



World Meteorological Organization
Working together in weather, climate and water

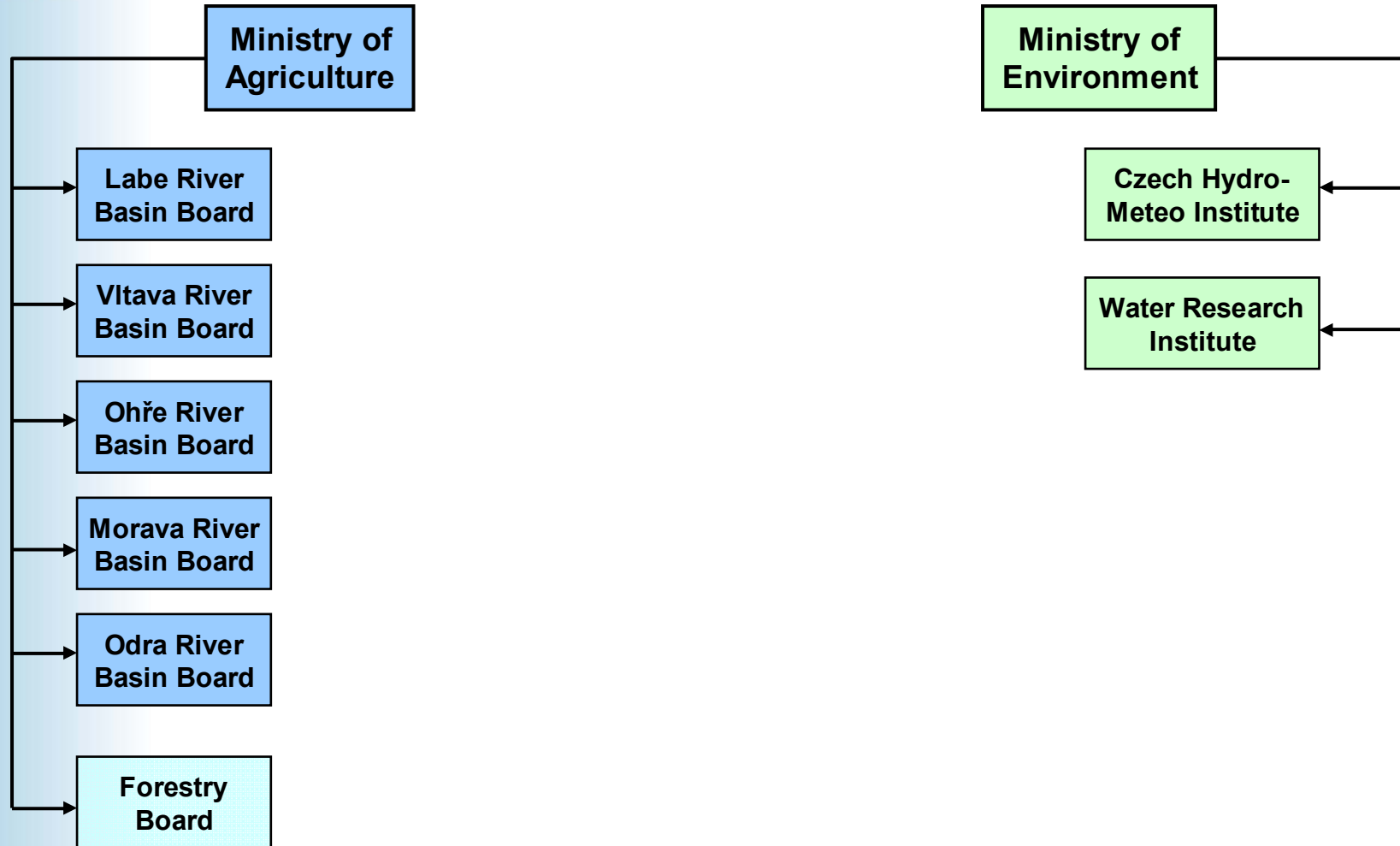
Regional Association VI, Forum Hydrology, Koblenz May 8 – 10, 2012



