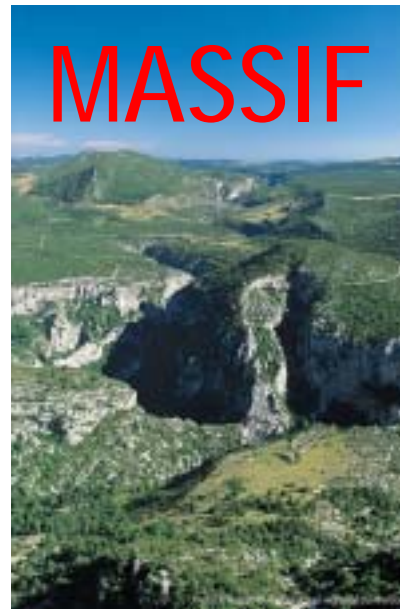


ALTER-Net Summer School 2009

Biodiversity and Ecosystems



Mapping Regional Vulnerability in the Southern Alps -
Evaluating Trends and Developing Sustainable
Adaptation Strategies for the Verdon Catchment

Vulnerability

Vulnerability is the degree to which a system is susceptible and unable to cope with adverse effects of **climate change**, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate change and variation to which a system is **exposed**, its **sensitivity**, and its **adaptive capacity**. (IPCC 2008)

