hyunjae Chung
Division of Glacier and Earth Sciences,Korea Polar Research Institute,Incheon,Republic of Korea

JPCM08-2-139 **Climate-Driven Biogeochemical Shifts in the North Pacific Subtropical Gyre Under Idealized Global Warming**
Naito Tsubasa
University of Toyama

JPCM08-2-140 **High-resolution dynamical downscaling for predicting regional sea-level changes on the Southeast Asian Seas**
Byoung Woong An
Centre for Climate Research Singapore

JPCM08-2-141 **Analysis of future changes in surface ocean pH around the Korean Peninsula using CMIP6 model results**
Jisun Kim
NIMS

JPCM08-2-142 **Mobile elements landscape of intergenerational plasticity to ocean acidification in reef fish**
Taewoo Ryu
Okinawa Institute of Science and Technology

[JPCM10] The interactions between atmosphere-ocean-cryosphere in recent Antarctic climate change

Thursday, 24 July 2025, 17:00 - 18:30

Convention Hall 3F, C301

JPCM10-3-132 **Ocean Soundscapes in Antarctica's Amundsen Sea: Insights from Long-Term Passive Acoustic Monitoring**

Sukyoung Yun
Korea Polar Research Institute

JPCM10-3-133 **Interannual variation of modified Circumpolar Deep Water intrusions into Prydz Bay in austral summer**

Yongming Sun
Ocean University of China

JPCM10-3-134 **Changes in Antarctic Shelf-Deep Ocean Exchange in the Ross Sea under Increased Atmospheric CO_2 conditions: Insights from High-Resolution CESM Simulations**

Jaemin Ju
Seoul Nationa; University

Poster Session : IACS

[C01] **Advances in Remote Sensing of the Cryosphere**

Wednesday, 23 July 2025, 17:00 - 18:30

Convention Hall 3F, C301

C01-2-091

A novel approach for monitoring ice sheet surface elevation changes induced by subglacial lake activities in Antarctica using altimetry-assisted DDInSAR

Taewook Kim
Kangwon National University

C01-2-092

Classification of Southern Yakutia icing using index images

Elizaveta Nikolaeva
Melnikov Permafrost Institute of the Siberian Branch of the Russian Academy of Sciences

C01-2-093

Monitoring Arctic Sea Ice Using a Practical Approach with Advanced AI and Satellite Synthetic Aperture Radar

Seung Hee Kim
Korea Polar Research Institute

C01-2-094

Quantifying the degree of sea ice fragmentation by developing index using remote sensing data

Woohyeok Kim
Ulsan National Institute of Science and Technology

C01-2-095

Antarctic sea ice changes in response to amtmosheric blocking

Zheng Yu
Institute of Oceanology

C01-2-096

Assimilation of multichannel passive microwave data for improved estimates of snow microstructure

Melody Sandells
Northumbria University

C01-2-097

Geothermal heat flow models for ISMIP7 ? Recommendations for Antarctica & Greenland

Felicity S. McCormack
Institute for Marine and Antarctic Studies,University of Tasmania,Hobart,Australia; School of Natural Sciences (Physics),University of Tasmania,Hobart,Australia; Australian Centre for Excellence in Antarctic Science,Australia

[C02] Advances in Sea Ice Forecasting and Modelling

Thursday, 24 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

C02-3-031
Numerical study on variability in the Antarctic Sea Ice: Contributions of atmospheric and oceanic forcings
Deahyuk Kim
Center for Sea-Level Changes,Jeju National University

C02-3-032
From Trends to Predictions: A Time-Series Approach to Sub-Seasonal Arctic Sea Ice Prediction
Ha-Rim Kim
Ewha Womans University

[C03] Modelling and observations of snow processes

Tuesday, 22 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

C03-1-121
Shear strength tests of artificial surface hoar layers of different sizes grown using a circuit wind tunnel
Toshihiro Ozeki
Korea Polar Research Institute

C03-1-122
Impact of anomalously high sea surface temperatures on wet heavy snowfall in Aomori, Japan, during the 2024/2025 winter season
Kenta Tamura
National Research Institute for Earth Science and Disaster Resilience

C03-1-123
A GNSS-based approach to estimate roof snow load and its verification: a case study in Niigata, Japan
Sojiro Sunako
Snow and Ice Research Center, National Research Institute for Earth Science and Disaster Resilience

