Mainstreaming Food, Energy and Water Security Early Warning Systems for Adaptation to Climate Change

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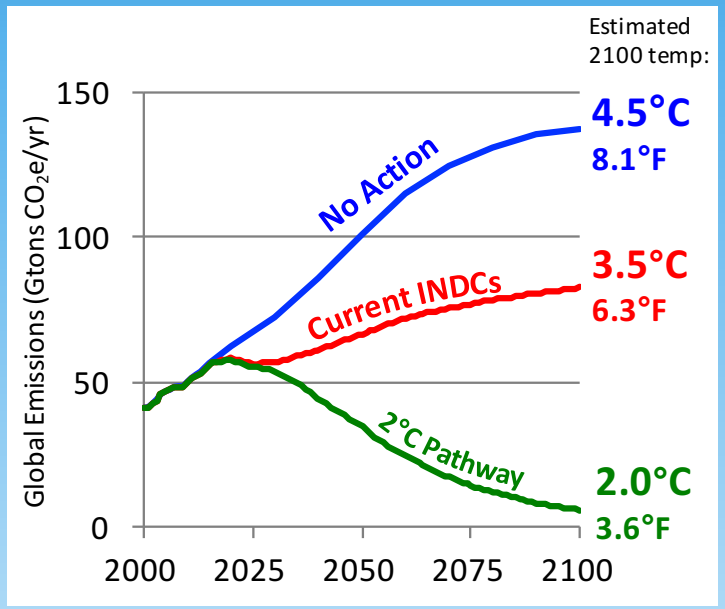
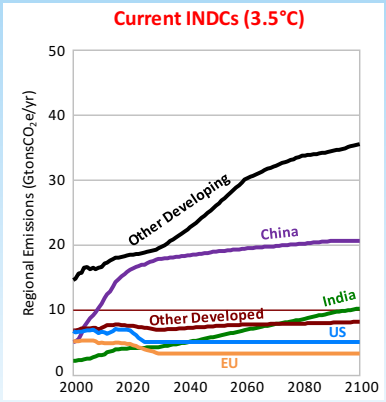
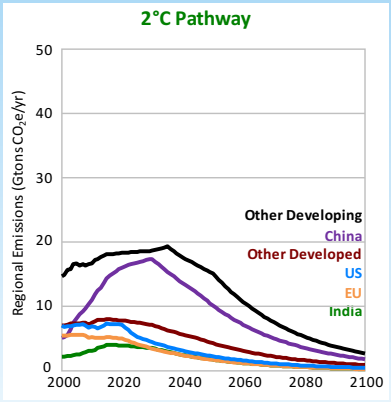
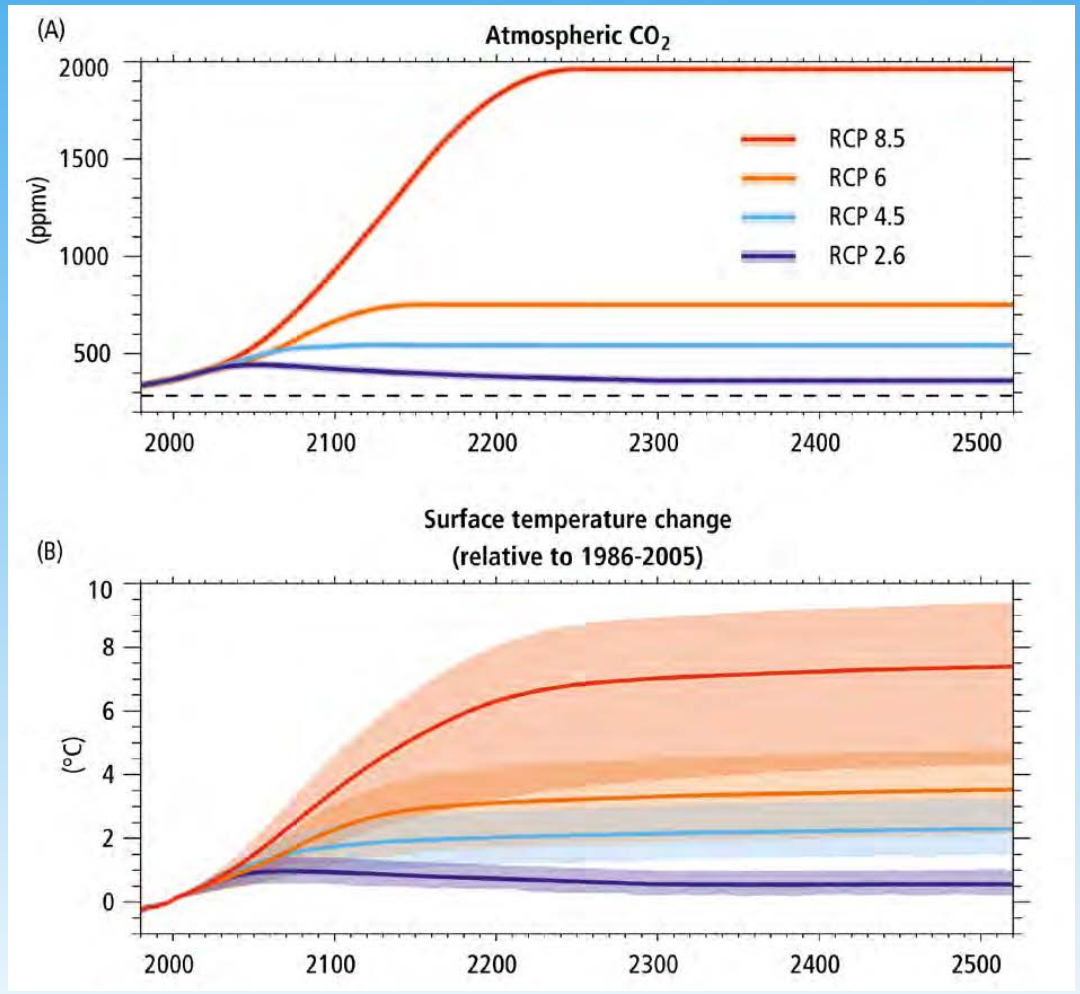
IEDS

