



# Strategic Implementation Plan (SIP) for a Community-based Unified Modeling System



## ***Verification and Validation (V&V) Working Group***

*Presented by*

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# Verification & Validation WG

## *Membership*



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- **Co-chair \*\***



# Verification & Validation WG

## *Initial Findings*



- Provide efficient and robust community verification package:
  - Works on varying computer architectures and complexity
  - Supports evaluation of the coupled system
  - Available via Github or VLab with community access
  - Provides friendly interface and extensive user training, outreach
  - Access to allow community contribution
  - Must interface seamlessly with JEDI Obs Database and Forward Operator but also be able to support stand alone obs files.
- R2O & O2R needs to be easily accessible and allow external community to do experiments without much overhead
- Better communication and discussion of needs of each community (i.e. operational centers vs. academia)



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## *Key issues*



- Need more research on “optimal methods” to evaluate unified model at different time and spatial scales
- Greater emphasis on easily using remotely sensed observations and incorporating obs/analysis/hindcast uncertainty
- Incorporate methods to help
  - Developers better understand their models and ensembles (process-oriented)
  - Forecasters gain confidence in new products, especially probabilistic (regime dependent, extremes)
  - Determine the impact of errors on end-users (societal impacts)
  - Managers decide what to implement (scorecards and NWP indices)
- Technical Needs, Barriers, Risks
  - Must run with or w/o a workflow manager and on single or multiple processors
  - Computational efficiency to run operationally and on large datasets
  - Flexibility to also run in research labs, academia and other orgs
  - Breadth of scope to serve the needs of many groups may make tools unwieldy