HEFS workshop, 03/11/2015

Seminar A: Introduction to the HEFS Hindcasting and Verification Workshop

James Brown

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Welcome

Key individuals

- **Teresa Murphy (NWSTC POC)**

- **Hank Herr (Software Development Lead)**

- **Shaif Hussain (Test Manager & Training Coordinator)**

- **Jim Ward (HEFS configuration POC)**

- **James Brown (HEFS science POC)**

- **Ernie Wells (HEFS Product Team Lead)**

- **Mark Fresch (HEFS PM)**

Preliminaries

Logistics

- 8:00am-4:00pm today; 8:00am-5:00pm tomorrow

- Please be on time and avoid distractions

- All training in this room (Room 123)

- Breaks: ~12-1pm (lunch), 15 mins every ~2 hours

- Safety briefing coming up (Teresa)

- If you get stuck anywhere, call:

  - Teresa: 816.651.8265

  - Guard: 816.880.9279

Logistics continued…

- You ordered lunch for both days (will be delivered)

- Group meal tonight (Wed, 11th): Smokehouse Barbecue

    - Anyone with a car willing to help with transport?

    - Provide name and # of spare seats on sign-up sheet

    - Passengers can also sign-up during breaks

    - Meet in lobby of Embassy Suites <u>NLT</u> 6:00 p.m.

HEFS workshops

Schedule of workshops

1. **HEFS Initial Training Workshop**

   – Theory and use of HEFS for operational forecasting

2. **HEFS Hindcasting and Verification Workshop (now)**

   – Theory and use of HEFS for hindcasting/verification

Basic structure: tell, show, do

1. **Seminars:** theory behind the software

2. **Demos:** how to configure and use the software

3. **Exercises:** hands-on training in small groups (by RFC)

Main goals of the workshop

1. Understand hindcasting and how to configure it

2. Be able to conduct verification to support HEFS use

3. Understand MEFP parameter diagnostics and issues

Assumptions

- CHPS experience, but <u>not</u> with configurations used here

- Limited (or no) exposure to hindcasting and verification

- You'll engage & question (there are no "stupid" questions!)

- You'll continue the effort when you return to your RFCs…

HSL

Conduct hindcasting and verification

- Understood that RFC operations are your priority!

- Validate two forecast locations by end of FY15 (AOP item)

- As time allows, validate additional/critical locations

- Assistance available from HEFS buddies and HSD/OHD

- We do <u>not</u> expect extensive (RFC-wide) hindcasting

- …but, please archive operational forecasts at all locations

- Long-term, HQ will explore centralized effort (e.g. at NWC)

- This would leave RFCs to conduct more targeted studies

HEFS buddy pairings

- NERFC (Erick Boehmler): OHRFC

- MARFC (Ned Pryor): SERFC

- ABRFC (Eric Jones): LMRFC & WGRFC

- CBRFC (John Lhotak): MBRFC & NCRFC

- CNRFC (Brett Whitin): NWRFC & APRFC

HEFS builds

Current HEFS build at RFCs: 1.2.1

Workshop build: CHPS 5.1.1

- HEFS now released as part of CHPS

- CHPS 5.1.1 released by 1st May, 2015

- New features will be reviewed later today, but include:

  - New MEFP "plug-in" framework for forecast sources

  - New WPC forecast source (5x5km operational grid)

Materials

Binder

- Agenda

- Copies of seminar presentations

- Copies of exercises

- List of acronyms used throughout

- Feedback forms

  - Feedback (and discussion) at end of each day

  - Final feedback at end of workshop

  - **But please provide informal feedback at any time!**

Agenda

- **See binder for workshop agenda**

Exercise groups

Group 1 (APRFC): **Dave, Ted and Brad (HSD)**

Group 2 (LMRFC): **Kai and Gina**

Group 3 (MBRFC): **Lisa and Julie**

Group 4 (NCRFC): **Andrea and Jim**

Group 5 (NWRFC): **Brad and Taylor**

Group 6 (OHRFC): **Scott and Tom**

Group 7 (SERFC): **Jeff and Jonathan**

Group 8 (WGRFC): **Frank and Andrew**

Login info.

- Login as **student1**

- Home = /home/student1/HEFS_Workshop

Jargon

- **Reforecasting** and **hindcasting**

  - Both refer to retrospective forecasting (past T0s)

  - Hindcasting is more common term in hydrology

  - Used to build a historical database of forecasts

- **Validation**, **verification**, and **evaluation**

  - Sometimes used technically, but synonyms here

  - About assigning numbers to forecast quality

  - Goes beyond sensibility checks ("quality control")

- Acronyms defined in workshop binder

Questions

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