5th INTERNATIONAL ICE ANALYST WORKSHOP
May 16-20, 2016 – US National Ice Center, Suitland, MD
"Ice Analysis and Forecasting in the Southern Hemisphere"

ANTARCTIC SEA ICE MODEL

Argentine Naval Hydrographic Service (ANHS)
Navy Weather Service

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Head of the Navy Weather Service
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- The Argentine Sea Ice Model started running in 2001, developed by PhD Sandra Barreira.

Forecasted variables

Sea Ice

- Concentration
- Anomalies of concentration

Atmospheric (anomalies)

- Surface Air Temperature
- Sea Level Pressure
- Precipitation

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Aplicaciones | EOSDIS Worldview | Polar View | Sea Ice Index | Hampton Inn & Suite | Tanger Outlet - Kenne | Netflix | Google | de Arlington, Virginia

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Buscar

domingo, 15 de mayo de 2016

1879 -6 de junio- 2015

"136 años cumpliendo la misión de brindar el servicio público de Seguridad Náutica en todo el litoral marítimo argentino y fluvial navegable"

:: Noticias y Actualidad

:: 13/05/16 | El buque oceanográfico ARA "Puerto Deseado" finalizó la Campaña Antártica y Banco Burdwood.

:: 05/05/16 | Conferencia sobre Especies Acuáticas Invasoras en Buenos Aires.

:: 20/04/16 | 42º Feria Internacional del Libro de Buenos Aires.

Más noticias...

Seguridad Náutica

Radioavisos Náuticos
* Generalidades
* Navarea VI
* Costeros
* Locales Río de la Plata
* Locales Ríos

Avisos a los Navegantes

Pronósticos

Mareológico del Río de la Plata
de Olas del Río de la Plata
de Olas METAREA VI
Situación Glaciológica en la Antártida
Modelo de Pronóstico Climatológico de Hielo Marino.

Marea

Tablas de Marea
Tablas de Predicción de la Corriente de Marea
Alturas Horarias de Marea

COLABORE CON LA SEGURIDAD NÁUTICA

Envíenos información responsable que contribuya a acrecentar la seguridad náutica en los espacios marítimos y fluviales que corresponden a la NAVAREA VI, a través de las planillas que podrá descargar aquí.

Más Información...

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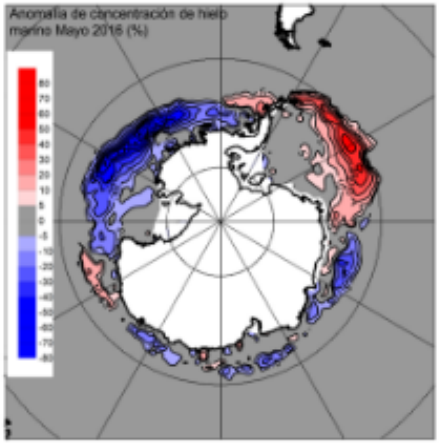
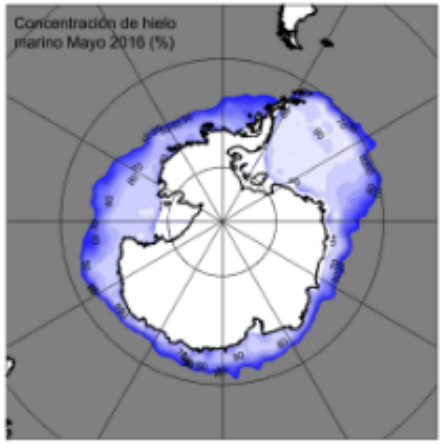
miércoles, 18 de mayo de 2016

Modelo de Pronóstico Climatológico de Hielo Marino

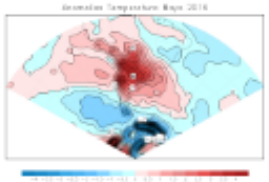
Modelo Climatológico de Hielo Marino | Documentación | Bibliografía

