



Fisheries and Oceans  
Canada

Pêches et Océans  
Canada

# Big Data Congress 2017

World Trade and Convention Centre (WTCC)

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Canada



- Fisheries and Oceans context (DFO)
- Open Government and Open Data
- Collaborating with DFO
- How big data applies to DFO



- DFO Internet - <http://dfo-mpo.gc.ca/index-eng.htm>
- DFO Maritimes Internet - <http://www.inter.dfo-mpo.gc.ca/Maritimes/Home>
- Bedford Institute of Oceanography Internet - <http://www.bio-iob.gc.ca>



- Oceans Protection Plan - [https://www.canada.ca/en/transport-canada/news/2017/10/the\\_oceans\\_protectionplan.html](https://www.canada.ca/en/transport-canada/news/2017/10/the_oceans_protectionplan.html)
- Canadian Integrated Ocean Observing System (CIOOS) – watch for this...



- **Open Data Portal for Government of Canada -**  
<http://open.canada.ca/en/open-data>
- **Government of Canada Open Data Inventory** (data eligible/planned for release) - <http://open.canada.ca/en/search/inventory>
- **For the Maritimes region:** If the data you are looking for cannot be found through the above sites, contact BIO web master and we will direct your request: [WebmasterBIO-IOB@dfo-mpo.gc.ca](mailto:WebmasterBIO-IOB@dfo-mpo.gc.ca)

**Important: If we know what data is in demand, we can prioritize its release**



- **Industry Canada:** <https://www.canada.ca/en/services/business/doing-business/procurement-program-initiatives.html>
- **DFO collaboration initiatives:** <http://www.dfo-mpo.gc.ca/science/collaboration/index-eng.htm>
- **YOUR collaboration initiatives:** How is your organization collaborating with others?
- **Formal and informal collaboration with government, industry, and academic partners**
- **Regional advisor on collaboration opportunities:** Kattie Calleja, Strategic Advisor, DFO Science, Maritimes Region, [Kattie.Calleja@dfo-mpo.gc.ca](mailto:Kattie.Calleja@dfo-mpo.gc.ca)

**Although we cannot undertake every collaboration, we are interested in hearing from you**



# What are we looking to collaborate on

- **Commercial and non-commercial innovation linked to DFO and Government of Canada priorities** – visit the web sites
- **Professional collaborations** – support DFO and partner research, sharing expertise, professional collaboration, and knowledge development in the marine domain (foster the national Canadian context and connections to the global community)
- **Technical collaborations** – solving small and large problems through technical development/leverage, foster robust solutions which can be applied to the marine space, and promoting standards to facilitate connectivity to the global marine community



- **Variability** – broad range of content types (media), highly variable management (storage, QA/QC standards, quality assessment systems, documentation, ...), ever-change range of questions to be answered
- **Volume** – more data production/collection (more parameters, more redundancy/failover), longer time-series
- **Velocity** – more sensors/systems, more interdependencies with external systems, more real-time, **more operational**
- **Veracity** – more sources, more processing/QA+QC schemes/more knowledge, more full/partial duplication





- **Variability** – image/video/acoustic/unstructured data analysis (natural language processing and other machine learning techniques)
- **Volume** – big data archives and connections to get data to where it needs to go (internally hosted archives for source + externally hosted public and private archives for broad community use)
- **Velocity** – more real-time, more operational (with new monitoring and response requirements, must implement the systems to respond and to be available when needed)
- **Veracity** – recommender systems and other machine learning use cases (many applications), improved data stewardship, connections to linked data and the semantic web



# QUESTIONS?