

AIS-ENC Maps: IHO WENDWG February 2019 Meeting

21 February 2019

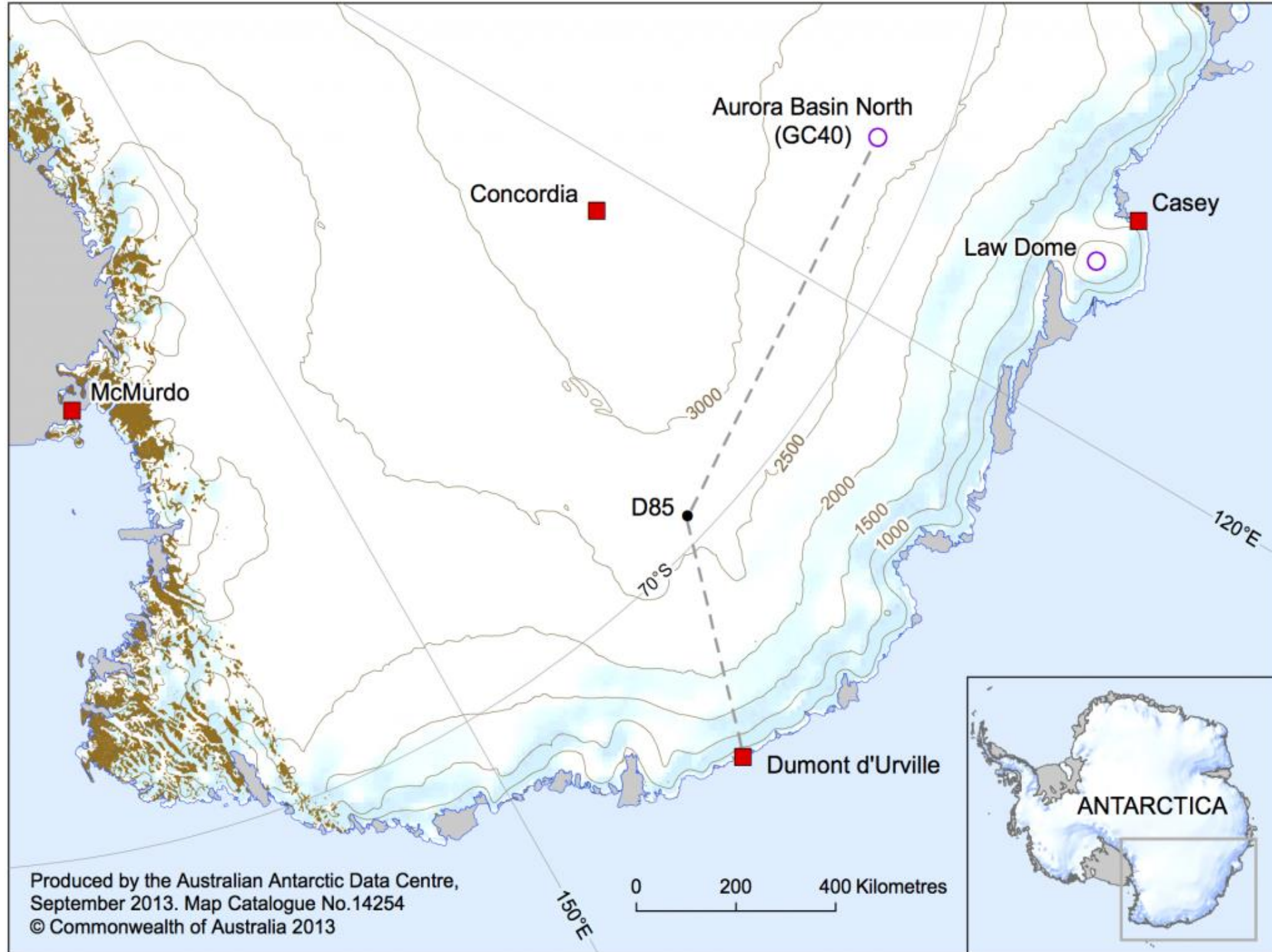
Antarctica as Proof of Concept Case

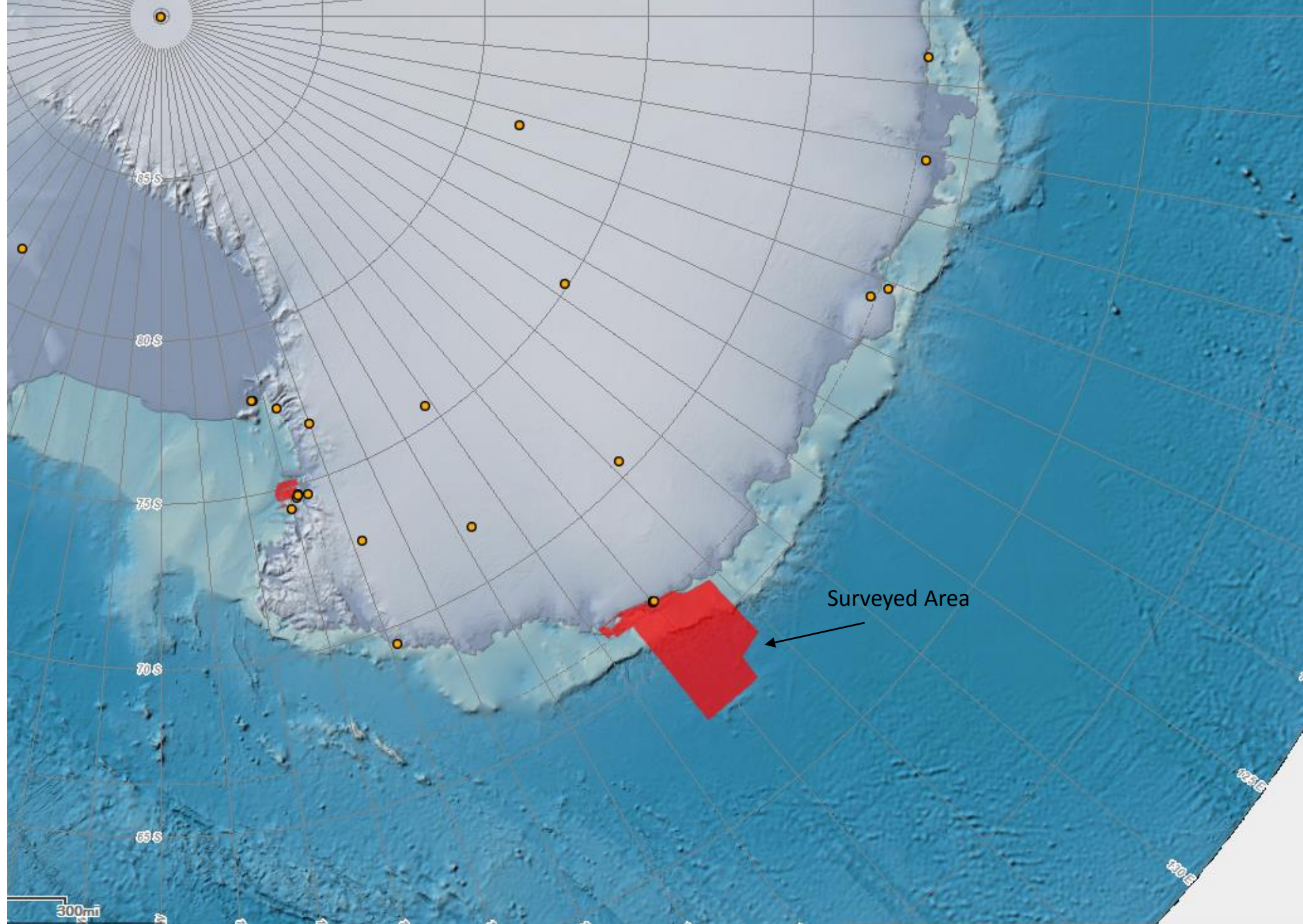
- Current effort: summarize vessel traffic at ENC coverage in Antarctica
- Antarctica proof of concept is advantageous:
 - Relatively small data sizes
 - International coverage
 - Data share interests in the remote region
- France coverage in the following slides is an example

