The climate change adaptation strategy for the Rhine river basin

Approach and follow-up activities

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Discharge regime

Middle and Lower Rhine
floods mainly in winter/spring

Alpine Rhine, High and Upper Rhine
floods mainly end of the spring/summer
Climate Change Adaptation Strategy

ICPR report No. 219

Identification of:

• Direct effects of CC on flow regime and water temperature (multi-model analysis, scenario building)

• Indirect effect thereof on
  – ecology
  – water quality

• Impact on different uses

→ challenges
Possible effects of CC on discharges – near and far future

Increase of average monthly discharge [m³/s]

Far future
2071-2100
Near future
2031-2050
Reference period
1961-1990

Cologne gauge
Possible effects of CC on water temperature – near and far future

➢ wetter winter, drier summer (risk of low water)!
➢ higher water temperature (specially during low water): impacts on water quality and ecology
Action is needed

- Existing activities pave the way to enhance the resilience of the river & floodplain ecosystems
- Strengthen monitoring activities (discharges, water temperature, water quality) to learn more about changes
- Especially for low discharge periods in the River Rhine (2017: expert group on Low Water)
- Continuous exchange of best practice, new results and implementation of mitigation measures
Action is needed
Next steps

Periodically update today’s knowledge on climate change effects or new national adaptation strategies

Periodically update the strategy of the ICPR (eventually, redirection of action)

Preparation of two management plans 2021 according to EU directives including more aspects of CC adaptation

(Continuous) inventory of ongoing and/or planned measures
Example of win-win measure