



futureearth

Research. Innovation. Sustainability.

Future Earth - WCRP

Partnerships and collaboration

June 30th, 2022

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Where are we coming from?



Working together: Future Earth and WCRP announce partnership to jointly address major societal challenges

Published: 18 December 2020

The World Climate Research Programme (WCRP) and Future Earth are initiatives that are driven by visions of creating a more equitable, sustainable, and resilient world. WCRP coordinates international climate science to address key research areas that are either too large or too complex to be tackled by a single nation, agency, or scientific discipline. Future Earth develops the knowledge and tools that government, communities, and companies need to meet the United Nations' Sustainable Development Goals. There have long been areas of synergy between the two initiatives on many levels, but this has largely taken place organically and on an ad hoc basis.

As we enter the decade where climate action is of critical importance, both WCRP and Future Earth have taken a first step towards working together in a much more strategic way. The [Future Earth and WCRP Joint Statement](#) describes how the organizations will collaborate on joint activities, convening, and products and outlines plans of how to increase their combined global impact. This will include collaboration between the WCRP Core Projects¹ and the Global Research Projects of Future Earth,² as well as in the development of five new ambitious WCRP Lighthouse Activities. The timing for this effort aligns with efforts in both organizations to redesign their structures and activities to be more flexible and responsive to the challenges that society faces now and in the next decade.

WCRP/Future Earth Joint Statement – Appendix 1

Important synergies between programs of WCRP and FE include:

- AIMES collaborated with the WCRP [Working Group on Coupled Modelling \(WGCM\)](#) through joint scientific steering committee meetings to foster new experimental designs for CMIP5 and CMIP6 that incorporate societal and biogeochemical dimensions. Currently, the AIMES working group 'Modeling Earth Systems and Human Interactions' is working across ESM, IAM, and other human systems modeling groups to provide recommendations for CMIP7 scenario design. The WCRP [Advisory Board on Vulnerability, Impacts, Adaptation and Climate Services](#) was developed by an AIMES steering committee member. AIMES leadership are also involved in the WCRP Joint Scientific Committee, serve on the WGCM steering committee, and are involved in the new WCRP Lighthouse activities "Safe Landing Climates" and "Digital Earths." This engagement supports communication and synergistic activities between AIMES and WCRP to balance the biogeochemical/human-ecological focus of AIMES modeling and observation activities with WCRP's physical climate focus.
- GCP: In April 2017 WCRP and the [Global Carbon Project \(GCP\)](#) signed a [Scientific Partnership Agreement](#) that involves sustained communication and mutual research planning at several levels, starting from the director and steering committee level and extending as necessary and useful into the project and working group levels of both WCRP and the GCP. e.g. shared calendar, mutual representation on steering committees, coordinated activities and workshops ([News: WCRP and the Global Carbon Project sign scientific partnership](#)). WCRP sponsors GCP, and WCRP JSC member Pierre Friedlingstein is lead author for the long term trends section of the Global Carbon Budget.
- PAGES: In April 2015 WCRP and ([PAGES](#)) signed a [Scientific Partnership Agreement](#) to maintain a mutual collaboration and develop explicit activities of mutual interest on the enhancement of climate and paleoclimate research.
- SOLAS GRP is sponsored by WCRP and participates in the program "Integrated Ocean Carbon Research (IOC-R) Working Group" together with WCRP (and IMBeR & GCP). WCRP is advising, and funding, research actions of SOLAS and taking part in its SSC meetings. <https://www.solas-int.org/science/sponsored-science.html>. SOLAS is also involved in the WCRP Data Advisory Council's activities on air-sea fluxes and contributed significantly to a comprehensive report on the topic.
- The Urban Knowledge-Action network Development Team played a pivotal role in shaping a report together with the World Climate Research Programme named the "Global Research and Action Agenda on Cities and Climate Change Science" as an output from the Cities IPCC. More can be found in the following link: <https://www.wcrp-climate.org/WCRP-publications/2019/GRAA-Cities-and-Climate-Change-Science-Full.pdf>

