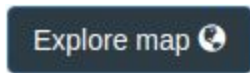


Getting started with the Arctic Oil Spill Risk Assessment Portal

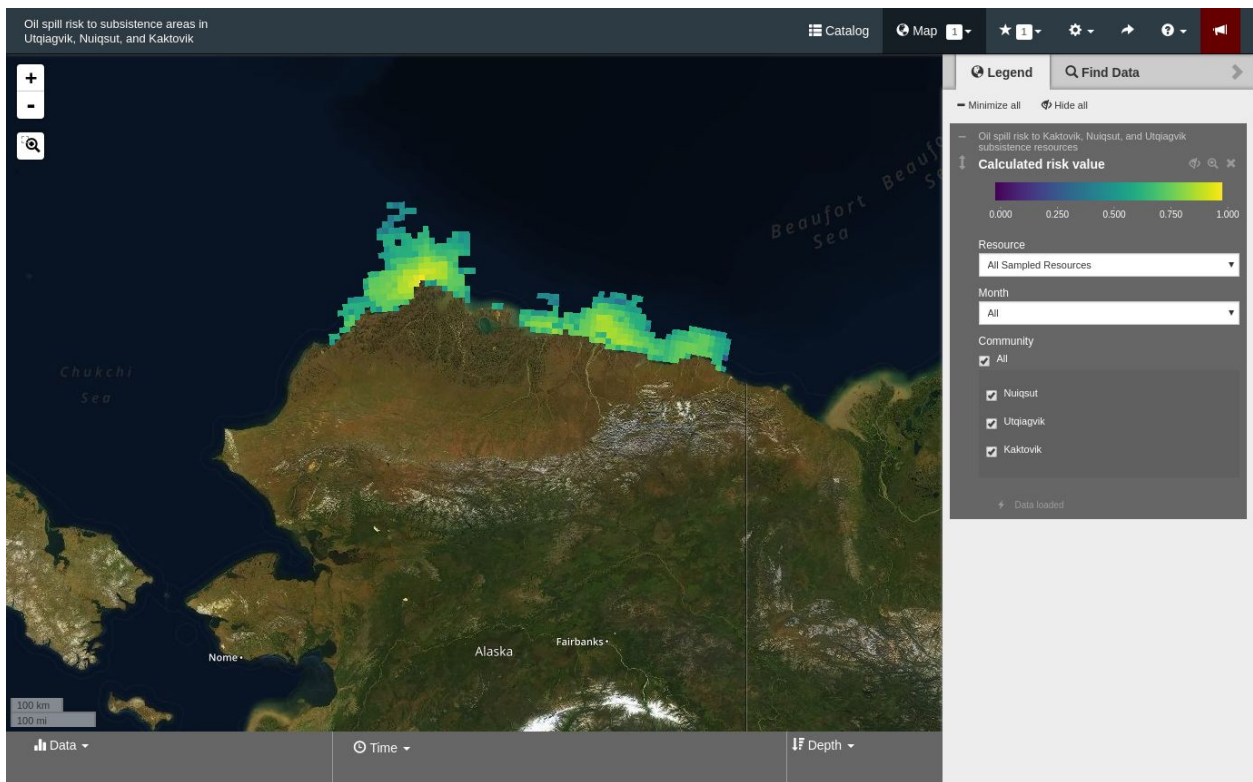
This tutorial provides a step-by-step overview for the Arctic Oil Spill Risk Assessment, funded by the National Academy of Science's Gulf Research Program. This tool allows users to find, visualize, and integrate vessel tracking data, subsistence data, and oil spill risk assessment results.

Exploring the Risk Results

To jump into an interactive map showing the risk results, select the Explore Map button from the upper navigation bar.



The LEGEND on the right side of the screen will show you what you are looking at. Use the dropdowns to select the subsistence resource you're interested (the default is a summary of "all sampled resources") and the month (the default is a summary of "All" months). You can also use the checkboxes to hide or show the risk assessment associated with any of the three Alaska Beaufort Sea communities.



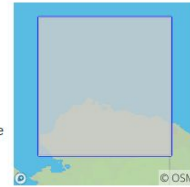
How the Risk Assessment Was Produced (Metadata)

To learn more about the details of the risk assessment and how it was conducted, click on the title "Calculated risk value" in the legend to see the catalog entry. This provides a brief overview of the risk assessment. More details including the equations and methods used can be found by following the link under "Metadata URL".

