

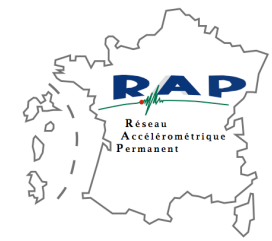
*French Accelerometric Network*  
Réseau Accélérométrique Français  
RAP

<http://www-rap.obs.ujf-grenoble.fr>

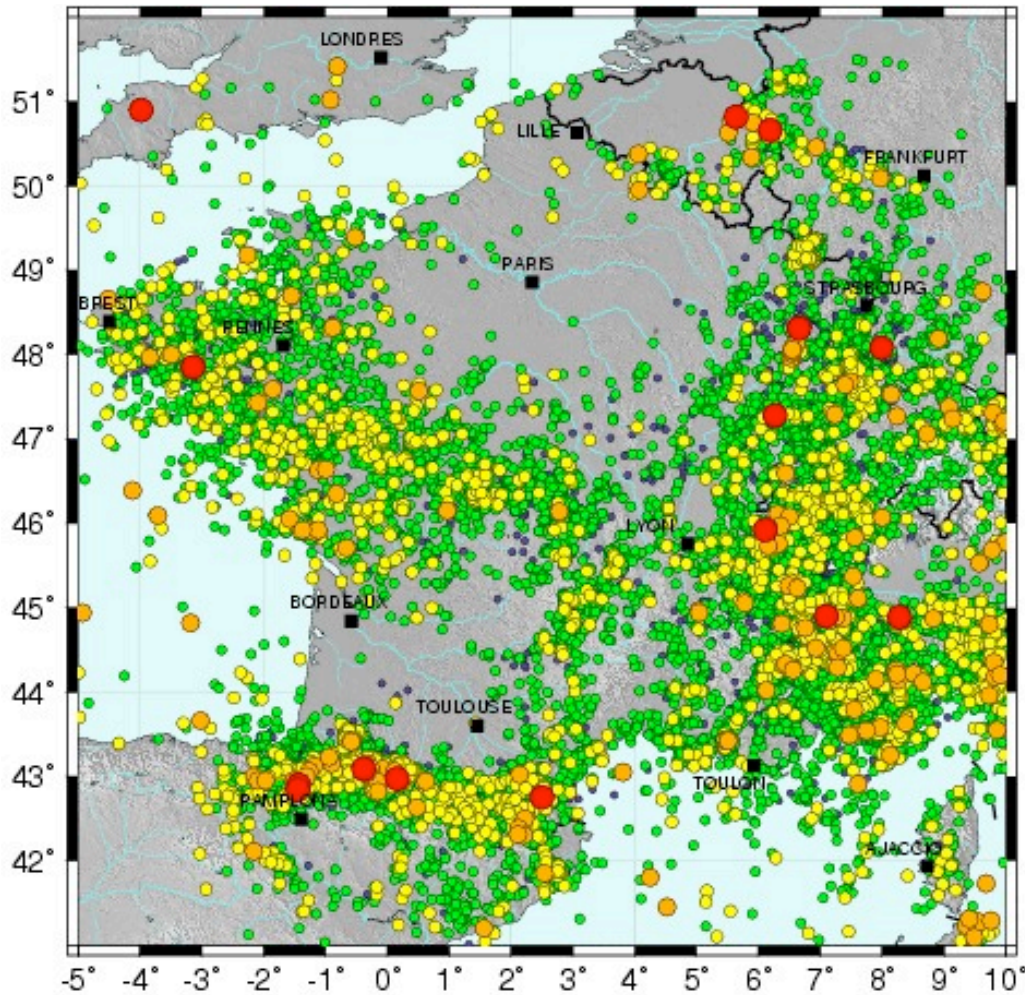
Philippe Gueguen (former director 2004-2012)  
[philippe.gueguen@ujf-grenoble.fr](mailto:philippe.gueguen@ujf-grenoble.fr)