Statements of the national hydrological
service of the Czech Republic

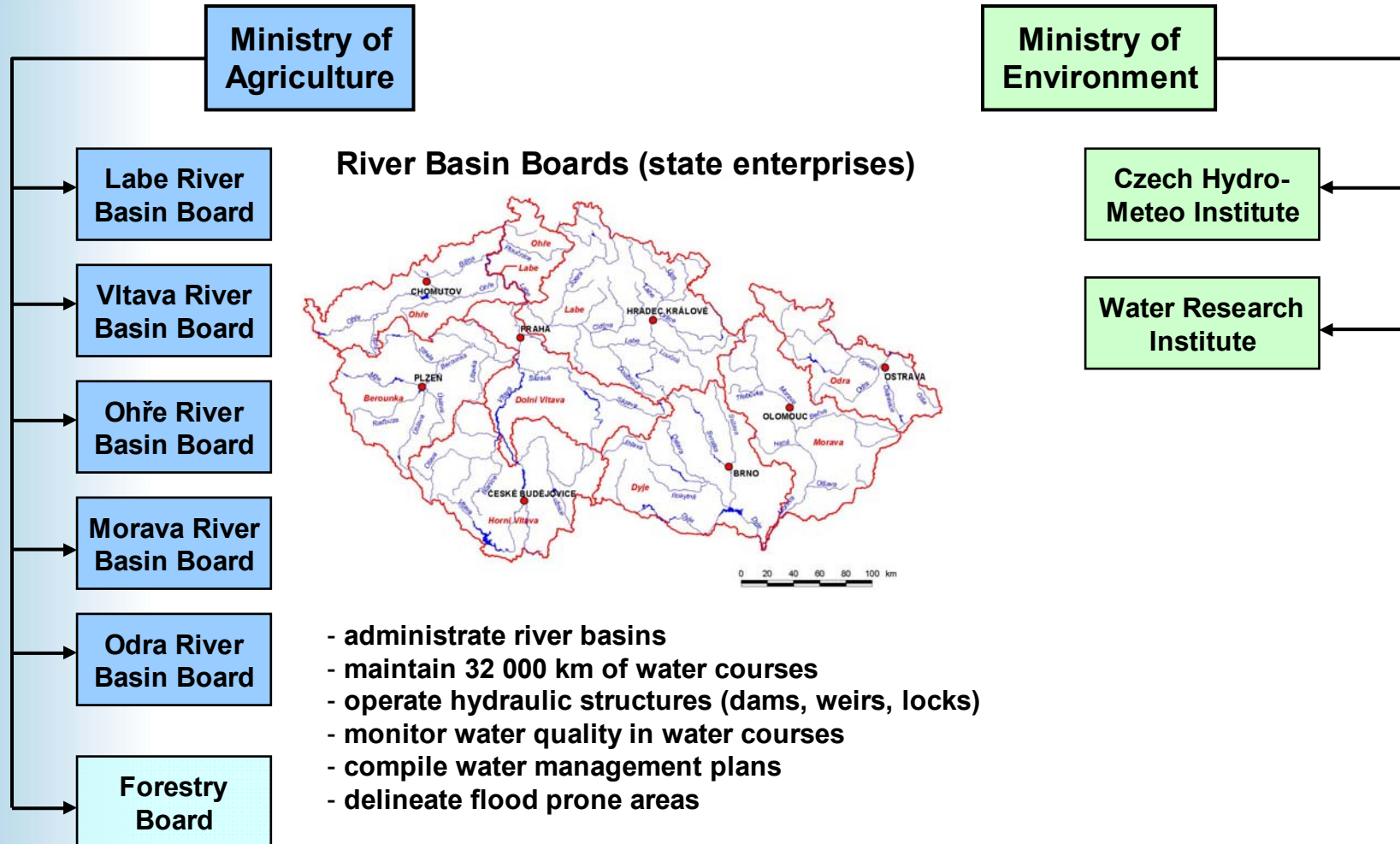


Organization, role and main tasks



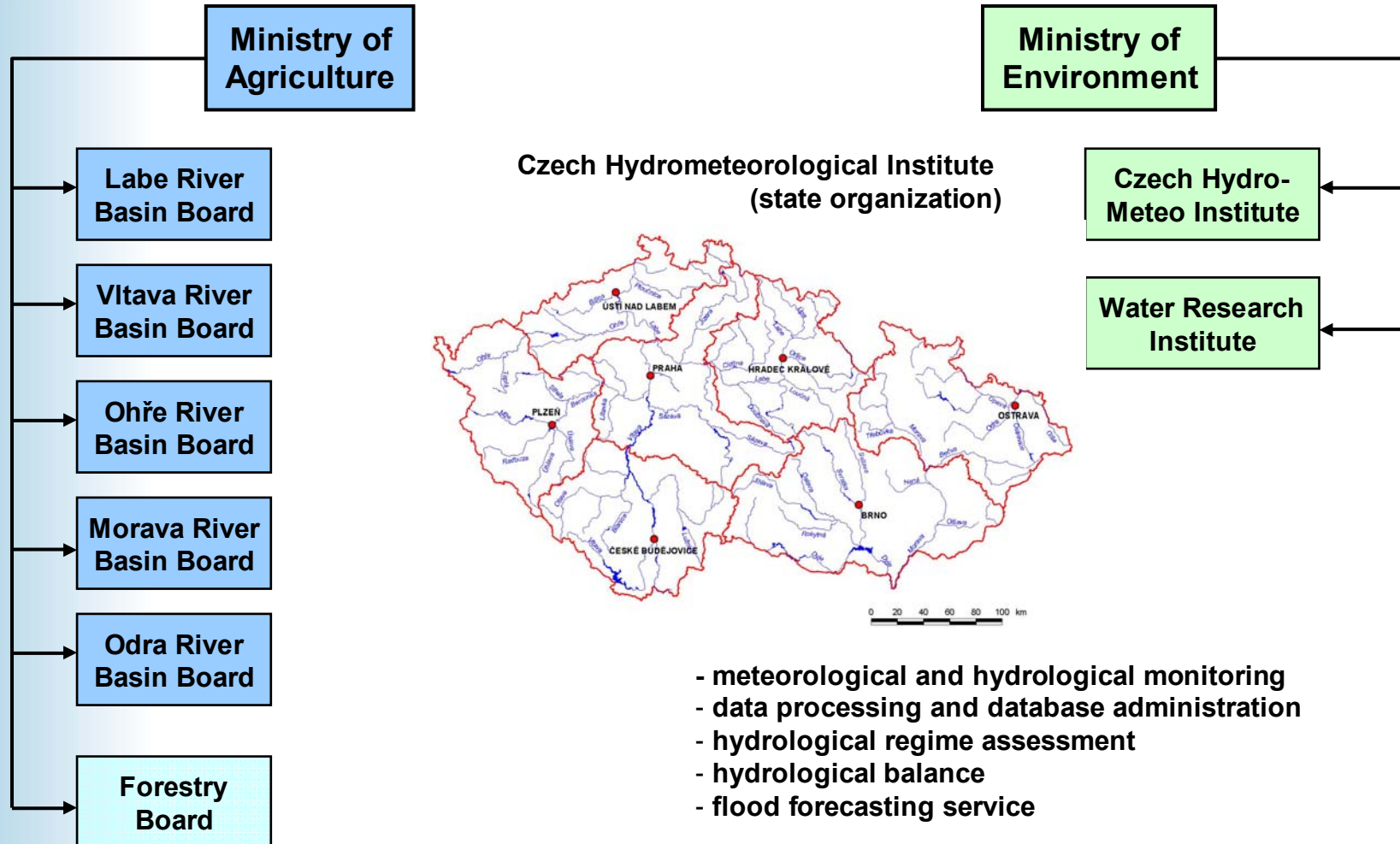


Organization, role and main tasks

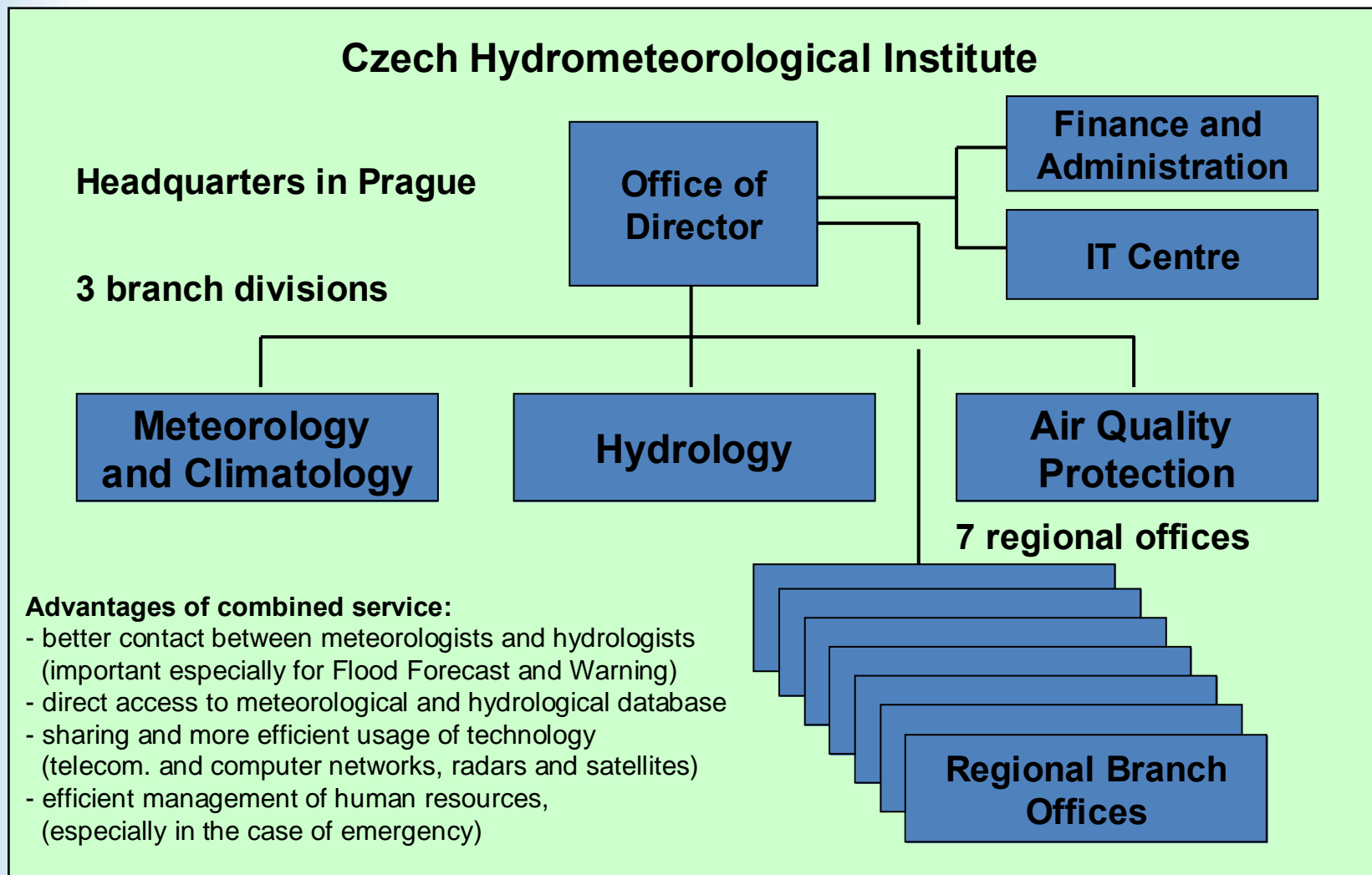




