Increasing water scarcity in a changing climate
Impact of non-mitigated climate (+3 °C) vs mitigated climate (+1.5 °C) on northern and southern Europe

A 3 °C warming leads to more intense and widespread water scarcity

+3 °C

Mitigation to 1.5 °C warming limits the impact for the population and the economy

+1.5 °C

Population exposed to water scarcity

- Northern and central Europe (N)
  - 4 million people are exposed to water scarcity in the present climate and there is no change at 3 °C and 1.5 °C global warming, as although water availability increases across the region on average, it decreases in some sub-regions.
  - 3 °C global warming will expose an additional 13 million people, compared to an additional 7 million when mitigating to 1.5 °C. Furthermore, water scarcity becomes more intense for all people exposed.

- Mediterranean (S)
  - 48 million people are exposed to water scarcity in the present climate. 3 °C global warming will expose an additional 13 million people, compared to an additional 7 million when mitigating to 1.5 °C. Furthermore, water scarcity becomes more intense for all people exposed.

Exposure

- Billions € affected
  - from 4m in present
  - No change
  - No change
  - +134
  - from 114 in present
  - No change
  - No change
  - +260
  - from 882 in present

Effects

- Water availability
  - +10% -0.2%
  - +16% -7%

- Economic activity exposed to water scarcity*
  - Billions € affected
  - Northern and central Europe (N)
    - +10%
    - -0.2%
  - Mediterranean (S)
    - -7%

Sectors most affected

- Agriculture
- Environment
- Industry
- Public water
- Energy

Adaptation

- To reduce the impacts, there is a need for:
  - increased water efficiency in irrigation
  - water savings in public sector
  - improved water cooling techniques
  - shift to drought resistant crops
  - consideration of re-usage of treated waste water
  - awareness raising

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