

## **9<sup>th</sup> grade science collaborative work, Brewer High School, 1/12/09**

(By Ed Lindsey)

Present were Mike Morton (Brewer), Marc O'Clair, (Hampden), Pat Buchanan (Hermon), Jeff Owen (Orono), Ed Lindsey (Old Town), Huijie Xue, Andy Thomas, & Ryan Weatherbee (School of Marine Sciences, University of Maine)

**Next session: Thursday, February 26, UTC, 12:00 – 4:00.**  
**Meet in the UTC restaurant.** We'll enjoy a lunch (\$6) then work.

At the previous session (Reeds Brook School), we identified what the National Documents say about the oceans. We were left wondering how the oceans component of the Earth system could be woven into and taught well in the 9<sup>th</sup> grade. Two oceanographers and a graduate student joined us this evening to address the use of the Gulf of Maine in the 9<sup>th</sup> grade curriculum.

Our guests were brimming with information along three lines: 1) the Gulf of Maine as a system with inputs and outputs of material and energy, 2) details of the functioning of the Gulf of Maine and the physical science driving it all, and 3) the use of Gulf of Maine data for student inquiry.

Among the teachers there was agreement on four thoughts. 1) The Gulf of Maine offers a rich context for learning the type of physical science and Earth systems content that national and state standards recommend. 2) We were willing to wager that, because the Gulf is part of the local Maine landscape, using it may help with the "so what" and "what does this have to do with me" stance of students. 3) A wealth of data exists that entices us to dream about students using it in inquiries. 4) We don't know how we might craft activities for our young teens that would engage their minds and work in the classroom.

While our brains digested this information, the rest of our bodies worked on chili, cornbread, salad, and cupcakes. Thank you so much Mike. It was delicious.

We toured the Brewer science facilities.

Then we put our minds together. The Gulf of Maine offers a rich context, with a local angle, for learning about energy, density, forces, motion, conservation of mass, seasons, properties of materials, systems, and scale. What we learned this evening seems comfortingly standards-based. There is a lot of data, and smart people stand ready to help. Pat Buchanan offered to look into the standards justification for this kind of study and to look back over materials she has used in the past when she has taught oceanography. Thank you, Pat.

Huijie and Andy extended the offer of their expertise to our group and will work with us whenever we want as we develop things for 9<sup>th</sup> graders. They sent along resources and information.

For Andy Thomas, I will forward an email with his contact information and web site with satellite images filled with information.

For Huijie Xue, I will forward an email that has attached slides showing some of what she shared with us on circulation, nor'easters, ways to access data, some book references that we thought would be useful, and her contact information.

For 9<sup>th</sup> grade teachers trying to develop an essential, effective, and modern course, this seems like an opportunity worth pursuing. Next time, let us:

- Welcome any new people
- Share what we have been doing in our classrooms
- Generate and sketch wanna-be ideas for putting students to work using Gulf of Maine resources
- Make a list of what we would need next from School of Marine Sciences
- Have a quick tour of the photonics lab at UTC