Organization, role and main tasks



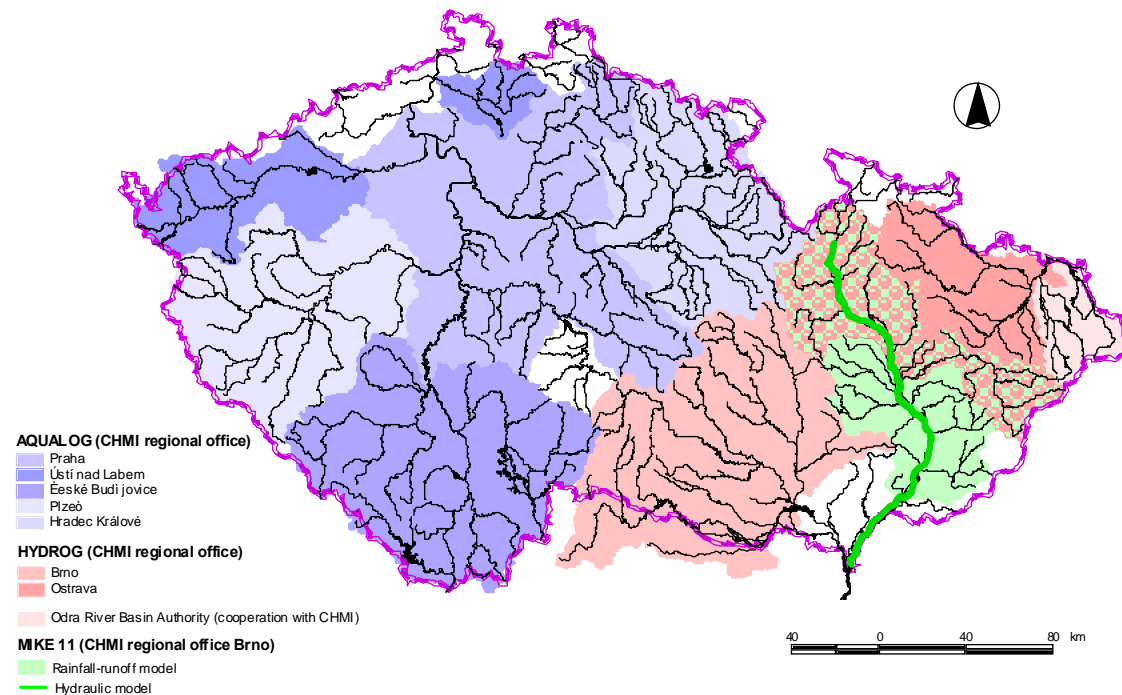
Organization, role and main tasks



Biggest success

Improvement of the hydrological forecasting system in the Czech Republic

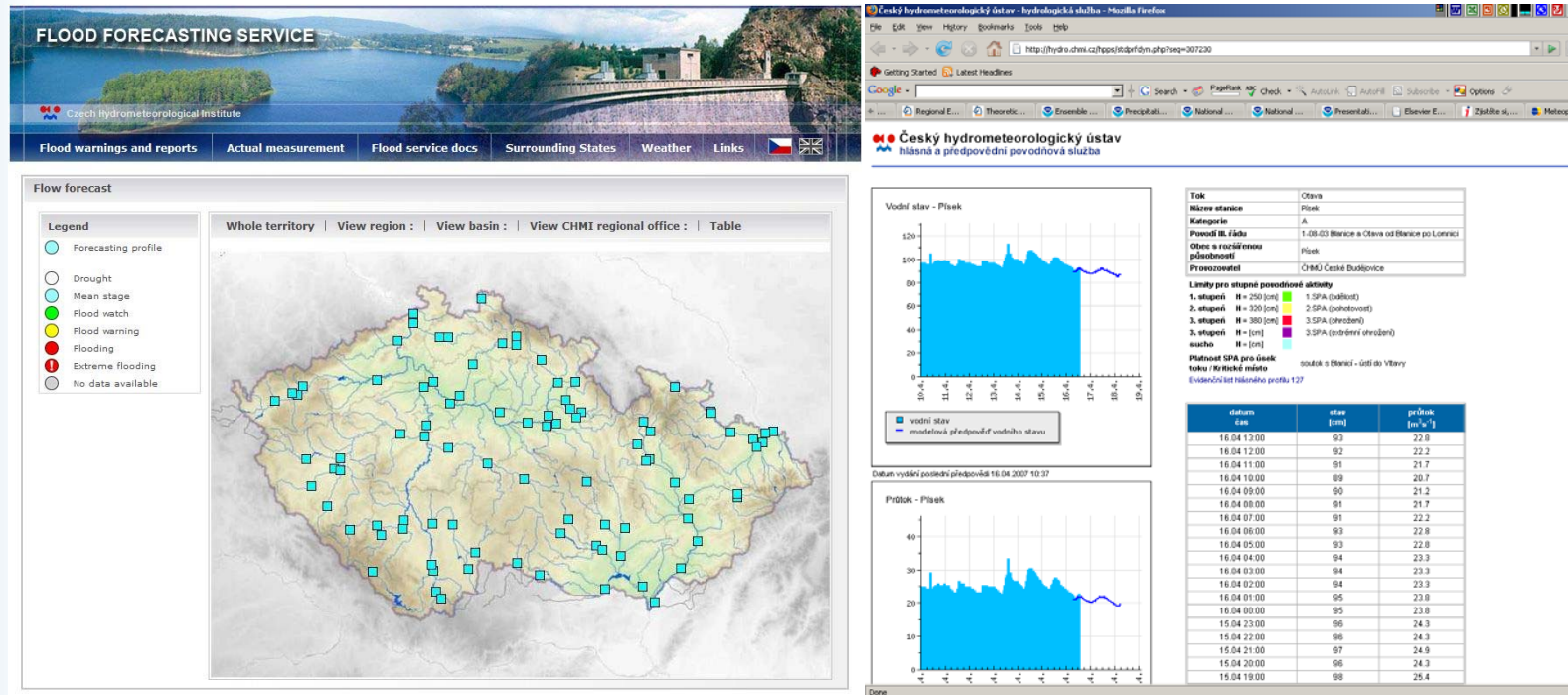
