

GEARS Follow-Up Project

Attendee: Maha N. Haji
Project: Concept Mapping
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For my GEARS Follow-Up Project, I developed a concept map of my science for a novice audience. I utilized COSEEOS's Concept Linked Integrated Media Builder (CLIMB) for the process. My concept map can be found on the CLIMB website at http://bit.ly/IW_map and a screenshot is included on the next page.

The goal for my concept map was to describe the process by which energy is transferred to the ocean, into internal waves (waves that occur within the body of the ocean, not the surface), which then contribute to ocean mixing. Better understanding of ocean mixing processes is crucial to improving climate change models. Thus, as part of my PhD research, I am studying the ways in which internal waves transfer energy to drive ocean mixing after travelling extreme distances (on the order of 1000 km) and scatter off rough topography.

The process of creating a concept for my research was extremely insightful. It enabled me to have a much clearer understanding of the broader picture of my research and how it fits in with the large scale issues of energy transfer into the ocean and accounting for this transfer in climate change models. Concept mapping my science allowed me to break down my message into key components. It also allowed me to clearly show that studying the affects of internal waves is crucial to our understanding of climate change models because they are significant mechanisms by which energy is transferred to mixing processes throughout the ocean.

After this activity, I will certainly be using the CLIMB tool for many more concept maps in the future. Concept mapping was a valuable way to deconstruct my science and narrow down the concepts that are crucial in my work. In fact, I showed my concept map to another student in my research group who is also studying internal waves and is about to start writing his dissertation and he found that my map was extremely useful in his understanding of internal waves as well! He said he will also be using the CLIMB tool as he prepares his dissertation in the coming months.

