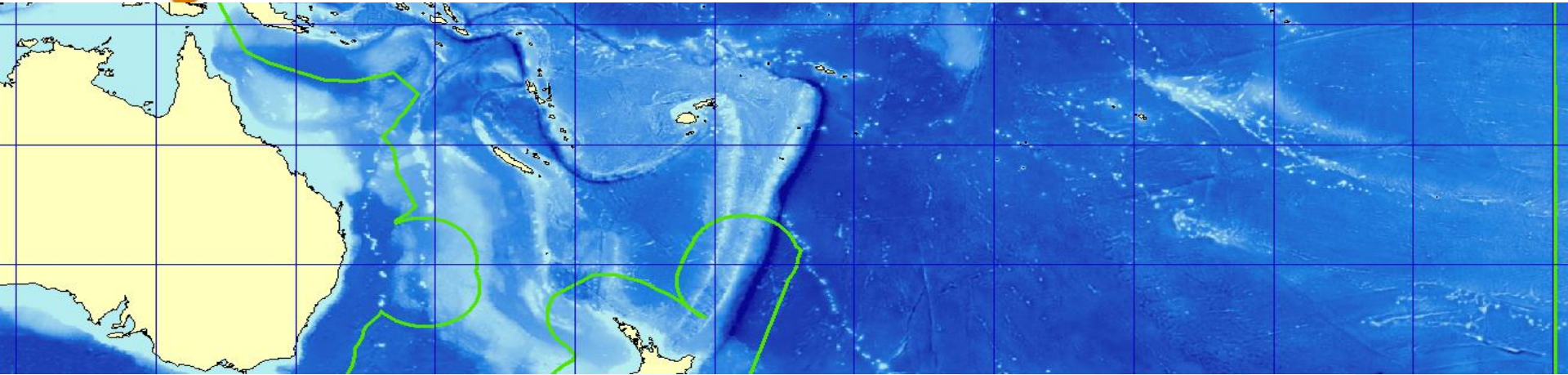




National Environmental
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MARINE BIODIVERSITY *hub*



Integrating Pressures, Values and Assets for Management

Piers Dunstan
CSIRO

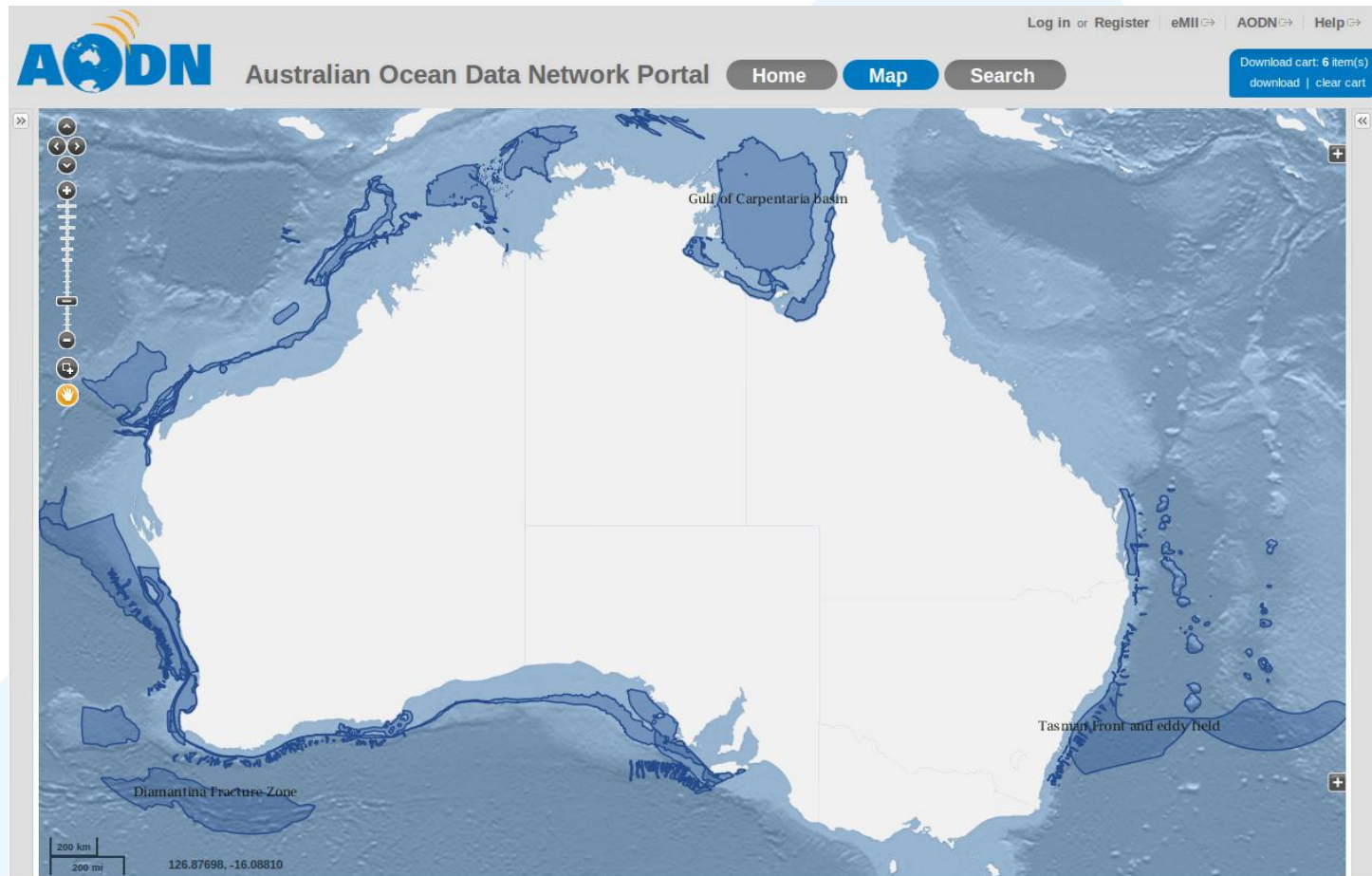


Integrating Pressures, Values and Assets

- There is a need to understand how biodiversity responds to multiple pressures for MBP, CMR, and strategic assessment.
- Empirical approach – statistically link pressures values and assets.
- Cumulative pressures
 - Single pressures through time.
 - Multiple pressures in space.
- Apply in different regions and at different scales.
- Apply to single species and multi-species assemblages.