- setting and calibration of hydrological models for all main basins
- using of quantitative precipitation forecast as input into hydrological models
- prolong lead time of forecast to 48 hours on all rivers
- water equivalent of snow measurement and assessment of water storage in snow cover
- daily processing of models and issuing of hydrological forecast for 90 river sites
- presentation of real time data and forecasts for public on website



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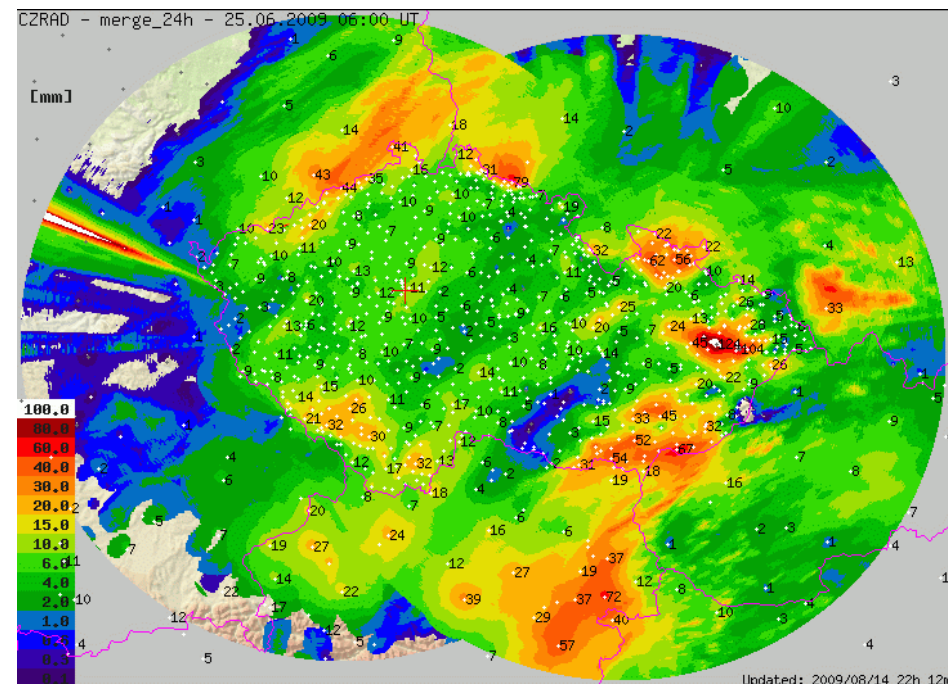


