

# Can hydrographic conditions and phytoplankton abundance track sources of dissolved iron in the WAP?



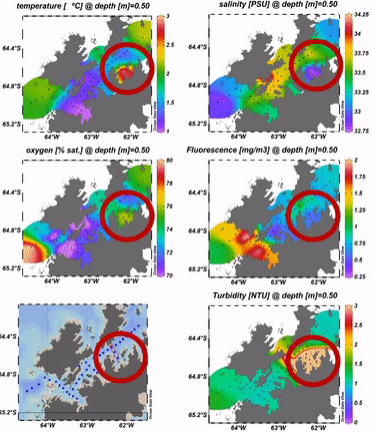
In 50 secs

**High T°**  
**High Turbidity**  
**Low Salinity**  
**Low Fluorescence**

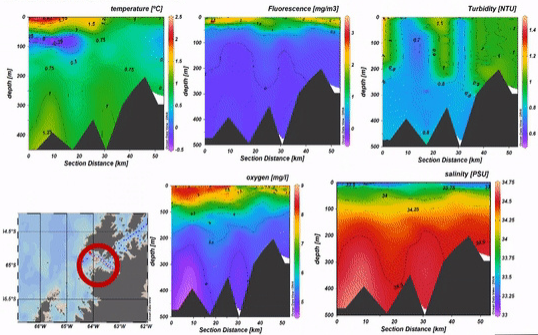
**Potential source of dFe.**



**Wilhelmina Bay**



# Bismarck Strait



High T°, high fluorescence (high O<sub>2</sub>), low turbidity & salinity. **Potential sink of dFe:** Possible explanation, phytoplankton uptake.



# Who cares?

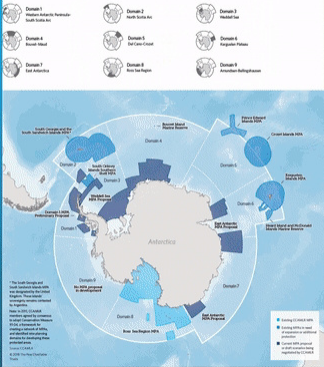
## Baseline information for proposal of Domain 1 MPA (Argentina & Chile).

Gerlache Strait is a foraging ground and resting area for whales and other top predators



**Figure 2 Southern Ocean Regions in Need of Protection**

A network of MPAs would allow for conservation of distinct areas, each representing unique ecosystems



# Methods

7

February 2020 -> 38 stations



64.2°S

64.4°S

64.6°S

64.8°S

65°S

65.2°S

Anvers Island

Geulache Strait

Brabant Island

McKean Strait

Flandres Bay

GS29

GS28

GS27

GS25

GS24

GS23

GS22

GS17

GS21

GS20

GS19

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GS16

- Temperature & salinity
  - PAR
  - Oxygen
- pH & alkalinity
  - NO<sub>3</sub>, P, Si
- **Dissolved Iron (dFe)**
  - Turbidity
- Organic Matter
  - Chlorophyll-a

# **Spatial distribution of dissolved iron in the surface waters of the Gerlache Strait and their relationship with phytoplankton abundance and hydrographic conditions**

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