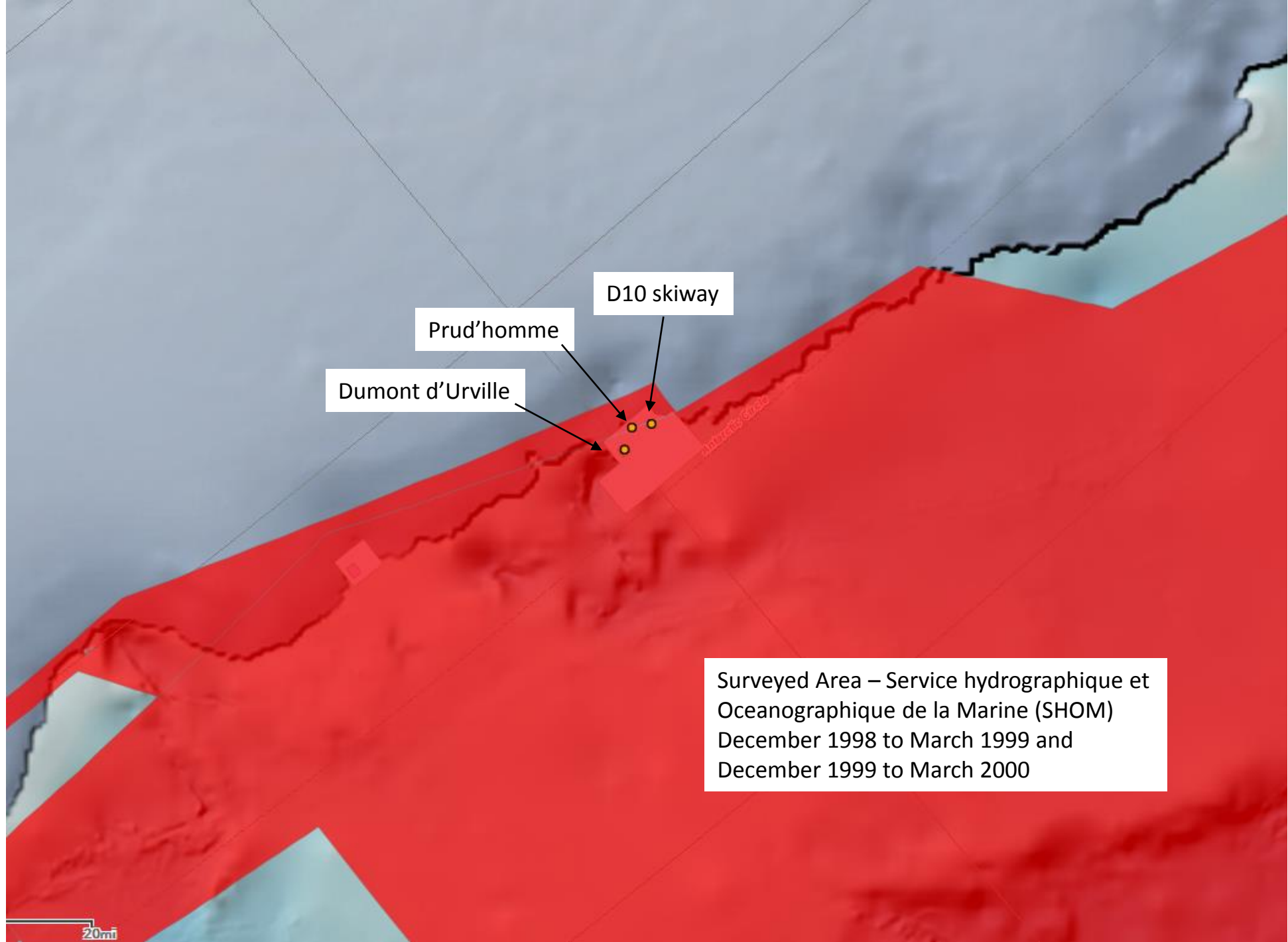
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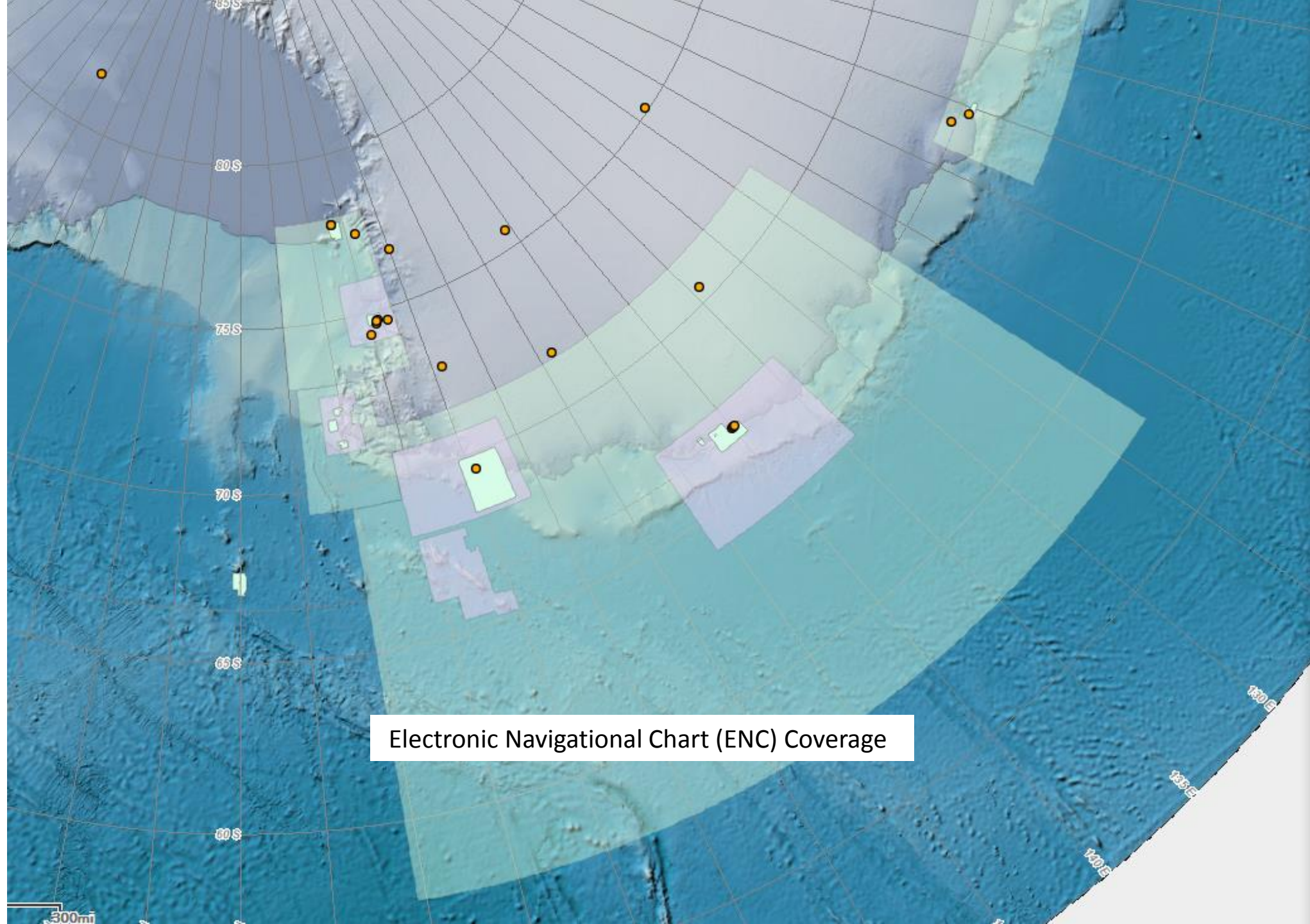


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Antarctic Maritime Traffic Analysis

