



# CHPS Acceleration Team

Evaluation of Delft  
Flood Early Warning System (FEWS)



# Background

- George Smith presented the IHFS (precursor to CHPS) at the Apr '96 DOH Workshop
- OHD initiated exploration in '03
  - Infrastructure analysis
  - Several candidates considered including FEWS in Oct '05
- CAT formed at NHIC meeting in Jan '06 to *accelerate* pursuit of CHPS
  - AB, NC, NW volunteered to work w/ OHD. CN later drafted.
  - Criteria established through evaluation of NWSRFS strengths and weaknesses (Apex facilitation, available from HSEB)
  - Evaluate FEWS as a CHPS candidate



# FEWS Prototype Evaluation

- Initiated Oct '06
  - Facilitated by OHD, Apex, Rti, and Delft
  - NWRFC and NCRFC implementation
    - Strategy to include basic functionality (including SAC\_SMA) but use surrogate FEWS models/functions/displays
- Apr '07 (NWRFC) workshop to review results
  - “Very promising”, but more evaluation needed...
    - MODS-like capability
    - Client-Server application
    - Integration of SNOW-17
    - Displays with English Units



# FEWS Prototype Evaluation

- Follow-on work to address Apr '07 concerns
  - NW, NC, and AB RFCs. CN for ResSim project.
  - Dec '07 (NCRFC) workshop to review results
    - Solid progress on MODs capability ([slide 6](#))
    - Client-Server demonstrated
    - SNOW-17 integration easier than expected
    - Display units mostly taken care of
    - ESP capabilities demonstrated and discussed ([slide 7](#))
    - Followed by training on FEWS configuration
- FEWS is currently running and identically configured at AB, CN, NC, and NW RFCs.

