

# Solutions fondées sur la nature appliquées aux risques gravitaires

Possibilités, limites, enjeux

Mardi 19 novembre 2024

St Bonnet en Champsaur



## Aspects socio-écologiques des solutions fondées sur la nature



Ignacio Palomo



Co- Organisation



Dans le cadre de la  
dynamique  
partenariale RESAlpes

Avec le soutien de



# Introduction



Actions to protect, sustainably manage, and restore natural or modified ecosystems to simultaneously provide human well-being and biodiversity benefits

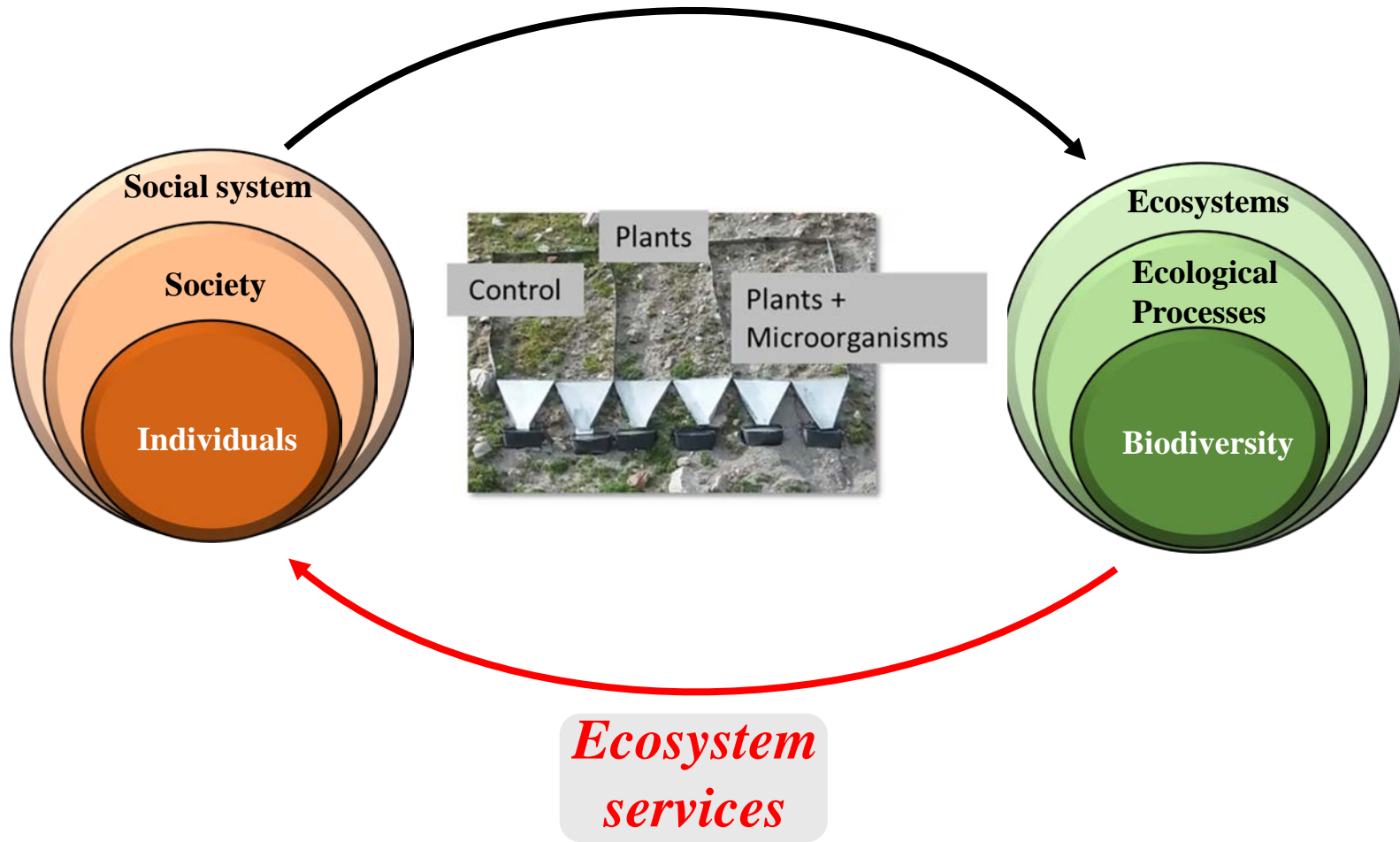




# Introduction



## Direct drivers of change



# Projet PORTAL



A research platform to showcase climate initiatives in the Alps

OUR PROJECT ATLAS OF INITIATIVES THE TEAM EVENTS RESULTS CONTACT



## The PORTAL project

Mountains are dramatically affected by **climate change** and bold **adaptation responses** are needed.

To tackle this challenge, a **transformation at personal, political and practical levels** should be incorporated in the different human-nature interactions.

PORTAL project collects nature-based **initiatives** in a diversity of social-ecological settings from the Alps that could serve as an inspiration to learn new **pathways of adaptation**

[Read more >](#)

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Salle polyvalente

Prolongé par une visite technique mercredi 20/11



## Contribute your initiative!

If you are willing to contribute a nature-based adaptation initiative in the Alps, please fill in the questionnaire

[GO TO QUESTIONNAIRE](#)



**METIS - Mobiliser à l'Echelle Territoriale par l'Innovation et la Synergie**  
Adapting forests to climate change by modifying their composition

[Read more](#)



**Econnect project**  
Reconnect the natural area in the Alps to improve the gene flow and enable species to adapt to climate change

[Read more](#)



**Wetlands in Vanoise National Park**  
Actions to protect wetlands from the different threat

[Read more](#)