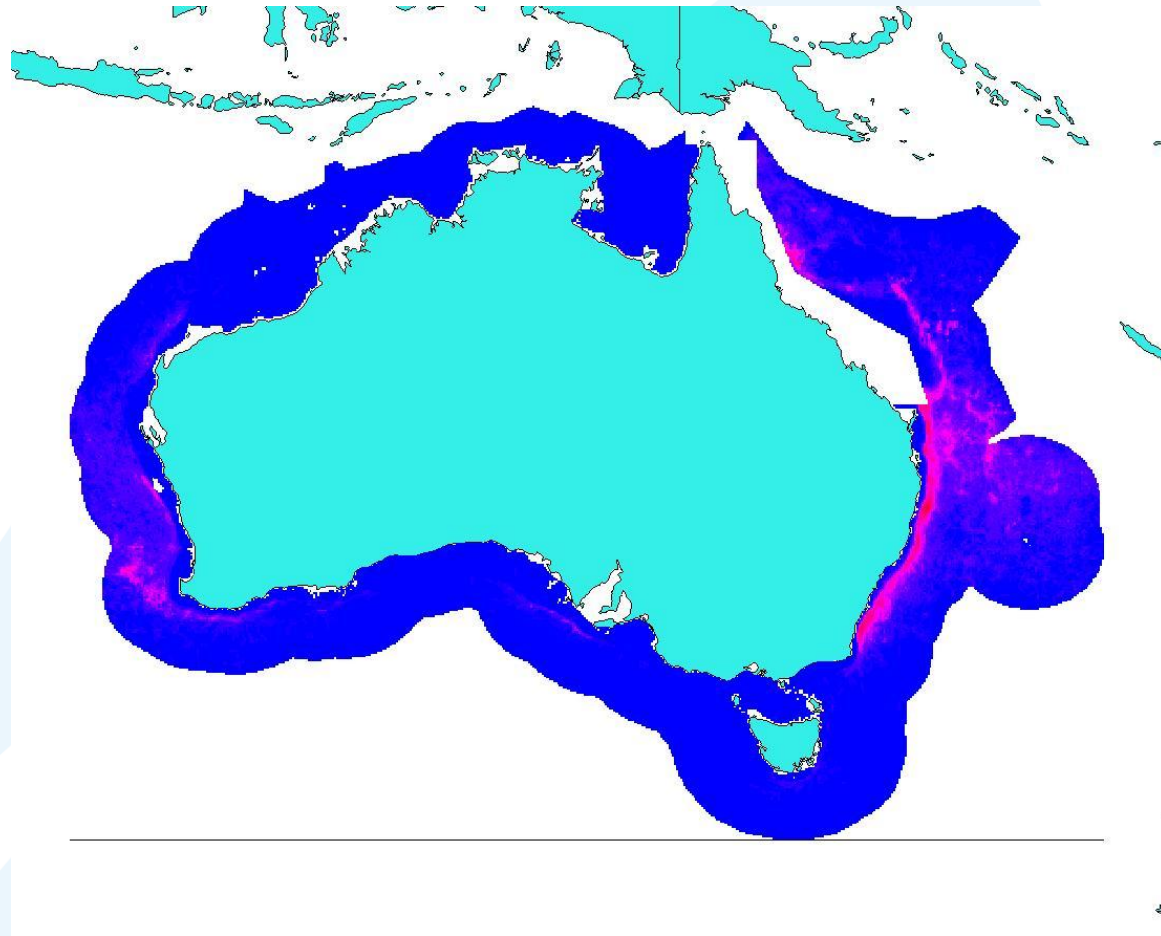


National Distribution of Values



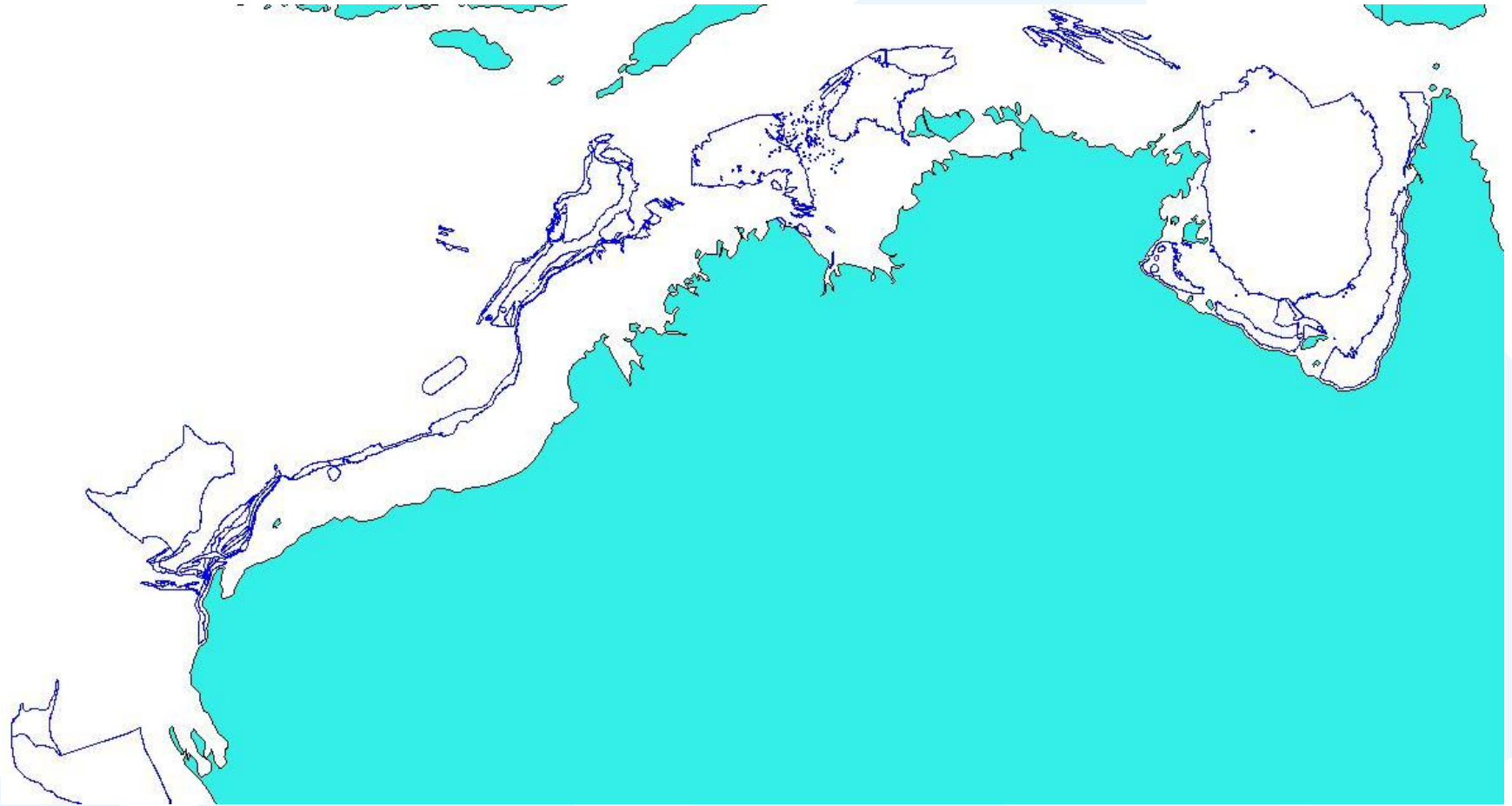


National Distribution of Threats



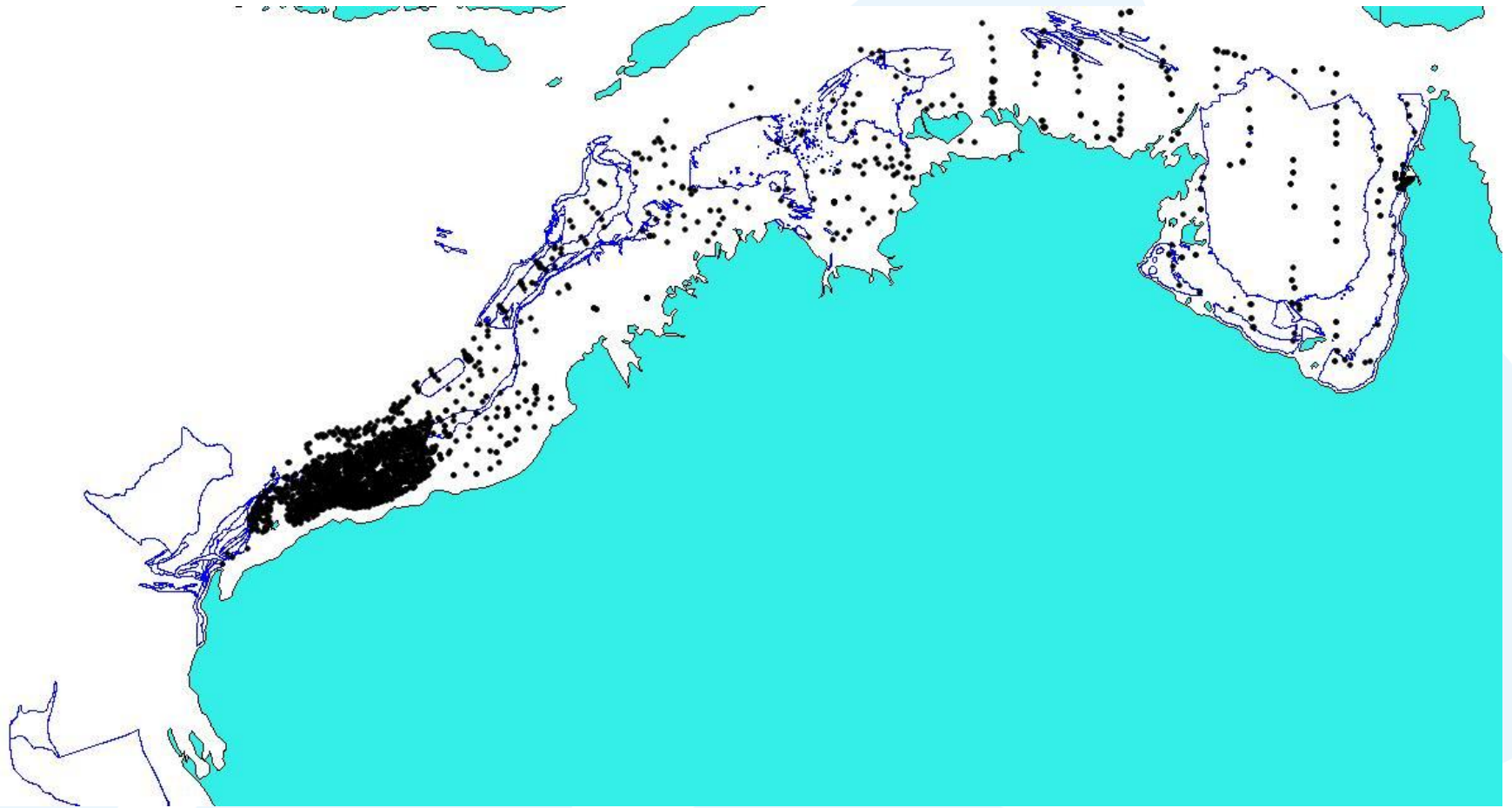


Northern Australia –Key Ecological Features



