



Polar Prediction Workshop 2018

7-8-9 May 2018

Agora Hydro-Québec, Montréal, QC, Canada

ppw2018.com

Monday, May 7

8:30 – 9:30 *Coffee & Registration*

9:30 – 9:40 Bruno Tremblay Welcome from organizers & objectives

9:40 – 9:50 Lawrence Hislop Welcome from CliC

SESSION 1: Trends in Observations (Chair: A. Tivy)

9:50 – 10:10 Muyin Wang Arctic sea ice extents, areas, and trends, revisited

10:10 – 10:40 Bruno Tremblay, Adrienne Tivy Last winter conditions

10:40 – 11:00 *Break*

SESSION 2: Processes (Chair: M. Bushuk)

11:00 – 11:20 Karen Smith The impact of stratospheric circulation extremes on minimum Arctic sea ice extent

11:20 – 11:40 Edward Blanchard-Wrigglesworth The role of persistence in sea ice predictability across GCMs

11:40 – 12:00 Matthieu Chevallier What predictability for polar sea ice at the sub-seasonal time scale?

12:00 – 13:00 *Lunch (provided)*

SESSION 3: Forecasting Projects/Initiatives (Chair: C. Bitz)

13:00 – 13:20 Edward Blanchard-Wrigglesworth Sea Ice Outlook review

13:20 – 13:40 Nic Wayand A new Sea Ice Prediction Portal: year-round S2S sea ice forecasting

13:40 – 14:00 Gregory Smith Canadian contributions to the Year of Polar Prediction: deterministic and ensemble coupled atm.-ice-ocean forecasts

14:00 – 14:20 Axel Schweiger SIDFEx: The Sea Ice Drift Forecast Experiment

14:20 – 14:40 *Break*

SESSION 4: Sea-Ice Dynamics (Chair: S. Kamal)

14:40 – 15:00 Cecilia Bitz Coupled wave-ice interactions in the marginal ice zone in simulations with a floe-size distribution

15:00 – 15:20 Jean-François Lemieux Recent model developments for improving the simulation of landfast ice

15:20 – 15:40 Sukun Cheng Impact of sea ice sources on calibrating a wave-ice interaction model

SESSION 5: Posters

15:40 – 16:00 1-min/1-slide poster teasers

16:00 – 17:00 Poster session

17:00 – 20:00 *Cocktail*

Tuesday, May 8

8:30 – 9:00 *Coffee*

SESSION 6: Initialization (Chair: B. Casati)

- 9:00 – 9:20 Thomas Collow Overview of the CPC Sea Ice initialization System (CSIS) and its use in experimental sea ice forecasting at the NOAA Climate Prediction Center
- 9:20 – 9:40 Ed Blockley Improved seasonal forecasts of summer sea ice extent using assimilation of CryoSat-2 thickness
- 9:40 – 10:00 William Merryfield The importance of temporal consistency for sea ice initialization in seasonal forecasts: Lessons from CanSIPS

10:00 – 10:15 *Break*

SESSION 7: Sub-seasonal to Seasonal Forecasting (Chair: E. Blanchard-Wrigglesworth)

- 10:15 – 10:35 Hai Lin Sub-seasonal forecast skill over polar regions in three operational S2S Systems
- 10:35 – 10:55 Lorenzo Zampieri Seamless prediction systems prove potential for skillful Arctic sea-ice forecasts far beyond weather time scales
- 10:55 – 11:15 Wieslaw Maslowski Toward improved, internally consistent initial conditions for Arctic sea ice prediction at sub-seasonal to interannual time scales

11:15 – 11:30 *Break*

- 11:30 – 11:50 Sammy Kamal Sub-seasonal to seasonal forecasts of Arctic sea ice in 2017 and 2018 using Regional Arctic System Model (RASMI)
- 11:50 – 12:10 Michael Sigmond Skillful seasonal forecasts of Arctic sea ice retreat and advance dates in a dynamical forecast system
- 12:10 – 12:30 David Hebert Sub-seasonal polar forecasting using the U.S. Navy Earth System Model (NESM)

