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Southern Ocean Ice Conditions and Recent Trends

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23rd MEETING OF THE INTERNATIONAL ICE CHARTING WORKING GROUP

September 26-30, 2022 – Buenos Aires, Argentina

“Re-Connecting”

APPENDIX B – AGENDA AS PRESENTED

All times are local Buenos Aires – UTC-3

All times are local times

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MONDAY, SEPTEMBER 26		
Task Team Meetings – Open to all		
Local Time 08:30 – 09:00	Registration	
09:00 – 10:15	Concurrent Task Team Meetings – 1 st Session (open to all)	
	• Task Team 10 – DA Group Interaction	Dean Flett / Lars-Anders Breivik
	• Task Team 11 – Ice Analyst Workshop	Patrick Eriksson
	• Task Team 13 – Iceberg Model Case Studies	Keld Qvistgaard (for Mike Hicks)
10:15 – 10:45	Health Break	
10:45 – 12:00	Concurrent Task Team Meetings – 2 nd Session (open to all)	
	• Task Team 15 – Iceberg Hazard Product • Task Team 2021-4 – Iceberg Density Risk Based Product	Alex Hamel
	• Task Team 2021-2 – Enhanced Ice Information to Mariners and Maritime Training Centers	Keld Qvistgaard
12:30 – 13:30	Registration	
® Identifies presentations given remotely		
13:30 – 14:00	Official Meeting Opening	
	• Co-Chairs' Welcome & Opening Remarks	Marianne Thyrring (DMI) Russ White (ECCC)
	• Welcome from the Ministry of Defense	Ms. Daniela Castro - Secretary of Research, Industrial Policy and Production for Defense
	• Welcome from the Director of the Naval Hydrographic Service	Comodoro de Marina Valentín Sanz Rodríguez
	• Meeting Logistics	Alvaro Scardilli (SHN)
	• Participant Introductions	All – Roundtable
	• Adoption of Agenda	Co-Chairs
14:00 – 14:15	Invited Presentation	
	• UN Decade of Ocean Science for Sustainable Development	Ariel Hernán Troisi, IOC Chair
14:15 – 15:15	Update Reports from the Ice Services (part 1)	
	• Argentina – Alvaro Scardilli • Denmark – Greenland Ice Service – Søren Olufsen • Finland – Antti Kangas • Germany – Jürgen Holfort • Norway – Nick Hughes • United States (including NIC, IIP and Alaska)– Casey Gon	Ice Service Heads



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	<ul style="list-style-type: none"> British Antarctic Survey – Andreas Cziferszky Canada – John Parker 	
15:15 – 15:25	Poster Introductions (3 x 3 minutes each)	David Arthurs x 3
15:25 – 16:00	Health Break & Poster Session	
16:00 – 16:45	<p>® Update Reports from the Ice Services (part 2)</p> <ul style="list-style-type: none"> Australia – Jan Lieser Chile – Alejandro De La Maza Japan – Naoto Hori New Zealand – Megan Engleback South Africa – Marc de Vos Sweden – Lisa Lind 	Remote Ice Service Heads
16:45 - 17:15	Reports from Other Ice Working Groups	
	<ul style="list-style-type: none"> ® International Cooperative Engagement Program for Polar Research (ICE-PPR) 	Claire Wilson (USN-CNO)
	<ul style="list-style-type: none"> European Ice Services 	Søren Olufsen (DMI)
	<ul style="list-style-type: none"> North American Ice Service 	Marcus Hirschberg (IIP)
	<ul style="list-style-type: none"> U.S. Contributions to IABP / IPAB 	Ignatius Rigor (UWash)
	<ul style="list-style-type: none"> Antarctic Treaty Consultative Meeting and Baltic Sea Ice Meeting 	Jürgen Holfort (BSH)
	Report of the Secretariat	John Falkingham
17:15 – 17:20	Introduction of Proposed Press Release	Secretariat
17:20 – 17:30	END OF DAY 1	
18:30 – 20:30	Icebreaker Reception	Fragata Presidente Sarmiento Museum



