



<http://www.nies.go.jp/>

National Institute for Environmental Studies

WHO WE ARE

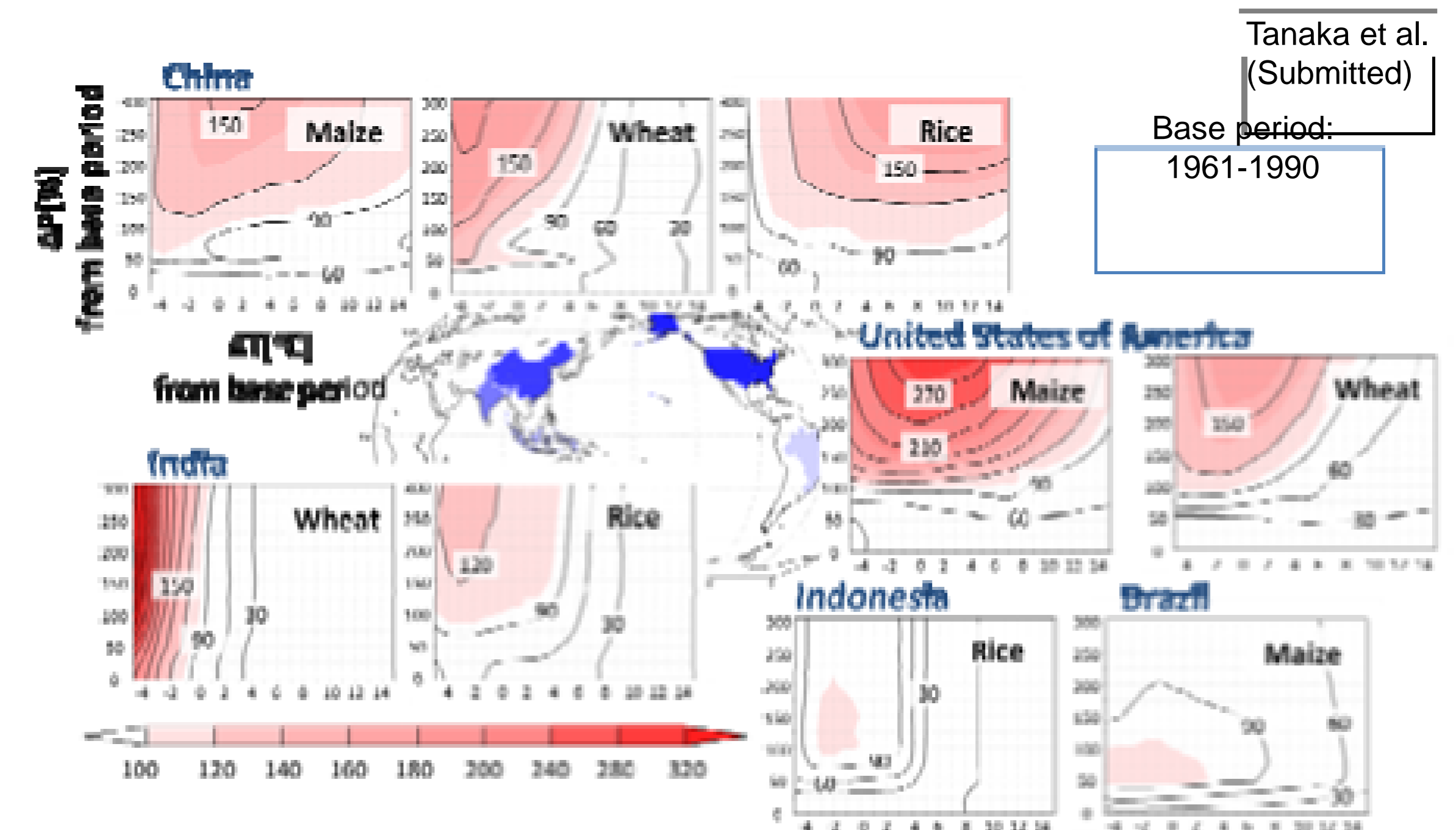
- The National Institute for Environmental Studies (NIES) was established in 1974 as a governmental research institute which belonged to the Environment Agency of Japan. It became an incorporated administrative agency in 2001 and is now Japan's primary institute for comprehensive research in environmental science.
- After a major reorganisation in 1990 with the establishment of the Center for Global Environmental Research, NIES has been conducting more intensive research on conservation of the natural environment and on global environmental changes.
- In NIES, there are about 200 permanent research staff and about 500 non-permanent researchers. NIES has contributed to various international academic activities on global environmental issues including the Intergovernmental Panel on Climate Change (IPCC) (with six lead authors for AR5), the Global Environment Outlook and the Millennium Ecosystem Assessment.

