High Seas Session

Identify a suite of integrated information products

Determine the types of analyses that are required and, in turn, the specific data sets and observing systems that are needed to support these analyses; and

Establish quasi-discrete geographic areas/climatic regimes where the analyses leading to information product development will be carried out.

General Discussions/Notes

- Large variety of analyses and applications, some within the same general topics
- Significant impact of other parameters noted on many of the different analysis, such as El Nino, PDO, Mesoscale Eddies
- The scale of the analysis varied, from local, regional to national
- Goal of PRICIP: standardization of analysis and facilitation of products to users
- Need for more user involvement within process

Current Analyses
Waves

- Empirical Parameterizations of Wave Runup
- Decadal trends of increasing average winter wave heights and periods and projections of extreme values
- Correlation of various climate/storm indices to winter wave height/residuals
- Seismic to Wave Reconstruction
- Eastern Pacific Wave Analysis
- “Storminess” from non-tide residuals
- Storm Surge Model (GOM)
- Wave data at Remote Locations in Pacific (CREIOS)
- Mean Wave Event Frequencies (Remote Pacific)

Current Analyses
Water Levels

- Annual/monthly max/min exceedence probabilities
- Mean Relative Sea Level Trends
- Interannual Variations of mean relative sea levels
- Number of extreme sea level events as daily deviation above a threshold
- Time-longitude plot of altimeter track data
- Gridded altimeter SSH contours and geostrophic currents
- Beach Hazard Ratings Website (Oahu)
- Sea Level Variability Estimates
- Topex/Posieden Sea Level Anomalies measurements
- Oregon Coastal Inundation Visualization Tool
- Vertical Datum (V-Datum) tool

Current Analyses
Erosion/Shoreline Change

- Lidar analysis of changes in sand volumes (Netarts Cell, OR)
- Probabilistic assessment of coastal vulnerability
- Exceedence probability curves of extreme wave runup onshore
- Annual coastal erosion rates and aerial coastal imagery (Hawaii)
- Quasi-probabilistic decadal-scale shoreline change predictions based on climate variability
- Hot spot erosion
- Coastal Vulnerability Assessment

Current Analyses
Hazards

- Online Hazards Assessment Tools

Existing User Input

- Hurricane Isabel Assessment – User Needs Assessment
- Island Coastal Zone Managers Meetings

Other existing data sites

- nowCOAST web portal
- NOAAWatch web portal

Proposed/Future Products

- Beach Hazard Warnings
- Forecasts of Mesoscale Eddies
  - Emergency measures for beach protection
- Forecasts of water level damage to coastal beaches
- Coastal Set-Back Estimates
- Future Erosion Hazard Zones
- Sea Level Change Prediction on a range of time scales