Matthieu Causse (new director since 2012)  
[matthieu.causse@ujf-grenoble.fr](mailto:matthieu.causse@ujf-grenoble.fr)

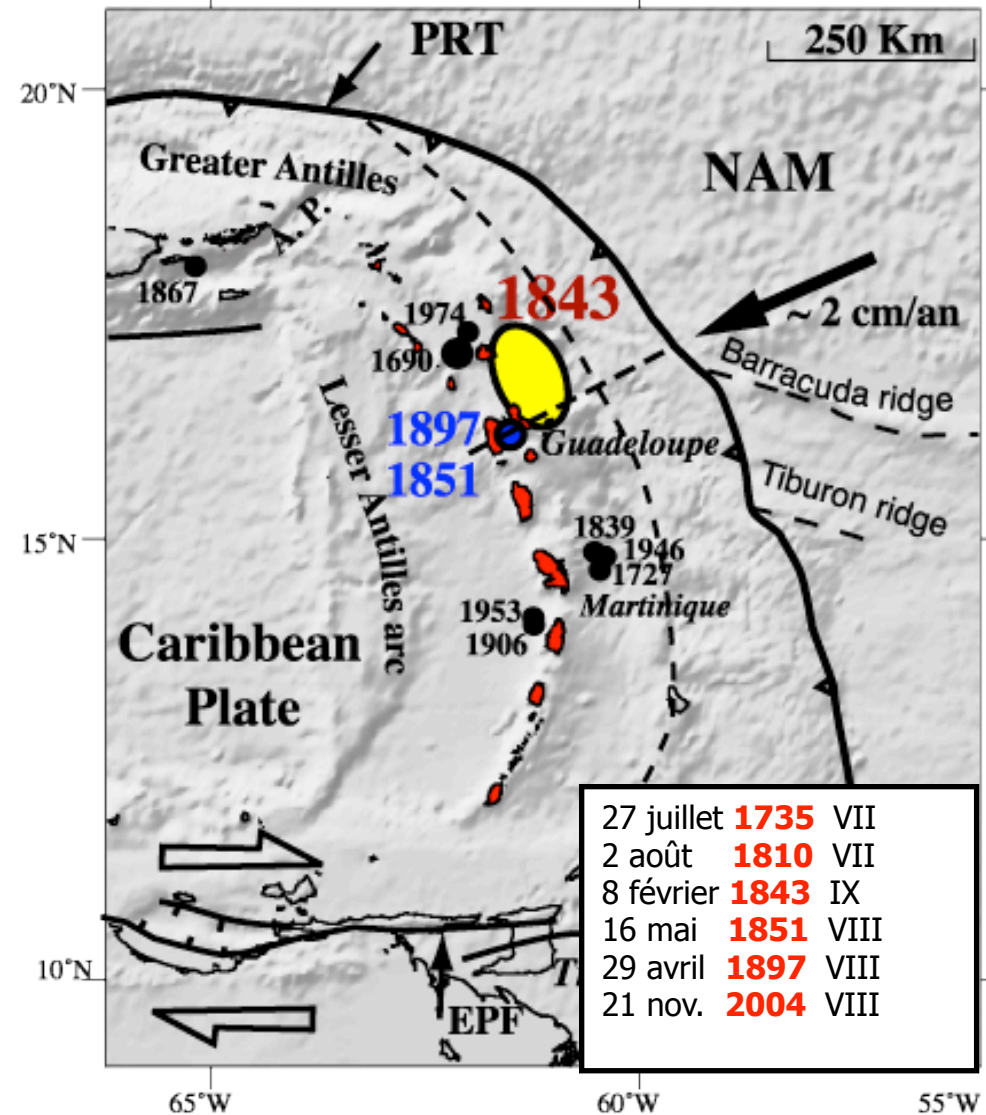
# WHY AN ACCELEROMETRIC NETWORK IN FRANCE ?



