Wider Caribbean
Oil Spill Information System Workshop

REPORT

EXECUTIVE SUMMARY

The Wider Caribbean Oil Spill Information System Workshop was held from 24 – 25 June 2020 online. GEO Blue Planet hosted the workshop in collaboration with AmeriGEO, IOCARIBE IOC UNESCO, NOAA Satellite Analysis Branch, and RAC-REMPEITC. The goal of the workshop was to discuss the development of an AmeriGEO oil spill information system for the Wider Caribbean. The workshop took place over two days and consisted of presentations and discussions. 101 participants attended the workshop from international organizations and networks, research scientists, government agencies, industries, and others.

The key points from the workshop include:

- Oil spill preparedness and actions rely on various types of data.
- Clear communication among stakeholders should be part of contingency planning.
- Legal guidelines are important for effective implementation.
- Identifying data needs depends on the project scope.
- Clear and easily accessible visualizations are necessary to share information with stakeholders.
- A pilot project can increase stakeholder participation.
- Capacity is important to consider for long-term sustainability .

SYMPOSIUM OVERVIEW

The goal of the workshop was to understand industry and stakeholder needs, develop the scope of a project to develop an oil spill information service for the Wider Caribbean, and build regional capacity for satellite surveillance of oil spills in the region. The proposed information service will be based on openly shared data and will be publicly available.

The proposed roles of each participating organization are as follows:

- AmeriGEO will host an Oil Spill Information Toolkit to 1) visualize oil spill response centers to assist with coordinating emergency response efforts and situational awareness, 2) catalog resources, satellite surveillance reports, and analytical tools to track oil spills, and 3) aid in recovery and restoration efforts.

- GEO Blue Planet will provide networking and coordination support for the project including communications and overall management of the kick-off phase of the project.

- IOCARIBE will work with member countries to promote the development and uptake of regional oil spill surveillance. IOCARIBE will also support regional coordination and networking of marine and coastal monitoring services in the region.

- The RAC-REMPEITC will be a primary user of the oil spill information service and will work with the project team to provide feedback on user needs and requirements for the service.

- NOAA Satellite Analysis Branch will provide training to local staff members to monitor and report illegal oil discharges from vessels and accidental spills from oil infrastructure or other sources. Expert guidance on satellite detection of oil spills will include all information needed to stand up a fully operational observation and dissemination program

Day 1

Presentations

Presentation Title	Presenter
Introduction to AmeriGEO	Angelica Gutierrez (AmeriGEO/NOAA)
Regional Marine Pollution Emergency, Information and Training Centre – Caribe Information Needs	Roberto San Martin (RAC-REMPEITC CARIBE)
Industry Information Needs: OSRL	Liam Harrington-Missin (OSRL)
Industry Information Needs: ARPEL	Marcus Lisboa (ARPEL)

Summary of discussion: What publicly available data and visualizations would be most helpful for industry and other stakeholders?

User needs as identified by the speakers:

RAC-REMPEITC

- GIS for oil pollution preparedness and response.
- Oil spill monitoring (some users already using GNOME).
- Dedicated Information Management Officers to handle geospatial information during an oil spill pollution incident.
- Common Operational Picture to coordinate the response.
- Some users show reservations about openly sharing oil pollution datasets.

Oil Spill Response Limited

- Understanding how to connect an oil company's contingency plan to the national authority and national contingency plan.
- The need for organizations to use the same datasets
- Countries must have an up to date contingency plan so that they are aware of their own responsibility and the actions by the responsible party.

ARPEL

- Access to guidelines, manuals, best practices, statistical databases, workshops, management systems

General discussion on user needs:

Oil spill preparedness and actions rely on various types of data

- There is a need to clarify the types of information that is important for preparedness and actions.
- Sensitivity maps rely on information on the areas and ecosystems vulnerable to oil spills.
- Fishing reports and other data from the public could provide in-situ calibration of satellite imagery.
- Other important information includes locations of facilities and pipelines, footprint of production and processing, and locations of "functions" such as chemical processing or storage.
- For MARPOL violations related to illegal vessel bilge dumpling, it is important to access ship track history to pin down potential violators using systems such as AIS. In U.S, the coast guard are responsible for the tracking, inspecting and fining the violators. Given the complex nature and resource disparities of the multi-nation project, how we ensure the oil spill monitoring products can result in real actionable information for different countries is worth careful planning.

- **Clear communication among stakeholders should be part of contingency planning**
- Develop ways to visualize the alerts for stakeholders so that it is clear which parties need to be involved when an oil spill occurs.
- Define which stakeholders receive alerts and which have access to information.
- Indicate what type of information is important for guidance compared to what information is important for alerts.

Legal guidelines are important for effective implementation

- Identify legislative frameworks within countries that would help the effectiveness of the service.
- The toolkit will need to be in compliance to the Escazu Agreement.

Day 2

Presentations

Topic	Speaker/Presenter
Introductions, Welcome, Overview	Angelica Gutierrez (NOAA)
NOAA Marine Pollution Surveillance Program	Bonnie Zhu (NOAA)
AmeriGEO Datahub	Rich Frazier (AmeriGEO/USGS)
ESRI Visualization Systems	Steve Kopp (Esri)
NOAA/NESDIS/SOCD OceanViewer GIS Visualization System	Prasanjit Dash (NOAA)

Summary of discussion: What publicly available data and visualizations would be most helpful for industry and other stakeholders? What are the next steps?

Identifying data needs depends on the project scope

- Define the extent of the product (thematic scope).
- Define the geographic scope.
- Create an inventory of vulnerable ecosystems to create environmental sensitivity maps.
- Map gas and oil assets.
- Create an inventory of available data and contacts of stakeholders who are willing to share national information.

Develop visualizations to share information with stakeholders

- Clearly articulate how to access information in order to inform contingency plans.
- Clarify what services would come out of the analyses and how they can be shared on the AmeriGEO platform.
- Define which data are available to the public. For example, ancillary data used by SAB are not available to the public.
- Determine the method and format to share alerts.

A pilot project can increase stakeholder participation

- Governments may not readily share data.
- Many Caribbean countries rely on academic institutions for oil spill monitoring services.
- A pilot project can show stakeholders the potential products and services for their region.
- Sharing the pilot project with stakeholders would help to build trust with them. They may be more willing to provide data, which will lead to them having ownership in the process.
- Mexico was identified as a potential pilot area as they hosted UNGGIM and have the partners and expertise, and are also a stakeholder as an oil producing country. Both CIIEMAD and UNACAR in Mexico have been trained by SAB in oil spill operations. SAB can approach them as potential sources of the pilot project, but once they stand up that capability it is unlikely they will want to simply discontinue it.
- The pilot should involve big stakeholders in the Caribbean, such as the Caribbean Meteorological Organization.
- NOAA is not the only source of satellite data. Partnerships within CEOS could provide additional satellite sources and possibly support an oil spill pilot project.

Capacity is important to consider for long-term sustainability

- Identify countries and agencies that are willing to host analysts.
- Identify the primary responders in each nation (e.g., sometimes it's a component of their Coast Guard; other times its their Navy) and be sure contact information is current and that the responders thoroughly understand and expect the information that will be provided). This is critically important for both oil facility spill and MARPOL vessel bilge dumping violations.
- There are issues with long-term funding as university consortiums support oil spill monitoring.
- Pilot project costs will depend on the selected country and its current capacity.

Next Steps

The next steps were identified as follows:

- Organize a call to discuss pilot project and key partners in areas that are high risk of oil spills.
- Create an inventory of existing datasets and oil spill contacts with RAC-REMPEITC.