

MASSIF

Work package:
Tourism

Focus/Aim

- Vulnerability of tourism sector to exposures-drivers
- Vulnerability of biodiversity (ecosystem services) to tourism activities.

Qualitative Approach

By activity:

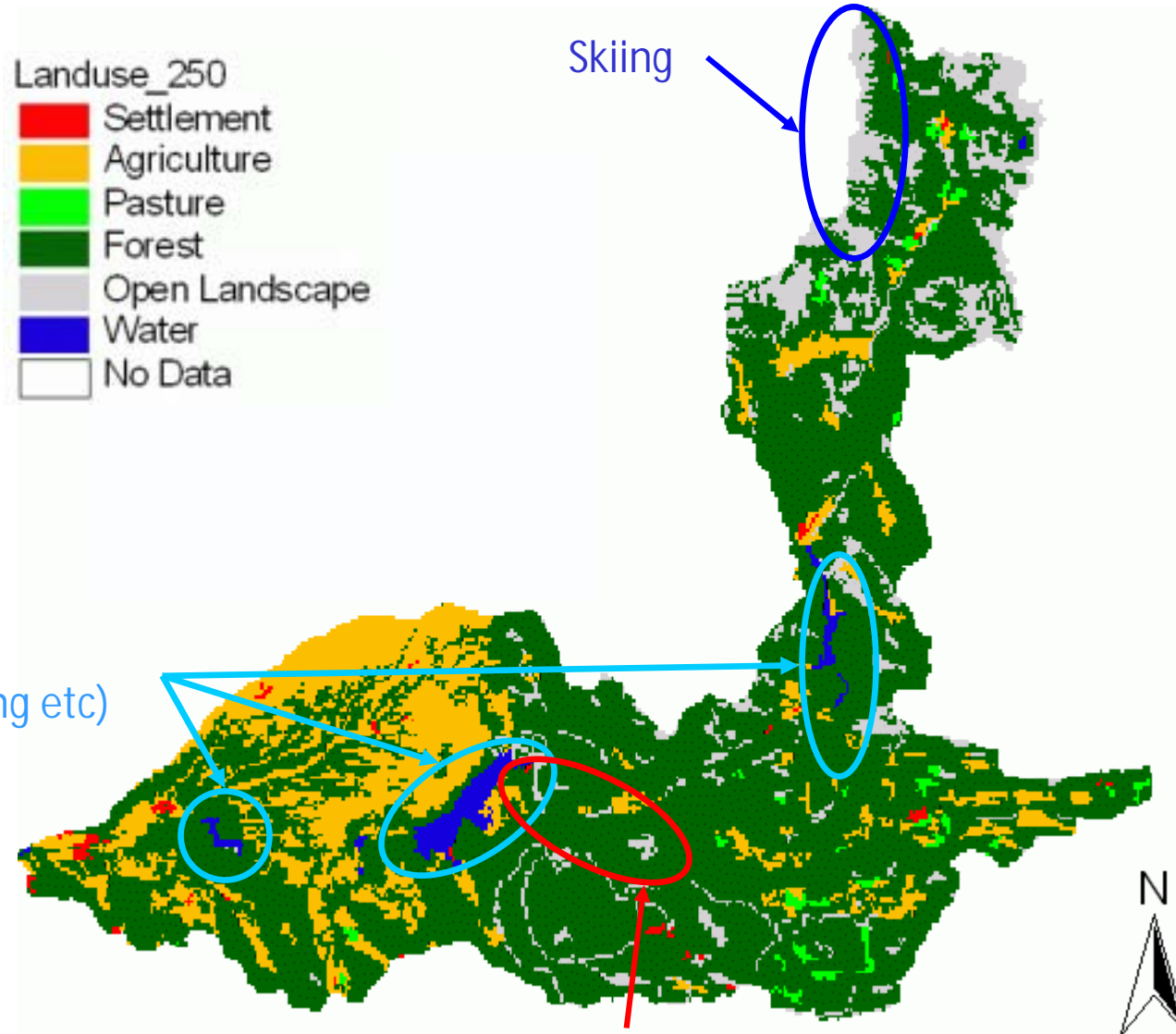
- How important is the activity?
- What are the main drivers of change?
- How sensitive is the activity towards these drivers?
- How can the activity adapt towards these changes?
- What is then the overall vulnerability of this activity ?
- How does this influence biodiversity?

Do this for 2 MA SCENARIOS

Tourist activities

- Water sports: swimming, white-water sports, kayaking/boating
- Motorbike and Cycling
- Culinary tourism
 - Wine and food tours
 - Farmers' markets
- Skiing: downhill and cross-country
- Hiking: individual and organized/guided
- Wildlife harvesting: fishing, hunting ...
- Adventure tourism: rock climbing, paragliding ...
- Sight seeing
 - Cultural, e.g. architecture
 - Natural, e.g. gorge
- Nature watching: birds, mammals, plants, rocks
- Education, e.g. research
- Religion/spirituality
- Private accommodation tourism
- Golf
- Horse riding

Tourism activities in the Verdun catchment



Water tourism
(bathing, kajaking etc)

Skiing

Geological sightseeing,
birdwatching, climbing



... snow security in the Allos Valley?



OECD-study: "Climate Change in the European Alps: Adapting winter tourism and natural hazard management" (Abegg et al. 2007)

Sensitivity: altitude

Exposure: temperature rise



~ 100 days snow reliability necessary for operation (Wittmer 1986, Abegg 1996)

Now minimum altitude level at 1500m for Southern Alps (Wittmer 1986, Matulla et al. 2005, Martin et al. 1994)

In warmer climate snowline will rise by 150m per +1°C (Föhn 1990, Haberli & Beniston 1998)

Naturally snow-reliable area, if ski runs lie above altitude threshold

→ **Impact:**

Preliminary result: lower ski runs of Allos valley may not be operatable in future (+1-3°C), but activities could move to higher and more reliable ski runs

→ Further: Vulnerability of this activity and influence on biodiversity

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Thank you for your attention!