[C05] Cryospheric biogeochemical cycles and environmental effects

Tuesday, 22 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

C05-1-124
Natural and anthropogenic factors exacerbating mercury contamination in the Qilian Mountain Rivers: A threat to water resources
Junming Guo
Key Laboratory of Cryospheric Science and Frozen Soil Engineering,Northwest Institute of Eco-Environment and Resources,Chinese Academy of Sciences

C05-1-126 **Nutrients in the Subsurface Layer of the Laptev Sea: Impact of Kara Sea Shelf Water**
Andrey Andreev
V.I. Ilichev Pacific Oceanological Institute FEB RAS,Vladivostok,Russia; Melnichenko Foundation,Moscow,Russia

C05-1-127 **Optical characteristics of dissolved organic matter as indicators of water dynamics on the Arctic shelf**
Svetlana Pugach
V.I. Il'ichev Pacific Oceanological Institute FEB RAS,Vladivostok,Russia; Melnichenko Foundation,Moscow,Russia

C05-1-128 **Helium and neon Isotopes in methane-enriched waters on the shelves of the Laptev and the East Siberian Seas**
Anatoly N. Salyuk
V.I. Il'ichev Pacific Oceanological Institute FEB RAS,Vladivostok,Russia; Melnichenko Foundation,Moscow,Russia

C05-1-129 **Dynamics Of Dissolved CH4 Concentrations In The Surface Water Of Russian Arctic Seas And Great Siberian Rivers – Ob And Lena.**
Arkadiy Kurilenko
Il'ichev Pacific Oceanological Institute,Far East Branch,Russian Academy of Sciences,690041 Vladivostok,Baltiiskaya St. 43,Russia; Melnichenko Foundation,Moscow,Russia

C05-1-130 **Structure and inter-annual variability of the plume Lena river in the Laptev and East-Siberian Seas**
Eduard Spivak
Il'ichev Pacific Oceanological Institute,Far Eastern Branch Russian Academy of Sciences; Melnichenko Foundation,Moscow,Russia

C05-1-131 **Differences in permafrost environment and methane bubble release in three distinct areas in the Kara, Laptev and East ? Siberian seas**
Anna Domaniuk
V.I. Il'ichev Pacific Oceanological Institute Far Eastern Branch Russian Academy of Sciences,Vladivostok,Russia; Melnichenko Foundation,Moscow,Russia

C05-1-132 **Multiyear variability of rising bubbles release area, detected on shallow water East Siberian Arctic Shelf in 2007**
Denis Chernykh
V.I. Il'ichev Pacific Oceanological Institute Far Eastern Branch Russian Academy of Sciences,Vladivostok,Russia; Melnichenko Foundation,Moscow,Russia

C05-1-133 **Summertime dynamics of dissolved carbon and CO2 fluxes in the Great Siberian Rivers**
Irina Pipko
V.I. Il'ichev Pacific Oceanological Institute FEB RAS,Vladivostok,Russia; Melnichenko Foundation,Moscow,Russia

C05-1-134 **Fate and variability of elemental-isotopic and molecular composition of terrestrial organic carbon of suspended particulate matter and bottom sediment in the East Siberian Sea**
Oleg Dudarev
V.I. Il'ichev Pacific Oceanological Institute Far Eastern Branch Russian Academy of Sciences,Vladivostok,Russia; Melnichenko Foundation,Moscow,Russia

C05-1-135 **Carbon dynamics under melting cryosphere and warming climate over the Tibetan Plateau**
Yulan Zhang
NIEER,CAS

[C07] Glaciers, glacial lakes and water resources in High Mountain Asia

Wednesday, 23 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

C07-2-098 **Dynamically constrained steady-state mass balance of Trambau Glacier, Eastern Nepal Himalaya**
Sojiro Sunako
Snow and Ice Research Center,National Research Institute for Earth Science and Disaster Resilience (NIED)

C07-2-099 **Spatio-temporal evolution of glaciers in the Tarim River Basin: synergistic drive of climate and human activities**
Yongwei Su
Shihezi University,school of science

C07-2-101 **Glacier distribution, changes and the influence of debris in the Aksu river basin, Tianshan central Asia**
Qibin Liang
Northwest Normal University

C07-2-102 **Hydrological Simulation and Prediction of the Northern Slope of Tianshan Mountains in the 21st Century**
Weibo Zhao
Northwest Institute of Eco-Environment and Resources,Chinese Academy of Sciences; University of Chinese Academy of Sciences