Uncertainty in Global Climate Trajectories: Paris Treaty expectations and global scale collective action problems!









Source: Climate Interactive

IPCC 2014

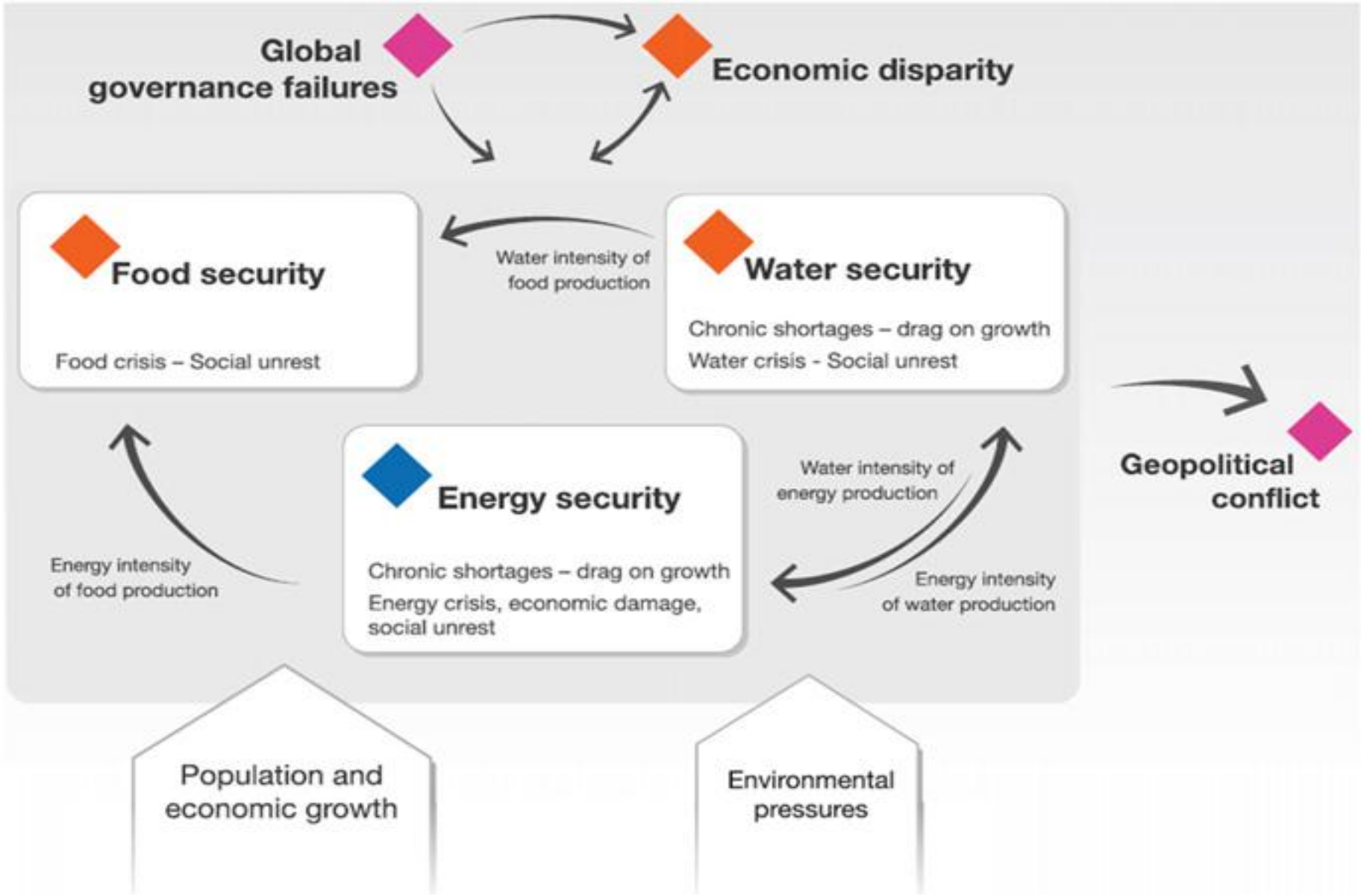


FIGURE 2. APPROACH TO WEF SUGGESTED BY THE WORLD ECONOMIC FORUM

Source: World Economic Forum, 2011.

