Hydrologic Ensemble Forecasting Service (HEFS)

Seminar G
Project Status and Plans

Mark Fresch

HEFS Training Workshop, NWSTC
March 2015

Objective

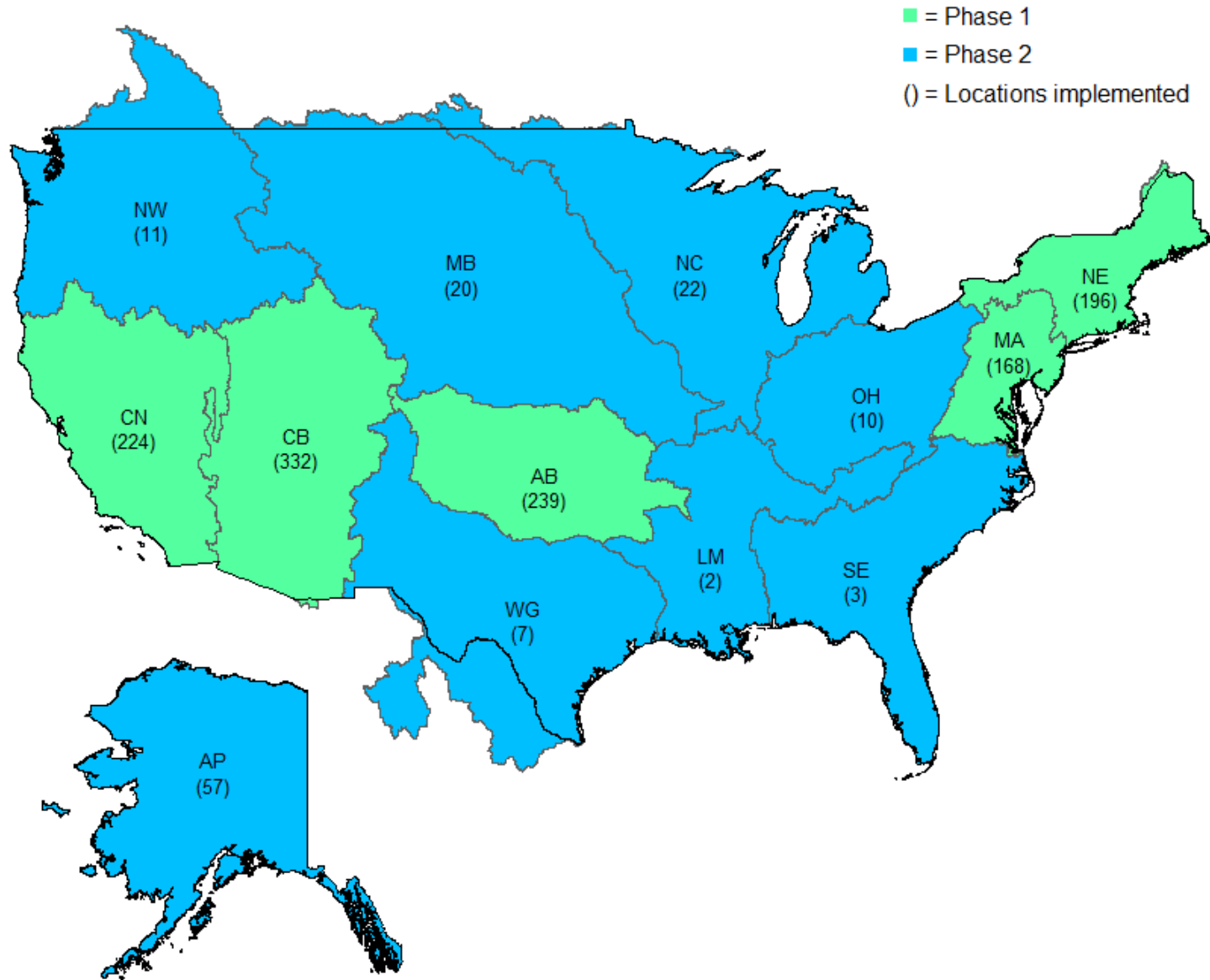❑ **Discuss HEFS status and proposed plans/schedule**