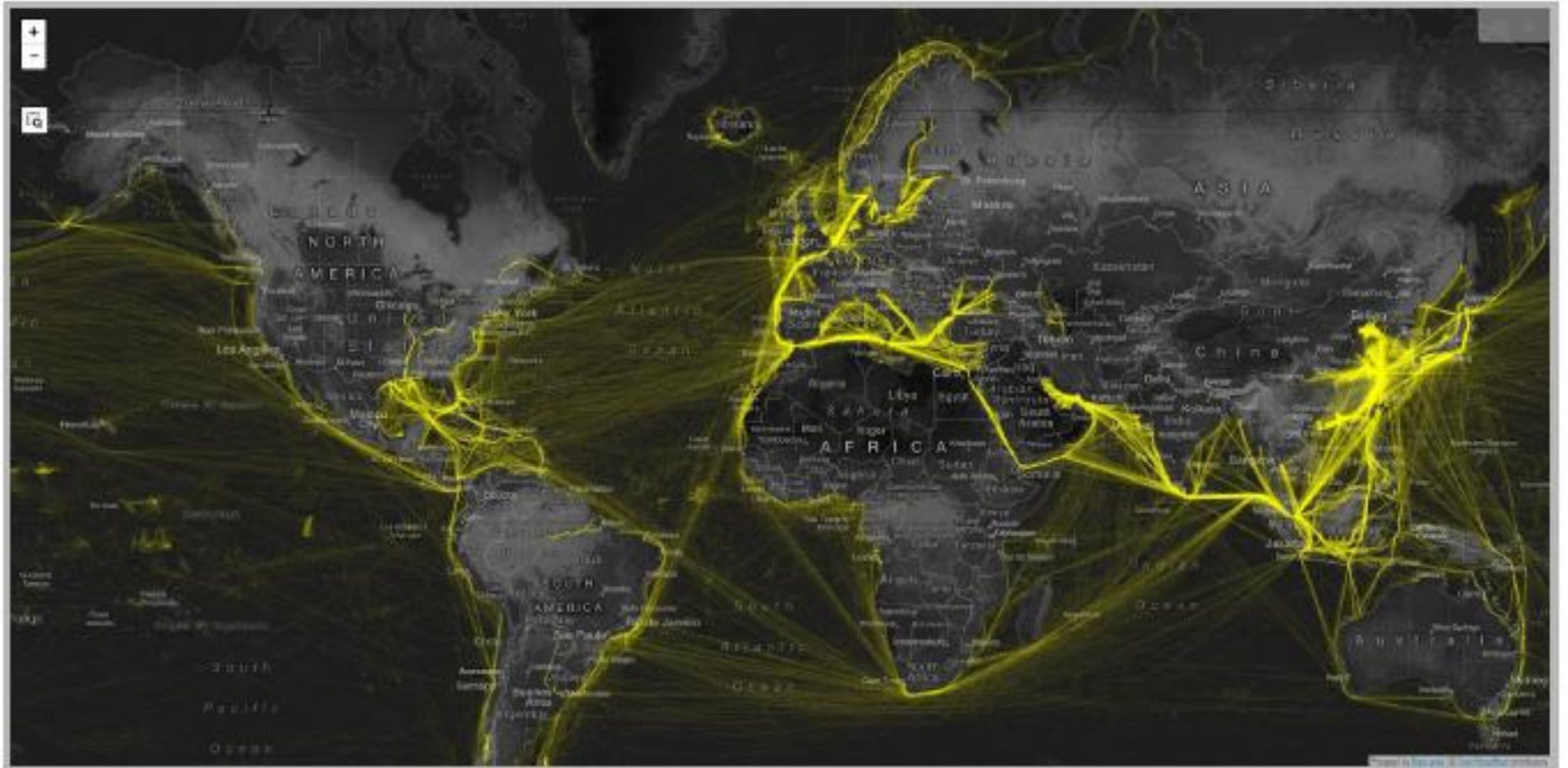


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February 2019

Global Satellite-based AIS



ANTARCTIC MARITIME AIS ANALYSIS DATA & ENVIRONMENT OVERVIEW

- **Data**

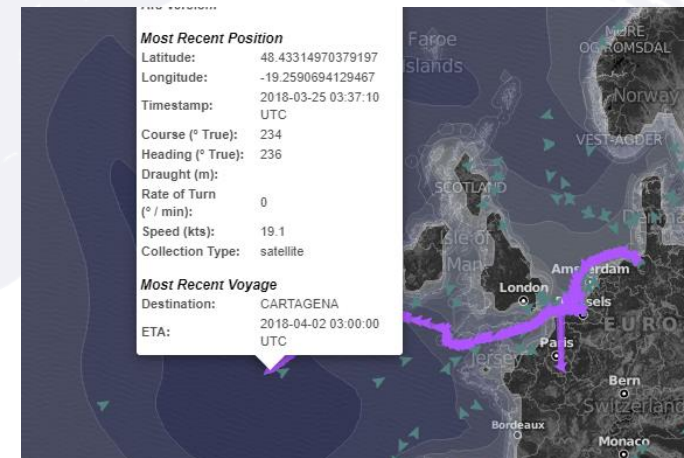
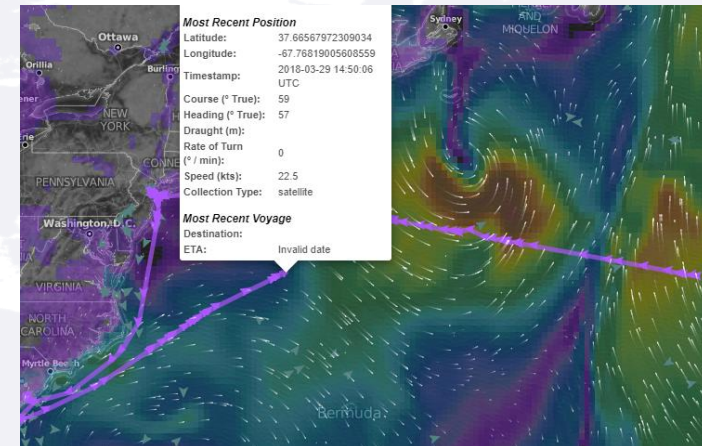
- Satellite and Terrestrial AIS data obtained from Spire's Vessels API
- Date Range: March 7, 2018 to Feb 3, 2019
- Data Pulled at -40deg Lat and lower
- Contains ~15,500 vessels

