

Key elements and challenges of mountain farming

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IPROMO

Promoting Sustainable Farming in Mountain Regions

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Outline

- 1. Key elements of mountain farming (from a partial point of view...)**
- 2. The Alpine context**
- 3. Trends and suggestions**



Key elements

Environment

Orography

Elevation

Slope

Aspect

Geology and soil

Nature of the rocks

Depth and nature of the soils

Climate

Mean temperature

Rainfall (annual and seasonal)

Snow duration

Uncertainty



Flora

Natural

Semi-natural

Artificial

Fauna

Domestic animals

Race

Category

Wild animals

Species

Population dynamics



People

Population dynamics

Socio-political framework (trends, subsidies, bureaucracy...)

Economy

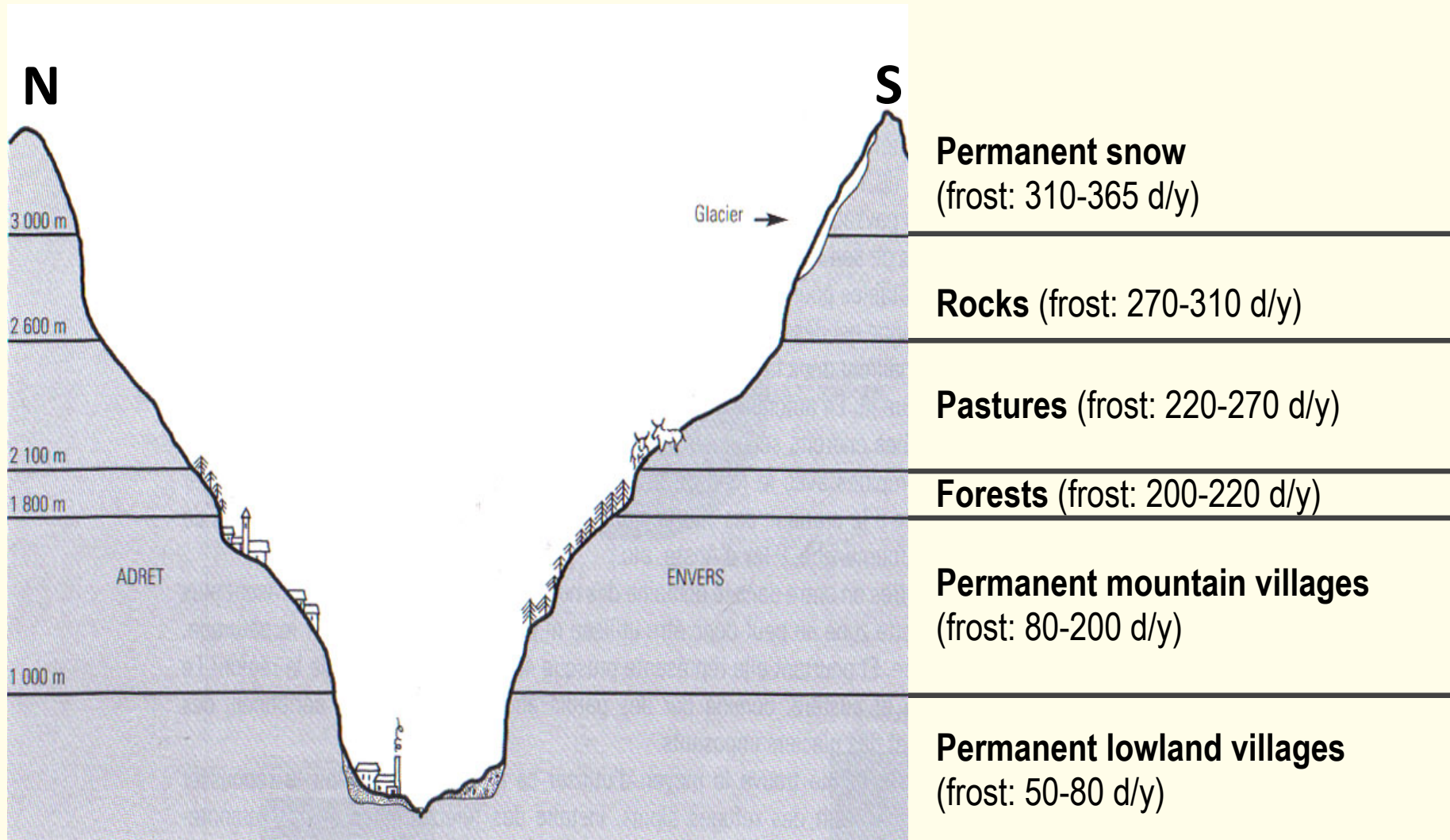
Social structure

Culture and beliefs

Know-how

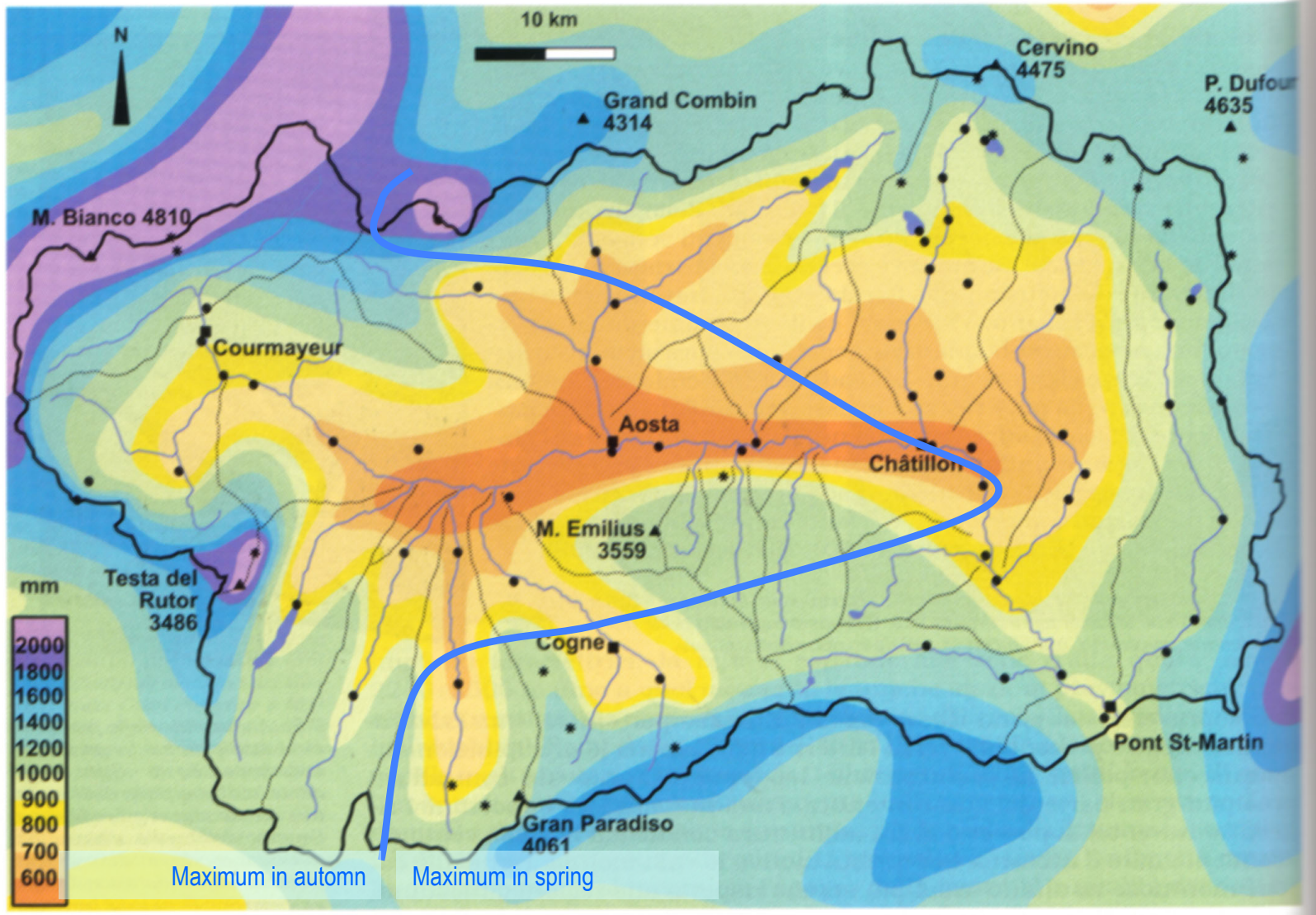


Geomorphology of Valle d'Aosta



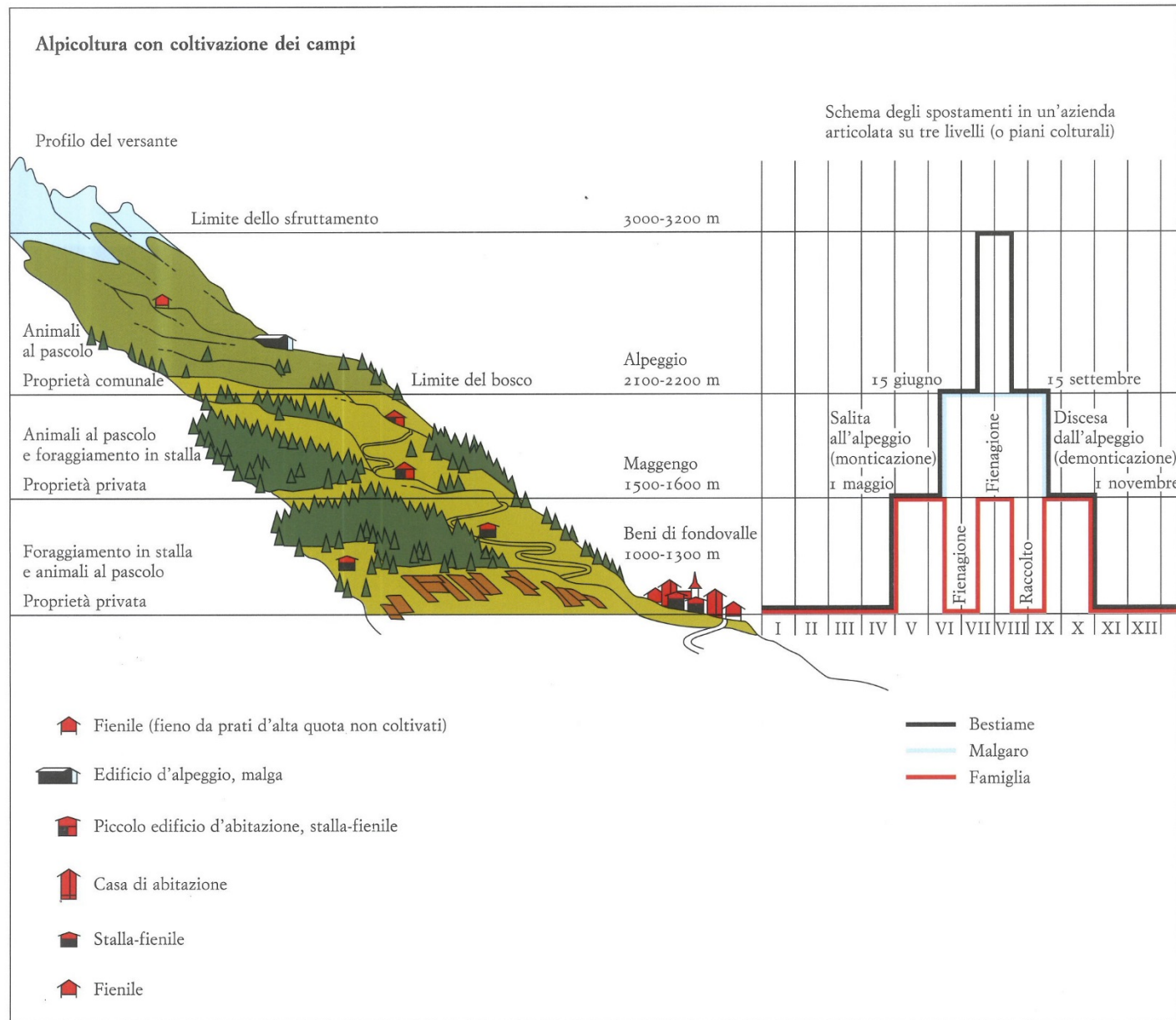
Source: Cerutti, 2006

Annual rainfall in Valle d'Aosta



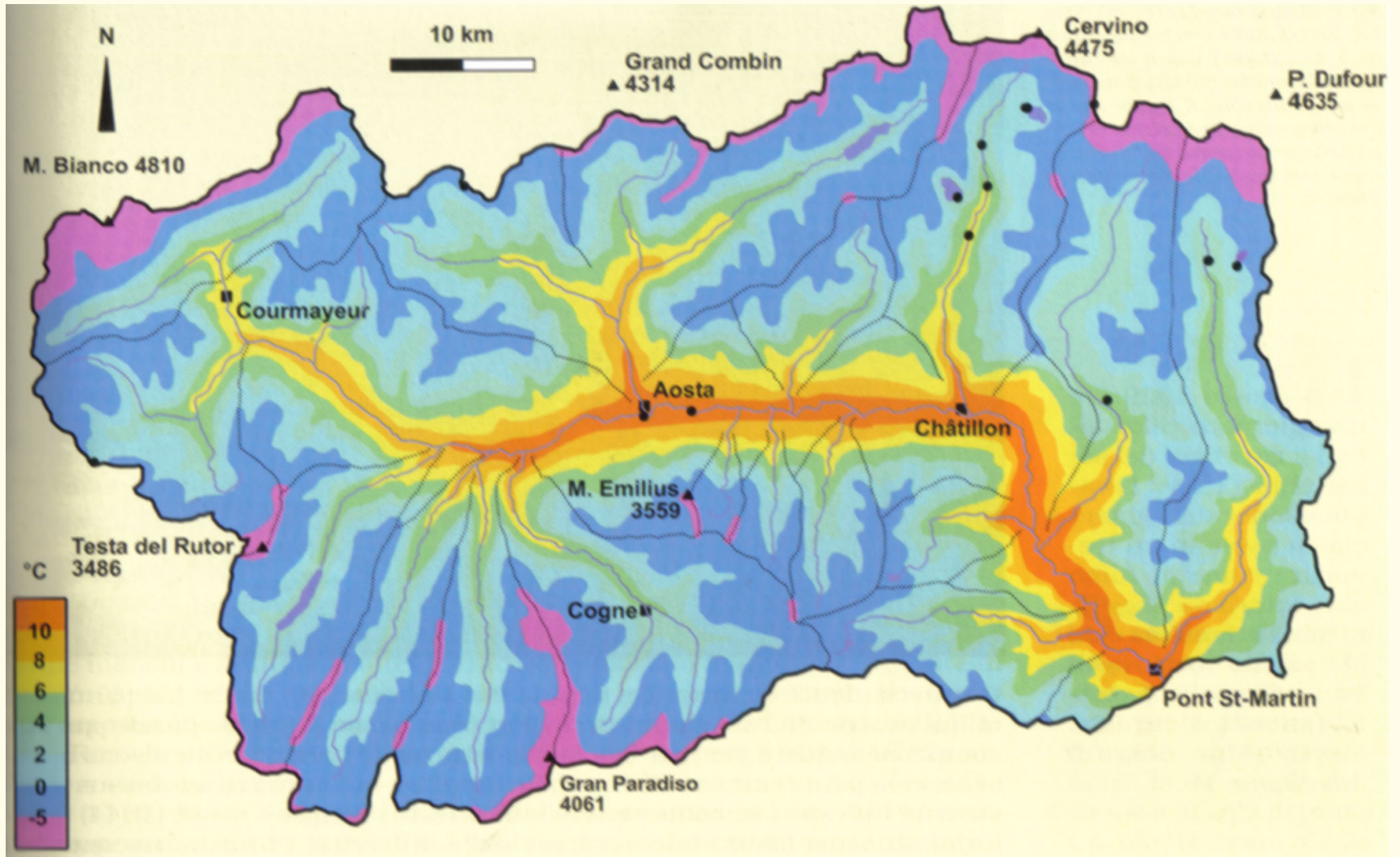
Source: Mercalli, 2003

Scheme of a traditional farming system in the Alps



Source: Bär (1979), in Bätzing, 2005. Le Alpi. Bollati Boringhieri Ed., Torino.

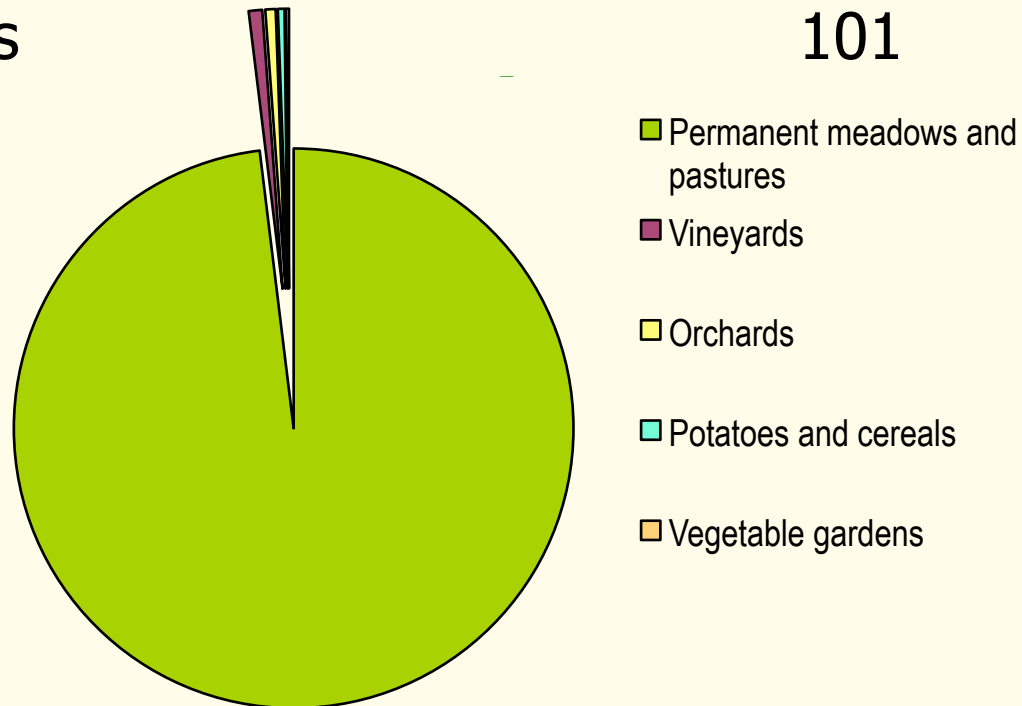
Mean temperature in Valle d'Aosta



Source: Mercalli, 2003

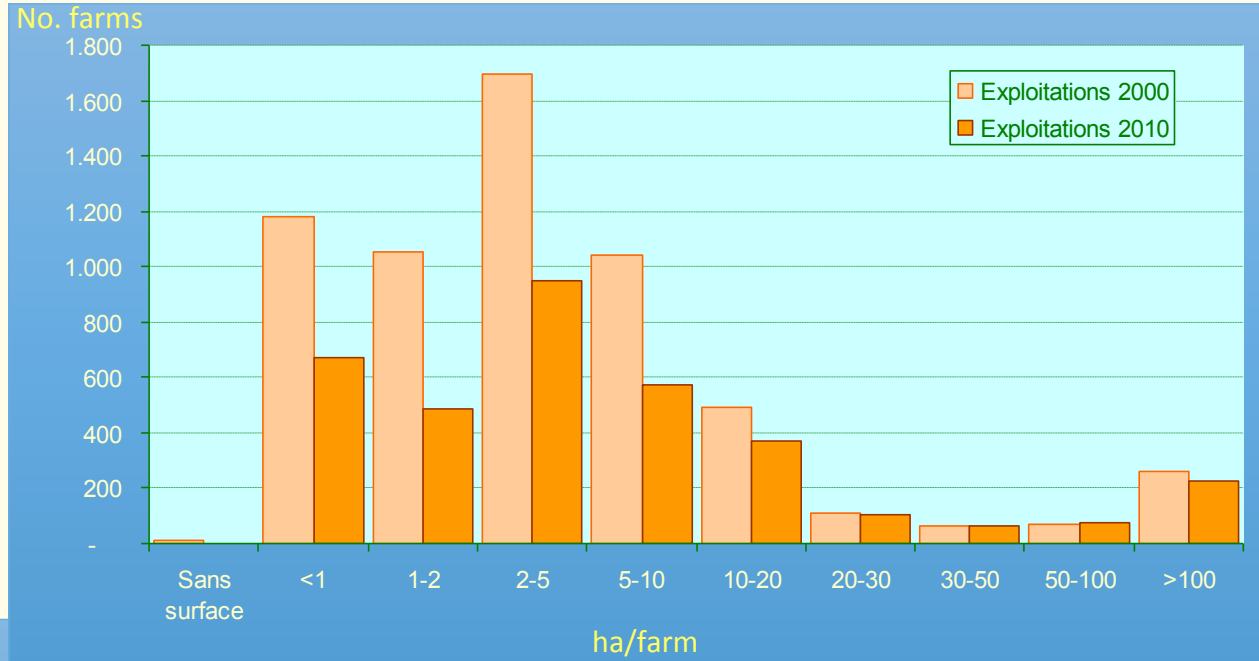
Agriculture in Valle d'Aosta

	Surface (ha)	
Permanent meadows and pastures	54,310	98.1%
Vineyards	432	0.8%
Orchards	329	0.6%
Potatoes and cereals	213	0.4%
Vegetable gardens	101	0.2%