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TUESDAY SEPTEMBER 27		
08:30 – 09:00	Registration	
09:00 – 12:00	Session 1: Ice Information in the Southern Ocean	
® 09:00 - 09:20	• Southern Ocean Ice Conditions and Recent Trends	Jan Lieser (BOM)
® 09:20 - 09:40	• Shipping Patterns in the Antarctic	Lisa Kelley (IAATO)
09:40 – 10:00	• Search & Rescue in the Antarctic	Capt. Carlos Recio (Arg Navy)
10:00 - 10:20	• Experience with SAOCOM L-Band SAR Data for Ice Charting	Constanza Salvó (SHN)
10:20 – 10:30	Poster Introductions (2 x 4 minutes each)	• Mariana Scilingo • Ignatius Rigor
10:30 – 11:00	Health Break & Poster Session	
11:00 – 11:20	• Southern Ocean Limit of Known Ice (SOLOKI) and the State of Southern Ocean Ice Information	Penny Wagner (MetNorway)
11:20 – 12:00	• Panel Discussion: Prioritizing Needs for Southern Ocean Ice Information ○ Panelists: ▪ Capt. Guillermo Palet (Argentine Navy) ▪ Alejandro de la Maza (SMA) ® ▪ Andreas Cziferszky (BAS) ▪ Erin Delaney (IAATO) ® ▪ Jan Lieser (BOM) ®	Moderator: Penny Wagner (MetNorway)
12:00 – 12:30	Invited Presentation	
	• Finding <i>Endurance</i>	Alexandra Stocker (Drift+Noise) / Marc de Vos (SAWS)
12:30 – 13:30	Lunch	
13:30 – 14:30	Session 2: Enhanced Ice Information to Mariners and Maritime Training Centers	
13:30 – 13:45	• Reports from Task Team 2021-2	Keld Qvistgaard (DMI)
13:45 – 14:00	• Promotion and integration of ice information on Polar Code courses	Bjørn Kay (SIMAC)
14:00 - 14:30	• Plenary Discussion: Future initiatives with Maritime Training Centers	Keld Qvistgaard (DMI)
14:30 – 15:00	Session 3: Ice Climatology Products	
14:30 – 15:00	• Plenary Discussion: Ice Climatology Product Standardization	Klaus Strübing (BSH-Ret)
15:00 – 15:10	Poster Introductions (2 x 4 minutes each)	• Walter Clark • Florence Fetterer
15:10 – 15:45	Health Break & Poster Session	
15:45 – 17:00	Session 4: Multi-Frequency SAR for Ice	
15:45 – 16:00	• ROSE-L Project Completion Report	Wolfgang Dierking (AWI/UiT)



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16:00 – 16:15	<ul style="list-style-type: none"> Alignment of L- and C-band Images – Recent status 	Leif Eriksson (Chalmers U.)
16:15 – 16:30	<ul style="list-style-type: none"> Towards Combining C- and L-band SAR Imagery for Automated Sea Ice Classification 	Johannes Lohse (UiT)
16:30 – 16:45	<ul style="list-style-type: none"> Assessment of Using C- and L-band SAR Imagery for Operational Ice and Iceberg Charting 	Keld Qvistgaard (DMI) / Nick Hughes (Met Norway)
16:45 – 17:00	<ul style="list-style-type: none"> Multi-SAR Intercomparison Task Update 	Alvaro Scardilli (SHN)
17:00 – 17:15	Daily Re-cap & Action Plan	Co-Chairs
17:15	END OF DAY 2	