C07-2-103 **Variations and future projections of glacial discharge of Urumqi River Headwaters, eastern Tien Shan (1980se2017)**
Hui Zhang
Northwest Institute of Eco-Environment and Resources,Chinese Academy of Sciences

C07-2-104 **Study on the form and degree of capturing climate change signals by glacier changes**
Huilin LI
NIEER,CAS

C07-2-107 **Hydrological control of the surging behaviour of the Ghujerab River Head Glacier, Karakoram (2019?2023): Insights from high-temporal-resolution remote sensing monitoring**
Jianxin Mu
Northwest Institute of Eco-Environment and Resources,Chinese Academy of Sciences

C07-2-108 **Impacts of glacier shrinkage on peak melt runoff at the sub-basin scale of Northwest China**
Min Xu
Key Laboratory of Cryospheric Science and Frozen Soil Engineering,Northwest Institute of Eco-Environment and Resources,Chinese Academy of Sciences

C07-2-109 **Hydrological response to climate change in a glacierized catchment in eastern Tien Shan, Central Asia**
Yufeng Jia
Northwest Institute of Eco-Environment and Resources,Chinese Academy of Sciences

C07-2-110 **Recent summer heatwaves force extreme glacier melt in China**
Chunhai Xu
Northwest Institute of Eco-Environment and Resources,Chinese Academy of Sciences

[C08] Modelling and observations of glaciers and ice sheets

Tuesday, 22 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

C08-1-136 **A Comparative Study of Ice Shelf Damage Modeling Approaches in Antarctica**
Qingyun Long
Beijing Normal University

C08-1-137 **The continuous measurements and meteorological regime of the Elbrus Mountain glaciers**
Eugene Drozdov
Lomonosov Moscow State University

C08-1-140 **Developments of ice sheet model IcIES for Antarctic configuration**
Takashi Obase
Japan Agency for Marine-Earth Science and Technology

C08-1-141 **Developing coupled CESM1.2 climate model and Penn State University Ice Sheet Model**
Jun-Young Park
IBS Center for Climate Physics

[C13] Societal impacts of changing cryosphere and development of resilience pathways

Thursday, 24 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

C13-3-034
Water Resources and the Geopolitics of Alpine Glaciers' Retreat: The Challenges of Climate Change in Transboundary Basins
Songtao Li
East China Normal University

C13-3-035
Emergy-Based evaluation and public preferences for glacier ecosystem services: A case from the Tibetan Plateau
Can Zhang
School of Public Administration,China University of Geosciences (Wuhan),China

C13-3-036
Does cryosphere tourism can help alleviate the poverty of mountainous villages: a representative study in Sandagu Village of Tibetans in Amdo?
Jiansong Peng
Chengdu University of Technology

C13-3-037
Design of a Glacial Science Popularization and Research Study Curriculum for Secondary Schools: A Case Study of the
hui ze Xu, wei guo Zhou
East China Normal University, Qufu Normal University

C13-3-038
Transitions of water resource system resilience : a case study from Hexi inland river basins, Northwest China
Zhihan Zheng
State Key Laboratory of Earth Surface Processes and Resource Ecology,Beijing Normal University,Beijing 100875,China

C13-3-039
Increasing Extreme Heat Events in the Permafrost Region of the Northern Hemisphere
Haipeng Feng
State Key Laboratory of Earth Surface Processes and Resource Ecology,Beijing Normal University,Beijing,People's Republic of China

[JCM01] Coupling between the atmosphere and snow/ice surfaces: Observations and modelling

Tuesday, 22 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

JCM01-1-141
Exploration of heat transfer methods in polar snow using the Community Firn Model
Michael S Town
Earth and Space Research

JCM01-1-142

Improving Sea-ice Simulations through Modifications of Cloud Physics Processes in the Korean Integrated Model

Rae-Seol Park
Korea Institute of Atmospheric Prediction Systems (KIAPS)

[JCM02] Cryosphere changes and potential drivers in High Mountain Asia

Wednesday, 23 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

JCM02-2-111

The southward shift of subtropical westerly jet mitigates the glacier ablation in Pamir Plateau in 21st century

Jinping He
Shaanxi Normal University

JCM02-2-112

Operational monitoring of cryosphere changes in High Mountain Asia: Progress and Challenges

Lijuan Ma
National Climate Centre,China Meteorological Administration

JCM02-2-113

Dust storms increased the extreme precipitation over Pamirs Plateau

Xingli Mao
Shaanxi Normal University

JCM02-2-114

Observation-constraint occurrence probability of record events in streamflow in Pakistan

