19 March 2019 – YOPP-SH teleconference

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

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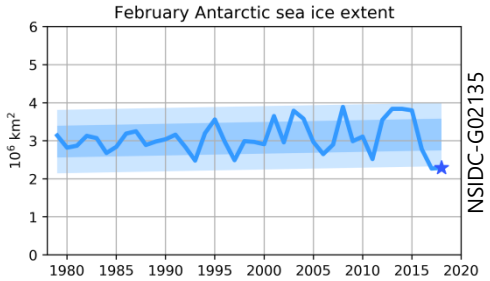
Coordinating Seasonal Predictions of Sea Ice in the Southern Ocean for 2017-2019

Scientific Question

How well do current prediction systems forecast the seasonal evolution of circumpolar and regional Antarctic sea ice conditions?

Implementation

- Focal point for Antarctic sea ice outlooks
- Forum for community and hub for discussions
- Support of the YOPP-SH Special Observing Period

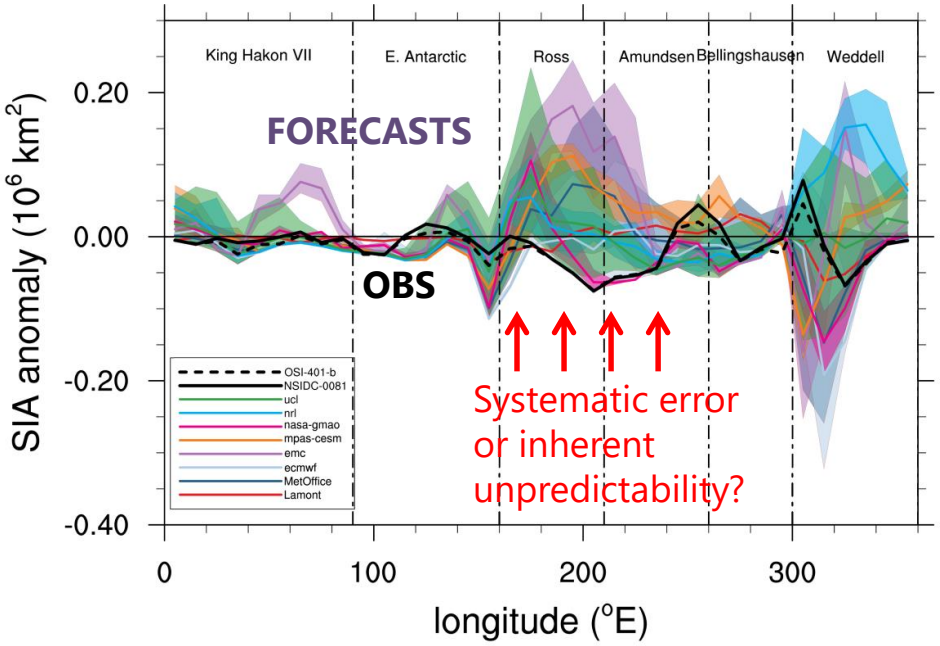


Summer sea ice extent variability has increased in recent years, and 2018 tracked record lows.

<u>A « dress rehearsal » was conducted</u>
A call for contributions for February forecasts was sent on November 15th, 2017. A total of **13 groups** contributed **160 forecasts**. These were compared against **two observational data sets.**

Predicting the **Ross Sea ice anomaly** proved to be **very challenging**.

Anomaly of February 2018 mean sea ice area (anomaly w.r.t 1979-2014 obs climatology), per longitude. Only 8 out of 13 groups contributed regional information

