

Impacts of Global Warming on Arctic Marine Mammals

Summary

Project Leader

Ferguson, Steven

This project examines various aspects of Arctic marine mammal (seals, whales, and polar bears) ecology to try to determine the impacts of global warming on their abundance and distribution. Research will answer: 1) How will marine mammals adapt to global warming and what are the possibilities for future survival? 2) What is the relationship between warming temperatures and the habitats of seals, whales, and polar bears? 3) What are the potential effects of global warming on reproduction and survival? 4) What will be the effects of changes on northern communities and Inuit lifestyle? 5) How can we reduce the impacts of these changes on Arctic peoples and marine mammals? Satellite tracking, analysis of tissue samples collected by local hunters, and genetics and population modeling are methods that will be used to understand how these animal populations may respond to environmental change. Several areas of Arctic marine mammal health are also being studied, including diet, diseases, contaminants, and stress. Knowing how polar ecosystems may change with global warming will help to develop strategies for conservation and species management. Northerners depend on these species as a food source and as an integral part of their unique culture, and results will help Inuit communities adapt to changes in marine mammal distribution and abundance.

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- Aboriginal Affairs and Northern Development Canada - Northern Scientific Training Program
- ArcticNet Inc.
- BREA/AANDC
- Canadian Association of Zoos and Aquariums
- Canadian IPY Secretariat
- Canadian Wildlife Federation
- Centre for Expertise on Marine Mammals
- Churchill Northern Studies Centre
- Circumpolar Flaw Lead (CFL) System Study
- Earth Rangers
- Environment Canada
- Environment Canada - Canadian Wildlife Service - Northern Conservation Division
- Environment Canada - Canadian Wildlife Service - Prairie and Northern Region
- Environment Canada - Science and Technology Branch
- Fisheries and Oceans Canada - Central & Arctic Region
- Fisheries and Oceans Canada - Cumulative Impacts Monitoring Program
- Fisheries and Oceans Canada - Ecosystem Research Initiative
- Fisheries and Oceans Canada - Emerging Fisheries
- Fisheries and Oceans Canada - Freshwater Institute
- Fisheries and Oceans Canada - Landclaim Settlement
- Fisheries and Oceans Canada - Maurice Lamontagne Institute
- Fisheries and Oceans Canada - Species at Risk Act
- Fisheries and Oceans Canada - Strategic Program for Ecosystem Based Research and Advice
- Fisheries Joint Management Committee (FJMC)
- Hauser Bears
- IPY -- Circumpolar Flaw Lead
- IPY -- Global Warming and Arctic Marine Mammals
- IPY Federal Program Office
- Manitoba Conservation
- Manitoba Hydro
- Minerals Management Service
- National Centre for Arctic Aquatic Research Excellence N-CAARE
- Natural Resources Canada - Environmental Studies Research Fund (ESRF)

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Other Refereed Contributions

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