Hassan Raza
POSTECH

JCM02-2-115

Analytical Hydrologic Sensitivity of Pakistan to Climate Change

HyeongSeok Oh
POSTECH

[JCM03] Permafrost under changing climate

Tuesday, 22 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

JCM03-1-143

Radiocarbon Dates of Ground Ice in Central Yakutia, Russia: A Comparison Between Different Carbon Fractions

Go Iwahana
International Arctic Research Center,University of Alaska Fairbanks,Fairbanks

JCM03-1-144 **Near-surface ground ice distribution in Northern Hemisphere permafrost region**
Bingquan Wang
China University of Geosciences

JCM03-1-145 **High-resolution reconstruction of permafrost ground temperature from 1981 to 2022 using a physics-informed deep learning model**
Yibo Liu
Northwest Institute of Eco-Environment and Resources,Chinese Academy of Sciences

JCM03-1-146 **Impact of Soil Moisture Variations on Carbon Cycle in Permafrost Ecosystems under Climate Change**
Jin-Hyuk Mun
Seoul National University

JCM03-1-147 **Impacts of wildfires on permafrost and soil nutrients in the northern Da Xing'anling Mountains, Northeast China**
Xiaoying Li
State Key Laboratory of Cryospheric Science and Frozen Soil Engineering,Northwest Institute of Eco-Environment and Resources,Chinese Academy of Sciences

JCM03-1-148 **Revisiting a Method for Reconstructing Winter Paleotemperatures from Ice Wedges in Central Yakutia, Eastern Siberia**
Nayeon Ko
Seoul National University

JCM03-1-149 **Complex factors influencing greenhouse gas production in permafrost peatland soils: Insights from laboratory incubation experiments**
Eunji Byun
Yonsei University

[JCM04] Recent Advances in Ice Core Science

Wednesday, 23 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

JCM04-2-117 **Trace Element Analysis of a Mount Elbrus Ice Core: Sources, Composition, and Deposition Patterns**
Maria Vinogradova
Institute of Geography,Russian Academy of Sciences,Moscow 119017,Russia

JCM04-2-118 **Multi-parameter ice core analysis using the enhanced CFA System of KOPRI**
Chaewon Chang
Korea Polar Research Institute

JCM04-2-119 **Refinement of the Continuous Flow Analysis System to Determine Ammonium Ion in the Polar Ice Core and Its Performance Test**
Chaewon Chang
Korea Polar Research Institute

JCM04-2-120 **High-Resolution Methane and Ice Density Records from a Costal Ice Core: Insights into West Antarctic Accumulation Rate and Mass Balance**
Hyeongi Lee
Seoul National University

[JCP05] Ice sheet-ocean interactions and impacts

Wednesday, 23 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

JCP05-2-077 **Grounding Zone Processes and Ice Shelf Deformation at Thwaites Eastern Ice Shelf from ApRES Observations**
Clare Eayrs
Korea Polar Research Institute

JCP05-2-078 **Characteristics and distribution of glacial meltwater observed in summer 2020 near and off the Pine Island and Thwaites ice shelves, West Antarctica**
Joohyang Kim
School of Earth and Environmental Science,Seoul National University,Seoul,Republic of Korea

JCP05-2-079 **A Framework for Understanding Ice-Ocean iNteractions (FUSION) for Antarctica**
Felicity S McCormack
Securing Antarctica'snvironmental Future, School of Earth, Atmosphere and Environment, Monash University, Clayton, Kulin Nations, Victoria, Australia

JCP05-2-080 **Geometric feedback of Antarctic ice shelves in UKESM-ice sheets coupled runs**
Jing Jin
Department of Earth,Ocean and Ecological Sciences,University of Liverpool,Liverpool,UK

JCP05-2-081 **An improved parameterization for the simulation of freshwater discharge-driven basal melt rates for warm Antarctic ice shelves**
Hyoeun Shim
Dartmouth College

[JCP07] Remote Sensing of Sea Ice from Satellite Microwave Measurements and its Applications

Thursday, 24 July 2025, 17:00 - 18:30

Convention Hall 3F, C301

JCP07-3-115 **Evaluation of the OSI SAF Global Sea Ice Emissivity Product and Plans for Update**
Hoyeon Shi
Danish Meteorological Institute (DMI)

