

RESCUE Working Group “Collaboration between the natural, social and human sciences in global change studies”

WG leaders: Chair: Rik Leemans; Vice-Chair: Sierd Cloetingh

In nearly all domains of **Earth System science**, the role of **humans is a key factor** as, e.g., a driving force, a subject of impacts, or an agent in **mitigating** impacts. Effective research collaboration can take shape only if programmes are developed in **pro-active collaboration** of scientists of different disciplines from the very start in order to develop a joint research framework including **agreed semantics and a common agenda**. This Forward Look has an important role to play in proposing a **strategic vision to break down the individual and institutional barriers** that hamper collaboration across Europe between the **physical, natural, medical and social sciences and humanities** in global change studies.

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Key questions to be addressed (1 / 2)

- What is the **state-of-the-art** about the definition and mapping of the **interfaces between disciplines**, and the related barriers, and the **gaps in knowledge** for global change?
 - There is a best practice case to be learned from with the IPCC
 - Since FP4 there have been integrated projects. The lessons learned could be learned from
 - There are many examples of societal issues that can not be resolved by the efforts of an individual scientist or one discipline all of these are gaps.

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Key questions to be addressed (1 / 2) continued

- Which disciplinary areas are already engaging in **cooperative, integrative** efforts in global change research?
 - Since FP4 nearly all traditional disciplines can be found in integrative efforts
- What is the international agenda of the disciplines involved, and of those not involved but required in the **collaboration**?
 - The agenda is unfortunately funds driven and limited by resources
- Can existing **building blocks** be identified in each contributing discipline that **optimise the strength** of the global change research in Europe?
 - Programs that can facilitate and enable transdisciplinary research

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Key questions to be addressed (1 / 2) continued

- What should the balance be between **“classical” discipline-based research and inter-disciplinary research**?
 - This point has not been resolved. Disciplinary experts are needed with interdisciplinary experience. based upon the experience of interdisciplinary GCR groups.

Key questions to be addressed (2 / 2)

- How is it possible to **trigger** effective and fruitful collaboration at the interface between different fields?
 - Sandpit model from the UK
 - Research Hotel
 - Concrete cases of bottom up teams facilitated from the top.
- What **means** exist to identify and mobilise “disciplinary” scientists, funding agencies and stakeholders to participate and contribute to this joint effort right from the start?
 - The ability to address long term research agenda with short term (within corporate and political timeframes) successes
- How might **improved** interdisciplinarity be targeted within specific domains?
 - Lessons learned from previous projects
 - Be pragmatic and HAVE FUN!!

Key questions to be addressed (2 / 2)

- What are the various **scales**, i.e. space and time dimensions of processes, envisaged in the various disciplines involved in global change research?
 - A process oriented approach is necessary
 - All from corporate quarters to decades or geologic timeframes
- Overall, how can **best practices** be promoted between European research organisations to fund activities that could better contribute to **solving the RESCUE challenges**?
 - Actively promoting all levels of excellence. From the junior researcher to the senior
 - Actively promoting cross professional cooperation: industrial representation at meetings such as these

FOR TOMORROW: As the goal of the **Forward Look RESCUE** is to develop a series of key recommendations aiming at improving the development and the impact of the RESCUE-related science community, each Working Group should build up a balanced membership and is currently discussing and preparing:

- a **detailed work plan** and the corresponding **foresight methodologies**,
- a draft **schedule of activities**, with their anticipated outputs,
- an **realistic action plan** with clear tasks and term of reference,
- an **implementation and monitoring strategy** for the long-term perspective,
- a draft list of **missing actors and partners** (science communities, key actors, stakeholders),
- a clear **reporting** mechanism to ESF and COST.

The WGs' **membership** should take into account the issues of balance between expertise representation in “natural” and “social / human” sciences, and also of gender and geographical balance.