**AT3 Mountain Forestry**  
Mountain forestry and public goods in the eastern Pyrenees

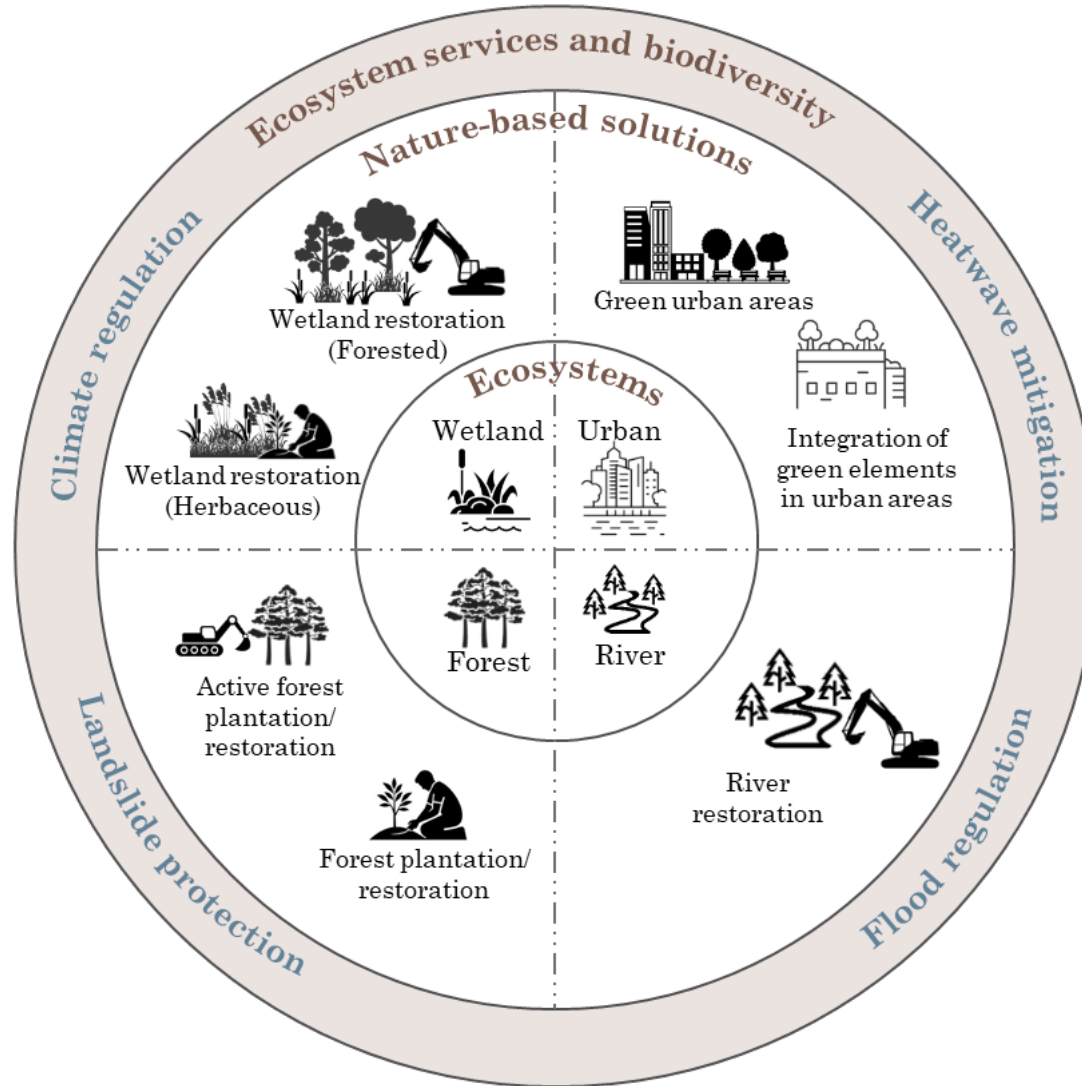


**Impuls4Action**  
Alpine soils protection in times of climate change



**Allgäuer Moorallianz**  
Moor landscape conservation in the Allgäu region

# Projet PORTAL







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Université de Bourgogne  
 Centre National de Recherche Scientifique (CNRS)  
 Académie de Bourgogne - CLEDA



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Before (2016)

After (2019)



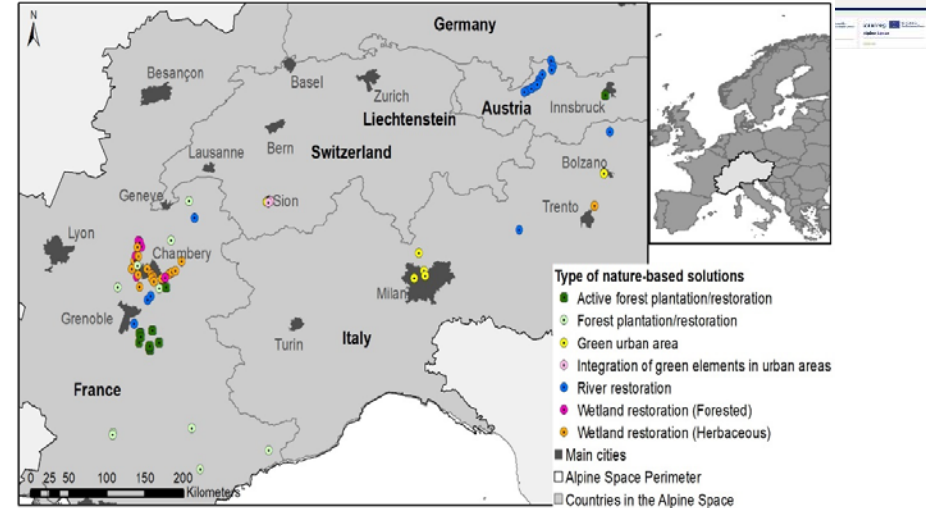
1 km

Before (2013)

After (2019)



