

INTRODUCTION

ISI-MIP is a community-driven modelling effort with the goal of providing cross-sectoral global impact assessments, based on the newly developed climate (Representative Concentration Pathways (RCPs)) and socio-economic (Shared Socio-Economic Pathways (SSPs)) scenarios.

Based on common background scenarios (climate and socio-economic), a quantitative estimate of impacts and uncertainties for different sectors and from multiple impact models are being derived. From this, policy relevant and society-focused metrics are deducted.

This initiative, coordinated by a team at PIK with support from IIASA and backing from the IPCC Working Groups II and III, aims to provide fast-track outcomes for the IPCC's Fifth Assessment Report (AR5). Further it hopes to initiate a longer-term coordinated impact assessment effort driven by the entire impact community.

THE ISI-MIP IDEA

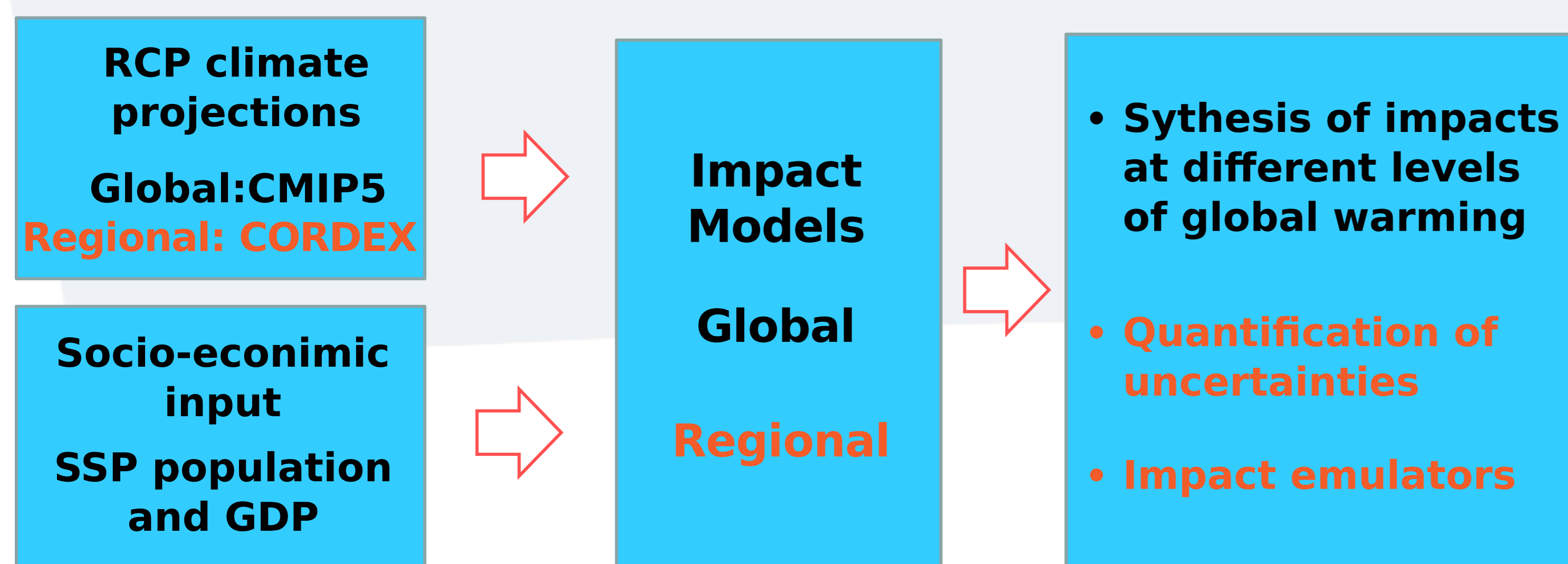


Figure: Black: components of the current, fast-track project. Orange: tasks for a long-term effort.

THE ISI-MIP FAST-TRACK TIMELINE

The timeline for the first year was dominated by the deadline for Working Group II for the IPCC AR5. About 30 teams maintaining global impact models from the sectors agriculture (including agro-economic models), water, ecosystems, infrastructure and health were invited initially to join this fast-track effort.

They were provided with pre-processed input data (climate and socio-economic data, based on CMIP5, using as many scenarios as are available, and SSPs). This ensured basic harmonization and grid consistency across all input models.

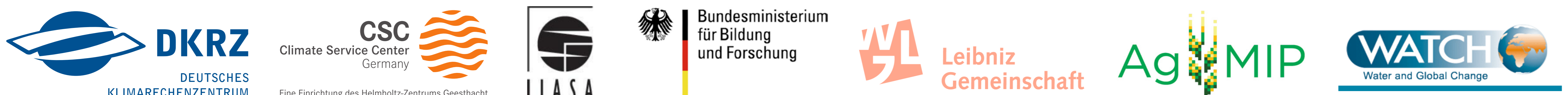


Figure: Timeline for ISI-MIP in the fast-track year.

FUTURE PLANS

An international impact conference in May 2013 will evaluate the projects and the state of the art in impact research, as well as providing space for the community to discuss further long-term efforts. DKRZ will most likely be in charge for analogous services again.