## Instrumental seismicity since 1980



## French West Indies



Weak-to-moderate seismic prone region (# 10 M >3 /year)

# Present day situation



14 regional networks hosted by university and public companies

Alpes	RAP-ISTERRE/OSUG
Pyrénées-Provence	RAP-BRGM
Indien	RAP-BRGM
Côtes d'Azur	RAP-AZUR/OCA/CETEMed
Fossé Rhéna	RAP-EOST/IPGS
Pyrénées	RAP-OMP
Antilles	RAP-IPGP/OVSG/OVMP
Massif Central	RAP-OPGC
Bretagne	RAP-UBO/OSUG
Ouest	RAP-LDG/CEA
<b>Atlantique</b>	<b>RAP-OSUNA</b>
Pacifique	RAP-IRD Nouméa
Durance	RAP-IRSN/Magnitude
Monaco	RAP-MON-OCA

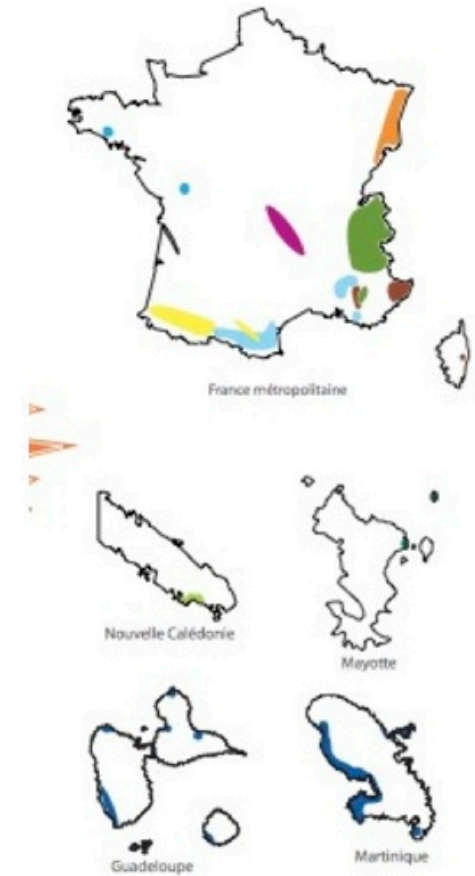
**End of 2011**

147 stations

83 in continuous recordings

79 real-time  
(seedlink protocol)