🌐 Oil spill risk to Kaktovik, Nuiqsut, and Utqiagvik subsistence resources

In 2018 AOOS, Axiom Data Science, and Stephen R Braund and Associates were selected by the National Academy of Sciences to calculate an oil spill risk assessment for subsistence harvest areas used by three Arctic-region communities: Kaktovik, Nuiqsut, and Utqiagvik. The normalized risk to the selected subsistence region from operational and accidental spills of marine diesel by ships in the Beaufort Sea were estimated using the ISO-compliant IT-OSRA (Sepp-Neves 2015, Sepp-Neves 2016) method.

In brief, the estimated risk for a given region is derived from two components: 1) Hazard, an estimate of the environmental risk to a region from oil spills, and 2) Vulnerability, an estimate of the social value of the region. Hazard to a given region was calculated from an ensemble of oil spill simulations released from historical ship locations based on AIS data. Vulnerability is derived from subsistence harvest data for Barrow, Nuiqsut, and Kaktovik. Risk was normalized by the highest annual risk for a single community.



Metadata URL	http://osra.axds.co
Extent	67.3199°,-166.2772° x 75.6477°,-140.6722°

Layers 1

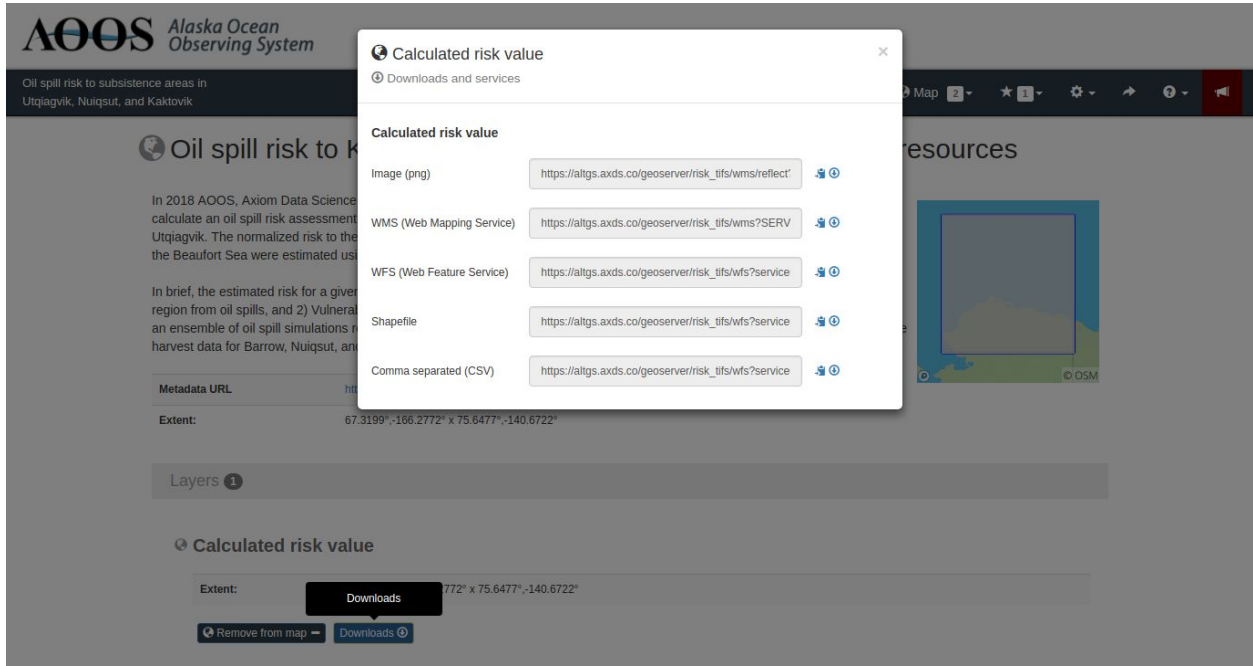
🌐 Calculated risk value

Extent	67.3199°,-166.2772° x 75.6477°,-140.6722°
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🗑️ Remove from map 📄 Downloads

Downloading Data

Data is easily downloaded right from the tool. View the catalog entry for data you're interested in and select the Download button to bring up options.

