



**First South East European
Regional CIGRÉ Conference**

SEERC

Portoroz, Slovenia, 7—8 June 2016

**Estimating risks for Italian Energy Sector from Projected
Climate Change**



**Second South East European
Regional CIGRE Conference**

SEERC

Kyiv, Ukraine, 12-13 June 2018

**Research and operational activities to cope with wet-snow
impacts on overhead power lines in current and future
climate over Italy**

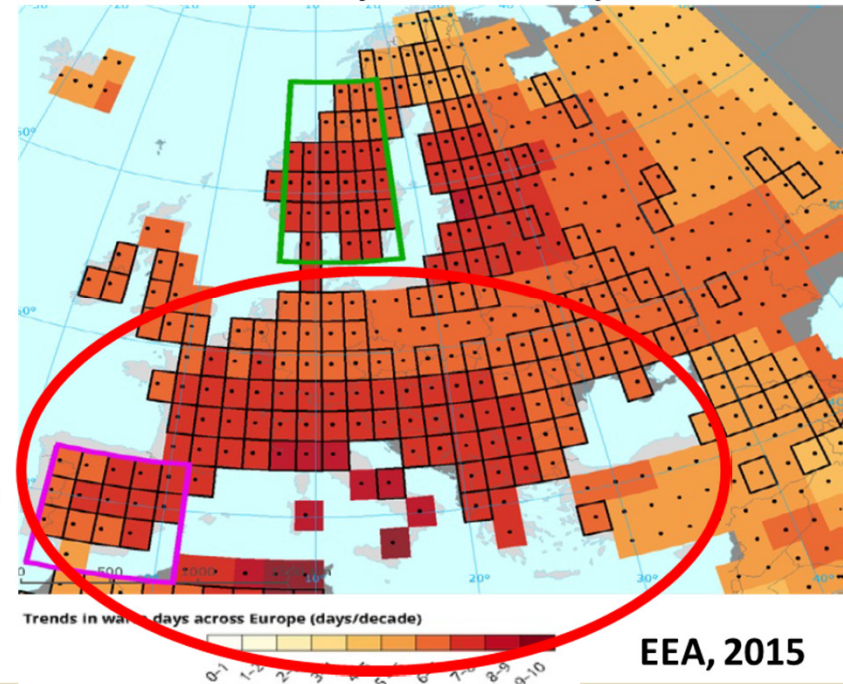
Weather-related damages over power lines

In recent years, severe thunderstorms in **Europe** have frequently resulted in insured losses of more than a billion euros, mainly from wet-snow, hail and strong gusts, but also in connection with flash flood events.



Liguria: damages over than 100 k€.

Trends in warm days across Europe

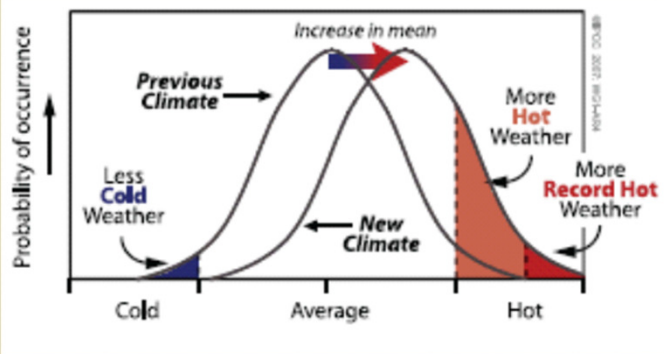


ENSEMBLES, Med-CORDEX: Changes in Severe Weather Events

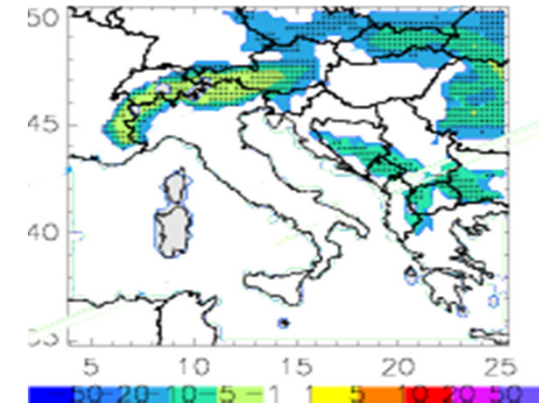
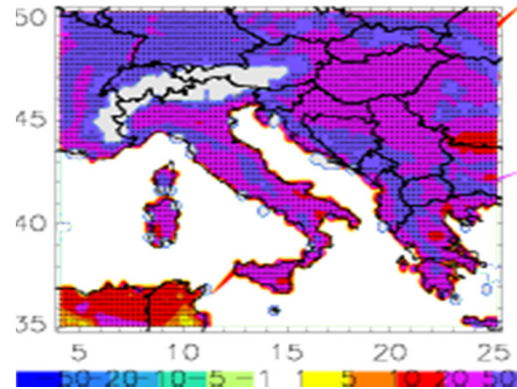
REF: 1971-2000
FUT: 2021-2050

Hot days in JJA
Tmax > 30°C

Frost days in DJF
Tmin < 0°C



Box TS.5, Figure 1. Schematic showing the effect on extreme temperatures when the mean temperature increases, for a normal temperature distribution.