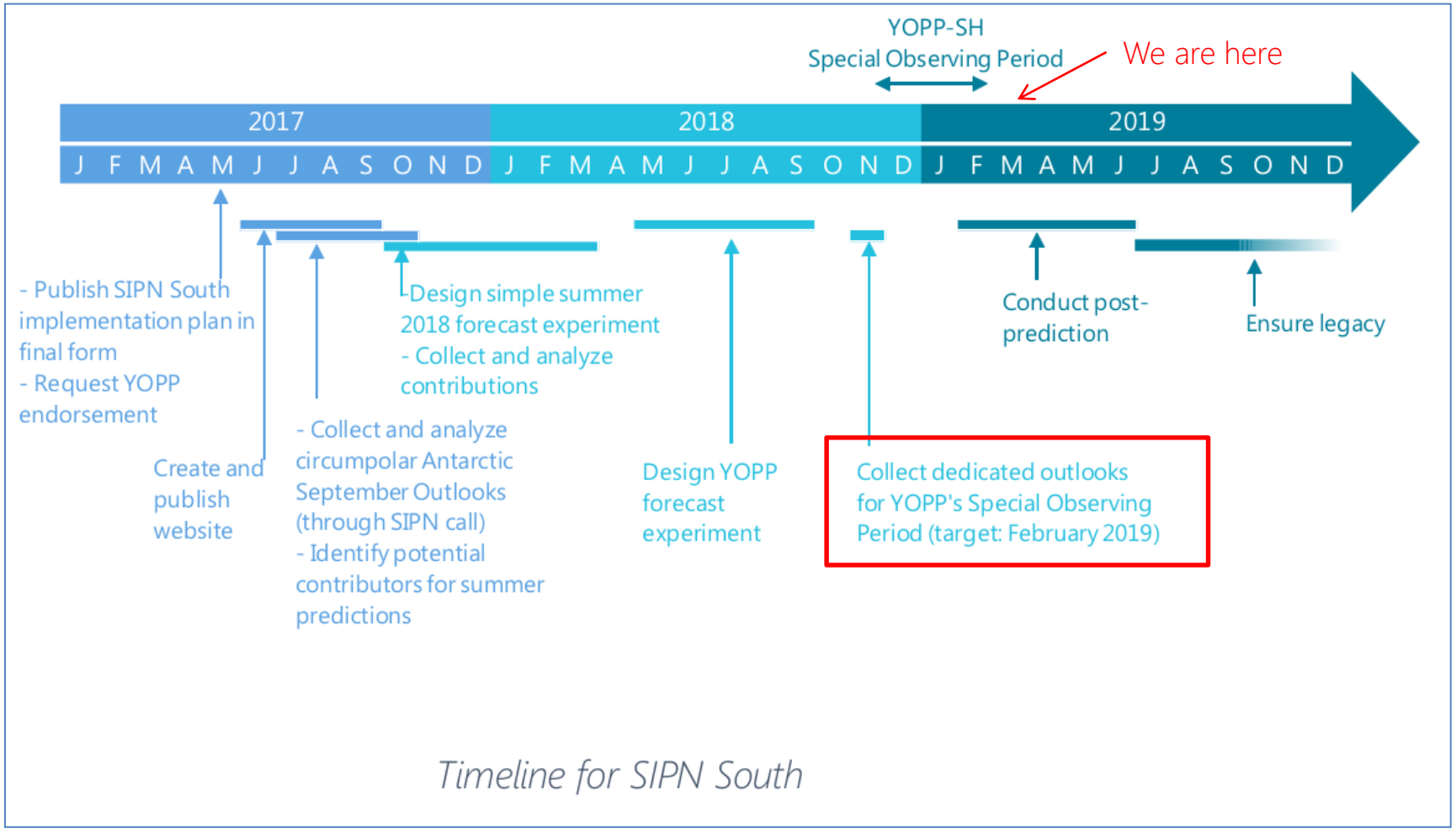


Want to contribute? More information? Feedback?

http://acecrc.org.au/sipn-south/ https://github.com/fmassonn/sipn-south-public francois.massonnet@uclouvain.be

Status of the project

From the implementation plan:



