**Chapter Leaders for Oceanography Special Issue Volume 2 (OSI2)**

The Oceanography special issue is intended to be a high-level overview synthesizing new knowledge for a broad and general audience representing the culmination of the entire GoMRI Synthesis and Legacy effort.

**Explanatory Notes:**

* **Outline of content & structure** is based on [Themes](https://gulfresearchinitiative.org/about-gomri/gri-history/) & [Synthesis Core Areas](https://gulfresearchinitiative.org/gomri-synthesis/) structure used for previous [Oceanography Magazine special issue (2016)](https://tos.org/oceanography/issue/volume-29-issue-03), and suggestions from S&L Committee members et al. Each Chapter will be written as a stand-alone citable paper. Focus is on GoMRI research and synthesis whenever possible, but not exclusively. This is intended to be a high-level entry point to the literature, rather than a comprehensive literature review of the DWH incident or the whole of oil spill science.
* **Authorship:** GoMRI Research Board members and others, with support from Synthesis leads, GoMRI PIs and others.
* **Length of articles** 5-10 pages each, including figures.
* **Destination**: [Oceanography Magazine](https://tos.org/oceanography/)
* **Timing**: for publication Spring 2021

1. **General Overview: Background & History** [**Shepherd, ShawR & ShawD** & GMT members]
2. **The GoMRI Model for industry-funded academic R&D: how it worked reflecting on 2016 Oceanography special issue [Colwell, Wilson, Benoit & ShawD]**
3. **The Gulf of Mexico: overview description of GoM as an integrated system, and the main external and internal drivers of change.** 
   1. **GoM overview**: what is special about GoM & its key system drivers [**Hogarth & Larry McKinney]**
   2. **How do all the systems interact** (general overview): [**Shepherd]**
4. **What was released? The Chemistry and Physical properties of Petroleum, Dispersants, and Products of Burned Oil.** [**Farrington & Rullkötter**]

1. **Where did the oil & gas go? (**Geophysical Transport Processes: observations & modelling **-** including effects of dispersants wherever relevant) [**Halpern & Shepherd**]
2. **What happened to the oil? (**Micro-physical & Biogeochemical fate **-** including effects of dispersants wherever relevant)[**Brewer, Farrington & Halanych**]
3. **Interaction of Physical Transport and Biogeochemical Processes [Leinen & Farrington]**
4. **Dispersants: Overview (“Pros & Cons”) [Brewer, Antonietta Quigg]**
5. **The science of studying oil and dispersant impacts on biological systems.** [**Halanych, ShawR & Dodge]**
6. **Impacts of petroleum by-products and dispersant on organisms (microbes to mammals) - Ecotoxicology: Themes & CA 2 & 3 (small (organism) spatial scale) -** [**Halanych, Dodge & ShawR]** Note: single-species: impacts on organs, senses, organisms, thru populations
7. **Effects of petroleum by-products and dispersants on ecosystems (**long-term trends, commonalities in impacts & differences in recovery trajectories and resiliencies(Theme & CA 3) - [**Halanych & ShawR]** Note: Ecosystems, multispecies systems
8. **Prospects for environmental recovery and restoration [Wiesenburg, Shipp, Dodge & ShawD]**
9. **Human health and socio-economic impacts in the Gulf of Mexico region** (Theme 5, CA4/5). [**Singer, Wiesenburg & Orbach**]
10. **Technology advances & developments** (Theme 4) {**Maggie Dannreuther**, **Yoerger, Halpern & Rullkötter]**
11. **Prevention/Preparedness & Advances in operational response + Operational Advice (collaborative)** (CA 8) **[Dave Westerholm & Shepherd**]
12. **Knowledge gaps: where next? \*\***
    1. Effects of burning
    2. Modelling & assessment of human health & societal impact
    3. Interference with chemotaxis
13. **Lessons Learned, Legacy \*\***
    1. What was good, not so good, what could we do differently
    2. Academic/User/Responder Linkage
    3. Science leadership lessons
    4. Data Management
    5. Education & Outreach

\*\*Chapters 16 and 17 will be collaborative and further outlined once the rest of the chapter writing assignments are formalized and developed. Current outline is considering a placeholder.