

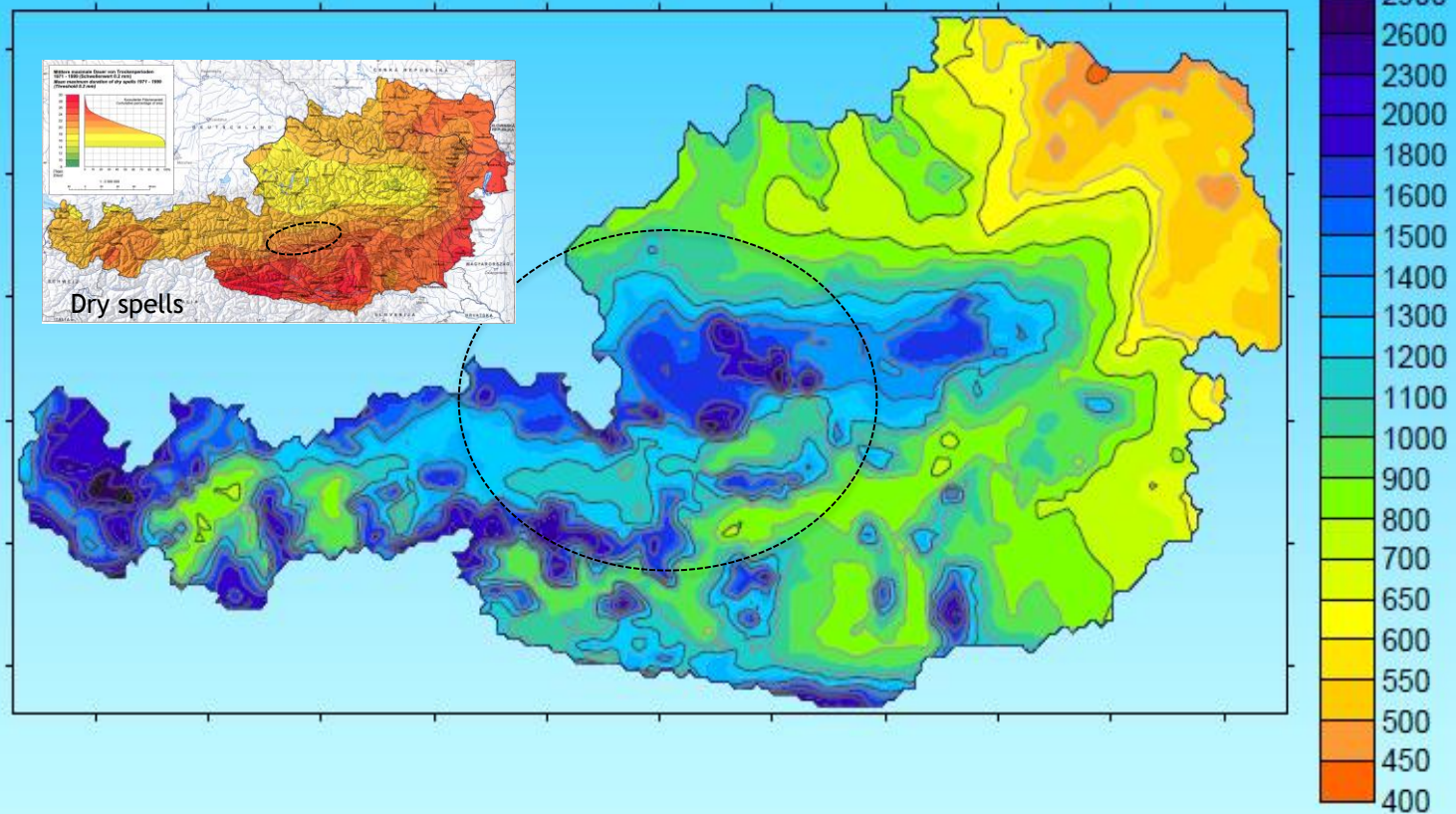
Strategic Water Resources Management & Drought

Dipl. Ing. Hans Wiesenegger



- 💧 Hydrological situation
- 💧 Tasks & Challenges
- 💧 Strategies & Solutions

Mean annual precipitation 1961 - 1990 [mm]