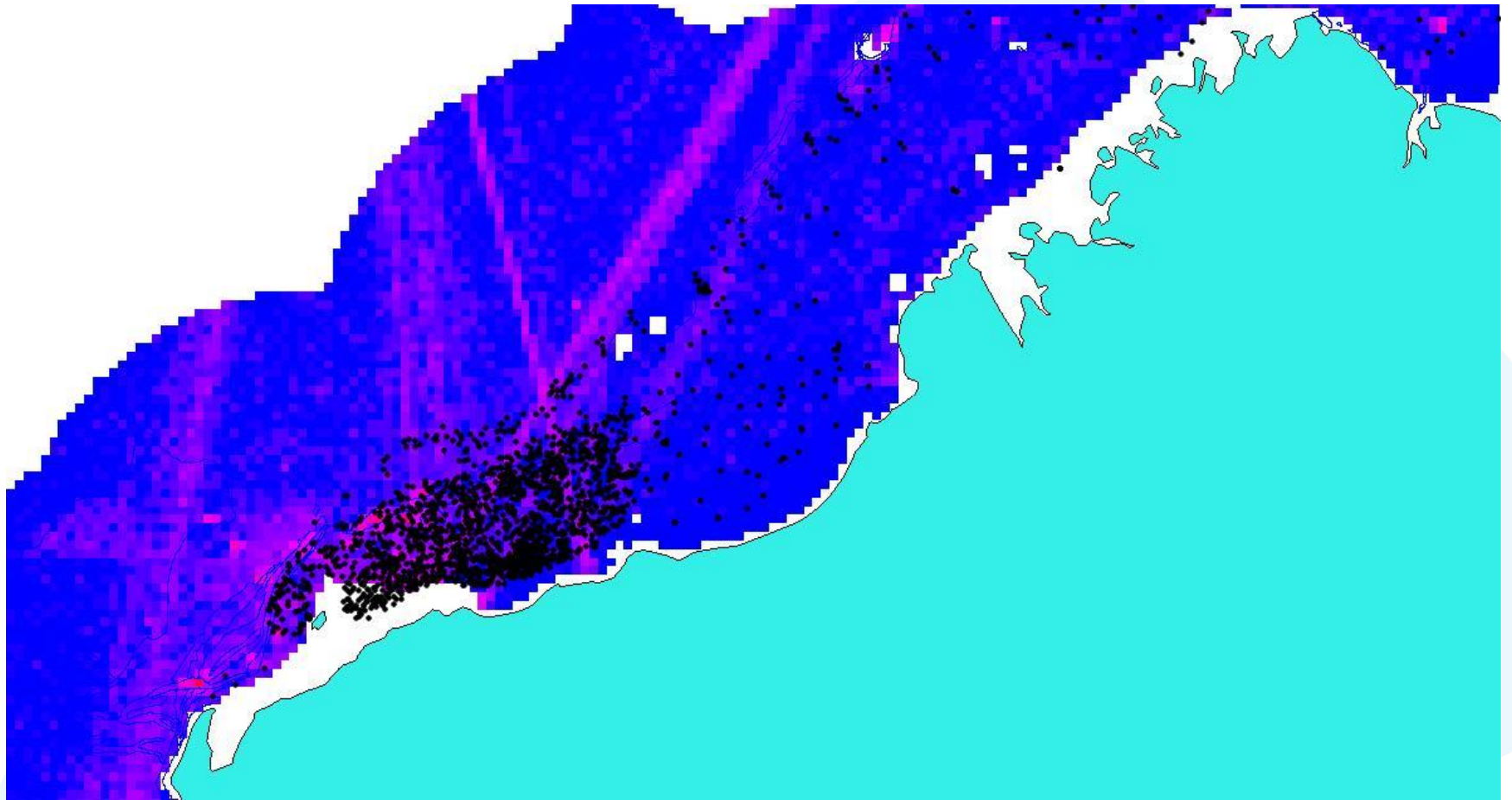


Northern Australia – Spatial data



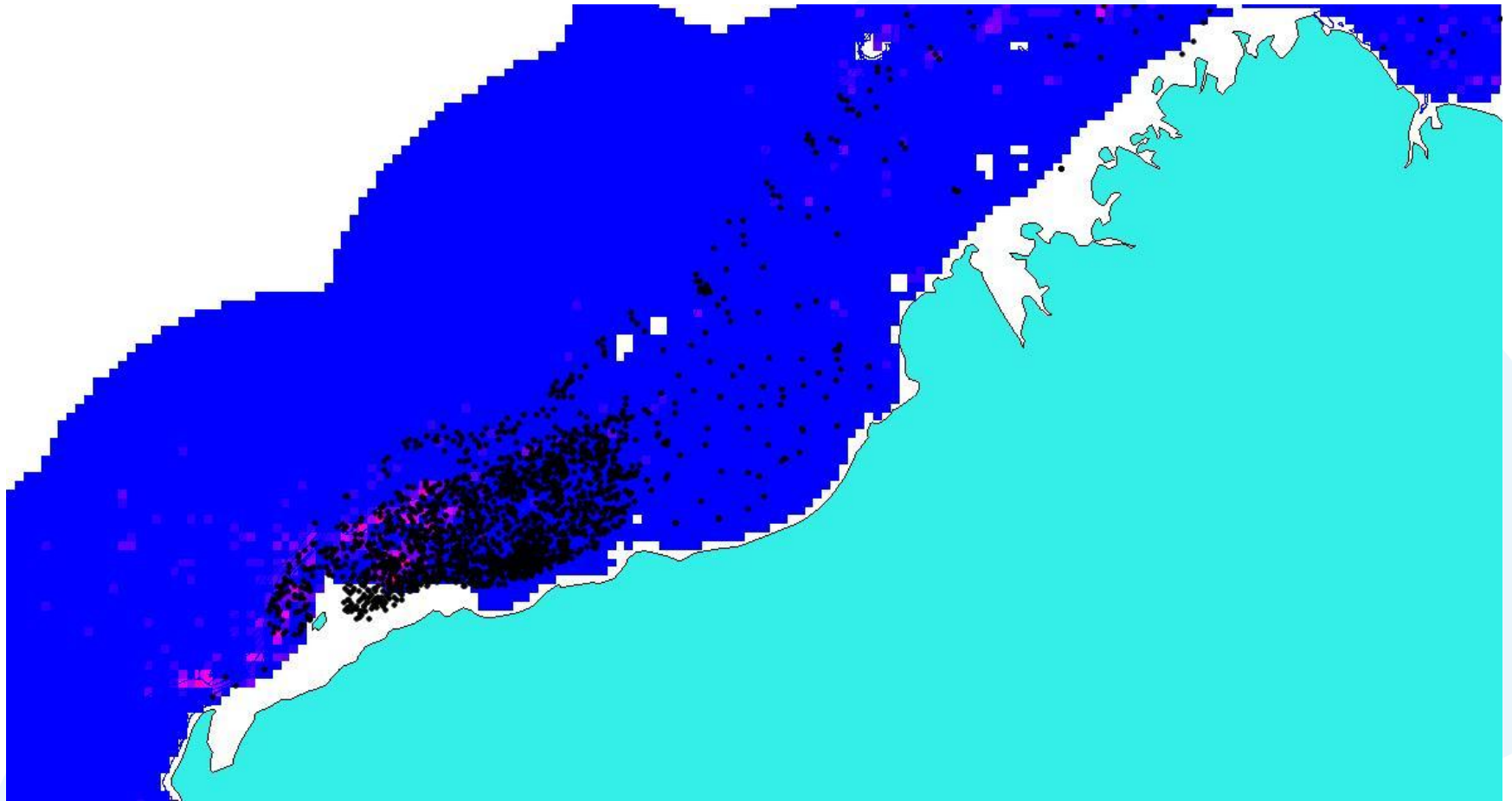


Pressures - Shipping



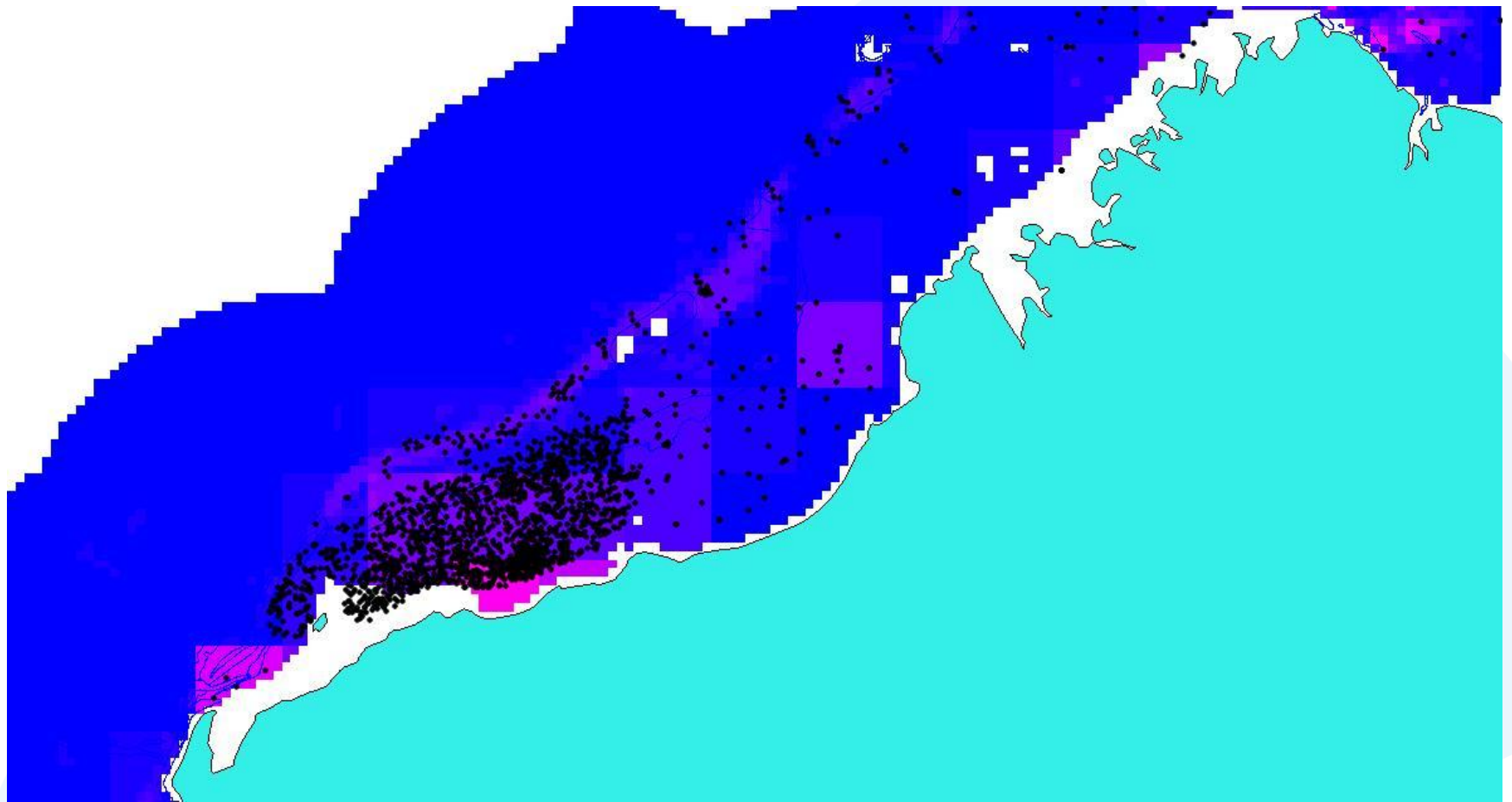


Pressures – Oil and Gas Wells