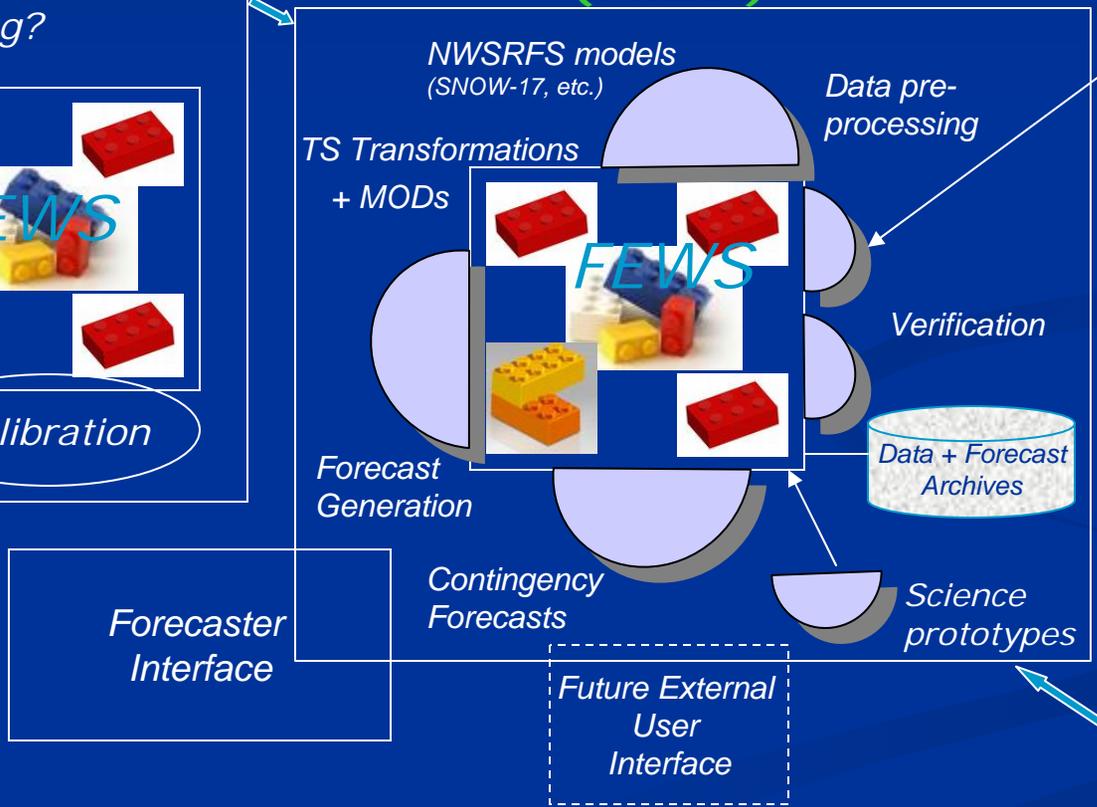


# CHPS-FEWS: concept

## CHPS Operational (Offline)

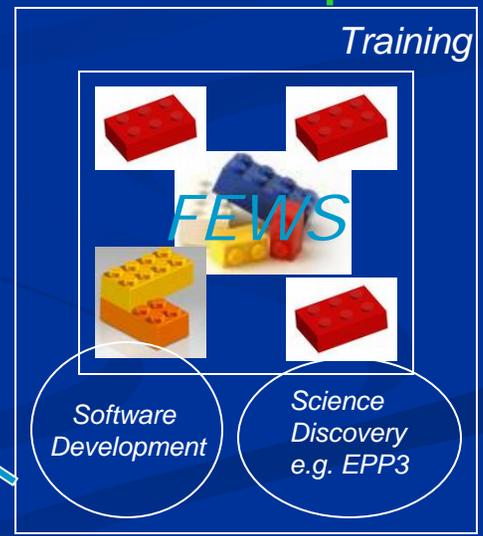


## CHPS Operational (Online)