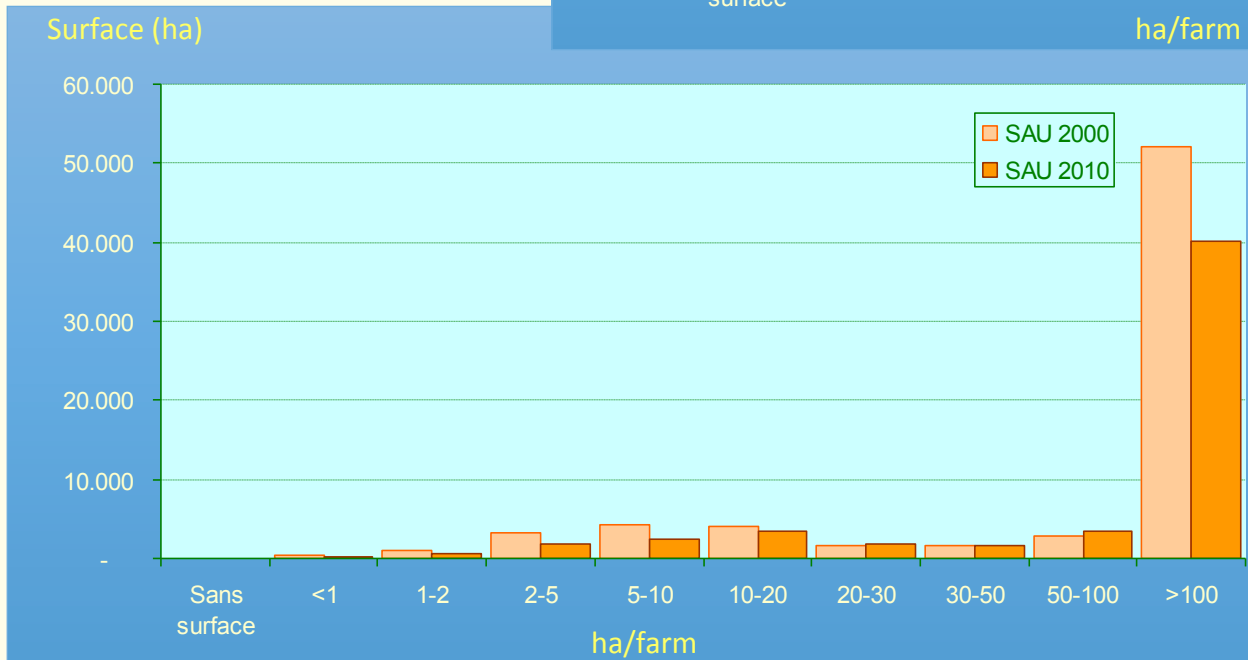
Agriculture in Valle d'Aosta

Classes of farm dimensions



Surface (ha)

ha/farm



Cattle farming in Valle d'Aosta

Bovines: **33,000** heads (Dairy Cows env. 50%)

Δ 2010-2000: -5.900 (-15%)

Cattle farms: **1,200**

Δ 2010-2000: -400 (-26%)

Average: **28** bovines/farm

Sheep+goats: **2,300+3,500**

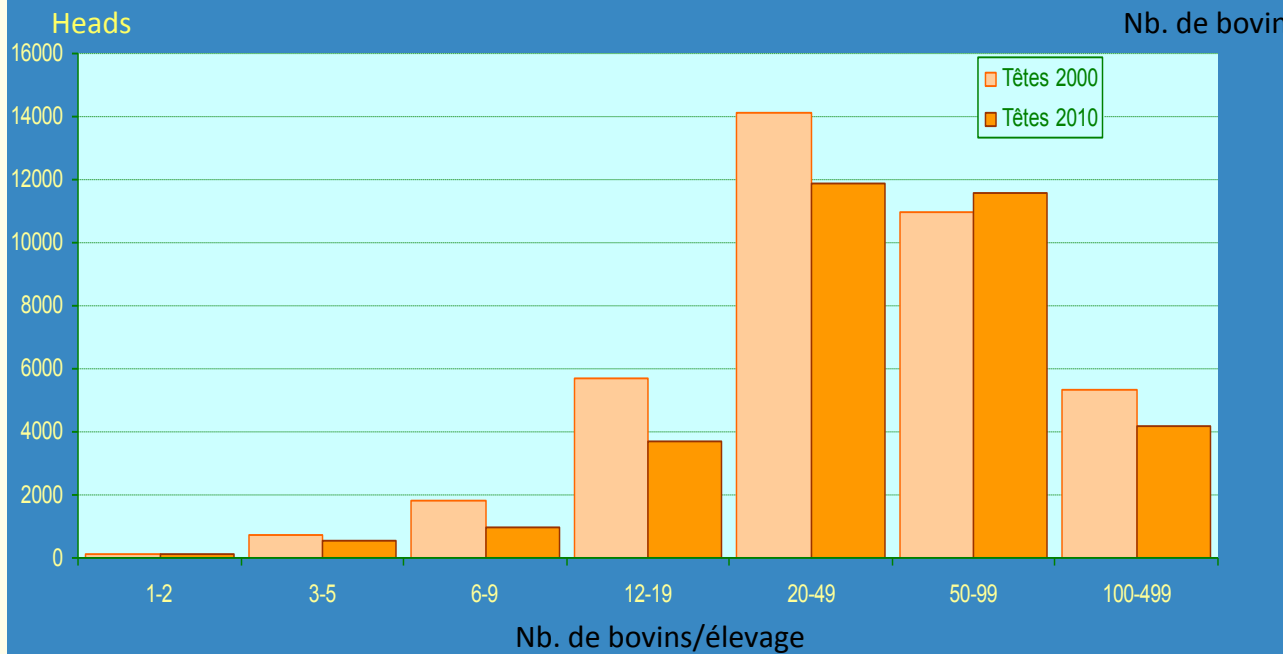
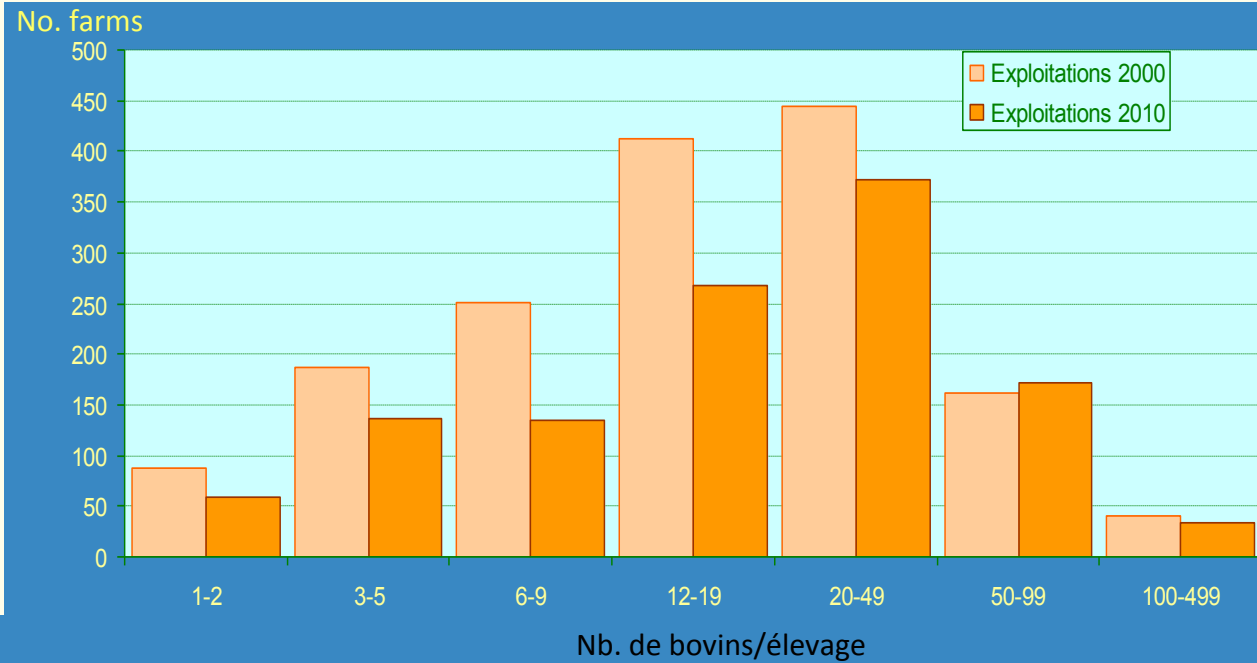
Δ 2010-2000: +40 (+2%) et +130 (+4%)

Roughly, 50% of a cattle farm budget comes from public subsidies.

More than 80% of cattle farmer families in Valle d'Aosta have an annual income lower than 12,000 € per working unit, while the average in the region is over 21,000 €.