300 m



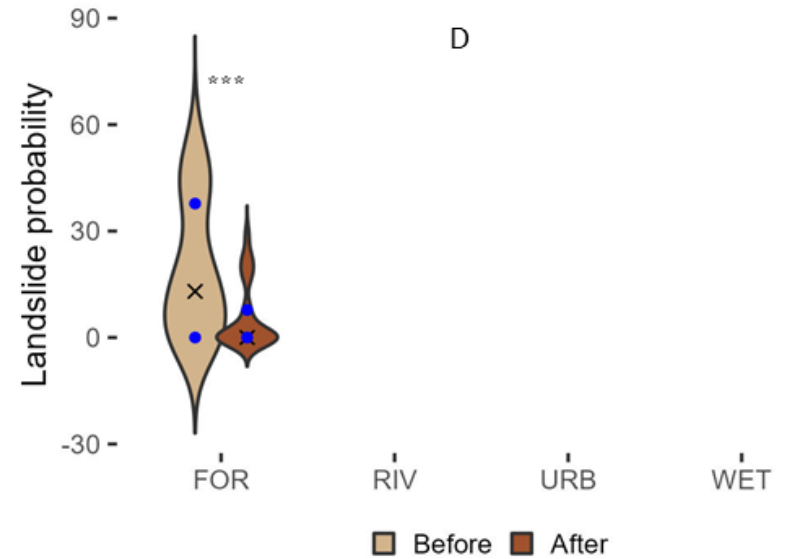
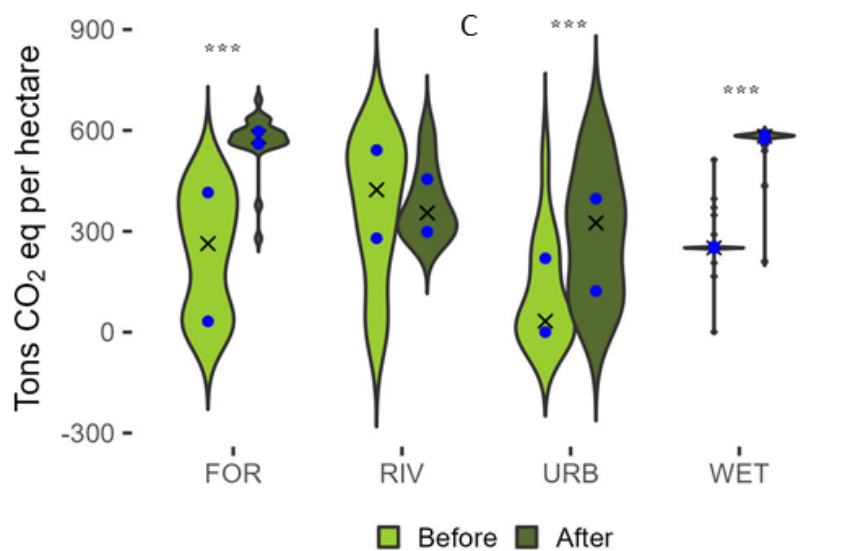
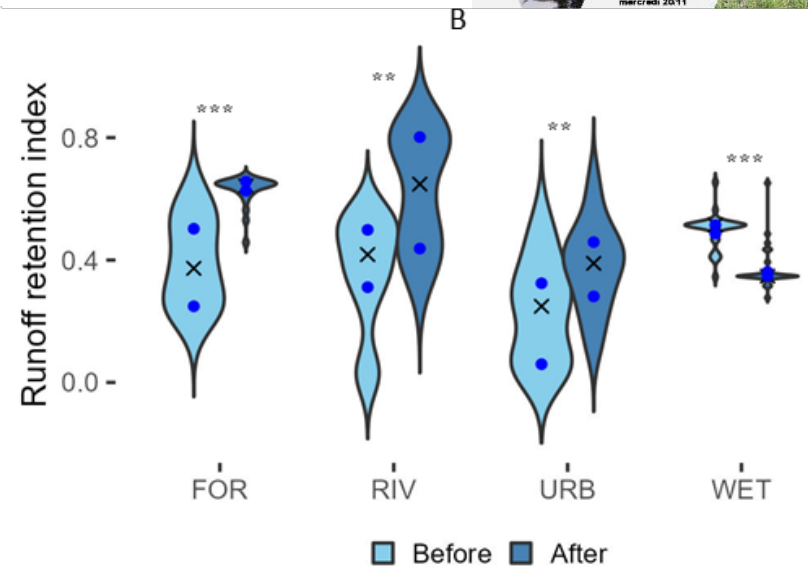
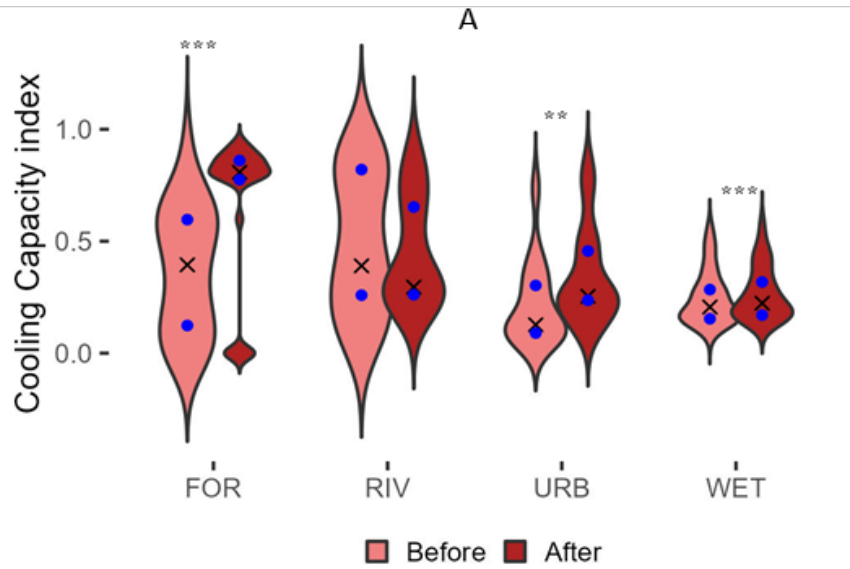
Before (2013)

After (2016)



