Attachment 5. Plenary Discussion Notes

Thursday 14 September 2006

- GENERAL DISCUSSION on design of the MARICOOS
  UMASS Center committed to this activity
  
  - M Ward - Who is the consumer of the forecasting system?
    - NWS will be looking for example, a shallow wave model, in their attempts to do storm surge
  
  - Long-term funding is necessary …biggest question
  
  - D Chapman - MACOORA funding from Coastal Services Center thus far. due to need to understand flooding/inundation and response to managers needs
    - We need to build a PLAN to coordinate all the models so we have something to propose to IOOS in November
  
  - M Zhou - We should look to state agencies as well as NOAA to sustain
  
  - R Tidd - Need to lay out a plan and have one ready with cost estimates included
  
  - W Brown - need to place/add observations where particularly needed and models can’t handle
  
  - P Cornillon - seems to be top down effort but we need to ask the managers what is the next most important piece of information they are looking for, take incremental steps
  
  - F Bub - problem with law suits if you don’t get things right and the Katrina experience has shown us that
    - LSU, for example, stopped their forecast prior to storm because of this problem
  
  - P Cornillon - Maybe then we should talk with the insurance industry for money
  
  - M Incze - this costs money obviously
  
  - P Cornillon - What do really need?
  
  - R Tidd - We need to give detail on what you can provide.
  
  - W Brown - Discussion today will help
  
  - D Chapman - will help decide what to bring to “Coastal States Organization” including FEMA
  
  - A Gangopadhyay - we are missing “users” in this room so maybe we need to have the customers come to another meeting but we should in the meantime make an observational plan
  
  - M Incze - marketing was done to get weather observations funded
Friday 15 September 2006 Plenary Discussions

- **WBrown** - getting started
  - Multiple users (emergency folks, NEMA, CZM, etc.) need to be contacted for another workshop
- **DChapman** - where do we go now.. MACOORA intro
  - MARICOOS is one of 5
  - MACOORA’s goal is to integrate these
  - 23% applies to US population in MACOORA region!
  - Membership
    - About half gov’t and half academia
  - Annual MACOORA meeting in 30-31 October
    - Election of board members
    - Business plan for “anyone interested”
    - Unfortunately same day as CORE and GoMOOS meetings
  - Inundation meeting for coastal managers in 15-16 Nov Baltimore
    - Focus on planning for both storm surge & sea level rise
    - Questions will be asked of managers?
      - What’s biggest inundation concern?
      - What decisions do you make and info supplied?
      - Time scales?
      - Geographic scale (1-2 foot contours?)
      - Format of data and how reliable is it?
- **FBub**
  - Defining significant waves vs. surge vs. sea-level rise… there is a difference!
  - Do we worry about river flooding?
- **WBrown** - What do we focus on?
  - **HFrank** - Explains the process of dealing with potential flooding events
    - **AGangopadhyay** - asks about time scales needed to address events..
      - what we really need is an “emergency response system” not a 24-7 prediction
    - **WLeslie** - agrees and noted zero events in summer … why do we need an operational system? Can’t we just need to turn on the system when needed?
    - **WBrown** - “intermittent use triggered by a condition and run for ~1 week”
    - **WBrown** - List of folks are alerted to events
    - **MIncze** - OOS is really a data provided to the existing NWS prediction system
    - **RKispert** - models needed to test scenarios and work, for example, the insurance companies, coastal planners,
  - SO, ARE WE GOING TO DO THIS EMERGENCY ONLY or what?
    - **KKnee** - need to build a system to answer typical users request
- **WBrown**: system needed for research … work in parallel with NWS operations?
- **FBub**: Yes, Navy wants to tap into the research folks.. i.e. have them improve certain aspects
- **JBisagni**:
  - we do not want to have a forecast center, agrees with WB
  - we should be evaluating models making error maps
  - we should be hindcasting old events to evaluate things
- **MIncze**: what is the role of OOS? …to figure out how to build a research system that determines how to collect the correct data to satisfy the operational needs, addresses issues.
- **AGangopadhyay**:
  - There is both operational observations vs. modeling
  - NWS does the operational modeling and we should be do the “research modeling”
- **PWhite**:
  - Waves need to be improved
- **WBrown**: we should follow the protocol (like Alan Robinson’s) that determines the observations needed
  - Sensitivity testing Observation System Simulation Experiment (OSSE)
  - What do we need to reduce the uncertainty?
- **Mingshun**: What's the goal? Operational or not?
  - What is the difference in NWS models and those we use?
  - Hayden uses GLOBAL Wave watch, HYCOM, estuarine ROMS… etc
- **DChapman**: has “needs assessment” list from a few years ago
- **WBrown**: lets focus on what we should do here in this room today
- **PWhite**: how do we connect their ocean model with our shallow models?
- **WBrown**: you’re talking about “technology transfer”..
- **DM**: What are we designing with no money?
- **WBrown**: we do have $100k in the next year (one year person time)
  - We want to put together a proposal for $1M research and $10M for an 24/7 operational system
  - We have a NWS system in place, we need to fix it
  - We have FVCOM but not in operational mode and they have not been validated
- **AGangopadhyay**: we need observations to test models
- **WBrown**: need rationale and WHAT ARE THE elements for $1M system?
- **MIncze**: OSSE are needed to evaluate NWS inundations models
- **HFrank**: we have a coarse model but is there a way we can get more things in real-time from the internet to help us improve? “experimentally access
- **WBrown** - “Build a research system that addresses an operational system”
  - We tried this with HOPS for $1M and learned things
- **JManning** - one approach is a single case study, lets all decide to model one storm, share data, compare models
- **Mingshun** - how about 2 case studies: hindcast and a forecast
- **AGangopadhyay** - How many inundation models do we have?
  - ZERO?
- **WLeslie** - NWS is a conceptual model only
- **FBub** - must be wetting and drying like FVCOM, ECOM-Si, QUODDYDRY, ADCIRC, DHI
- **WBrown** - W&D is not necessarily an “inundation”
- **AGangopadhyay** - must be GSI linked like Kelly’s example
- **WBrown** & **FB** - again, matching datums is a big problem
- **WBrown** - IOOS will be built from the bottom up (except for the data format standardization)
- **Mingshun** - models take a while to get spun up in a certain region
- **WBrown** - proposal needs to have proof of integrated data and models already
- **DChapman** - Baptista (Oregon) did an inundation case study in California as a demonstration project and then applied it to other locations.