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WEDNESDAY SEPTEMBER 28		
08:30 – 09:00	Registration	
09:00 – 12:30	Session 5: New Ice Information Products	
® 09:00 – 09:20	• Towards Harmonization of Future Sea-ice Pressure Products	Scott Weese (CIS)
09:20 – 09:40	• Iceberg Density Hazard Charts	Alex Hamel (IIP)
09:40 – 10:00	• Ice Forecasts	Sandra Barreira (SHN)
10:00 – 10:10	Poster Introductions (2 x 4 minutes each)	• Ashok Pandey • Alec Casey
10:10 – 10:45	Health Break & Poster Session	
® 10:45 – 11:05	• Recent Advances and Future Opportunities with Passive Microwave Missions: What you can and shouldn't expect	Thomas Lavergne (MetNorway)
11:05 – 11:25	• Automatic Sea ice Mapping for Navigation in Polar Areas with Satellite SAR images	Dmitrii Murashkin (DLR)
11:25 – 11:45	• Ice Edge Uncertainty Measures	Nick Hughes (Met Norway)
11:45 – 12:30	• User Panel: Ice Information Products: What is Needed? What is Missing? ○ Panelists: ▪ Pascale Bourbonnais (Fednav) ® ▪ Capt. Guillermo Palet (Argentine Navy) ▪ Trevor Hodgson (Canadian Coast Guard) ® ▪ Alexandra Stocker (Drift+Noise)	Moderator: Marcus Hirschberg (IIP)
12:30 – 13:30	Lunch	
13:30 – 15:00	Session 6: Advances in Ice Observation	
® 13:30 – 13:45	• ESA Programmes and Missions and Cooperation with the IICWG	Ola Gråbak (ESA)
® 13:45 – 14:00	• NISAR	Sean Helfrich (NOAA)
® 14:00 – 14:15	• Drone Technology for Icebreaking Operations	Trevor Hodgson (CCG)
14:15 – 14:30	• RCM and Earth Observation Services Continuity	Dean Flett on behalf of CSA
14:30 – 14:45	• SAOCOM 1 Constellation Contributions to Ice Environment Monitoring and Ocean Studies	Mario Camuyrano (CONAE)
14:45 – 15:00	• CHORUS - MDA's New Synthetic Aperture Radar (SAR) Satellite Mission	Gordana Vujanic (MDA)
15:00 – 15:15	Health Break	
15:15 – 18:00	Technical Tour – Icebreaker Almirante Irizar	
15:15 – 16:00	• Gather and travel by bus to dockside	
16:00 – 17:30	• Icebreaker tour	
17:30 – 18:00	• Return to Centro Naval by bus	



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19:30	No-Host Dinner - Rodizio Madero	<i>Av. Alicia Moreau de Justo 838</i>



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THURSDAY SEPTEMBER 29		
08:30 – 09:00	Registration	
09:00 – 12:30	Session 7: Automated Processes for Ice Service Operations: The Science	
® 09:00 – 09:20	• Sea ice detection from SAR using a Convolutional Neural Network (CNN) with Uncertainty	Andrea Scott (Univ Waterloo)
® 09:20 – 09:40	• Using Active Learning to Characterize Ice Types	Alexandra Darden (NIC)
09:40 – 10:00	• ESA Competition for Machine Learning for Sea Ice	David Arthurs (PolarView)
10:00 – 10:10	Poster Introductions (3 x 3 minutes each)	
10:10 – 10:45	Health Break & Poster Session	
® 10:45 – 11:05	• Icenet Deep Learning Sea Ice Forecasting System and Automatic Detection of SAR Imagery for Sea Ice	Martin Rogers (BAS)
® 11:05 – 11:25	• RRS Sir David Attenborough Digital Twin Project: Developments in Adaptive Route Planning	Jonathan Smith (BAS)
® 11:25 – 11:45	• e-GEOS Support for ARCSAR LIVEX (TBC) • Improving maritime situational awareness in the Arctic with COSMO-SkyMed constellation	Federica Pieralice (e-GEOS)
11:45 – 12:05	• Iceberg Drift Community Model	Philippe Lamontagne (CNRC)
12:05 – 12:30	• CIS RCM Compact Pol Field Validation	Benjamin Deschamps (CIS)
12:30 – 13:30	Lunch	
13:30 – 16:30	Session 8: Automated Processes in Ice Service Operations: The Practice	
® 13:30 – 13:50	• Seamless RADARSAT Constellation Mission Mosaics for CIS Operations and Public	Yi Luo (CIS)
13:50 – 14:10	• Automated Ship Removal Tool for Iceberg Products	Keld Qvistgaard (DMI)
14:10 – 14:20	• Automated Drawing of Ice Maps: The Missing Link?	Nick Hughes (Met Norway)
14:20 – 14:40	•	
14:40 – 15:30	Health Break & Poster Session	
15:30 – 16:30	Panel Discussion: Implementing Science Advancements in Ice Service Operations • Panelists: o Kevin Berberich (NIC) o Alvaro Scardilli (SHN) o Jens Jakobsen (DMI) o Benjamin Deschamps (CIS)	Moderator: A.J. Reiss
16:30 – 17:00	Open Meeting Summary and Close	
	• Comments on the Meeting Format and Content	