100 m

# Nature-based Solutions economic benefits are three times higher than costs





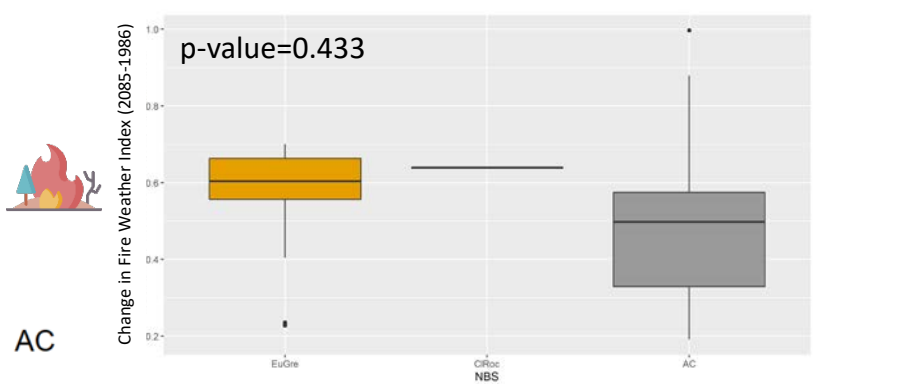
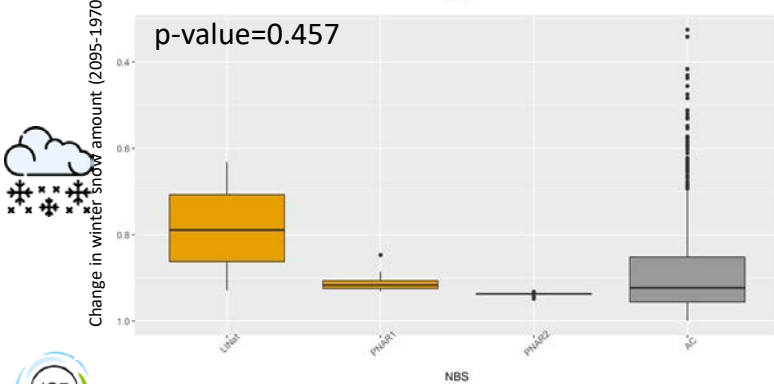
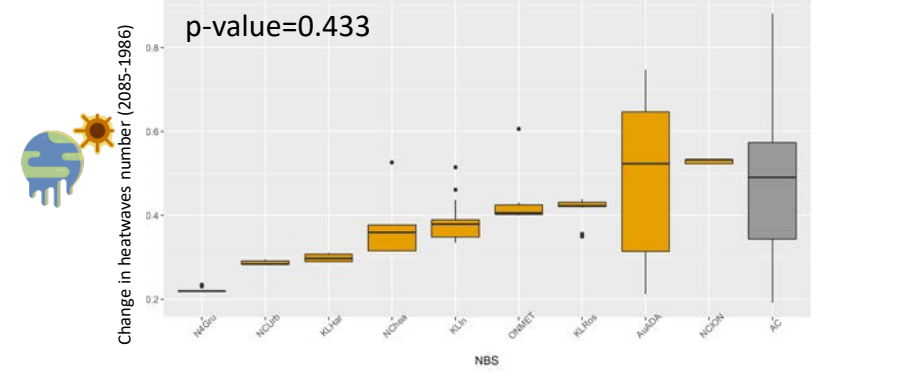
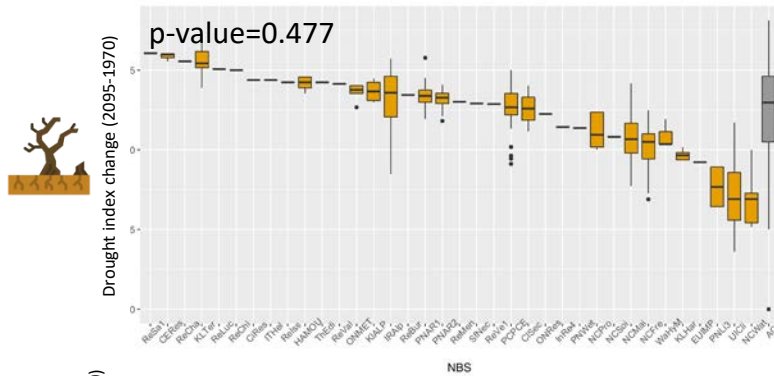
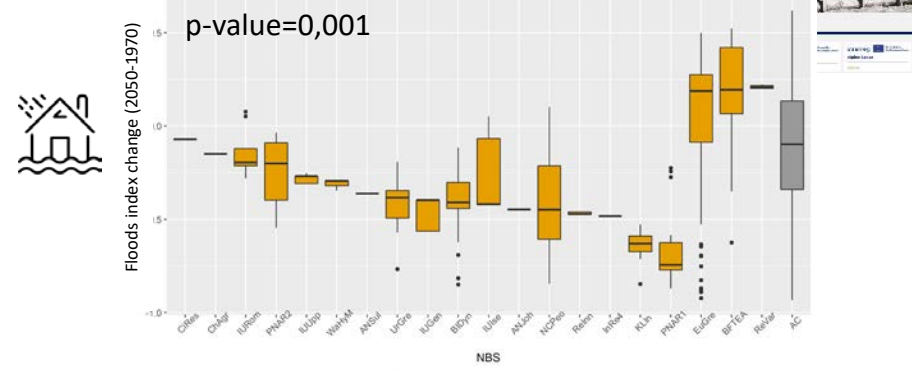
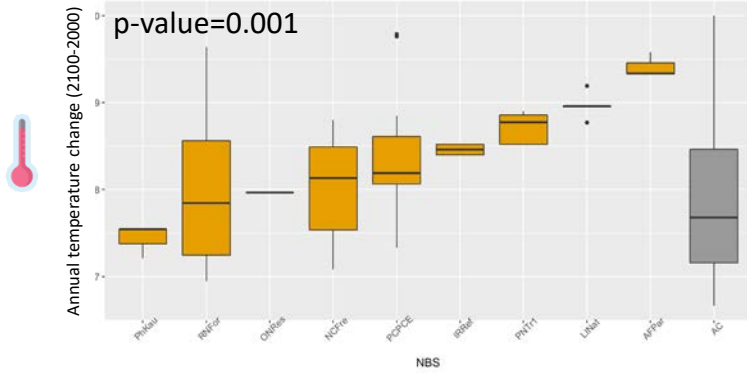
# Nature-based Solutions not strategically located according to climate change risks