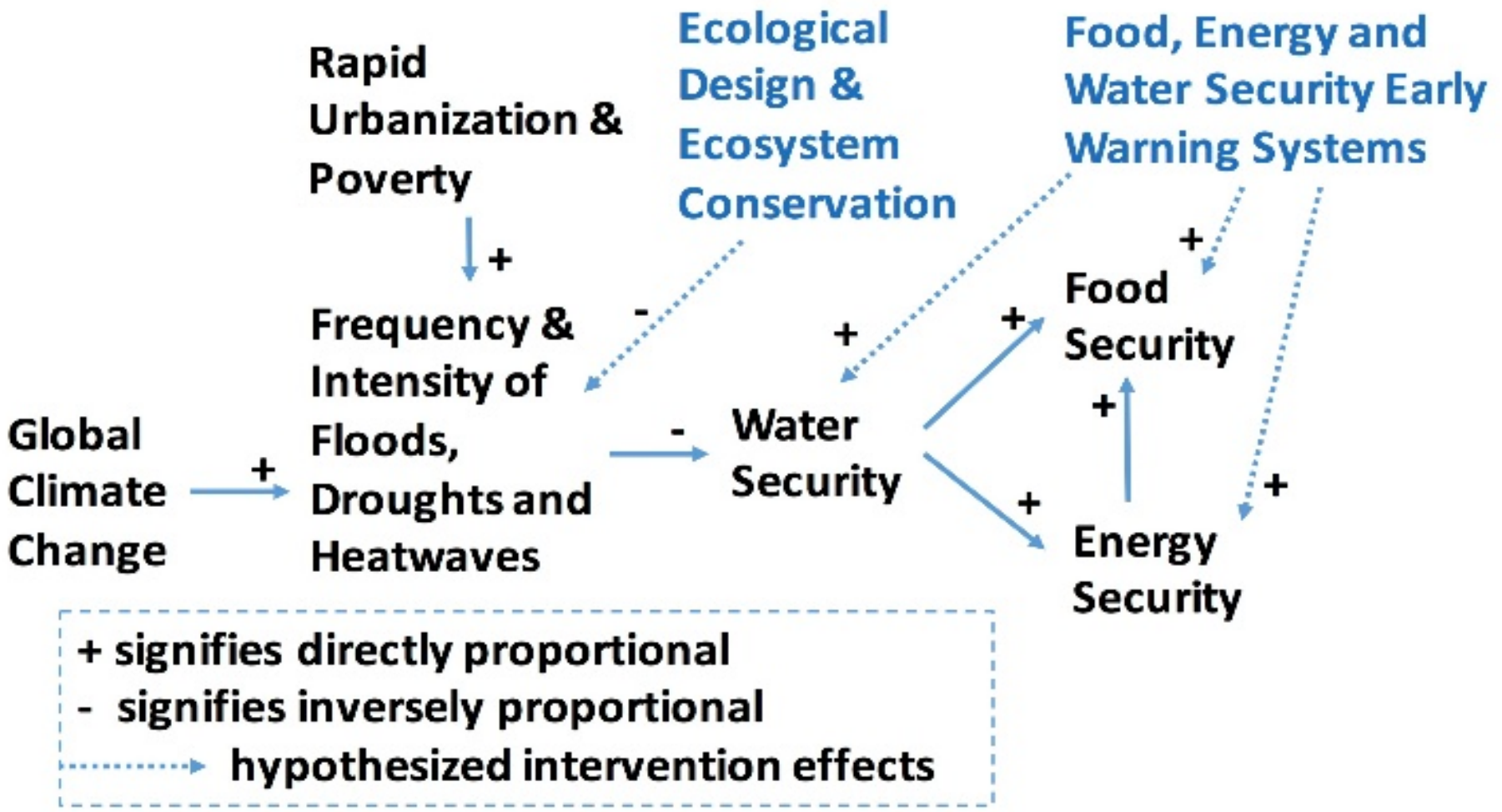
