



Short to Intermediate Forecasting

21 Feb 2008

HRM Leadership Forum

Orlando FL

Disney

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WeatherPredict Consulting

- WPC, Inc. is a US affiliate of RenRe.
- WP first acquired in Oct 2006, AEF was fully acquired in March 2007.
- WP, AEF – Bringing technologies to the market and our business through WPC, Inc.



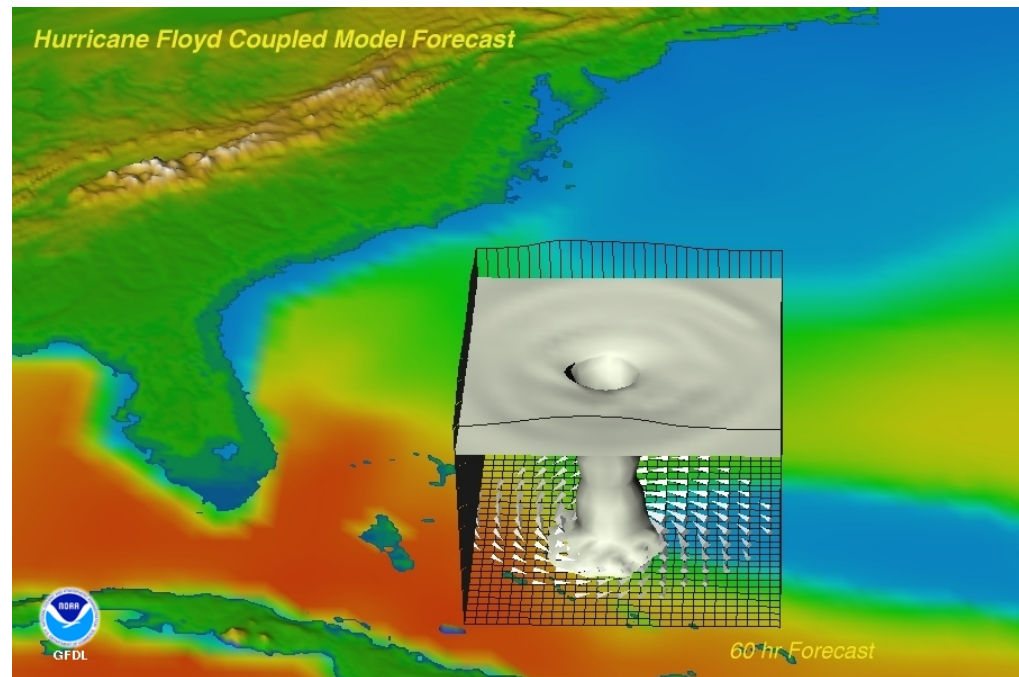
WPC Specialties

- AEF – Oceanographic and Tropical Modeling Expertise
 - State-of-the-art Oceanic Eddy Forecasting
 - High-resolution, multiple nested Tropical Cyclone (TC) modeling
 - Seasonal Atlantic Index Forecasts
 - Footprint model for landfalling TCs
- WP – Global and Climate Modeling, Superensemble Forecasting
 - Long-range Climate Forecasting
 - Short-range Global Weather Forecasting
 - Agricultural / Energy Analysis, Forecasting
 - Tropical Cyclone Superensemble Forecasting – Worldwide



AEF Hurricane Modeling

- Based on the NHC's GFDL Hurricane Forecast System
 - Best available hurricane forecasting model
 - Coupled ocean/atmosphere system
 - Movable nested-grid





AEF Hurricane Modeling Advantages

- Fast-track implementation of new technology
- Operationally maintained and run by us
- Improved topography and land-cover characterization for landfalling events
- Improved SE forecasts
 - Stable models that have consistent behavior
 - Models with improved and/or different physics
 - Models that no one else have access to



WPC TC Prediction

- WP TC Prediction - Superensemble
 - Ensemble of Best Performing TC models
 - Dynamic prediction – GFS, GFDL, UK Met Office, our own input models
 - Statistical prediction – SHIFOR, SHIPS
 - Incremental forecasts
 - Latitude, Longitude, Intensity
 - Hours 12-120, 12 hour increments
 - Expanding out to 7 days and beyond