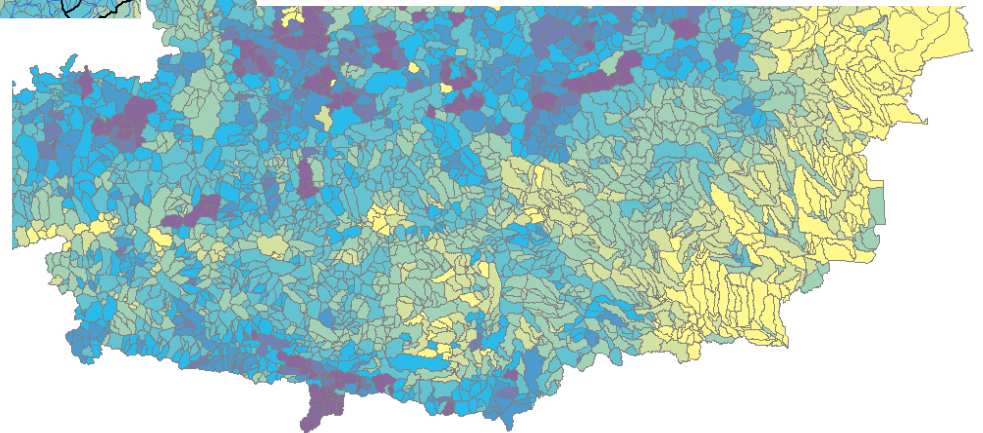
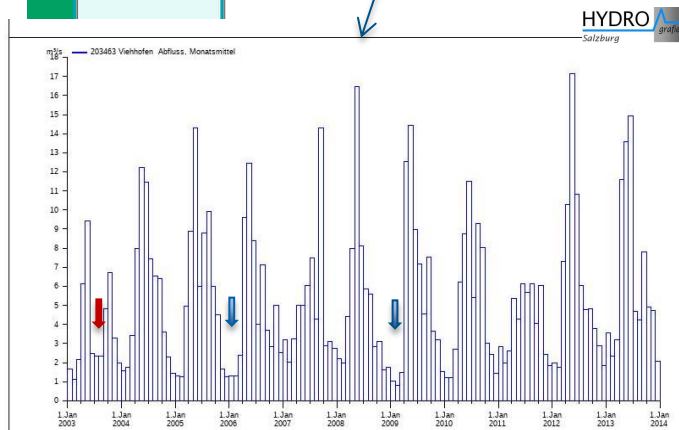
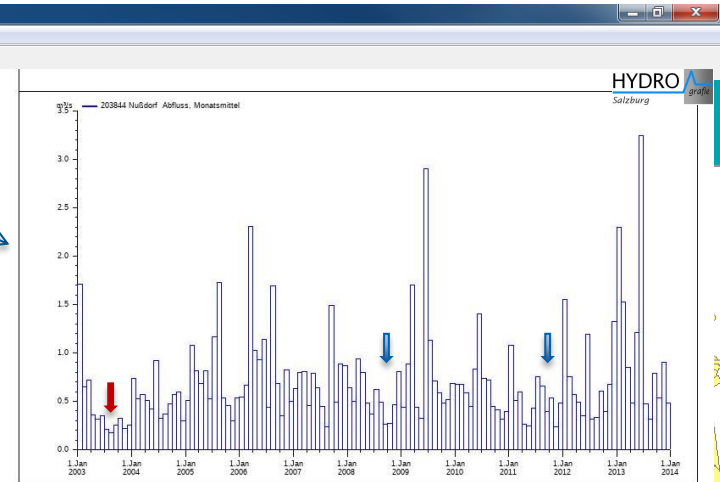
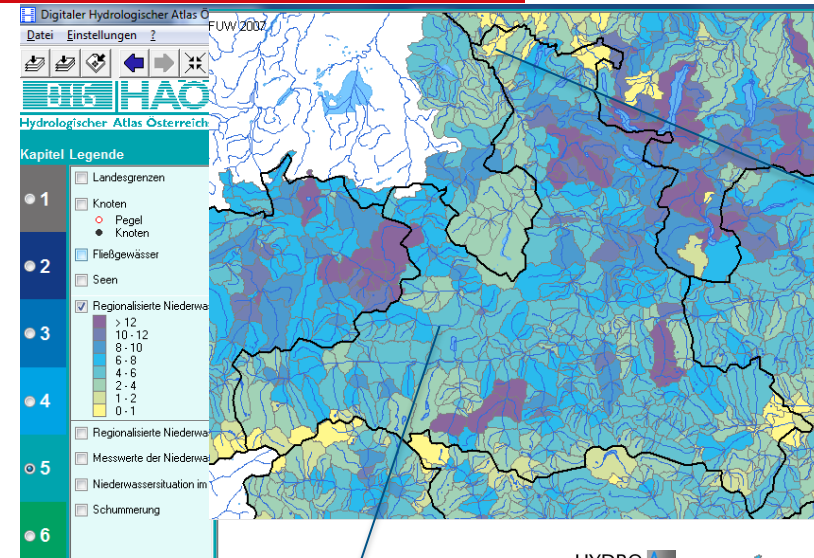