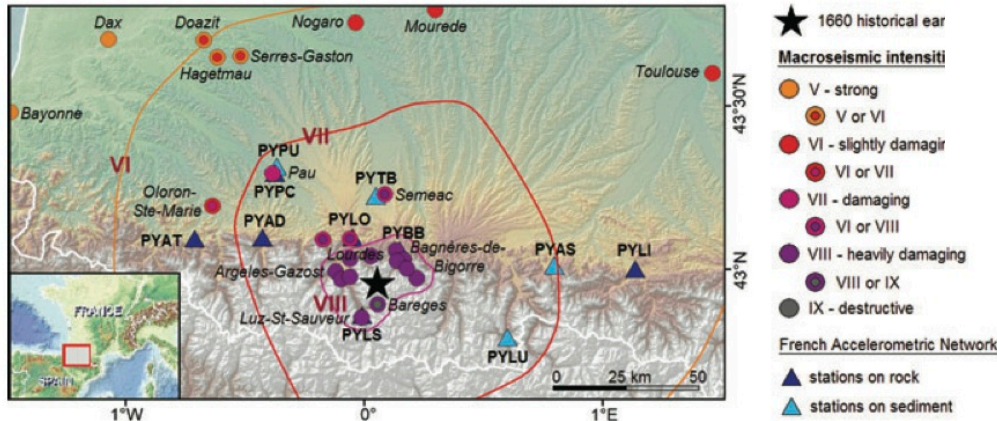
64 trigger





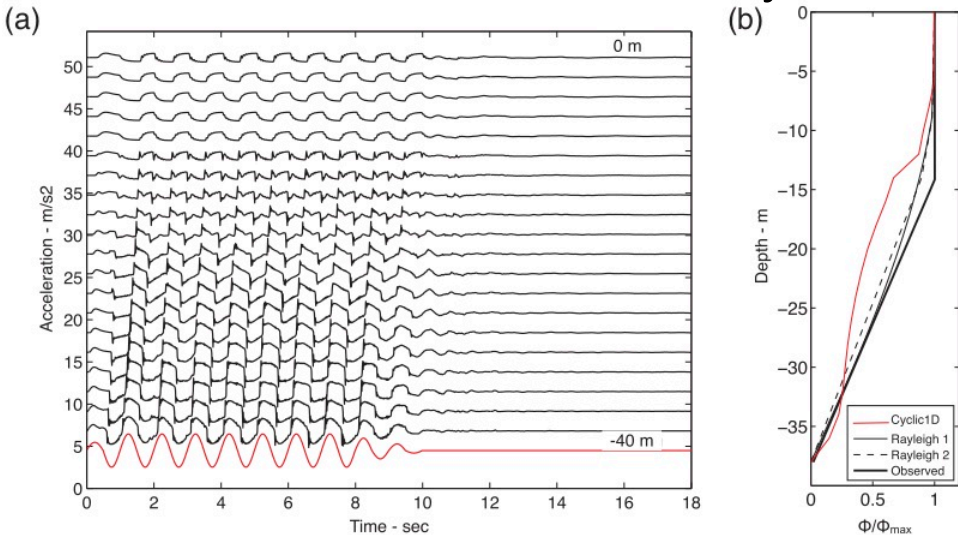
# 4 papers /year using RAP data

## Source and historic seismicity



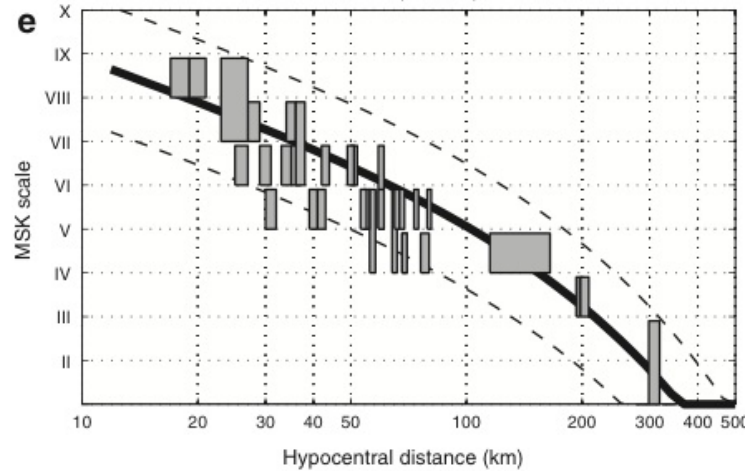
**Honoré, L., Courboux C., Souriau A. 2011.** Geophysical Journal International, 187(2) : 1001–1018. DOI : 10.1111/j.1365-246X.2011.05193.x

## Site effect and non-linearity



**Guéguen P., Langlais M., Foray P., Rousseau C., Maury J. 2011.** Bull seism. Soc. Am., 101(3) : 1073-1080. doi : 10.1785/0120100129.