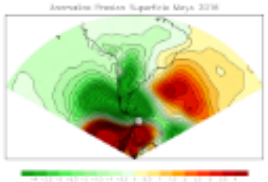
MAYO

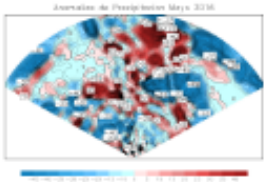




* Variables Atmosféricas *(Ver)*







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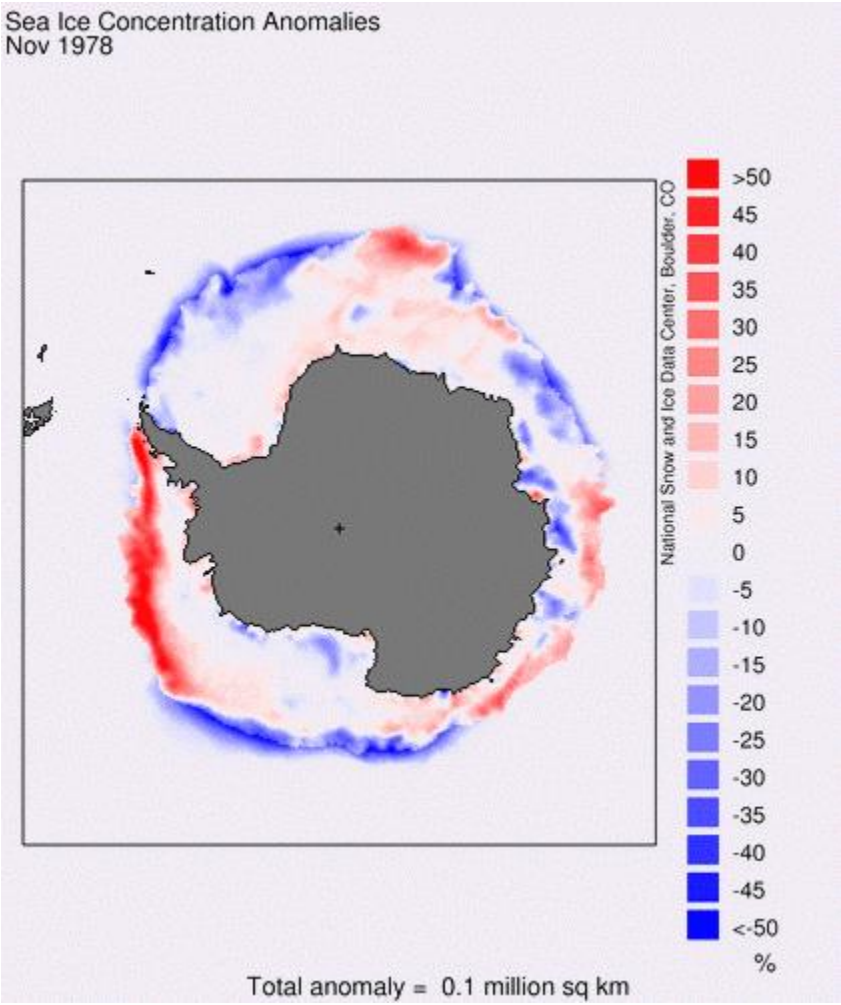
Objectives

- The objective of this work was to examine monthly sea ice concentration anomalies and answer the following questions:
- Is the Sea Ice field in Antarctica different every year or are there some characteristics that repeat with time?
- Is it possible to separate the different fields of sea ice in groups that could give us an idea of how Antarctic Sea Ice works?
- Can we find these groups-patterns?
- If these patterns exist, how are they related to atmospheric circulation?



Input information

- Monthly sea ice anomalies derived from passive microwave satellite data for the period 1979-2016 provided by NSIDC. The anomalies were taken with respect to the 1981-2010 NASA Team algorithm. Grid 25x25 km.