JCP07-3-116 **Combining Sea Ice, Ocean and Atmospheric Radiative Transfer Models for Passive Microwave Imagers**
André Emil Toft Jensen
Danish Meteorological Institute (DMI)

JCP07-3-117 **Constructing reference Antarctic sea ice concentration from Landsat-8**
Minjeong Im
Seoul National University

JCP07-3-118 **Machine Learning-Based Retrieval of Sea Ice Temperature Lapse Rate Using Microwave Observations**
Ji-Soo Kim
Seoul National University

JCP07-3-119 **Reference sea ice concentration data records from Landsat-8 imagery and its applications**
Sang-Moo Lee
SNU

[JCMP08] Connecting Polar to lower latitudes: A global perspective on climate change and impacts for Future Earth Strategies

Wednesday, 23 July 2025, 17:00 - 18:30

Convention Hall 3F, C301

JCMP08-2-082 **Changes in Atmospheric Engine Efficiency and Its Causes in the Northern Hemisphere**
Ji-Seon Oh
Kongju National University

JCMP08-2-083 **Attributing Greenland surface temperature anomalies to regional and remote processes**
Manuel Tobias Blau
Center for Climate Physics,Institute of Basic Sciences,Busan,South Korea Department of Climate System,Pusan National University,Busan,South Korea;

JCMP08-2-084 **The joint impacts of winter Arctic Oscillation and sea ice loss on the warming of Southwest China**
Rui LUO
Department of Atmospheric Sciences,Yunnan University,Kunming 650500,China

JCMP08-2-085 **Changes in long-term droughts and its impact on gross primary productivity**
Byeong-Hee Kim
POSTECH

JCMP08-2-086 **The Impact of the WPSH- Polar Vortex Relationship on Heat Extremes in East Asia**
Jingjing Lin
Lanzhou Regional Climate Center

JCMP08-2-087 **Impacts of Extreme Climate Conditions on Main Grain Yields in China, Japan and Republic of Korea**
Jieming Chou
Beijing Normal University

JCMP08-2-088 **A Connection from Arctic Stratospheric Ozone to El Nino-Southern Oscillation**
Fei Xie
BNU.Beijing

JCMP08-2-089 **Subseasonal Variability of West Antarctic Surface Air Temperature in Austral Summer**
Xinlu Chen
Sun Yat-sen University

[JCMP09] Ice sheet mass loss: A driver of sea level rise

Thursday, 24 July 2025, 17:00 - 18:30
Convention Hall 3F, C301

JCMP09-3-121 **Properties of Modified Circumpolar Deep Water near the Dotson Ice Shelf, West Antarctica: Comparison between 2022 and 2024 summers**
SeoYoung Kim
Future Innovation Institute,Seoul National University

[JCMP10] The atmosphere, cryosphere and oceans in Earth System Models

Thursday, 24 July 2025, 17:00 - 18:30

Convention Hall 3F, C301

JCMP10-3-122
Underestimated Atlantic Heat Transport and Its Influence on Arctic Ocean Structure and Sea Ice in CESM2
Jung Hyun Park
1. Division of Earth Environmental System Science,Major of Environmental Atmospheric Sciences,Pukyong National University,Busan 48513,South Korea

JCMP10-3-123
Implementation of implicit filter for spatial spectra extraction
Kacper Nowak
Alfred Wegener Institute

JCMP10-3-124
Development of KACEv2 and its Stabilization
Pil-Hun Chang
National Institute of Meteorological Sciences

JCMP10-3-125
Evaluation, and Improvement of the GRIMs-ESM : Focus on ENSO and East Asian climate Variability
Sung-Hyun Song
Hanyang Univ.

JCMP10-3-126
East Asian carbon cycle sensitivity in CMIP6 Earth system models
Yun-Soo Na
Hanyang University,ERICA

JCMP10-3-127
Atmosphere-Ocean Coupling in the KIM : Development and Evaluation
Eunjeong Lee
Korea Institute of Atmospheric Prediction Systems (KIAPS)

JCMP10-3-128
Evaluation of Ocean Model Results in the Coupled Korean Integrated Model
Subin Kim
KIAPS

JCMP10-3-129
Refining Sea Ice Dynamics in the Coupled Korean Integrated Model
Jin-Yun Jeong
Korea Institute of Atmospheric Prediction Systems (KIAPS)

JCMP10-3-130
Assessing the Impact of Freshwater Climate Data and Riverine Modeling on Ocean Simulations
Mee-Hyun Cho
KIAPS

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