Hydrological Situation

Low flow



LAND
SALZBURG



Agriculture



Shipping



Thermal Impact



Hydro Power



Water Quality



Water Supply



Tourism



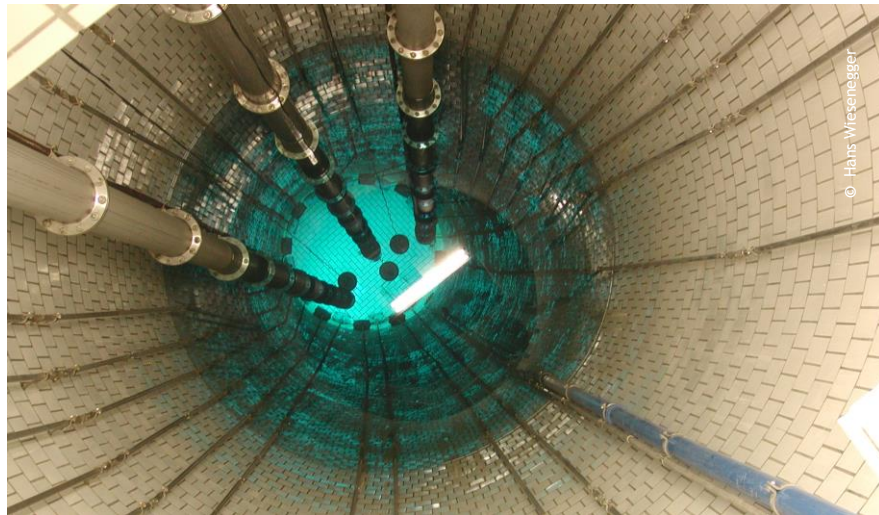
Waste Water Treatment

Tasks and challenges

Water supply



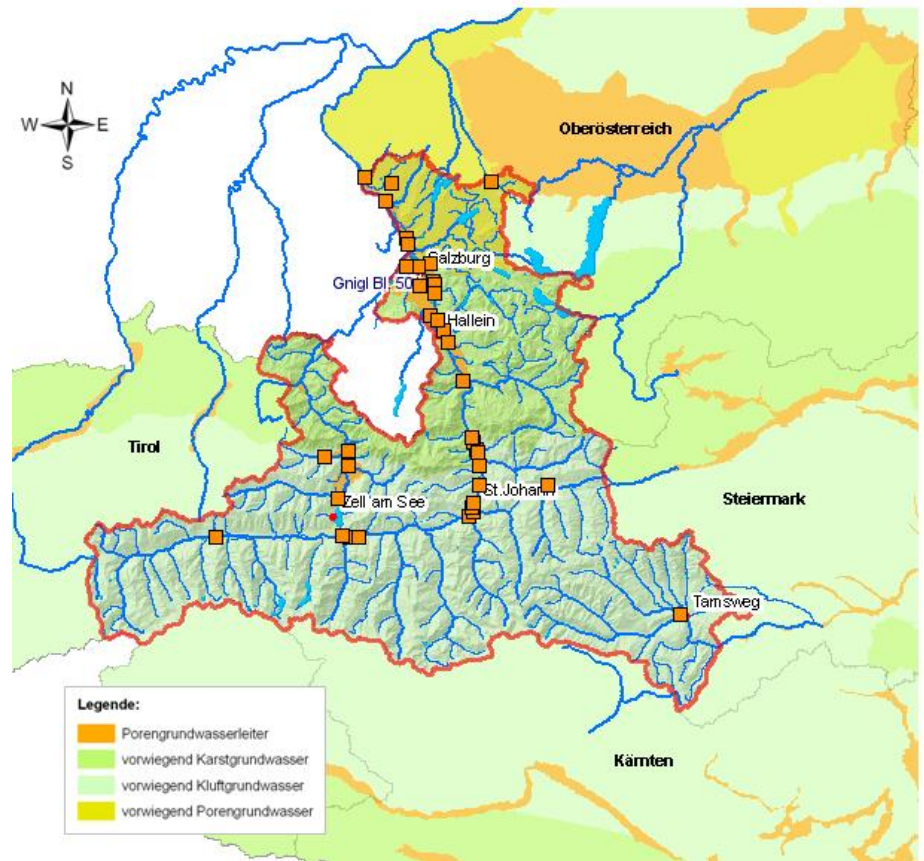
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SALZBURG



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© Hans Wiesenegger

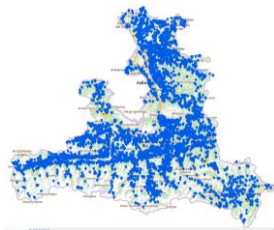
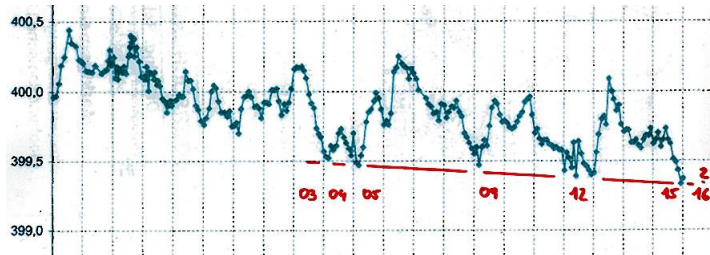


