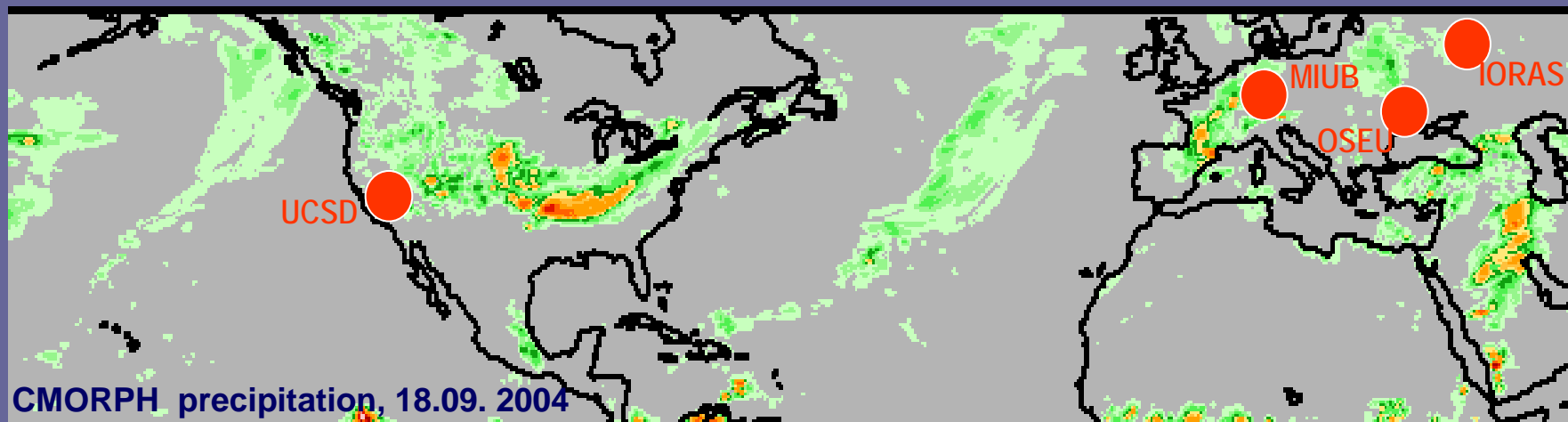


Extreme precipitation events: their origins, predictability and societal impacts



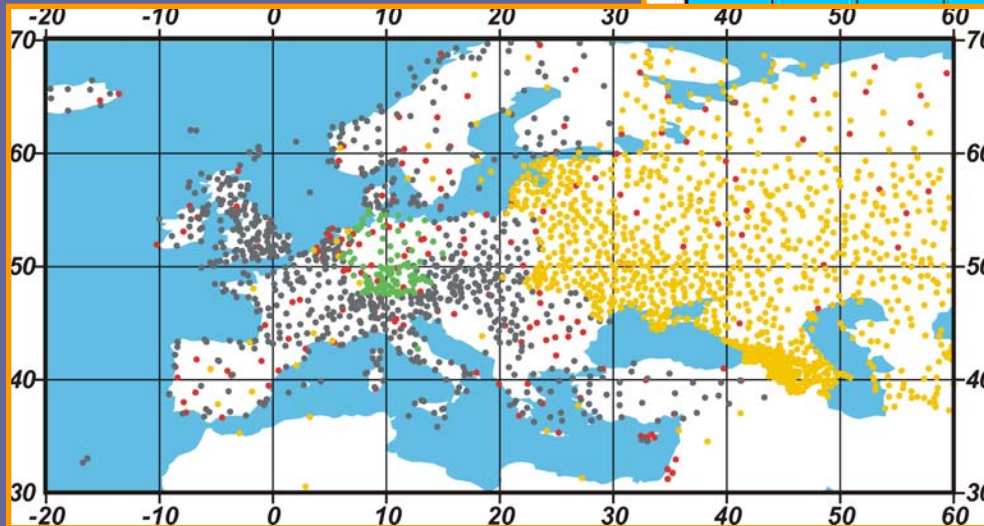
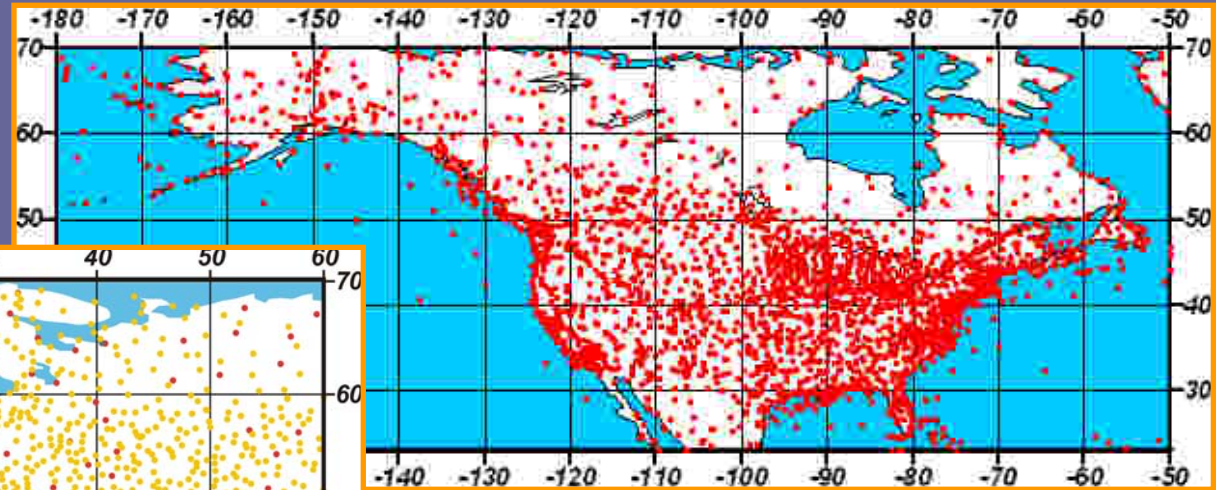
Meteorologisches Institut der Universität Bonn, Germany
P.P.Shirshov Institute of Oceanology, Moscow, Russia
Scripps Institution of Oceanography, University California, San Diego
Odessa State Ecological University