12:30 – 13:30 *Lunch (provided)*

SESSION 8: Regional Forecasting (Chair: E. Blockley)

- 13:30 – 13:50 Rubén Cruz-García An assessment of regional sea ice predictability in the Arctic ocean
- 13:50 – 14:10 Emily Niebuhr Sea ice predictability and the Alaska Sea Ice Program
- 14:10 – 14:30 Mitch Bushuk Regional Arctic sea-ice prediction: potential vs operational seasonal forecast skill

14:30 – 14:50 *Break*

SESSION 9: Stochastic & Statistical Methods (Chair: C. Panowicz)

- 14:50 – 15:10 Arlan Dirkson Multi-model calibrated probabilistic seasonal forecasts of regional Arctic sea ice coverage
- 15:10 – 15:30 Dmitri Kondrashov Data-driven stochastic prediction of regional Arctic sea ice extent

SESSION 10: Forecast Assessment

- 15:30 – 15:50 Barbara Casati Verification of sea-ice prediction by using distance measures
- 15:50 – 16:10 Hannah Director Spatiotemporal bias correction of sea ice forecasts

19:00 *Dinner at Kalbi*

Wednesday, May 9

8:30 – 9:00 *Coffee*

SESSION 11: Meeting the Needs of End-users (Chair: W. Merryfield)

- 9:00 – 10:20 David Fowler, Tim Keane, Panel & Discussion
Lawrence Hislop, Gilles Langis

10:20 – 10:40 *Break*

SESSION 12: Consensus Forecast Exercise (Chair: B. Tremblay)

- 10:40 – 11:00 Gilles Langis, Bruno Tremblay Review of last winter conditions & Submitted model forecasts
- 11:00 – 11:40 Breakout groups Adding expert input to model forecasts
- 11:40 – 12:20 Plenary discussion Reaching a consensus forecast, drawing from all breakout groups

12:20 – 12:30 *Closing Remarks*



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Posters

Monday May 7, 16:00-17:00

1. Auclair, Gabriel: The role of ocean heat transport on rapid sea ice declines in the Community Earth System Model Large Ensemble
2. Brunette, Charles: Winter preconditioning of the minimum sea-ice extent in the Laptev Sea
3. De Silva Liyanarachchi, Waruna Arampath: Short-term sea ice prediction for Arctic shipping
4. Gregory, Will: Using Complex Networks to Advance our Understanding of the Polar Climate System
5. Horvath, Sean: Understanding the Space-Time Variability and Predictability of Arctic Sea Ice Attributes
6. Liu, Yanyun: Multi-week prediction of Arctic sea ice in a coupled ocean-atmosphere model
7. Merryfield, William: Toward user-relevant monthly to seasonal forecasts of Arctic sea ice: The FRAMS project
8. Niraula, Bimochan: Role of wind stress in the partitioning of Ocean flux between Fram Strait and Barents Sea Opening gates
9. Plante, Mathieu: The stability of ice bridges using the Maxwell Elasto Brittle model
10. Shibley, Nicole: The Formation of Double-Diffusive Layers in a Weakly-Turbulent Environment

Presentations Guidelines

Posters

Poster dimensions should not exceed 3' x 4' (90 cm x 120 cm) and should be prepared in the vertical orientation. Participants are responsible for printing and hanging their posters at the number assigned to them on the poster list.

Poster presenters will also be invited to present a 1-slide 1-minute teaser for their poster before the poster session. Please send your slide (no animation) at ppw2018@googlegroups.com by Monday at noon, May 7th.

Oral presentations

The length of oral presentations is 20 minutes (15 min presentation + 5 min questions). Presentations can be uploaded in PDF or PowerPoint format. Please upload your presentation on the conference computer during the break before your session.

If you are submitting an early forecast for the consensus forecast exercises, please consider presenting your contribution during your talk.

Recording of the meeting

The meeting will be recorded and archived for later viewing on the conference website. If you do not wish to have your presentation recorded and shared, please let the organizers know in advance.