Task and challenges

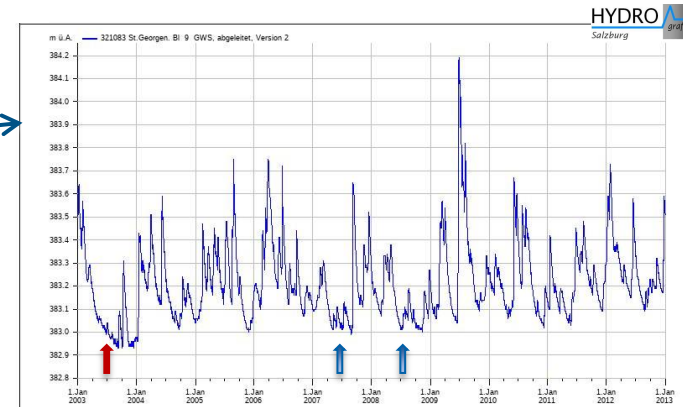
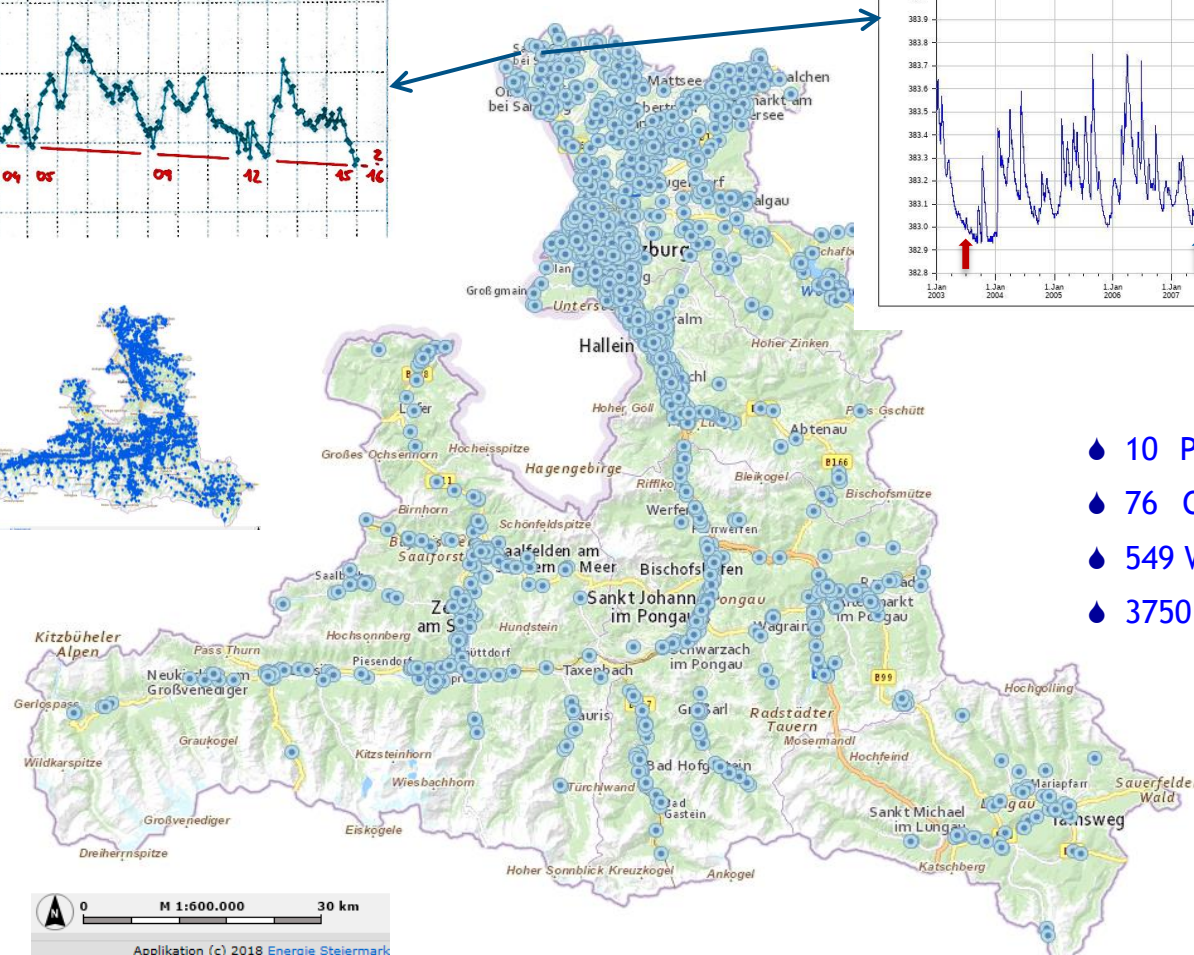
Water supply



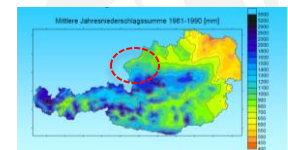
LAND SALZBURG



- 5312 springs
- 673 wells



- 10 Private water suppliers
- 76 Communities
- 549 Water cooperatives
- 3750 Single plants