NATO Science for Peace Project 2005 - 2007

Status of the technology: data

North American station network: > 8000 stations
 NCDC collection

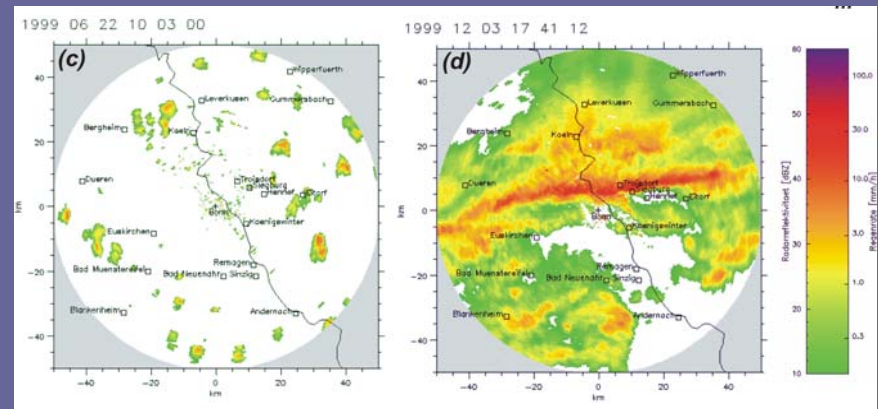


European station network:
 2233 stations

- KNMI
- DWD
- NCDC
- Rus & Ukr Metoffices



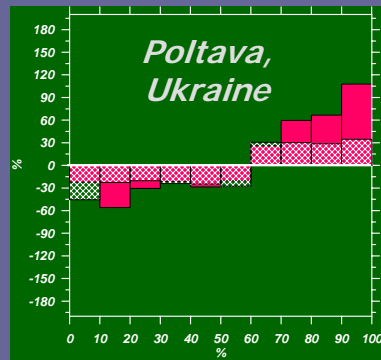
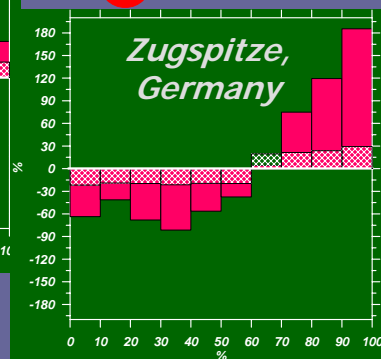