[climate.org/WCRP-publications/2019/GRAA-Cities-and-Climate-Change-Science-Full.pdf](https://www.wcrp-climate.org/WCRP-publications/2019/GRAA-Cities-and-Climate-Change-Science-Full.pdf)

- WCRP worked with Future Earth and the Integrated Research on Disaster Risk (IRDR) to set up the Knowledge-Action Network on Emergent Risks and Extreme Events following a workshop in Tokyo in 2017 ([see video](#)). By collaborating through the KAN, WCRP and partner programmes are to provide integrative synthesis capacity across disciplines by a mix of inter-/trans-disciplinary expertise, and share experiences and methodologies in research and stakeholder engagement with societal actors (business, administration, policy, NGOs).
- WCRP is one of the "sponsors" of the Ocean KAN. So far, no official document references this agreement and it is through a personal engagement (Mike Sparrow, Acting Head of the WCRP Secretariat and currently Mauricio Mata from WCRP's CLIVAR (Climate and Oceans) Core Project) that WCRP, like the other sponsors, is engaged in the KAN and advises it. Nevertheless, the KAN will be established soon (early 2021) and an agreement will be sought with WCRP to officialise a sponsorship. 1 WCRP representative will be in the "IPO host selection committee of the Ocean KAN"
- Two members of Future Earth's 10 New Insights in Climate Science 2020 Editorial Board are from WCRP's Joint Scientific Committee (JSC) 2019-2020 (Detlef Stammer and Helen Cleugh). A conversation is ongoing about WCRP becoming a formal partner to the publication.
- Future Earth partner, the European Space Agency's Climate Office, which [supports scientific activities of Future Earth research networks](#), works strategically with WCRP via its Climate Science Advisory Body of which the WCRP secretariat is a member.
- Future Earth is a co-lead in the development of the [Partnership of Resilience and Preparedness \(PREP\)](#), and the PREP team is working with WCRP to establish WCRP as a formal part of this partnership, and to work to establish data flow processes that would allow greater visibility and access to critical WCRP data-sources (e.g. CORDEX).
- WCRP, with additional partners, has repeatedly partnered with the Global Carbon Project in the development of the United in Science Report.
- Monsoon Asia Integrated Research for Sustainability (MAIRS-FE) is also collaborating with WCRP CORDEX on coordinated regional modelling initiatives.

