

- Identify current modeling approaches, including both domestic and international forecast approaches, research models and both model shortcomings and promising research results;
 - Operational models: GFDL/GFDN are two-way coupled (atmosphere - ocean); no wave coupling.
 - Experimental prediction models: ARW/HWRF are two-way coupled (atmosphere - ocean); no wave coupling. Includes land coupling.
 - Research models: Two way coupling: atmosphere-ocean-wave.
- Address the need for, and strategies to achieve fully coupled ocean, interface, atmospheric modeling systems, including the required level of sophistication and resolution in each;
 - Need for separate interface model or coupled surface layers model as interface between atmospheric and oceanic models. Should encompass the regions where spray and bubbles dominate.
 - Include wave, spray and bubble models
 - Should be general enough to couple to existing atmosphere and ocean models
 - Higher resolution, $O(1-10m)$ than atmosphere/ocean models
 - Mass/momentum, TKE, etc should be conserved within interface model.

- Identify the requirements for developing improved, and in some cases entirely new sub-models ("parameterizations") of hurricane-related physics that cannot be explicitly resolved by the numerical models;
 - Need to understand what happens to small-scale (stress-supporting) waves in a spray-dominated emulsion.
 - Continued need for spray parameterizations.
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- Identify current and recent programs and activities that HiFi can support and extend these.
 - CBLAST
 - Southern Ocean Gas Exchange (2008)
 - GOTEX

Modeling Breakout Sessions

- Atmosphere (main conference room)
 - Chris Davis, chair
 - Yuqing Wang, reporter
- Ocean (conference room 254)
 - Isaac Ginis, chair
 - Cort Cooper, reporter
- Air-Sea Interface (conference room 554)
 - Shuyi Chen, chair
 - Will Drennan, reporter