SIPN South

Coordinating Seasonal Predictions of Sea Ice in the Southern Ocean for 2017-2019

François Massonnet

Phil Reid, Jan Lieser, Cecilia Bitz, Will Hobbs, John Fyfe, Kazuya Kusahara
February Antarctic sea ice extent (NSIDC)

Feb. 2017 SIC anomalies
Elementary forecasts are not so useful
Antarctic sea ice prediction: an opening area of research

Source(s) of sea ice predictability:
- Trend
- Thickness (summer)
- Persistence (winter)
- Ocean (winter)

Skill of sub- to seasonal predictions:
- Marginal
- Intensive research ongoing

Large-scale atmospheric modes
- Winds
- Oceanic heat content
  ! Time-scale matters!

Unknown

Google Fight:
- "Arctic sea ice prediction": 7,090 results
- "Antarctic sea ice prediction": 7 results
SIPN: a hub for Arctic sea ice prediction since 2008

https://www.arcus.org/sipn
SIPN South: roadmap (2017-2019)

What is the ability of current prediction systems to forecast the seasonal evolution of circumpolar and regional Antarctic sea ice conditions?

Objectives of SIPN-South:
1. Be a focal point for Antarctic seasonal sea ice outlooks
2. Provide news and information on Antarctic sea ice
3. Coordinate a realistic prediction exercise in conjunction with YOPP-SH SOP (February 2019)

April 2017
- Finalize implementation plan
- Circulate draft to CliC, SIPN, SORP and other networks
- Request YOPP endorsement

March 2017

June 2017
- Request total Antarctic September sea ice extent through SIPN call
- Present project at the YOPP-SH meeting (Boulder, 28-29th June)

September 2017
- Develop simple website
- Participate to SIPN usual analyses
- Write Antarctic section in SIPN post-season report

October 2017
- Design simple summer 2018 experiment
- Call for contributions
- Analyse skill of summer forecasts

September 2019
- Post-prediction analysis
- Presentation at EGU
- Community paper

January 2019
- YOPP's Special Observing Period

June-Nov. 2018
- Design YOPP-SH experiment
- Collect forecasts
The first Antarctic sea ice outlook!

September Antarctic sea ice extent (1979-2016) (NSIDC, Data set G02135) and the 2017 SIPN forecasts

- Xingren Wu and Robert Grumbine
- Monica Ionita and Klaus Grosfeld
- Barthelemy et al.
- MPAS-CESM (Cavallo, Szapiro, and Skamarock)
- Dr Laura Davies
- CNRM (Chevallier et al)
- MetOffice
- The circumpolar sea ice extent as such has limited meaning
- Spread in forecasts is larger than historical range
SIPN South will

- Make an initial assessment of SH sea ice forecasts and their utility
- Mostly address sub-seasonal to seasonal time scales
- Be a hub for Antarctic sea ice prediction

SIPN South will probably not

- Deliver reliable information for the YOPP-SH Special Observing Period