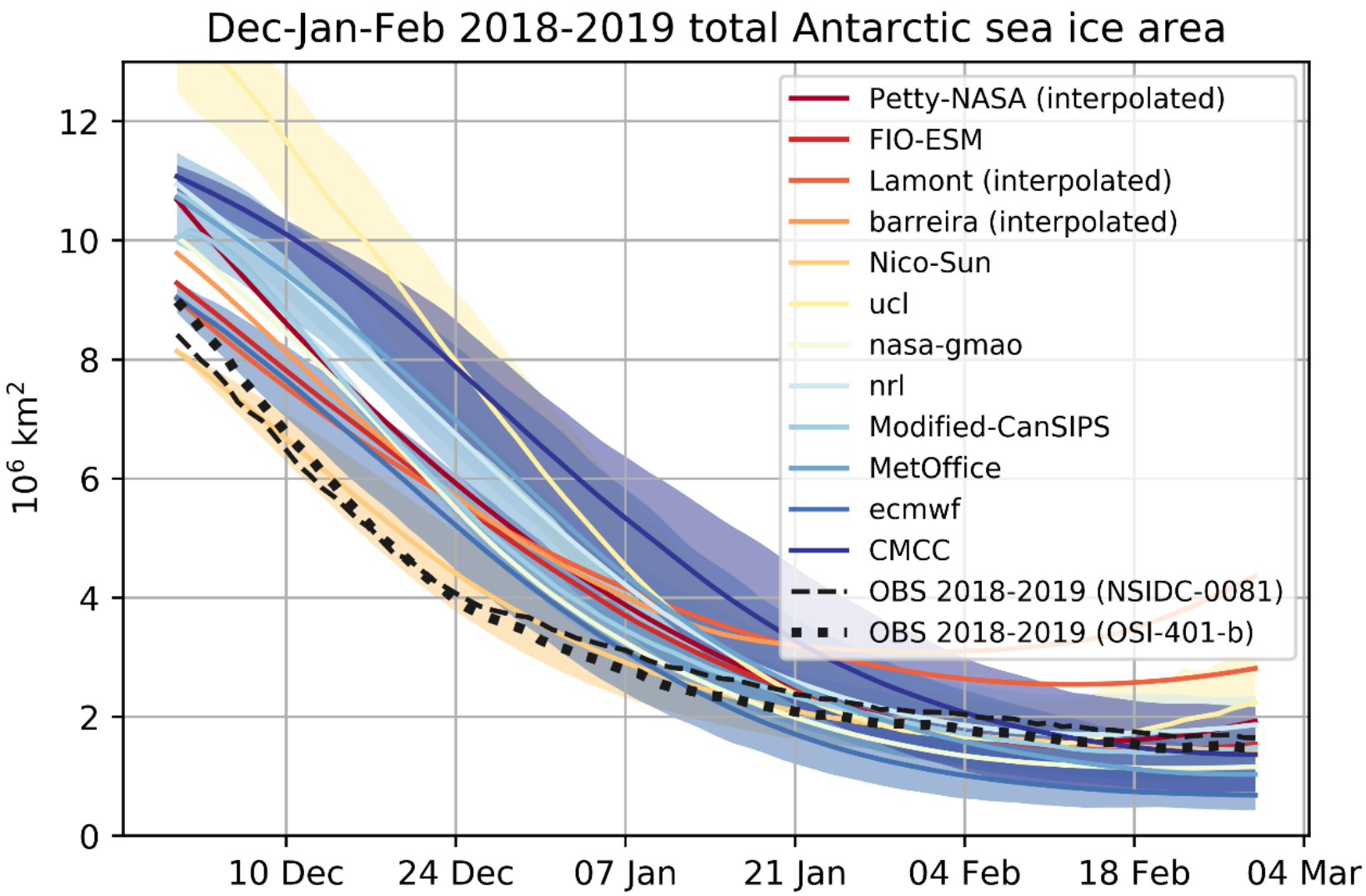
http://acecrc.org.au/sipn-south/

12 participants (13 last year) using a variety of methods

Table 1. Information about contributors to the summer 2018-2019 coordinated sea ice forecast experiment.