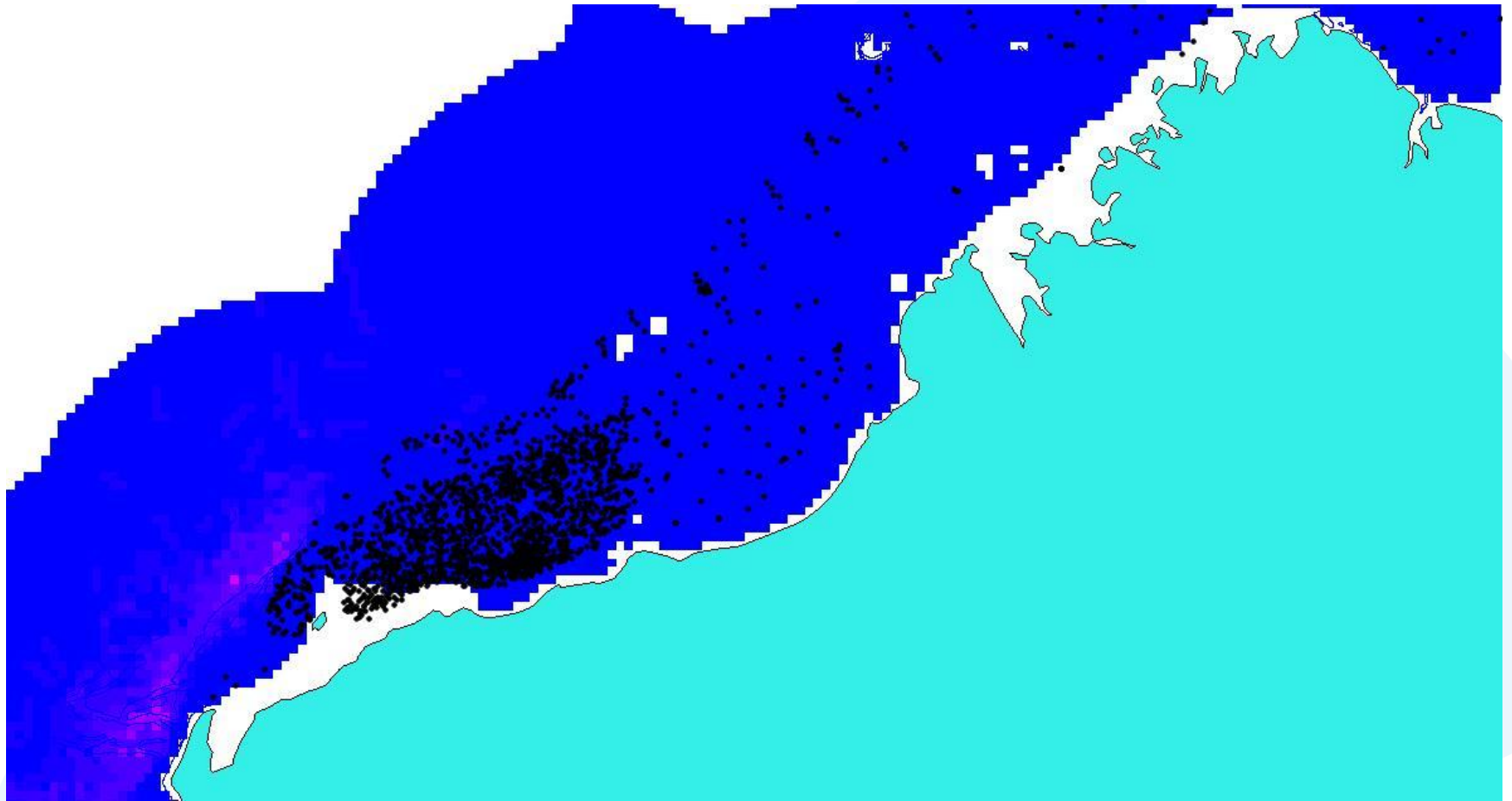


Pressures – Demersal Trawl





Pressures – Pelagic Longline



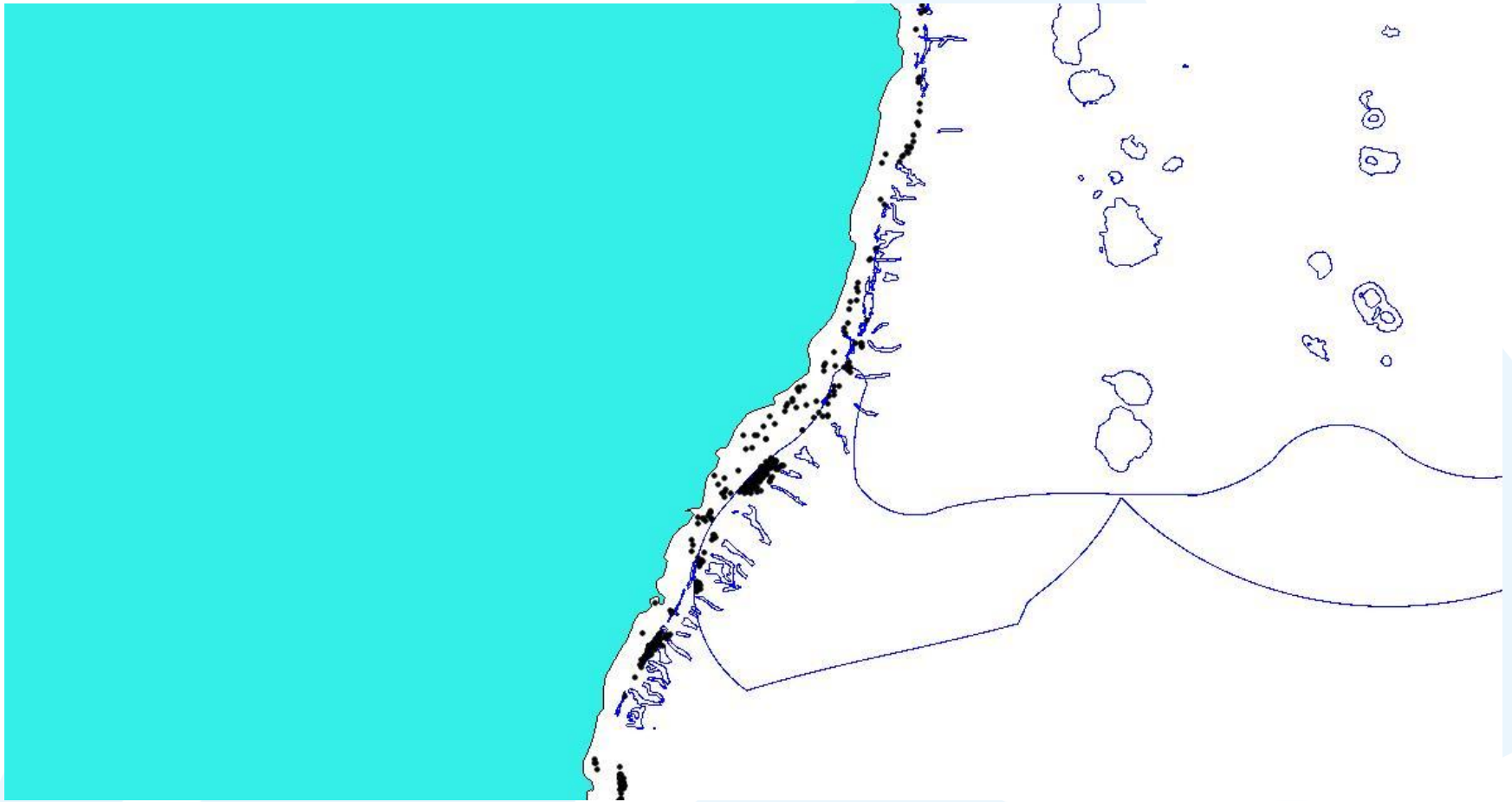


Integrating threats and assets - spatial

- Statistically combine pressure, environmental and biological assemblage data to develop a model of biological response to pressure
 - adjusting for changing environment
- What are the implications for values expressed in Key Ecological Features and Biologically Important Areas?