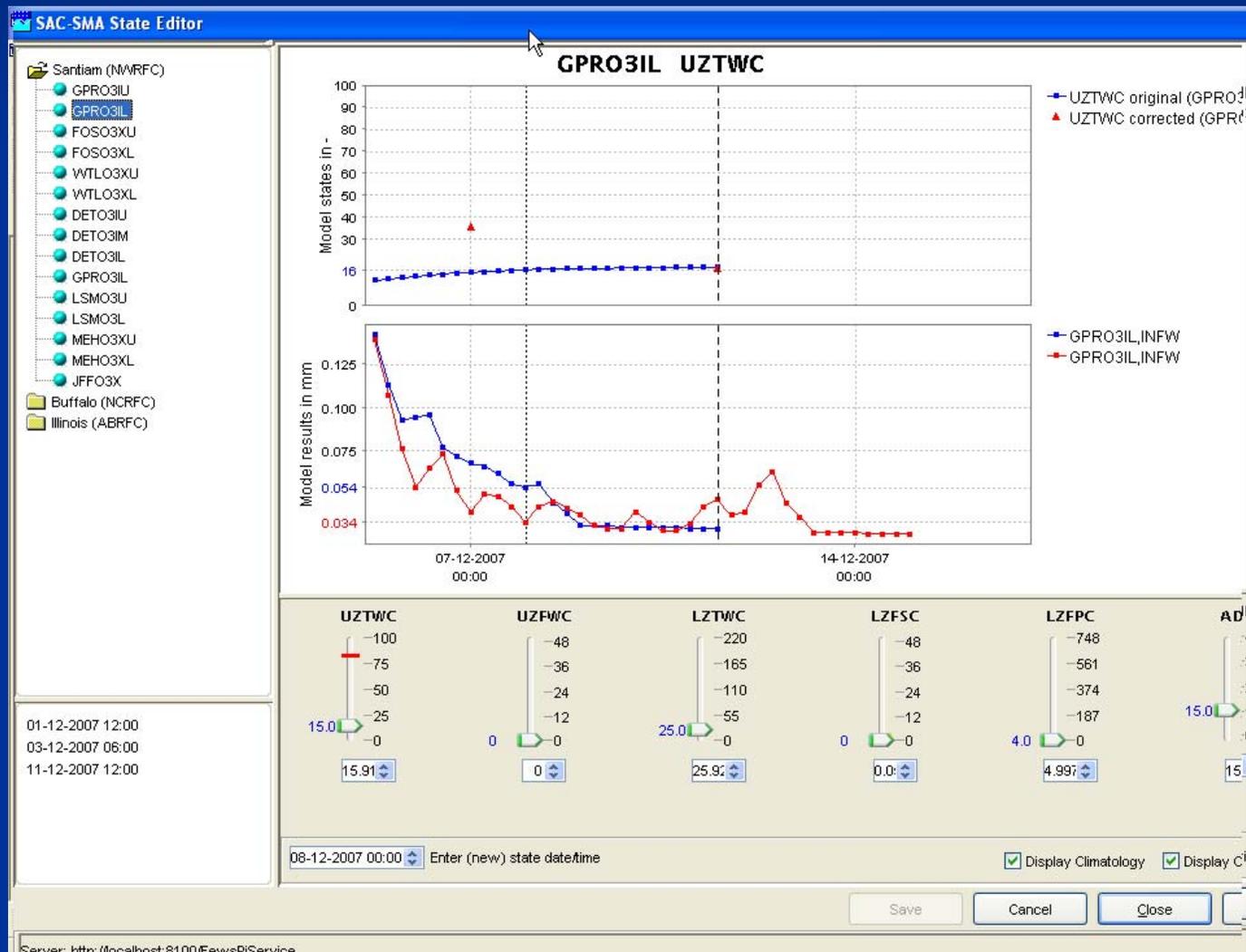
- Future
- Distributed Modeling
  - Probabilistic Forecasts
  - Data Assimilation
  - Verification + RFC Backup?
  - Others (Science Plan)

