

ČESKÝ
HYDROMETEOROLOGICKÝ
ÚSTAV



Hydrological cooperation within International Commission for Protection of Elbe River

Jan Daňhelka

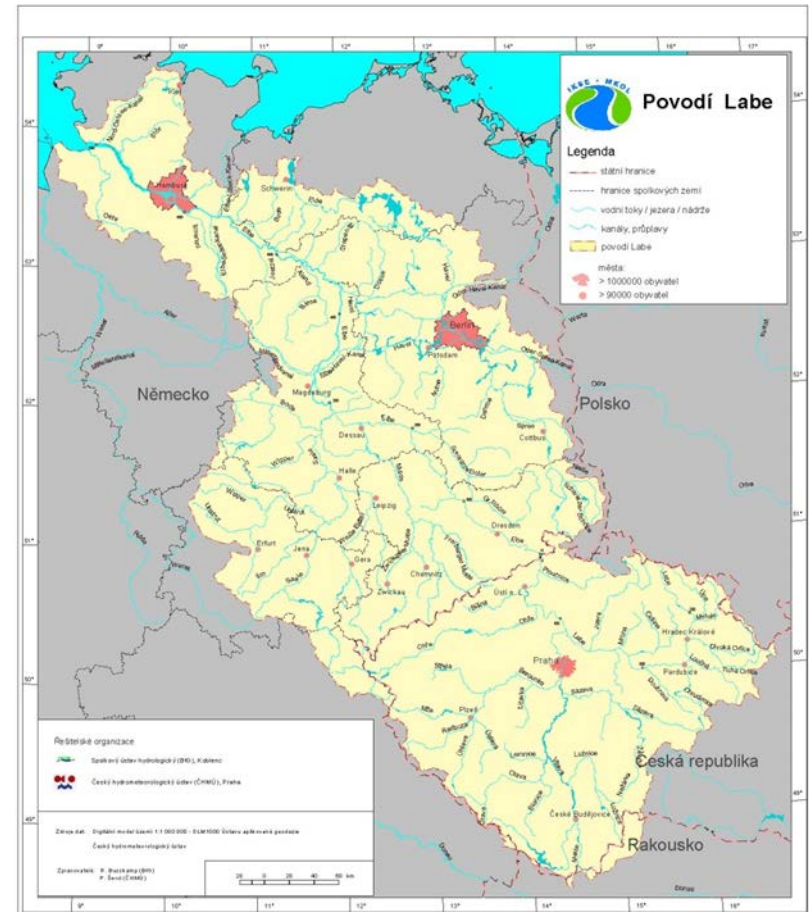
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Elbe River basin

- Length = 1 094 km
- Area = 148 268 km².
- Germany 65.54 %, CZ 33.68 %, Austria 0.62 %, Poland 0.16 %
- >25 mil inhabitants
- Mean flow 861 m³.s⁻¹ at estuary, 319 m³.s⁻¹ at Hřensko-Schöna border profile
- Specific runoff 5,4 l.km⁻²
- Floods 2002, 2006, 2011, 2013



Elbe River Basin Commission

- October 1st 1990 (Germany, Czech Republic and European Economic Community)
- First international agreement of United Germany
- Secretariat in Magdeburg
- 2 years rotation of Presidency between Germany and Czech Rep.
- Fully bi-lingual (DE-CZ)



Elbe River Basin Commission

Principal objectives

- making the **use of water** possible, especially promoting the retrieval of drinking water via river bank infiltration and enabling the agriculture to utilize the water and the sediments,
- achieving the most **natural ecosystem** possible; one that can provide for healthy species population,
- permanent strategy to decrease the burden imposed on the **North Sea** by the Elbe River basin.

To achieve these objectives, it is necessary

- to improve the status of the Elbe River and its tributaries from the physical, chemical, and biological conditions point of view; the components involved are water, suspended solids, sediments, and organisms,
- to improve the ecological value of the Elbe River riparian zone.



