



## **European Cooperation in Geosciences & Environmental Sciences: Introduction to key contributions in a global context**

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This EGU Union Symposium 5 aims at highlighting the importance and the value of international, interdisciplinary cooperation in the European framework of research in the relevant areas in Geosciences and Environmental Sciences.

Many research questions are so complex or so broad that they cannot be addressed appropriately by a single research team, a single institute or even a single country, because of the need for critical masses of competences and resources.

In the European Research Area, one of the most difficult tasks is to cope with the currently fragmented research and funding instruments in Europe. It is indeed essential to address several intrinsic issues at the European level, among which:

- provide adequate scale and scope for the science-driven European research to address global research challenges;
- coordinate and develop new, important research topics in Europe;
- cooperate with major, international initiatives, and maintain international science leadership in Europe.
- favour institutional schemes for capacity building, researchers mobility and science synergy;
- coordinate the investments for and access to research infrastructure;
- cooperate with less developed national research systems;
- avoid or reduce unnecessary duplication of research and funding;

- reinforce the common European voice and position in a global context.

Overall, strategic science policy, high-quality science selection, science coordination, monitoring and networking and integration are key elements of a road map to maximize the European efforts in basic research, and their impact in the science-related policy decision-making processes. To achieve scientific excellence, novelty and originality, it is important that scientists themselves identify exciting emerging areas with European scientific added value in an openly competitive scheme, and that they are able to acquire or access the resources to work together across national boundaries and/or disciplines.

Such efforts are essential for the European researchers in Geosciences and Environmental Sciences to contribute markedly to high-quality and high-value research in a global context. Indeed, as they all contribute to the understanding of the relations between natural processes and human activities, the Geosciences and Environmental Sciences are more and more deeply related to societal needs and strategic issues, at all time and space scales. For instance, Earth Systems Science (ESS) has recently emerged as a research field, which requires overcoming some conceptual, technical, and institutional barriers to a successful integration between different disciplines, different science corpus and different cultures in order to address cross-cutting, innovative, interdisciplinary issues.

In this EGU Union Symposium 5, the issue of international, interdisciplinary cooperation in Europe will be addressed through a series of stimulating keynote talks covering a wide range of disciplines, presented by well-established researchers or research managers who are among the leaders in their respective fields and directly involved in successful, international initiatives or programmes in Geosciences and Environmental Sciences within Europe.

An open discussion will conclude the US 5, aiming at the elaboration of a few key recommendations on how to improve synergy and further strengthen international, interdisciplinary cooperation in the European Research Area, especially within the field of Geosciences and Environmental Sciences.

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