WHAT OUR EXPERIENCE IS

- Contribution to global scenario development initiatives, such as IPCC-SRES, RCPs, GEO and MEA.
- Analysis of global climate change impacts on water, food, human health and ecosystems.
- Participation in model inter-comparison projects, such as AgMIP and ISI-MIP.
- Uncertainty analyses of climate impacts using multiple climate projections from the CMIP3/CMIP5 data archive.
- Economic analyses of climate change impacts on food and agriculture based on the linkage between a crop yield model and an agricultural trade model.
- Utilisation of CMIP5 data based on RCPs and SSP socio-economic scenarios for global impact analyses.
- Development of impact functions, look-up tables of climate impacts created by conducting sensitivity analyses, to be implemented in the integrated analyses tool AIM/Impact [Policy].

WHAT WE DO IN IMPRESSIONS

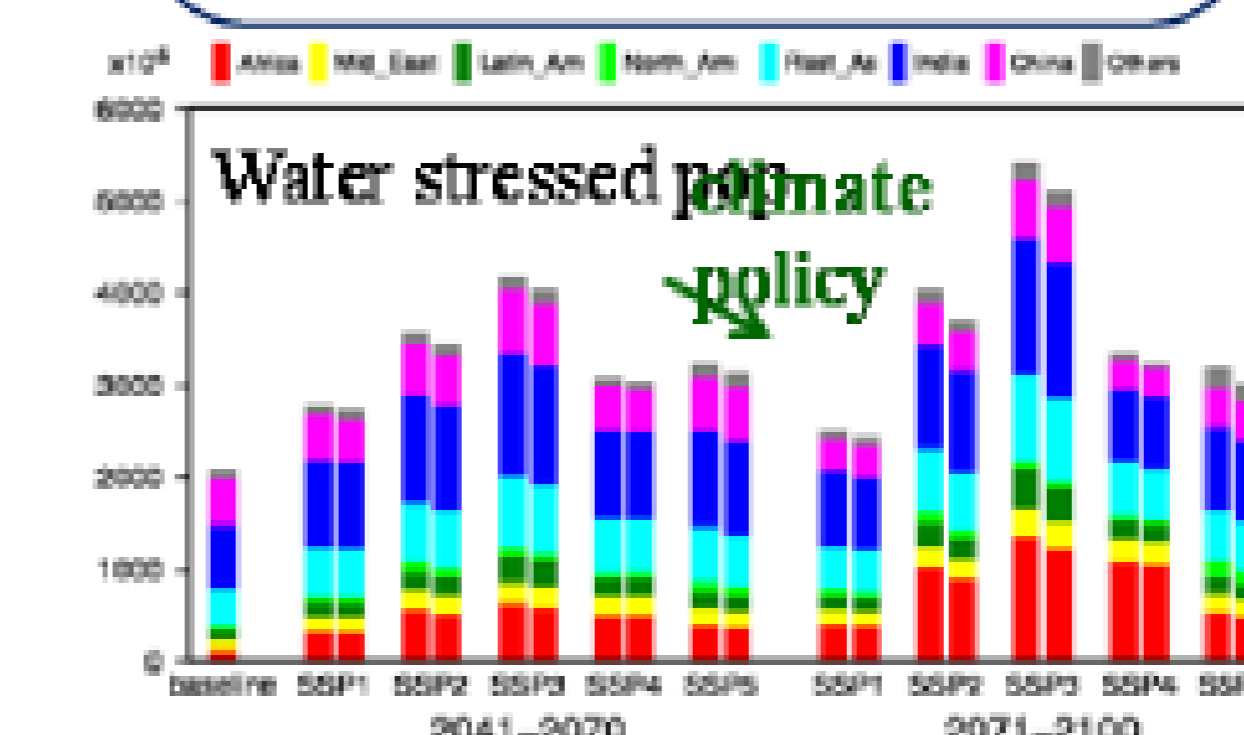
- WP2: Quantitative specifications of the main drivers represented in the new global scenarios (RCPs and SSPs) with the Asian-Pacific Integrated Model (AIM).
- WP3: Global scale impact analyses in several sectors that will serve as boundary conditions for more detailed regional analysis in IMPRESSIONS. Some global analyses will be achieved through using Impact Functions (simplified impact models with look-up table style).
- Contribution as an advisor from a non-ICPC target country.