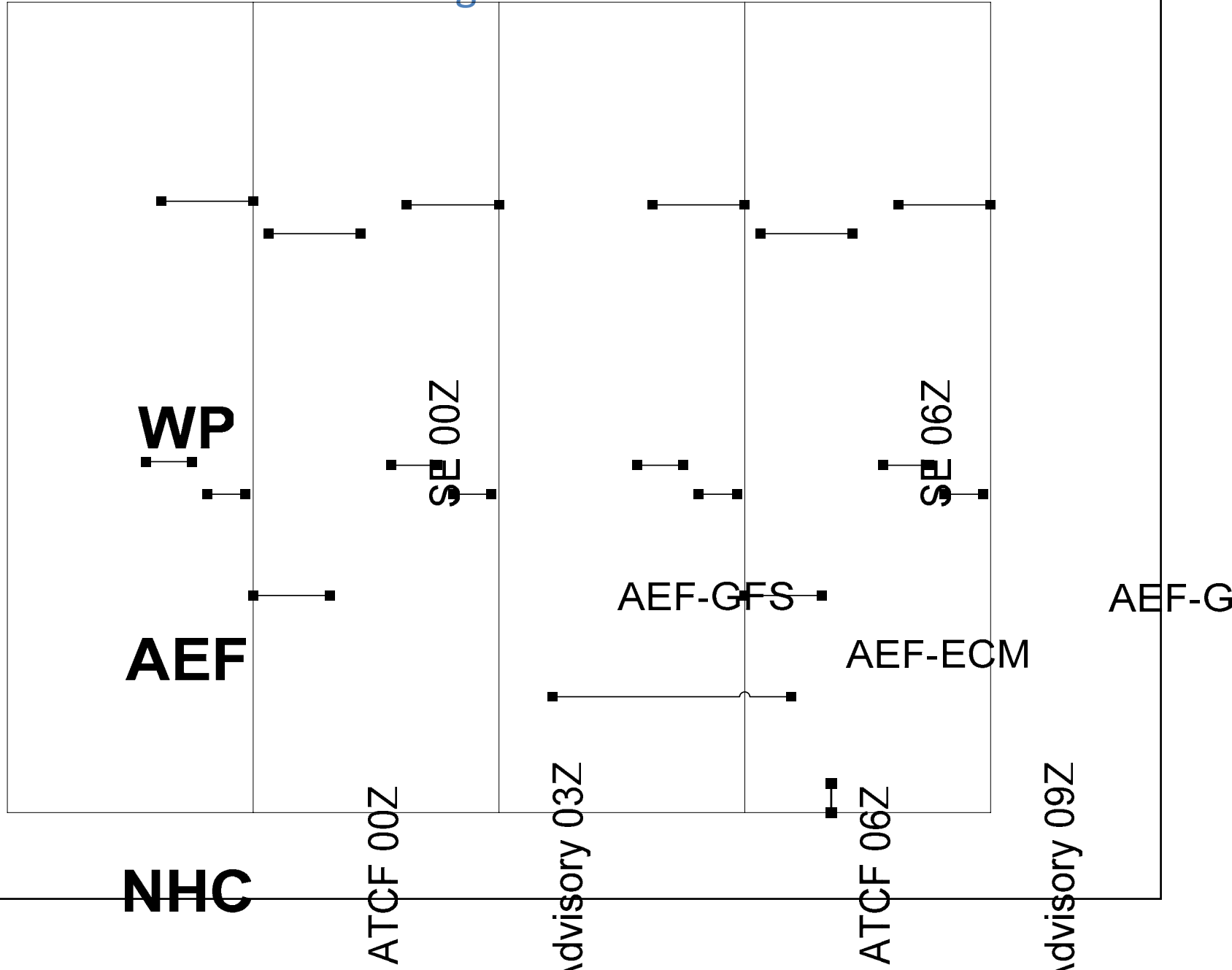


Worldwide TC Prediction

- North Atlantic, Eastern Pacific, and Central Pacific
 - Operational 5 day forecast delivered to NHC
- Western Pacific
 - 3-5 day forecast, internally distributed
- Southern Pacific, Indian Ocean
 - AEF-GFDL model can now be run in any basin, statistical techniques can be created for SE forecast capabilities.



Modeling Timeline





Delivery of Information to Clients

- Visualization Becoming more Important
 - GIS based capabilities
 - Probability cones, distributions of wind field, landfalling wind field
 - Overlays of crop, portfolio, energy databases
 - Integration of WWW and GIS (Google Earth) tools
- How do clients use this information?
 - Consulting projects to create applications and tools to help our clients
 - Helping to fill data void as new financial opportunities arise



Prediction Horizons

- 3-5 day
 - Present alerting and warning structure
 - This is the present horizon of model skill, esp. with track forecasts
- 1-2 week
 - TC forecasting with ensemble techniques
 - NWP model development, probabilistic cones, likelihood
- 2-4 week
 - Monthly outlooks, areas of possible development and the higher threat regions
 - Moving away from statistical techniques and test ensembles of dynamical prediction
- Seasonal prediction
 - ACE, TC Numbers, Area of Increased Vulnerability