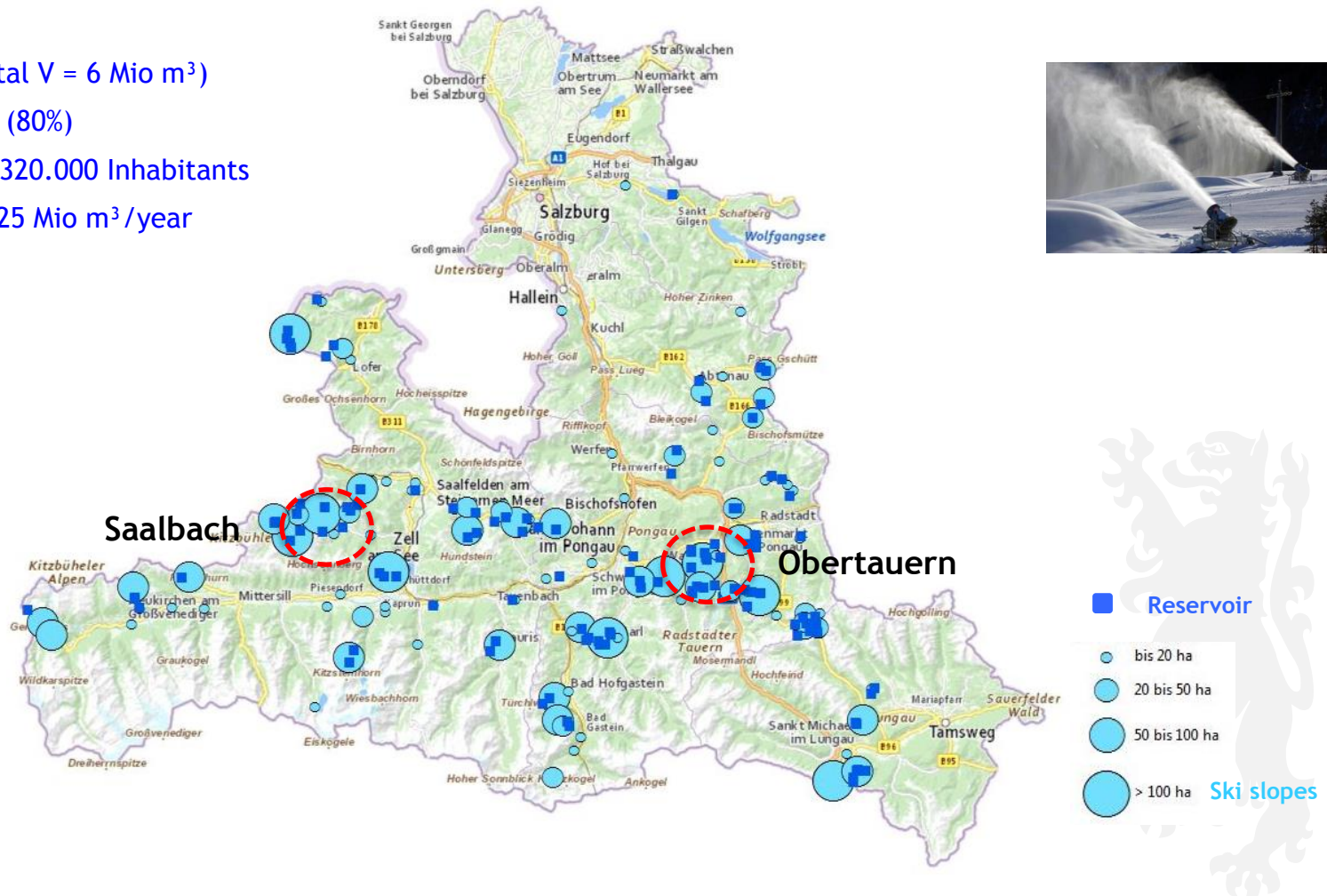
Task and challenges

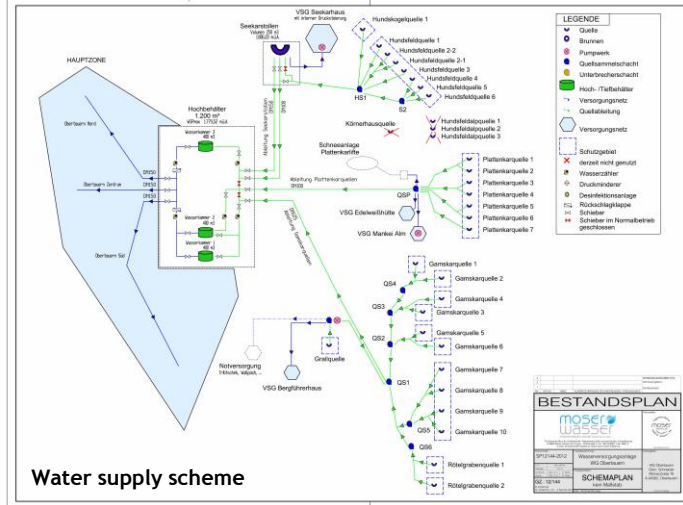
Tourism



LAND SALZBURG

- 52 skiing resorts
- 120 reservoirs (Total V = 6 Mio m³)
- 4700 ha ski slopes (80%)
- 16 Mio m³/year = 320.000 Inhabitants
- future scenario = 25 Mio m³/year