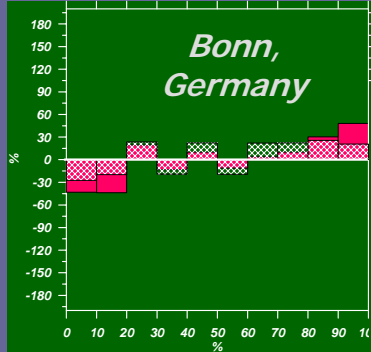
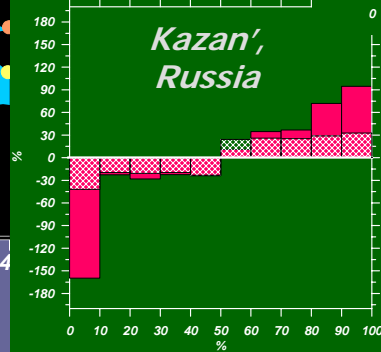
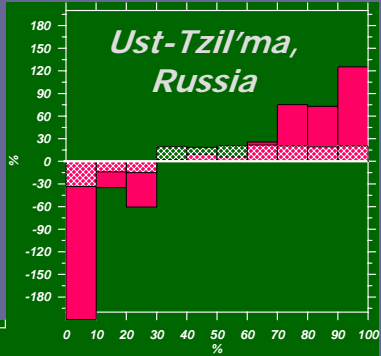
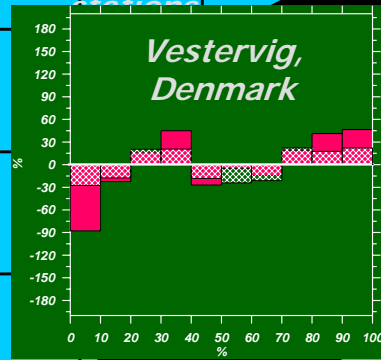
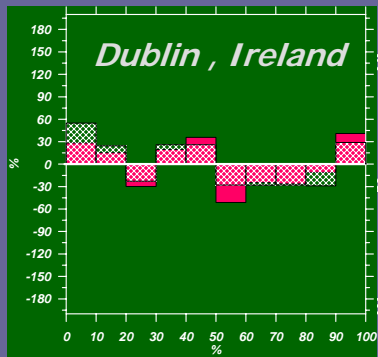
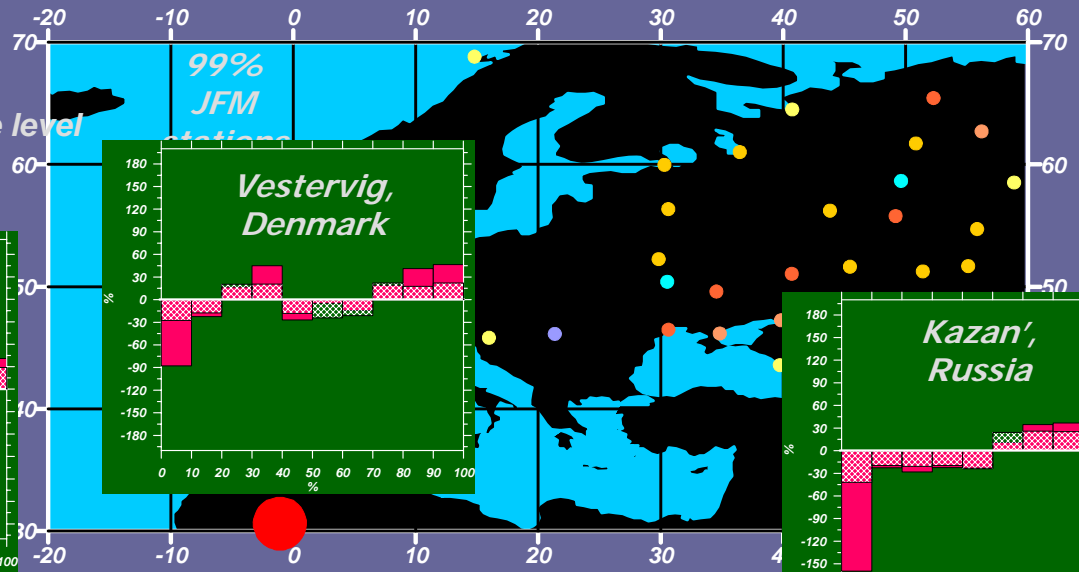
X-band Bonn microwave radar:
 part of European GMP validation site line