Cattle farming in Valle d'Aosta

Classes dimensionnelles
des exploitations d'élevage
bovin



Municipality of Fontainemore

1970

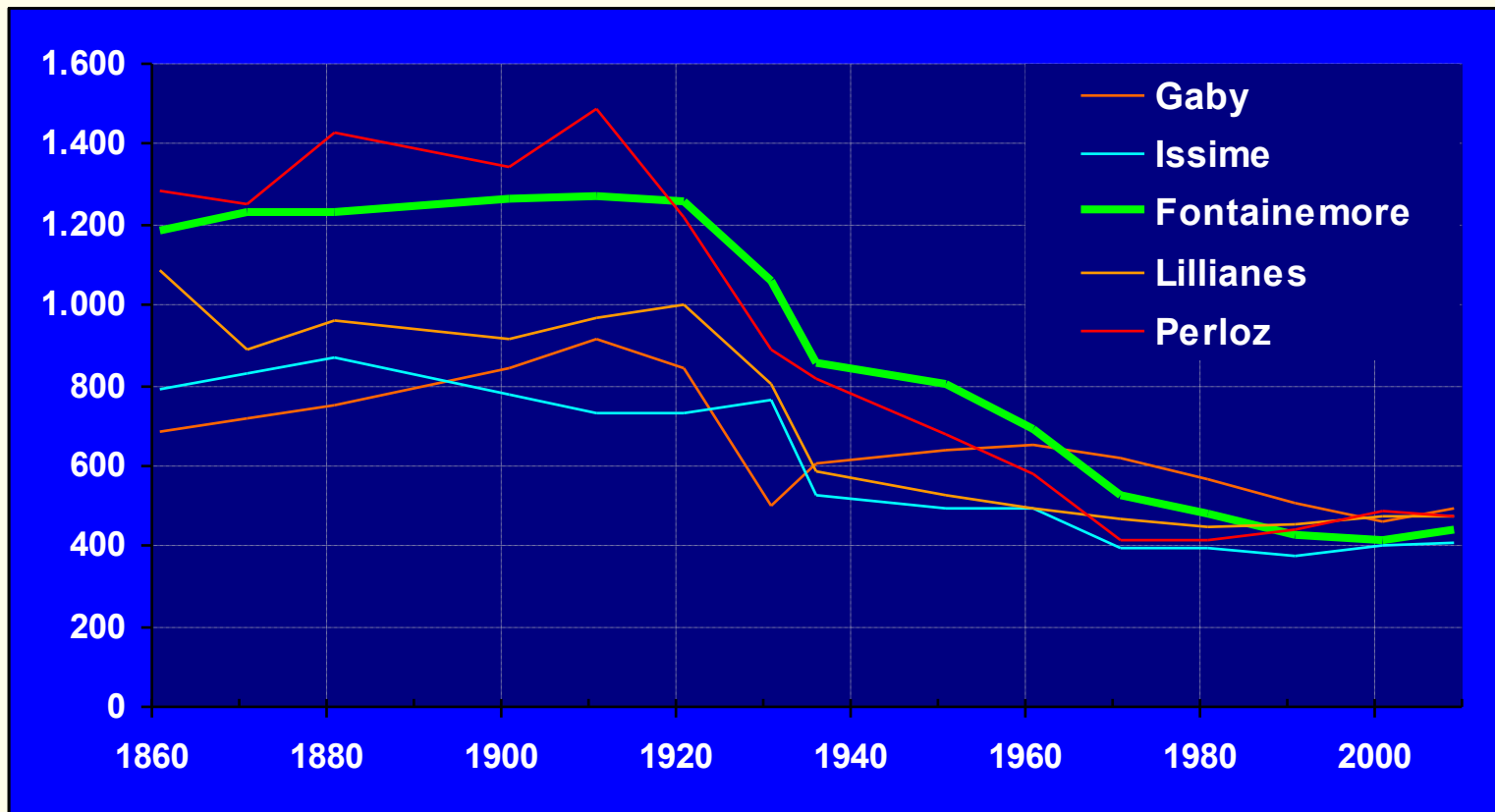
99 cattle farms



2005

33 cattle farms

Inhabitants in the lower Lys Valley (Valle d'Aosta) 1860-2010



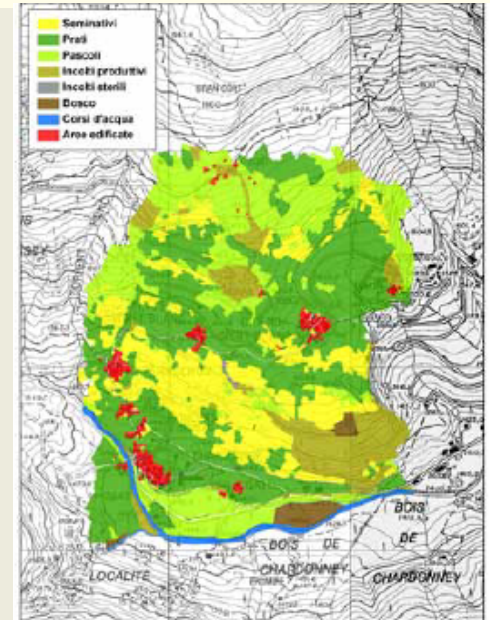
Landscape evolution in Champorcher (Valle d'Aosta)



Chardoney (Champorcher) m. 1456

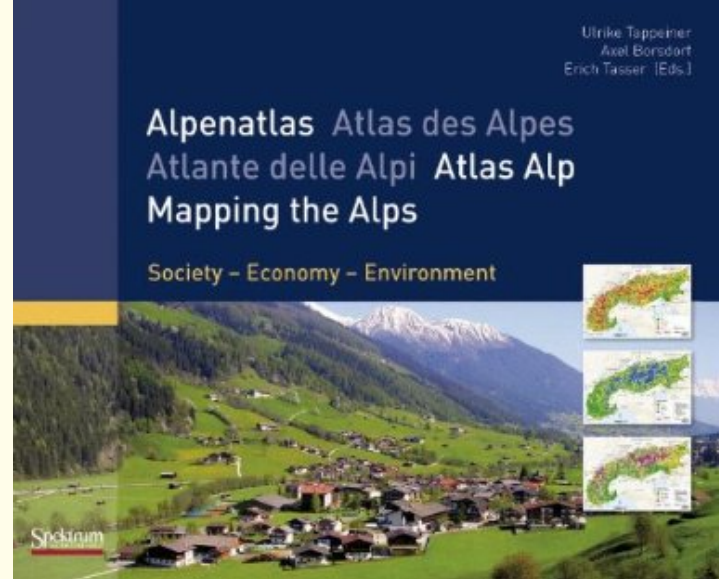
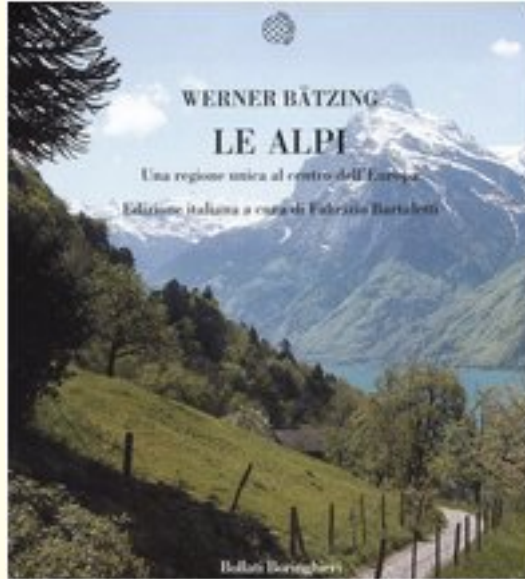


Landscape evolution in Champorcher (Valle d'Aosta)



The Alpine context

Sources



ALPINE CONVENTION | CONVENTION ALPINE | ALPSKA KONVENCIJA | CONVENZIONE DELLE ALPI | ALPENKONVENTION

THE ALPS EIGHT COUNTRIES, A SINGLE TERRITORY |
LES ALPES HUIT PAYS, UN SEUL TERRITOIRE | **ALPE** OSEM
 DRŽAV, ENOTNO OZEMLJE | **LE ALPI** OTTO PAESI, UN SOLO
 TERRITORIO | **DIE ALPEN** ACHT STAATEN – EIN GEBIET