Biggest success

Hydrologists are happy because of having real time data on rainfall and water level

- real time data from about 270 meteorological and climatological station
- real time data on water level and discharges from about 330 hydrological stations
- data are transmitted by wireless GPRS system to dedicated servers in 10 minutes time steps
- most of them are available for public on website
- very useful is „merge precipitation information“ based on combination of radar data and ground measured precipitation data. It is probably the only way for detection of local intensive rainfalls. This information is also presented on website.

merge information about
24 hours precipitation sum
that caused flash floods in
June 2009



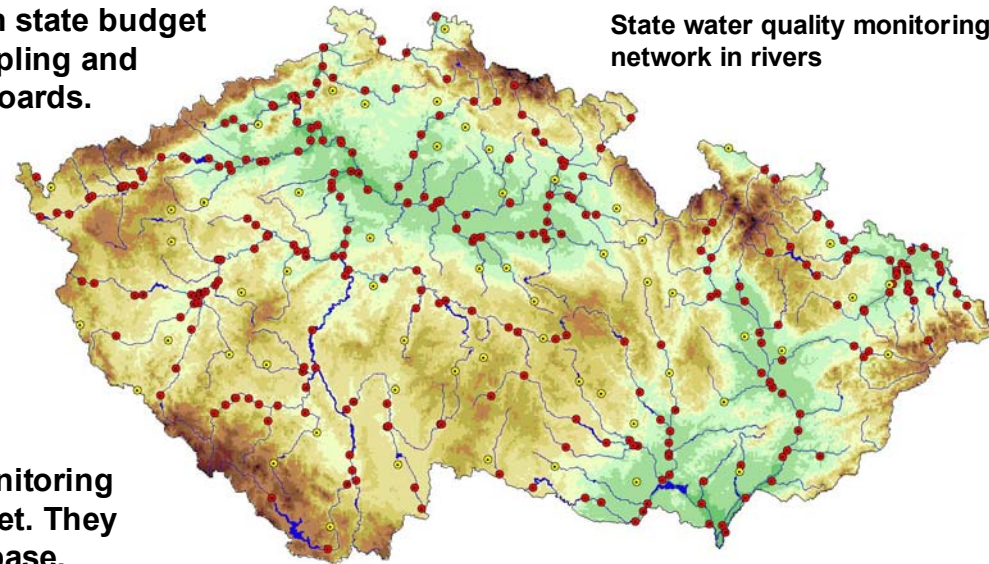
Biggest failure

Termination of the monitoring of water quality in rivers

- until 2008 the CHMI was responsible for water quality monitoring in rivers
- state monitoring network contained 385 sampling sites on main rivers (sampling 12 times in year)
- CHMI organized sampling and laboratory analyses (using external laboratory, River Basin Boards)
- CHMI processed data from laboratories, operated national database and Information System ARROW
- assessment of water quality in rivers for state and public administration was prepared in cooperation with River Basin Boards and Water Research Institute

Because of shortage of money from state budget the CHMI had to stop ordering sampling and laboratory work from River Basin Boards.

State water quality monitoring network in rivers



2009 - 2012
River Basin Boards continue in monitoring in the framework of their own budget. They do not provide data into state database.