Task and challenges

Tourism



LAND SALZBURG

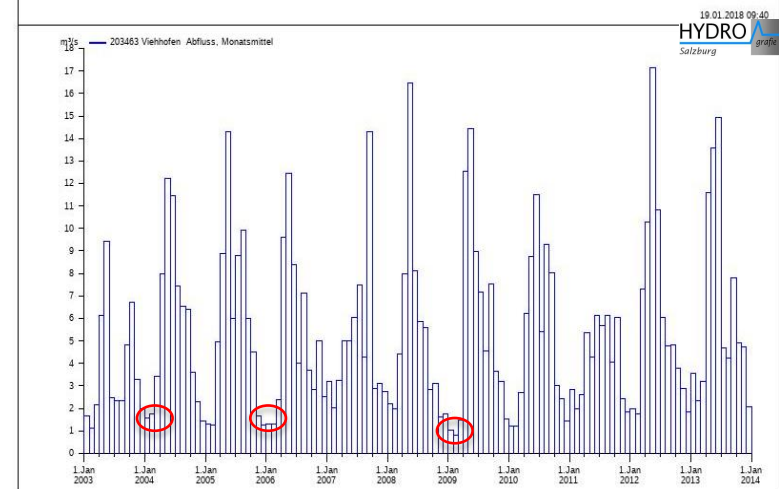


Task and challenges

Tourism



LAND
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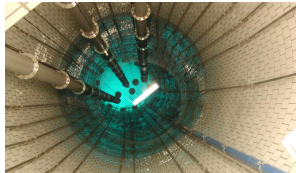
- 
- 💧 Operational Solutions
 - 💧 Strategic Solutions
 - 💧 Creative Solutions

