



Memorandum of Understanding
between
Future Earth and the Past Global Changes (PAGES)

The objective of Future Earth is to provide the knowledge required for societies in the world to understand and address challenges posed by global environmental change and to seize opportunities for transitions to global sustainability

1. Introduction

Future Earth is a 10-year international research programme that aims to provide critical knowledge required for societies to understand and address challenges posed by global environmental change (GEC) and to seize opportunities for transitions to global sustainability. Future Earth research is organised around three broad and integrated research themes: Dynamic Planet; Global Development; and Transformations towards Sustainability. It builds upon and integrates the existing GEC Programmes: World Climate Research Programme (WCRP), the International Geosphere-Biosphere Programme (IGBP), DIVERSITAS (international programme of biodiversity science), the International Human Dimensions Programme (IHDP) and the Earth Systems Science Partnership (ESSP).

The need for a coordinated scientific and societal response to global environmental change was highlighted at the 2012 Planet under Pressure conference, organized by the GEC programmes. The conference declaration called for a new approach to research that is more integrative, international and solutions-oriented; reaches across existing research programmes and disciplines and has input from governments, civil society, research funders and the private sector. This call was echoed in the Rio+20 declaration and the United Nations Secretary General's Global Sustainability Panel report, with the latter calling for a major global scientific initiative to strengthen the interface between policy and science. As the flagship initiative of the Science and Technology Alliance for Global Sustainability, Future Earth is a response to that call.¹

This document describes the general framework under which an existing GEC core project can join Future Earth. As a framework document, it does not contain a high level of detail in relation to operational practices, such as review and evaluation. It should be read in conjunction with the Transition Guidance document, which describes the process of transition to Future Earth, and the Future Earth Initial Design report.

The key principles of Future Earth are described in Section 0, benefits of joining are described in Section 3, Section 4 describes the commitments that Future Earth will make to its community and Section 5 presents the expectations of individual projects if they are to join Future Earth and receive the benefits outlined in Section 3.

¹ Further information on the historical development and intended goals of Future Earth can be found in the Future Earth Initial Design report.

2. Overarching principles

Future Earth is, at its core, a federation of projects and other initiatives related to international GEC research. This federation is characterised by mutual benefits, and support and respect amongst members. Future Earth research and governance is guided by the following key principles:

- *Scientific Excellence*: Future Earth provides a community framework for enabling and co-ordinating international GEC science of the highest quality.
- *Scientific Scope*: Future Earth focuses on integrated earth systems and global sustainability research. Through research it will contribute to solutions to GEC-related challenges facing people, business and societies.
- *International*: Future Earth will address key questions and complex problems that require international collaboration. It will be global in scope, but regionally and locally relevant.
- *Interdisciplinary*: Future Earth will integrate natural science and social science, engineering, arts and the humanities.
- *Bottom-up driven*: The Future Earth approach will emphasize the importance of 'bottom-up' ideas from the research community and other stakeholders in designing the projects that respond to sustainability challenges.
- *Co-design and co-production*: The research agenda should be co-designed and co-produced by researchers in collaboration with stakeholders in governments, industry and business, international or intergovernmental organisations, and civil society.
- *Sensitive to Future Earth's own environmental footprint*: Special consideration will be given to the environmental impacts resulting from the implementation of Future Earth. For instance, greenhouse gas emissions related to operations (travel for meetings etc.) will be monitored and minimised wherever possible.

3. Benefits and Opportunities

As projects transition to Future Earth, significant benefits and opportunities will emerge. In addition to support for cross-project initiatives, Future Earth will provide added value through projects acting collectively and through co-ordinated engagement and communication activities, as outlined in more detail below.

3.1. For projects:

- The broad, interdisciplinary nature of Future Earth will provide new opportunities to engage with wider GEC communities through joint research, workshops, conferences, cross-cutting activities, new communication channels etc;
- Future Earth will provide opportunities to expand the scope of GEC research through connecting projects and activities within Future Earth;

- There will be greater visibility of international GEC research to stakeholders and opportunities for stakeholder engagement;
- Future Earth, through its Engagement Committee and other outreach activities will provide strong links to global policy makers, business and practitioners in society.