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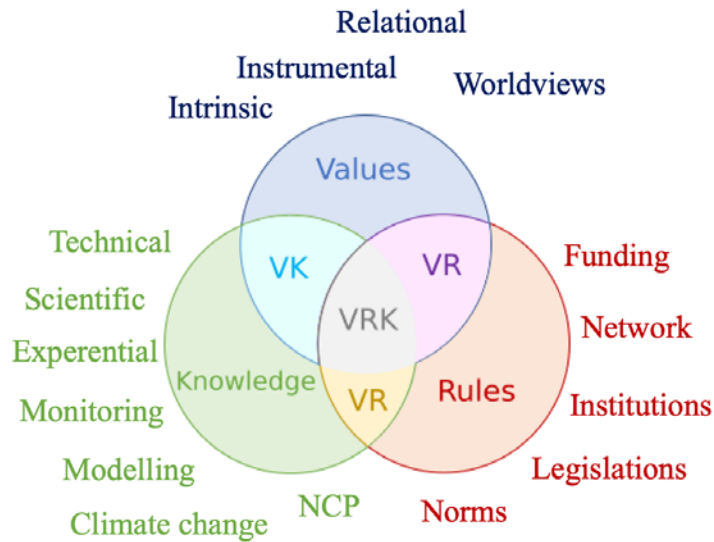



# Projet PORTAL









## Nature-based Solutions (NbS)

### Decision-making context



### Transformative characteristics

- Restructuring 
  - Nature-people interactions
  - Changes in ecosystem
- Path-shifting 
  - Dimension of the management practices
- Innovative 
  - Newness dimension of the practices
- System-wide 
  - Spatial scale
- Multi-scale 
  - Dimension of co-construction
  - Dimension of the network
- Persistent 
  - Type of future-oriented approach

### Amplification

Elements suggested by interviewees to replicate similar NbS, coding with the VRK framework



# Projet PORTAL

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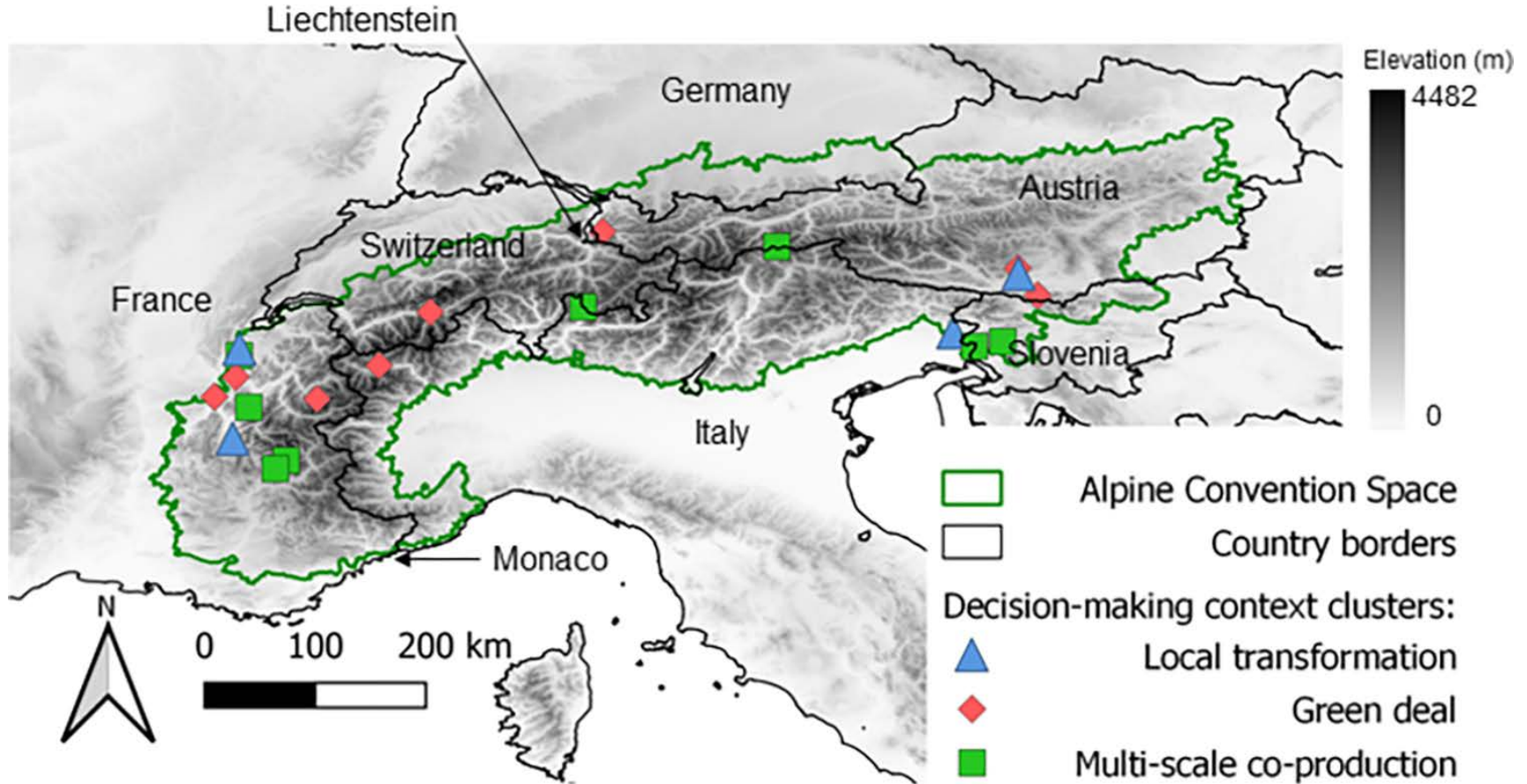
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INDURA  
IFM

