

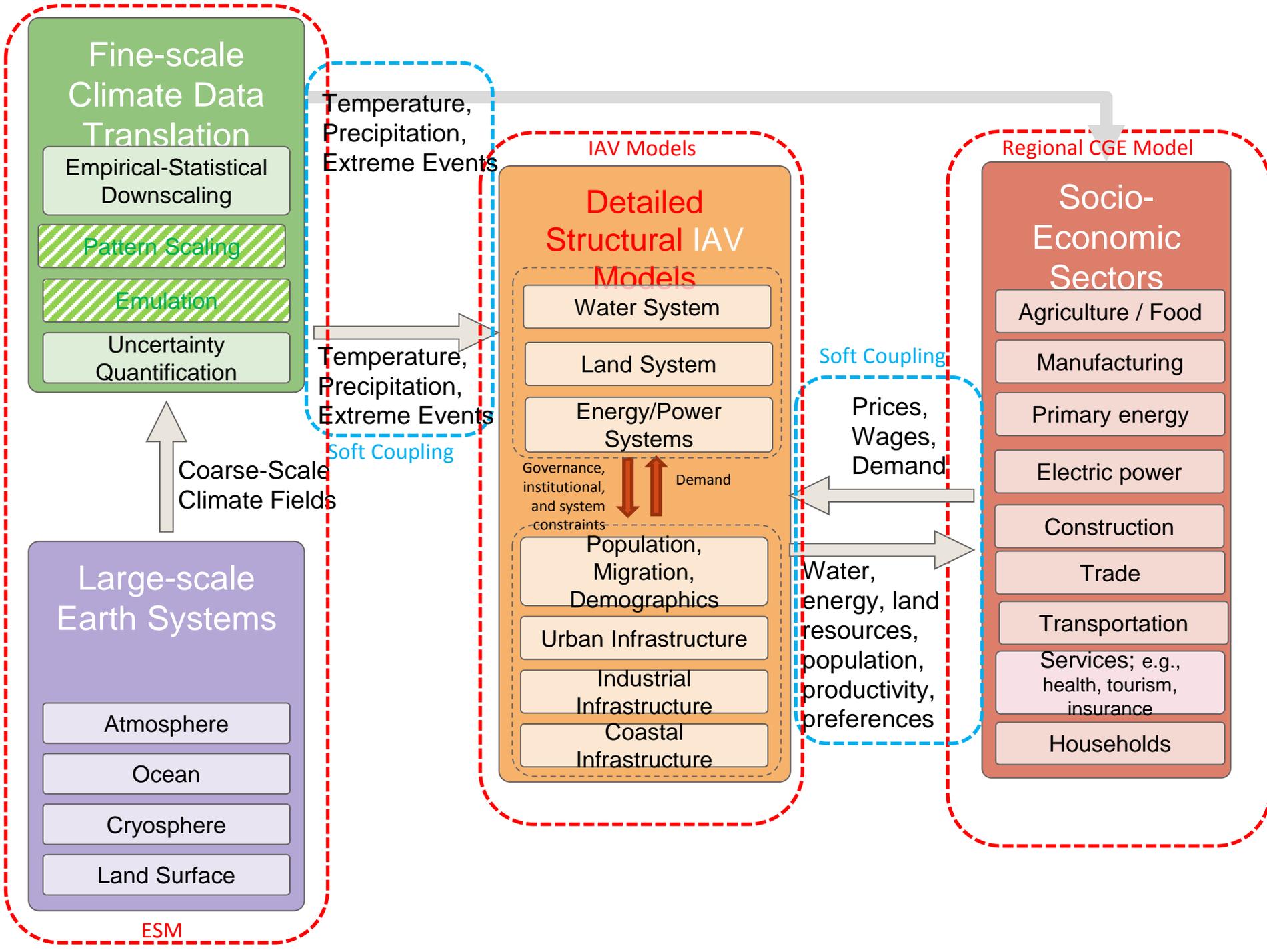
Update for IGIM:

**Multi-Sector, Multi-Scale IAV-IA
Modeling Framework Community
Workshop**

Robert Vallario, DOE

Background

- Understanding the dynamics of coupled human-environmental systems in a multi-stressor world is coming into focus as a crucial area of societal need
- Integrated Assessment Models (IAMs) and multi-sector Impact, Adaptation, and Vulnerability Models (IAV) models are moving independently to fill these voids
- There is an opportunity to develop a framework that will assist in developing inter-operable capabilities across IAV, IAM, and Earth system modeling, science
- Capacity will facilitate understanding of dynamics of connected Earth and human systems as they respond to long-term trends and shocks/cascading failures
 - how changes in one sector or system ramify across others
 - dynamic changes in the systems themselves
 - need for uncertainty characterization and analysis
 - desirability of consistent analysis across sectors, scales, and uses



Interagency Coordinating Group

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Workshop Agenda Overview

- Background
- Overview of current capacity and cutting edge models
- Plenary and breakout groups I: connected/concentrated infrastructure
- Plenary and breakout groups II: multi-sector/scale implications of drought
- Plenary and breakout groups III: cross-cutting issues
- Synthesis and wrap up

Draft Use Cases

Sub-problem/topic/question
1. Concentrated/connected infrastructure
What are the implications of individual or combined stressors for energy systems?
How can cities most efficiently improve their ability to mitigate flooding events?
How could cascading impacts on connected and critical infrastructure affect the economy and human health/safety?
How will air quality and human health be affected by various stressors?
How should new energy infrastructure assets be sited to optimize system resilience and meet future requirements given constraints and evolving demand?
2. Multi-sector/scale implications of drought
What are the major interdependencies, risks, and vulnerabilities for the coupled energy-water-land system?
How can the costs of drought to different municipal and industrial users and to ecosystem services be minimized?
How could droughts of various intensity, frequency, and duration influence migration within the US, as well as internationally?
What are the economic effects of drought on state economies considering cross-sector and –scale interactions and feedbacks?
What mix of energy sources and carriers maximizes reliability and minimizes costs given objectives and constrains across multiple sectors and scales?

Schedule

Date	Milestone
January 2016	Form SSG
February	SSG-ICG teleconferences on participants and agenda concept <ul data-bbox="672 539 1128 639" style="list-style-type: none">• Issue invitations• Discuss organization
March	SSG and ICG explore “use cases” and breakout group concept: “table-top” exercise
April	Select use cases and identify leads
Early May	Pre-meeting webinars
24-26 May	Workshop
June	Results of workshop integrated in draft report for review and editing at synthesis meeting
July	Snowmass follow-up workshop on coupling and complexity
September	Publish workshop report

BACKUPS