$V = f(\text{Exposure, Sensitivity, Adaptive Capacity})$

Impact, Adaptation, Vulnerability



Exposure

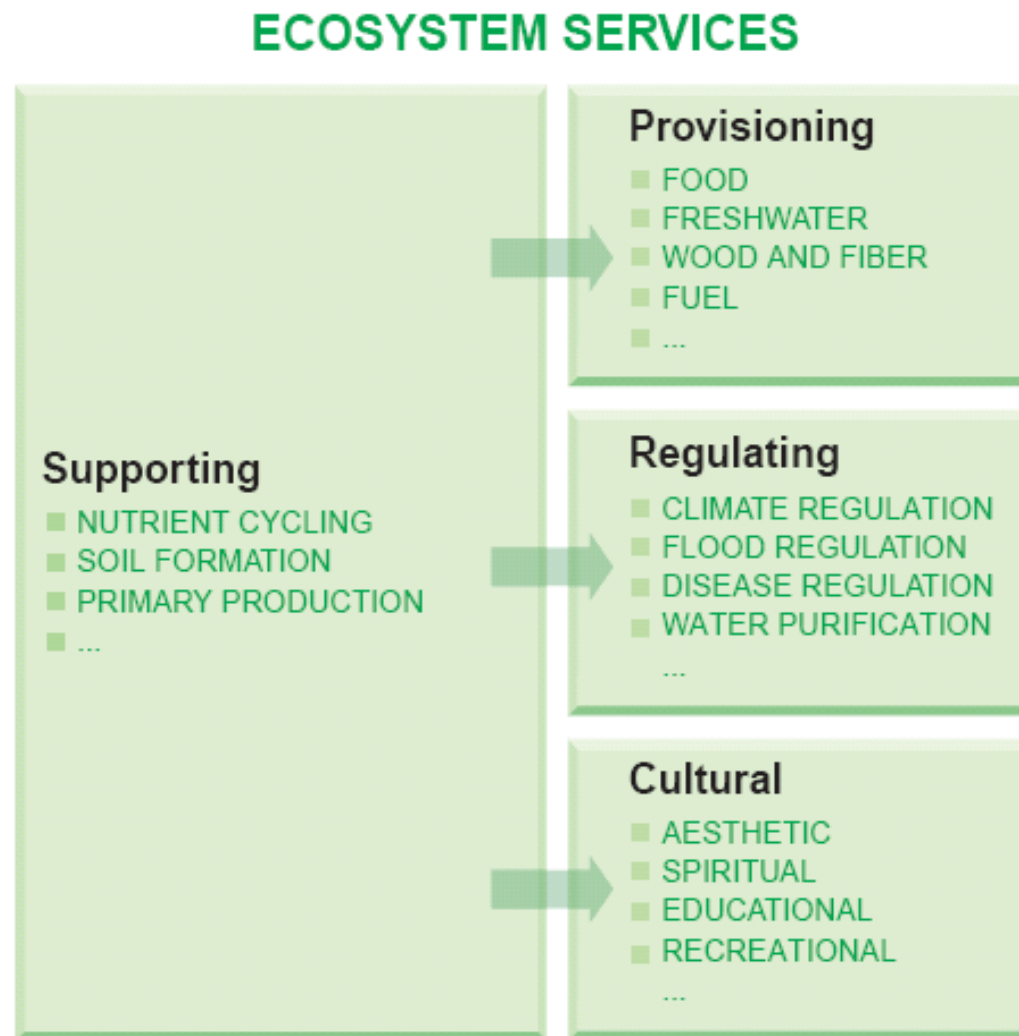
Sensitivity

Impact

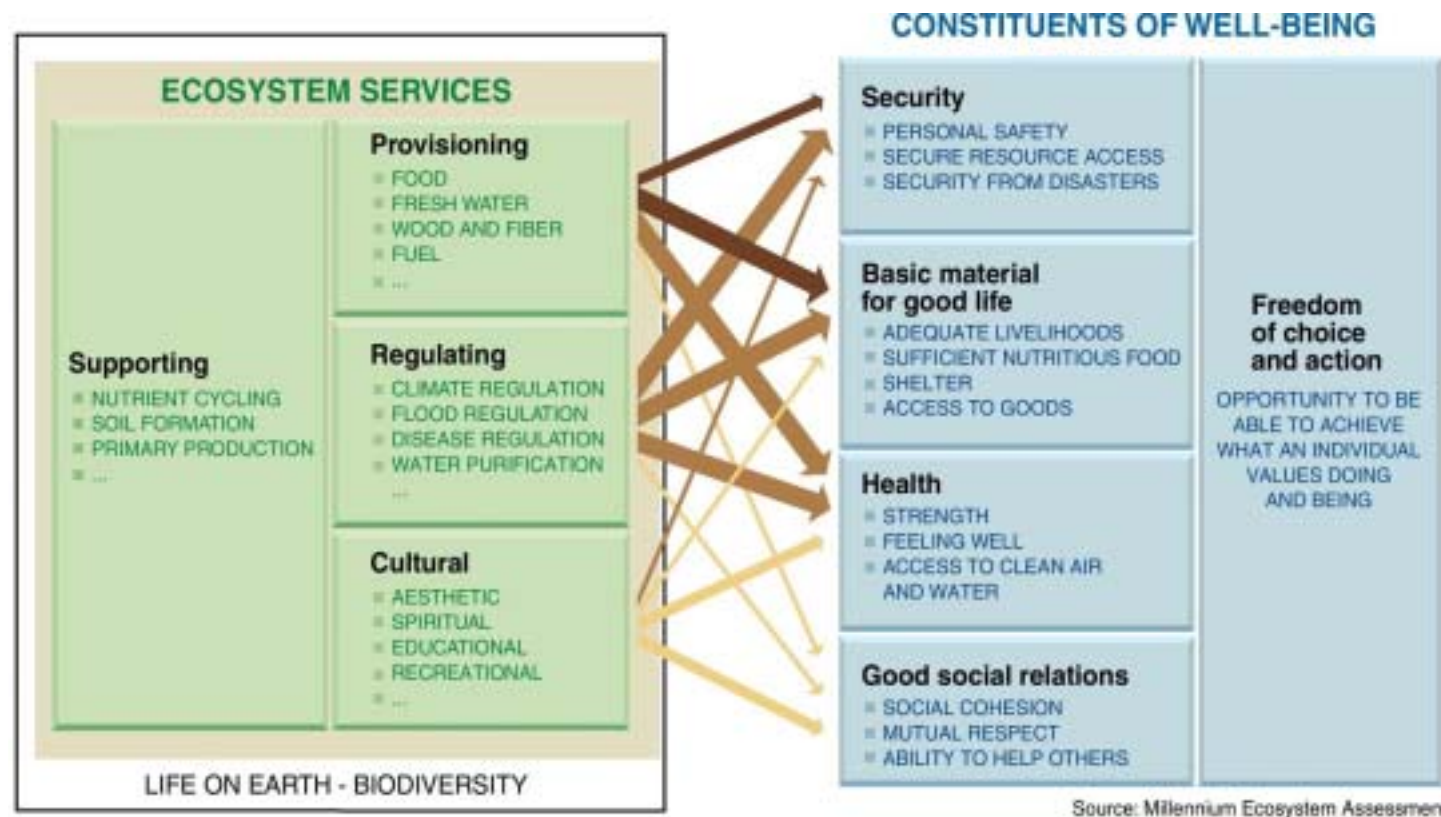
Adaptive Capacity
Adaptation measures

Vulnerability

Ecosystem Services: The benefits people obtain from ecosystems



Consequences of Ecosystem change for human wellbeing



ARROW'S COLOR
Potential for mediation by socioeconomic factors

- Low
- Medium
- High

ARROW'S WIDTH
Intensity of linkages between ecosystem services and human well-being

- Weak
- Medium
- Strong

Ecosystems and Biodiversity

Unresolved Questions

- How much **biodiversity** is necessary to maintain which **ecosystem service**?
- How to **protect** biodiversity in a changing world?
- How can we link biodiversity with **policy and the public**?

Objectives

- Analyse of the **current status** of socio-economy, land-use and climate
- Develop multiple plausible **scenarios** for future changes based on MA, SRES
- ... for the sectors: agriculture, nature conservation and tourism... and to
integrate the results ...
- Identify **expected changes** for different scenarios
- **Stakeholder dialogue**
- **Communicate** your results to the public