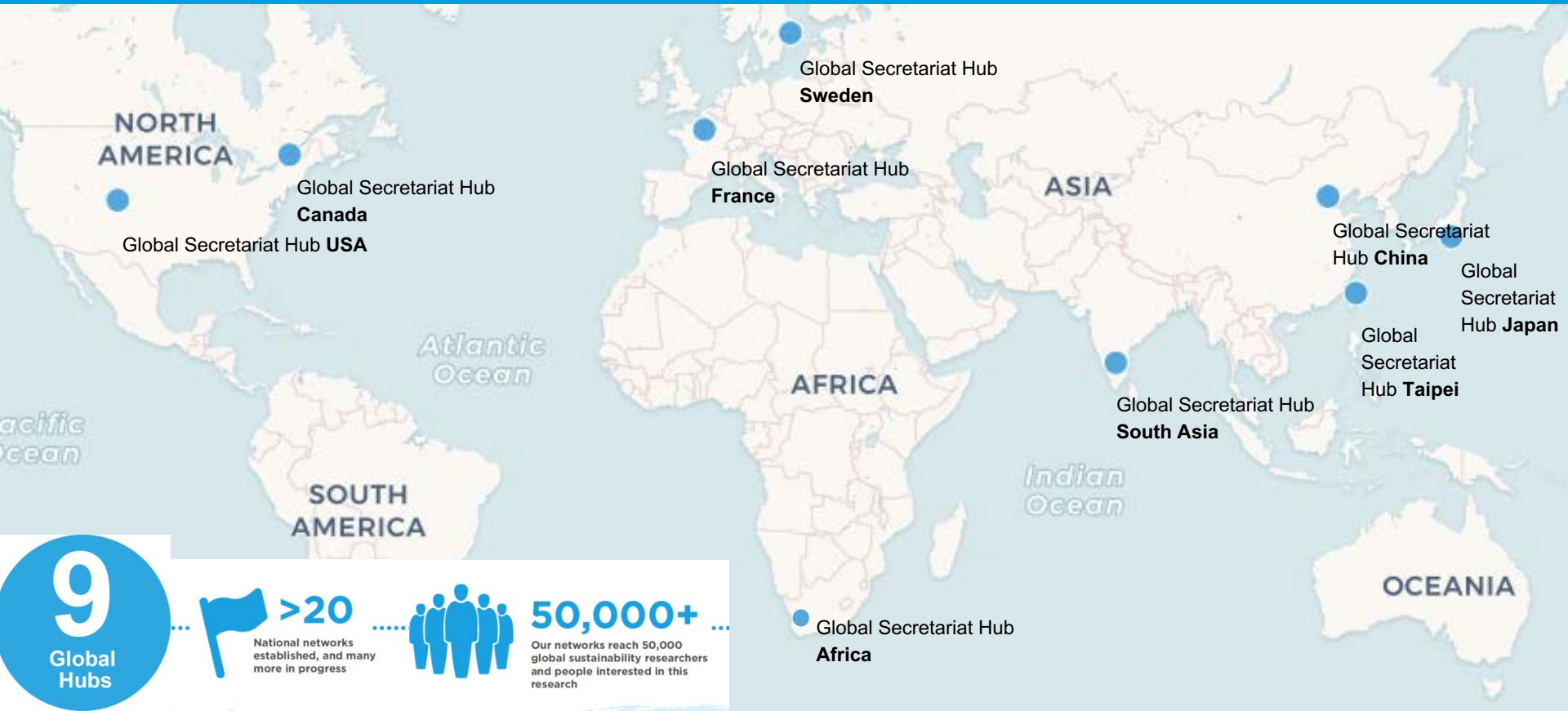
Appendix outlining collaborations https://futureearth.org/wp-content/uploads/2020/12/WCRP_Future-Earth-Joint-Statement-%E2%80%93-Appendix-1.pdf



Future Earth is a global initiative focused on advancing sustainability science.

- Future Earth's **vision** is of a sustainable and equitable world for all, where societal decisions are informed by openly-accessible and shared knowledge.
- Future Earth's **mission** is to advance research in support of transformations to global sustainability.

Growing Secretariat with growing reach



9
Global Hubs



>20

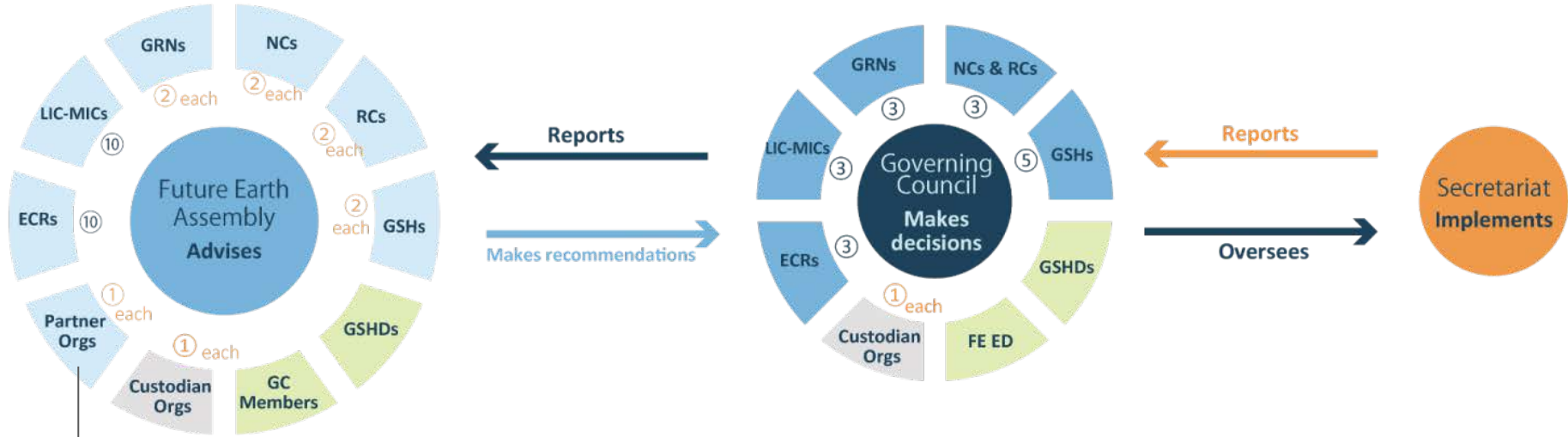
National networks established, and many more in progress



