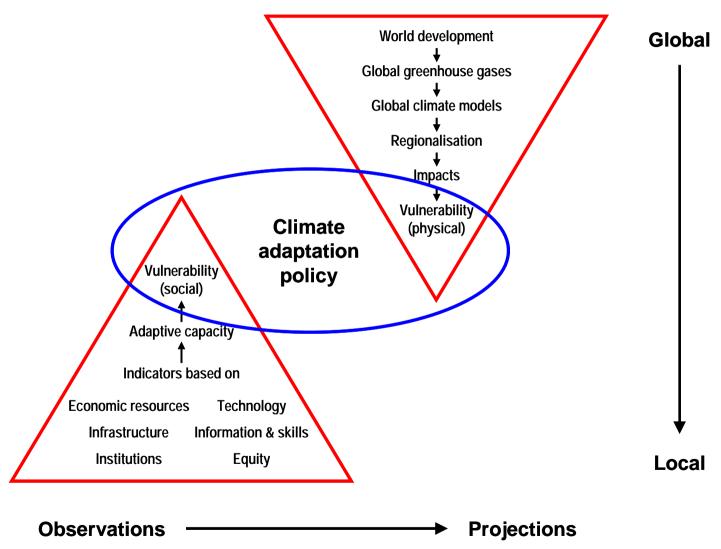
# Top-down and bottom-up research approaches on climate adaptation

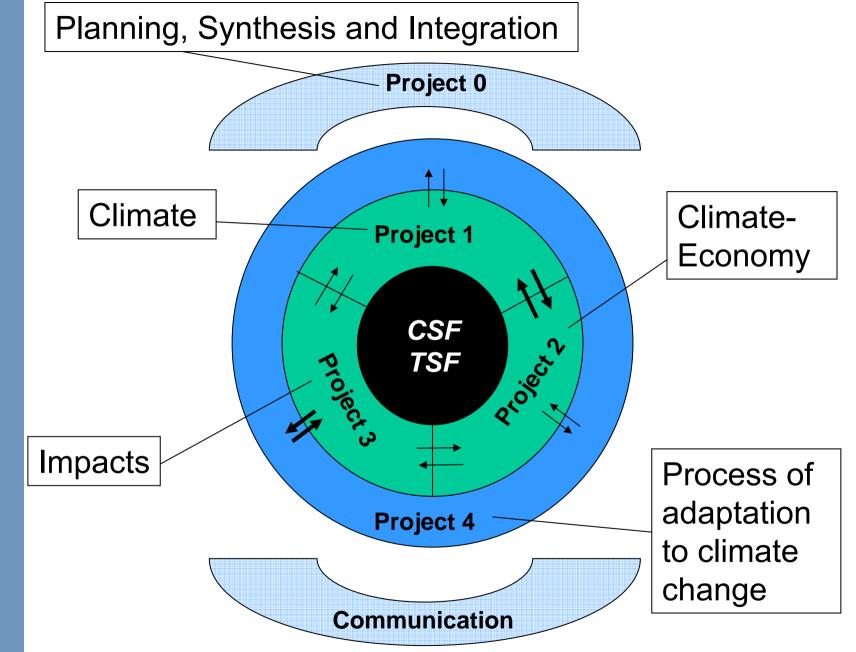


# SWEdish research programme on Climate, Impacts and Adaptation, Mistra-SWECIA

### **SWECIA** in a nutshell

- A national research programme 2008-2011 +
- With research <u>for</u> adaptation & research <u>on</u> adaptation
- A Mistra-funded research programme:
  - research of strategic importance, of the highest international class
  - results of practical use in companies, authorities or other organisations
- Combines disciplines

Multi → Inter → Trans



#### **Project 0: Synthesis, Communication, Integration, Planning**

• assessment • outreach & communication • databases • policy advice • research needs