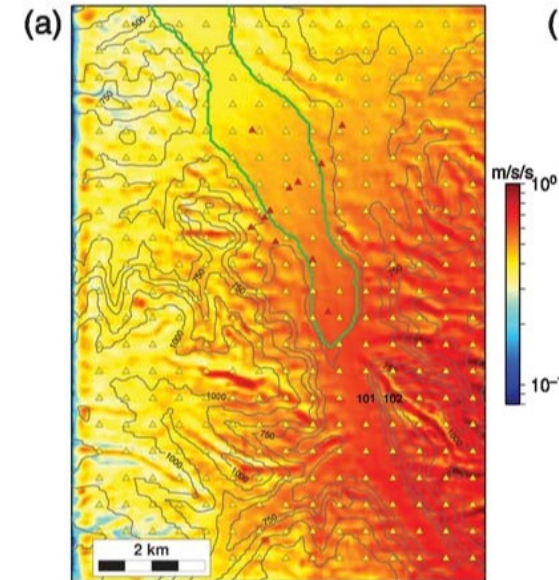
November 21, 2004,  $M = 6.3$



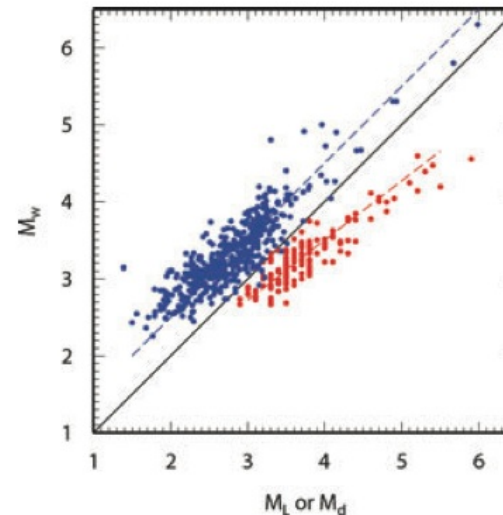
## GMPE

**Beauducel F., S. Bazin, M. Bengoubou-Valérius, M.-P. Bouin, A. Bosson, C. Anténor-Habazac, V. Clouard, J.-B. de Chabaliér, 2011** C.R. Geoscience, 343:11-12, 777-788, doi:10.1016/j.crte.2011.09.004.

## Site effect



## Source



**Drouet, S., Bouin M.-P., Cotton F. 2011.** Geophysical Journal International, 187 (3):1625–1644. DOI : 10.1111/j.1365-246X.2011.05219.x

**Souriau A., Chaljub E., Cornou C., Margerin L., Calvet M., Maury J., Wathelet M., Ponsolles C., Grimaud F., Péquegnat C., Langlais M., Guéguen P. 2011.** Bull seism. Soc. Am., 101(4) : 1912–1937, doi : 10.1785/0120100293

# Present day situation



**Free-field station** : in urban environment and rock site for site effects, GMPE, source information etc....

## **National building Array Program : NBAP**

- 4 buildings - 24 channels - real-time and continuous recordings
- 1 isolated building - 6 channels - trigger-mode

## **Boreholes**

- deep borehole : GL-0M - GL-42m - GL-535m in sedimentary basin
- shallow borehole - GL-0m - GL-15m - GL-35m + 4 pore pressure sensors in clayed-mud soil profile