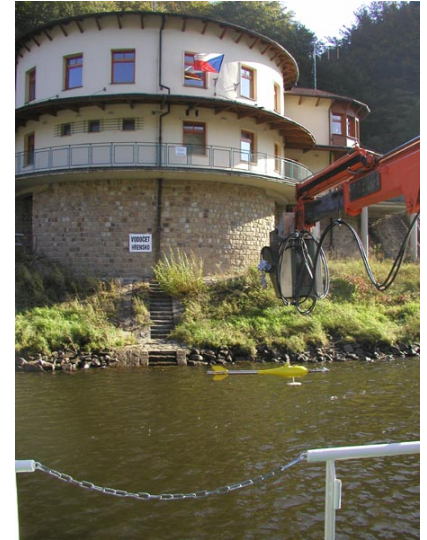
Elbe River Basin Commission

Tasks:

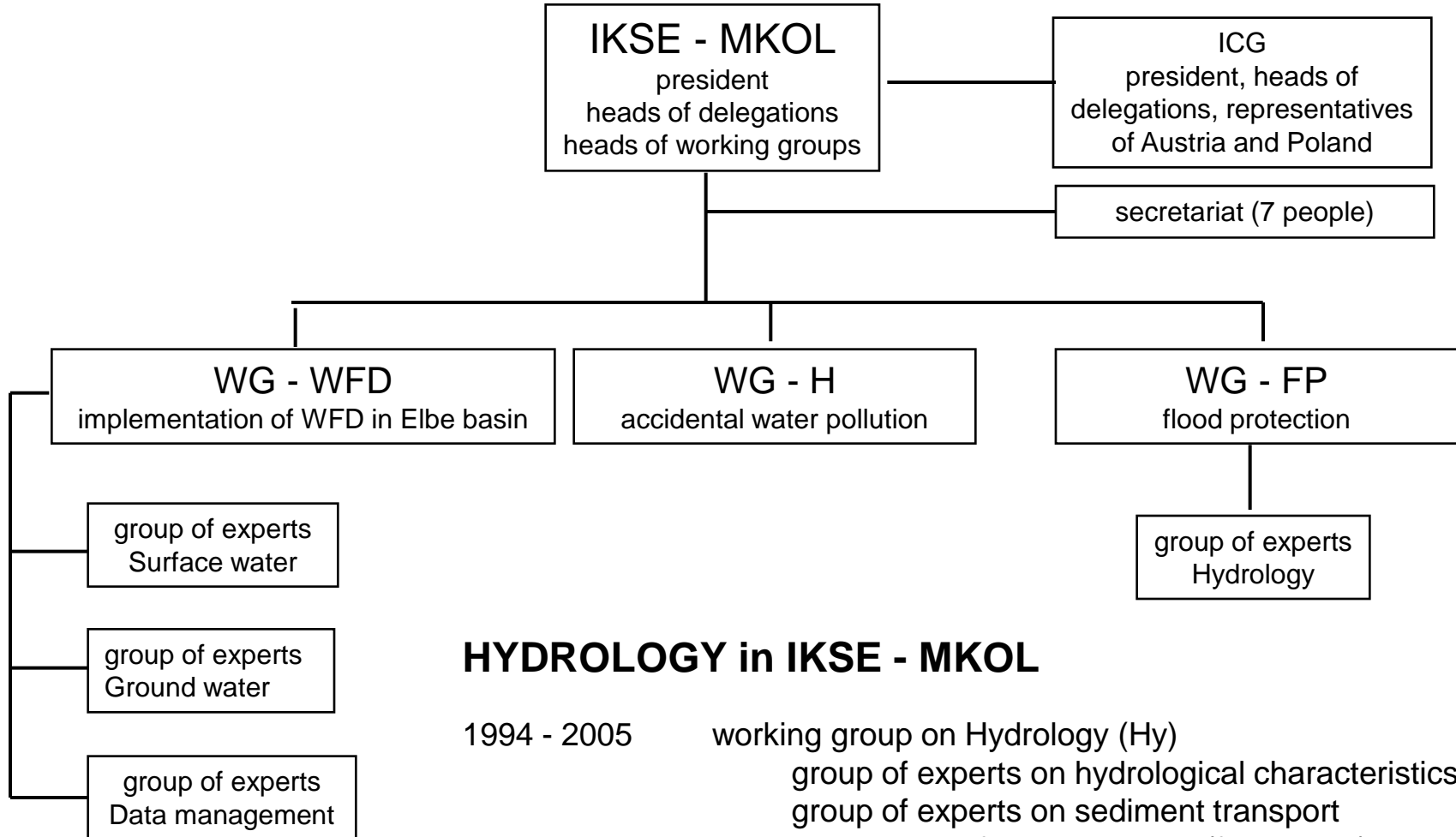
- to improve flood protection (1997)
- to coordinate implementation of WFD (2000)
- to coordinate implementation of FD (2007)