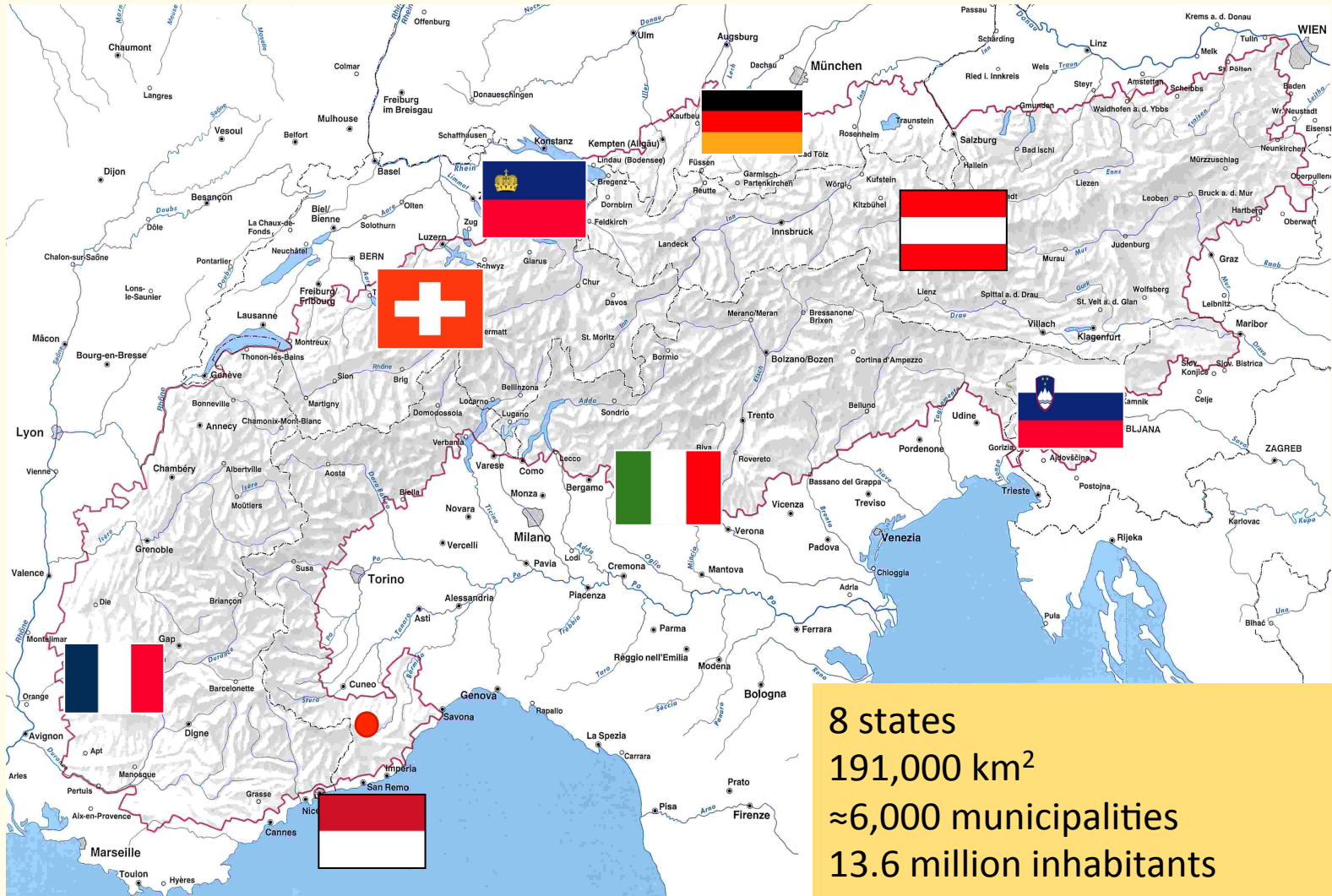


**SUSTAINABLE RURAL DEVELOPMENT
 AND INNOVATION**

Report on the State of the Alps

ALPINE CONVENTION
 Alpine Signals - Special Edition 3

The Alps



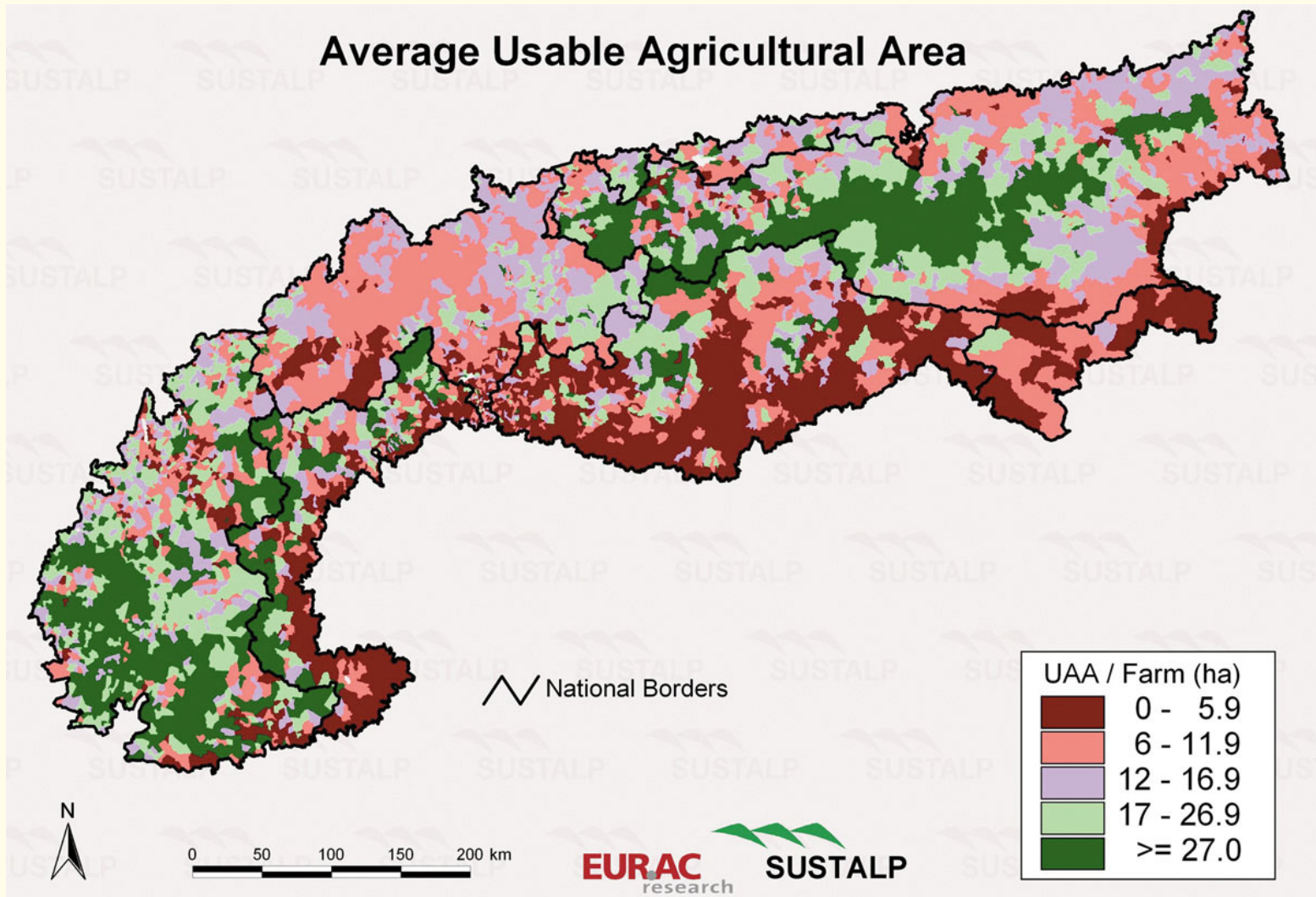
Adapted from: Cetara e Luciani (2007)

http://www.transdolomites.eu/wp-content/uploads/20070507_Convenzione-delle-Alpi_transdolomites.ppt

Agriculture in the Alps

- About 4% of the population in the Alpine area lives on agriculture
- The agricultural population has decreased by over 40 percent in the last 25 years.
- Since 1980, 2/3 of part-time farmers have given up their activity.
- However, the overall cultivated land is only slightly decreasing, since farms are becoming larger.

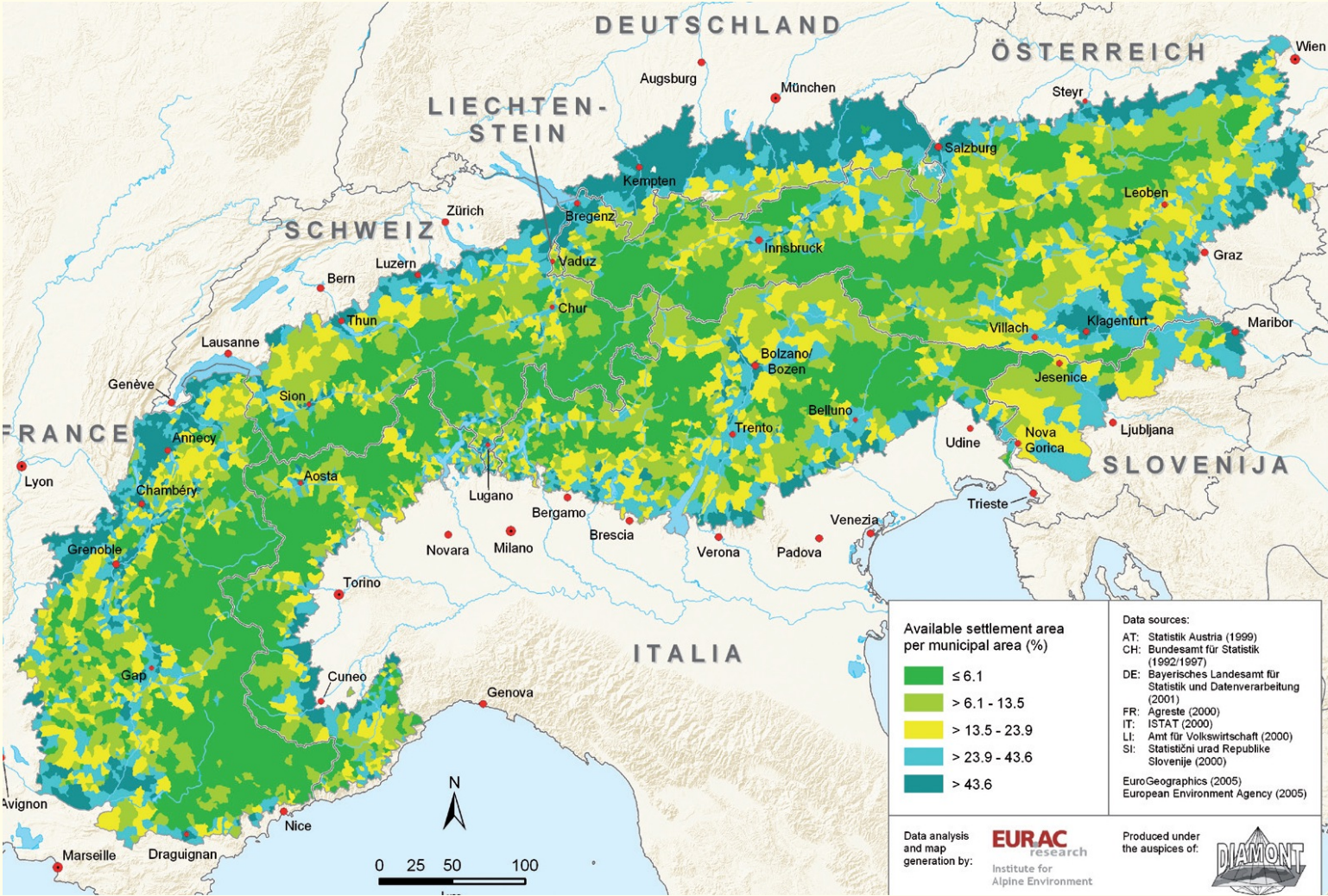
Agriculture in the Alps



Cetara e Luciani (2007)

http://www.transdolomites.eu/wp-content/uploads/20070507_Convenzione-delle-Alpi_transdolomites.ppt

Area suitable for permanent settlement and agricultural use



©TAPPEINER U., BORSODORF A., TASSER E. (eds) Atlante delle Alpi, Spektrum Akademischer Verlag; Heidelberg; 2008

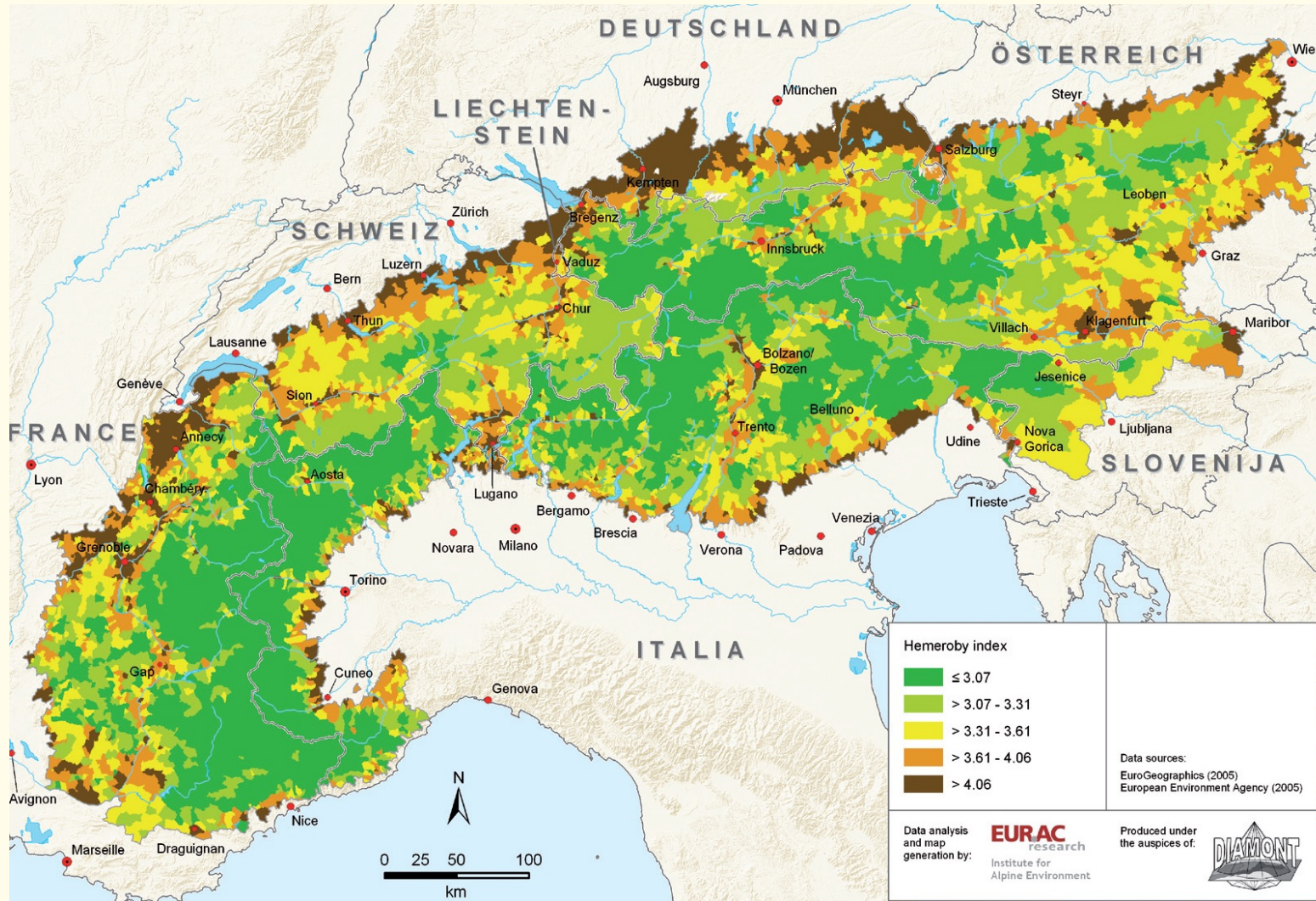
Hemeroby

«Hemeroby indicates the degree of anthropogenous influence on the environment. It takes into account all human activities and is thus an integrative unit (Steinhardt et al. 1999).

