

How will climate change impact European agriculture and land use

- Drivers of land use change and land cover changes in Europe
 - Market mechanisms, Demand of food – or more broadly: demand for "bioenergi"
 - Demand for places – urbanisation, sociological demands
 - Demand for higher productivity
 - Technological innovations
 - Environmentalism
 - Policies, EU-directives (water, habitat...), Kyoto protocol (deal with adaptation and mitigation), intensification/extensification
 - Environmental changes (feedbacks)

Vulnerability of ecosystem services

- Production
 - Food quality
 - Livelihood for farmers
 - Water
 - Use / availability
 - Water quality
 - Climate appropriate for farming
 - Biodiversity
 - Recreational uses
 - Recipient for waste
 - Nutrient cycles and soil functioning (soil quality, N-fixation, P-release, carbon...)
 - Pest controls
- Extreme events
– southern
Europe most
vulnerable ?

- Research needs
 - Spatial / temporal scales for vulnerability
 - Indirect effects e.g. through policies and adaptation
 - Land system designing (engineering) linked with land-use
 - Functional aspects of landscapes
 - Priorities of landscape functions, combinations of functions in a profitable way
 - Linking mitigation and adaptation
 - Linking scales in relation to adaptation and services
 - Evaluation of resilience
 - Historical trajectories (hindcast of models, historical analogues)
 - effects of technological development
 - Integration of social technological and environmental drivers