Teacher-Researcher Networking Strategy

How will you communicate with the team before the field experience?

I have been communicating regularly with Dr. Amsler for the past year, primarily via email. Dr. Amsler has been extremely helpful in sending me a great deal of literature (see resources list below) about ocean acidification and his research. He has answered questions from me and from my Polar Ambassador students on a regular basis and has also provided feedback about our lesson ideas for middle school students.

Are there ways you can collaborate before the expedition to inform the public about the upcoming expedition?

Dr. Amsler will be coming to my high school in January 2012, one month before my deployment, to speak in a small group setting with the Polar Ambassador students. These students have been reading about ocean acidification since September 2011 and have taught a lesson about the topic to over 300 eighth graders in the district. Dr. Amsler will also be giving large group presentations to a variety of classes including English, science and social studies classes. Over 500 students in grades 9-12 will hear him speak about his research.

What background scientific information is essential for the field research?

- An understanding of ocean acidification is needed.
- A general understanding of how and why ocean acidification is of special concern in the Earth's polar regions is needed.

What journals, books, or other materials will the teacher use to learn this content?

A variety of resources are available. I have been reading journal articles Dr. Amsler has shared with me. My students have been using a different set of resources (also listed below) because the scientific journals are a bit too challenging for most of them.

Resources for my use:

Amsler, C., McClintock, J., Baker, B.J. (2008). *Macroalgal Chemical Defenses in Polar Marine Communities*. **Algal Chemical Ecology**; 4: 91-103.

Amsler, C., Iken, K., McClintock, J., Baker, B., (2009). *Defenses of polar macroalgae against herbivores and biofoulers*. **Botanica Marina**; 52: 535-545.

Amsler, C., Iken, K., McClintock, J., Amsler, M., Peters, K., Hubbard, J., Furrow, F., Baker, B. (2005). *Comprehensive evaluation of the palability and chemical defenses of subtidal macroalgae from the Antarctic Peninsula*. **Marine Ecology Progress Series**; 294: 141-159.

Aumack, C., Amsler, C., McClintock, J. (2011). *Impacts of Mesograzers on Epiphyte and Endophyte Growth Associated with Chemically Defended Macroalgae from the Western Antarctic Peninsula: A Mesocosm Experiment*. **Journal of Phycology**; 47: 36-41.

Logan, C. (2010). *A Review of Ocean Acidication and America's Response*. **BioScience**; 60(10): 819-828.

McClintock, J., Amsler, C., Baker, B. (2010). *Overview of the Chemical Ecology of Benthic Marine Invertebrates along the Western Antarctic Peninsula*. **Integrative and Comparative Biology**; 50(6): 967-980.

McClintock, J., Angus, R., McDonald, M., Amsler, C., Catledge, S., Vohra, Y. (2009). *Rapid dissolution of shells of weakly calcified Antarctic benthic macroorganisms indicates high vulnerability to ocean acidification*. **Antarctic Science**; 21(5): 449-456.

Zamzow, J., Amsler, C., McClintock, J., Baker, B. (2010). *Habitat choice and predator avoidance by Antarctic amphipods: the roles of algal chemistry and morphology*. **Marine Ecology Progress Series**; 400: 155-163.

Resources for my students' use:

Boleman, C., Gravinese, P., Muse, E., *Dude, Where'd the Reef Go*? **Florida Tech InSTEP Program**: http://www.instep.fit.edu

Kolbert, E. *The Acid Sea*. **National Geographic**; April, 2011.

The Journal of Marine Education. (2009). *Special Issue Featuring Ocean Acidification: from Ecological Impacts to Policy Opportunities*. Vol. 25 (1).