- Monthly means of SLP, surface temperature and precipitation from the National Centers for Environmental Prediction (NCEP) and National Center for Atmospheric Research (NCAR) Reanalysis Project . The reanalysis have an area of resolution of 2.5° X 2.5°.

What have we done? ⟶ PCA

Principal Components Analysis

T-Mode analysis was done over spatial fields of sea ice monthly anomalies.

Results

(1) PCs fields that represent the most common sea ice patterns (spatial patterns)

(2) Loading series for each pattern that shows how similar the pattern is to a real field through time.

8 different PCs.
5 for Winter-Spring months 3 for Summer-Autumn

Principal Components Analysis

S-Mode analysis was done over temporal series of sea ice anomalies.

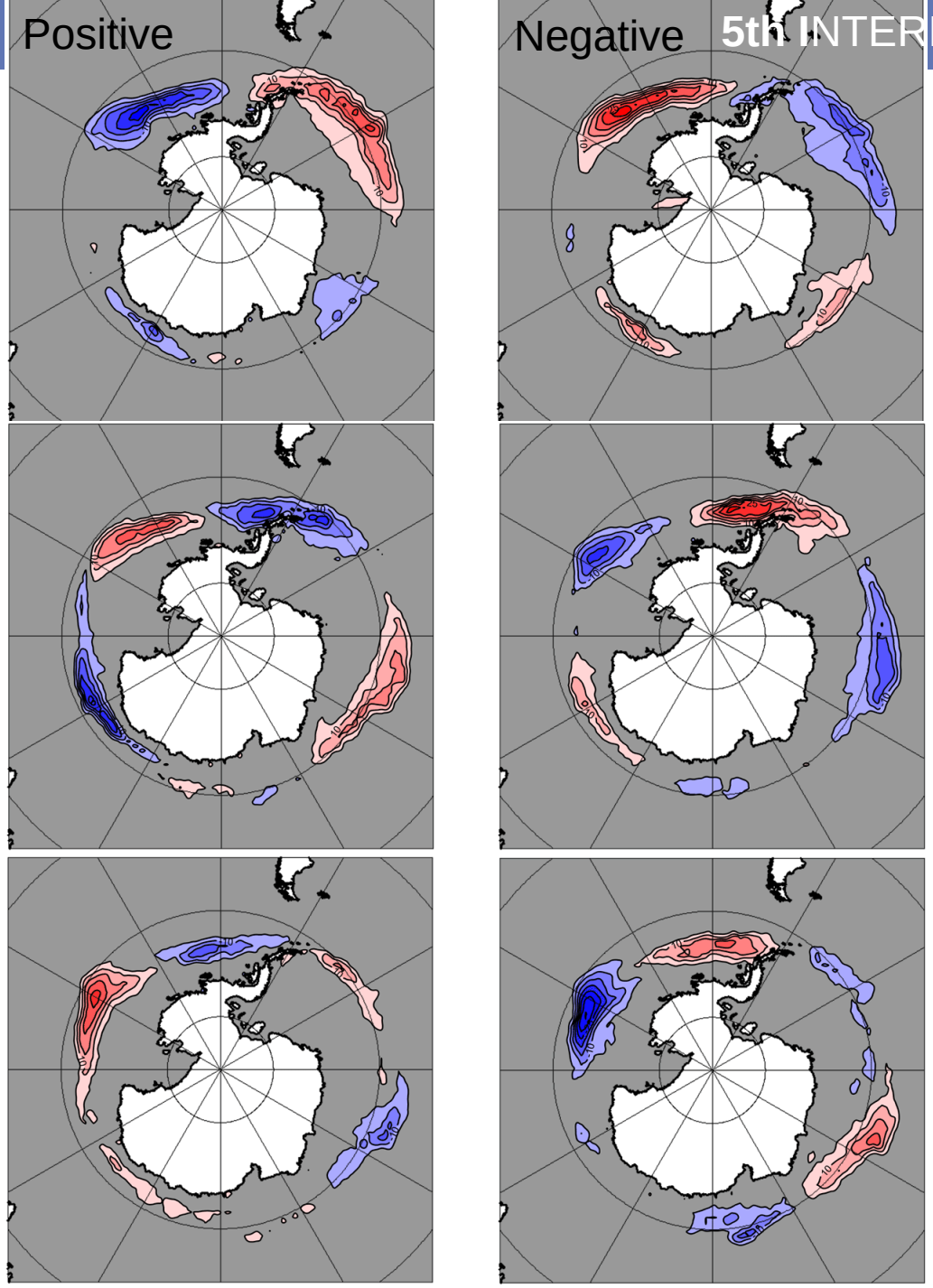
Results

(1) PCs series that represent the temporal behaviour of a particular area (temporal patterns)

(2) Loading fields that give where and how similar the PCs series are similar to the real series.

6 different PCs.
These PCs are used to determine which regions will have positive or negative Sea Ice anomalies.

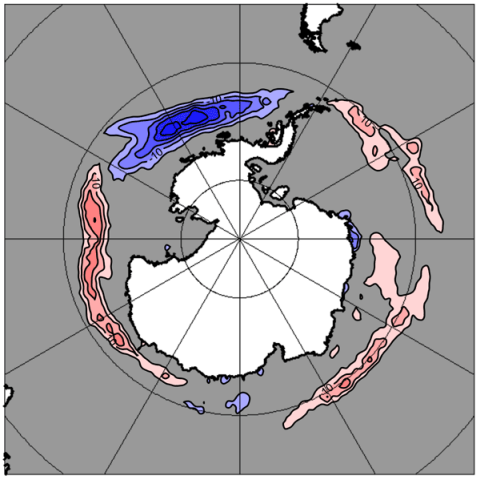
WINTER-SPRING PATTERNS (2015)

