Marine Environmental Research Infrastructure for Data Integration and Application Network

MEOPAR-MERIDIAN workshop | August 16 - 17, 2018
VISION
MERIDIAN’s vision is to
Enhance Canada’s leadership in the ocean data integration, management and analysis by creating a world-class infrastructure, based on human resources and computing, to increase the data’s value and visibility.

MISSION
MERIDIAN’s mission is
To assist the ocean data community in the use of data science technologies to discover, access, analyse and visualise marine data. MERIDIAN will provide ocean data management expertise to ensure that data are well described, discoverable, accessible and reusable.
Overview: initial MERIDIAN Goals

- Integrating acoustic metadata in interoperable Meridian data catalogue
- Interactive (dynamic) data visualization and analysis
- Algorithms and data structures for scalable processing of marine data

November 2018 to December 2020
Goal 1: Integrating acoustic metadata in interoperable Meridian data catalogue

**Year 1**
- Inventory of Canadian ocean acoustic data
- Selection of a suite of use cases
- Methods for horizontal data integration

**Year 2**
- Methods for vertical data integration
- DMS prototype including data governance/access
- Metadata standard

**Year 3**
- Connected ocean acoustic community
- Connected related physical, chemical and biological data

- November 2018
- Today
- December 2020
Goal 2: Interactive data visualization and analysis

Year 1
- Connection to Google Global Fishing Watch initiative
- Selection visualization tools for MERIDIAN

November 2018 to today

Year 2
- Implementation of interactive data exploration tools
- Researcher’s customized notebooks tool developed
- Extension to other media (e.g. voice narrative generation)

Year 3
- Visualize & understand Canadian ocean soundscape
- Basin-level, layered, 3D/4D interactive visualization tools

December 2020

Note: This diagram outlines the progression of interactive data visualization and analysis goals, with specific milestones and achievements from November 2018 to December 2020.
Goal 3: Algorithms and data structures for scalable procession of marine data

Year 1
- Algorithms for streaming data and time series data
- Tools for time series and spatial data analytics

Year 2
- Data summaries & query techniques for sensor data
- Implementation of outlier detection (esp. for AIS data)

Year 3
- Ocean scientists enabled with big data analysis tools
- Tools to enable ocean data for policy development

November 2018 to December 2020