Session19: Tropical-Polar teleconnection and Antarctic climate change

Two leading modes of Antarctic surface temperature and their contributions to Antarctic surface climate change

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Recent multi-decadal Antarctic surface climate change is clearly manifested by greater warming trends in the Antarctic Peninsula and West Antarctica, compared with East Antarctica. By using multiple observations and climate model simulations, we propose two leading modes of Antarctic surface temperature mainly contribute to the east-west asymmetric surface climate change. The first mode shows the surface temperature increase of the whole Antarctic continent, while the second mode displays the opposite temperatures between west and east Antarctica divided by the Transantarctic Mountains. The corresponding principle components from recent Antarctic surface temperature reconstruction dataset indicate that both modes become stronger during recent multi-decades, resulting in substantial warming over Antarctic Peninsular and West Antarctica and weak surface temperature change over east Antarctica. Additionally, long-term datasets show that global scale forcing factors have solid contribution to the first mode but little contribution to the second mode, suggesting that the current east-west asymmetry of Antarctic climate change can be natural origin.

Program at a glance

** Lunch will be not offered.*
** Program is subject to changed.*

Venue: 2F, GrandBallroom A | Room #302 | Room #306 | Room #305

July 19-20	July 21 (SUN)	Time	July 22 (MON)	Time	July 23 (TUE)	July 24 (WED)	July 25 (THU)	July 26 (FRI)	July 27-29
Pre-Field Trip (Gyeonggi-do)	Pre-Field Trip (Gyeonggi-do)	08:00-	Onsite Registration						Post-Field Trip (Jeju Island)
		09:00 -09:30	Opening Ceremony	09:00 -09:40	Plenary Lecture 03	Plenary Lecture 05	Plenary Lecture 07	Plenary Lecture 09	
		09:30 -10:10	Plenary Lecture 01	09:40 -10:20	Plenary Lecture 04	Plenary Lecture 06	Plenary Lecture 08	Plenary Lecture 10	
		10:10 -10:50	Plenary Lecture 02	10:20 -10:30	Coffee Break				
		10:50 -11:00	Coffee Break	10:30 -12:30	S05-I / S09 / S04-I / -	S17-I / S02-I / S20 / -	S14-I / S02-III / S23 / -	S11 / S15 / S26 / S21	
		11:00 -13:00	S01-I / S12-I / S19-I / -						
	Onsite Registration 13:00-17:00	13:00 -13:45	Lunch	12:30 -13:30	Lunch				
		13:45 -15:00	Poster Session 2F, Lobby	13:30 -15:00	Poster Session 2F, Lobby			-	
		15:00 -17:30	S01-II / S12-II / S19-II / S16	15:00 -17:30	S05-II / S18 / S04-II / S07	S17-II / S13 / S02-II / S06 / S22	S14-II / S02-IV / S08 / S10 / S24		
	-	17:30 -19:00	-	17:30 -18:30	-	-	-	Post-Field Trip (Jeju Island)	
	Welcome Reception KOPRI, 1F Lobby	19:00 -21:00		18:30 -20:30		Banquet Dinner Sheraton Grand Incheon Hotel, 3F GrandBallroom			

Session No	Session Title
S01	Geological History of Victoria Land: Reviews and New Findings
S02	Structure, evolution, and heterogeneity of Antarctica's continental lithosphere
S03	Interpretation of Observed Seismic and Acoustic Signals from the Solid Earth and the Cryosphere
S04	Antarctic Volcanism and Magmatism: Past, Present and Future
S05	The Neoproterozoic to Cambrian Orogenies and their precursors in Antarctica and adjacent continental blocks
S06	Antarctic geothermal heat flux
S07	Circum-Antarctic Gateways: formation, evolution and global implications
S08	Evolution of Antarctic topography and bathymetry: understanding links between erosion, deposition, isostasy and ice sheet behaviour
S09	Permafrost and Periglacial ice free areas in Antarctica
S10	Modern landscape change in Antarctic ice-free areas
S11	Applied bathymetry for understanding Quaternary history and change
S12	Geological records of ocean and ice sheet change from the Ross Sea
S13	Past Climate Variability of the Southern Ocean and its Global Teleconnections
S14	Marine sedimentary records of Antarctic ice-sheet dynamics and Southern Ocean history during the Late Cainozoic
S15	Ice core sciences and Ice chemistry
S16	Significance of Antarctic Inland Freshwater Bodies - Revealing Past Processes and Projecting Responses to Change
S17	Paleoenviromental changes in Antarctica and Southern Oceans since the last Glacial Maximum
S18	Antarctic sea ice variability and ice shelf processes
S19	Tropical-Polar teleconnection and Antarctic climate change
S20	Evolution of the biota of West Antarctica: a Gondwana perspective
S21	Geomicrobiology of Antarctica and Patagonia
S22	Emerging Frontiers in Satellite Remote Sensing and Geoinformation in Antarctic Earth Sciences: Cross-disciplinary Advances
S23	Advanced Technologies for Research and Operations in Polar Regions
S24	Earth science informing environmental management and policy
S25	Future opportunities for the exploration of Antarctic subglacial environments
S26	General Topics