



## Arctic ERMA®

**A**rctic sea ice continues to contract and thin, and as it does, energy exploration and transportation activities will increase in the region, escalating the risk of oil spills and accidents. In anticipation of this increased activity and risk, the National Oceanic and Atmospheric Administration (NOAA) and interagency partners actively prepare for possible environmental emergencies.

In 2010 NOAA's Office of Response and Restoration partnered with the Office of Coastal Resource Management, the Oil Spill Recovery Institute, and

the University of New Hampshire to develop an Environmental Response Management Application (ERMA®) for the Arctic region. In 2012, the Department of the Interior partnered with NOAA to enhance ERMA in preparation for Arctic exploration activities.

To develop this project, NOAA is working with indigenous communities to share information on how ERMA can best support an emergency response and protect the unique lifestyle and resources of the region. Arctic ERMA is a pilot project supporting the efforts of the Arctic Council's Emergency Prevention, Preparedness, and Response Working Group

**ERMA** Environmental Response Management Application  
Arctic

Information Help Admin Upload Find Logout

Layers Legend Query Tools AOI Labels Zoom Download Print

**Imagery and Remote Sensing**

- Blue Marble Imagery - December
- Ice Extent
- Multisensor Analyzed Sea Ice Extent (MASIE), Northern Hemisphere, 4 km (NSIDC)

**Transportation**

- US Shipping Routes
- US Shipping Routes

**Ports (PAME, 2009)**

- Ports (PAME, 2009)

**Oil Infrastructure**

- Chukchi Sea OCS Exploration Wells (BOEMRE)
- Chukchi Sea OCS Exploration Wells (BOEMRE)

Scale: 1: 28M Zoom Level: 4 Location: 66.22490°, -124.16016°

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*Arctic ERMA enables emergency planners and responders to present, in a spatial environment, depictions of sea ice concentrations from the National Snow and Ice Data Center together with photo observations of changing ice flows. This flexibility and adaptability provides stakeholders in the Arctic with crucial information about where sea ice is thinning in an easy-to-understand way.*



and contains information such as the extent and concentration of sea ice, locations of ports and pipelines, and vulnerable environmental resources.

The Arctic ERMA project was designed as a result of a series of Arctic stakeholder workshops and an interagency focus on preparedness for Arctic emergency response, assessment, and restoration. Several key events contributed to the development of Arctic ERMA, including the Coastal Response Research Center's (CRRC) Arctic Disasters Workshop in March 2008, the Joint Industry Project Oil-in-Ice Research and Development Assessment, and the Arctic Natural Resource Damage Assessment Workshop in April 2010 ([www.crrc.unh.edu/workshops](http://www.crrc.unh.edu/workshops)).

Arctic ERMA is able to draw from a variety of data sets to assist with planning, response, and restoration efforts. Initial data sets in Arctic ERMA currently include:

- Active oil and gas drilling lease information
- Environmental Sensitivity Index (ESI) data (U.S. and Canada)
- Ice conditions
- Real-time weather and observational data
- Logistical support sites and infrastructure

NOAA continues to seek other data sources useful for planning, response, and restoration activities in the region.

NOAA and CRRC conducted two Arctic ERMA workshops (December 2010 and April 2011) to identify priority data sets and data sources for the project. The project is currently scheduled to be completed mid-2012.

## More Information about ERMA

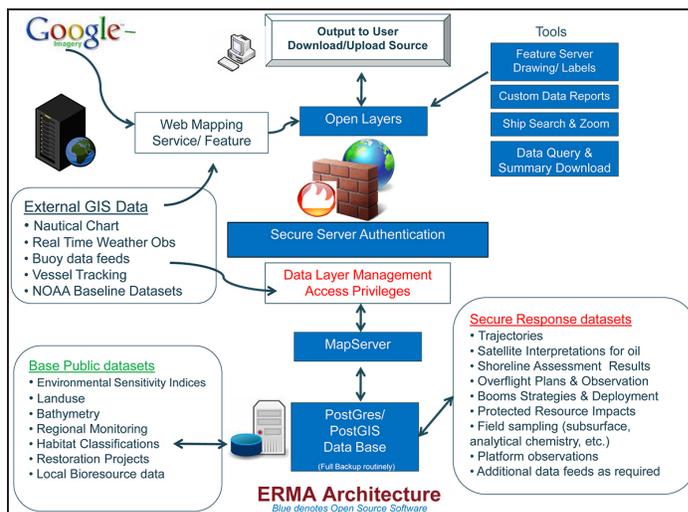
ERMA is an online mapping tool that integrates both static and real-time data, such as NOAA's Environmental Sensitivity Index maps, ship locations, weather, and ocean currents, in a centralized, easy-to-use format for environmental responders and decision makers.

ERMA enables a user to quickly and securely upload, manipulate, export, and display spatial data, resulting in high-impact visualizations of relevant response-related data and information. The tool provides users with access to relevant data for incident drills, planning, response, damage assessment, and restoration as well as for other events and natural disasters.

Developed by NOAA and the University of New Hampshire with the U.S. Environmental Protection Agency, U.S. Coast Guard, and the Department of Interior, ERMA provides environmental resource managers with the data necessary to make informed decisions for emergencies.

## Further Information

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This diagram represents the basic software architecture and data flow for ERMA.

## NOAA's Office of Response & Restoration—Protecting our Coastal Environment

For further information about NOAA's Office of Response and Restoration, please call (301) 713-2989 or visit our Web site at [response.restoration.noaa.gov](http://response.restoration.noaa.gov)

