Affaires autochtones et Développement du Nord Canada | Aboriginal Affairs and Northern Development Canada

Climate Change Working Group

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Canada

Background

- Beaufort region affected by climate change
- Increasingly changing environment
- Need to include in decision-making

Climate Change Working Group

- Investigate potential effects of climate change in the event of oil and gas exploration and development
- Led by Environment Canada
- Composed of representatives from
  - Inuvialuit organizations
  - Industry
  - Federal and territorial governments

Purpose

- Identify climate change information including traditional knowledge and local knowledge and data gaps relevant to offshore oil and gas activity in the Beaufort
- Recommend actions to fill these gaps

Purpose

- Support efficient and effective
  - Environmental assessment
  - Regulatory decision-making
- Regarding climate change and adaptation relevant to offshore oil and gas activity in the Beaufort Sea

Methods

- Gathered, reviewed, and summarized the science, traditional knowledge and local knowledge
- Made a series of recommendations to Research Advisory Committee and Steering Committee
  - Modeling
  - Monitoring
  - Critical Research

Results

- Assessment report prepared by Environment Canada and AANDC (2013)
- Commissioned 2012 report on forecasting oil and gas exploration and development activity in the Beaufort
- Identified climate and ice variables of importance

Results — Research

- Key positive climate change effects on oil and gas
  - Longer operating seasons for seismic and drilling activities due to reduced ice cover and thickness
  - Earlier mobilization and later demobilization of vessels both to and from the Beaufort Sea
  - Reduced icebreaking requirements

Results — Research

- Key negative climate change effects on oil and gas
  - Increased ice movement (velocity and glacial ice features) pose a threat to drilling and production platforms
  - Larger wave heights may cause delays in ship support activities and seismic operations
  - Degradation of permafrost in coastal areas with implications for coastal oil and gas infrastructure
  - Reduced use of ice roads and ice spray islands near-shore
  - Increased storm surge in coastal areas
- These potential effects are also important for communities

Results — Recommendations

- Develop atmospheric regional climate model
- Model how things move around in the environment (sediment, water, atmosphere, and biota)
- Model inshore and wave surge for coastal erosion
- Improve knowledge of ecosystem functions
- Research ice hazards: ice deformation, marine glacial ice, and landfast ice

Results — Recommendations

- Continue collaboration and knowledge sharing between Inuvialuit and Western scientists
- Coordinate long-term monitoring and community consultation
- Introduce climate change guidelines into environmental assessments
- Investigate climate adaptation options

Conclusion

- Scientific knowledge and traditional knowledge
- Complimentary and showing strong agreement
- Strengthen assessment processes and support decision-making