



Flood August 2005

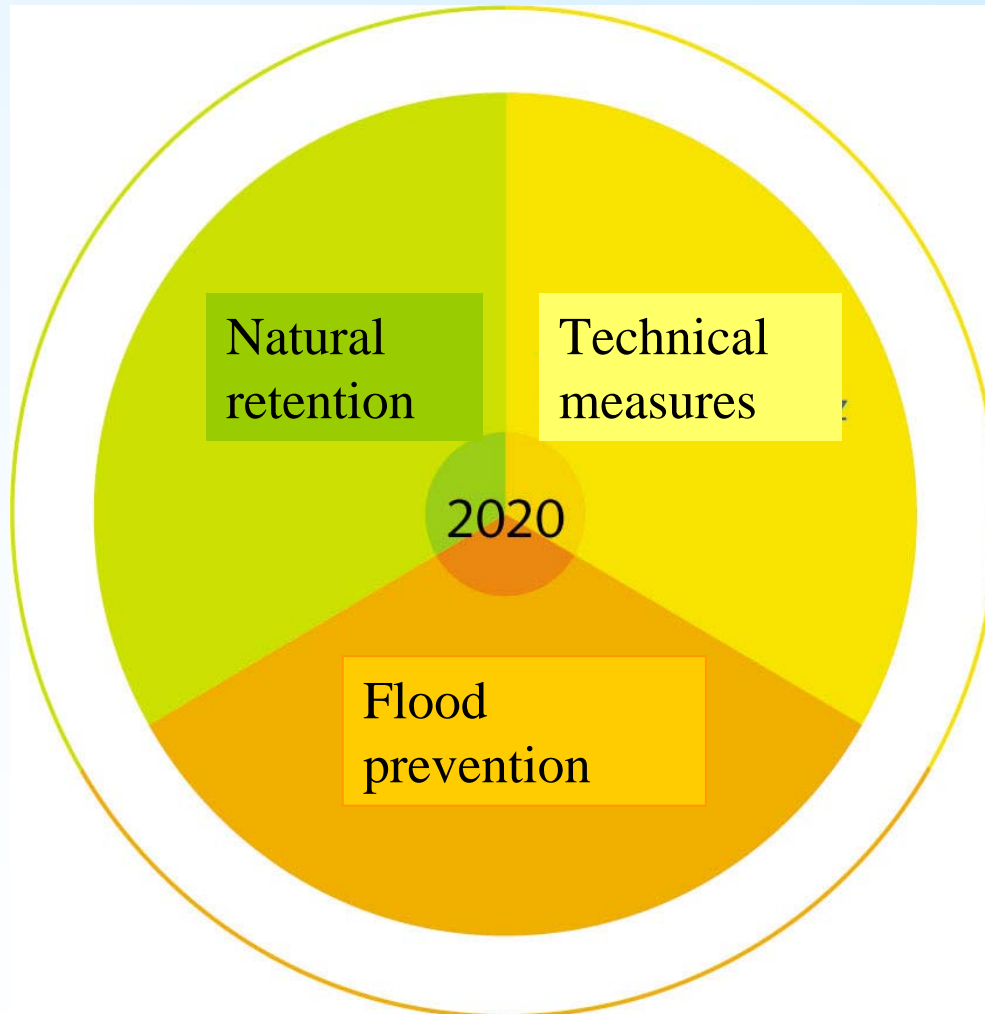
Evaluation and Consequences

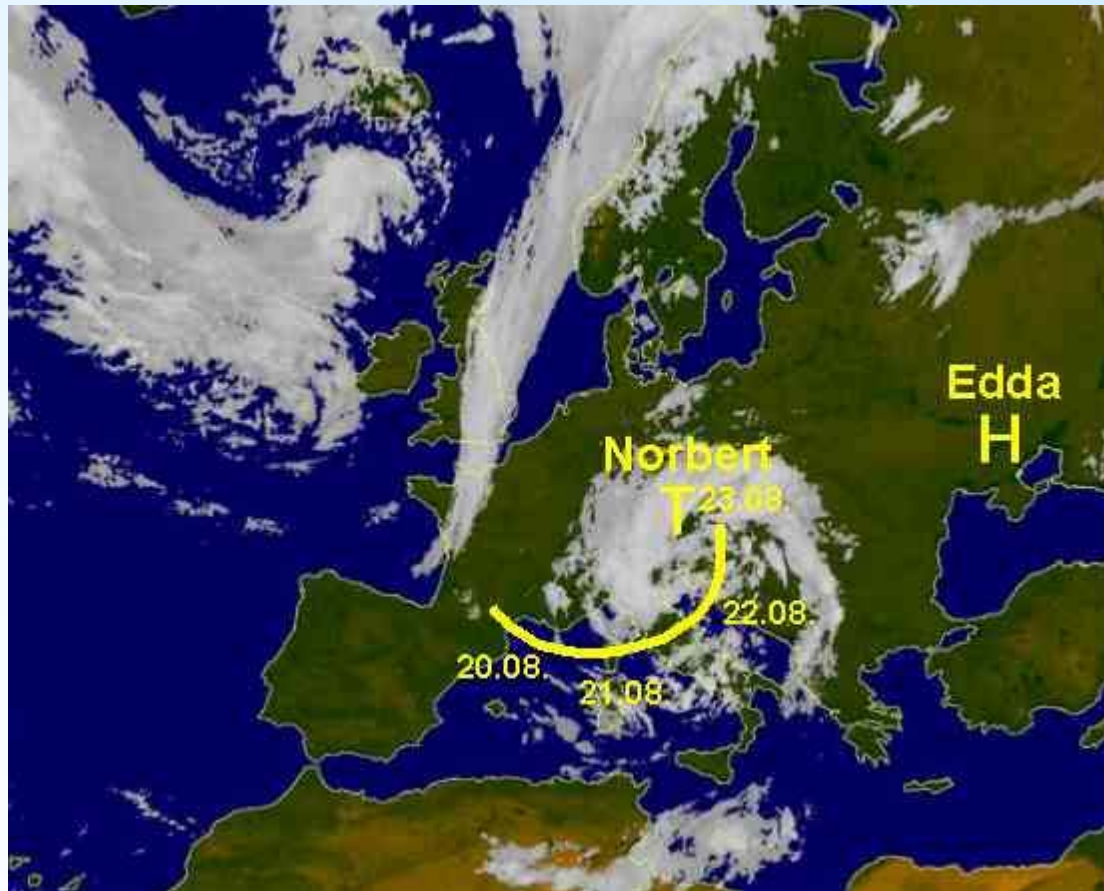
Munich Apr. 2006



Sustainable flood protection in Bavaria

Action programme 2020





Infrarot-Satellitenbild vom 21.08.2005, 12 Uhr und Zugbahn des Tiefs „Norbert“ (Vb-Wetterlage)