Topics:

- Biotic (fish) action plan 1996-2010
- Flood protection
- Accident alert system (stable Accident response profile at Hřensko)
- Water Quality



IKSE – MKOL structure



HYDROLOGY in IKSE - MKOL

- | | |
|-------------|---|
| 1994 - 2005 | working group on Hydrology (Hy)
group of experts on hydrological characteristics
group of experts on sediment transport
subgroup on flood protection (from 1997) |
| 2002 - 2005 | working group on flood protection (HWS) |
| Since 2005 | working group on flood protection (FP)
group of experts on hydrology |



Hydrological cooperation

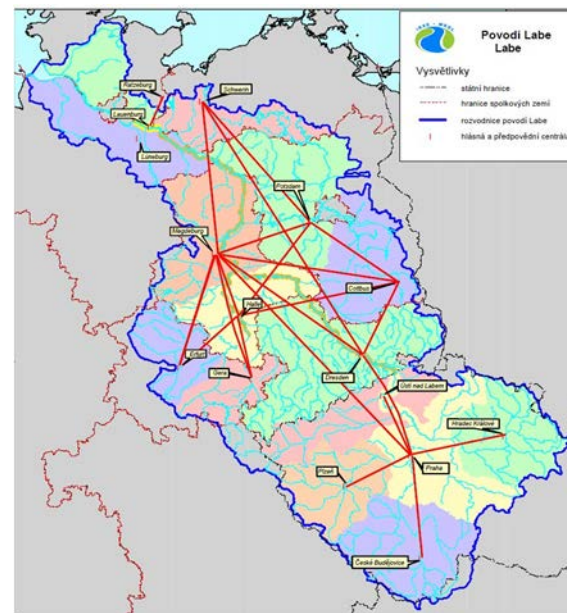
Germany - administrative structure – the Elbe basin lies in 10 federal states

-hydrological service – under responsibility of federal states (federal navigable rivers under BfG)

-implementation of the Flood Directive – under responsibility of federal states (national coordination LAWA)

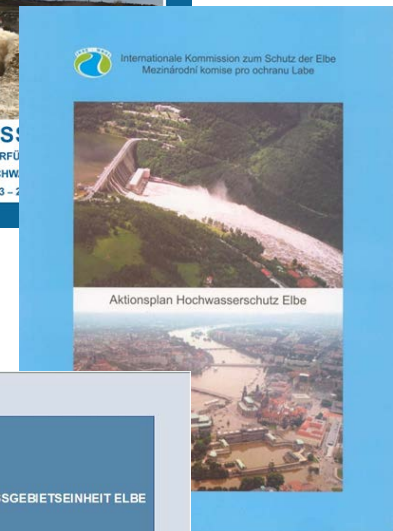
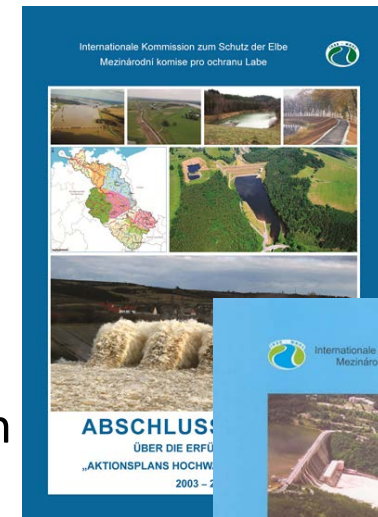
Czech Republic - hydrological structure – 3 River Authorities (Elbe, Vltava, Ohře)

-unified meteorological and hydrological service (CHMI)