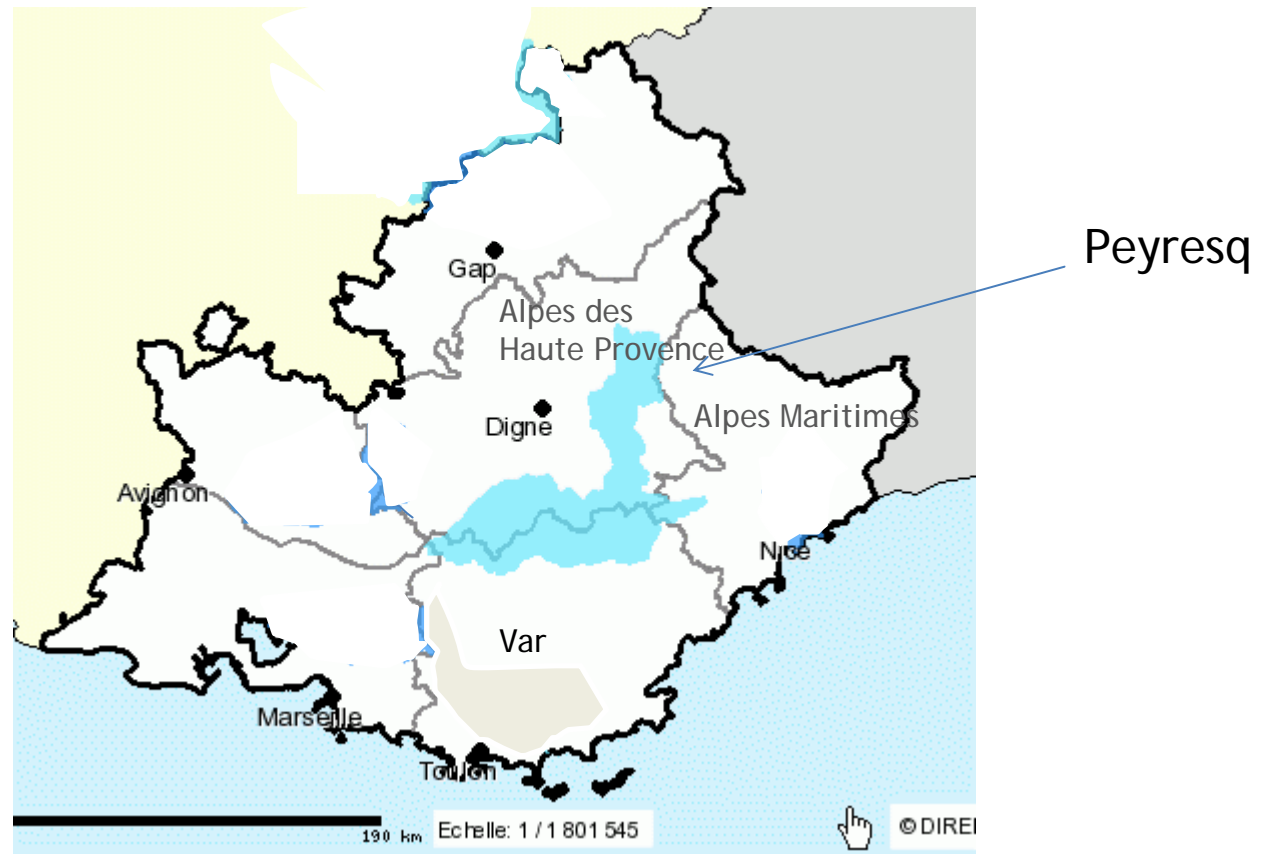
The Study area: Verdon catchment



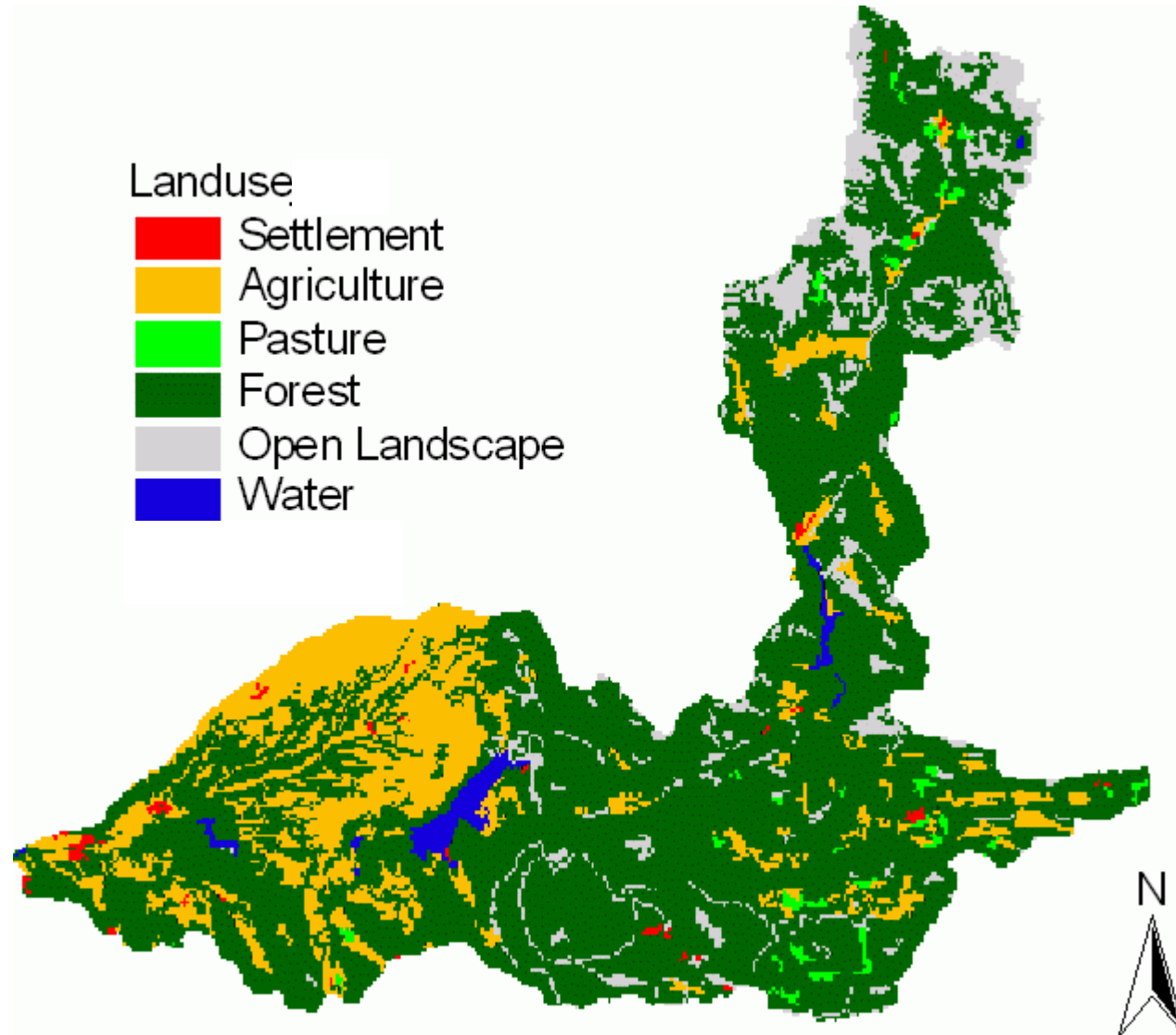
Peyresq

Verdon River

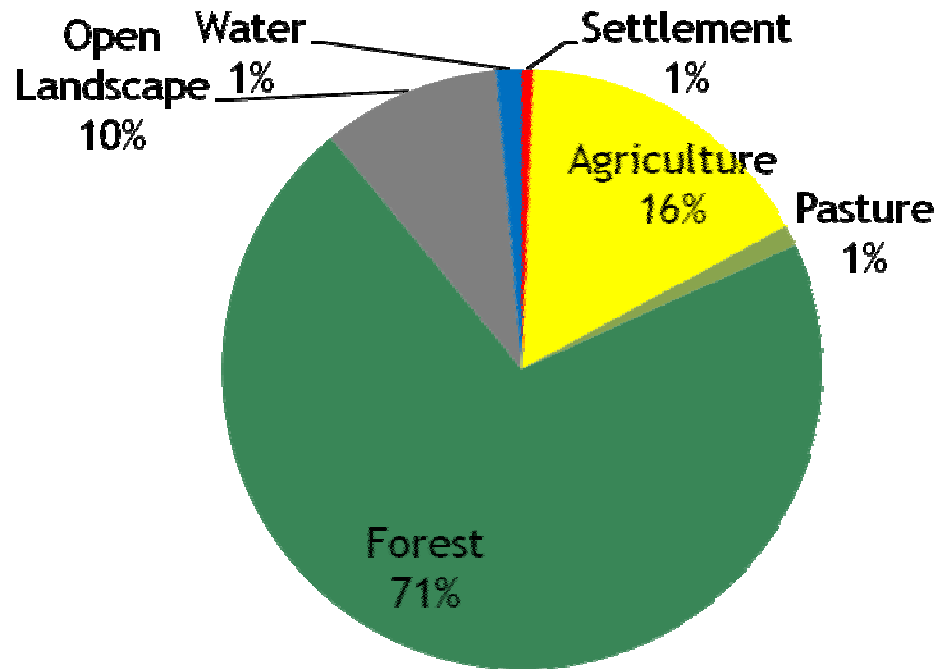
The Study area: Verdon catchment



Verdon catchment - land use



Verdon catchment - land use



Verdon regional natural Park



The Study area: Verdon catchment

- Is a tributary to the Durance and Rhône river that (2400 km²)
- Includes the Verdon Region Natural Park (1882 km²)
- Grand Canyon: over a distance of 45 km the river Verdon has deepened the river bed up to 700m since the Cretaceous period (deepest canyon in Europe)
- Inside the catchment there are 5 artificial lakes (Castillon, Chaudanne, Sainte-Croix, Quinson and Esparron) created by EDF between 1949 and 1974 along the two Verdon rivers.