50,000+

Our networks reach 50,000 global sustainability researchers and people interested in this research

The new Governance Structure



Future Earth's Integrated Activities



Facilitate Research & Innovation



60+ Researchers annually

Earth Commission

Pathways



Build and Mobilize Networks



Sustainability Research & Innovation Congress 2022
20-24 June 2022
Online and onsite in Pretoria, South Africa

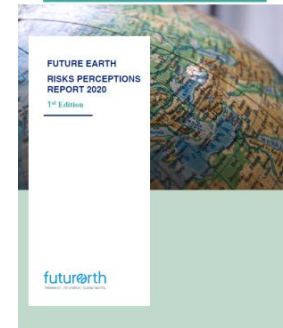
Transdisciplinarity for Early career Researchers in Asia School (TERRA School)

Earth Leadership Program

Embarking on our future:
Announcing the transition to the Earth Leadership Program!

After 20 successful years, the Leopold Leadership Program has a new name and identity as the Earth Leadership Program. As a program of Future Earth, in collaboration with the Stanford Woods Institute for the Environment and the University of Colorado, Boulder, the Earth Leadership Program, will expand the reach of the Leopold Leadership Program - reinvigorating the North American Cohort and developing regional cohorts in other parts of the world. We also want to welcome our new Executive Director, Sharon Collings. Together, we are now embarking on a bold mission to scale the impact of academic researchers to solve sustainability challenges by co-designing and internationalizing our leadership training.

Shape the Global Narrative





Global Research Networks



- Each supported with a Future Earth GRN Support Grant
- Additional funds to support cross-network collaboration

Current collaborations



Facilitate Research and Innovation: Science-policy



- We send delegates
- Organize side-events
- Link experts to contribute

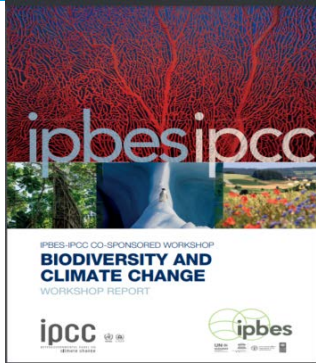


Convention on
Biological Diversity

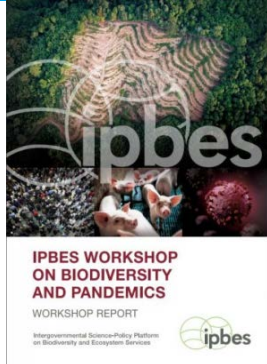




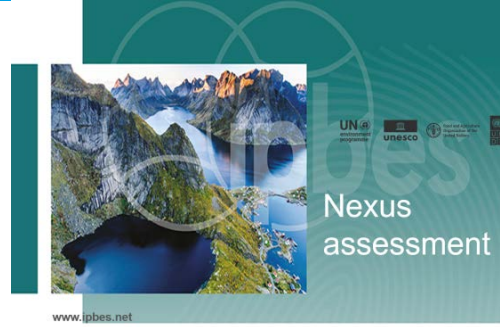
Facilitate Research and Innovation: Science-policy



