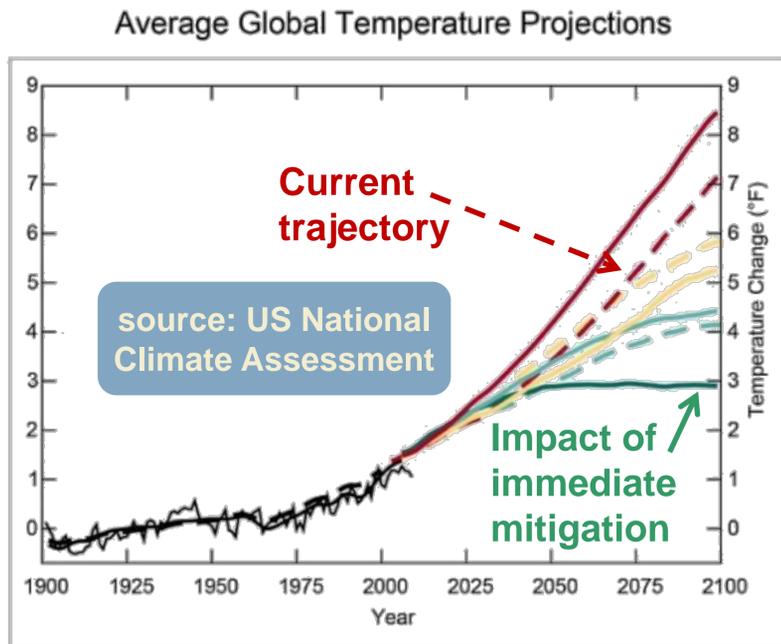# What is CIMSANS?

ILSI Research Foundation

CIMSANS
Center for Integrated Modeling of
Sustainable Agriculture & Nutrition Security

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The purpose of CIMSANS is to foster new public-private partnerships on integrated modeling that improve both scientific understanding and public policy around the growing impacts of climate change and resource scarcity – especially water – on global nutrition security.

Average Global Temperature Projections

Current trajectory

source: US National Climate Assessment

Impact of immediate mitigation

The New York Times

CLIMATE CHANGE SEEN POSING RISK TO FOOD SUPPLIES

Science Panel Says Output May Drop 2% Each Decade, as Demand Rises

By JUSTIN GILLIS

source: *NY Times* story highlighting a key finding from the draft fifth assessment report by the UN Intergovernmental Panel on Climate Change

Open Ag Data Working Group

Open Data are an essential enabler for more transparent, credible, and impactful integrated modeling. A key objective of this Working Group is to identify additional private- and public-sector datasets that can be made available to the global integrated modeling community, thereby improving overall modeling assessment reliability. Discussions have begun on the development of a "Data Processing Service" to make this process dramatically more effective. The WG has also approved and is sponsoring a 12-month pilot project led by Tom Hertel (Purdue U) to implement GEOSHARE ("Geospatial, Open-Source Hosting of Agriculture, Resources and Environmental Data") in two selected countries: Ghana and India. The mission of GEOSHARE is completely aligned with that of CIMSANS, and is to produce a freely available, global, spatially explicit database on agriculture, land use, and the environment, including a computing environment for running certain integrated assessment component models.

Improved Modeling Working Group

Integrated models are assembled through a combination and linkage of the predictions of climate, crop, economic, and environmental models, resulting in an overall assessment of current and future trends in sustainability outcomes and nutrition security, at a full-range of spatial scales – planetary, regional, community, household, and the individual. Unfortunately, current models are unable to accurately characterize all important aspects of the global food system, so dramatic improvements are needed. Model improvement efforts now being pursued by this WG include collaborations between AgMIP[1] and private sector players on cassava and maize models. A Memorandum of Understanding has been drafted to significantly broaden the areas of collaboration between AgMIP and CIMSANS. Several other potential crops and food sources (e.g. dairy) have been suggested as potential targets. A "Model Improvement Summit" is now being planned with the Bill & Melinda Gates Foundation for September 2014, most likely at Purdue University.

Nutrition Security Working Group

The purpose of the work on Open Data and Improved Modeling is to support the Nutrition Security Working Group, which is now preparing a White Paper entitled: "Sustainable Nutrition Security: its fundamental role in food security." The author team includes a broad range of public- and private-sector scientists with complementary expertise on all critical sustainability and nutrition aspects of the global food system. The Convening Lead Authors are Dr. Barbara Schneeman (UC Davis emeritus, recently served at the US Food & Drug Administration), Dr. Jessica Fanzo (Columbia University), and Tara Acharya (Pepsi Co). The purpose of the white paper is to define the landscape for integrated sustainable nutrition assessments and map out the steps for CIMSANS to facilitate the development of the data and models needed to create the first credible, comprehensive, global assessment of sustainable nutrition security that includes all of the world's most important non-staple and staple foods by December 2016.

[1] AgMIP: Agricultural Model Inter-comparison & Improvement Project, www.agmip.org