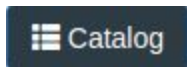


In the case of the risk data, the download page will give you access to images, WMS and WFS services, shapefiles, and CSVs. Georeferenced TIFF files are also available by following the Metadata URL link to the more detailed product page.

Finding Additional Data Layers

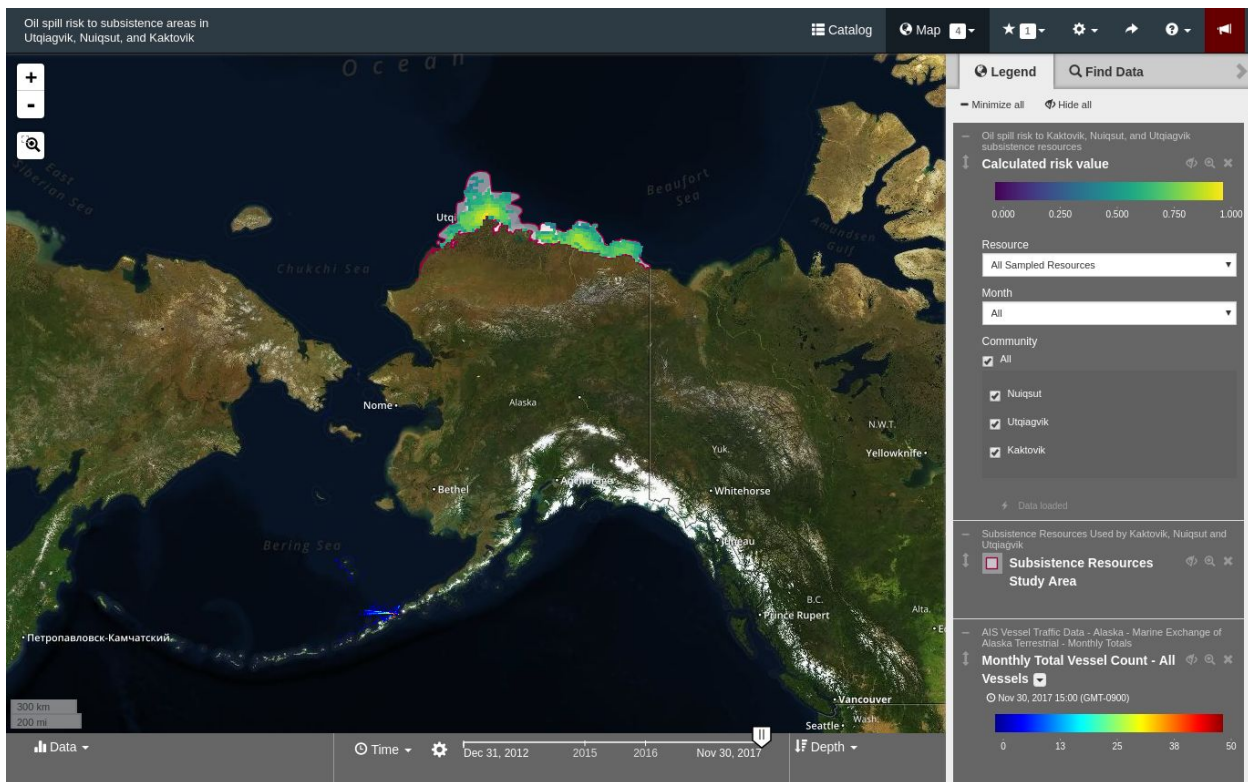
This tool also contains data that went into calculating the risk including subsistence data, vessel tracking data, and environmental forcing datasets such as the HYCOM model, which was used for sea water velocity, and the NCEP Global Forecast System (GFS), which provided wind velocity information.

To explore these additional layers, use the Catalog button from the upper navigation bar.