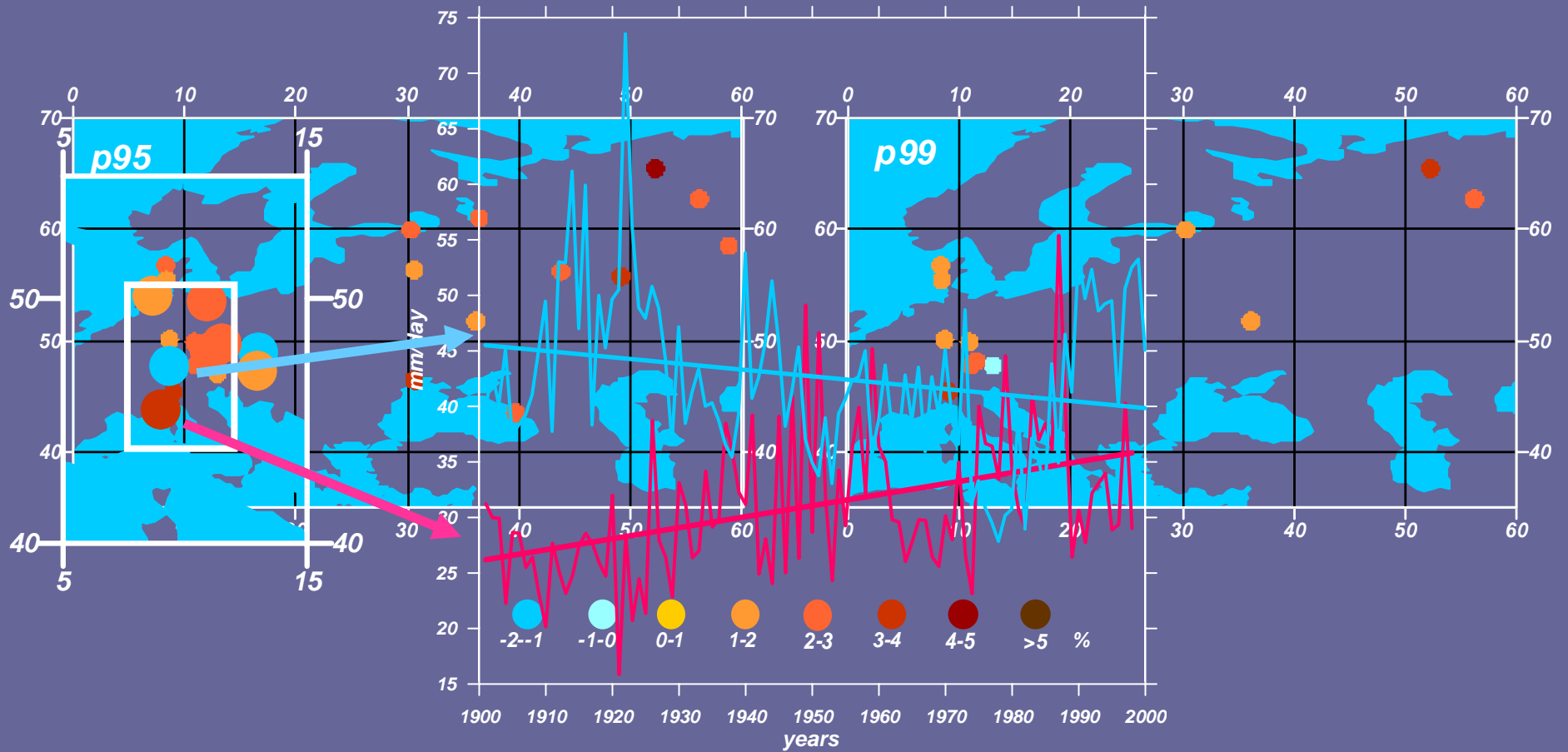
100-yr (1901-2000) long secular changes



95% significance level

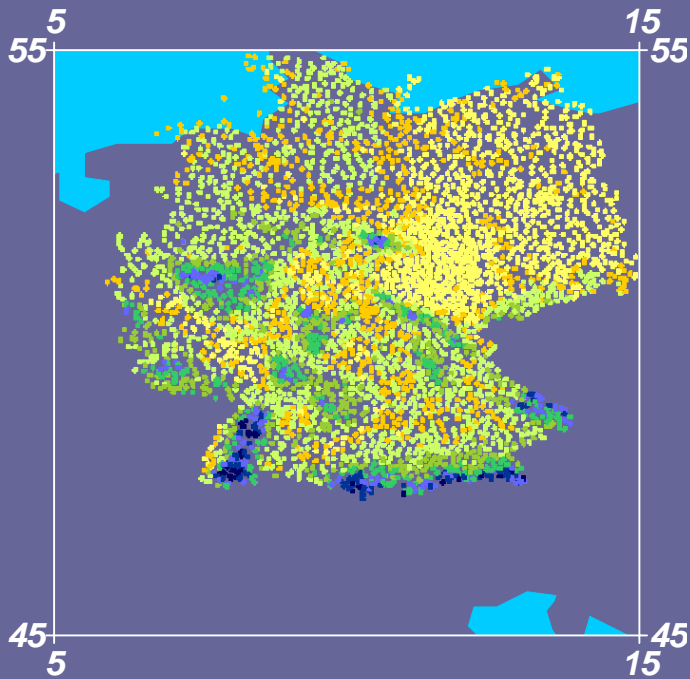


Where secular centennial-scale trends are significant and robust to the sampling and to the choice of index ?