Status - How are we doing? schedule from Aug. 2014 (workshop)
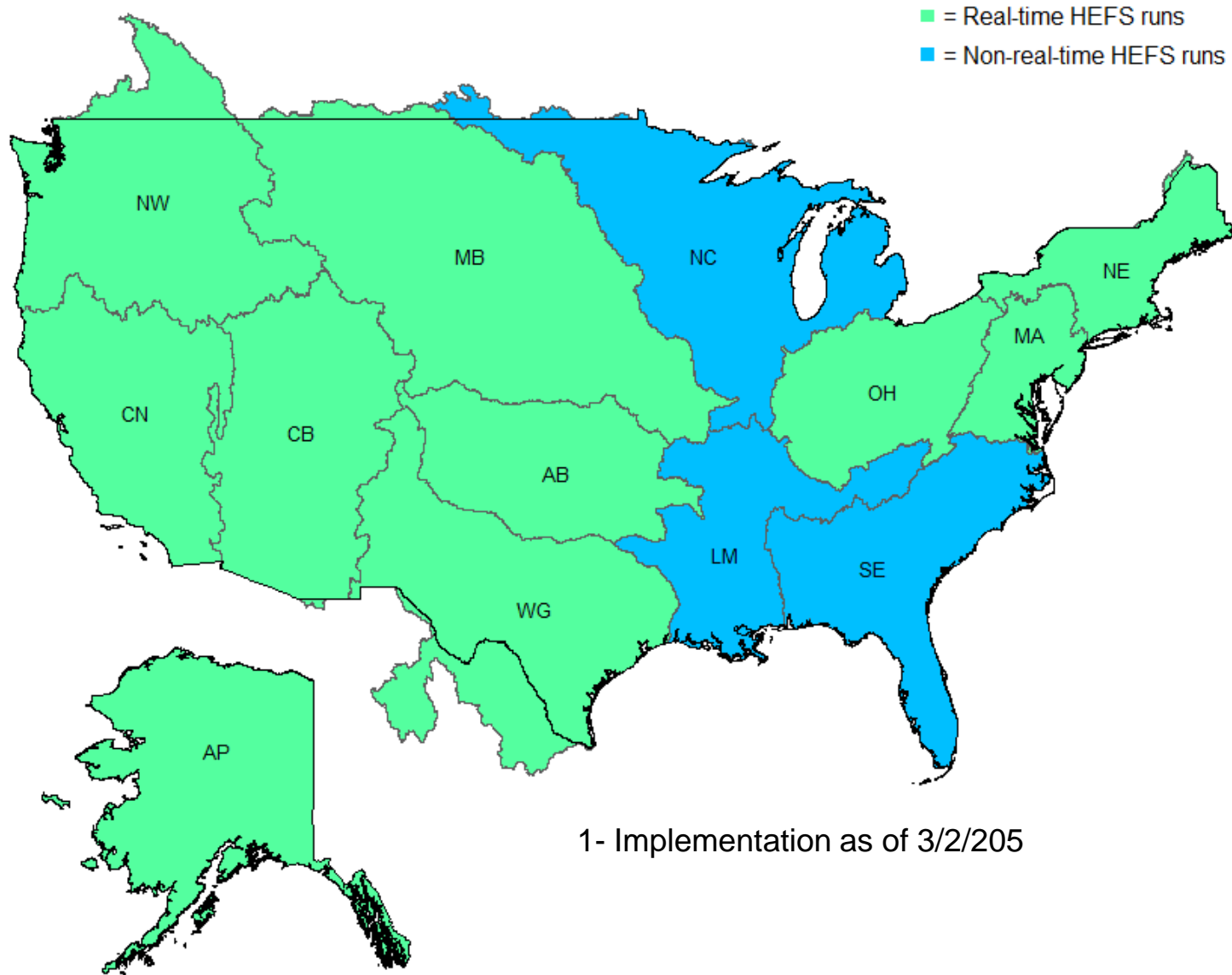
❑ **Through October 2014 (RFCs),**

- o Acquire, install, and configure HEFS 1.2.1 – **13 RFCs done**

- o Implement HEFS for at least 2 locations – **13 RFCs done**

- o Strategize how to integrate HEFS runs into your RFC operations

- o Run HEFS in real-time: with a live data feed ingest on a dev/test or operational CHPS – **10 RFCs done**

❑ November – December 2014: Expand HEFS coverage to at least a forecast group – **9 RFCs done**

HEFS Implementation - # of locations [1]