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	<ul style="list-style-type: none"> Suggestions for future meeting topics 	
	<ul style="list-style-type: none"> IICWG-XXIV Invitation 	
	<ul style="list-style-type: none"> Closing remarks from the Co-Chairs 	
END OF OPEN MEETING		
19:30 – 21:00	<i>Informal Meeting of Co-Chairs and Ice Service Heads to Prepare the Business Planning Session</i>	<i>Co-Chairs / Ice Service Heads</i>



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FRIDAY SEPTEMBER 30 IICWG Business Meeting For Ice Service Heads and Invited Guests		
09:00 – 10:30	Session 9: IICWG Collaboration	
09:00 – 10:00	<ul style="list-style-type: none"> WMO Expert Team on Maritime Safety Briefing on ETMS activities and other related WMO bodies Plenary Discussion: IICWG Issues and priorities for the SC-MMO and Expert Teams 	John Parker (CIS)
10:00 – 10:30	<ul style="list-style-type: none"> Polar View and the Ice Logistics Portal 	Andreas Cziferszky (BAS)
10:30 – 11:00	Health Break	
11:00 – 12:30	Business Plan for 2022-23	
	<ul style="list-style-type: none"> Complete, disband, refine, and create task teams Set overall work-plan guidance 	
12:30 - 13:30	Lunch	
13:30 – 14:00	Approval of Press Release	
14:00 – 14:30	Planning for IICWG-XXIV	
	<ul style="list-style-type: none"> Comments on the meeting format / suggestions for future Nominations for IICWG-XXIV Organizing Committee 	
14:30 – 15:00	Close of Business Meeting	Co-Chairs
	<ul style="list-style-type: none"> Final words and charge from Co-Chairs 	
END OF IICWG-XXIII		



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Posters

1. Florence Fetterer (National Snow and Ice Data Center): *“Simplified SIGRID-3 Ice Charts used for Research and Decision Making”*
2. Ashok Pandey (Massachusetts Maritime Academy): *“The Impact of Increased Ship Traffic in Bering Strait on Coastal Communities”*
3. Mariana Scilingo (Argentine Naval Hydrographic Service): *“Daily Sea Ice Forecast”*
4. David Arthurs (Polar View): *“The Newest Version of Polar TEP”*
5. David Arthurs (Polar View): *“Polar Voyage Planning Support”*
6. David Arthurs (Polar View): *“Advances in Fast-ice Monitoring”*
7. Ignatius Rigor (University of Washington) : *“Iceberg Tagging Experiment (ITEX) Update and Next Steps”*
8. Alec Casey (Canadian Ice Service): *“The Arctic Observing Mission: An overview and applications for Ice Services”*
9. Walter Clark (U.S. National Ice Center): *“The USNIC Interactive Multisensor Snow and Ice Mapping System (IMS): Assimilation of IMS Products into Numerical Models”*
10. Klaus Strübing (German Ice Service – ret): *“Drift of tabular iceberg A76A from calving into open water”*