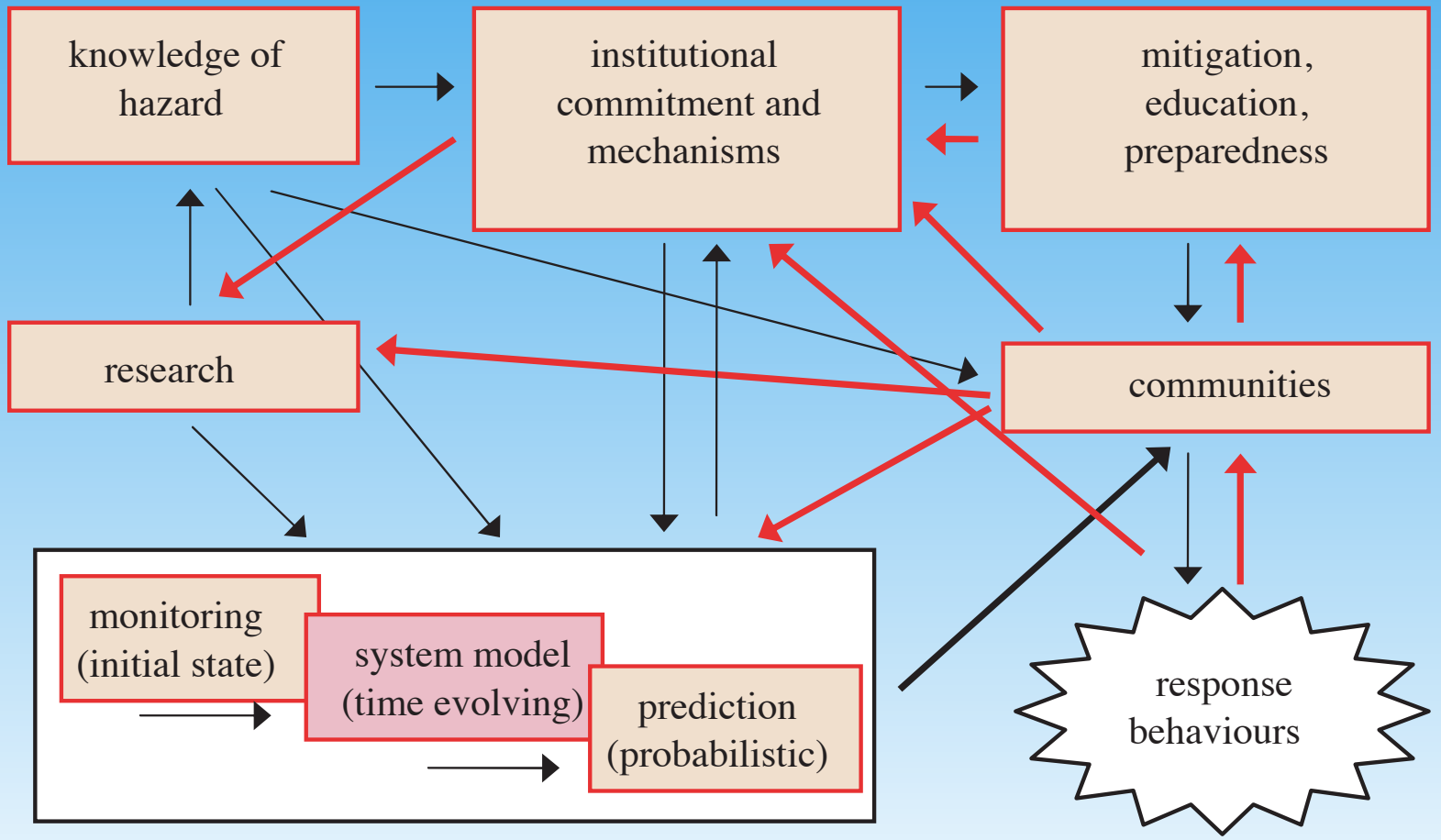