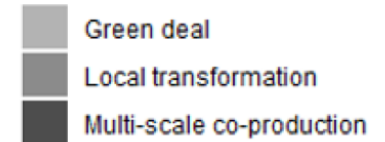
Projet de recherche financé par le programme national de recherche et innovation (PNRI) - Coprojet financé par le BSR4104 - Actions financées par le CLEDA



# Projet PORTAL



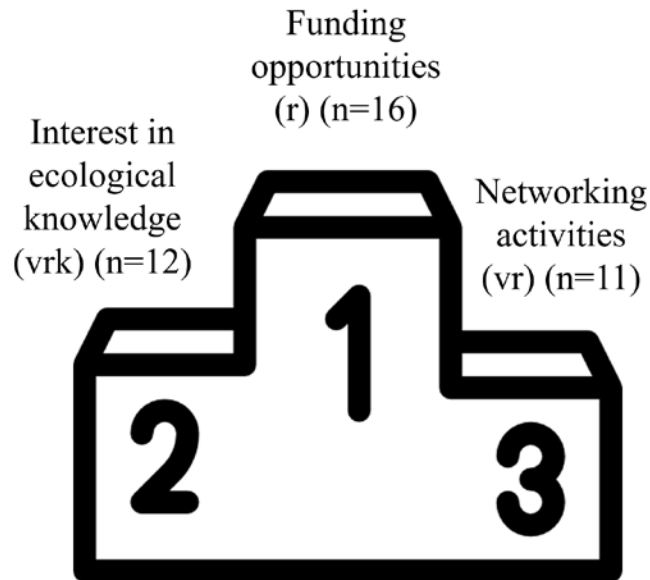
## NbS cluster:



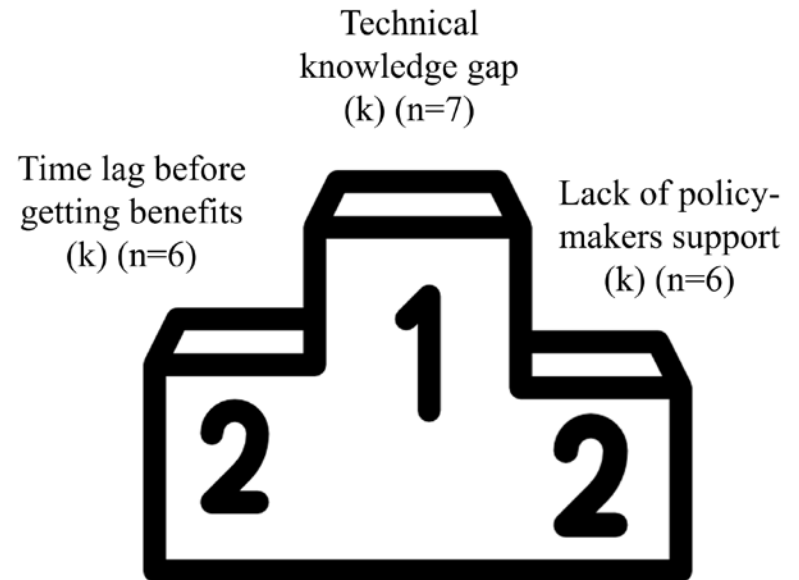


## Results - Main levers and barriers

### Levers



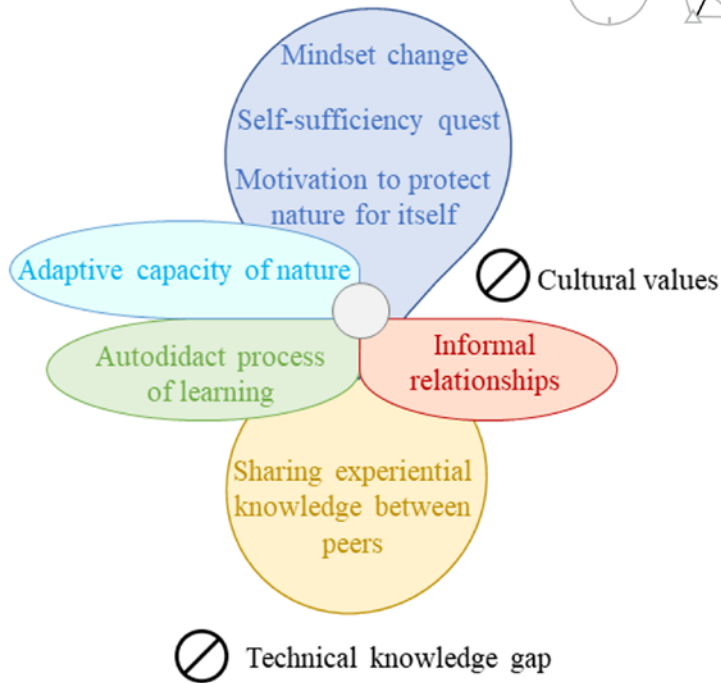
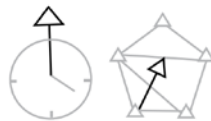
### Barriers



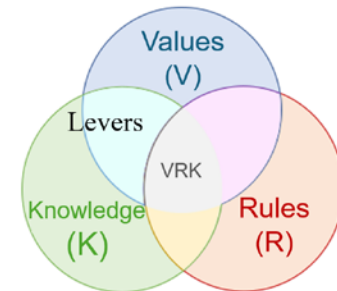
k: knowledge; r: rules; v: valeurs; vrk: interactions between the three elements;  
n: number of cases (**total: 20**)

## Results - Types of decision-making context

Local transformation (4 cases)



