



Arctic and Aquatic Research Division

Science At-Sea for Evidence
Based Decision Making

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Impacts

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Science Vessel Charter
Information Session



Beaufort Sea, Canada. V.Cypihot

Regional Scope and Programs

Priority Research

- Stock Assessment
 - Fish & Marine Mammal abundance/biomass, population modelling, harvest advice, biological removal levels, etc.
- Ecosystem Impacts
 - Freshwater and marine offshore and coastal productivity, stressors, food web interactions, climate change, cumulative impacts, contaminants, harmful algae, etc.



Research requires sampling efforts in marine coastal, offshore and freshwater areas

Regional At-Sea Research Programs using vessels

Ecosystem Programs

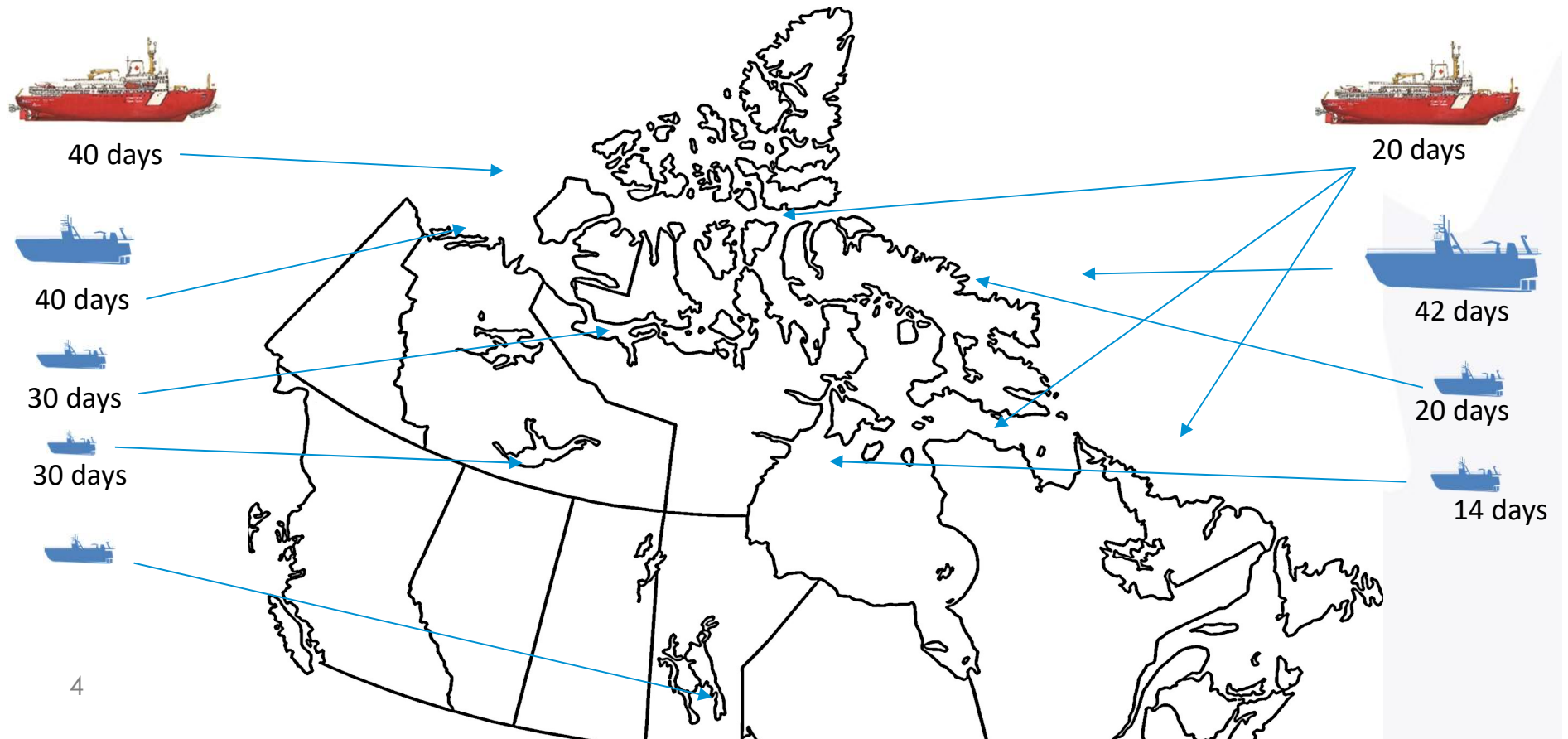
- Lake Winnipeg Ecology
- Last Ice Area (High Arctic)
- CBS-MEA (Beaufort Sea)
- Southampton Ecology Study
- Canada's Three Oceans Monitoring
- Joint Ocean Ice Study
- Lancaster Sound Operational Array
- Western Arctic Moorings
- Hudson Strait Moorings
- Kitikmeot Sea Science Study

Stock Assessments

- Baffin Bay/Davis Strait and Hudson Strait Fisheries
- Inshore Baffin Bay Fisheries
- Great Slave Lake Fisheries

Regional ship-based scientific work

- Canadian Coast Guard Support (~60 days)
- Other (~215 days)



Current needs

- Ice Capable/
Icebreaker
- Ocean Capable
(stable in high seas)
- Coastal Capable
(shallow draft)
- Lake research ships
- Mid water and bottom
trawlers
- Hydroacoustics and
different types of
bottom sonar
- Water and bottom
sampling equipment
(winches/cranes)
- Smaller launch/support
boats with small winch
- Berthing for science
staff
- On-board lab space
- Communications
- ...

Challenges

- Remote locations – transit to sites can be weeks
- Poor or non-existent dock/harbours infrastructure
- Isolation
- Long mission and shift durations
- Multidisciplinary programs
- Long days, in some cases 24h operations
- High expense for adequate internet
- Dangerous conditions (ice, weather)
- Expensive travel
- Expensive restocking
- Insurance requirements can be difficult/expensive