3.2. As a collective:

- Future Earth will serve as a visible and authoritative global platform for dialogue and interaction between scientists, funders, policy makers and other stakeholders;
- Future Earth's communication and engagement activities will result in a strong global identity, generating mutual benefits for projects and external partners;
- Future Earth will represent a unified and powerful voice of the research community, able to communicate with governments, funding agencies and donors to advocate for GEC science and science-based solutions, and raise the overall level of support.

4. Commitments from Future Earth

The Future Earth programme is formed by the Science and Technology Alliance for Global Sustainability², a Science Committee and an Engagement Committee, and an Executive Secretariat.

4.1. Governance

Future Earth will create and guarantee the governance framework within which projects will operate.

4.2. Funding and support

Future Earth will:

- Support, jointly with co-sponsors where relevant, standard costs for annual meetings of Scientific Steering Committees (SSCs);
- Assist in raising funds for running International and Regional Project Offices (IPOs and RPOs) and where needed, assist with the general activities of IPOs and RPOs in support of projects;
- Raise, and facilitate the raising of, additional funds for integrative and synthesis activities, cross-project initiatives, capacity-building activities and cross-cutting capabilities;
- Work to increase the level of funding for GEC research from both traditional and non-traditional sources.

² And a Governing Council, as specified in the Initial Design report

4.3. Internal communication

Future Earth will:

- Organise regular IPO meetings (e.g. every 1-2 years) to exchange good practice in managing and supporting projects;
- Establish and maintain regular and effective communication between Future Earth leadership and the projects, including advocating on behalf of the projects, mentoring, promoting new directions and representation at SSC meetings;
- Encourage collaborative links between projects through the provision of a forum for information exchange;
- Develop a data policy, in consultation with the projects and other relevant entities.

4.4. External communication

Future Earth will:

- Organise regular international global environmental change and sustainability activities, including conferences;
- Facilitate and coordinate, as appropriate, engagement with other relevant international programmes, initiatives, and science-policy fora, such as CBD, UNFCCC, IPBES and IPCC;
- Promote the Future Earth identity through a strategic communications campaign, including a website, social media channels and innovation in new media.

4.5. Future Earth will invite ideas and input about new research directions from within and outside the GEC project community, and support the creation of new GEC projects and initiatives.

5. Commitments from projects

5.1. General structure and management of project

Where co-sponsorship with another entity exists, issues relating to the structure and management of the project will be approved by all co-sponsors, and negotiated where necessary.

- A project should have an IPO, with a Science Officer (or equivalent), to manage and support the research and engagement activities of the project, and to liaise with Future Earth.

A project will:

- Have a Scientific Steering Committee (SSC) to provide scientific guidance and oversee the development of the project. There will be regular renewal in the composition of the SSC, and the SSC will be composed with due consideration to balance in expertise, discipline, geography and gender;
- Have a Science Plan and Implementation Strategy setting out the research agenda of the project for a period of 10 years, after which a major review will be undertaken, followed by closure or adjustment of future directions;
- Undergo regular monitoring and review;
- Submit annual reports on their activities to Future Earth.

5.2. Expected contributions to Future Earth

As a member of Future Earth, a project is expected to actively contribute to and participate in Future Earth activities. Projects are expected to:

- Participate in integrative activities such as joint research projects;
- Communicate fully with their communities about Future Earth activities;
- Contribute to engagement activities that promote the use of science in addressing global sustainability challenges;
- Provide ideas for new research directions;
- Contribute to building research infrastructure where relevant, e.g. observational platforms;
- Contribute to enabling open access to data, results, activities and knowledge wherever possible;
- Contribute regular science highlights, articles and/or stories for Future Earth communication activities;
- Have a commitment to capacity building, in particular,
 - To contribute to the development of young scientists
 - To actively engage with scientists in less-developed countries

5.3. Identity

- Projects will contribute positively to a process leading to a common identity and branding for all Future Earth activities;
- Projects will avoid using the acronym FE for Future Earth in official communication.



Future Earth Science Committee Chair

18th August 2015

Date



PAGES Scientific Steering Committee Co- Chair

November 5, 2015

Date



PAGES Scientific Steering Committee Co- Chair

November 5, 2015

Date



Future Earth Director

August 12, 2015

Date



PAGES Executive Director

November 5, 2015

Date