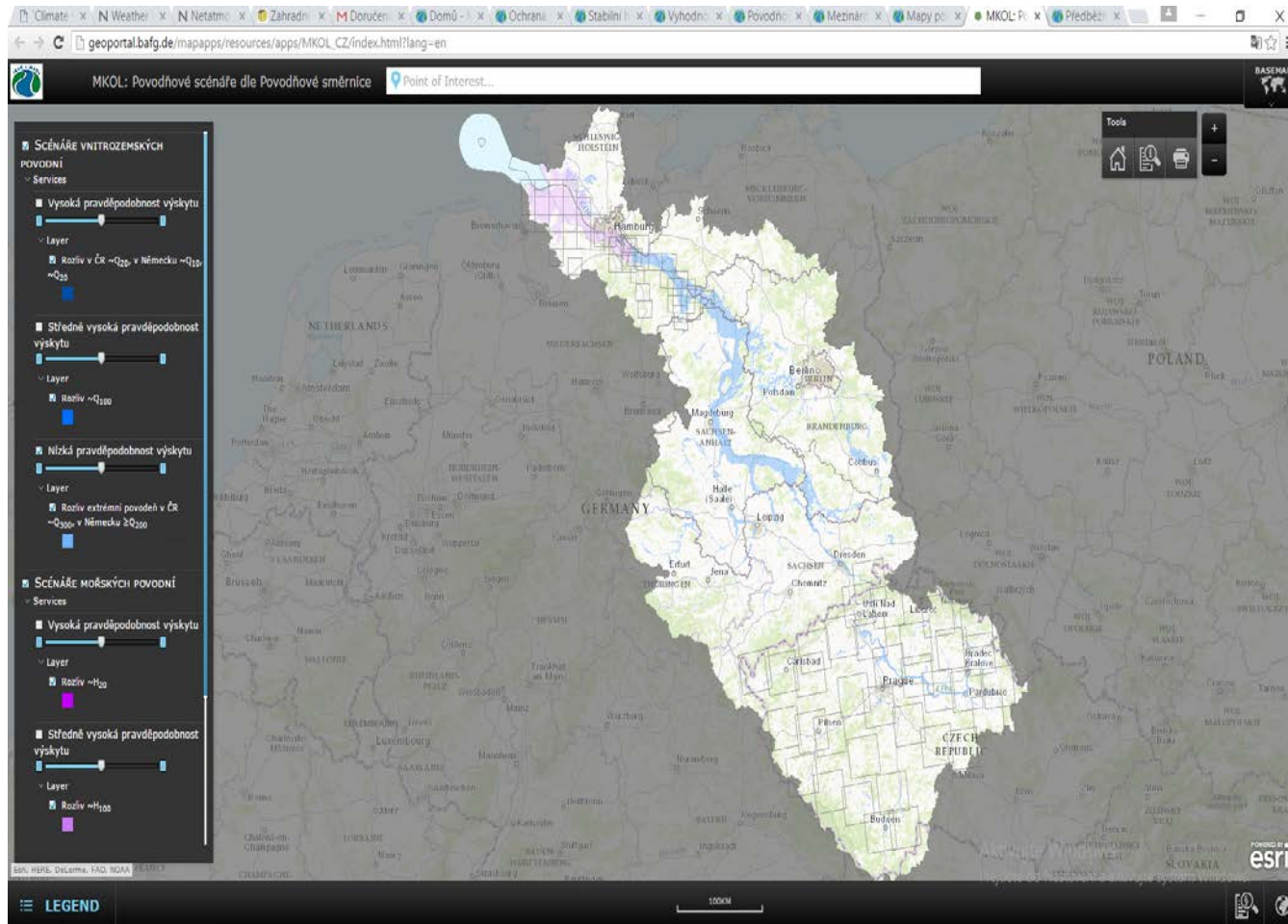
WG FP – Strategic documents

- Analysis of **hydrological aspects of flood generation** on the Elbe River and its major tributaries (1996)
- **Strategy of flood protection** in the Elbe River basin (1998)
- Mapping of current level of **flood protection in the Elbe River basin** (2001)
- **Elbe Flood protection action plan** (2003, updated version after flood 2002)
- The 1st **report on fulfillment** of the Elbe flood protection action plan 2003 – 2005 (2006)
- The 2nd **report on fulfillment** of the Elbe flood protection action plan 2006 – 2008 (2009)
- The final **report on fulfillment** of the Elbe flood protection action plan 2003 – 2011 (2012)
- **International Flood Risk Management Plan in the Elbe River basin** (2015)