## CHPS Development



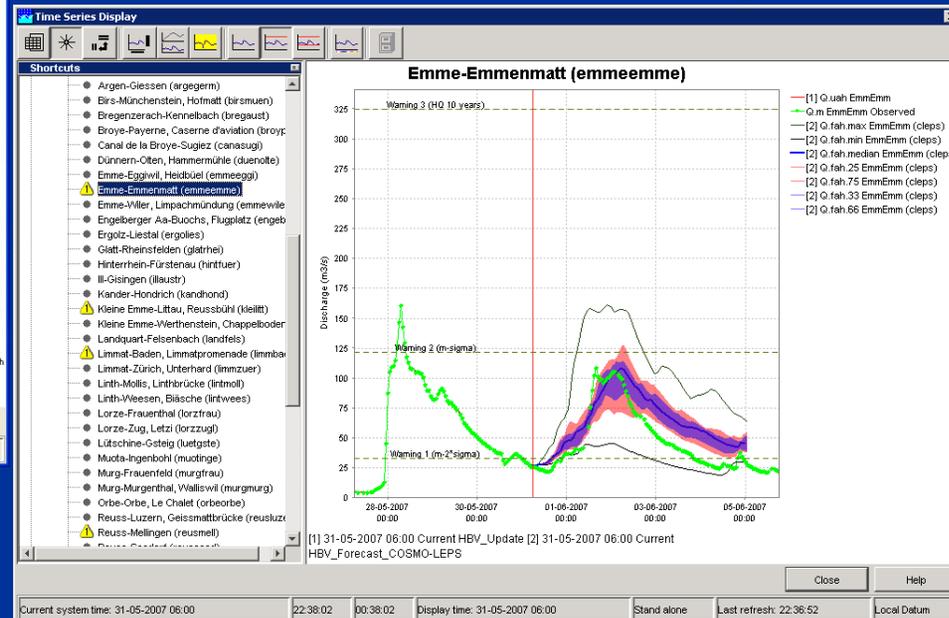
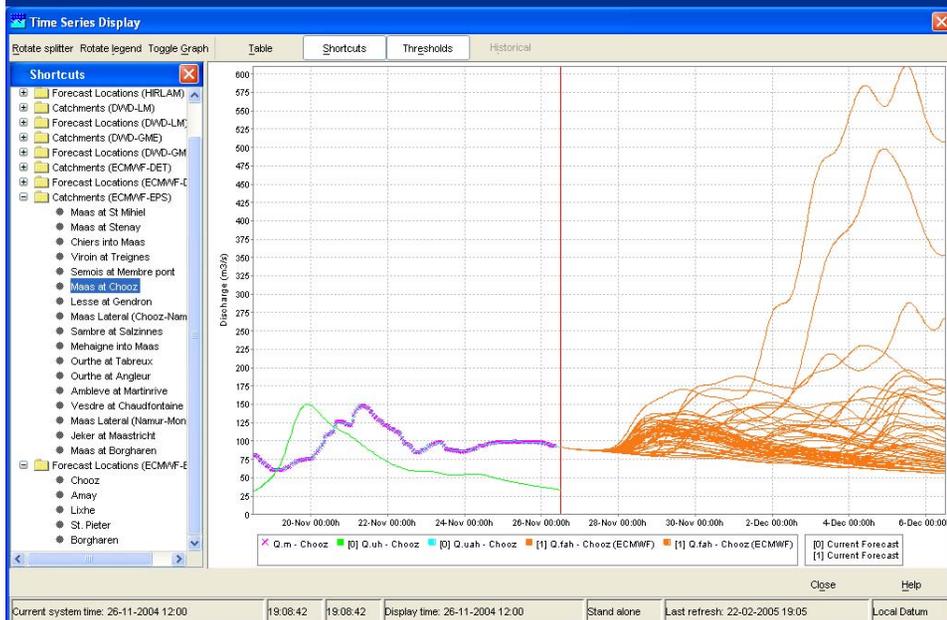