The catalog shows all of the layers available in the tool along with metadata entries to find additional information for each. From any location in the catalog, use the "Add to map" button located on any catalog entry page. You'll see the counter next to the Map button in the upper navigation bar increase. Then click on the "Map" button to return to the interactive map. In the below example, we've used the "Add to map" button to add the following layers:

- Calculated risk value
- Relative Harvest Intensity
- Subsistence Resources
- Monthly Total Vessel Count - All Vessels

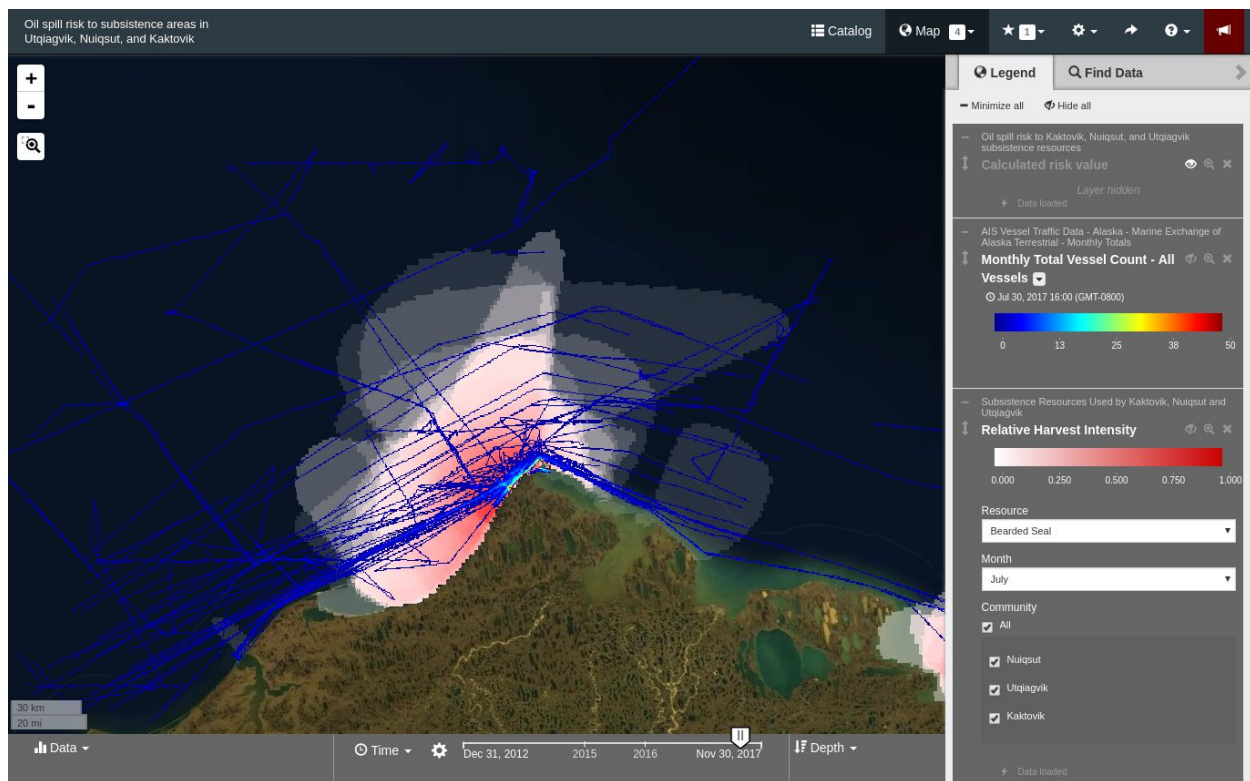


Customizing the Map

The legend contains many options to customize the map. Some common options include the following:

- Rearrange the order by dragging the vertical arrow symbol next to each legend entry: 
- Use the time control slider at the bottom of the map to select a month for the vessel traffic data that matches the month you select in the subsistence data dropdown.
- Hide or show layers by using the eye symbol next to each legend entry: 
- Change baselayers or units using the gear symbol (settings) in the upper navigation bar: 

In the following example, we've selected the Relative Harvest Intensity dropdowns to show subsistence for Bearded Seal in July, and then moved the time slider to show AIS data for July, 2017 to see the overlap of ship traffic and typical subsistence areas.



We can then flicker the calculated risk value on and off using the eye symbol to see how ship traffic and high subsistence use eventually determined a high risk in this area.

Getting Help

There are multiple ways to find more information on how to use this tool. First, use the question mark button in the upper navigation bar:



- The "Interactive Guide" will provide information on your screen through small pop-ups and answer common questions.
- The "Documentation" link will open a new window with full, searchable documentation for all AOOS portals, including this one.

Lastly, we're here to help! If you can't figure something out, or something doesn't look right, use the feedback button in the upper navigation bar:



We'll get back to you as soon as possible (typically within a business day).