Kempten, Design for HQ 300



Damage

- 1999

350 Mio EURO

- 2005

175 Mio EURO





Torrent Gunzesriederbach

- **HQ 100** **100 m³/s**
- **Wundt90** **145**
- **Recalculated** **200**

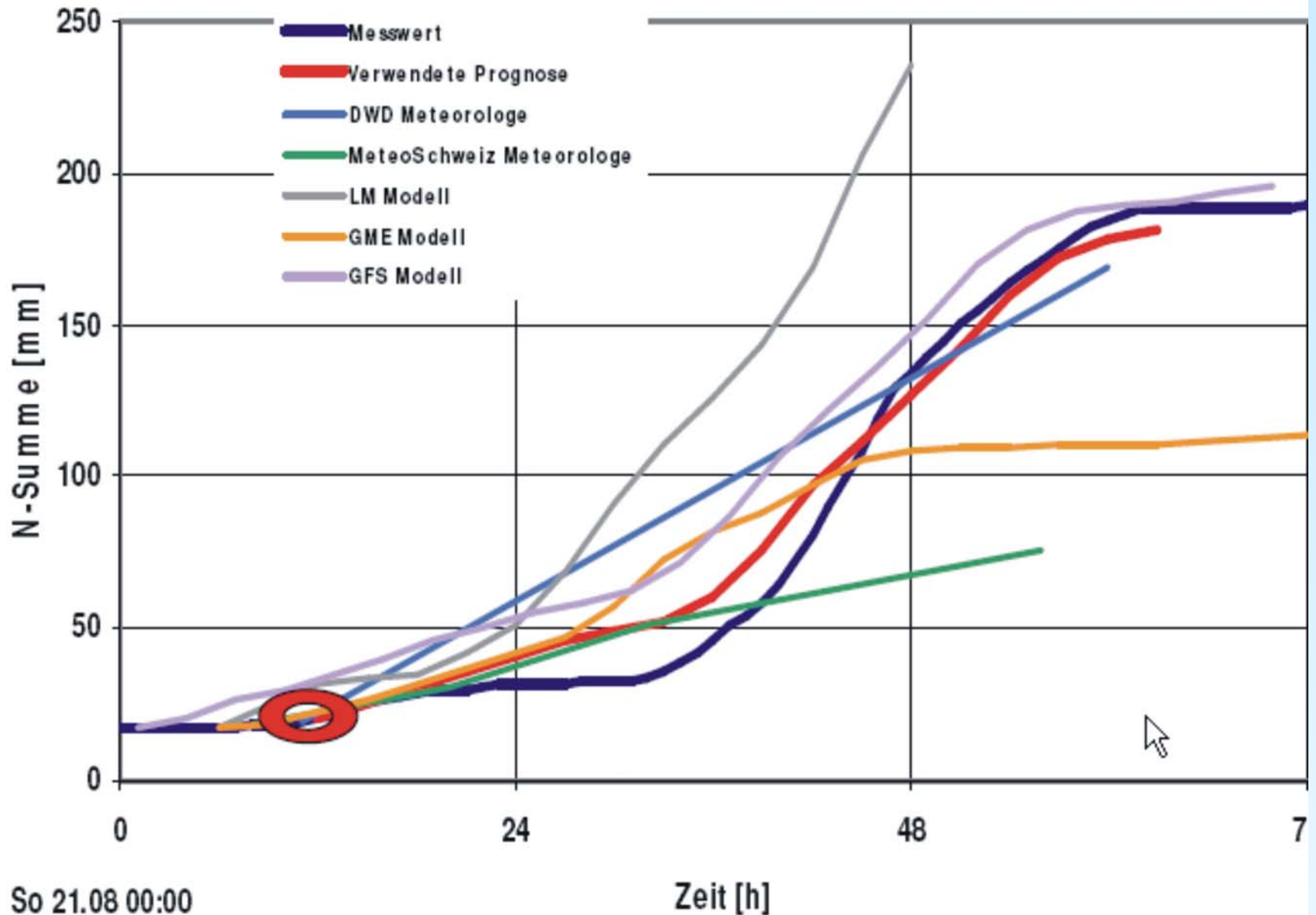


Bedload and wood debris





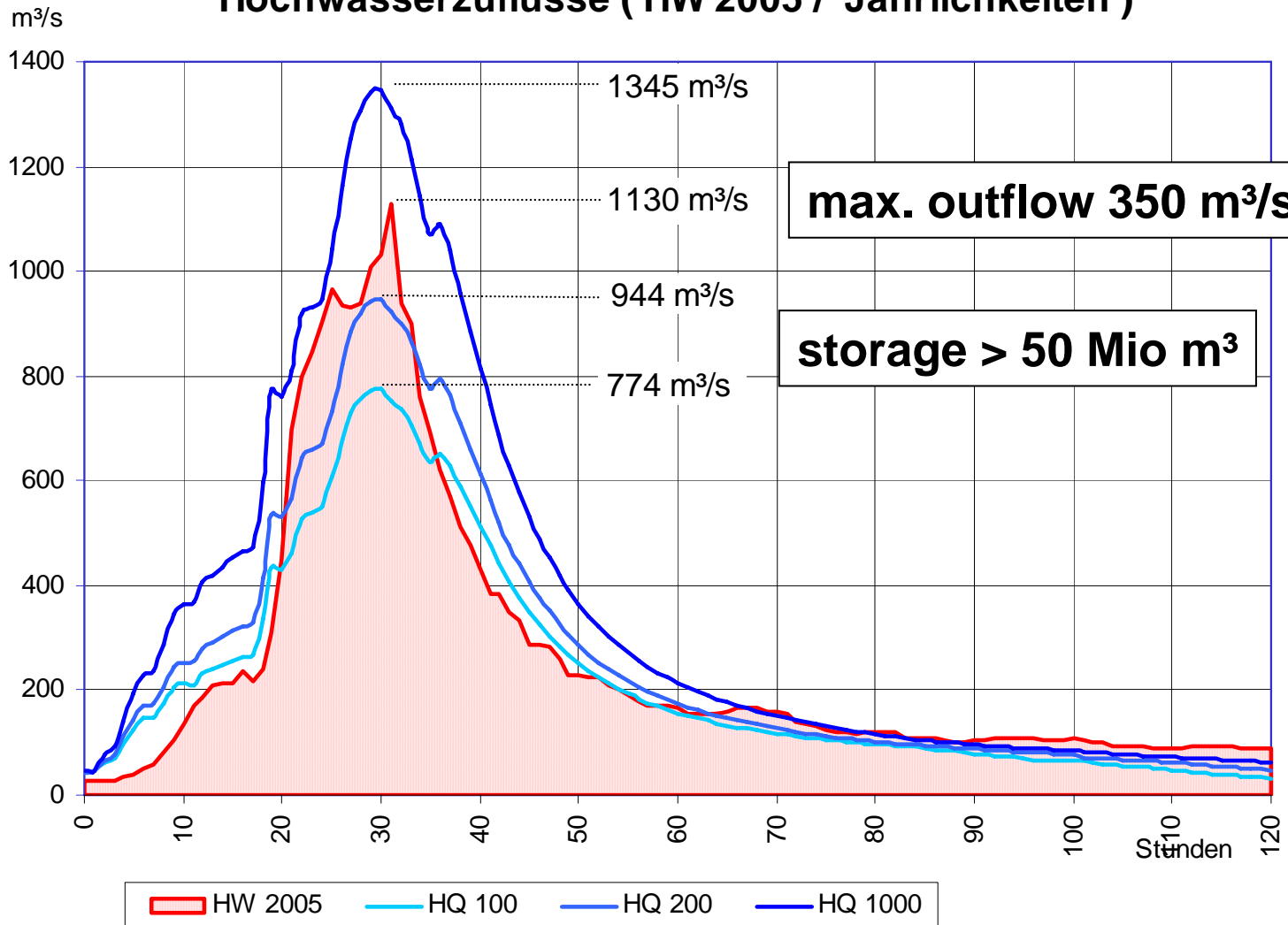