IPCC-IPBES
2021



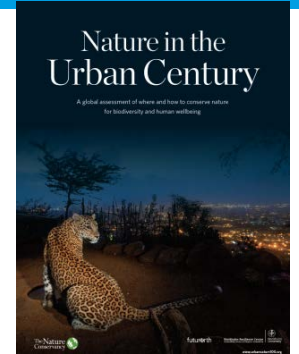
IPBES pandemics
workshop report 2020



IPBES NEXUS
assessment



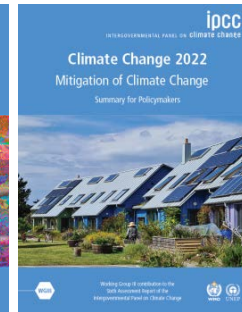
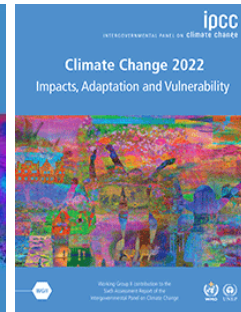
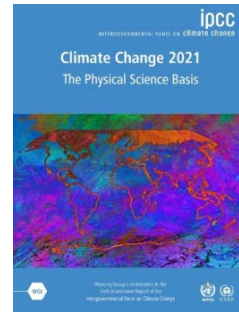
Innovate4Cities
report 2022



Nature in the
Urban Century
book 2018



UNFCCC COP26



IPCC AR6



Building and Mobilizing Networks



Sustainability Research & Innovation Congress 2022

20-24 June 2022

Online and onsite in Pretoria, South Africa

Engagement with WCRP open science conference in 2023?

- 2000+ Participants, Sold out onsite
- 200 sessions + special events
- Rapidly growing global audience
- 20 Sponsor Organizations
- 2 Satellite Events (Asia Spotlight and Oceania)
- UPCOMING: SRI2023 in Panama

SPONSORS



10 New Insights in Climate Science series



- An annual synthesis that highlights **essential recent advances in climate change research**, from natural and social sciences, with high policy relevance.
- **Policy report:** Geared toward climate policy negotiators and the general informed public, launched every year at the UNFCCC COP since 2017.
- **Academic synthesis:** Underpinning the policy report, and providing scientific rigour and credibility, an is prepared and submitted for publication in *Global sustainability* journal.



PRESS CONFERENCE / 04 NOV, 2021

10 New Insights in Climate Science 2021 report

Organizer: FutureEarth Status: on demand Location: Press Conference Room
Giant's Causeway

United Nations Climate Change | UN CLIMATE CHANGE CONFERENCE UK 2021

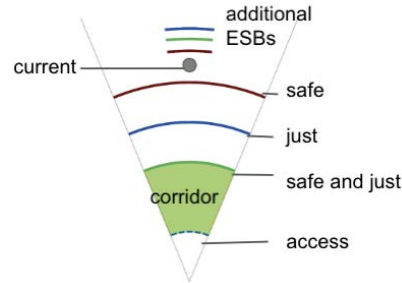


Earth Commission and TipMIP

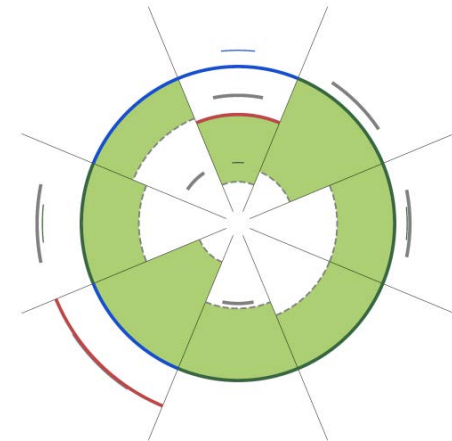
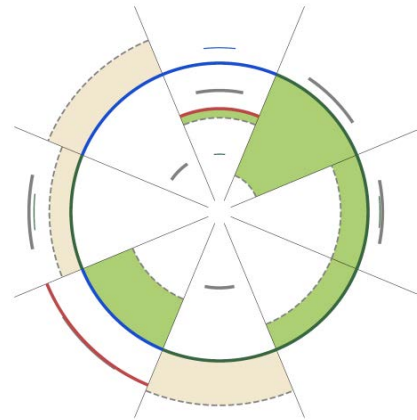


The Earth Commission is defining safe and just Earth System Boundaries and Minimum Access levels for all.

