Dialogue Science/Society about Natural Risks in the Alpine Region

By Benjamin Einhorn, PARN
Alpine Natural Hazards and Risks
Specificity of mountainous territories:

• **Natural hazards**
  • multiple, high-energy, high-speed
  • cumulative (domino effects)
  • ongoing and future CC impacts

• **Vulnerabilities**
  • highly exposed (critical) infrastructures / networks / mobility
  • high vulnerability of exposed buildings/humans

• **Catastrophic events**
  • a long history of alpine natural disasters (high costs, fatalities)
NHM Governance

• Multiple stakeholders

- The State
- Mayor
- Elected Politicians
- Juge
- Spatial planning
- Engineers
- Foresters
- Complexities
- No zero risk
- Private sector
- Experts
- Architects
- Citizens
- Road managers

International university partnership seminar
Vulnerable communities & resilience approaches: toward more inclusive risk governance
Friday 23 June 2023 – Grenoble (FR)
Natural Risk Prevention in France

Multi-level Governance: Who does What?

LEVEL

STATE
- Legislation
- Prevention Plan prescription (Préfet)
- Civil Protection
- Sectoral plans, coordination with regions

REGIONS
- Regional development plans (SRADDET), coordinitive stakes
- Voluntarist Politics (e.g. AuRA and PACA Regions)

DEPARTEMENT
- Road Management by Departmental Councils
- Support to municipalities by deconcentrated State Services and Agencies (DDT, ONF-RTM, etc.)

MUNICIPALITIES
- Inter-communal strategic planning
- Land-use planning (Local Urban Plan)

Source: Arthur Schimdelegger, modified

Main actors in the French Alps:
- The State from the National to Departamental level
- The Mayor at Local level
- The Préfet at Departmental level, in connection with Central State services & deconcentrated State agencies (Departemental Territorial Direction - DDT)
- The Departmental Council for road management
- The technical services such as Restauration des Terrains en Montagne (RTM) and expertise centers (Cerema, Iristea, Météo-France, etc.)
- Private sector
- Citizens

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La Gestion Intégrée des Risques Naturels (GIRN)
Integrated Natural Risk Management (INRM)

From hazard control to risk governance
Action programs covering all phases of Risk Management

Protection contre les aléas
Gestion des aléas
Gestion des risques
Gouvernance du risque

Source photos: france3-regions.francetvinfo.fr & freneydoisans.com

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Natural Hazards Events in the French Alps

• Socio-Economic and political impacts

Ex. of Chambon Landslide-induced valley isolation crisis

→ Needs for multirisk/socio-economic approaches at different scales (data/methods/tools)

Source photos: france3-regions.francetvinfo.fr & freneydoisans.com
The PARN
Alpine Center for Natural Hazards and Risks Prevention

The PARN association
• created in 1988 to make an effort in the field of research to develop more effective and less expensive methods
• gathers 9 member organizations (research centers and universities) which have an activity of study and research on natural hazards

Objectives
• Bring together organizations with an activity of study and research in the field of natural hazards in order to develop coordinated research programs and so remedy the fragmentation of efforts in this area
• Support development of efficient scientific and technical tools and make them available to public authorities and operational services to improve the prediction and prevention of natural hazards

Interface between scientists, practitioners and decision makers
Action frame

Local
- Territoires de projet
- Grenoble-Alpes Métro

Régional
- Région AuRA
- Région SUD PACA

Interrégional
- CIMA/POIA (GIRN & SDA)
- Alpes-Climat-Risques

National
- CGET/Commissariat de massif des Alpes
- MTES/DGPR

Européen
- Projets Interreg
- SUERA (EUSALP)
- Convention Alpine

International
- GIEC
- FAO
- Interpraevent
Main activities

1. **Integrated Natural Risks Management in the Alps (INRM)**: technical coordination (project management) of the territorial dynamics
   Technical and methodological support to the Alpine territories in the development and implementation by local authorities of multi-year GIRN action programs at local / inter-municipal level

2. **Animation of a "Science-Decision-Action" interface** dynamics for the prevention of natural risks in the Alps
   Accompaniment of scientific carriers for the incubation of partnership research-action projects (FEDER Massif des Alpes, Interreg, etc.) and the valorization of the results in relation with the end-user managers

3. **Alpes-Climat-Risques**: Climate Change and Natural Risks in the Alps
   Scientific watch, synthesis and dissemination of knowledge (Portal & Newsletter "Alpes-Climat-Risques")
   **Support to partners** (operational, scientific or associative) in the area of adaptation

4. **Support to EUSALP Action Group 8** on Natural Hazards Management and Climate Change Adaptation
   Representation of the French stakeholders of the natural risks, participation and support to the AG8 Work Programme (on behalf of the ANCT)
Main activities

