



NCAR – NOAA infrastructure MoA

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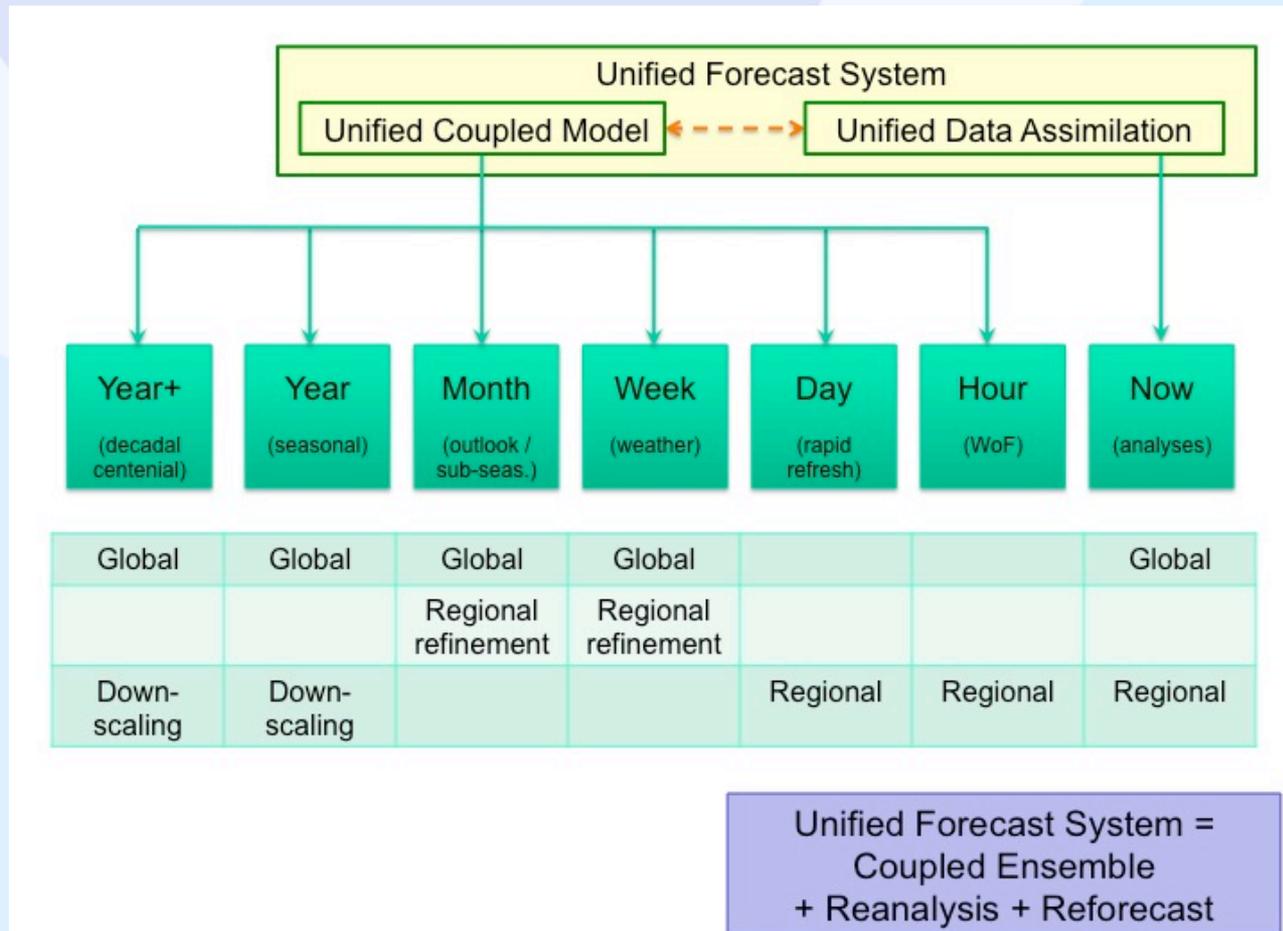
Background (NCAR)

- NCAR STRATEGIC PLAN 2014 – 2019:
 - A cornerstone of the research strategy over the next decade will be the pursuit of a more unified modeling approach for both physical processes and model dynamics. Implicit in this effort is more common infrastructure that can be shared across NCAR and the community
- January 9 2017 : Workshop on the Future of Global Atmospheric Modeling at NCAR
 - Actionable Conclusion: we should work toward a common infrastructure
- July 28 2017 : NOAA/NCAR LOI (signed)
 - More in following slides
- January 30 2018: award of NCAR re-investment funds targeted towards an interoperable physics framework
 - CCPP collaboration in parallel to MoA development

Background (NOAA)

UCACN and UMAC review: plan, simplify and unify!