VRK framework



Barriers

Transformative characteristics



Restructuring



System-wide



Multi-scale





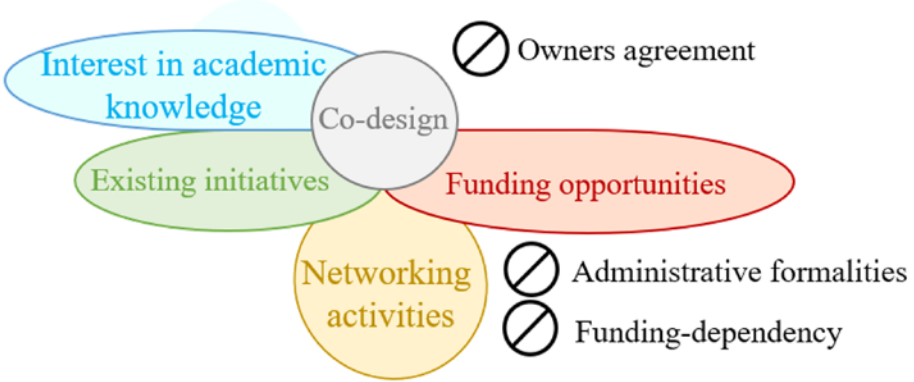
Persistent

# Projet PORTAL

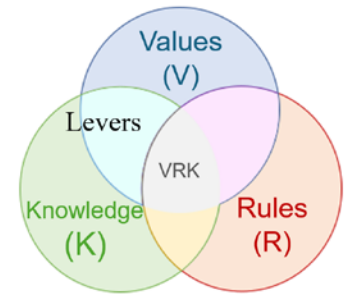


## Results - Types of decision-making context

*Multi-scale co-construction (8 cases)*  







### VRK framework



 **Barriers**

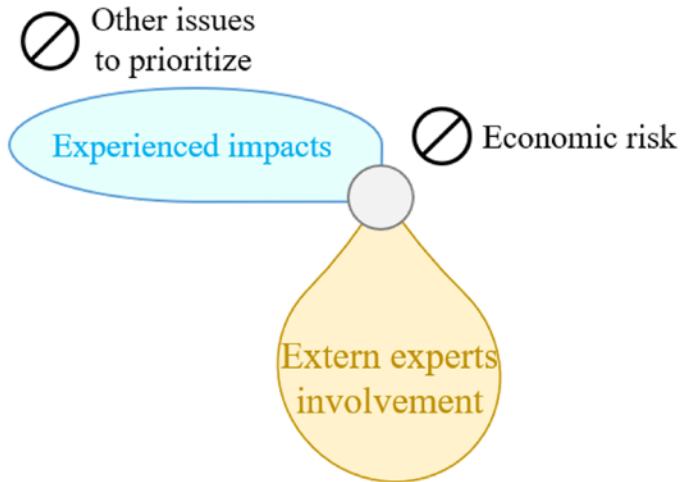
### Transformative characteristics

-  Restructuring
-  System-wide
-  Multi-scale
-  Persistent

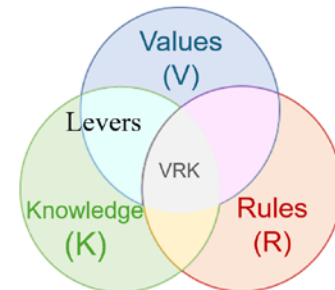


## Results - Types of decision-making context

### Green Deal (8 cases)



### VRK framework



⊘ Barriers

### Transformative characteristics

- Restructuring
- System-wide
- Multi-scale
- Persistent



# Projet PORTAL



## Results - Types of decision-making context

 *Local transformation (4 cases)*



 *Multi-scale co-construction (8 cases)*



Inspire

 *Green Deal (8 cases)*

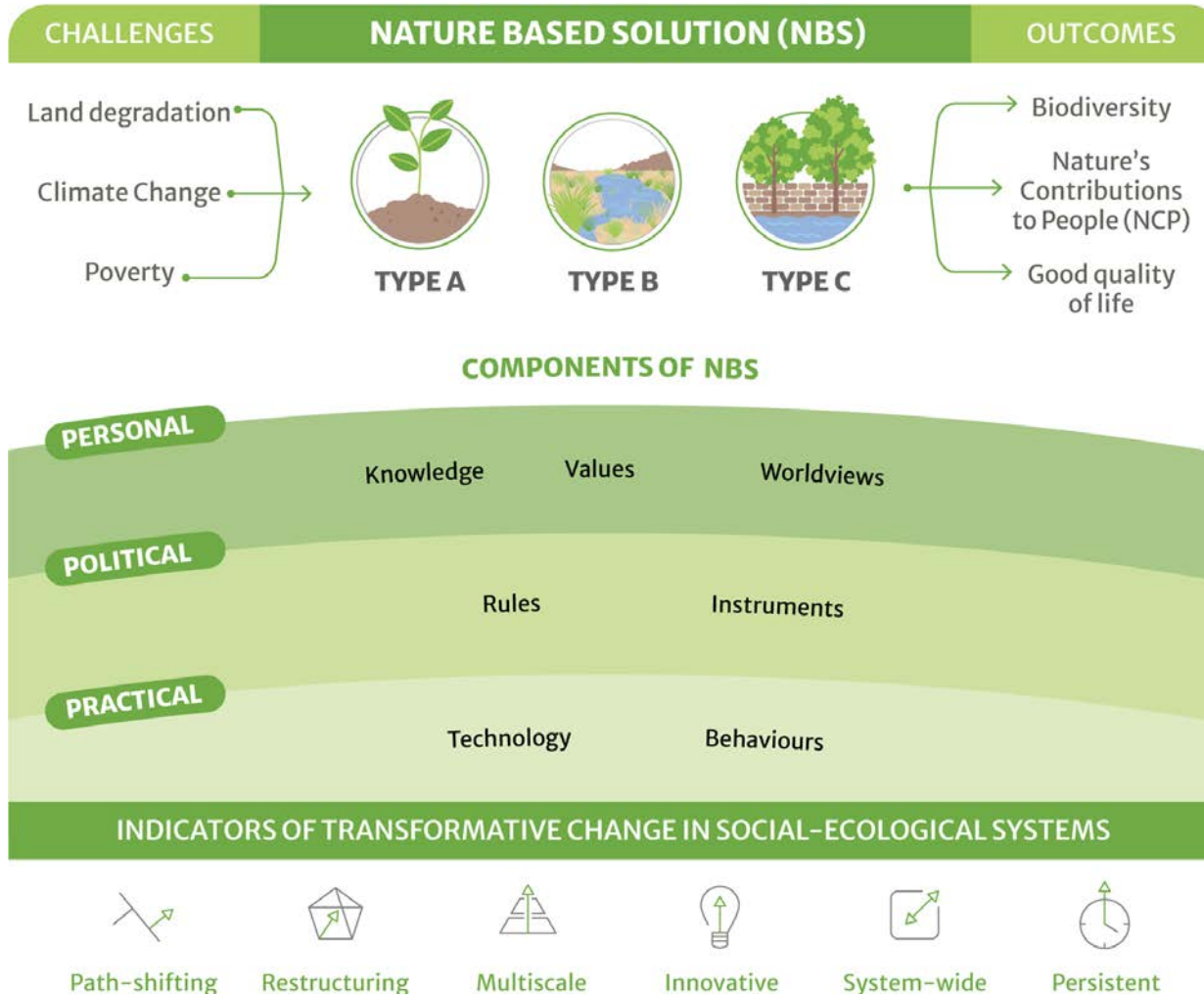


Foster

