

# WG: Requirements for Research Methodologies and Data

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## Methodological Issues: Key Questions

- What is required in order to involve disciplines focusing on unquantifiable concepts more than on data
- How might Earth systems modeling be reconceptualised in this context?
- How does interdisciplinarity translate into coupling/integrating the models and optimize their application in different disciplines and for long term scenarios?
- How to make use of scientific information for policymakers (indicators, factors, risks, options)

## Data-related issues

- Is current data management suitable for a transdisciplinary approach?
- What is the need for multidisciplinary data to perform this interdisciplinary research?
- How can the appropriate research infrastructures and services be developed?
- How should the existing datasets be analysed with a new, transdisciplinary view?
- How best to ensure the sustainability of the interdisciplinary datasets for their long-term use and valuation?

## Reflection & Challenges

- Interdisciplinarity/transdisciplinarity
- Science / policy
- Earth System Science: large scale integrated models; processes linked to human activities, but not in a reductionist manner (model parameters only).
- Development of models and integrated knowledge base embedded in policy process (need for interactive and non-linear conceptions, but many unresolved questions) – 'knowledge democracy'.

## Reflection & Challenges

- In ecological and particular social science global data are largely missing: how to bridge (growing) imbalance?
- Need for shared concepts on data, data collection, knowledge protocols
- Strong need for comparative analyses
- Social sciences trap: 'theoretical pluralism' as enclosure rather than sharing.
- Perverse incentive structures

## General

- Coordination with other WG: 'Science questions', 'Collaboration', 'Revolution', 'Interface'
- Bringing the 'agents' in the Earth system. Earth System Governance or (de facto) Global Climate (related) System Governance? Global change is not equivalent to Environmental/Climate Change
- Bring social science into natural science approaches, what about the other way around: making social sciences more 'scientific'
- Role of data driven research strategies: 'New insights in Science through innovative use of data/datasystems'
- Role of technology – special attention data group for engineering and design?
- Implementation oriented: the executive side of governance does not only consist of 'stakeholders'

## General

- Will largely Follow Time Frame
- Working group – Community - Survey
- Products: recommendations, dissemination/implementation strategy, Scientific publication.
- External Communication, 'ownership' and advocacy.