

## **Overview**

### **CIOSS Working Group Meeting**

### **September 8-9, 2005**

This meeting of CIOSS Working Groups was organized by Ted Strub and Eric Bayler to continue the development of interactions between CIOSS and NOAA/NESDIS research scientists. Unlike previous meetings to initiate interactions, it was recognized that there were existing groups who were interacting and could use the time to make further progress and other groups that could be formed and could make progress on specific topics. Accordingly, the meeting was structured around a planned meeting of the COAST team (which serves as a CIOSS working group on "Ecosystems"). This was one of four Working Groups defined for the purpose of this meeting. The second existing group consisted of a subset of those who sponsored the workshop in February, 2005, on remote sensing of ocean vector winds. These constitute the Working Group on "Ocean Vector Winds." Two new Working Groups were formed: one on "Dynamics/Modeling and Data Assimilation"; another on "Product Development."

The COAST team met by themselves during September 7-8 and then a subset of their members joined the Working Group meeting on September 9. The other three groups met on September 8, spent most of the day discussing issues specific to each WG. They convened in plenary at the end of the day and summarized the progress during the day. On September 9, they groups met separately again for the first part of the morning, then convened in plenary. All four groups presented their progress.

The COAST group is the most advanced in their activities. They are planning risk reduction activities for the future HES-CW (multi-spectral Coastal Waters imager), to be flown on the next generation of GOES satellites (GOES-R, scheduled for launch in 2012). Among the activities needed to prepare for this sensor is the collection of data sets appropriate for development of algorithms. They plan three field experiments, off the West Coast, East Coast and Gulf Coast. The first field season will be in August-September, 2006, off Monterey California. Planning for this experiment was a major topic of this meeting. Curt Davis reported on their progress.

The Ocean Vector Wind group held a workshop last February at the Tropical Prediction Center in Miami. This brought together operational forecasters of extreme weather (hurricanes) over the ocean and academics using satellite-derived ocean vector winds. This combination was well-received by both groups and future interactions was encouraged. There was less participation by operational forecasters from the Weather Forecast Operators, so another workshop will be planned for this coming February at one of the Weather Forecast Operations centers (possibly in Southern California). One of the goals of the workshops is to make available real time data from both the scatterometer (QuikSCAT) and the passive microwave wind sensor (WindSat), but the WindSat data remain problematic. Mike Freilich summarized their discussions.

The Dynamics/Modeling group included both basin-scale and coastal representatives. Frank Aikman from NOAA/NOS attended and represented the NOAA interests in coastal modeling. John Le Marshall joined through a telecom presentation of activities at the JCSDA. This group made plans for a workshop, with a primary focus on coastal ocean

modeling and data assimilation, perhaps co-located and sequential with a workshop with larger-scale interests. John Allen presented their plans.

The Product Development group first had a wide-ranging discussion of the types of products needed by resource managers, general considerations about the level of complexity needed (keep it simple), training and outreach needed to make the products accessible, etc. They then focused on specific products that might be presently (or in the near future) available for transitioning to NOAA centers, such as CoastWatch nodes. David Foley participated from the West Coast CoastWatch site and presented examples of their standard and experimental products. A number of such products were identified and the process of moving several of these from academic to NOAA sites has already begun. One NESDIS activity was presented by telecom by John Lillibridge. This consisted of activities that will improve the along-track altimeter coverage next to the coast. This is proposed as a collaborative activity between the altimeter group at NESDIS (led by Laury Miller) and several CIOSS PI's. This telecom was of interest to both Modeling and Product Development Working Groups. Ted Strub presented the summary of the Product Development group to the plenary session.

In preparation for the meeting, the organizers listed a number of discussion topics for each group. These helped to guide the discussions and are listed below. See the agenda and click on the available presentations, including the four reports on the Working Groups, at the end of the agenda.

The initial topics suggested for the WG's were:

(1) Dynamics/Modeling:

- Improvements needed in satellite fields in the coastal ocean
  - \* Altimeter SSH
  - \* Satellite winds
  - \* SST (microwave and IR, AVHRR and Geostationary IR SST in the future)
  - \* Ocean color
  - \* Surface radiation fluxes (IR, SW, PAR)
  - \* Surface heat fluxes (Latent and Sensible)
  - \* Frontal locations
  - \* other?
- Modeling/Data Assimilation
  - \* Efforts funded by CIOSS/GLOBEC
  - \* Efforts funded by NOPP
  - \* Efforts funded by NSF/ITR: IOM
  - \* Other Academic and government research/modeling projects
  - \* Planning for a CIOSS-Sponsored workshop for those actively engaged in Coastal DA modeling
  - \* Possible "common problems" for the different model groups to address between now and the workshop
  - \* Issues related to the inclusion of biological "ecosystem models" in the circulation models

(2) Product Development

- Improvements possible in satellite fields in the coastal ocean (see WG 1 list)
- Products combining satellite and other data
- Venues for distribution of products

- Interaction with IOOS and Orion
- Interaction with K-16 education
- Interaction with the "informal education" program

(3) Ocean Vector Winds:

- Workshop Report from February, 2005
- Plans for the next workshop
- Improving wind fields in the coastal ocean
- Cal/Val activities regarding WindSat
- Making WindSat data available to operational forecasters for use and comparison to QuikSCAT

(4) Ecosystems (COAST)

The COAST workshop occurred Sept 7-8, with a well developed agenda of discussion topics, including plans for the field work. Several members of the COAST project joined us on Friday, Sept 9 and presented their progress. They also discussed areas of mutual interest with the other Working Groups