- Resulted in Strategic Vision for NOAA modeling enterprise

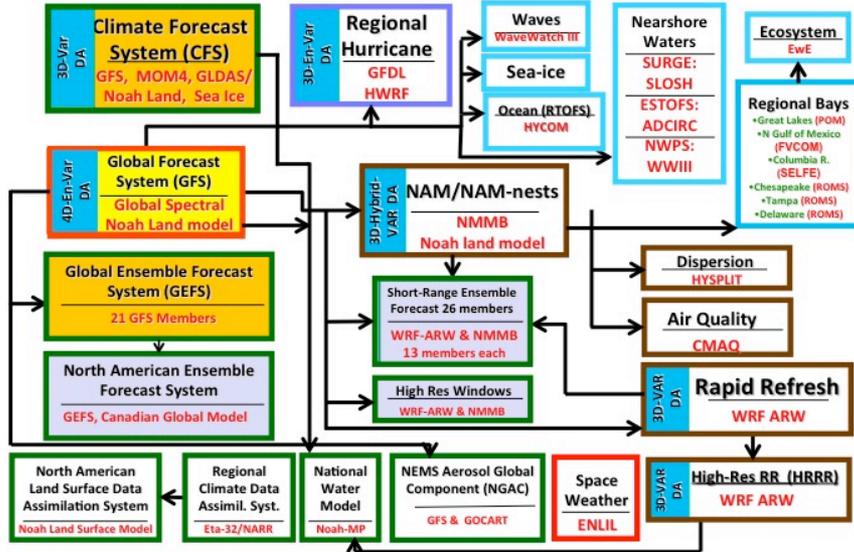


NOAA Production Suite

Moving from atmosphere focus to holistic environmental approach

Roadmap Fig. 1

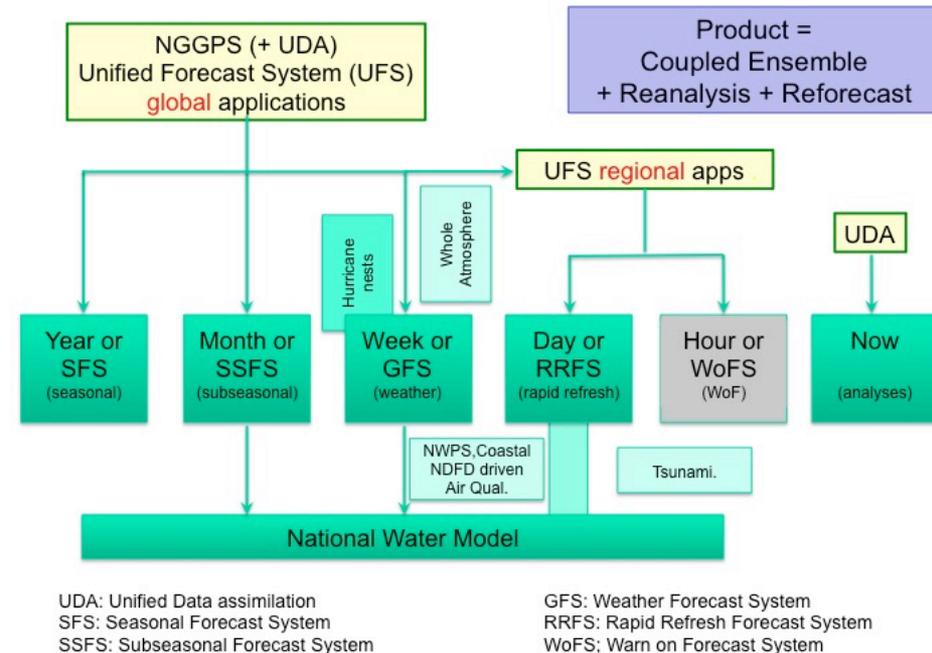
Production Suite ca. August 2016



Courtesy Bill Lapenta

Starting from the quilt of models and products created by the implementing solutions rather than addressing requirements

... we will move to a product based system that covers all present elements of the productions suite in a more systematic and efficient way



UDA: Unified Data assimilation
SFS: Seasonal Forecast System
SSFS: Subseasonal Forecast System

GFS: Weather Forecast System
RRFS: Rapid Refresh Forecast System
WoFS: Warn on Forecast System

Roadmap Fig. 2



MoA background

Letter of Intent for collaboration between NCAR, NWS and OAR signed July 28, 2017

- “to develop a Memorandum of Agreement (MOA) that will describe how both organizations will work collaboratively toward the design and construction of a community **unified modeling infrastructure**. “
- Identified benefits include
 - Synergies
 - Common repositories
 - Access to NOAA operational models

Does not include component models of coupled systems

Team for writing MoA formed in November 2017

- Full draft agreed upon
- **Now in legal and signatory review**

Not ready for full public release

MoA writing team

Hendrik Tolman (lead)	NOAA / NWS / Office of Science and Technology Integration
Fred Toepfer	NOAA / NWS / Office of Science and Technology Integration
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Louisa Nance	NCAR / Research Applications Laboratory

MoA core content

The (draft) MoA identifies 7 areas of common infrastructure

- 1) NEMS / CMEPS unification for inter-component coupling
- 2) CCPP / CPF unification for intra-component coupling
- 3) CIME – CROW unification for common workflow development
- 4) Unified testing to assure code is robust and performs as expected
- 5) Unified model validation through MET development and expansion to application for fully coupled systems
- 6) Github based repositories for all infrastructure
- 7) Modeling support; leveraging, creating if necessary, or adapting support capabilities at NCAR and DTC

Even without signing the MoA, work on all unification areas is already ongoing.

MoA additional

Additional principles

- No (new) exchange of funding planned, leveraging existing funding of all parties
- Building upon existing governance, expanding governance per component as needed
- Five year life cycle, with option to renew
- Intended signatories
 - Dr. Antonio J. Busalacchi, President, UCAR
 - **Dr. James W. Hurrell, Director, NCAR**
 - Dr. Louis W. Uccellini, Assistant Administrator for Weather Services NOAA, and Director, National Weather Service
 - Mr. Craig McLean, Assistant Administrator, NOAA Oceanic and Atmospheric Research

Thank You!