Strategies and solutions

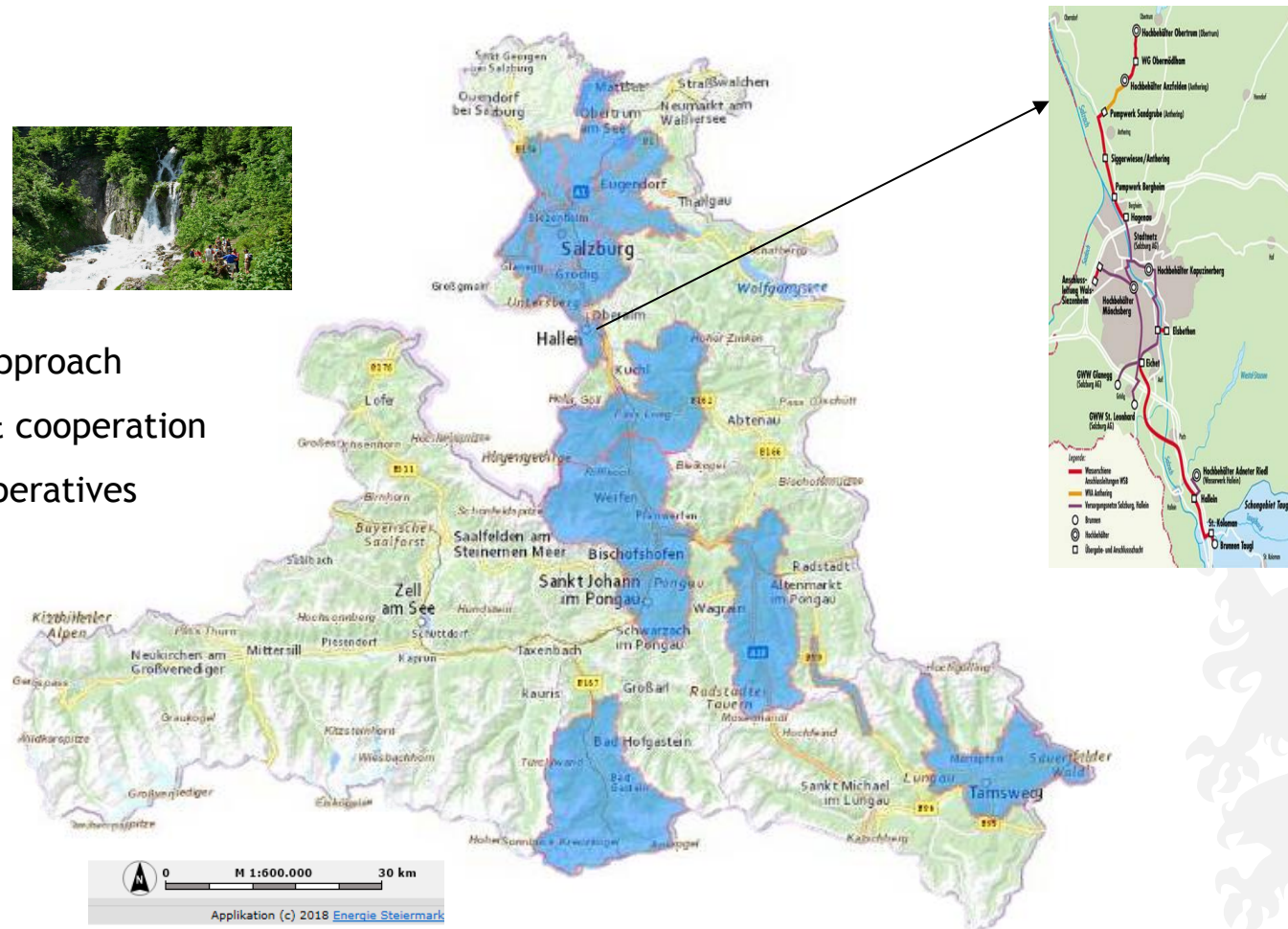
Water supply



LAND SALZBURG

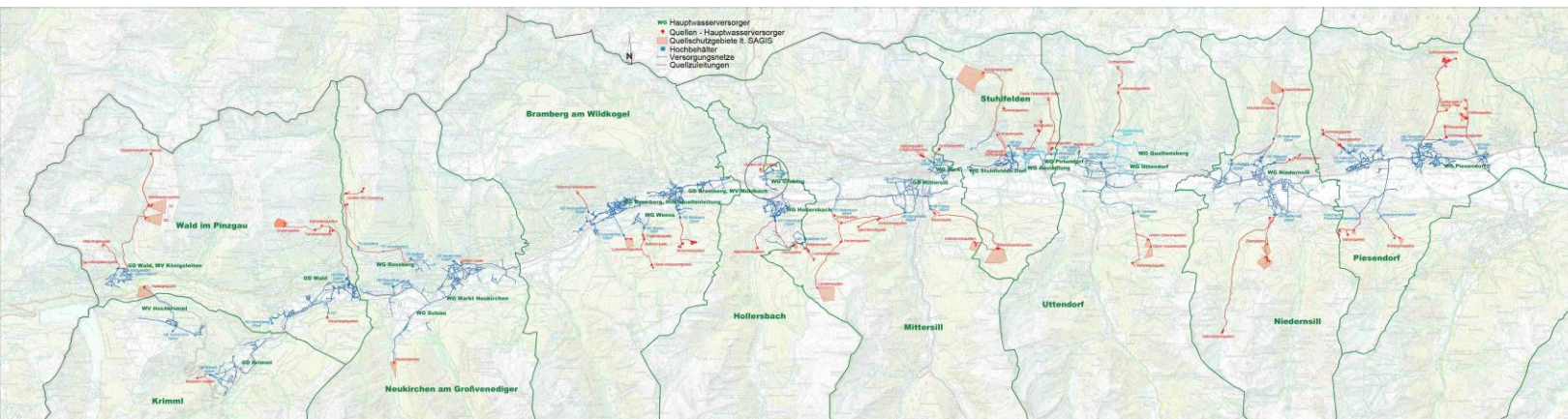


- ◆ Multi-pillar approach
- ◆ Networking & cooperation
- ◆ Regional cooperatives





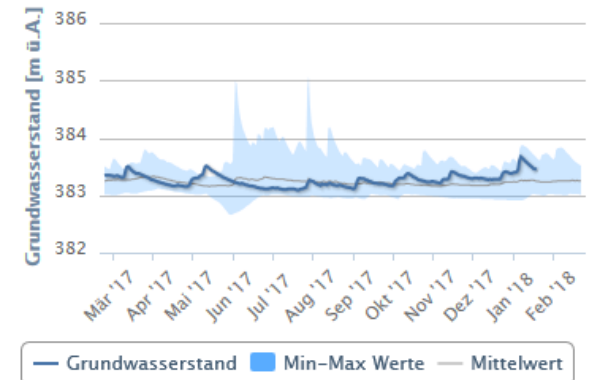
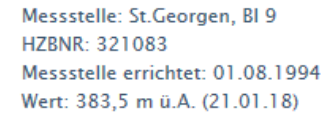
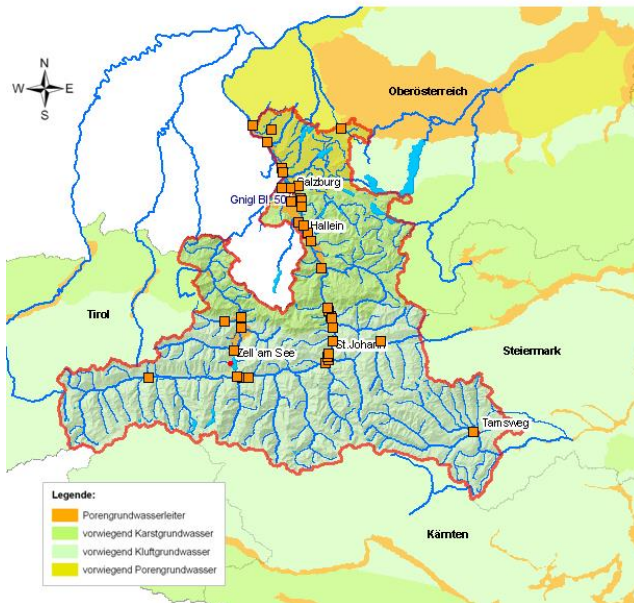
- ◆ Regional studies
- ◆ Cooperatives & knowledge exchange
- ◆ Monitoring