These form a Safe and Just Corridor for people and planet - to enable countries, cities, companies and communities to navigate the Anthropocene as effective stewards of the Global Commons



Wedges for Climate, Nitrogen, Phosphorus, Biospheric integrity, Natural area, Fresh Water, Air Pollution



Conceptual unquantified figures

Earth Commission & Tipping Elements Modeling Intercomparison Project (TipMIP)



The Earth Commission is a lead convenor of a novel tipping elements discussion series in co-partnership with AIMES, Future Earth and World Climate Research Programme

The events support efforts to **develop a joint research agenda, design joint experiments and ideas for a unique TipMIP amongst the scientific community.**





Contact us!



Future Earth: contact@futureearth.org

Research, Synthesis, Policy: researchinnovation@futureearth.org

Early Career Network: early_career@futureearth.org

Extra pages for in-depth discussions





- WCRP has partnered with some of the GRNs:
 - AIMES - Analysis, Integration, and Modeling of the Earth System. Interests:
 - Land Data Assimilation - June 2022 workshop including NWP and ESM communities to address technical challenges and build a community of practice - connection to ESMO?
 - Modelling Earth System and Human interactions (MESH) - session at Scenarios Forum June 2022 including IAMs, ESMs (LSMs), and ABMs following on AGCI workshop - connection to WGCM?
 - Large Scale Behavioural Modelling of Land Use Change and its impacts - Garmisch summer school Aug 2022
 - Tipping Points Model Intercomparison Project (TIPMIP) - webinar discussion series, in-person workshops in Sept & Oct - connection to Safe Landing Climates Lighthouse
 - PAGES - Past Global Changes
 - 30-year collaboration with WCRP through PMIP (Paleoclimate Modelling Intercomparison Project) launched in 1991.
 - Contributions to CLIVAR (Climate and Ocean Variability, Predictability and Change) to strengthen the multidisciplinary cooperation on cross-cutting climate issues.
 - In the process of developing collaboration on Safe Climate Landing Lighthouse Activity, specifically on the topics of sea-level and tipping points.



- GCP - Global Carbon Project
 - Updated and improved new GHG global budgets (CO₂, CH₄, N₂O) by UNFCCC COP27.
 - Regional/national GHG budgets (RECCAP2): 10 regions covering the world/land + large countries (US, China, Australia, Brazil, EU, etc), and all ocean basins; special regions: permafrost, polar regions. Data available & papers submitted by end 2022.
 - All global and regional GHG budgets aligned to contribute to the Global Stocktake 2023.
 - IPO in Australia. Activity/regional offices: Japan, new: UK office (global carbon budget).
 - Key interests: anthropogenic & natural carbon sources & sinks, biogeochemical-climate feedbacks, uncertainties in carbon fluxes from land use change & nature-based solutions, net zero emissions pathways & carbon analytics for net zero cities.
- SOLAS
 - New IPO in Galway, Ireland (NUIG) in addition to the one in China.
 - Opening of the SOLAS Master of Science (MSc) programme on Ocean, Atmosphere and Climate at NUIG
 - [8th SOLAS Open Science Conference](#) 25 to 29 Sept 2022 online and on-site in Cape Town, South Africa.
 - Partner of the Ocean to climate Seamless Forecasting system programme of the UN decade on Ocean Science
 - SOLAS, CLIVAR jointly sponsor the Integrated Ocean Carbon Research (IOC-R) Working Group
 - SOLAS, CliC jointly sponsor the Biogeochemical Exchange Processes at Sea-Ice Interfaces (BEPSII) project



Future Earth Secretariat experience



- Advising, playing a key role, and offering training on **how to co-design projects with stakeholders for transdisciplinary and/or science-policy projects.**
- **Close collaboration with the Belmont Forum** (including for scoping new topics) and various related **funders.**
- Needs-based research (service research): **linking specific experts and their networks to make scientific models more relevant to societal challenges.**
- **Exceptional in-house communications team.** Linking up with Future Earth can provide access to this team.
- Future Earth has requested its GRNs to ensure geographical representation for years and as a result has a **huge network of various experts to engage from Low, Middle, and High-Income Countries.**
- **Experienced science officers** that can provide project and program support/advise.