MEOPAR

MARINE ENVIRONMENTAL OBSERVATION, PREDICTION & RESPONSE NETWORK

Examples of shipping risk research in Canadian Universities

By: Ronald Pelot
Associate Scientific Director
MEOPAR / Dalhousie

MEETING THE CHALLENGES OF OUR CHANGING OCEAN

Introduction

- MEOPAR's mandate is to better understand and research marine risks, including risks associated with Shipping

- **Risks to ships:**
  - Extreme weather events
  - Ice presence / conditions
  - Tides / currents
  - Search & Rescue planning
  - Groundings

- **Risks by ships:**
  - Whale collisions
  - Noise
  - Air pollution
  - Water pollution / spills
  - Emergency spill preparedness planning

- **Shipping traffic modelling:**
  - Marine protected areas
  - Tourism / whale watching
  - Route planning

- Disruption to shipping
- Vessels of opportunity
- Fishing vessel patterns

MEOPAR Projects – Cycle I (2012-2017)

1. Noise in the Marine Environment from Ships (Canessa)
2. 3MTSIM – ship/whale interactions in the Saint Lawrence Seaway (Dupras)
3. Whales, Habitat and Listening Experiment (Taggart)
4. Detecting fishing patterns and effort using AIS data (Worm/Matwin)
5. Maritime transportation disruption: An integrated assessment of coastal community resilience (Chang)
6. Continuous spectroscopic measurements of marine boundary layer composition and evolution in an urban shipping environment (Wiacek)
7. Oil spill risks: end-to-end modelling (Pelot)
8. Pressured Ice: Environmental Monitoring, Modeling and Mitigation of Risk for Marine Operations (Taylor)
9. Ballast Water risks from Arctic Traffic (Pelot)
10. Big Data Centre: data analysis and data mining (Matwin)

MEOPAR Projects – Cycle II (2017-2022)

1. Model of Impact of Dilbit and Oil Spills in the Salish Sea (MIDOSS) (Allen)
2. Whale watching AIS Vessel movement Evaluation (WAVE) project (Canessa)
3. Shipping Resilience: Strategic Planning for Coastal Community Resilience to Marine Transportation Risk (SIREN) (Goerlandt)
4. Mapping & Managing Shipping Risks to Protected Marine Areas in Canada's Northwest Passage Project (Dawson)
5. User-driven monitoring of adverse marine and weather states, Eastern Beaufort Sea (Atkinson)
6. A proposed Cumulative Risk Assessment (CRA) framework for northern shipping (Pelot)
7. Supporting the global ocean Vessel of Opportunity System (deYoung)
8. Canadian Arctic Shipping and Transportation Research Network (CASTNet) (Dawson)
9. Maximum Time to be Rescued in Canadian Arctic waters (Pelot)
10. Big Data Centre: data analysis and data mining (Matwin)

Thanks !

www.meopar.ca

902-494-4384

Ron Pelot, Ph.D., P.Eng.

Ronald.Pelot@Dal.ca