Hydrologic Ensemble Forecasting Service (HEFS)

Seminar G
HEFS Next Steps

Mark Fresch

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HEFS Components

- MEFP: pre-processor
  - Raw weather and climate forecasts (GEFS, CFSv2,..)
  - MEFP PE: parameters

- Hydrologic Ensemble Processor

- EVS: verification
  - Unbiased forcing (basin scale)

- GraphGen: products
  - Verification results
    - Rank Histogram for River Flows

- EnsPost: post-processor
  - “Raw flow”
  - “Corrected flow”

- EnsPost PE: parameters

- Ensemble products

Legend:
- Yellow = Forecast tool (real-time/hindcast)
- Blue = Supporting tool
- Dashed = Future capability

Data assimilator

Hydrologic data
Objective

- Discuss proposed schedule and plans over the next few months
Rollout – Strategy

Strategy for rollout, similar to the initial implementation

- RFCs implement HEFS and expand coverage at a slow/steady pace; there are no external due dates
- Understand that flooding ops take precedence over HEFS
- More training – HEFS verification and hindcasting
- RFCs learn HEFS hindcasting and verification & eventually partner with OHD to validate HEFS and improve implementation at their RFC
Rollout – Proposed Schedule

- When you return home
  - Attend routine HEFS meetings & older HEFS RFCs become buddies
    - These meetings will become more regular and meaningful in the coming weeks, when you start implementing HEFS
  - Ensure your HEFS host server (recommended RP3) is in working order with latest CHPS configuration and live data feed (recommend no synching from RP1/2)
  - Acquire, install, and configure HEFS 1.1.1
Rollout – Proposed Schedule, cont’d

- Through October 2014
  - Implement HEFS for at least two locations
    - Parameter estimation, configuration, and data ingest/workflows
  - Run HEFS in real-time
    - Become familiar with and quality control HEFS output
  - Strategize how to integrate HEFS runs into your RFC operations

- October 21st, 2014: Download HEFS 1.2.1 and re-estimate MEFP parameters and EnsPost parameters, if switching to 6hr time-steps¹
Rollout – Proposed Schedule, cont’d

- **November – December 2014:** Expand HEFS coverage to at least a forecast group.

- **Mid-late January 2015:** Off-site training on HEFS hindcasting and verification.

- **February 2015 and beyond:** Expand coverage, focusing initially on locations with minimal or no regulations.

- **March 2015:**
  - CHPS build; HEFS becomes part of CHPS baseline
  - RFCs transition HEFS configurations to their CHPS operations
Rollout

Other to dos

- Work with NCEP to provide GEFS and CFS grid data more reliably than through the current ftp, which is not extremely reliable
  - Having the data sent over (reliable) SBN will happen late CY14, at the earliest
- Work with NCEP to develop a process to provide regular weather model updates with reforecasts
- Reforecasts (for calibration) need to be moved off HSD ftp
- Need to develop schedule for announcing / posting new HEFS forecasts for public products
- Need to develop methodology / criteria for validation at RFCs for providing HEFS as the source of existing AHPS and new HEFS products
- Connect HEFS and National Water Center projects, such as RFC backup/archive includes HEFS requirements
HEFS Software and Documentation

Where do I get HEFS?

HEFS builds are available at this URL as a tarball with a complete set of HEFS users manuals, configuration guides, and release/install notes:

http://165.92.28.30/release/HEFS/

NWS RFC Field Support webpage has complete set of HEFS users manuals and configuration guides:

http://www.nws.noaa.gov/om/water/RFC_support/

OHD CHPS and HEFS Documentation page has that and science reports, past workshop presentations, including these:

http://www.nws.noaa.gov/ohd/hrl/general/indexdoc.htm
Support

- Fogbugz: HSD and OHD
- HEFS Buddy RFCs
  - NERFC (Erick Boehmler) - OHRFC
  - MARFC (Ned Pryor) - SERFC
  - ABRFC (Eric Jones) - LMRFC and WGRFC
  - CBRFC (John Lhotak) - MBRFC and NCRFC
  - CNRFC (Brett Whitin) - NWRFC and APRFC
- HEFS email list-server
Questions and comments?