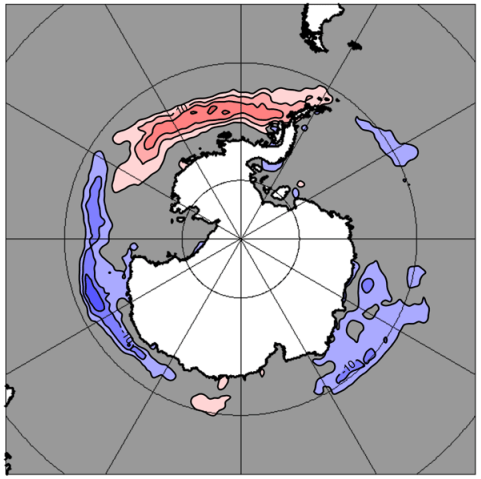


First Winter - Spring pattern

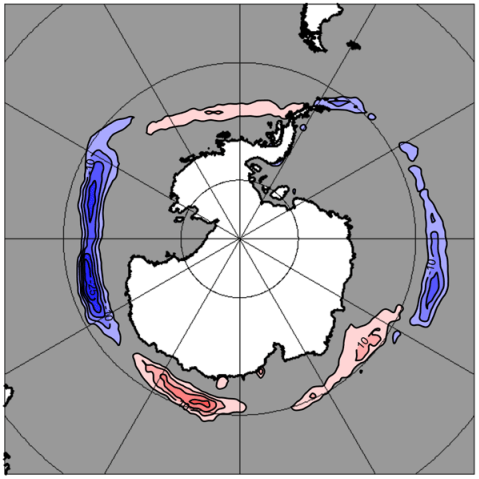
Second Winter - Spring pattern

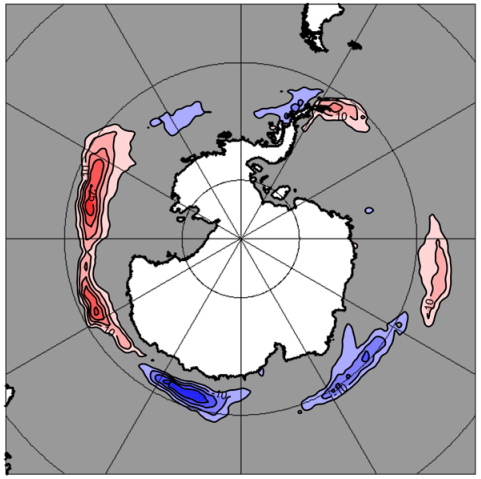
Third Winter - Spring pattern



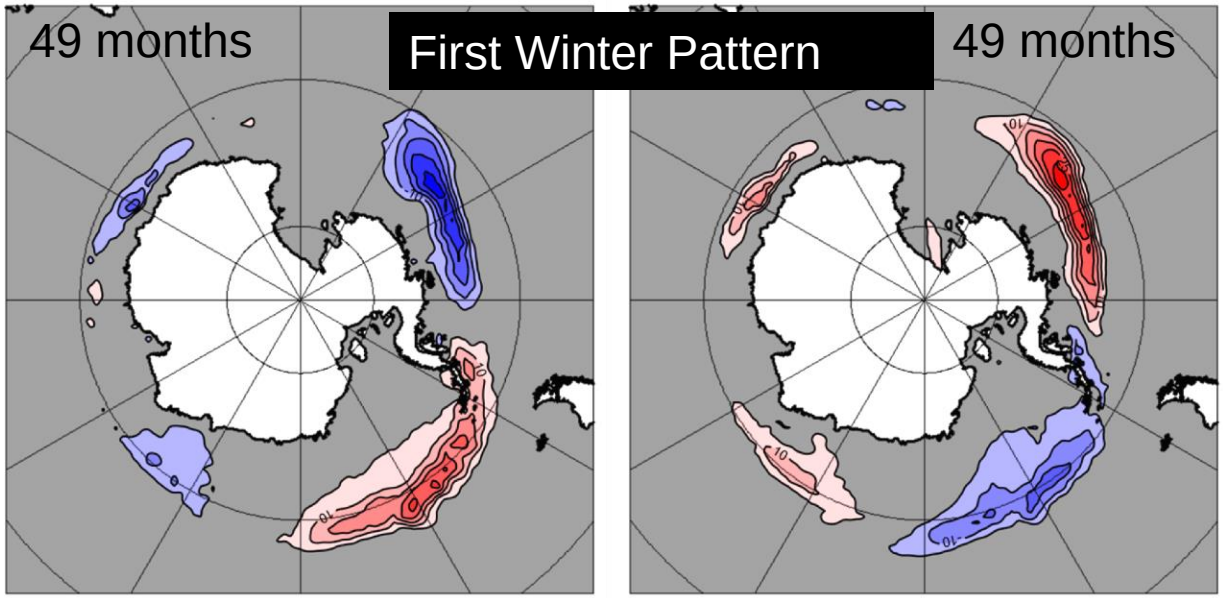


Fourth Winter -Spring pattern

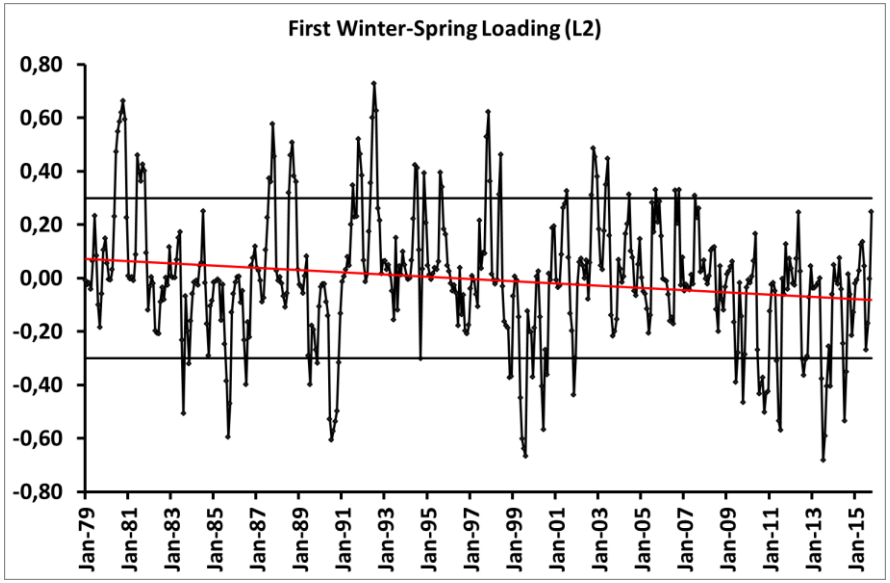




Fifth Winter -Spring pattern



Small trend to negative patterns = less sea ice northern Peninsula and Weddell Sea



Some conclusions

