

SUMMARY of 5TH NAEFS WORKSHOP

Mayo 17-19, 2010



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OUTLINE

- LOGISTICS
- SUMMARY
- OPERATIONAL CONSIDERATIONS
- PRODUCT GENERATION
- EXTENDED CONFIGURATION
- NAEFS STANDARDS / OUTREACH



WORKSHOP LOGISTICS

- **Objective**
 - Develop and update technical plans / roadmap for next 2-3 years
- **Date, place**
 - May 17-19, 2010, Cuernavaca, Mexico
- **Attendance**
 - NOAA – NWS – NCEP
 - Environment Canada
 - Mexico
 - USA DOD
 - FNMOC
 - NUOPC (presentation from remote)
 - International observers
 - CMA, CPTEC, ...
- **Presentations**
 - Quasi- Informal, to expose issues and start discussion, further discussions in parallel to *end-of-the-day* training session
- **Synergy**
 - Thorpex North America meeting

SUMMARY

- **Progress so far**

- Feb 2003 Project initiated
- Sep 2004 Initial Operational Capability (data exchange)
- Summer 2006 First operational impl. (product generation)
- 2009-2010 Ongoing Grib II exchanges; Bias correction

- **Current operational status**

- Ensemble generation 20 members twice/four time daily out to 16-day lead
- Data exchange 80 variables
- Basic product generation Bias corrected ensemble, climate anomaly forecasts
- Derived products Week-2 temp. anom., EPS mean and Std.Dev., meteograms, maps depicting likelihood of exceeding thresholds, TC tracks

- **Next phase**

- Extend configuration Intra-seasonal (35-45 days), + wave forecast
- Add new derived products Downscaled, precipitation products, intraseasonal products, etc.

- **Expansion**

- Add new NAEFS partners FNMOC end of 2010, possibly CMA

- **Next workshop**

- Spring 2012, location to be determined (either in Canada or in Monterey, Ca)

OPERATIONAL CONSIDERATIONS

- **Data exchange**

- Current status
 - Regular ftp connection used
 - Expect an upgraded dedicated telecom link EC-NOAA (Montreal-New York) in 2011
- Estimate expected growth in data volume
 - By 2012, ftp expected to saturate, become inadequate
 - Set priorities for various data types or other options are to be considered

- **Mexican Weather Services usage of NAEFS**

- Case studies presented on High impact weather event over Mexico
- Increased interest and usage within Mexican OPS community

- **Special products in support to Haiti (summer 2010)**

- CPC outlook; Temporary domain relocation of CMC Regional EPS

- **Inclusion of FNMOC**

- FNMOC inclusion test / evaluation are ongoing
- Test timeliness and robustness of exchange in Fall 2010 (staging phase)
 - CMC data to FNMOC via NCEP; FNMOC data to CMC via NCEP

PRODUCT GENERATION

- **Improve basic products**

- Address shortcomings in statistical corrections
 - Consider use of Bayesian methods or alternate for blending
 - Include higher moment corrections
 - Consider benefits from hind-casts

- **New derived products**

- Use statistical downscaling methods
 - For US & highly populated portions of Canada, RTMA applications
 - Joint development using CaLDAS & RTMA, including Mexico
- Address eventual requests for products from Mexico & WMO Region IV
- Compare TC & Hurricane tracking algorithms
- Joint development of week-2 precipitation anomaly forecast & and other precipitation products
- Coordinate development of suite of Regional EPS to come

EXTENDED CONFIGURATION

- Joint wave ensemble
 - Potentially first product based on ensembles from three centers
 - NCEP, FNMOG uses WAVEWATCH-3
 - Canadian WAM 4.5 to be implemented by year 2011
 - Cooperation with TIGGEE about product design
- Intra-seasonal forecasting
 - Extend integrations to 35 or 45 days
 - Uncoupled models (2011)
 - Coupled models (2012-?)
- Regional ensemble NAEFS-LAM
 - CMC REPS currently in experimental mode
 - Coordination for operational implementation (2013)
- Hydrological (river flow) ensemble
 - Capabilities on both sides being developed
 - Compare forecasts in overlapping regions (especially GRTLKS)
 - Consider merging products for complementary coverage of NA domain

NAEFS STANDARDS

- **Standards** need to be established
 - Quality
 - Collaborate in development of meteorological and hydrologic verification systems
 - Verification metrics against Observations & Analysis
 - Operational considerations as timeliness and robustness
- **Expansion**
 - FNMOC inclusion test / evaluation are ongoing
 - Verifications against analyses (NCEP) & observations (CMC) were presented
 - Implementation at NCEP is expected in late 2010
 - Link with NUOPC
 - Implementation in NAEFS may come later

