



# Ocean Sciences Division

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## Ocean Sciences Division - Organization

- One of four Divisions in the reorganized Science Branch (April 1, 2005)
- Physical Oceanography (current, water properties, acoustics, waves; remote sensing)
- Biogeochemistry (carbon cycle and related issues)
- Lower Trophic Level Biology (Plankton)
- Contaminants in marine ecosystems



# Ocean Sciences Division - Composition

- **66 Indeterminate FTEs + ~7 Determinate staff**
  - 26 Research Scientists
  - 22 Professionals (BI / CH / PC / CS)
  - 21 Technical staff (EG / EL / GS)
  - 4 Administrative staff (AS / CR)
- **Others**
  - Emeritus scientists
  - Visiting Scientists
  - Post Doctoral Fellows and Graduate Students



# Ocean Sciences Division - Major Programs

1. Understanding the ocean's role in climate change
2. Understanding natural variation in marine ecosystems, including fish
3. Climate change and Arctic Marine ecosystems
4. Contaminants and Marine Environmental Quality



## OSD - Program Activity Architecture

- **Safe and Accessible Waterways**
  - ice, waves, currents, tsunami (some shared with CHS)
- **Sustainable Fisheries and Aquaculture**
  - Environmental affects of Aquaculture; SARA (acoustics and marine mammals)
- **Healthy and Productive Ecosystems**
  - Climate and aquatic ecosystems; assessing aquatic ecosystems and support for integrated Oceans Management; impacts of development



## OSD- Unique Features

- Large complement of top scientists (7 SE-RES 5!)
- Programs are strongly horizontal
  - Climate (with EC, NRCan, universities and foreign agencies)
  - Offshore Development/Oil and Gas (with NRCan and DIAND)
  - Contaminants (with EC, DIAND, NRCan, Health Canada, CFIA)
- Provides large part of DFO's Arctic program and expertise
- Large international component to this work area



## OSD – National Leadership

- Arctic Science, including International Polar Year
- Contaminants – Organics (one of two national labs) + effects (toxicology).
- Ocean Monitoring – ARGO program of robotic floats
- Tsunamis (with CHS)
- Acoustics – instrument development and measurements
- State of the Ocean Reporting



# OSD – Hot Topics of the Day

- **Climate**
  - Modeling and observations; impacts on marine ecosystems
- **Tsunami**
  - Hazard identification / risk assessment /Inundation mapping
- **Contaminants**
  - Levels and impacts on marine ecosystems
- **International Polar Year**
- **Health of the Oceans**
  - Marine Protected Areas
- **Impacts of Aquaculture**
- **State of the Ocean Reporting**



## OSD - Challenges

- “Nationalized” Analytical Lab (net growth)
- Age structure and transition planning
- Excessive reliance on “soft” funding
- Blending/Aligning Ocean Science program with the “Ocean Agenda” (in the longer term)
- Incorporating ocean climate information into IFMPs
- Post-IPY Arctic program
- Executing big programs with Academia (e.g. NEPTUNE AND VENUS)