A low hemeroby value means that natural types of environment dominate in that municipality, high values point to a municipal area that is mainly shaped by human impact. On second glance, hemeroby values also show the current state of agriculture. Many Swiss municipalities return an above average hemeroby value. This is the result of a very high degree of land use.

The opposite is true of the French and Italian Southern Alps. Here agriculture has abandoned large tracts of land resulting in low hemeroby values. »

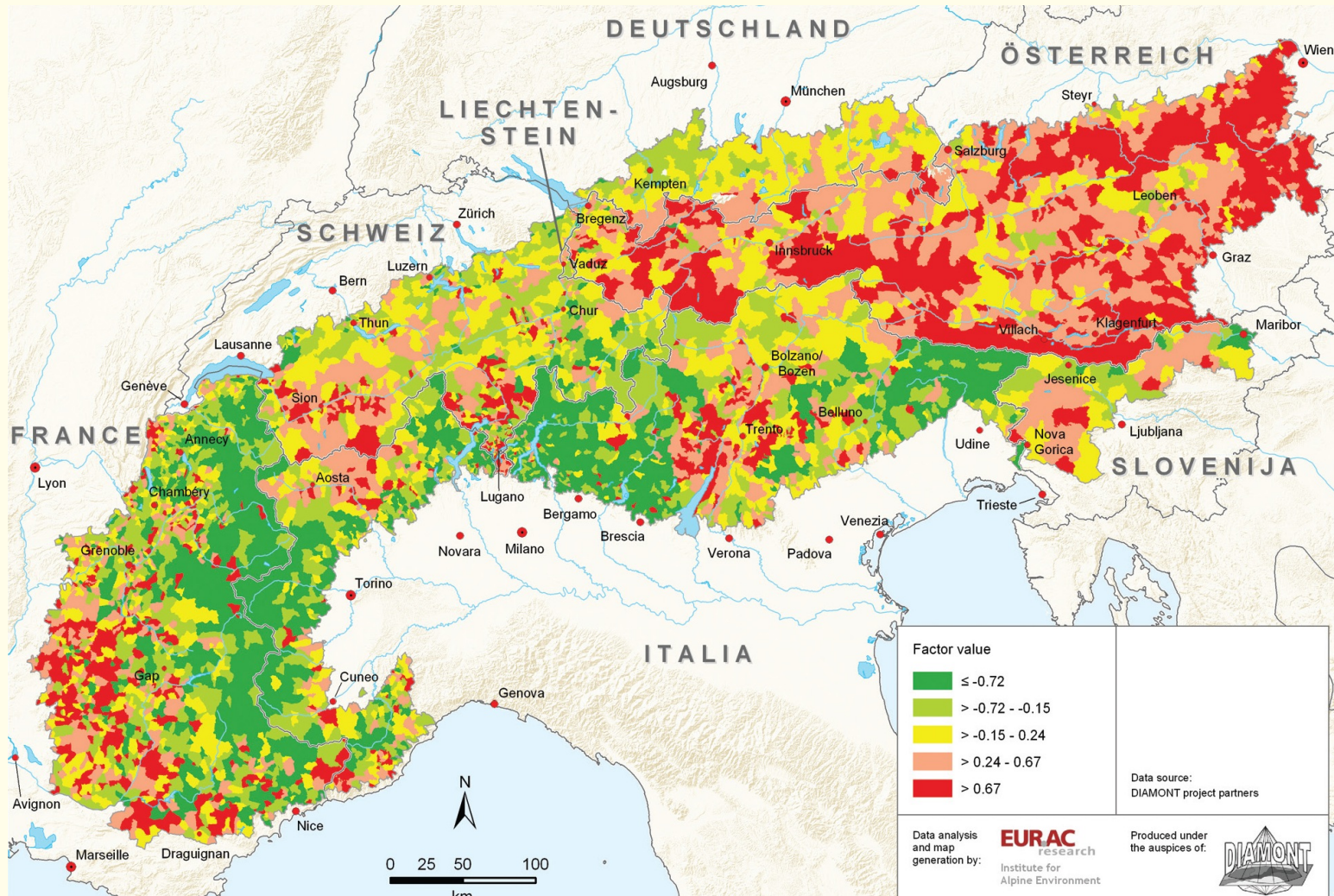
Hemeroby index



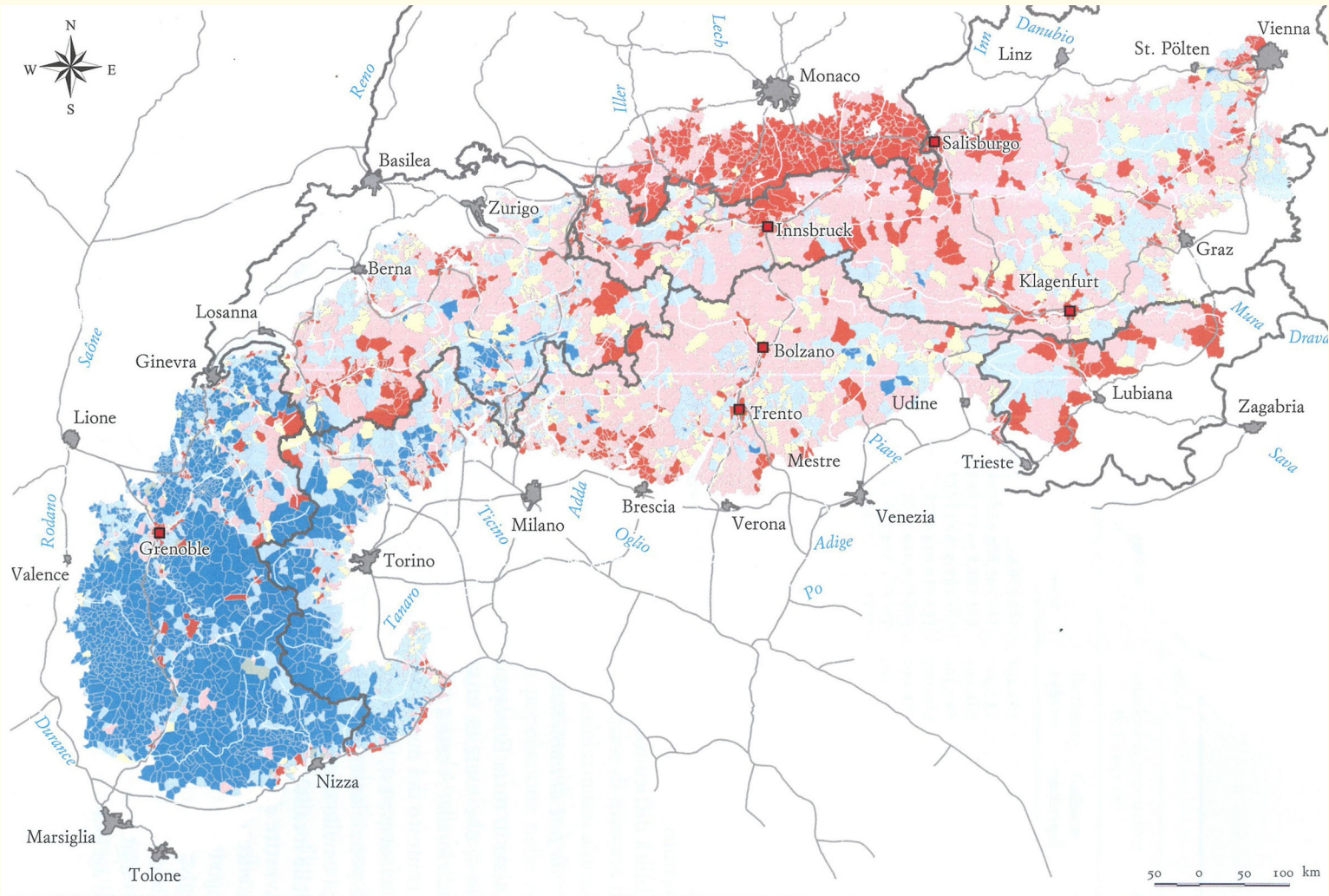
Agrarization

«This map is based on an aggregation of information applying the factor analysis. The factor “degree of agrarization” shows the distribution of jobs across the sectors. The map represents mainly the primary sector and combines two perspectives: agriculture viewed in terms of employment as well as in terms of farms and how they change. High values (in red) indicate an above average status of agriculture, i.e. hardly any abandonment of farms, a large number of agricultural enterprises and with it lots of primary sector employment. Regions with high values are mainly found in Austria, in the German Alps and in some parts of Italy. Particularly striking in Italy are the autonomous province of Bolzano-South Tyrol and the autonomous region of the Aosta valley. As a result of their autonomous status, these regions have the authority to pass laws and have used them to support farming better by creating appropriate conditions for agriculture in a mountain area. High values are also found in the south-western French Alps, an extensive arable farming area with additional sheep and goat keeping. values. »