PARTNERS AND FUNDING



THE ISI-MIP SETUP AND DKRZ UTILIZATION

Achievements:

- ▶ harmonizing and bias correcting 5 CMIP5 GCMs (1970-2099, all RCPs) at PIK
- ▶ distribution via DKRZ server to modelling groups worldwide as model input
- ▶ collecting model output from 28 impact modelling groups worldwide
- ▶ all data backed up to US mirror at ANL via GlobusOnline
- ▶ about 45 new user accounts established

In progress:

- ▶ central distribution of collected data to impact modeller community through an ESGF node with long term maintenance at DKRZ
- ▶ forwarding data to WDCC CERA data base into the long term archive

CONTRIBUTION OF MODELLING GROUPS

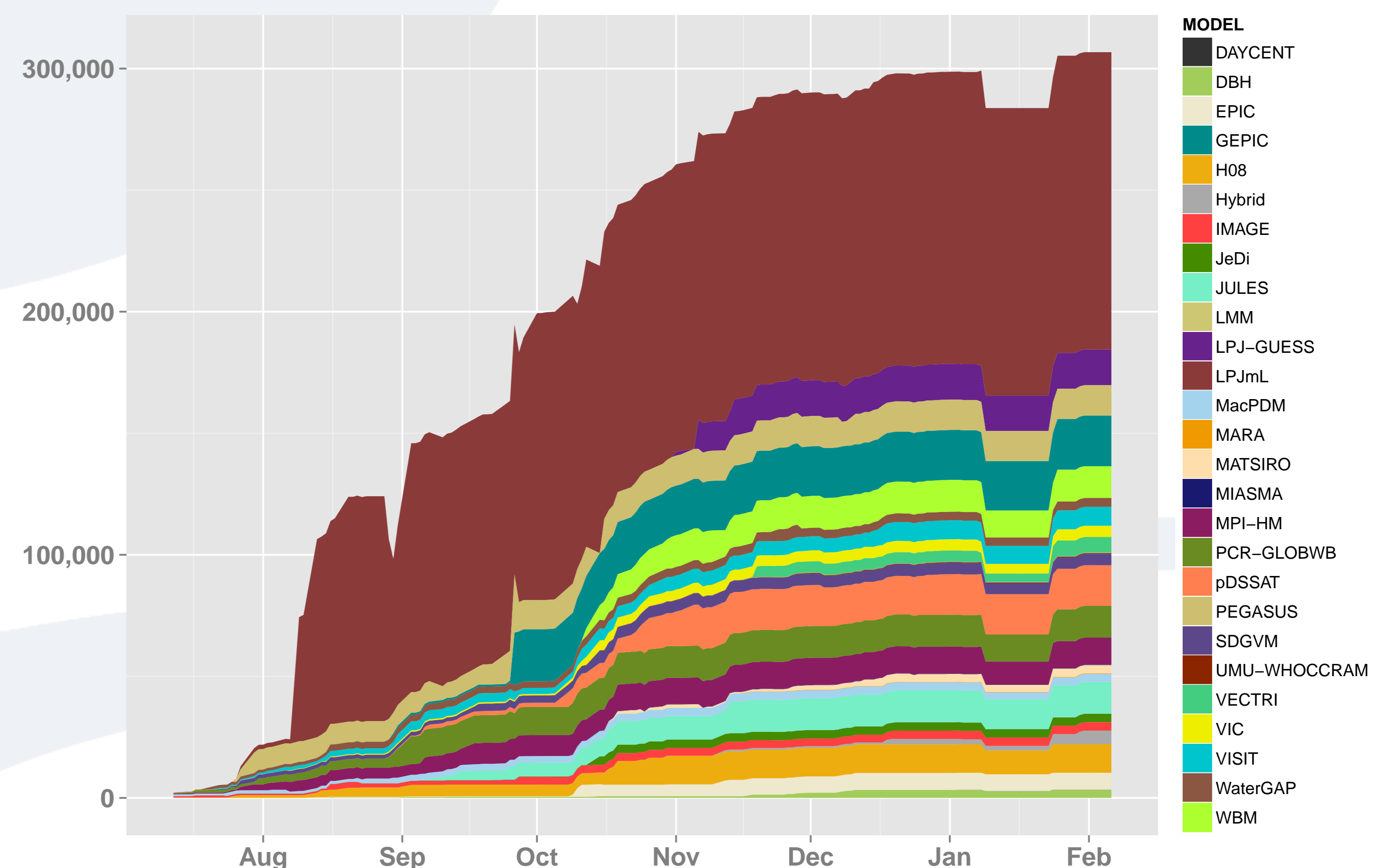


Figure: Number of files delivered by modelling groups over time.

OUTCOME

Core results will be published in a Special Issue of PNAS containing sectoral overview papers as well as a synthesis paper prepared by the coordination team. Until 31 January the following numbers of papers were submitted:

- ▶ 15 papers to PNAS Special Issue
- ▶ 5 papers to *Agricultural Economics*
- ▶ 2 papers to *Earth System Dynamics*
- ▶ 1 paper to *Global Biogeochemical Cycles*
- ▶ 1 paper to *Environmental Research Letters*

By holding the paper submission deadline these papers provide state-of-the-art input of current impact modeling activities for the IPCC WGII.