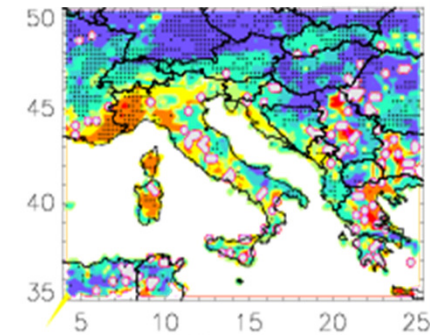
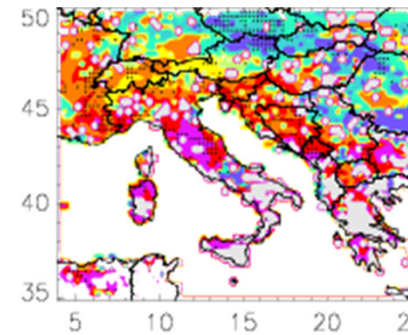
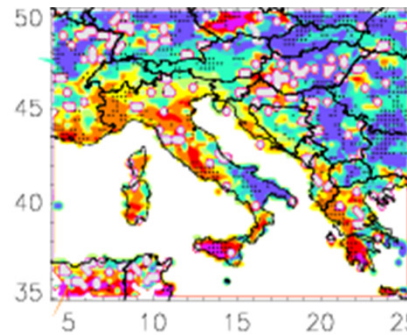
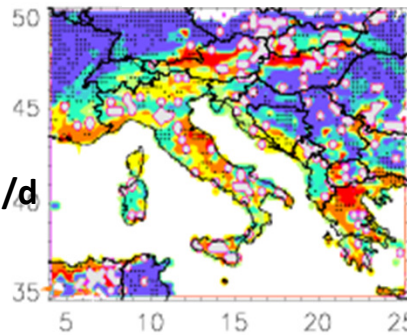
Winter

Spring

Summer

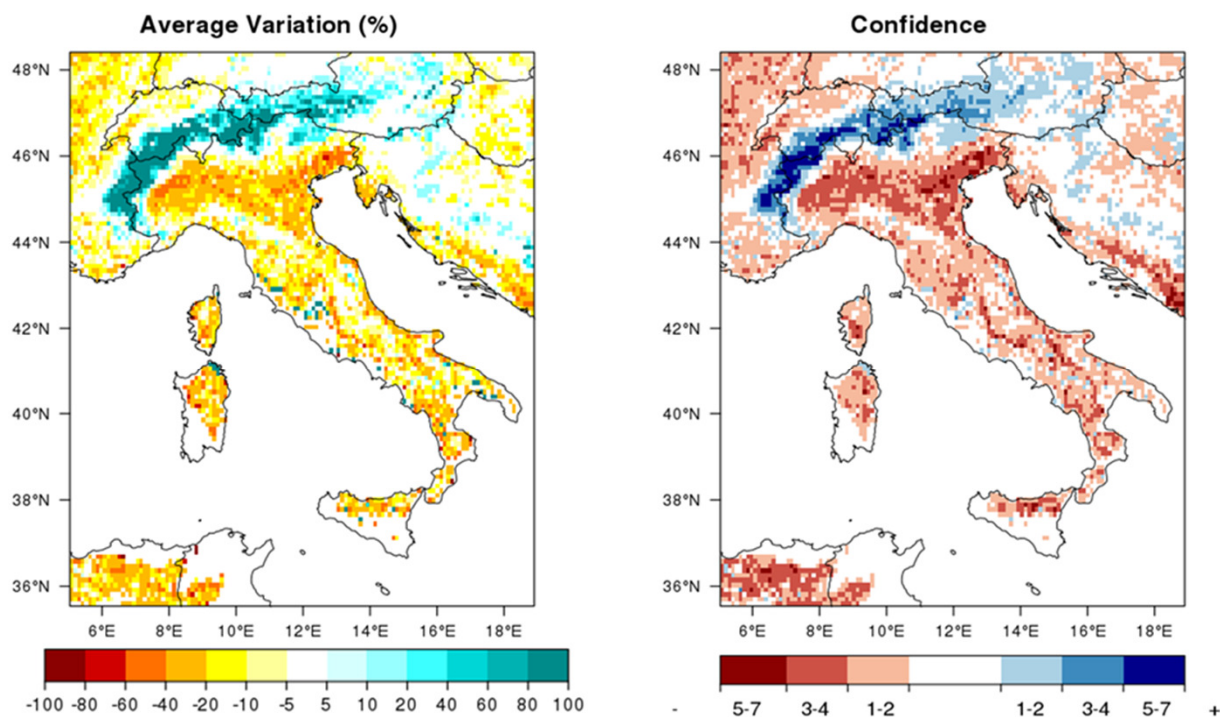
Autumn

P > 20mm/d



ENSEMBLES and Med-CORDEX confirm an increase risk for droughts, floods and wind storms in the next decades.

Euro-CORDEX Future scenarios: wet-snow load changes (%) between 2021-2050 and 1971-2000



Results:

- Alps (high altitudes): a very likely increase of wet-snow load of about 70-100 %
- Po Valley: a decrease of about 20-40 % is expected with a medium confidence
- Central and Southern Italy: a decrease of about 10-20 % with low confidence
- Central and Northern Apennines: signal almost absent