- **Environment**

- Data analysis and visualization powered by MapLarge
- Rendered in WGS84 projection with Cesium API for the 3D globe

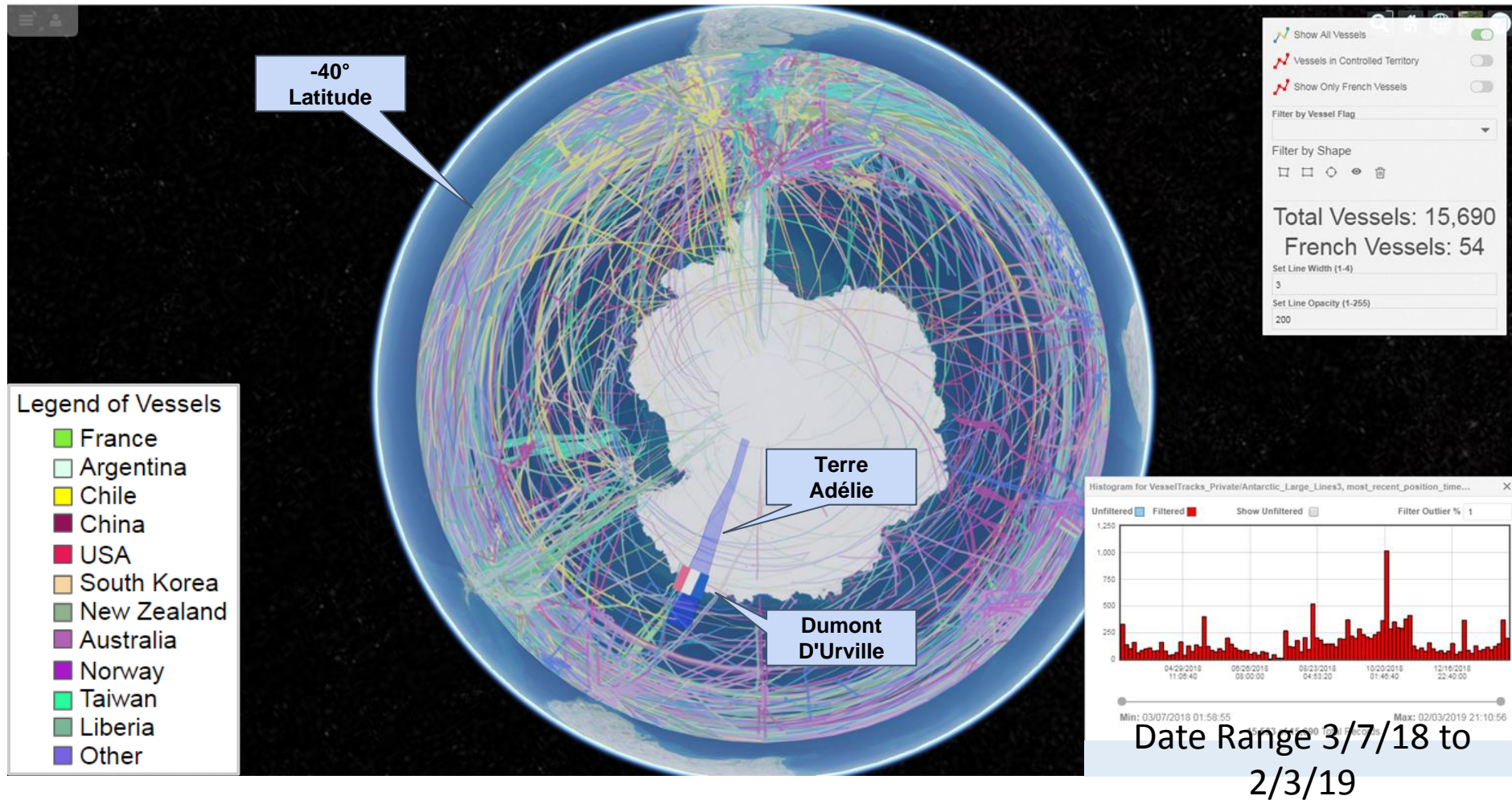
- **Methodology**

- Created Ship Tracks (Linestrings) based on the Point data for each unique MMSI
- No 'long linestring' or 'land masking' applied
- Very little outlier elimination