# MOD Capability for SAC\_SMA





# FEWS Ensembles





# CAT Recommendation

Approved by Gary Carter – January 17, 2008

- Proceed with implementation of FEWS as the CHPS software infrastructure! Immediately!
- Target operational use at all RFCs within 3 years! ([sample schedule on slide 10](#))
- Resource implications
  - Major OHD focus
  - Terminate “dead-end” NWSRFS enhancements
  - Align/re-evaluate HSMB-oriented “Research to Operations” (RTO) projects
- Retain CAT with a revised implementation charter

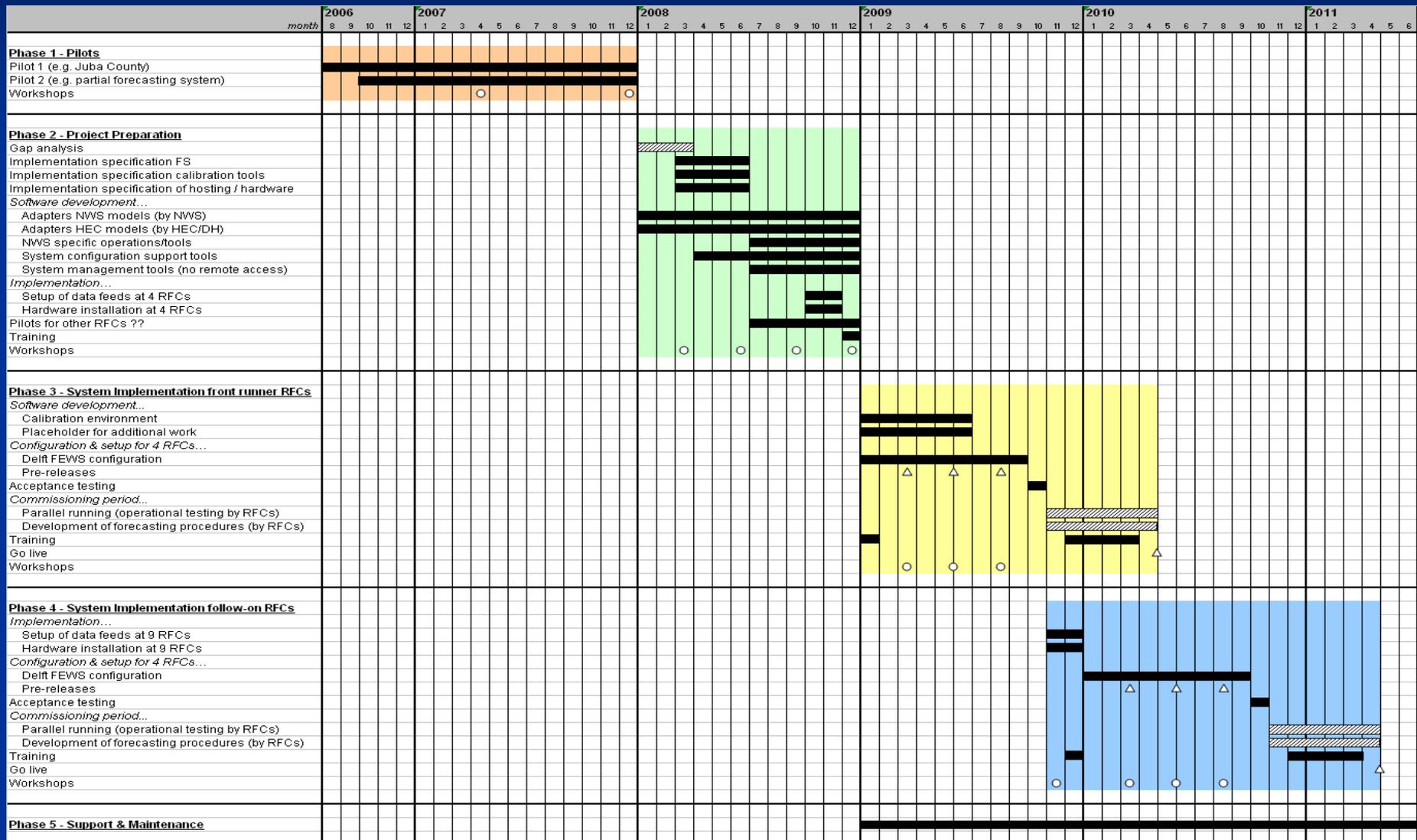


# Implementation Strategy

- Clear plans need to be developed!
  - Gap analysis for essential operations
    - Use of existing calibrated parameter sets is essential
  - Preprocessing and post-processing utilities
  - AWIPS II integration
  - Staff training
  - Change in conditions of work (NWSEO)
  - Technical support
  - RFC contributions (individual, groups, regions)
  - Many others...
- CAT and OHD will develop implementation plan by summer '08



