Integrated Modeling Systems Committee

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SCOPE

In order to enhance convergence and coordination, the Integrated Modeling Systems Committee of the National ESPC project office will coordinate a joint roadmap or overarching investment strategy of Agency member earth system developmental and operational activities.

This National ESPC overarching roadmap construct will:

1. Fold together agency/center models into a coordinated ensemble system across time scales.

2. Identify and track existing and possible earth system technologies, principal performers and funding activities, and intended transition paths and milestones for implementation or improvement of those technologies.

3. Identify gaps in capabilities based on user needs to help focus development efforts.

Individual cognizant agencies and offices will create roadmaps for upgrading their contributing efforts. Progress of individual technologies can be measured by established common metrics and testing which may provide guidance for including or excluding particular input from the product.

PURPOSE

The National ESPC involves coordinating many research, development, test, and operational activities. New components are envisioned, developed, and implemented continuously. This activity by multiple agencies and multiple organizations within agencies strains coordination and collaboration. Common software architectures, metrics, and testing environments greatly enhance the transition of these components – but do little to reduce or redirect the multiplicity of efforts into collaborative endeavors. As the National ESPC involves development efforts at many activities and implementation at multiple operational centers, a unified roadmap or timeline for delivering a new national capability does not exist as a single entity.

Numerous research and policy reports have identified a multiplicity of modeling development efforts that have been created to meet separate agency needs. While uncoordinated, this multiplicity of agency modeling developments are an expensive weakness; if coordinated, the multiplicity of modeling developments become a strength, providing multi-model ensembles that are scientifically the answer to the long-timescale, cross-timescale problem. The coordination required includes scientific development, model interoperability, as well as output coordination. Separate model improvement pipelines will allow for continued fidelity improvement even after an initial capability across scales is in place. The Integrated Modeling Systems Committee will take this overarching role to leverage the existing interagency efforts and build a more streamlined national capability to improve protection of life and property, and improve resource management and planning.