- 8000 years ago the first humans settled close to the fen La Palud.
- 1999 population living in the park 21857
- Tourism: up to 200000 visitors during the summer

- Landuse: 40% of the park is covered by forest, 25% by agriculture (rainfed lavender/lavandin, irrigated cereals), in the upper regions vineyard and olives; irrigated cereals), x% not vegetated area and x% pasture, x% settlement and lakes

Workpackages

	Working group	Tutor	Titel
1	Agriculture	Martin Wildenberg	What changes will be likely to impact this sector? How can agriculture sustain and provide livelihoods and biodiversity in a changing environment?
2	Nature Conservation	Eric Arets	How to conserve the natural and cultural ecosystem services in the Verdon catchment?
3	Tourism	Diana Reckien	How to develop tourism sustainably, safeguarding local livelihood and biodiversity?
4	Integration	Brooke Wilkerson	Synthesis for Policy Makers: Integration of the findings of all sectoral working groups into management and adaptation strategies to sustain livelihood and biodiversity in the study area.

Deliverables



Presentations

Mid-term
Final



Press release

One page



Final report

4-5 pages; title page,
introduction, results,
discussion, conclusions
and references

Milestones & Deliverables

Deliverable	Title	Due	Nature
Nr. 1	Kick-off meeting	Day 5 10/ 09/ 2009	Meeting
Nr. 2	Mid-term meeting	Day 8 12/ 09/ 2009	Presentation of progress in the working groups
Nr. 3	Final meeting	Day 13 17/ 09/ 2009	Presentation of the final results
Nr. 4	Draft of a final report	Day 13 17/ 09/ 2009	Draft Report & Press Release
Nr. 5	Final version of the MASSIF project report	End of October 31/ 10/ 2009	Report & Press Release

Important Documents


Seventh Research Framework Programme (FP7) 2007 - 2013

COOPERATION

Theme 5
ENVIRONMENT (INCLUDING CLIMATE CHANGE)

Call ENV-2008-3-1-4-3
Increasing the integration of biodiversity research results into policy making

Annex I Part B Description of Work



Project full title
Mapping regional vulnerability in the southern alps -
Evaluating Trends and Developing Sustainable Adaptation Strategies for the Verbano
Catchment

Project acronym:
MASSIF

Duration: 9 September 2008 - 31 October 2009
Preparation of Annex I: Uta Fritsch, Sagnar Schivier

Description of work

Data and Literature
ALTER-net Summer School 2009
"Biodiversity and Ecosystem Services"
(Sept 5-17, 2009, Peyresq, France)

1	General Literature	1
2	Literature for the Alpine Region	2
2.1	References	2
2.2	Reports	3
2.3	Additional information	3
2.4	Policy Documents	3
2.5	Web-Links	4
3	Spatial Data for the Alpine Region	4

1 General Literature

- IPCC Third and Fourth Assessment Report - Climate Change 2001 - 2007 & CD
 - Synthesis Report (Working Group I, II, III)
 - The Scientific Basis (Working Group I)
 - Impacts, Adaptation and Vulnerability (Working Group II)
 - Mitigation (Working Group III)
- Special Reports of the IPCC (2002) Land Use, Land-use change, and Forestry
- SRES - Emissions scenarios, 2000: Nakicenovic N, Alcamo J, Davis G, de Vries B, Forster J, Gaffes S, Gregory K, Gruber A, Jung TY, Krain T, La Rovere EL, Meira Filho L, Mori S, Nakita T, Pappe W, Pitcher H, Price L, Rishi K, Roehri A, Rogner M-H, Sankovski A, Schlesinger M, Shukla P, Smith S, Swart R, van Ruijven J, Victor NB, Dai Z, A Special Report of Working Group III of the Intergovernmental Panel on Climate Change. Cambridge University Press, 2000 pp.
- Millennium Ecosystem Assessment (MA): 2005 & CD
 - Volume I: Current State and Trends
 - Volume II: Scenarios
 - Volume III: Policy Responses
 - Volume IV: Summary for Decision Makers
- World Development Index
- Atlas (Le Monde Diplomatique)
- Green review: The economics of climate change & CD
- UNEP, 2007. Global Environment Outlook: environment for development, GEO 4

Data & Literature

Any further questions?

Thank you for your attention!