Prediction of Precipitation





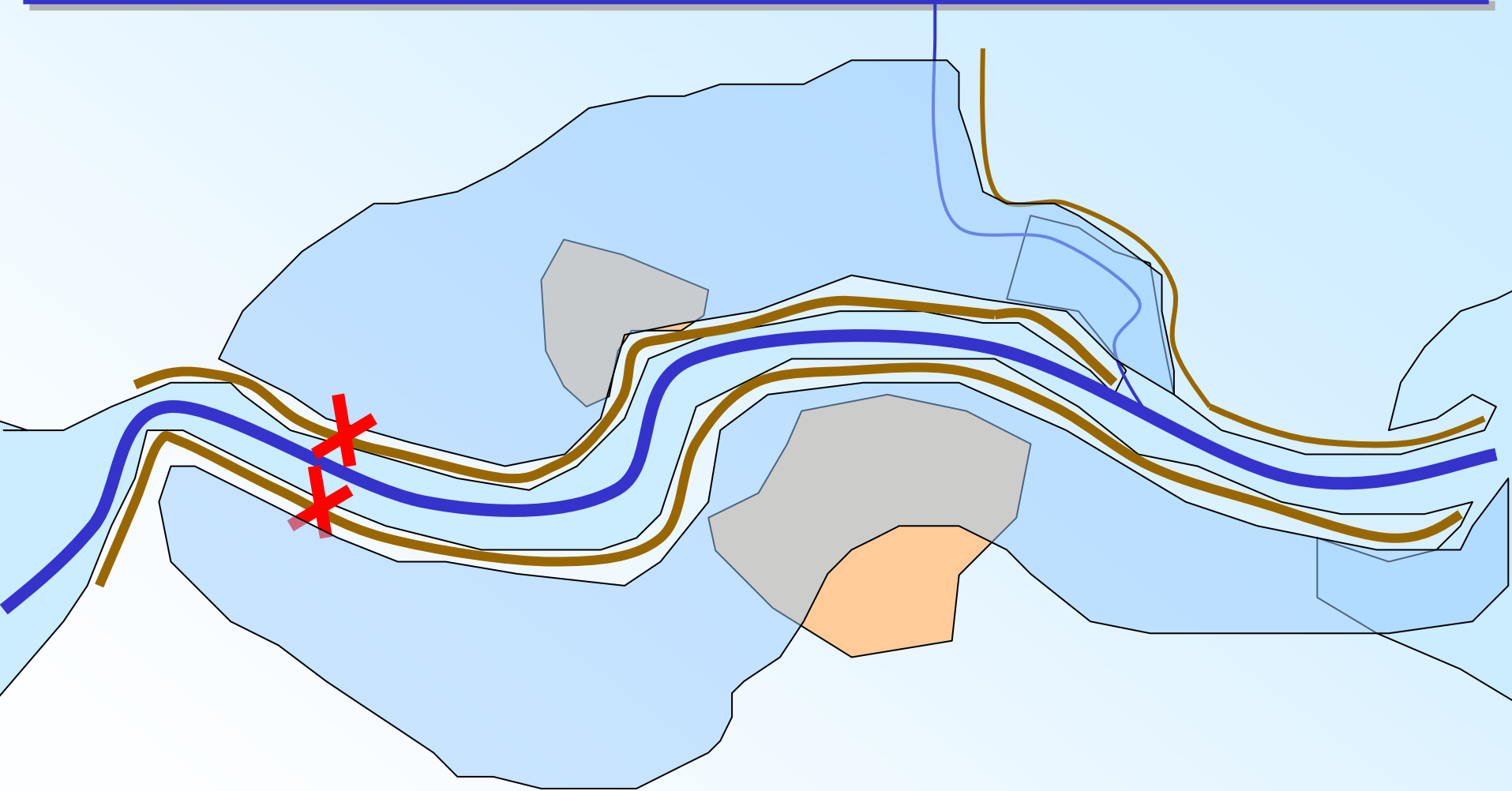
SYLVENSTEINSPEICHER

Hochwasserzuflüsse (HW 2005 / Jährlichkeiten)