Agrarization



Demographic variation 1871-1951



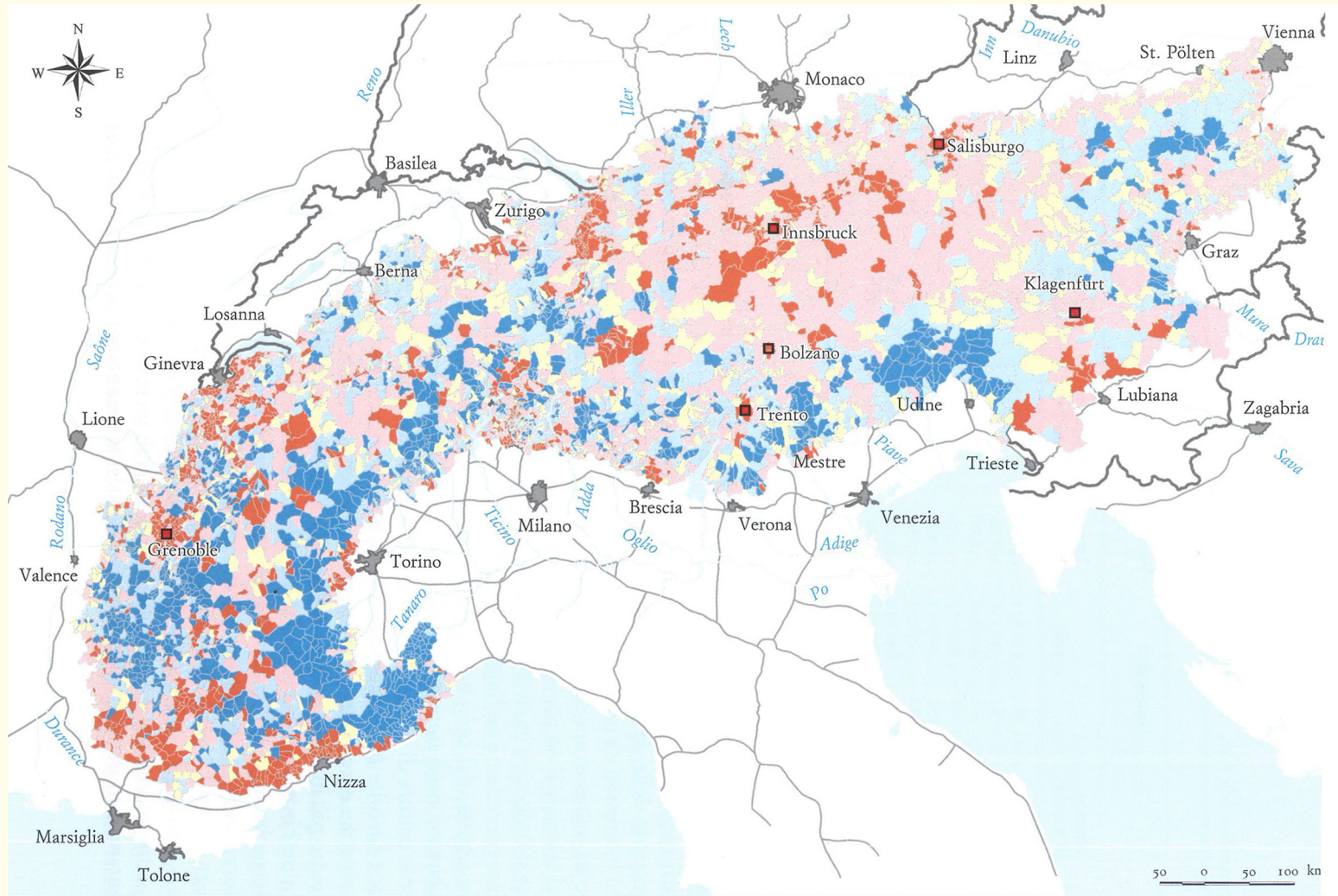
Numero dei comuni

1497	Blue	-92%--36%	Forte decremento demografico
1314	Light Blue	-36%--5%	Decremento demografico
513	Yellow	-5%-5%	Stagnazione
1890	Pink	5%-73%	Incremento demografico
909	Red	73%-4162%	Forte incremento demografico

Light Grey	Territori extracomunali
Dark Grey	Nessun dato per il 1871
Black Square	Città fuori dell'arco alpino
Red Square	Città nell'arco alpino
Blue Square	Laghi e mari

Blue Line	Fiumi
Thick Black Line	Confini di stato
Thin Black Line	Strada di grande comunicazione
Dotted Black Line	Confini dei comuni

Demographic variation 1951-1981



Numero dei comuni

- 1288
- 1249
- 716
- 1899
- 971

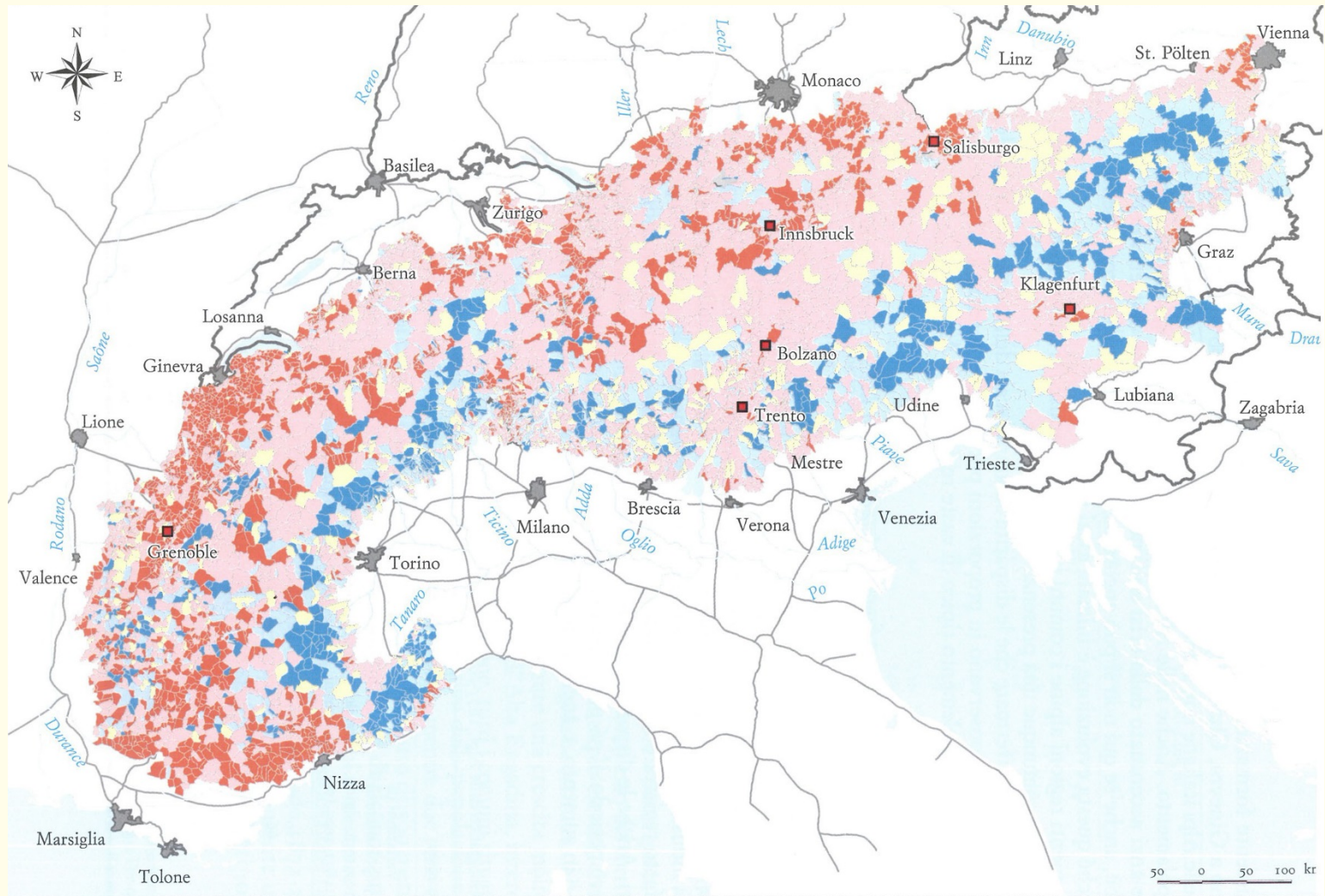
- 87% - -24%
- 24% - -5%
- 5% - 5%
- 5% - 45%
- 45% - 1232%

- Forte decremento demografico
- Decremento demografico
- Stagnazione
- Incremento demografico
- Forte incremento demografico

- Territori extracomunali
- Nessun dato per il 1871
- Città fuori dell'arco alpino
- Città nell'arco alpino
- Laghi e mari

- Fiumi
- Confini di stato
- Strada di grande comunicazione
- Confini dei comuni

Demographic variation 1981-2000



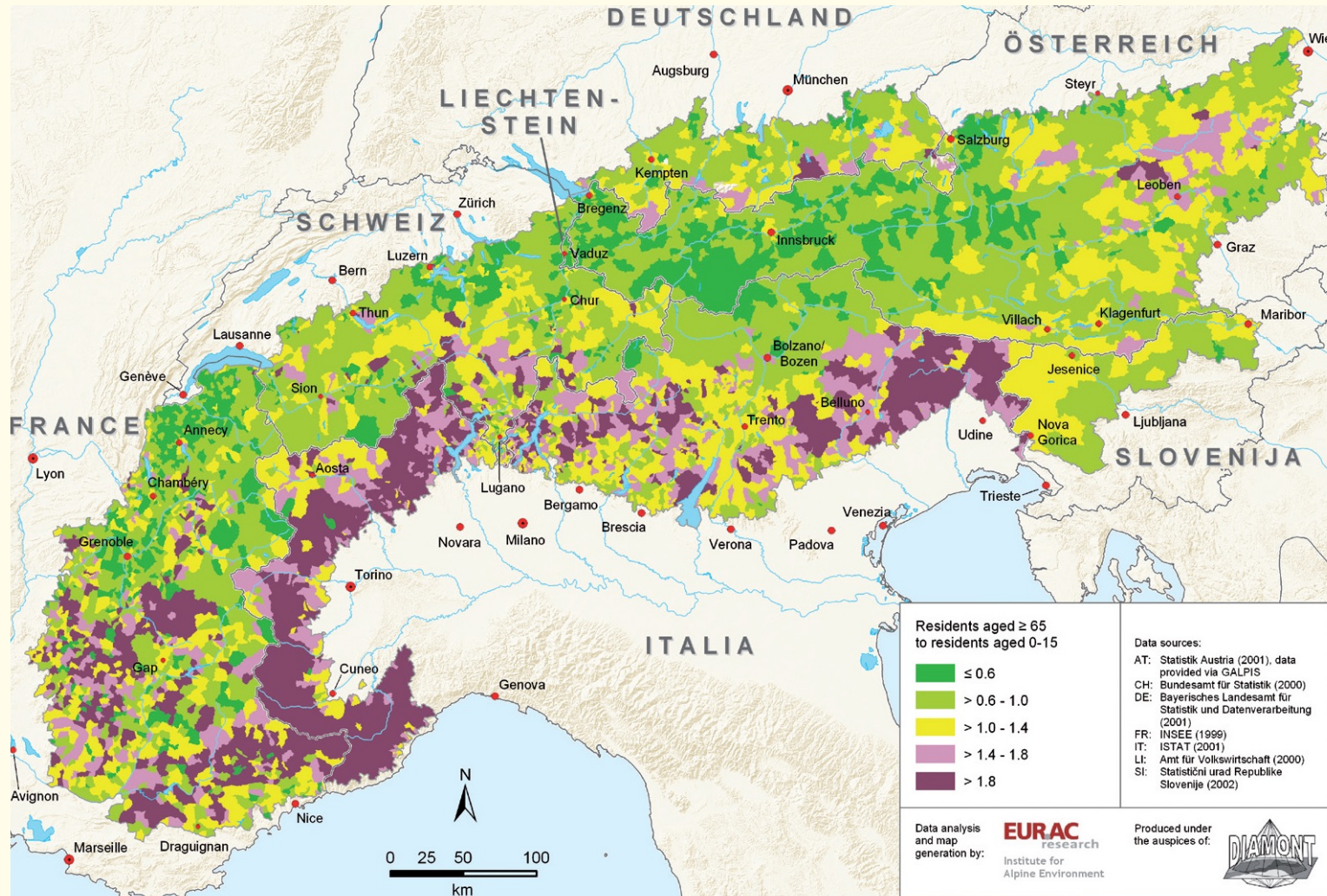
Numero dei comuni

612		-69%--12%	Forte decremento demografico
771		-12%--2,5%	Decremento demografico
553		-2,5%-2,5%	Stagnazione
2515		2,5%-27%	Incremento demografico
1672		27%-511%	Forte incremento demografico

	Territori extracomunali
	Nessun dato per il 1871
	Città fuori dell'arco alpino
	Città nell'arco alpino
	Laghi e mari