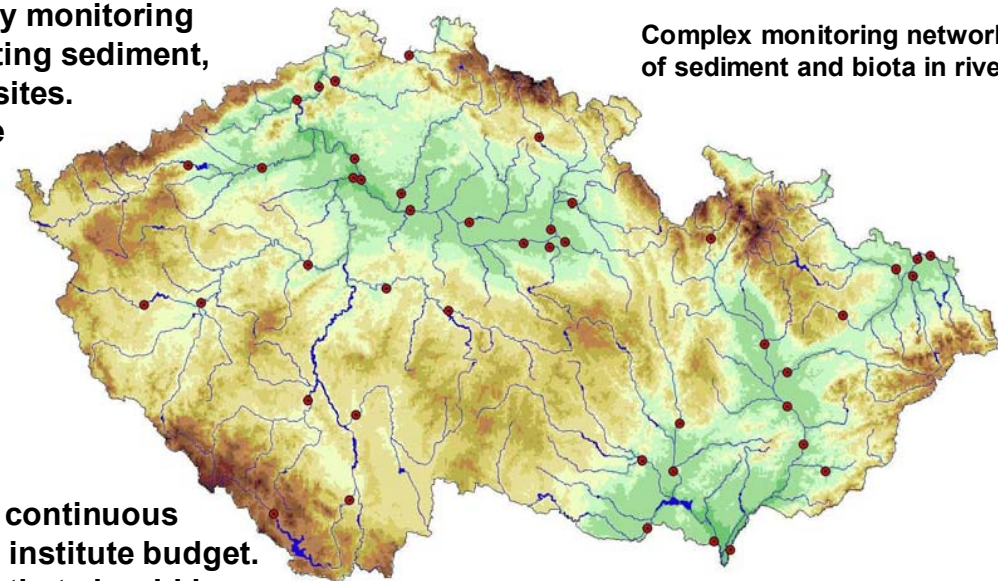
● Profily ZVHS
● Profily ČHMÚ

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From 2009 the CHMI carries out only monitoring of pollutants in solid matrixes (floating sediment, sediment) in 45 complex sampling sites. Accumulated pollutants in biota are monitored in 21 selected sites.

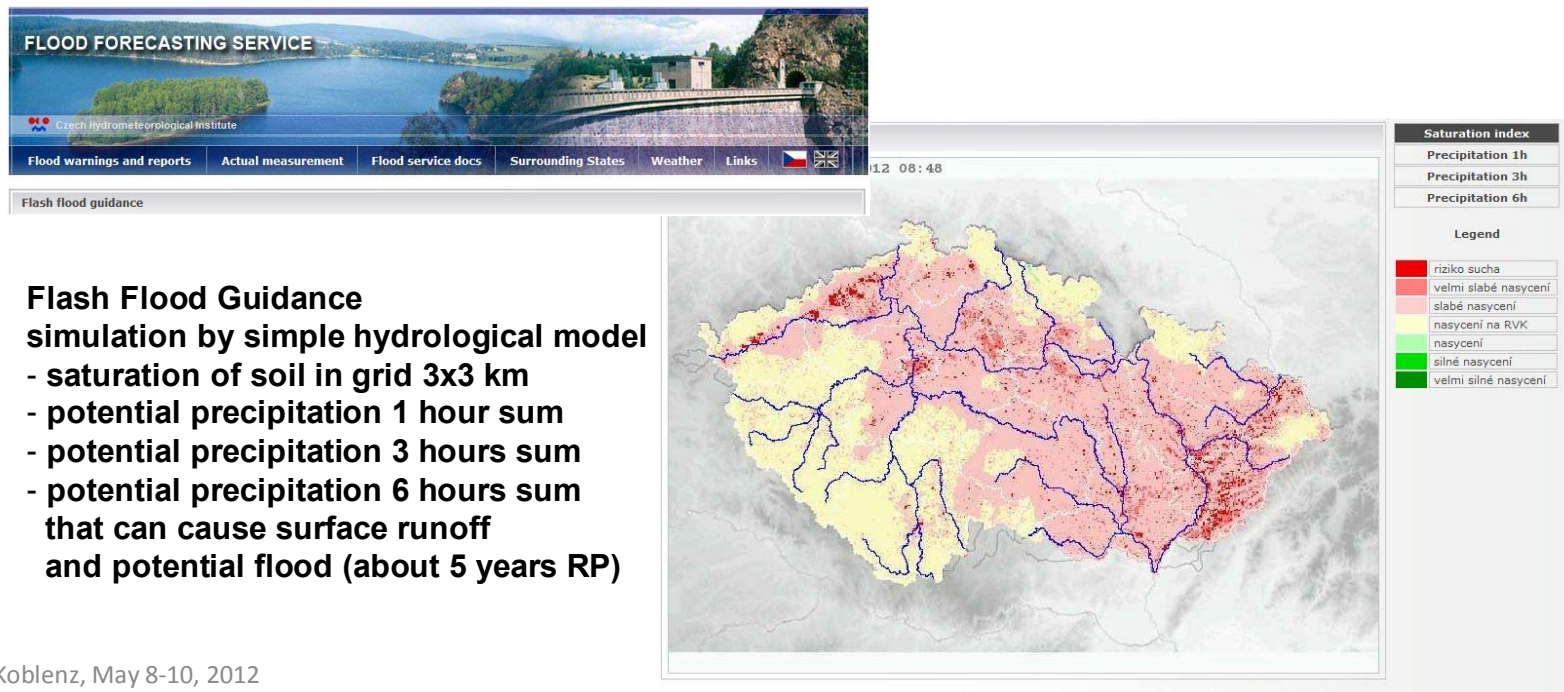


Hydrologist are unhappy mainly by continuous shrinkage of state contribution into institute budget. Basic activities of the state service, that should be covered by state budget, are financed from extraordinary sources (projects, grants).