- **BREAK**

- Wrap-up & fill in holes session
  - NWS inundation forecast… we talked enough
  - Model systems … we talked enough
  - Observations
    - **AGangopadhyay** - Look at map and asks Hayden to decide where data is needed
      - SNE mid-shelf needs buoys
      - Cape Cod Bay
    - **DChapman** - NDBC will come to MACOORA every 6 months and ask where buoys should be?
    - **JManning** - use USCG Aids to Navigation Buoys platforms as inexpensive coverage
    - **WBrown** - NWS should try comparing the existing Navy Wave product
    - **FBub** -
      - will help w/NOS buoy request
      - Tells us what estimates you need where and we will feed you given that you will be in the process of validating our models
    - **PWhite** - Hayden should first ask researchers what they need and where
    - **Mingshun, WLeslie**, and others discuss where to put another buoys
- **W Brown** - we can’t have enough observations
- **JManning** - pressure sensors needed as well as wind and wave

  - **ACTION ITEM** (as introduced by M Incze)
    - **H Frank** will:
      - work with both navy, SMAST, and NDBC to request buoys
      - involve others in his office
    - **Frank Bub** will have SWAN setup for this region and push data to Hayden and Dan justified as a “model validation” project
    - **Dan McDonald** (given funding) will help Hayden decide which observations are needed to improve current forecast? This will require some graduate student model runs to a) validate NAVOCEANO wave models at specific buoys and b) quantify the inundation model improvement based on pseudo wave
    - **Patricia White** (WHOI) will look into getting NOAA-CICOR students involved in this project (i.e. will talk to Bob Weller about “guiding students in this direction”)
    - **Dave Chapman** will recommend MACOORA provide funding for follow-up inundation workshops to go along with the “needs assessment” workshop in Nov
    - **Avijit Gangopadhyay** will consider JHII has funded CoE at SMAST … what is the action item here? Analyze Baptista formula for success?
    - **W Brown** and others will:
      - meet to compare QUODDY, for example, with the SWAF inundation models
      - Look into what is involved with NITES-II system as a means of building decision-making tools
    - **Some** will go to 30 Oct MACOORA
    - **Some** will go to 15-16 Nov Assessment Needs
    - **ALL interested in attending** future meeting will email Wendell