



Forward Look on the "Global Environmental Changes in the Anthropocene" (GECA)

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The Earth System has now entered the "Anthropocene" era. Earth System Science (ESS) – includes observing, understanding and forecasting Global Environmental Changes (GEC) within all natural environments (land, ocean, cryosphere and atmosphere compartments) and across their interfaces, in close relation to the development of human societies. However, ESS is still a relatively new science field, especially as scientific challenges evolve and strategic issues are not easy to tackle. Meanwhile, urgent measures should be taken over the next years and decades to develop an integrative, interdisciplinary approach that would help implementing GEC adaptation and mitigation strategies. The European Science Foundation (ESF) is currently developing with the intergovernmental initiative for European Cooperation in the field of Scientific and Technical Research (COST) a foresight study (Forward Look) on the topic of Global Environmental Changes in the Anthropocene (GECA). This new initiative should enable Europe's scientific community, in interaction with science funders and policy makers, to develop medium to long-term authoritative views and analyses for future research developments. This would also help defining research agendas and setting priorities at national and European level. It should provide the right science tools for better informed decision making and improved governance on GEC issues. It should also structure and promote GEC research across Europe. It should initiate not only a science vision but also a practical implementation plan for ESS programming, evaluation and funding, as well as for education and capacity building with an appropriate interdisciplinary culture, and for transfer of knowledge to industry. These two challenges – science and implementation – require urgent and marked engagement of key science communities and organisations. The new Forward Look on Global Environmental Changes in the Anthropocene (GECA) will, thus, offer a unique opportunity: gathering a critical mass throughout Europe, for innovative, systemic and integrative science to understand the Earth System, its relations to the human dimension, and to contribute to global sustainable governance. During this oral presentation, all relevant science communities will be invited to contribute their views through the Forward Look GECA.