

Flash floods warning process

An alternative approach

HyMeX

HYdrological cycle in Mediterranean EXperiment

Flash floods : threat for people, challenge for warning¹ !

Three tools to cope with flash floods :

Zoning

But only useful for new buildings

Too many water basins concerned

Defense

Warning

Main way to reduce losses

→ Must be efficient !

But

In spite of many progresses in the past 30 years²,

Warning is constantly criticized, still :

'La discussion revient sur cette polémique à propos de l'alerte rouge qui n'a pas été déclenchée : « Jeudi matin, [...] il tombait une pluie intense, mais on n'a pas su, maintenant on a tout perdu ». [La situation] justifiait une alerte rouge - venue trop tard selon les habitants : « [...] si on avait été prévenus, on aurait fermé ». '

Extrait d'un article intitulé « Si on avait été prévenus... », Le Parisien, 10/09/2005

(1) D'après Llagat C., Lutoff C., Teramasso A., Ruin J., Créton-Cazanave L., « Regards croisés sur la vulnérabilité des systèmes d'alertes aux crues rapides 3 cas : espagnol, français et italien », rapport AMPHORE, 2006.

(2) Sorensen, J.H., 2000, Hazard Warning Systems : Review of 20 years of progress, Natural Hazards Review
- Vinet, F., 2007, Approches nationales de la prévention des risques et besoins locaux : le cas de la prévision et de l'alerte aux crues dans le Midi méditerranéen, Géocarrefour 82(1-2)

To improve further flash floods warning, we must study it under a new light
→ toward an observatory of flash flood warning practices

A new definition of warning as a **process**, that transforms perceived environmental phenomena into significant signals for people

New interest for usual blind spots:

- **Delay** within the process :
- knowledges and **resources** for interpretation
- the **real manner** stakeholders run warning activities

A new methodology to observe the warning process:

Integrated :

all people who take part in the process
= Meteo and hydro forecasters/organizations, departmental services, mayors team, inhabitants, and others...

Dynamic :

attention to warning process temporalities
= lead-time, time scales, time marks...

Symetric : (Latour, 1991)

study both official and informal warnings through a common frame

A new observation strategy :

LOP

- **What** : Collect warning documents systematically after each "vigilance orange"
- **How** : deal with operational services (Meteo France, SCHAPI, SIDPC, etc.) to collect systematically the documents, maps, audio-records (for radio)...
- **Time scale** : Long term (5 or 10 years)
- **Spatial scales** :
 - OHM-CV window first
 - South-east of France secondly

EOP

- **What** : post event warning process analysis (integrated, dynamic and symetric)
- **How** : interviews (ESD) and survey
- **Time scale** : After strong events (REX)
- **Spatial scales** :
 - South-East of France : for warning operational services
 - Different size of watershed for local authorities and inhabitants

SOP

- **What** : practices / process from normal activities to warning and crisis
- **How** : observations *in situ* /ESD
- **Time scale** : 3 or 4 month submersion in operational services and local communities during the flood period (autumn)
- **Spatial scales** :
 - Regional : for meteorologic and hydrologic forecasts
 - Some communities : for local / individual observation