Legend:
- ■ = Phase 1
- ■ = Phase 2
- () = Locations implemented

Map labels:
- NW (11)
- MB (20)
- NC (22)
- NE (196)
- MA (168)
- CN (224)
- CB (332)
- OH (10)
- AB (239)
- LM (2)
- SE (3)
- WG (7)
- AP (57)

HEFS Implementation – real-time run [1]

- = Real-time HEFS runs
- = Non-real-time HEFS runs

Map labels: NW, MB, NC, NE, MA, OH, CN, CB, AB, LM, SE, WG, AP

1- Implementation as of 3/2/205

Status - How are we doing?
schedule from Aug. 2014 (workshop)

- ❑ **Mid-late January 2015 (OHD):** Off-site training on HEFS hindcasting and verification – **done March 11-12, 2015**

- ❑ **February 2015 and beyond (RFCs):** Expand coverage to at least a forecast group, focusing initially on locations with minimal or no regulations – **10 RFCs done**

- ❑ **HEFS becomes part of CHPS - CHPS 5.1.1 (and HEFS) aka OHD-CORE 4.2.a schedule**
  - o **March 9th (RFC Beta sites and OHD):** Beta testing began/begins
  - o **Early May 2015 (AWIPS/NCF):** HEFS released as part of CHPS 5.1.1 via AWIPS, <u>no longer via HSD ftp</u>

  OHD CHPS and HEFS Documentation page still will have guides, users manuals, science reports, and past workshop presentations at this link

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

Plans

❑ **HEFS Meetings (OHD and RFCs) – 2 more HEFS RFC Meetings**

  o **Next:** Tuesday, **March 31ˢᵗ** at 2PM Eastern

  o **2nd:** Tuesday, **April 21ˢᵗ** at 2PM Eastern

  o May: **No more "HEFS RFC Meetings"**. HEFS will be a topic of weekly (Thursdays @ 11AM Eastern) RFC Ops Call (led by Mark Glaudemans) which you and I should attend.

Plans

❑ **Early April (OHD): Provide HEFS out-reach presentation to RFCs**

❑ **Tentative - by end of April 2015 (OHD/NCEP): CFS onto SBN. Delayed due to technical & staffing issues at NCEP**

❑ **~May 2015 (NCEP): GEFS updated, but NCEP committed to run current version in parallel for at least a year (for HEFS)**

  o We'll notify RFCs of any minor changes, e.g. ingest script URL
  o Also working with NCEP on GEFS updates at regular (~2 yr) intervals with adequate reforecasts
  o Subsequently, we'll get the GEFS data used by HEFS on the SBN.