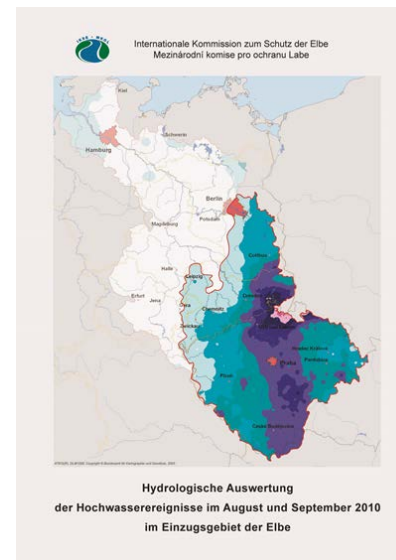
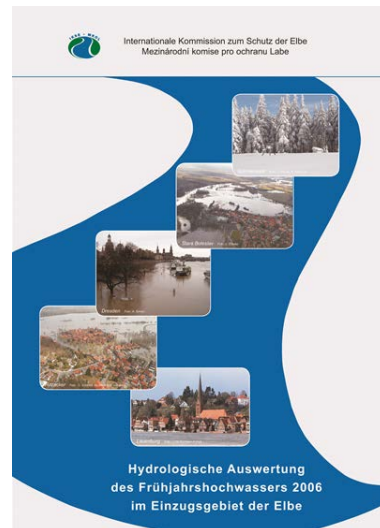
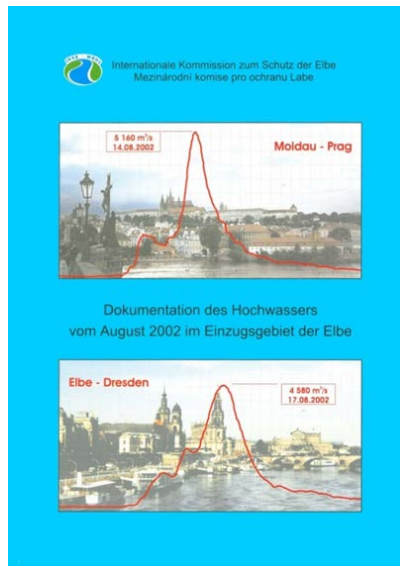
Flood maps

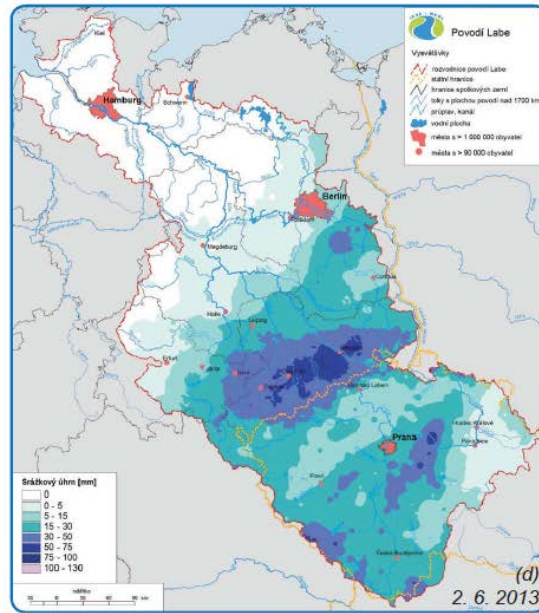
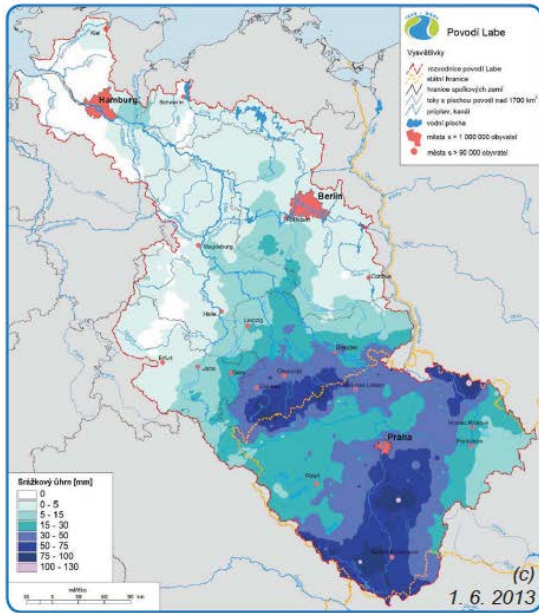
- http://geoportal.bafg.de/mapapps/resources/apps/MKOL_CZ/index.html?lang=en