Figure 1: A conceptual overview of food, energy and water security risks and management interventions to be examined in this project

Linear (or end-to-end) versus Integrated Models of Early Warning Systems



Linear model indicated on the left box. Feedback loops of integrated model indicated with red arrows.

Deploying Integrated Assessment Models of Climate Change, Land-Use Change, Hydrology and Lake Biogeochemistry Interactions as Early Warnings

Environmental Research Letters

LETTER

Coupled impacts of climate and land use change across a river–lake continuum: insights from an integrated assessment model of Lake Champlain's Missisquoi Basin, 2000–2040

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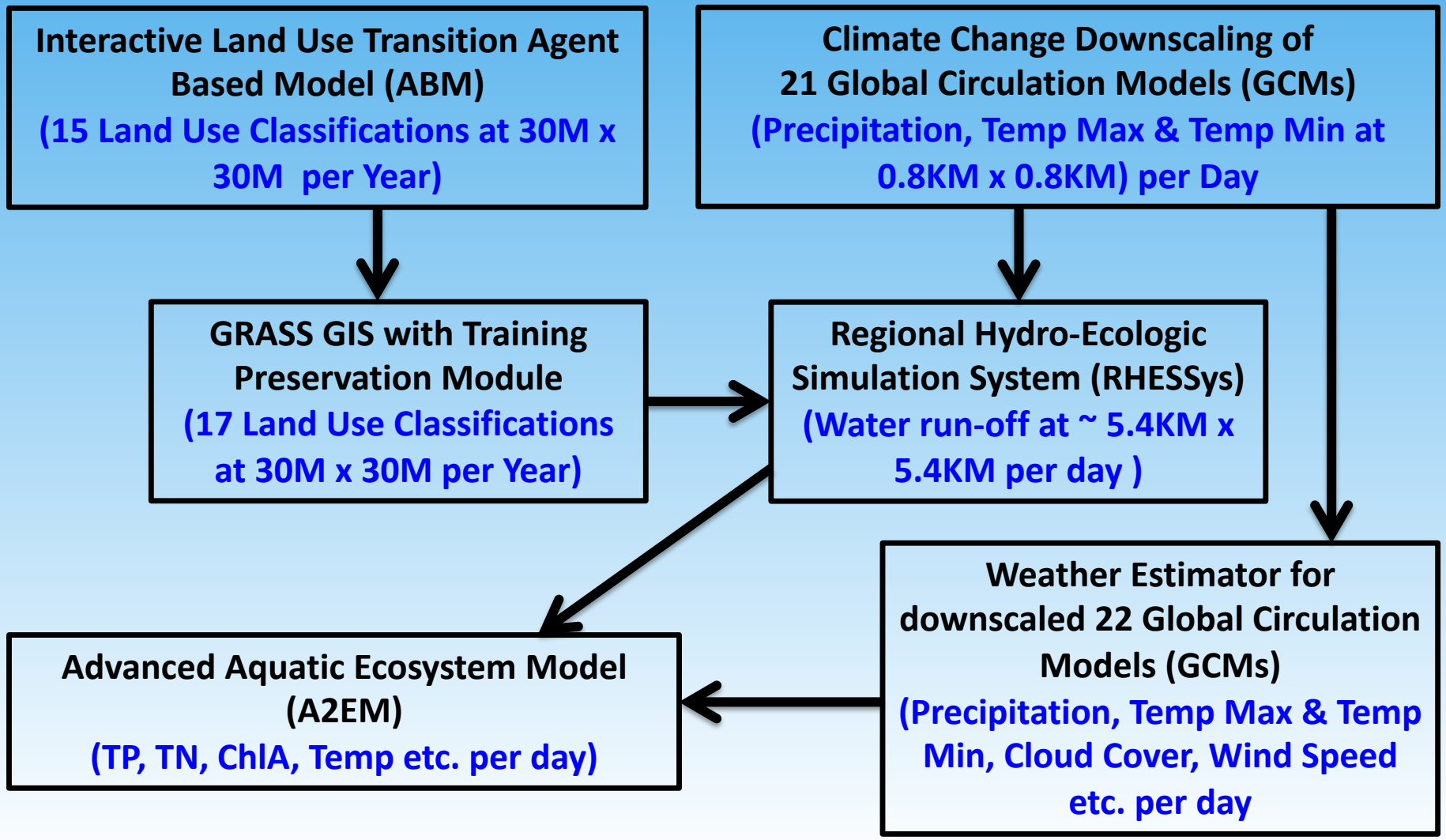

