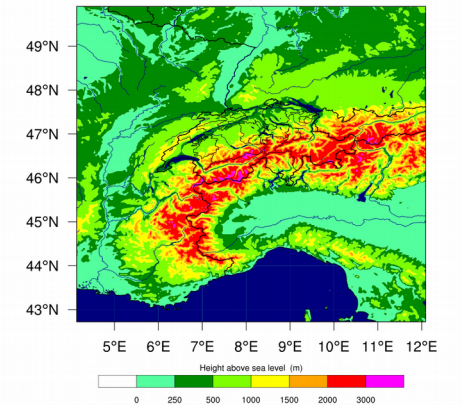
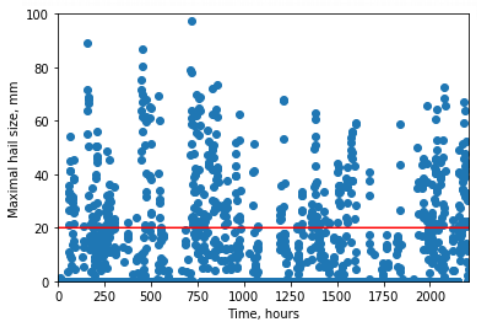
Proxy variables for hail size in high-resolution WRF simulations

- Climate model output: 145 2D variables.
- Calculation of hail size: expensive in CPU time (a separate post-processing block).
- Research question: which model output variables do correlate with the hail size and can be used as hail size proxies?

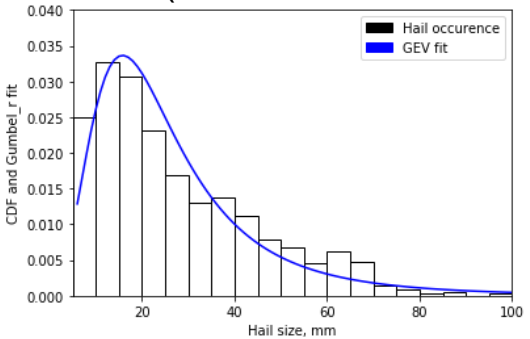
Data: JJA2012, domain maximum values of hourly WRF model output variables (145 columns, 2208 rows).
Original data format: NetCDF. Data preparation: CDO + bash scripts. Datasheet treatment: Jupyter Notebook.

Simulation domain, hail occurence

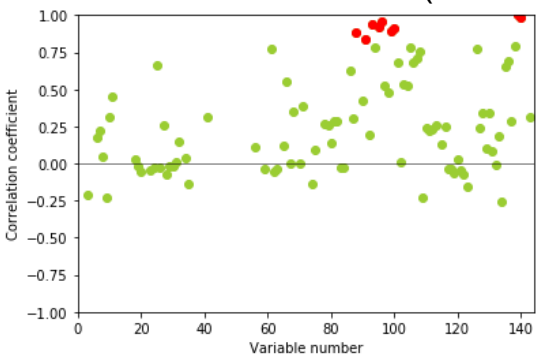




Hail size (> 20 mm: severe hail)



Correlation coefficients (red: > 0.8)



6 best variables (correlation > 0.8) :

W_UP_MAX, UP_HELI_MAX,

GRPL_MAX, TCOLI_MAX,

VIL, RADARVIL

Updraft helicity (UP_HELI_MAX)