Plans

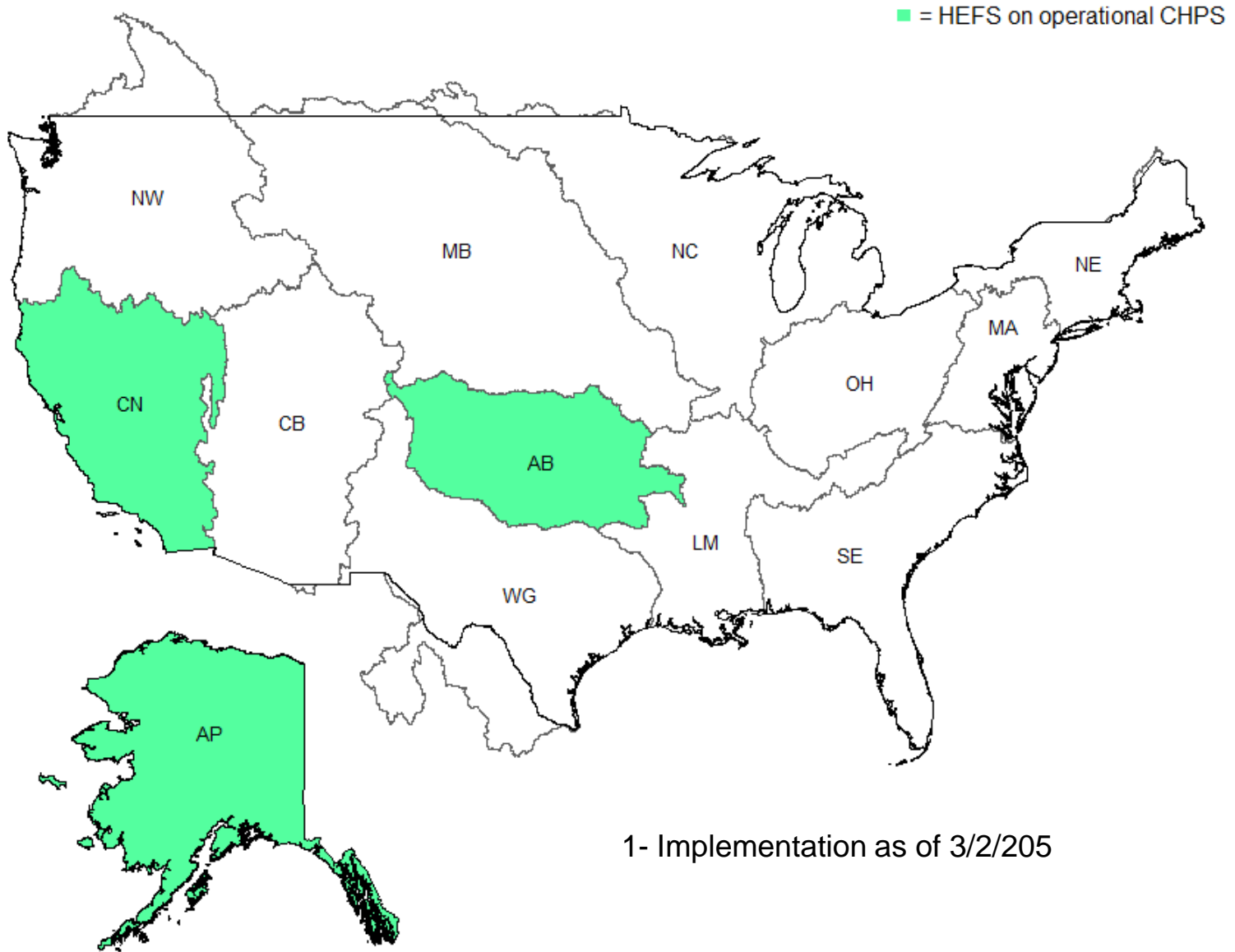❑ **May 2015 (RFCs): Load CHPS 5.1.1, with latest HEFS changes**

   o HEFS Changes discussed in Hank's Demo 3 – *What's New…*

   o If planning to use WPC QPF for MEFP forcings, estimate WPC parameters (if not already done) and adapt configuration

❑ **Proposed – in May/June 2015 (RFCs): Transition HEFS to operational CHPS (see next slide), except MARFC and NERFC**

   o Each RFC schedule a multi-week period with HSD/OHD – MarkF will send/has sent request

   o Tracking status on the RFC HEFS workflows Google spreadsheet

https://docs.google.com/a/noaa.gov/spreadsheets/d/1mufDE0a2HxCN6jC_yD_Ak1Jw7YeOesZp_iPQcEndeuA/edit#gid=0

HEFS Implementation – Operational CHPS [1]

■ = HEFS on operational CHPS

1- Implementation as of 3/2/205

National Oceanic and Atmospheric Administration's
National Weather Service

Plans

☐ **Product and validation milestones**
- o **Late Spring (HSD/OHD/RFCs)**: Develop a schedule for HEFS products going public, <u>at (hindcast) validated locations</u>
  - At this point, the mechanics and public notifications should be done
  - Which locations will be implemented and validated and when?
- o **Late Spring (OHD)**: Prepare for new GEFS (science & software testing)
  - Re-do HEFS medium-term hindcasting validation with GEFS (only)
  - Reproduce hindcasts for MA/NE for NYCDEP
- o **Through next 6 months (OHD-NWC)**: Plan centralized validation/hindcasting support as part of NWC verification project
- o <u>**By Sep. 2015 (RFCs):** with OHD help (if needed), validate HEFS for at least 2 locations per RFC - NWS AOP Milestone</u>

Plans

❑ **~Sep 2015 (OHD and RFCs): CHPS 5.1.X (including HEFS)**
   o Add capability to use new GEFS (from NCEP) - NCEP to run legacy GEFS in parallel through at least May 2016.
   o EnsPost time steps at 6-hr (FB1303), pending science investigation
   o Diagnostics upgrades
   o EVS 'dashboard' products
   o GraphGen template for long-term HEFS product
   o Others, as needed and staff allows

❑ **On-going (RFCs): Continue to expand HEFS coverage and validation (number of locations)**
   o By end of FY 2016 (Sep): **NWS AOP Milestone** being drafted for minimum # of locations a) implemented and b) validated

Questions and comments?