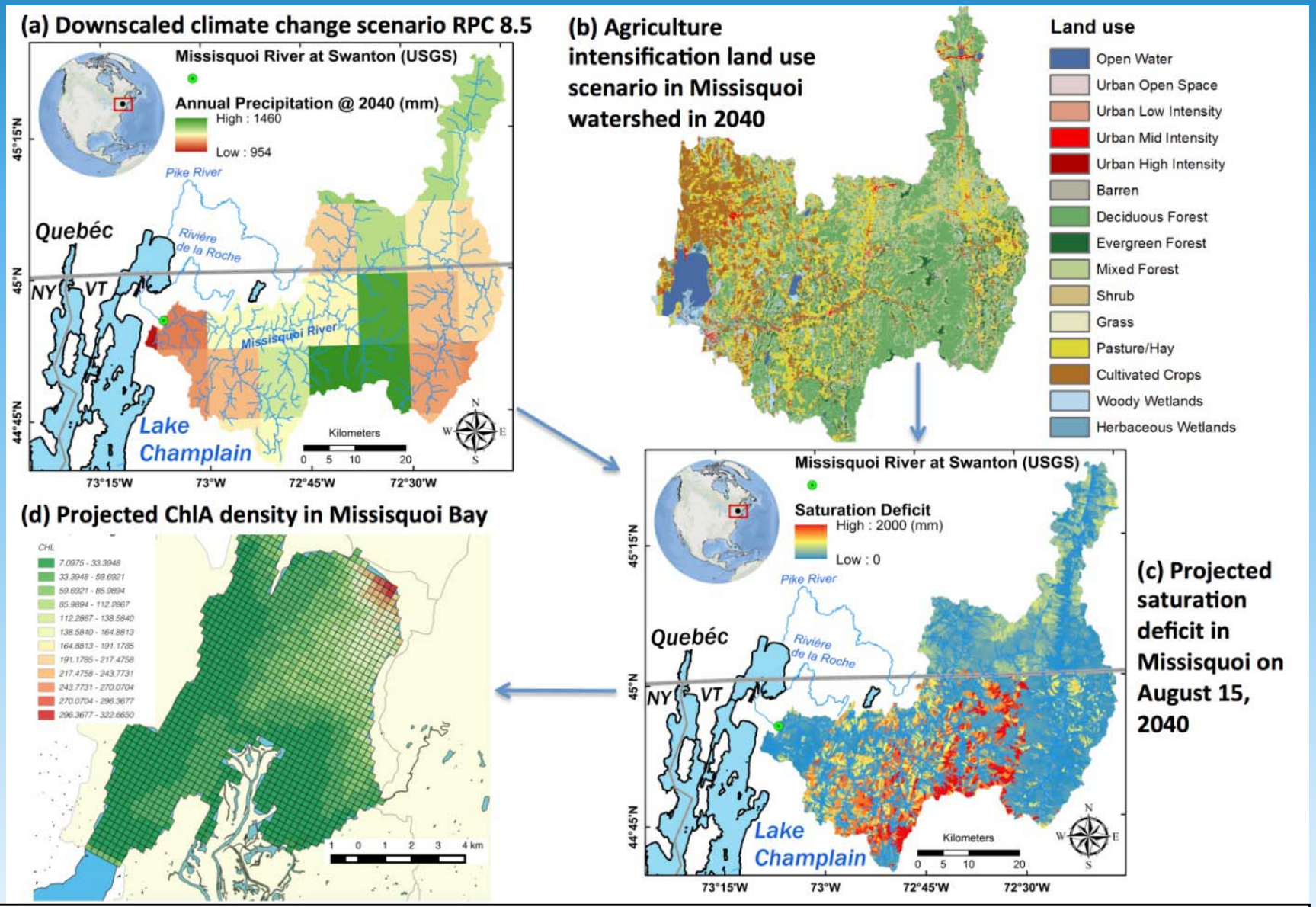

Figure 8. Output from cascading current Track-1 IAM that will be replaced by the BREE IAM: Output reveals (a) Projected precipitation by GCM BNU_ESM.1.rcp85 in 2040; (b) Projected Land-Use by Agent Based Model in 2040; (c) Projected hydrological scenario by RHESSys on August 15, 2040; (d) Projected Chlorophyll A (proxy for algae) concentration by A2EM on August 15, 2040.