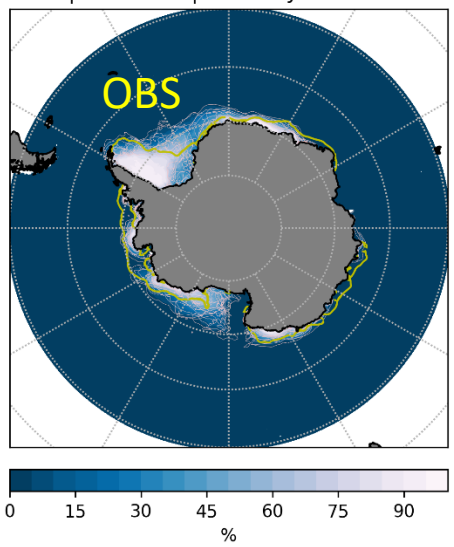
	Contributor name	*Short name (in figures)*	*Forecasting method*	*Nb. of forecasts*	*Initialization date*	*Diagnostics provided*
1	Naval Research Lab	nrl	Coupled dynamical model	9	Oct. 31st, 2018	SIA + rSIA + SIC
2	Nico Sun	Nico-Sun	Statistical model	3	Nov. 30th, 2018	SIA + SIC
3	NASA-GMAO	nasa-gmao	Coupled dynamical model	10	Nov. 27th, 2018	SIA + SIC
4	FIO-ESM	FIO-ESM	Coupled dynamical model	1	Nov. 1st, 2018	SIA
5	ECMWF	ecmwf	Coupled dynamical model	50	Dec. 1st, 2018	SIA + rSIA
6	Lamont Sea Ice Group	Lamont	Statistical model	1	Oct. 31st, 2018	SIA + rSIA + SIC (monthly, interpolated daily)
7	Alek Petty	Petty-NASA	Statistical model	1	Nov. 30th, 2018	SIA (monthly, interpolated daily)
8	Modified CanSIPS	Modified-CanSIPS	Coupled Dynamical Model	20	Nov. 30th, 2018	SIA
9	Met Office	MetOffice	Coupled Dynamical Model	42	Nov. 25th, 2018	SIA + rSIA + SIC
10	CMCC	CMCC	Coupled Dynamical Model	50	Nov. 1st, 2018	SIA
11	UCL	UCL	Ocean—Sea Ice Model	10	July 1st, 2018	SIA + rSIA + SIC
12	Sandra Barreira	Barreira	Statistical model	1	Dec. 1st, 2018	SIC (rSIA + SIA from SIC)

Post-season analysis is under way

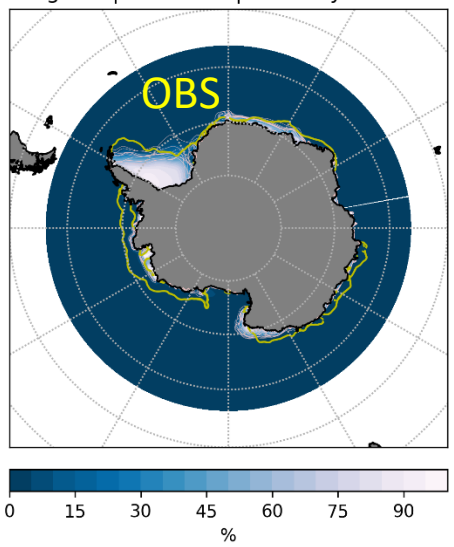


February 2019 monthly mean sea ice concentration

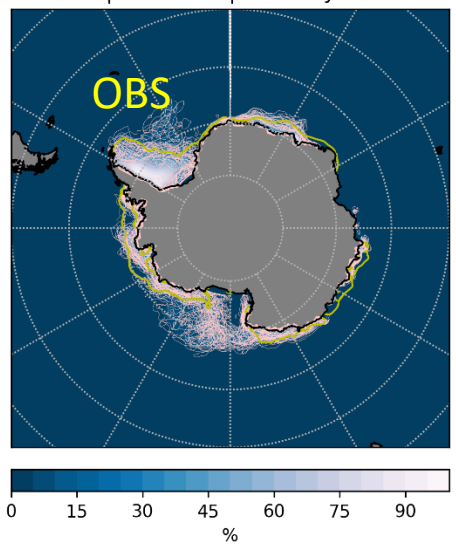
nrl | ens mean | February 2019 mean



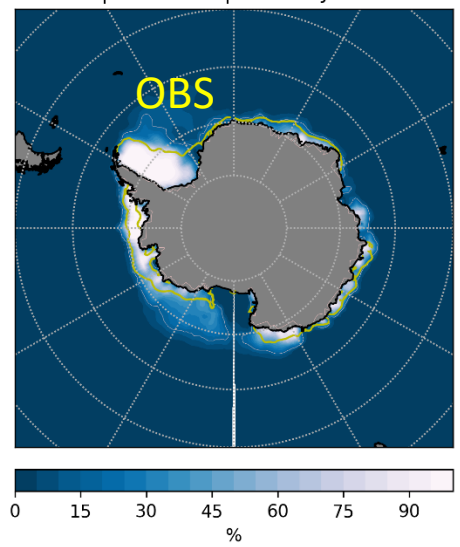
nasa-gmao | ens mean | February 2019 mean



