

The Planet Earth in 2030-2050: An ESSP Integrative Project

*This proposal was accepted by the SC-IGBP as a
Fast Track Initiative in March 2006 to run for 3 years*

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Background

There are many scenarios of future change in human societies and in the global environment. For most global change scientists, the most well-known of these are the IPCC projections of climate change through the 21st century. More recently, the Millennium Ecosystem Assessment has developed a set of four highly integrated scenarios for the rest of this century. There are now at least 40-50 such scenarios, many of them dealing with aspects of the global environment.

The very broad fields of research covered by the ESSP programmes offer a rich resource for gazing into the future, based on scholarship from many disciplines, perspectives and regions of the world. The ESSP could contribute to our understanding of the future trajectory of the Earth System, especially its human component, by drawing on its wide range of expertise to paint a comprehensive picture of the future of the planet from many perspectives.

In the more biophysical aspects of the Earth System, our understanding of the fundamental processes that govern the functioning of the System allows us to make quantitative projections for some features. This can give some important bounds on the evolution of the Earth through this century. However, the nature of the Earth as a complex system implies that there is a limit to predictability, and so expert judgement will be required also. On the more directly human-related aspects of the Earth System, expert judgement can yield well-formulated and constructed narratives of the future development of the human enterprise. Such narratives are important for describing plausible contingent events, those chance events that cannot be predicted in a deterministic way but are so important for the future evolution of the human enterprise.

Objective

The overall objective of the FTI is to analyse and describe what the Earth might be like in the 2030-2050 period based on expert knowledge from a wide range of disciplines. The intent is to complement the well-known IPCC, Millennium Assessment, etc, by focusing on a range of specific aspects of the Earth System and describing their future trajectories individually. The idea is not to be internally consistent, but rather to use the wide range of views of experts to explore ways that different assumptions and world views colour the way we envisage the future.

Implementation

The FTI will be implemented via a Dahlem-style workshop with a book as the major product. The workshop will have a core of 40-45 invited participants, about 30 of which will be experts in a particular aspect of the Earth System and the remainder will be generalists, with an interest in the integration of information and approaches. In addition to this core group of participants, we may open the workshop to additional self-funded participants who will contribute to discussions and perhaps become co-authors on various chapters, if appropriate.

The invited experts will be requested to provide drafts of their chapters well in advance of the workshop. These will be circulated amongst the workshop participants for background and comment. The workshop will consist of ca. 20-min presentations by the experts on their draft chapters, as well as general discussion. The latter will be aimed towards (i) providing comment for revision of the individual chapters and (ii) providing input into a synthesis chapter.

Products

- The main product of the FTI will be a book, organised around a ca. 10-page chapter as well as a concluding synthesis chapter.
- If resources allow it, a peer review paper synthesizing the project as a whole and a film may also be prepared.

Timeline

The FTI will run from 2007 to 2008. Planned events are:

- Fall 2007: Dahlem Conference
- Late 2008: Preparation of the book and other products