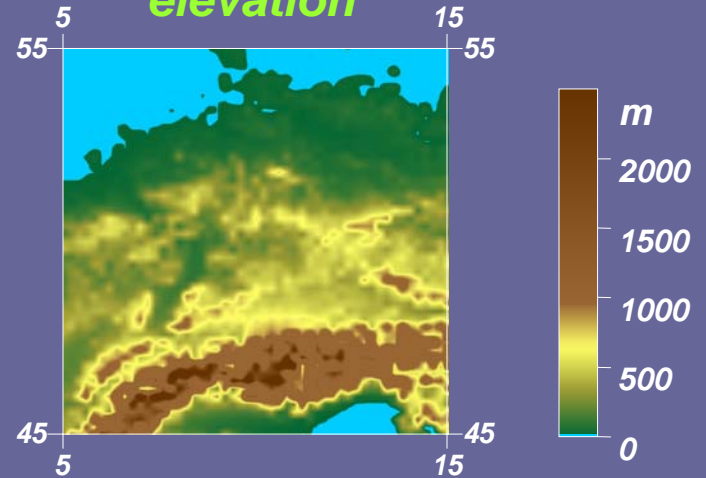


*DWD collection:
5500 stations over Germany*

*99% percentile
of precipitation*



elevation



*Volatility of daily precipitation
as function of slope and aspect*