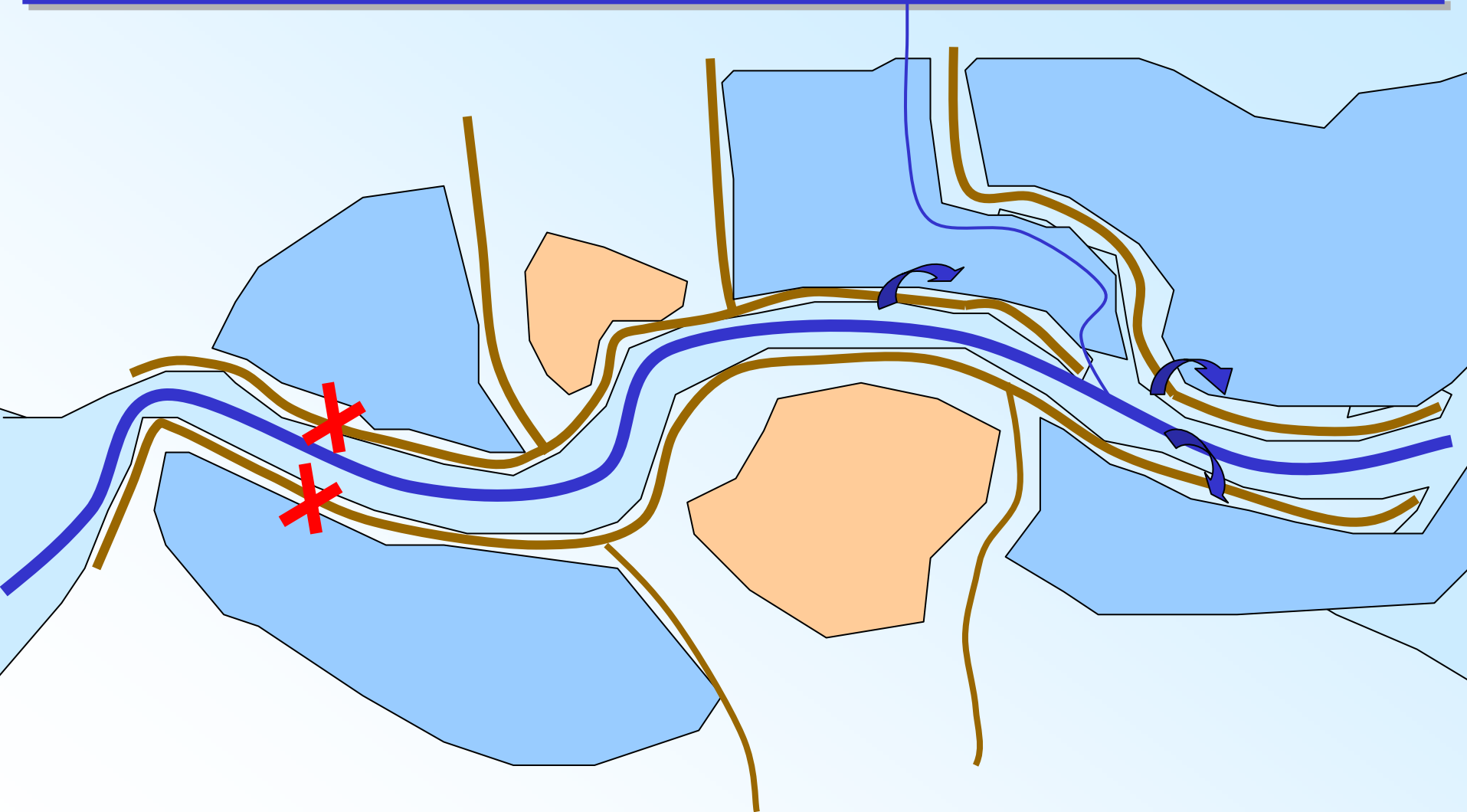
Overloaded systems: complete damage



Aus Versagen eines Teils resultiert das Versagen des Ganzen



Overloaded Sectoral system



...führt zu mehr Retentionsraum und Schutz der höherwertigen Bereiche bei Überlastung



Watertight core or a weir ??