## **Landslides**

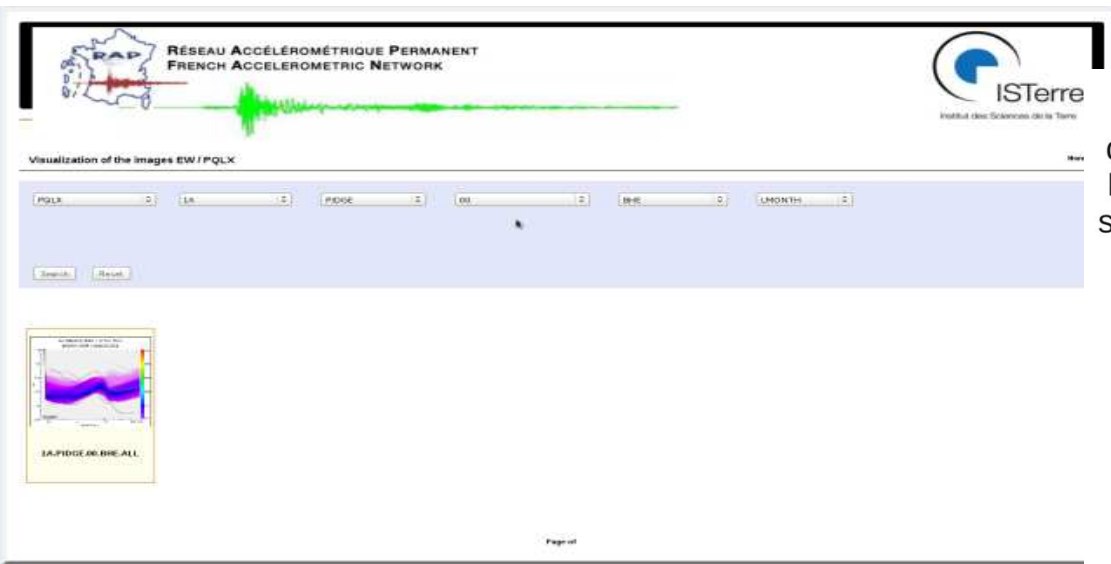
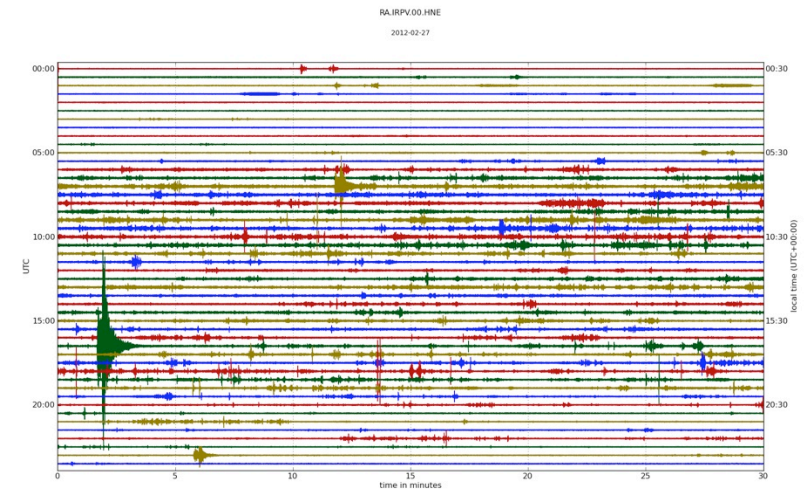
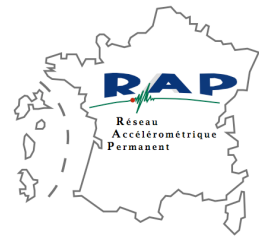
- 3 sensors in one of the most active landslides in rock soil in the Alps (Sechilienne)

## **BB+SM stations**

- 18 sites (planned: around 80)



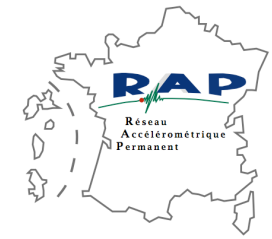
# National datacenter: included in the RESIF national project for building a HP, Green and unique datacenter for seismological data.



One of the  
datacentre hosting  
RESIF information  
system, (Grenoble,  
France)



# Status of the data



## Event-oriented national datacenter

Open access without any restriction

Web access with request on magnitude-distance-ground motion -site conditions

ASCII / SAC / MiniSeed Format

## Continuous recordings datacenter

FDSN network	Accelerometric channels	Specifics
RA	61 stations 260 HN channels 125Hz	Includes 2 boreholes (9 channels) : LIQF + OGFO  4 buildings (45 channels) : CGBP + PYTO + NCAD + OGHx
FR	18 stations 54 HN channels 125Hz	Coupled with broadband channels

### Getting realtime data streams

Connect to our seedlink server at  
`rtserve.resif.fr` (port 18000)

### Getting continuous and triggered validated data

Connect to our arlink server at  
`eida.resif.fr` (port 18001)

or use our netdc mail service at  
`netdc@resif.fr`

### Getting continuous and triggered validated data from the European Data Archive

Our data will be available in the EIDA from September 2012



<http://www.webdc.eu>

(or use `arlink_fetch` on any EIDA node)



Thank you

Matthieu Causse Director of the  
RAP (since 2012)

<http://www-rap.obs.ujf-grenoble.fr>