

POTENTIAL CMI STUDIES, MMS ALASKA ENVIRONMENTAL STUDIES PROGRAM

Region: Alaska

Planning Area: Beaufort/Chukchi Sea/North Aleutian Basin/Cook Inlet

Title: Long-term Remote Sensing Workshop and Data Strategy

MMS Information needs to be addressed: In order to assure both cost effective and long-term information needs in Alaska OCS regions and support of NEPA and ESA, appropriate planning and acquisition of remote sensing data are needed. Information will be used in NEPA analysis and documentation in the *Outer Continental Shelf Oil and Gas Leasing Program 2007-2012*, Exploration Plans, Development and Production Plans and in post-sale and post-exploration decision making and mitigation.

Period of Performance: Phase I, one year. Phase II two to four additional years.

Description:

Background: Data collection in the Arctic offshore areas is logistically difficult and expensive. However, remote sensing satellites have made possible analyses that were previously impossible physically or bugetarily. Nonetheless, there are major concerns in exploiting the satellite data potentially available in arctic regions.

Some sensor data is not archived unless pre-arranged. Some sensors have a limited duty cycle and/or restricted access and require significant planning and negotiation for securing data access. Derived products from many sensors are only available as large, coarse resolution datasets designed for studying global climate issues. Regional data must be defined and created. Ancillary, in situ, and contemporaneous data for validation and interpolation of satellite-derived information needs to be included in planning an analysis.

Objectives:

1. Prioritize northern remote sensing data which will provide a basis of continuity and consistency in evaluation of potential impacts in the general areas and regions of Alaskan offshore exploration and development.
2. Develop region priorities and strategies for obtaining long-term remote sensing data that meets MMS information needs.

Methods:

1. Summarize of Arctic satellite data sources, resolution, capabilities, limitations, availability of archived and derived products, costs of derived products and recommendations on *in situ* measurements to support the use of the derived products.
2. Hold a workshop with Alaska MMS scientists and analysts to 1) review the summary and develop a multi-disciplinary priority list, 2) Strategy for synergistically integrating

multidisciplinary data collection (satellite, in situ, derived); 3) plan to obtain satellite data which would otherwise be lost and develop derived products specifically to meet MMS needs.

Methods:

Phase I: Literature Review and Workshop on Environmental Baselines: Year 1

- Perform a brief and focused literature review on remote sensing products available over Arctic Alaska Oceans, capabilities, limitations, availability, need for MMS to obtain and
- Hold interdisciplinary planning workshop involving Satellite data expert and Alaska EAS and ESS specialists.
- Consider potential baseline efforts, coordinated with any ongoing or previous applicable MMS or industry site-specific monitoring.

Phase II: Integrated Remote Sensing Data Acquisition: Years 2-5

- Implement detailed interdisciplinary monitoring, as appropriate, as identified through additional public and interagency input.
- Use Field logistics as necessary to support validation data gathering.
- Compile remote sensing data into statistical, GIS, and other formats of spatial, temporal, and pattern analysis useful to decision making and operational evaluation.
- In Year 5, evaluate acquisition program and recommend remote sensing priorities for future acquisition.

Date Information Required:

Review of capabilities and limitations of satellite data to meet MMS information needs due first year.. Preliminary plan for obtaining high priority data that will otherwise be lost opportunity due three months after workshop. Interim statistical and GIS products due annually in Phase II, if funded. Final Report and recommendations due at end of project.