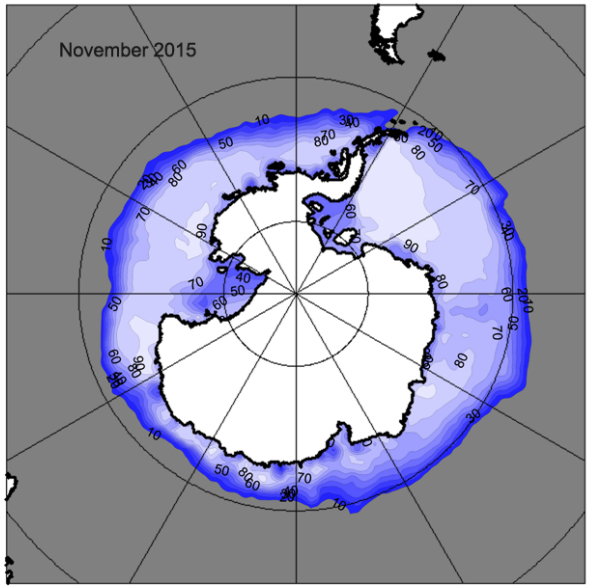
All Winter-Spring patterns have a small trend that is associated with less sea ice at the Amundsen/Bellingshausen Seas and Northeast of Antarctic Peninsula. More sea ice at the Ross Sea

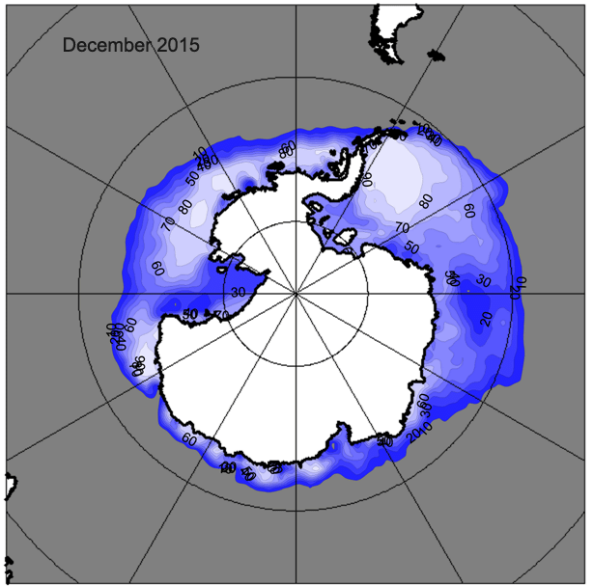
All winter patterns can be associated to SAM INDEX. But location of the high or low pressure anomaly has a significant effect on sea ice field. The location of that anomaly is related to different weather patterns, at least in South America, too.