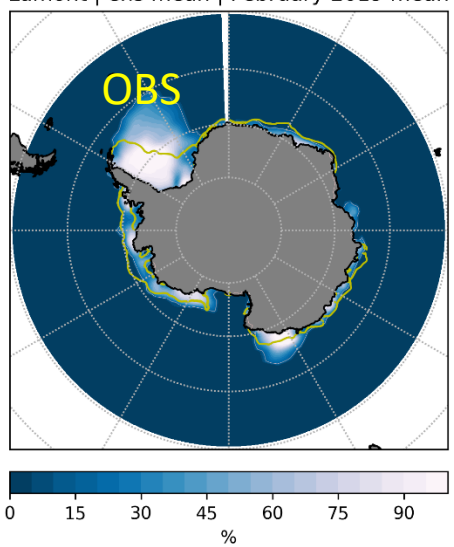
MetOffice | ens mean | February 2019 mean



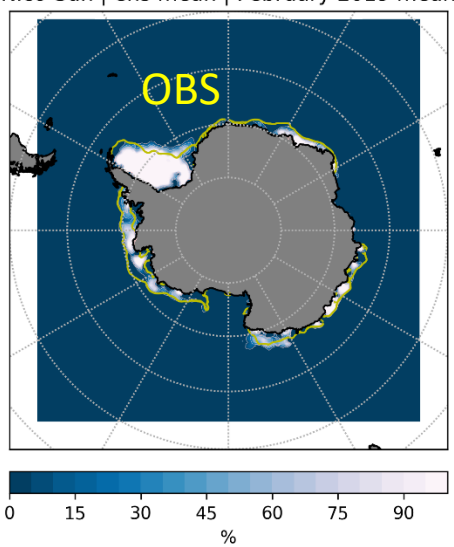
barreira | ens mean | February 2019 mean



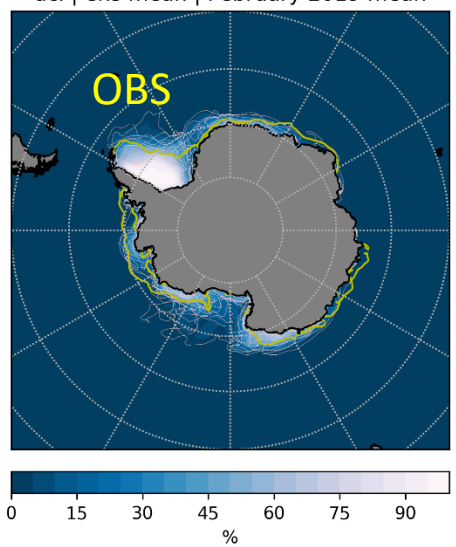
Lamont | ens mean | February 2019 mean



Nico-Sun | ens mean | February 2019 mean

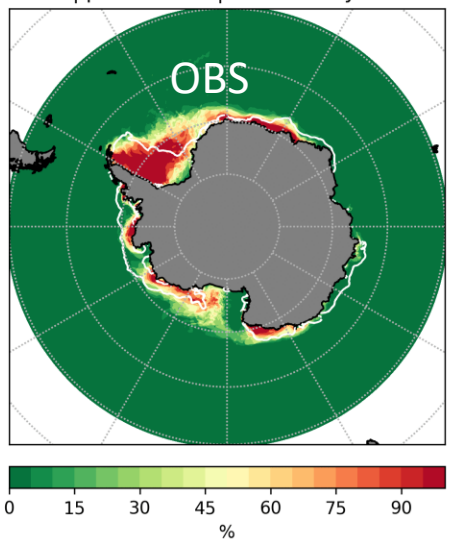


ucl | ens mean | February 2019 mean

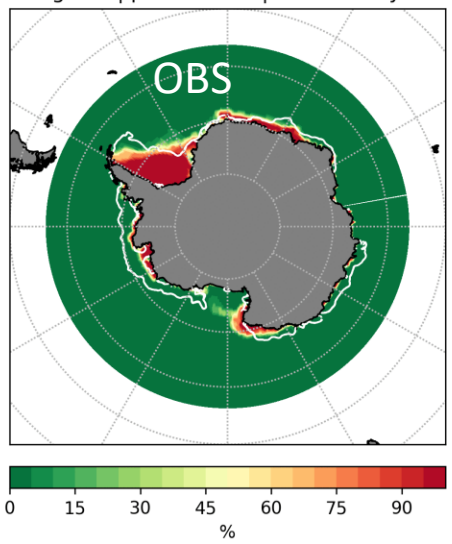


Probability of ice presence: proportion of ensemble members with sea ice concentration > 15%