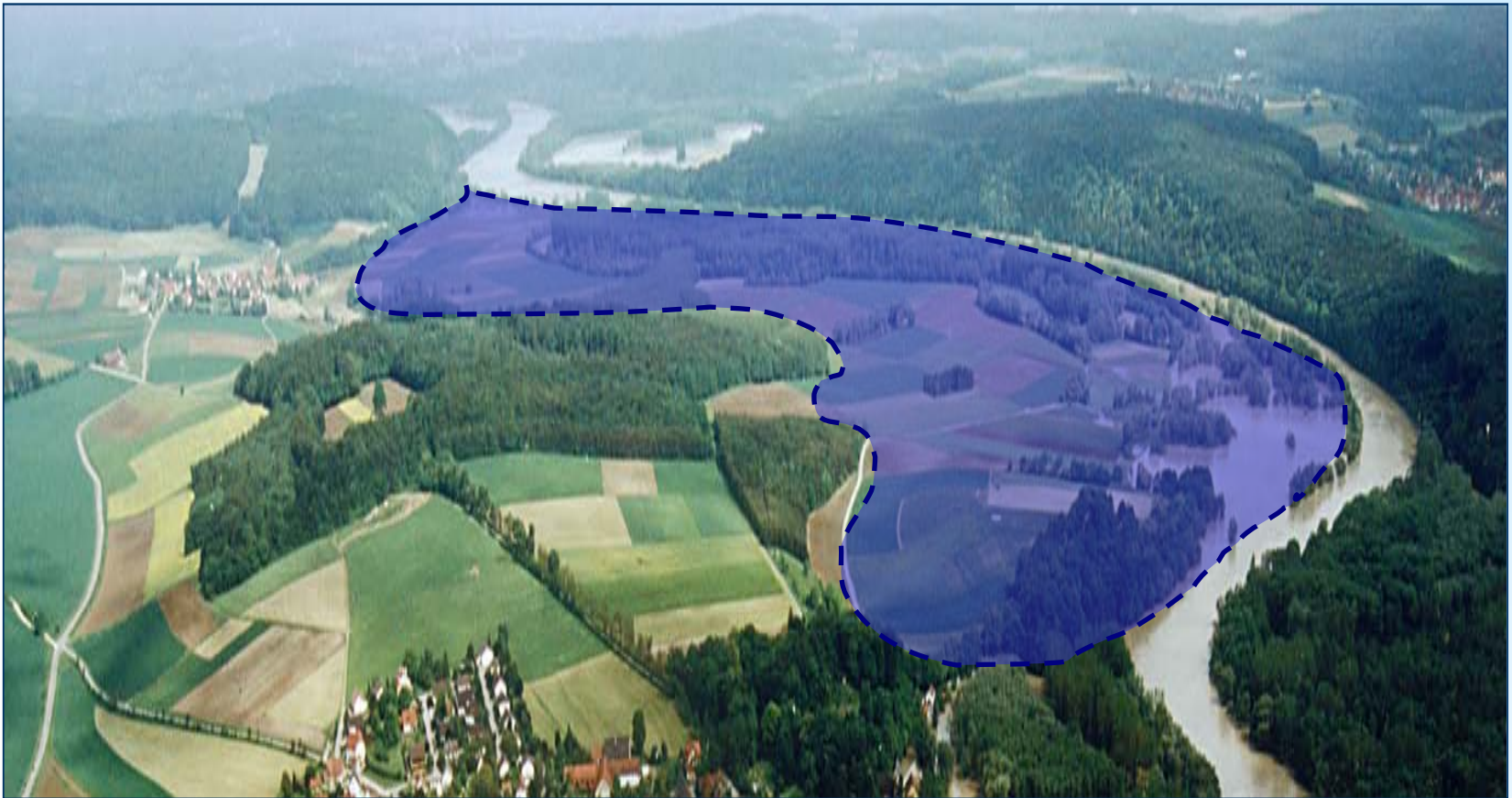


**Technical protection
or
removal of houses ??**



Retention

Polder Riedensheim - Rivers need space





- **Raising of design flood**
- **Improvement of prediction**
- **Acceleration of legal procedures**
- **Detection and implementation of flood plains**



Appropriate Budget



Risk communication

- **Water conferences on river basin level**
- **Authorities, communities, counties, rescue teams**
- **Problems, "weak points"**
- **Improvement of co-operation**



Risk communication

- **Preventive information**
- **Information service flood plains**
- **Information service alpine natural hazards**
- **Establishment of a communication concept for practice**



EU-Project Climate Change, Impacts and Adaptation Strategies in the Alpine Space - ClimChAlp

Objectives

- **Synopsis and evaluation of existing knowledge and models and compilation of corresponding natural hazards**
- **Comparison, assessment and enhancement of monitoring techniques in order to improve the management and prevention of specific effects.**
- **Prediction and assessment of potential impacts on spatial development and key economic sectors**
- **An in-depth analysis of current management tools and practices of the Alpine countries dealing with natural hazards**



Thank you for your attention