



COSMOS

May 2007

Science activities

May 2003 to May 2007





In 2003



Inhalt/
Con-
tents

Questions for the Future

- λ Which are the most vulnerable regions and sectors under global change and why?
- λ Is the Earth System manageable at all in terms of long-term „climate steering“?





Some Earth System Questions



Inhalt/ Con- tents

- λ How will the Earth system respond to human-induced forcing over periods of decades to Millennia?
- λ Will climate change affect the food production system in Europe and vice versa?
- λ What is the impact of climate changes on biodiversity?
- λ Can we predict the evolution of the Earth system? And if so, for how long?
- λ Does it matter for the climate if people live in megacities or in the country?
- λ What is the carrying capacity of the Earth?
- λ Can we quantify the risk of not having enough water of quality?
- λ What would the implication of an ice-free Arctic be for Europe ?
- λ How can ESMs contribute to ES monitoring?





Some Earth System Questions have been proposed at previous meetings.

Such questions can be addressed by the COSMOS network, or by groups or projects

making use of COSMOS models or sub-modules

in total

or significant contributions to the questions can be made



Science Development in the COSMOS network:

parameterizations, modules, models

- ◇ aerosols, clouds, vegetation...
- ◇ Modeling technique, standards, coupling, output strategies...



Science projects of the COSMOS network:

Millennium project

Baltic Sea region as a pilot study area

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Science making use of COSMOS models:

λ Super volcano Project

λ ENSEMBLES project stream 2

λ ...



Inhalt/ Con- tents

- λ Development of the physical and biogeochemical modeling system to take into account more processes? (FP7 next call)

- λ Slow extension of the physical and biogeochemical modeling system to also take into account socio-economic aspects? (network extension)

- λ One or two new projects?

- λ COSMOS contribution to the IPCC process?