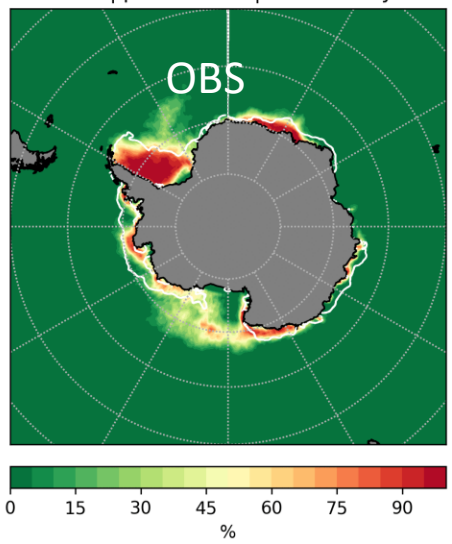
nrl | prob > 15% | 01 February 2019



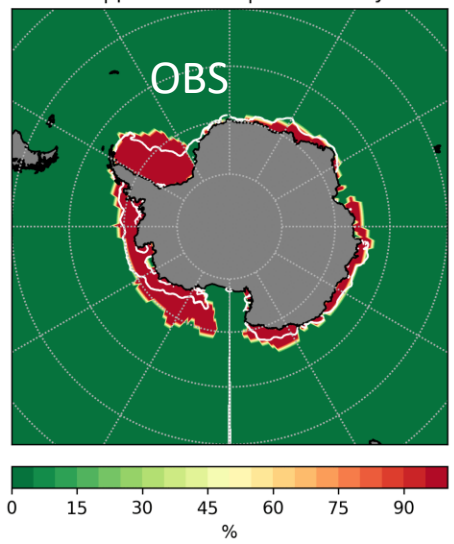
nasa-gmao | prob > 15% | 01 February 2019



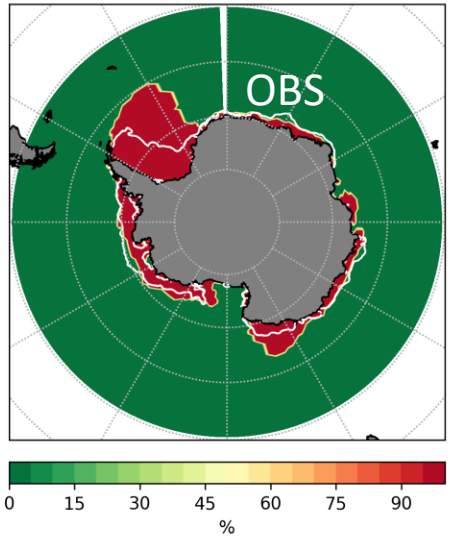
MetOffice | prob > 15% | 01 February 2019



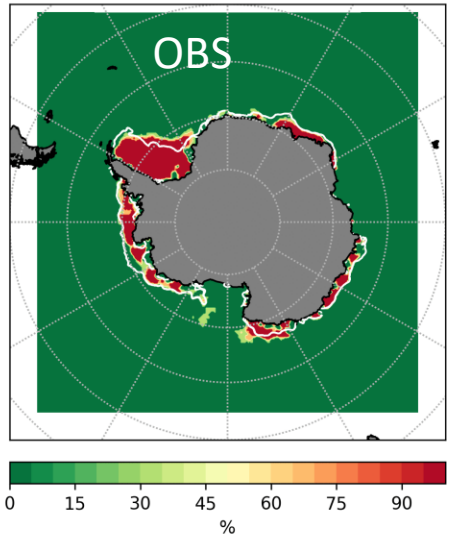
barreira | prob > 15% | 01 February 2019



Lamont | prob > 15% | 01 February 2019



Nico-Sun | prob > 15% | 01 February 2019



ucl | prob > 15% | 01 February 2019