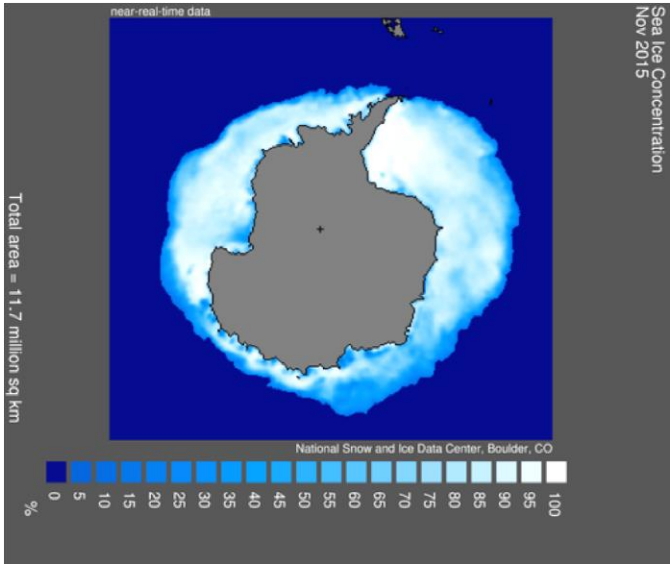
All Summer patterns trends indicated less sea ice at the Amundsen/Bellingshausen Seas and northeast of Weddell Sea (around the Antarctic Peninsula) and more sea ice at the eastern region of the Wedell Sea

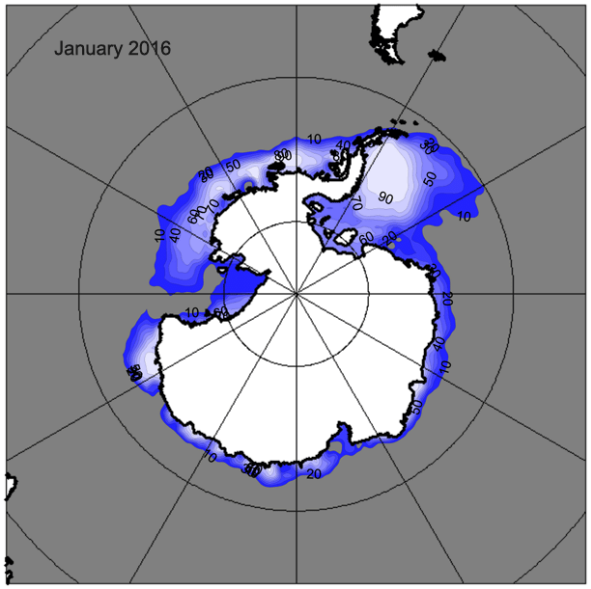
Recently, scientific personnel headed by PhD Sandra Barreira have experimenting with multi neuronal networks Perceptron with supervised learning and backward propagation algorithms to improve the results of the forecasting model. The Perceptron is an artificial neuronal network dedicated to the images recognition. It is been implemented through the anomalies fields of temperature and pressure associated with the anomalies patterns of Sea Ice concentration. The obtained results, so far, are presented as encouraging.

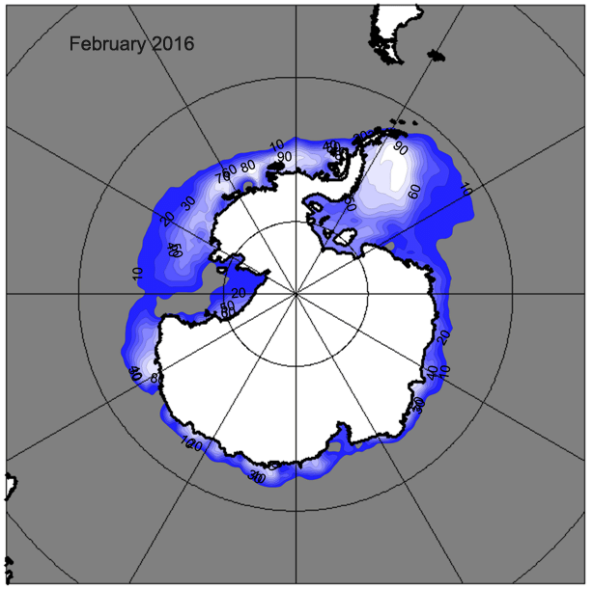
Summer Forecast











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