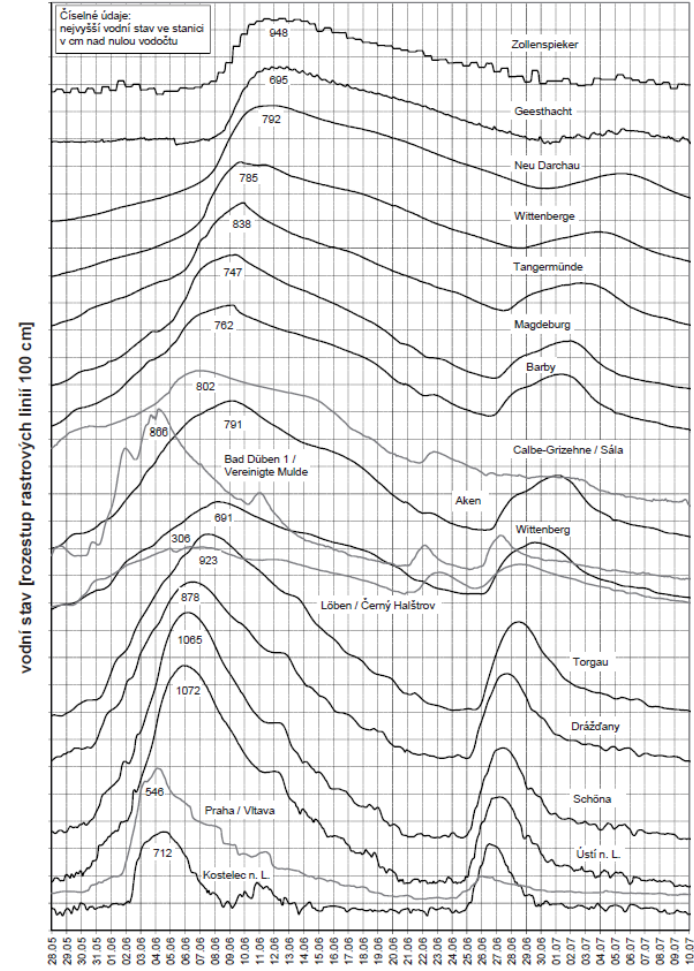
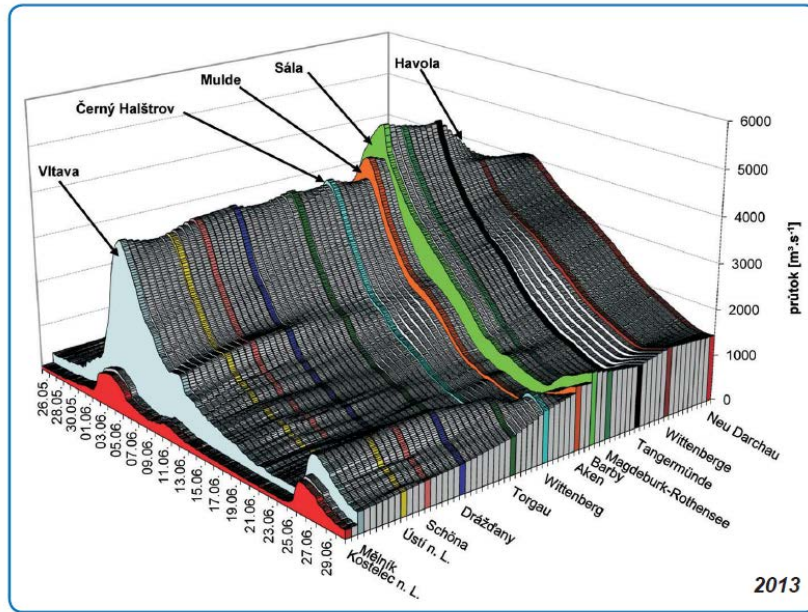
Joint Flood reports

- Documentation of the **flood in August 2002** in the Elbe River basin (2004)
- Hydrological assessment of the **spring flood 2006** in the Elbe River basin (2007)
- Hydrological assessment of **floods in August and September 2010** in the Elbe River basin (2012)
- Hydrological assessment of the **flood in June 2013** in the Elbe River basin (2014)
- *Hydrological assessment of **drought in 2015** – under preparation*





Kartographie und Geodäsie, 2003



vodní stav [rozestup rastrových linií 100 cm]