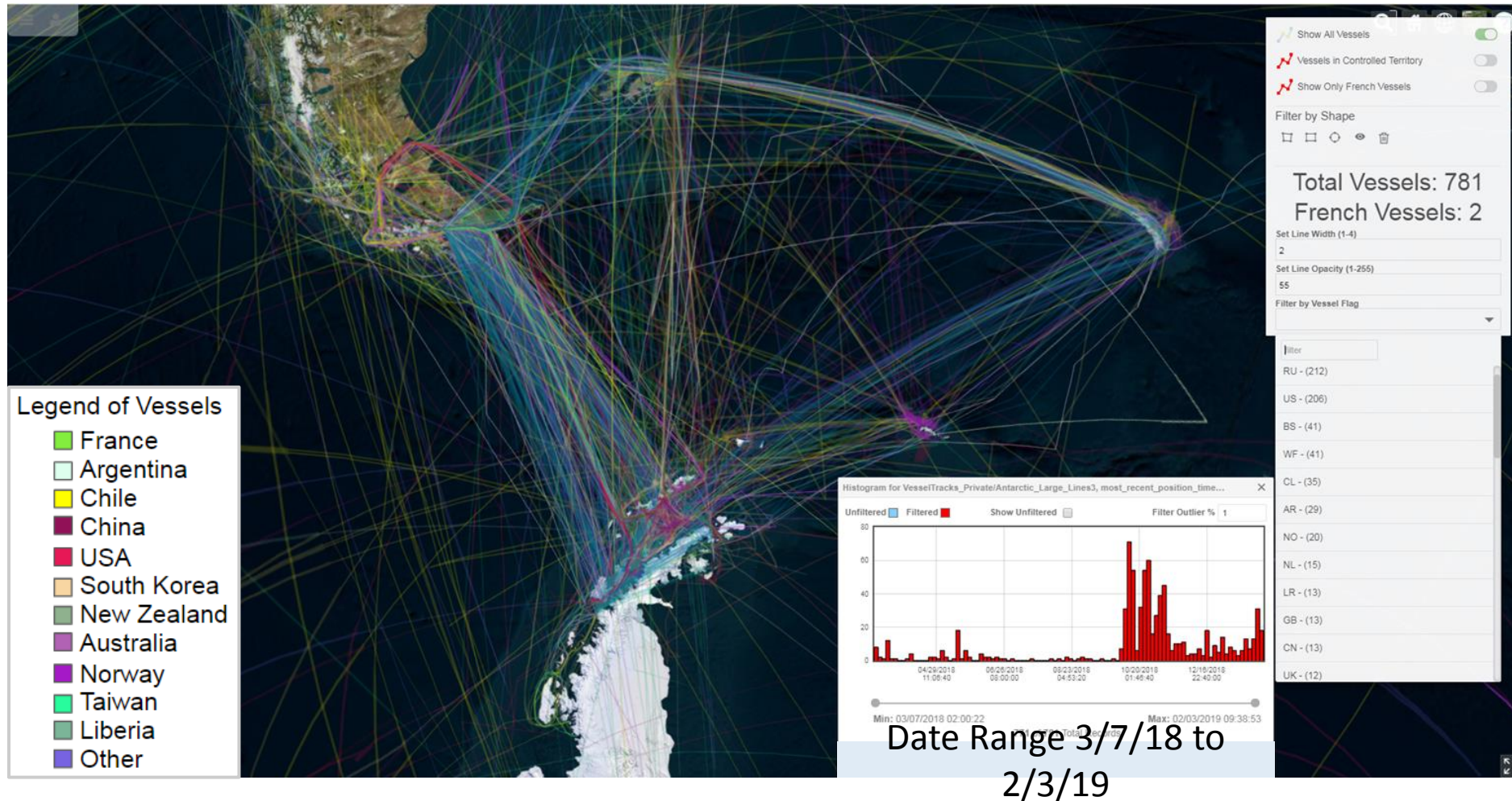
Antarctic Overview

15,000+ Vessels Over ~11 Months



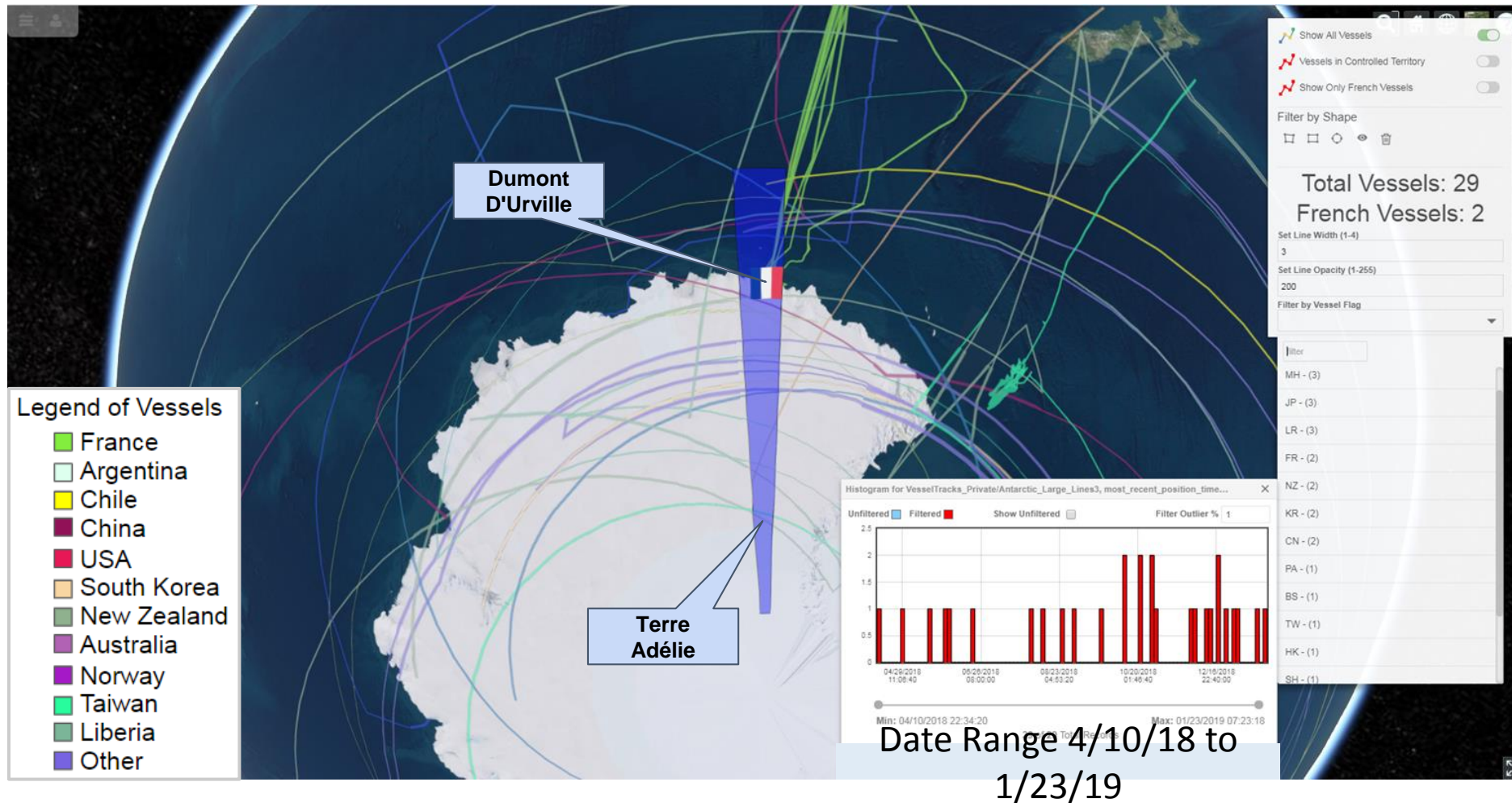
Antarctic Peninsula

Crowded MultiNational Waterways



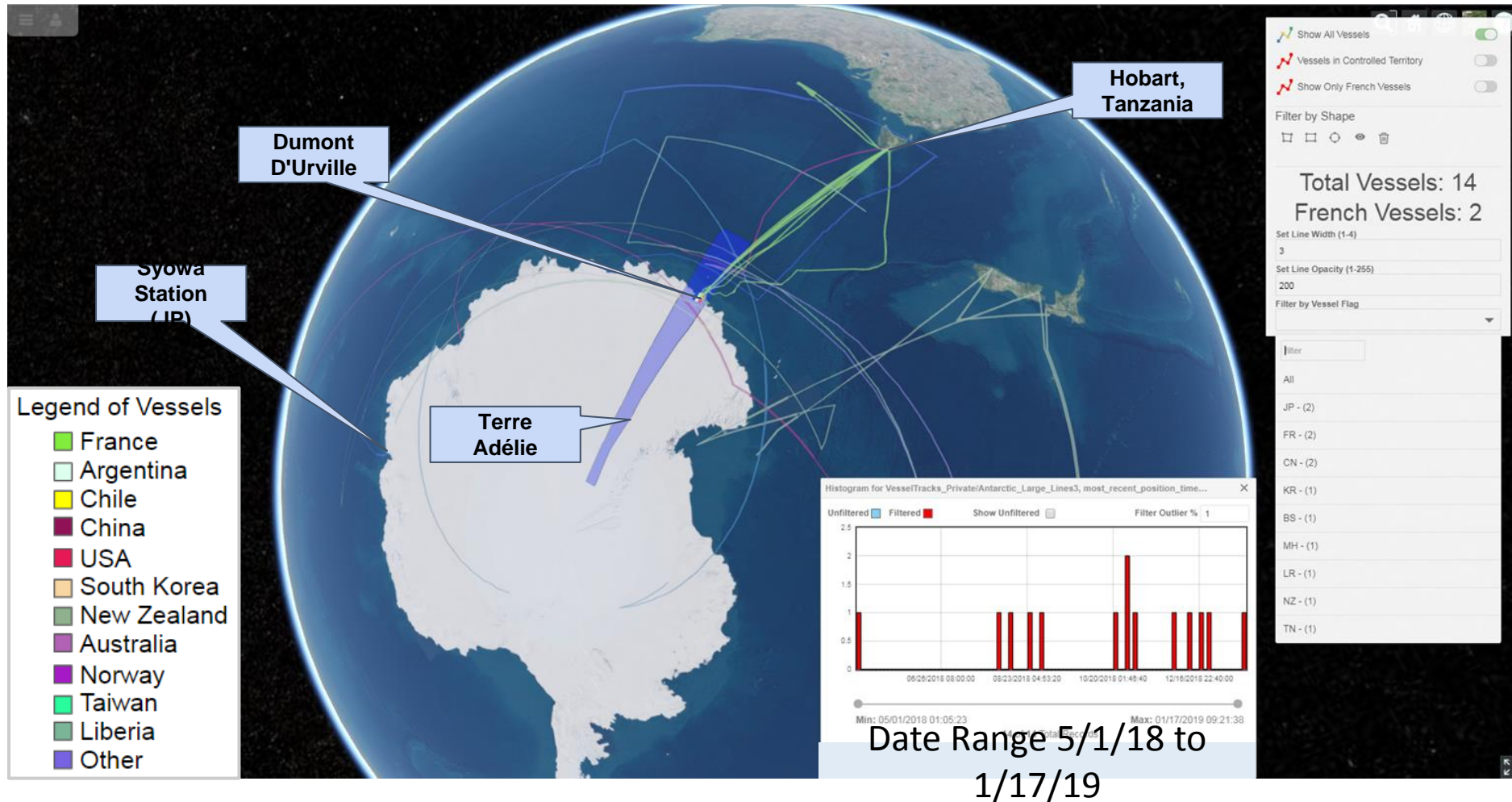
Dumont D'Urville/Terre Adelie

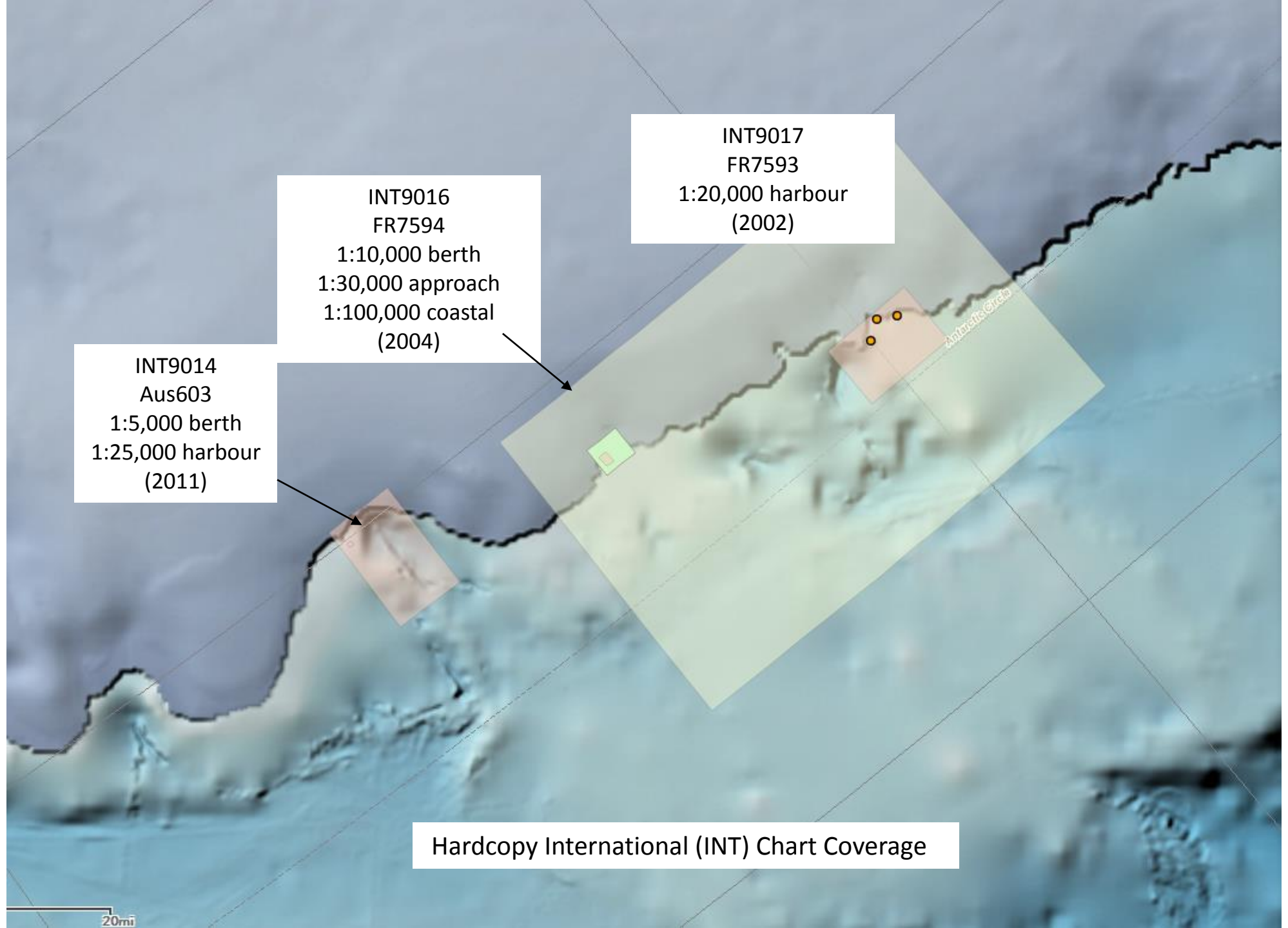
Traffic Entering/Exiting the Territory



Dumont D'Urville/Terre Adelie

Tighter Polygon Search Around Dumont D'Urville





INT9014
Aus603
1:5,000 berth
1:25,000 harbour
(2011)

INT9016
FR7594
1:10,000 berth
1:30,000 approach
1:100,000 coastal
(2004)

INT9017
FR7593
1:20,000 harbour
(2002)

Hardcopy International (INT) Chart Coverage

Next steps for IHO

- Develop analysis that summarizes ENC traffic density based on ENC cells
- Develop appropriate overlay for IHO INTToGISII
- Consider scaling to other regions and ENC holdings including member states and regional commissions