Windstorms in a changing climate:
Hazards and impacts in the EU & UK

Findings

- Annually, 16 million Europeans are exposed to windstorms, resulting in nearly 80 deaths each year
- Present estimated windstorm damage is 4.6 € billion/year in the EU & UK
- Windstorms are likely to increase over the Atlantic Ocean
- Uncertain windstorm projections over land
- Absolute damages will rise due to increasing asset value as the economy grows

Limitations

- The windstorm damage data are sparse, incomplete, and not homogeneous
- Spatio-temporal resolution of climate models is too unrefined to capture local extreme windstorms

Annual damages due to windstorms in the EU and UK could grow from 4.68€ in 2015 to 11.38€ (1.5°C) and 11.48€ (2°C and 3°C) in 2100 without adaptation

Recommendations

- Track windstorms in real time and more accurately
- Improve collection of data on vulnerability of sectors to windstorms at local, regional, and national levels
- Improve infrastructure: wind-proofing, angling roofs, and facade orientation
- Better city and forest planning

Sectors potentially impacted by windstorms
- Sea and coasts
- Buildings and infrastructures
- Forests
- Energy transmission
- Tourism
- Wind farms
- Boat transport

For more information, including assumptions of the modelling framework used, see: JRC PESETA IV project https://ec.europa.eu/jrc/en/peseta-iv