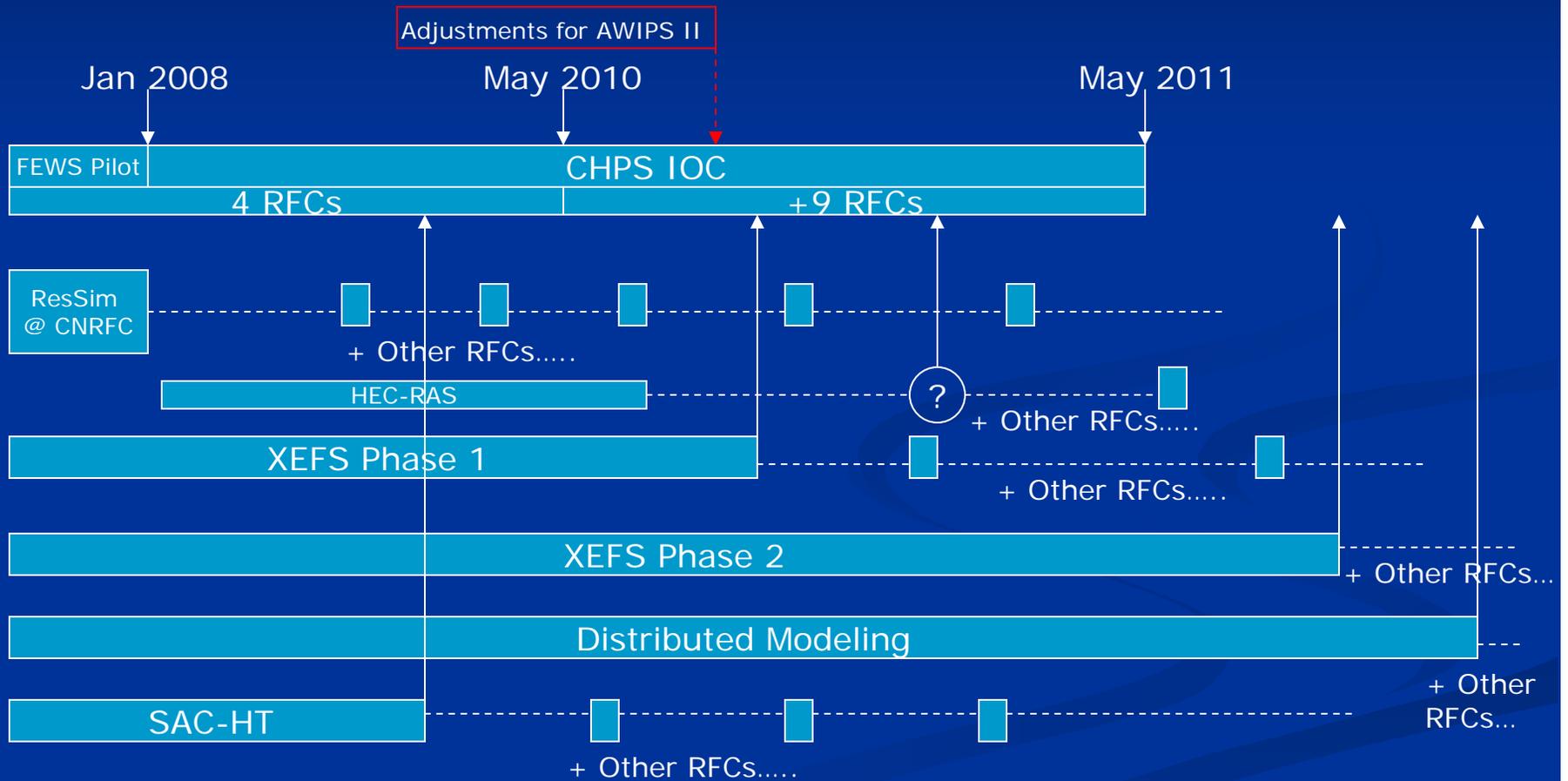
# DELFT's Suggested Timeline





# CHPS-related Projects: Strategizing

Challenge: qualified resource availability





# Tasks for All RFCs

- Be excited!
  - FEWS has the ability to deliver the flexibility we have been asking for (demanding) for years
  - Opportunity to develop a more consistent forecasting package across the agency (facilitates backup)
  - Opportunity for all RFCs to contribute to our future
- Prepare your staffs!
  - XML (for configurations), Java (for wrappers, adapters) expertise will be required
- Prepare your development schedule!
  - CHPS implementation will dominate your development time beginning in FY09
- Prepare to engage in the review and refinement of the CHPS Implementation Plan



# Local Applications

## Planning & Management

2 sets of similar activities

AWIPS II	<p><u>Migration</u> of existing Local Applications into AWIPS II environment, so nothing will break when AWIPS II is deployed</p> <ul style="list-style-type: none"><li>• Inventory and catalog local applications (<i>complete</i>)</li><li>• RFCs to begin planning the migration now</li></ul>
CHPS	<p><u>Evolution</u> of existing Local Applications into new CHPS environment</p> <ul style="list-style-type: none"><li>• CAT/Delft will consider Local Applications as part of complete end-to-end forecasting process<ul style="list-style-type: none"><li>• Part of CHPS Gap Analysis (just begun)<ul style="list-style-type: none"><li>• Consider: what is the role of each Local Application?</li><li>• Consider: will CHPS obviate the need for some Local Applications?</li><li>• Consider: how can Local Applications, migrated to AWIPS II, be re-used for CHPS?</li></ul></li><li>• OHD to address national requirements for CHPS</li><li>• RFCs to address local needs within CHPS (possibly partner with OHD, on a case by case basis?)</li></ul></li></ul>



# End of Presentation

Questions or comments?