RESTORE Council
Monitoring and Assessment Program

What is CMAP?
The RESTORE Council Monitoring and Assessment Program (CMAP), administered by the National Oceanic and Atmospheric Administration (NOAA) and the U.S. Geological Survey (USGS), spatially and temporally inventoried programs in the Gulf of Mexico focused on water quality and habitat monitoring and mapping.

Potential CMAP Applications
- Evaluate management and restoration outcomes
- Improve discovery and access to monitoring data
- Support science-based adaptive management decisions

Project Approach
1. Inventory and Catalog
   - Inventory and catalog monitoring programs and assessments
2. Common Monitoring Information
   - Assess monitoring methods, parameters, and units
3. Gap Assessment
   - Assess spatial, temporal, and informational gaps
4. Webtool
   - Create a searchable webtool of programmatic metadata

Contributing Organizations
- Council Monitoring and Assessment Workgroup (CMAWG)
  - Coordinates CMAP activities, provides feedback, and recommendations
- Gulf of Mexico Alliance Monitoring Community of Practice (MCoP)
  - Facilitates discussion and knowledge sharing among the Gulf of Mexico management and restoration community
- Deepwater Horizon Agencies Monitoring Coordination Committee (MCC)
  - Provides opportunities for collaboration and leveraging of resources among Gulf of Mexico science and restoration programs

Project website | https://restorethegulf.gov/cmap
1 Inventory and Catalog

A total of 544 monitoring and mapping programs and 274 assessments were inventoried and cataloged by CMAP. Programs and assessments had to generally meet the following criteria to be included:

- Located in the Gulf of Mexico region
- Minimum watershed/estuary scale
- Active between 1980 and present
- Minimum data record of 5 years
- Web accessible

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- Water Quality
- Habitat
- Mapping

2 Common Monitoring Information

Common parameters, methods, and units were compared between the CMAP Inventory and various guidance documents by habitat type.

3 Gap Assessment

CMAP developed a framework for identifying spatial, temporal, and informational gaps in monitoring and mapping.

Example: Total nitrogen monitoring programs in the Gulf of Mexico

Spatial gaps:
Where are the programs (n = 139) located?

Spatial unit: 500 km² hexagon grid cell

Temporal gaps:
When were the programs (n = 139) active?

Informational gaps:
Are monitoring program elements (MPEs) accessible?

- Point of contact
- Web accessible data
- Machine readable data
- Accessible metadata
- Analytical procedures
- Collection procedures
- Quality assurance protocol
- Units (water quality only)

362 Programs

213 Assessments

18 Pre-1990

108 1990–2010

111 Post-2010

4 Webtool

The information collected and analyzed by CMAP has been made available through a series of reports, data releases, and a searchable online database. Find all available results at: https://restorethegulf.gov/cmap

Reports: CMAP Publications


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