• (1) Integrated Natural Risks Management in the Alps

Integrated Natural Risk Management (INRM):
A toolbox for Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA)

Alpine Network of INRM Territories:
https://risknat.org/girn-inrm-alps/?lang=en
Le réseau alpin des territoires de GIRN

Catégories d’actions mises en œuvre :

• Connaissance des risques et diagnostic territorial
• Organisation de la gestion intégrée des risques
• Systèmes de suivi et de surveillance
• Gestion des dispositifs de protection
• Systèmes d’alerte et dispositifs de gestion de crise
• Information, communication, formation, pour sensibiliser et préparer la gestion de crise
• Développement et diffusion de pratiques et d’outils sur l’ensemble du massif alpin via le réseau des TAGIRN

Boîte à outil et Catalogue d’expériences

• Portail GIRN risknat.org/girn
• Vidéo sur la GIRN
• Brochure sur les TAGIRN
Main activities

• (2) Science-Decision-Action INRM Alpine Network

• **Research-action projects** co-built with stakeholders to support INRM strategies at local level in Alpine territories → New knowledge, methods and tools

• **Multi-stakeholders workshops** on specific subjects, bringing together elected officials, scientists and technicians → Local risk dialogue
Le réseau Science-Décision-Action pour la prévention des risques naturels

**Projets de recherche-action partenariaux SDA**, sur une grande diversité de risques naturels (crues torrentielles, mouvements de terrain, essaims de séismes, feux de forêt), les facteurs limitants ou aggravants (forêts de protection, dégradation du permafrost) et des démarches innovantes de prévention (résilience territoriale, information préventive, communication sur les réseaux sociaux)

**Séminaires transversaux SDA** réunissant élus, scientifiques et techniciens sur des sujets spécifiques (risque rocheux, risque hydrométéorologique, enclavement des vallées alpines, événements de jan. 2018 Alpes du N., essaims de séisme, forêts de protection & risque rocheux, risque torrentiel, risques et changement climatique sur la métropole de Grenoble)
Main activities
• (3) Platform Alps-Climate-Risks

• Impacts of climate change on natural risks and adaptation strategies for Alpine regions
• Expertise platform and resource center to support Alpine regions in adapting to climate change

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How Scientists support Local NH Managers?

Permafrost Map of the French Alps – PermaRisk project

Resilience Index – CO-RESTART project

Protective Forest Mapping in Baronries Provençales Regional Natural Park – VERTICAL project (RockTheAlps Methodology)
Experts Network on DRR & CCA

Supporting an alpine network of climate experts for exploring impacts on natural hazards

Réseau d'experts alpin sur le climat

Partenariats

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Transnational cooperation on risk management and risk governance

EUSALP + Interreg Alpine Space Programme:

- **Groupe d’Action 8** « Améliorer la gestion des risques et mieux gérer le changement climatique, notamment par la prévention des risques naturels de grande ampleur »
  - Rapports sur la gestion des risques (risque résiduel, gouvernance, adaptation au CC, feux de forêt)
  - Outils (plateforme CAPA, diagnostic local, maquette 3D)
  - Conférences internationales (impacts du CC, forêts de protection, Climat-Risques-Energie)

- **Présidence française 2020-21** « Préserver la biodiversité et prévenir les risques naturels »
  - Promotion de la GIRN et des SFN (forêts multifonctionnelles)
  - Projet AlpGov2 : « Mainstreaming » GIRN basée sur les écosystèmes (capitalisation GreenRisk4ALPS)

- **Présidence italienne 2022 puis suisse 2023**
  - Faire progresser la coopération en matière de gestion des risques naturels et d’aménagement du territoire

Alpine Convention / PLANALP
Tools and serious games developed with the university

• (1) GesCoCrise

Déroulement du jeu de rôle

Chaque groupe joue le rôle d’un acteur

• Population
• « Collectif Chambon »
• Maires
• Autorités nationales et départementales
• Experts techniques

Procédure

1. Présentation d’informations
2. Chaque groupe détermine des actions à réaliser
3. Chaque groupe présente aux autres
4. Présentation de ce qu’il s’est réellement passé

Scénario basé sur 3 points pivots
Tools and serious games developed with the university

• (1) GesCoCrise
Tools and serious games developed with the university

• (2) Fresco on natural hazards

Phenomenon Cards

Stakes/Vulnerability Cards

1) Statu quo
1) Statu quo

2) Climate Change

Change Cards

- Local Dialogue on Climate Adaptation and Disaster Risk Reduction strategies
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Thank you for your attention!

Alpine Center for Natural Hazards and Risks Prevention

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