Other Publications

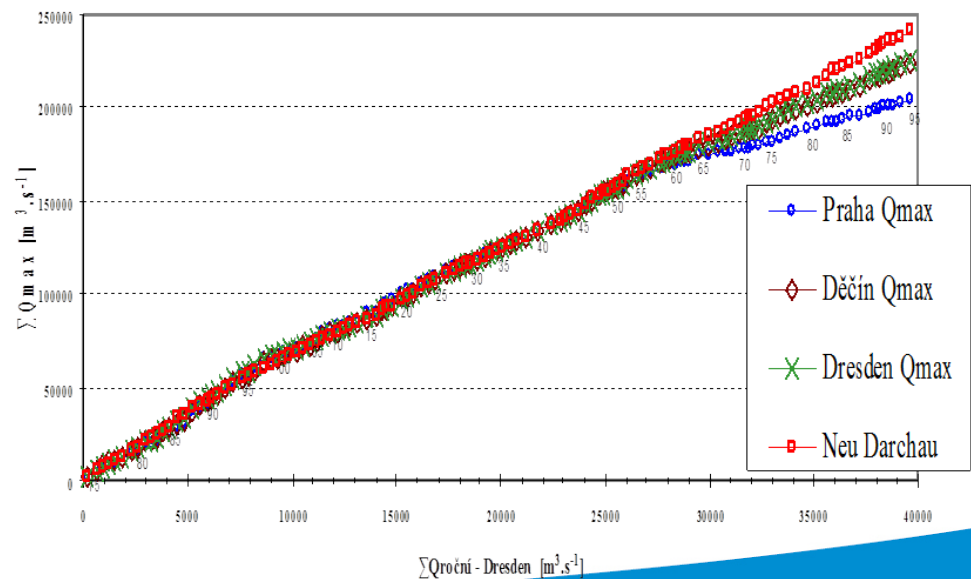
- The Elbe and its catchment (2005)
- Hydrological low-flow characteristics of the Elbe River and its major tributaries (2012)



All publications are in German and Czech versions on <http://www.ikse-mkol.org> (in .pdf format)

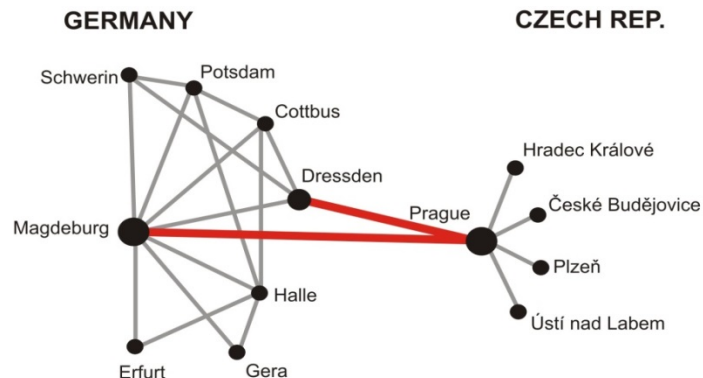
Other activities

- Bi-annual workshops „Magdeburg Seminar“
(2016- Dresden, Elbe River and tributaries and affect of urban areas“)
- WG FP facilitate other projects and activities in the Elbe River basin
 - ELLA and LABEL projects (flood hazard and flood risk maps)
 - Influence of reservoirs on the Vltava and Elbe Rivers flood regime
 - Homogenization of long HQ data series (group of expert methodologically oversees the project)



Informal role of WG FP

- Establishing the personal connections among experts



On Tue, 04 Jun 2013 12:02:28 +0200

"DANHELKA JAN, RNDr. Ph.D." <danhelka@pop3.chmi.cz> wrote:

Dear Martin,

The Prague discharge is decreasing now. Vltava reservoir is ready to decrease flow by totally 300 m³. The aim is to help downstream part of Elbe. The expectation of peak in Melnik is 4000 m³ today evening, Usti is forecasted about 4000 m³ to 4300 m³. The higher estimate is without including the effect of inundation and the above mentioned decrease of Orlik outflow. My expectation is 4000 m³ tomorrow evening.

Please let me know if you have any needs of information feel free to call me any time (or your colleagues) 724108009. Jan

Von: DANHELKA JAN, RNDr. Ph.D. [mailto:danhelka@chmi.cz] Gesendet: Dienstag, 4. Juni 2013 12:43

An: Socher, Martin Prof. Dr. - SMUL

Betreff: Re: Peak Discharge Prague Chuchle

Martin, one more information, we have switch of the discharge at Melnik due to obviously overestimated rating curve. Regards Jan



Conclusion

- There are bi-lateral agreements on water cooperation between CZ and neighboring Federal States of Germany (Saxony, Bavaria) but the role of the Commission remains fundamental in many issues.
- Hydrological activities within IKSE-MKOL have been very successful in so far in delivering common products and building partnership.
- Thanks to Prof. Martin Socher (chairman of WG FP) for long time leadership and inspiration.



Thank You for Your Attention



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