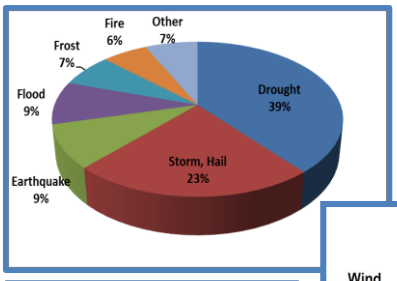
Severe Weather over the Alpine-Adriatic region in a Changing Climate (SWALDRIC)

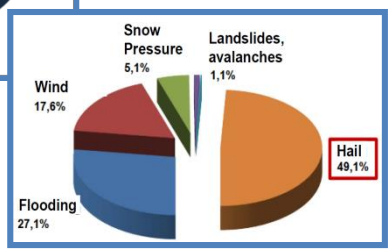
Who?

Founded in 1861 | DHMZ | ETH zürich | MeteoSwiss

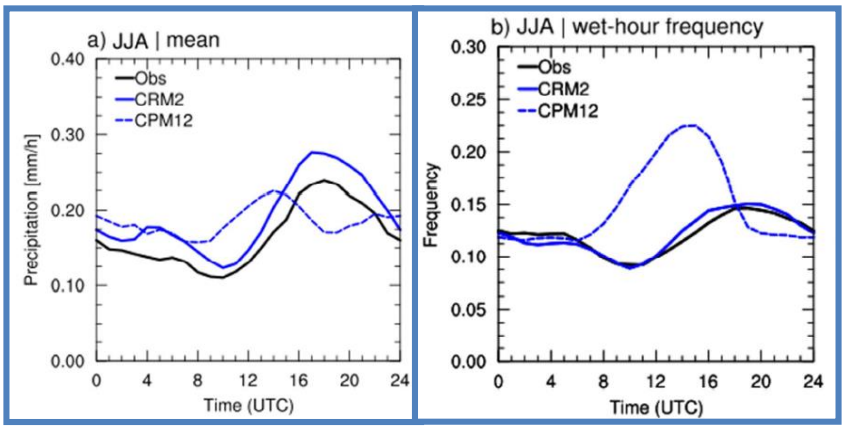
Why?



Economic losses (%) caused by natural hazards in Croatia,1981-2010.



Building damage caused by natural hazards (%) in Zürich, 2006-2015.



Diurnal cycle of (a) mean precipitation, (b) wet-hour frequency obtained with a convection-resolving simulation at the 2.2 km horizontal resolution (CRM2), a convection-parameterizing simulation at 12 km horizontal resolution (CPM12), and observations (Ban et al. 2015).

General aims are:

- to better understand severe weather events,
- to evaluate their representation in weather and climate models,
- to investigate their response to climate change.

Trough the use of **hail observations**, **lightning** and **satellite data** and convection-resolving models (**COSMO-CLM**, **RegCM**, **WRF**, **ALADIN** and **HAILCAST** module).

How?

- Climate analysis of **hail data**
- Examination of the **relationship between lightning jumps and hail**
- Determination of **weather types / wind regimes which favor** the formation of **hail**

- **Simulation of hail** events using the **WRF-HAILCAST model**
- Examination of **the ability of** convection-resolving **models in reproducing hail** cases
- Analysis of **severe weather events** in a **future climate**

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HRZZ Croatian Science Foundation | Swiss-Croatian Cooperation Programme | FNSNF