UFS CAM Test Plan

- This test plan should be focused on facilitating pre-implementation decision making (i.e. relatively high readiness-levels for end-to-end model system)
- Does new model system provide similar or improved forecast guidance relative to current operational products and contribute to a more unified production suite?
- CAM stakeholder community now very diverse (severe, aviation, hydro, energy, AQ)
- Need to identify necessary and sufficient metrics from these communities
- CAMs/ensembles, are computationally expensive, propose progressive cascade:
  a. Run a few “one-off” high-impact retrospective cases for metric/stakeholder evaluation
  b. If (a) meets metrics, then proceed with statistically significant retrospective period runs for metric/stakeholder evaluation
  c. If (b) meets metrics, then proceed with multi-month parallel real-time evaluation at EMC for metric/stakeholder evaluation and final decision making
- Retrospective runs would need to leverage multiple (NOAA and non-) HPC systems
- What are the operational baselines for deterministic and ensemble CAMs?
  a. NAM/NAMnest or RAPv5/HRRRv4
  b. HREFv2, v2.1, v3

UFS CAM Test Plan

- Timeline
  - SAR-FV3 development FY18-19 (component testing)
  - HREFv2.1 implementation FY19
  - Final RAPv5/HRRRv4 and HREFv3 implementation FY20
  - SAR-FV3 real-time experimental runs FY20 (entire model system testing)
  - RRFS code freeze early FY21 (begin final pre-implementation testing)
  - RRFS one-offs for evaluation early FY21
  - RRFS retrospective runs for evaluation FY21
  - RRFS real-time EMC for evaluation late FY21
  - RRFS code delivery to NCO in early FY22

SAR-FV3 = Stand Alone Regional FV3
RRFS = Rapid Refresh Forecast System