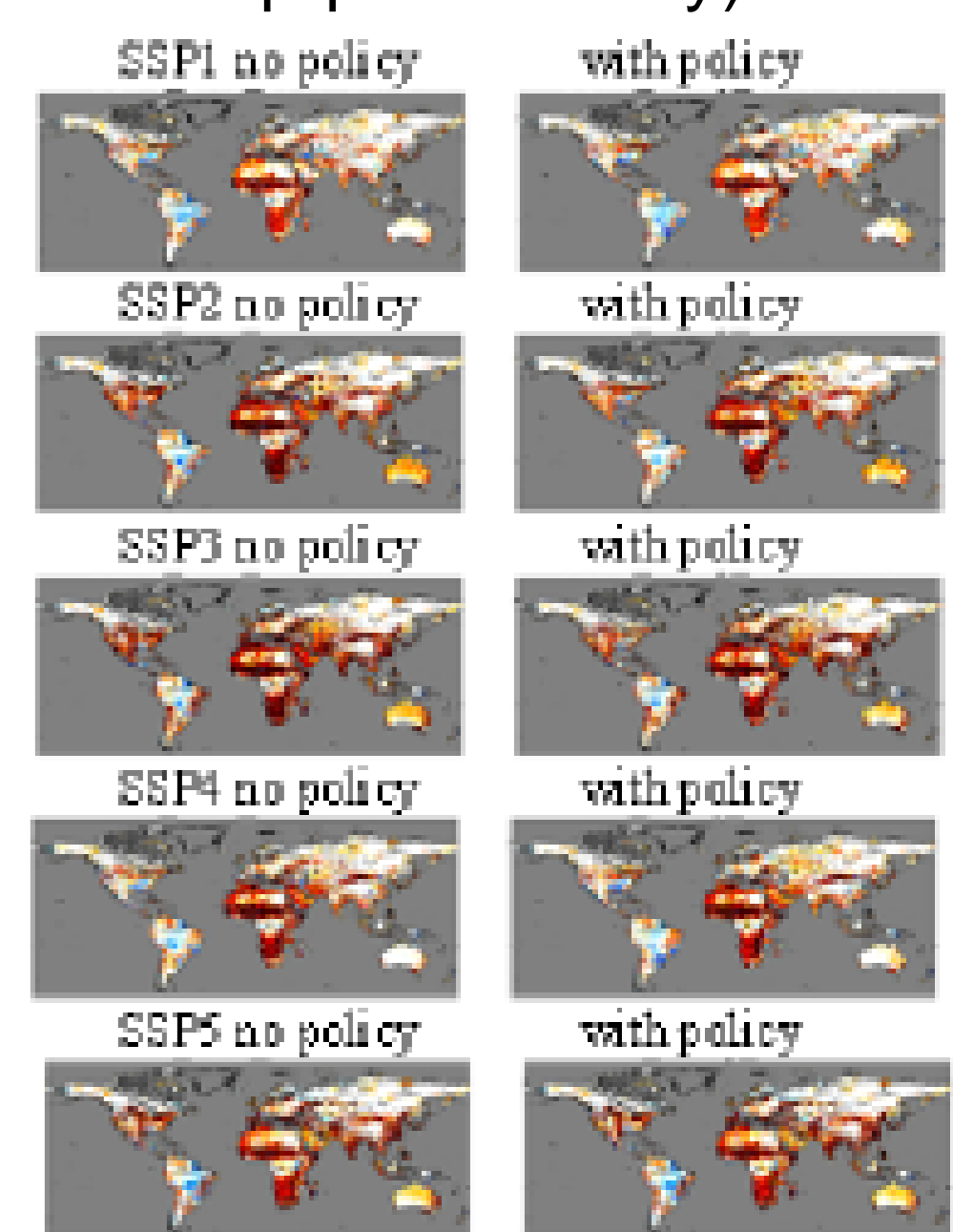
Impact Functions development for AIM/Impact [Policy] (An example of Impact Functions for crop productivity)

Water resources assessment

- Water availability and use was simulated at daily interval, at spatial resolution of 0.5 deg x 0.5 deg.
- A new index was used to evaluate whether water is available when it is needed.



Global water resources assessment based on SSPs / RCPs (CMIP5) scenarios (Hanasaki et al., HESS, 2013)



WE ARE ALSO INVOLVED IN

- ICA-RUS (<http://www.nies.go.jp/ica-rus/en/>)
- AIM (<http://www-iam.nies.go.jp/aim/>)
- S-8 (http://www.nies.go.jp/s8_project/english/)

Dr. Kiyoshi TAKAHSHI



- Senior Researcher in the Center for Social and Environmental Systems Research. He has been engaged in research projects on climate change since 1996, developing and applying assessment models of climate change impacts on agriculture and human health.
- He is a Lead Author for the IPCC AR5.

Dr. Toshihiko MASUI



- Head of the Integrated Assessment Modelling Section. He has been engaged in development of AIM, especially the emission module since 1998, and has led the team since 2010. He contributed to the MA as a LA and he is also a LA for the IPCC AR5.

Dr. Naota HANASAKI



- Senior Researcher in the Center for Global Environmental Research. He is a hydrologist and has been dedicated to the development of an integrated water resource assessment model H08, that is originally developed. He was involved in EU-WATCH and has participated in ISI-MIP.

Dr. Akihiko ITO



- Senior Researcher in the Center for Global Environmental Research. He is a biologist and has been dedicated to the development of a terrestrial ecosystem model VISIT. He has participated in ISI-MIP project with his colleague at NIES.