

**Motivation & Background:**
- Chromophoric Dissolved Organic Matter (CDOM) is a controller of water clarity, a discriminator of river influence, an indicator of wetland influence and petroleum contamination, and may be correlated to nutrients.
- The Gulf of Mexico Alliance (GOMA: http://gulfofmexicoalliance.org/) has identified regional issues—HAB forecasting, coastal conservation and restoration, nutrient reduction—where CDOM plays a large role.
- Aim is to improving efficiency in water quality monitoring (including oil detection)—key to that is the use remote sensing of water quality parameters such as CDOM absorption.

**Goals & Objectives:**
- **Goal:** Develop a community-wide, publically-accessible, and geospatially-referenced database of CDOM absorption spectra, DOC concentrations, and chl a concentrations for the Gulf of Mexico.
- **Objective 1:** Construct a single, integrated CDOM database spanning 10 years of absorbance, fluorescence, and ancillary oceanographic observations for the northern GMx that can be used by the public (researchers, educators, resource managers).
- **Objective 2:** Validate existing remote sensing algorithms for computing CDOM absorption (D’Sa et al. 2006; Mannino et al. 2008) that compute absorption coefficient at 412 nm (a412) and the slope coefficient of the CDOM absorption spectrum (S) from SeaWiFS and MODIS remote sensing imagery for the northern GMx.

**Activity 1:**
- Create database within BCO-DMO
- Community submission of data to NCSU
- Formatting by NCSU and upload to BCO-DMO database

**Activity 2:**
- Create interface between GCIS and BCO-DMO database
- Generate CDOM maps (a412 & S)
- Transition plan to NASA for future updates and admissions (including fluorescence data, e.g., Excitation-Emission Matrix [EEM] data)

**Area of Study**

![Fig. 1: The Gulf of Mexico. Red boxes delineate current areas of coverage represented by data contributed from PIs.](image)

**Activity 1:**
- Data admission is underway
- Preliminary cal/val underway for D’Sa algorithm
- Public announcement of open data call after NACP workshop

**Project Status:**

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**References:**

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**Data Flow and Product Generation**

**Community Contributions of Data**

**NC STATE UNIVERSITY**

**BCO-DMO**

**Format and Upload contributed data**

**Databases**

**Validate** algorithms relating satellite reflectance to surface CDOM absorption

**Produce** terrestrial DOM flux estimates and water clarity data

**Information on this project can be found at the NACP Website:** http://www.nacarbon.org/