Infrastructure Supporting Online Communication & Collaboration for NSF-Funded Research Teams

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Funded by the Centers for Ocean Sciences Education Excellence (COSEE) program of the National Science Foundation (NSF), COSEE-Ocean Systems (OS) has employed concept mapping to facilitate collaboration and communication between ocean scientists and educators.

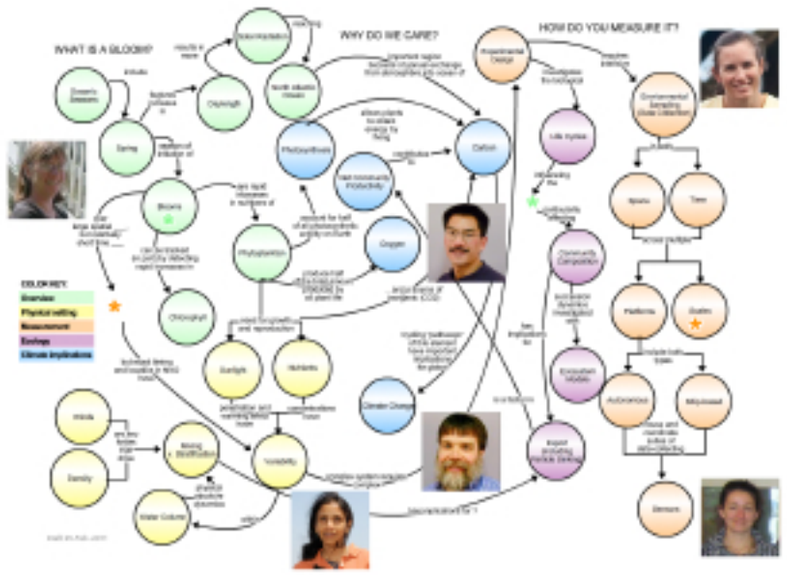
Based on iterative feedback from and interaction with its participants, the COSEE-OS team has developed online concept mapping software linked to an ever-growing database with thousands of scientist-vetted resources, known as the Concept-Linked Integrated Media Builder (CLIMB).

In synergy with the evolution of its CLIMB software functionality, COSEE-OS has focused on preparing for and delivering concept map-based webinar events featuring ocean science researchers. This approach has greatly expanded COSEE-OS's reach.

Collaboration

COSEE-OS staff members work closely with teams of NSF-funded researchers to create, analyze, and improve concept map-based presentations. The process typically includes:

- Conference call or in-person meeting with the research team's lead investigator
- Screen-sharing (i.e., WebEx) session with the lead investigator to brainstorm ideas on how all the webinars fit together in one cohesive story
- Creation of a concept map illustrating how the webinars' topics connect together *(see example in next column)*
- 1-2 WebEx sessions with individual scientists to develop materials for their featured webinar event
- Sharing of images, videos, etc. that will be shown during their webinars (and linked to their concept maps)
- Scheduled "dry run" before the live webinar event

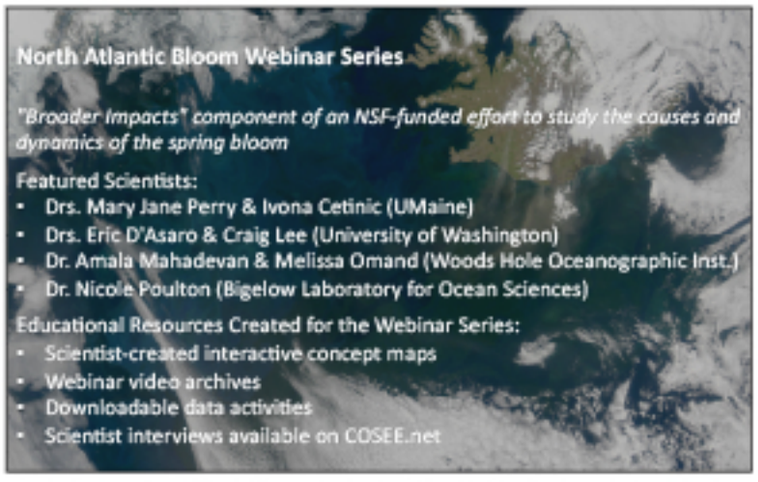


Scientist Training

Helping scientists to delineate and explain how their research is tied to societally-relevant issues is vitally important to planning and executing a webinar series for the public.

Even though the map above – which represents all five webinars in this series – is complicated, the map is easily "deconstructed" into its component parts through color coding (which can be hidden/revealed using CLIMB software). Questions such as "*What are you measuring?*" and "*Why do we care?*" help to keep the content focused.

Evaluation data from webinar participants overwhelmingly supports the efficacy of concept map-based presentations in clearly communicating complex ocean sciences research.



Concept Linked Integrated Media Builder
cosee.umaine.edu/climb

CLIMB includes cost-free concept-mapping software that is linked to a database of over 6,200 scientist-vetted images, videos, news items and instructional resources.

Over 4,000 registered users have created over 9,200 concept maps. Users can submit their concept maps to be made available as "Public Maps." Nearly 250 published maps are available & searchable by keyword.

Evaluation Feedback

Every webinar includes pre- and post-event evaluation using online surveys. Participants provide data on the length of the presentation, amount of discussion by the scientists, audience appropriateness of the content, their comfort level with the topics covered, and relevance of the content to their own work.

These data are summarized in written reports for the featured scientists. The reports also include the participants' feedback about the use of jargon during their webinars, contextualization of their research in the "big picture" of society, the clarity of their concept maps, and the effectiveness of their "take-home message."

What's Next?

We are currently working on a webinar series with several NSF-funded investigators on the "GEOTRACES," an international research program to improve understanding of biogeochemical cycles in the oceans. This effort is being done in collaboration with lead investigator Dr. Benjamin Twining, Bigelow Laboratory for Ocean Sciences.

GEOTRACES

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