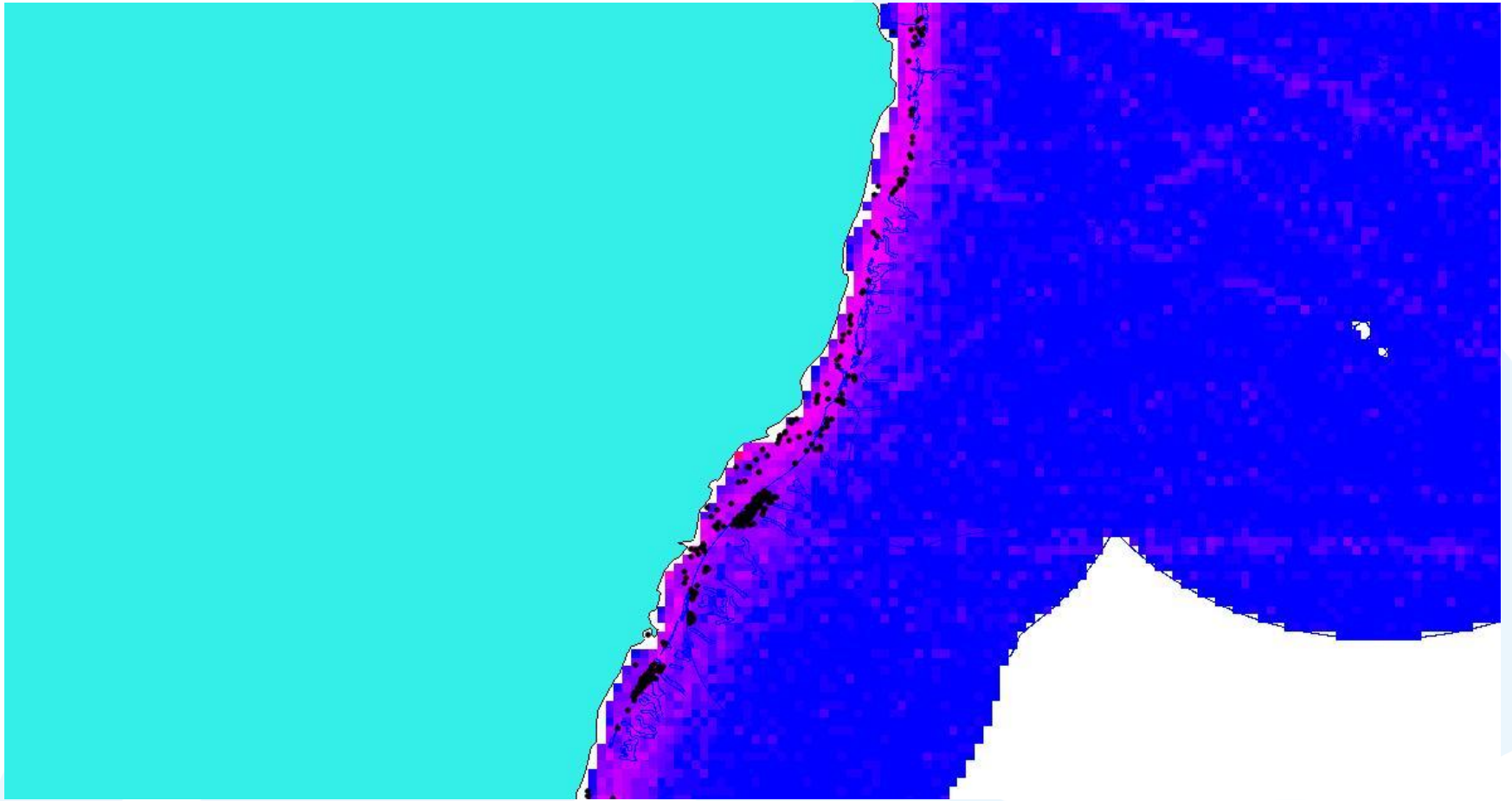


East Coast Demersal Fish – temporal data



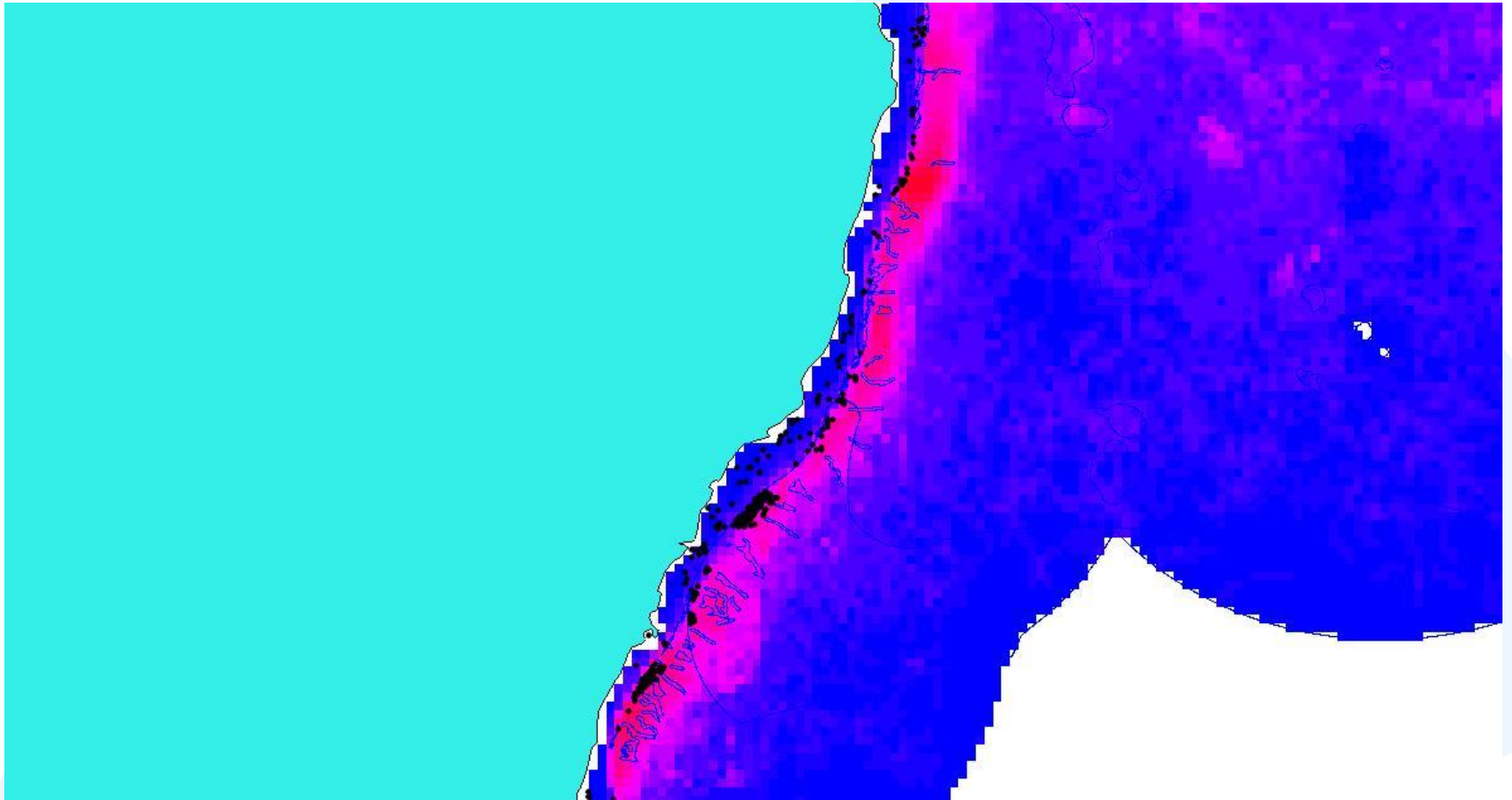


Pressures -shipping



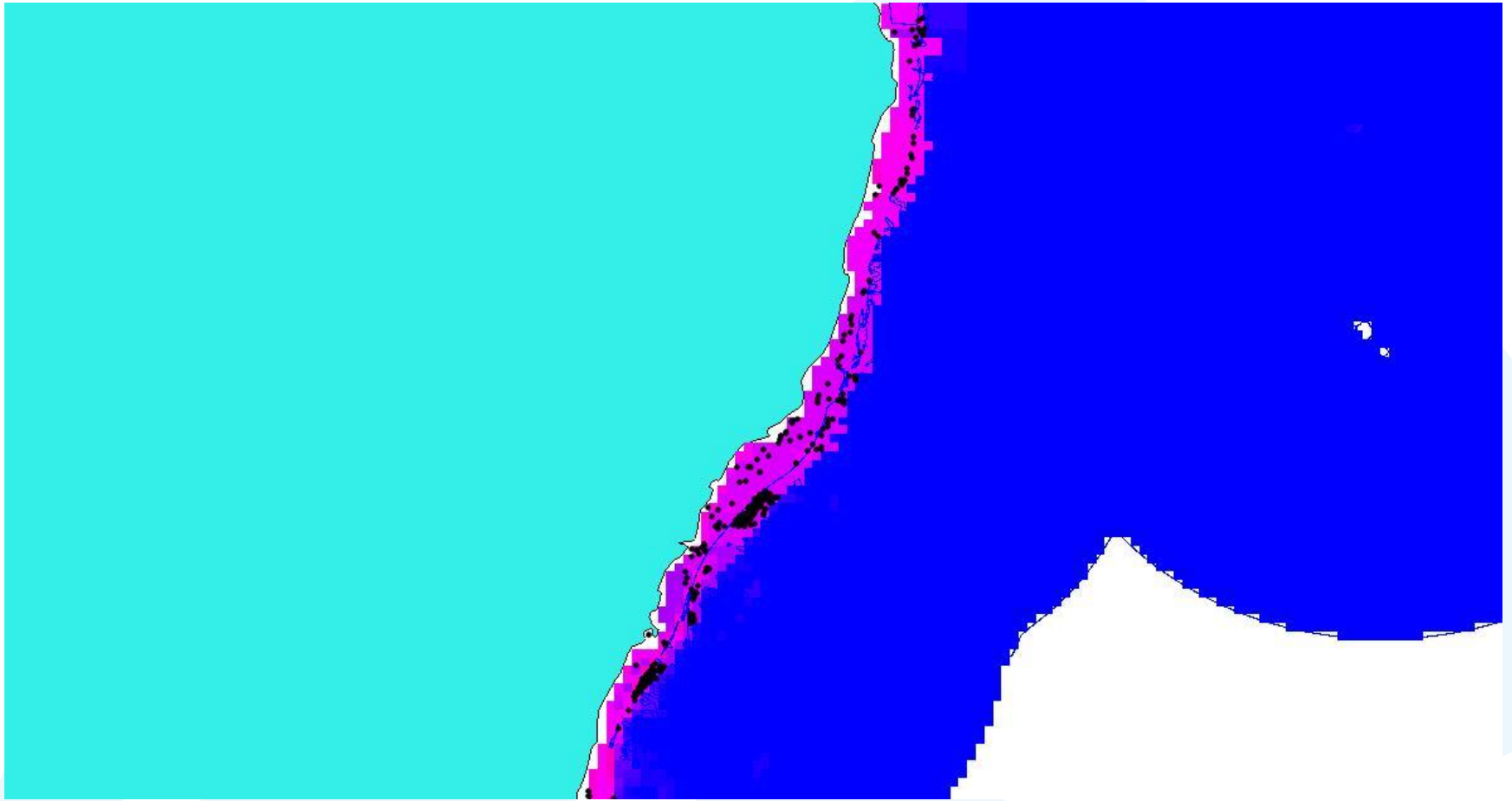


Pressures – Pelagic longline



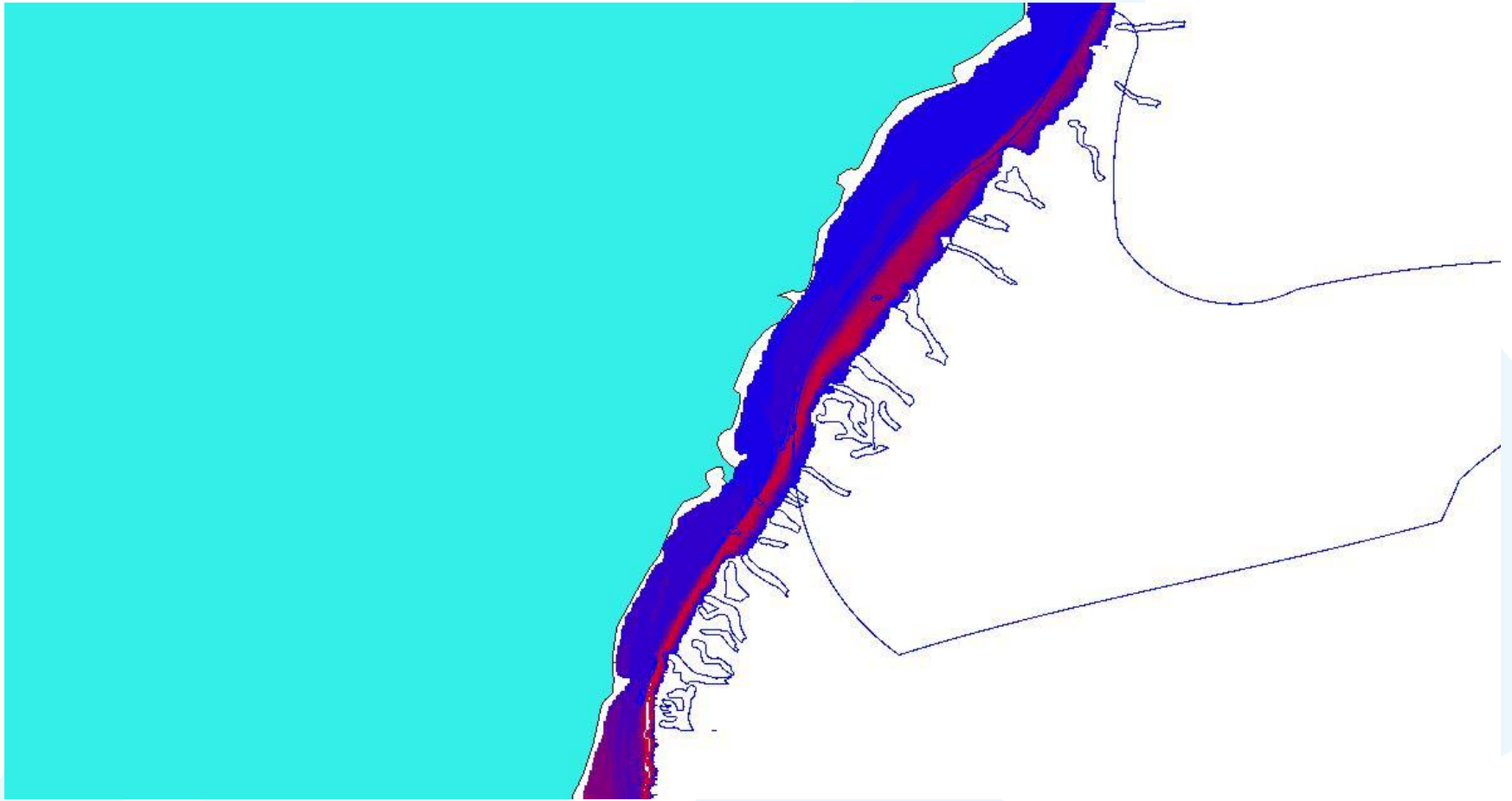


Pressures – demersal trawl



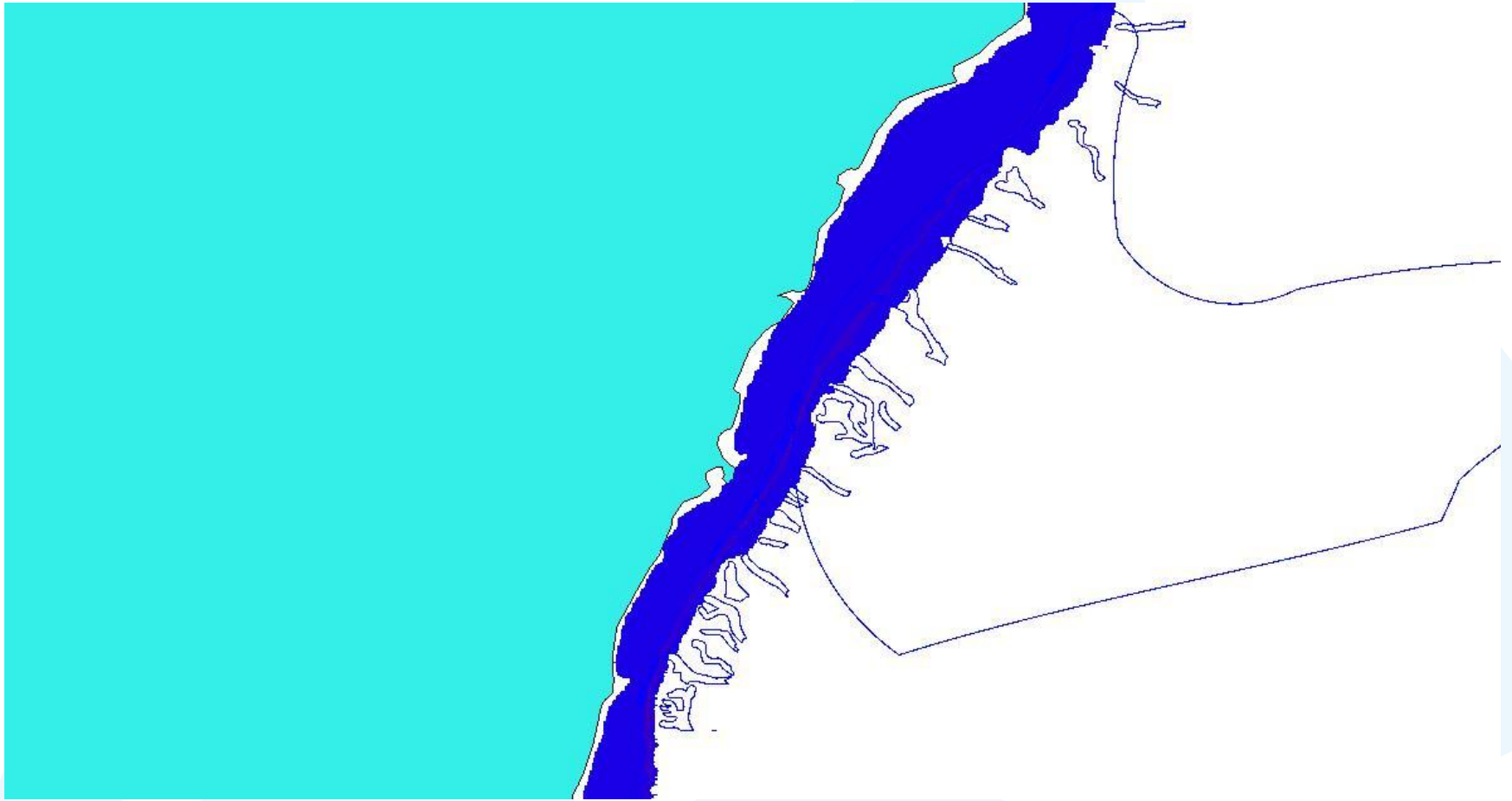


Historical distribution of dogfish



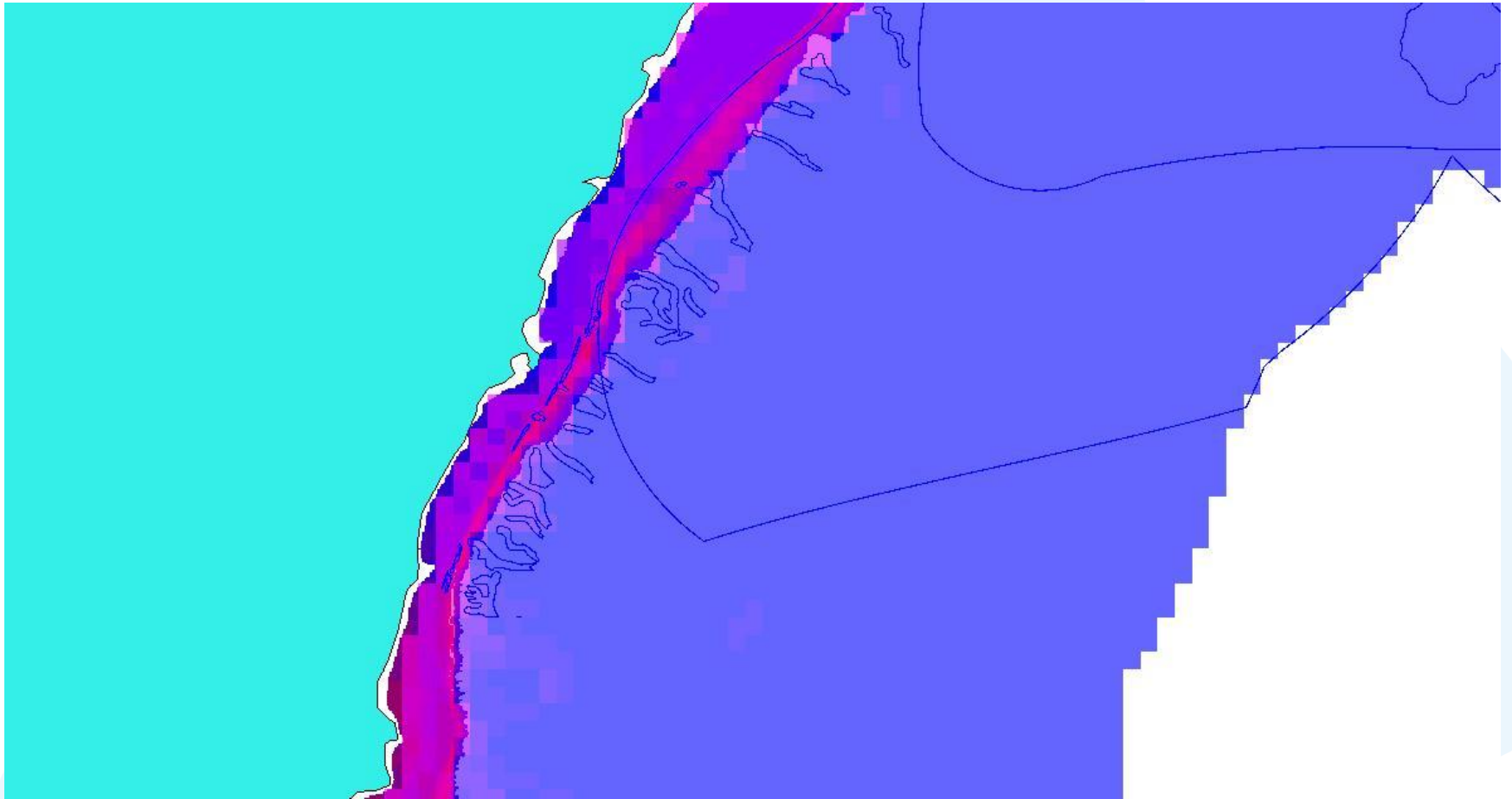


Current Distribution of dogfish





Historical distribution & trawl overlay





Integrating threats and assets – temporal

- Statistically combine pressure, environmental, temporal and biological species data to develop a model of biological response to pressure
 - adjusting for changing environment and changes over time.
- What are the implications for values expressed in Key Ecological Features and Biologically Important Areas?



Outputs for DSEWPaC

- Focus will be on in three bioregions, North-West, North and East.
- Species level and assemblage/habitat level responses to pressures.
- Regional/subregional scale outputs.
- On-going efforts to identify pressure data.
- Other important areas?

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The information in this presentation was generated by the Marine Biodiversity Hub and its partners for the purpose of consultation and collaboration with marine stakeholders in improving the evidence-base for decision making for marine biodiversity management. The Marine Biodiversity Hub is supported through funding from the Australian Government's National Environmental Research Program. The results should not be used or taken as final and are not for circulation outside of this audience without prior permission.

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