# Projet PORTAL



## A conceptual framework to analyse transformations with NbS



# Projet PORTAL

## Nature-based solutions are delivering transformative change in mountains globally



### VALUES

**Monistic: (47%)**

*Intrinsic (24%), Instrumental (23%)*

**Pluralistic (53%)**

*Intrinsic & instrumental (44%)*

### ENGAGEMENT

**Stakeholder engagement (99%)**

*Participation (90%)*

*Capacity building (77%)*

*Awareness raising (41%)*

### CONSERVATION

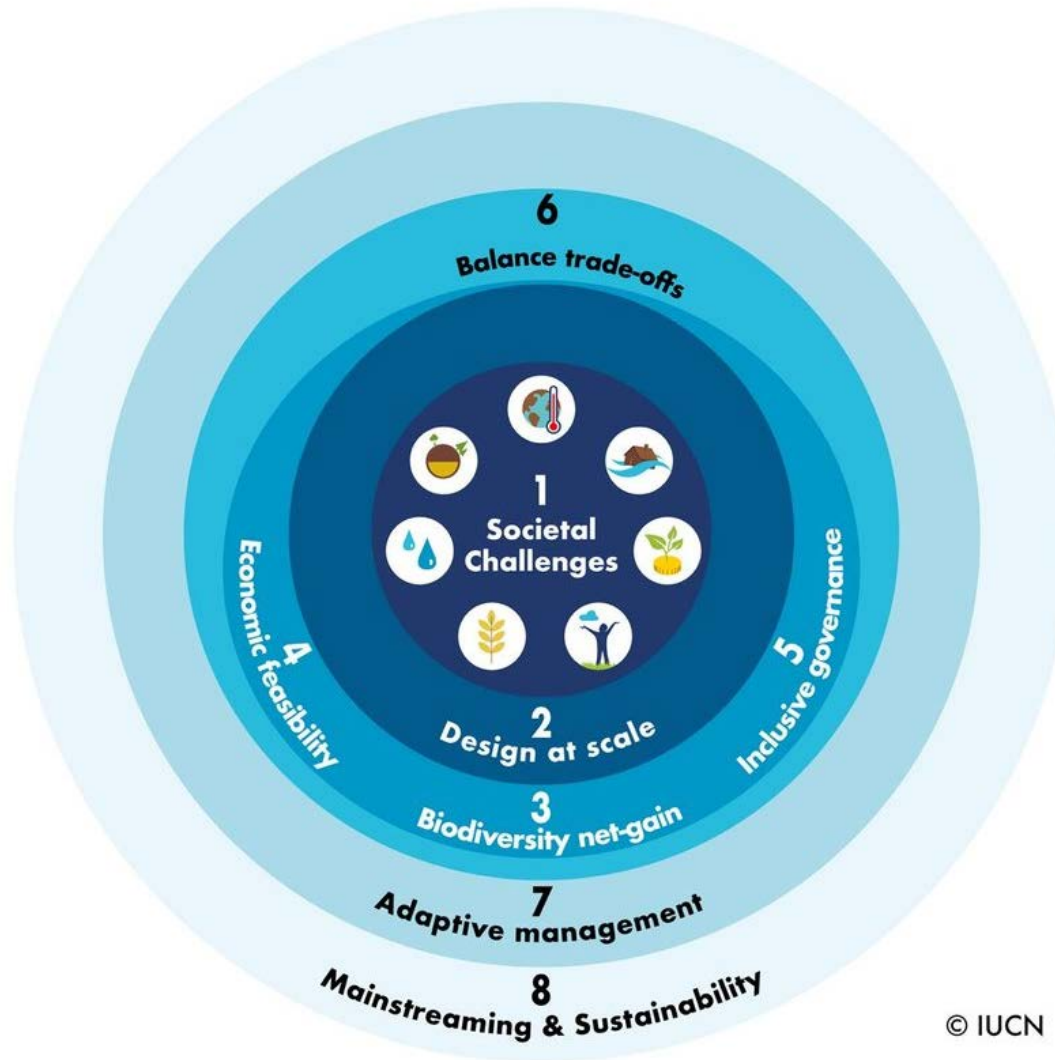
**Management practices (87%)**

*Restoration (50%)*

*Ecosystems monitoring (43%)*

*Reduced pressure (35%)*

# IUCN Global Standard for Nature-based Solutions



© IUCN

# Messages à retenir

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- Nature-based solutions are social-based solutions.
- From a socio-economic perspective, NbS in the Alps are 3 times cheaper than the value of the ecosystem services they provide.
- Nature-based solutions in the Alps are not located in the places of highest climate change risk.
- Different barriers and levers need to be considered for the scaling of nature-based solutions and to adapt them to different contexts.