Strategies and solutions

Water supply

- 💧 Process understanding
- 💧 Representative online stations
- 💧 Operational simulation of drought

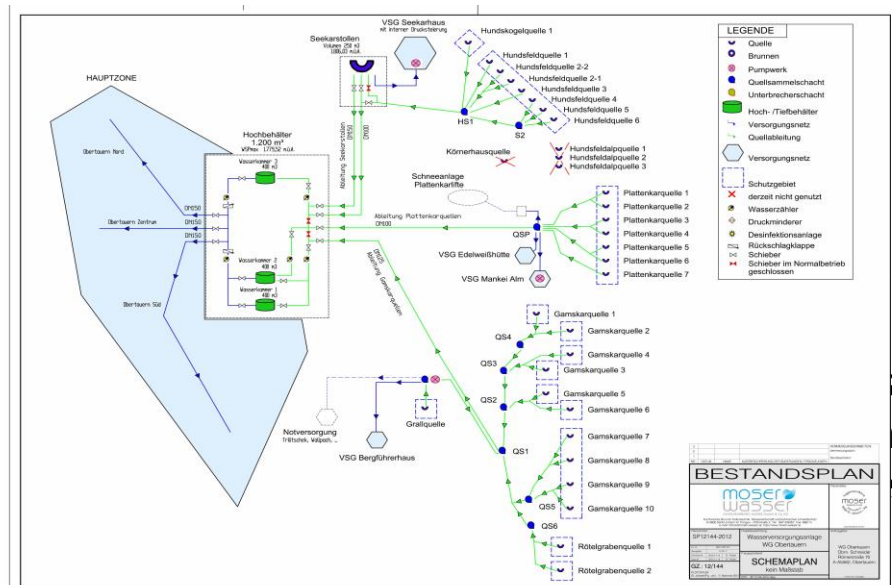


- § 13 Wasserrechtsgesetz 1959

Maß und Art der Wasserbenutzung.

§ 13. (4) Das Maß der Wasserbenutzung ist in der Bewilligung in der Weise zu **beschränken**, dass ein Teil des jeweiligen Zuflusses zur Erhaltung des ökologischen Zustandes des Gewässers sowie für andere, höherwertige Zwecke, insbesondere solche der **Wasserversorgung**, erhalten bleibt. Ausnahmen hievon können befristet zugelassen werden, insoweit eine wesentliche Beeinträchtigung des öffentlichen Interesses nicht zu besorgen ist

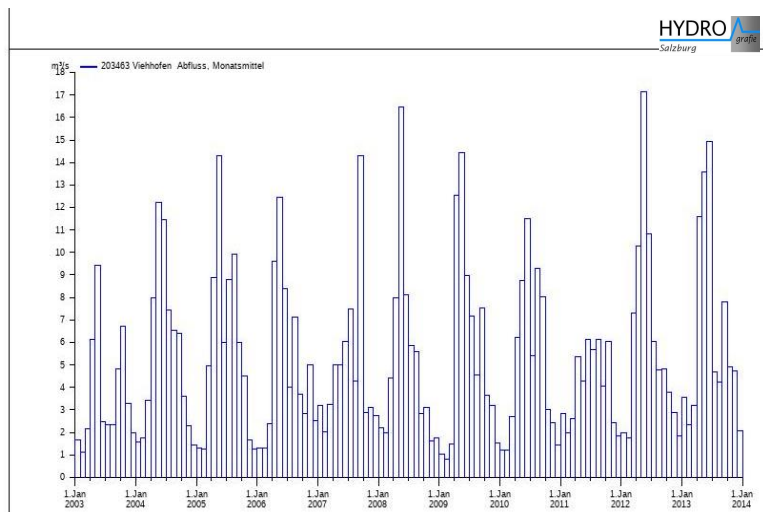
- § 13 Wasserrechtsgesetz 1959
- Master Plan Water



- ◆ § 13 Wasserrechtsgesetz 1959
- ◆ Master Plan Water
- ◆ Reservoir filling concept



- ◆ § 13 Wasserrechtsgesetz 1959
- ◆ Master Plan Water
- ◆ Reservoir filling concept
- ◆ Reduction of waste water





Thank you for your attention !



Acknowledgments

T. Steidl H. Fersterer T. Eistert