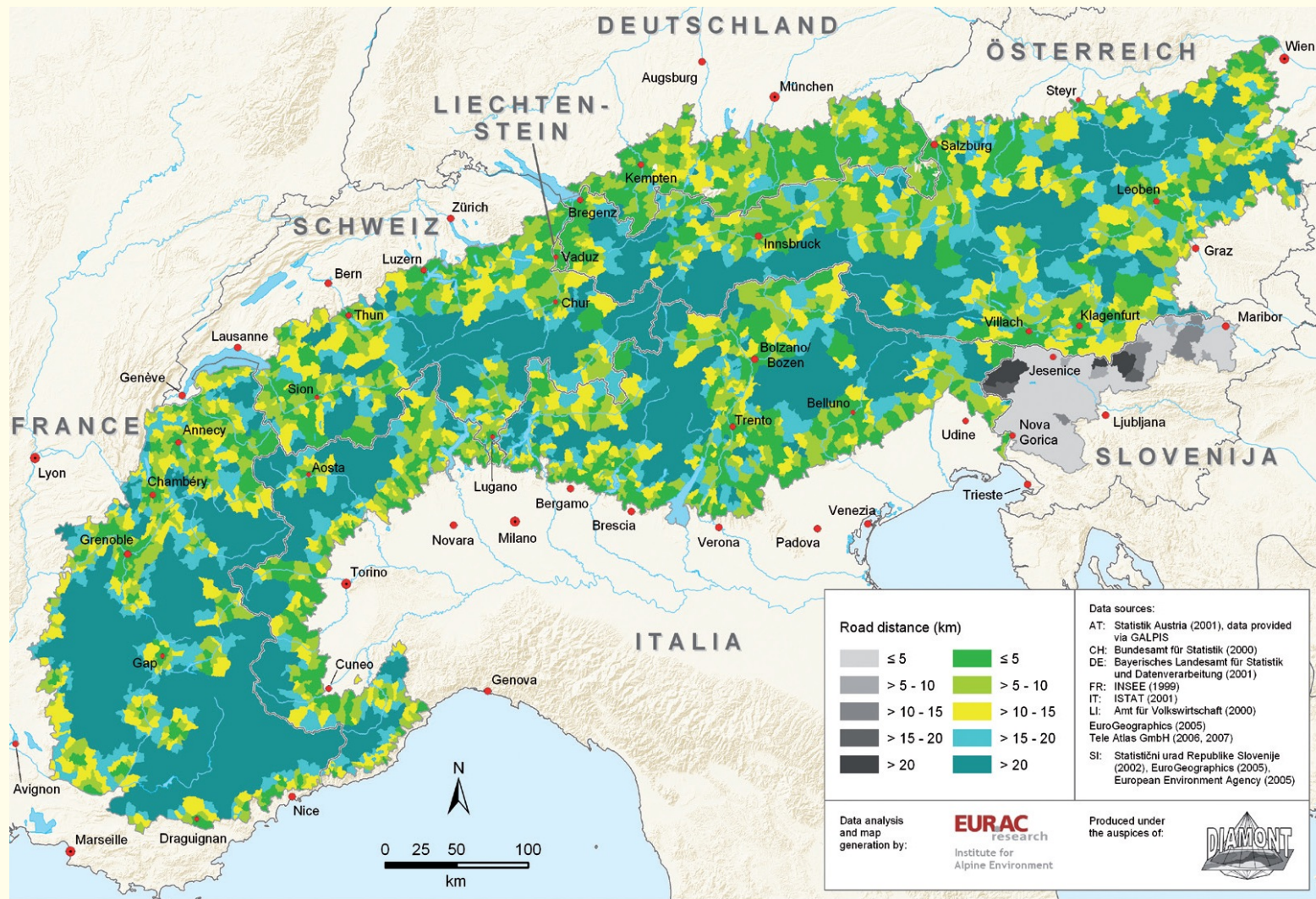
	Fiumi
	Confini di stato
	Strada di grande comunicazione
	Confini dei comuni

Residents aged ≥ 65 to residents aged 0-15



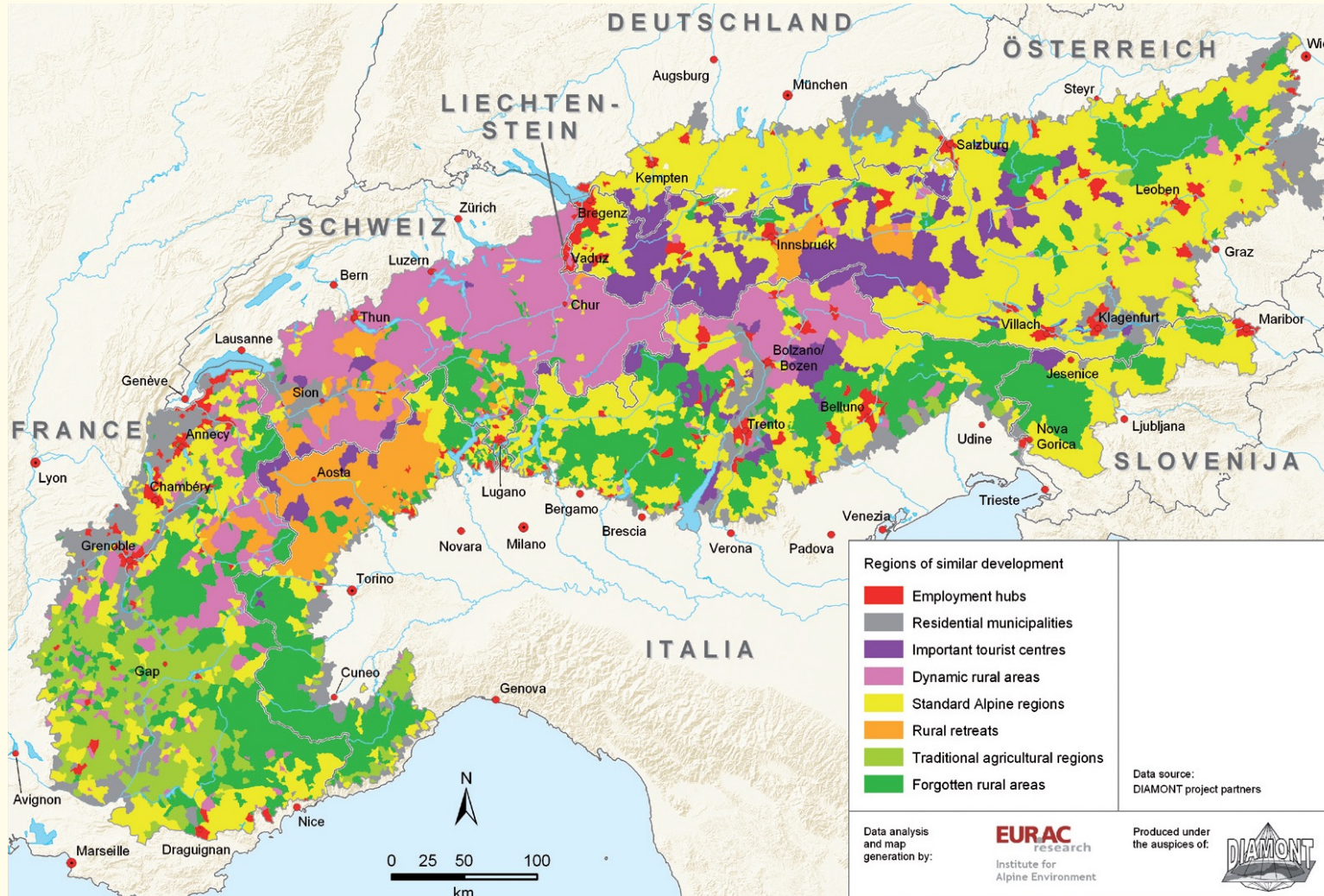
Infrastructures: transports

Distance from individual municipalities to the nearest town with more than 5,000 inhabitants



Trends and suggestions

Region development



Region development/1

Employment hubs: *Employment hubs show a high positive commuter balance, i.e. very many employed persons commute into this hub on a daily basis. These centres have a good transport infrastructure and are built up on a large scale. Business parks, industrial facilities and shopping centres offer a good supply of jobs.*

Residential municipalities: *Typical residential and dormitory municipalities are found in the vicinity of large employment hubs. Transport infrastructure is better than average, daily commuting into the employment hubs is possible without great loss of time.*

Important tourist centres: *Typical tourist centres have very well developed accommodation facilities; the employment situation is better than average because of an abundance of jobs in the service sector. In spatial terms these are rural municipalities with a functioning agricultural sector and an intact cultural landscape as a result.*

Dynamic rural areas: *These areas are characterized by a rural location and a dynamic labour market. Employment, particularly for women, has improved significantly, not least as a result of positive developments in tourism. Moreover, agriculture is still intact in such areas, with only very few farms or pieces of land being abandoned. Some cause for concern is the above average emigration of employed persons. Employment of older people is also particularly high in these areas.*

Region development/2

Standard Alpine regions: *These regions have no outstanding features and in all aspects returns average values for the Alps. Typical characteristics include low tourist intensity, a decline of agriculture and a negative commuter balance. Balanced migration and birth rates, however, prevent excessive overaging in these areas.*

Rural retreats: *Characteristic for this cluster are good transport links, which the residents use to commute even further to work while retaining the centre of their life in the rural hinterland. In recent decades, agriculture has largely retreated from such areas, resulting in large natural spaces with little fragmentation and a highly diverse landscape.*

Traditional agricultural regions: *Typical for these regions are severe overaging and a poor transport infrastructure. Unlike in the cluster “Rural retreat” agriculture persists, but farms are run extensively. Overall, this results in a rich traditional landscape. The poor employment situation in the service and tourist sectors in this region might also contribute to the lower rate of abandoned farms.*

Forgotten rural areas: *This cluster is dominated by distinct overaging and a particularly sharp decline in farming. A major reason for this is the poor transport infrastructure in such an area. These areas are real passive spaces threatened by depopulation.*

Mountain Farming Protocol of the Alpine convention

Specific measures

- **Encouragement of mountain farming**
 - policy measures
 - appropriate compensation
- **Land use and countryside**
 - planning, zoning, reorganizing and improving land use
 - conservation and use of the traditional components of the countryside and of traditional farm buildings
- **Nature-friendly extensive farming methods — Typical produce**
- **Livestock farming suited to local conditions and genetic diversity**
 - balance between pasture and livestock
 - Maintain the genetic diversity of livestock and crops, particularly in the field of agricultural research and advisory services
- **Promotion and marketing**
- **Limitation of production**
- **Complementary nature of farming and forestry**
- **Additional sources of income**
- **Improvement of living and working conditions**

Mountain Farming Protocol of the Alpine convention

Research, training and information

The Contracting Parties (...) shall encourage agricultural research specially targeted on mountain farming which shall be conducted in a manner corresponding as closely as possible to the specific local conditions and shall be taken into account in the process of setting and checking agricultural policy objectives and measures, applying the results obtained to training and technical assistance activities for agriculture.

Marginalization and abandonment are the major threats to mountain farming



How to hinder these threats?

- Reduce bureaucracy
- Enhance infrastructures and technological networks
- Promote creativity (diversification, new production chains)
- Promote entrepreneurial attitude (links with tourism, outcome-based AEMs, direct selling of products, maintenance of public spaces by the farmers etc.)
- Invest in knowledge and skills (research, education and training)