# Project 1: Climate modelling

1.1 Global climate system modelling1.2 Regional climate system modelling1.3 Climate change scenarios

emission scenarios climate scenarios

#### Project 2: Climate-economy models

2.1 Climate-economy models
2.2 Evaluation of the scope
for global adaptation mechanisms
2.3 Purposeful R&D and
directed technical change

carbon cycle

climate scenarios

vegetation
land use

weather data

feedbacks

socioeconomic r data scenarios

natural resources land use risks regional patterns

# Project 4: Process of adaptation to climate change

4.1 Stakeholder mapping and climate risk perception4.2 Social learning on adaptation4.3 Policy analysis and

integration

Earth system knowledge

adaptation objectives risk indicators information needs

■impact scenarios

#### Project 3: Impact modelling and applications

3.1 Quasi-experimental statistical studies

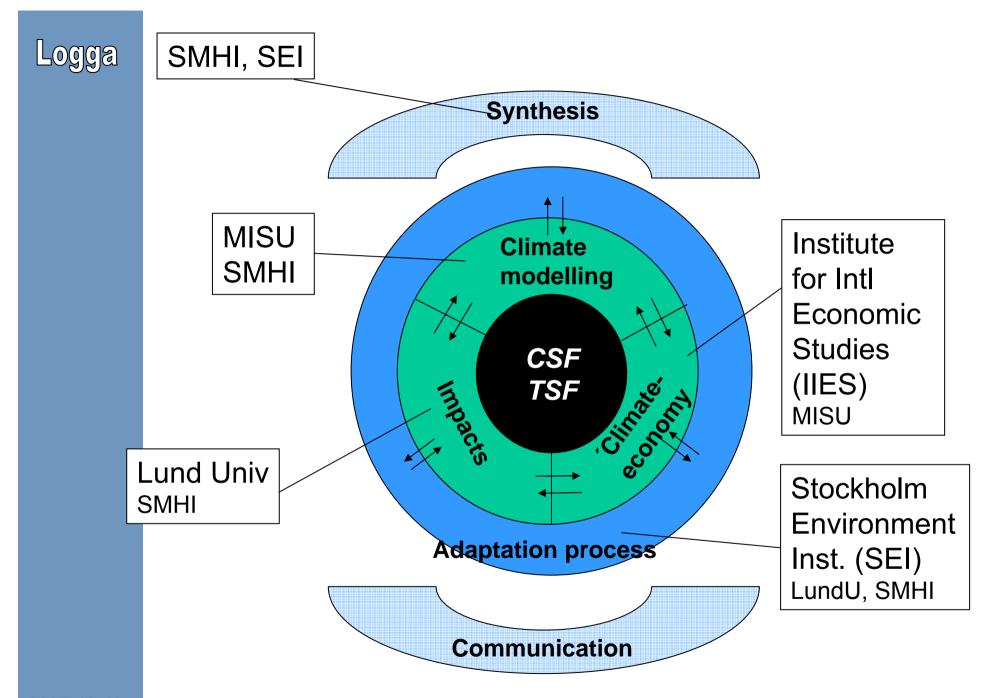
3.2 Global impacts and feedbacks

3.3 Regional impacts and adaptation



#### Case studies

Stockholm Region, Energy Sector, ...



2007-10-19

& CSPR/LiU; Univ. Edinburgh; SLU/Alnarp

#### **SWECIA** new science

 Coupling of climate, economics, impacts and decision-making in a (i) consistent and (ii) comprehensive framework for analyses on global, regional and local scale

(Seamless prediction approach applied to climate, biology and economics)

- Mainstream user experience into climate, impacts and adaptation research, and vice versa
- Adaptation as an iterative process of social learning and decision-making based on improved knowledge



# Scientific deliverables Progr. phase 1 2008-2011

- Global and regional climate-economy model
- Regional "Earth System" model (RCA-GUESS)
- Global ESM (joint effort)
- Analysis of global impacts on ecosystem services
- New and improved global and regional climateimpact-economy scenarios
- Relevant support for adaptation decisions within the sectors/regions addressed
- A framework that combines climate information with experience in social learning and policy integration



# User deliverables Progr. phase 1 2008-2011

- User/stakeholder workshops, home page, Newsletter, Syntheses
- Participation in climate, impact and adaptation policy processes
- New and improved global and regional climateimpact-economy scenarios, in an on-line scenario database
- Mapping and analysis of adaptation processes (case studies)

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