Over 12,500 program and project records were evaluated for inclusion in the Inventory. A total of 544 monitoring and mapping programs met the CMAP criteria (e.g., located in the Gulf of Mexico region, established since 1980, minimum data record of five years) and are cataloged in the Inventory. For more information, please see the Inventory report (NOAA and USGS, 2019).

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.

The Inventory

Over 12,500 program and project records were evaluated for inclusion in the Inventory. A total of 544 monitoring and mapping programs met the CMAP criteria (e.g., located in the Gulf of Mexico region, established since 1980, minimum data record of five years) and are cataloged in the Inventory. For more information, please see the Inventory report (NOAA and USGS, 2019).

Occurrence of water quality monitoring parameters in the Inventory (NOAA and USGS, 2019)

358 water quality monitoring programs

37 detailed parameters

Number of water quality monitoring programs found within the CMAP Area of Interest. Of the 358 water quality programs in the Inventory, most are found in the state of Florida (n=242).

Note: Programs can occur in multiple states.
Common Monitoring Information

Protocol information from the Inventory programs and guidance documents was synthesized and evaluated to determine which parameters, methods, and units were most commonly measured and implemented within each habitat type. For example, 138 programs in the Inventory are listed as measuring total phosphorus in the water column habitat type. Of those programs, 132 had protocol documentation containing information related to total phosphorus monitoring, and specific method information was documented for 68 of those programs.

In order to evaluate each of the programs in the Inventory, documentation level for each program was assessed. Programs are considered having Complete Documentation if all 8 Monitoring Program Elements (MPEs) are accessible:

- Point of contact
- Web accessible data
- Machine readable data
- Accessible metadata
- Analytical procedures
- Collection procedures
- Quality assurance protocol
- Units

<table>
<thead>
<tr>
<th>Method</th>
<th>Units</th>
<th># programs documenting method</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPA 365.1</td>
<td>mg/L; µg/L</td>
<td>52</td>
</tr>
<tr>
<td>EPA 365.4</td>
<td>mg/L</td>
<td>17</td>
</tr>
<tr>
<td>SM 4500 P</td>
<td>mg/L; µg/L</td>
<td>13</td>
</tr>
</tbody>
</table>

Total phosphorus methodologies and units identified within the Inventory and additional guidance documents.


Spatial and informational distribution of total phosphorus monitoring (n = 132).

Temporal monitoring of total phosphorus in the Gulf of Mexico (n = 132):

Project website | https://restorethegulf.gov/cmap

Image credit: N. Enwright (USGS)