Expectations

At national level - improvement of flash flood warning possibilities

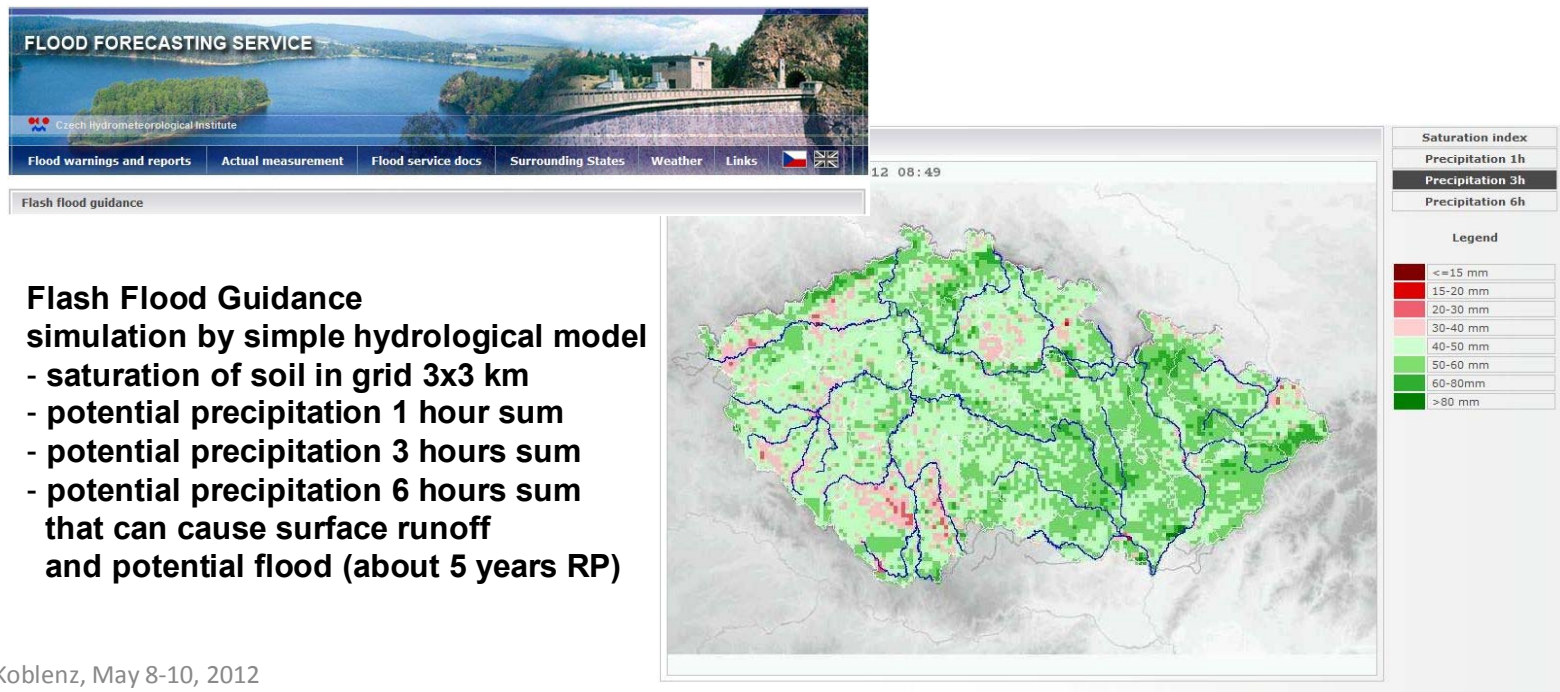
- increase of resolution of meteorological models (quantitative precipitation forecast)
- another improvement of merge precipitation information
- routine operation of „flash flood guidance“ – continuous simulation of flood vulnerability
- short-term prediction of local rainfall – based on extrapolation of radar cells movement (nowcasting)
- simulation of runoff response in small basins by hydrological model
- interconnection of these tools into an integral flash flood warning system



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Expectations

At international level – cooperation under WMO umbrella

- cooperation in Europe
- cooperation with neighboring states

Operation of hydrological networks

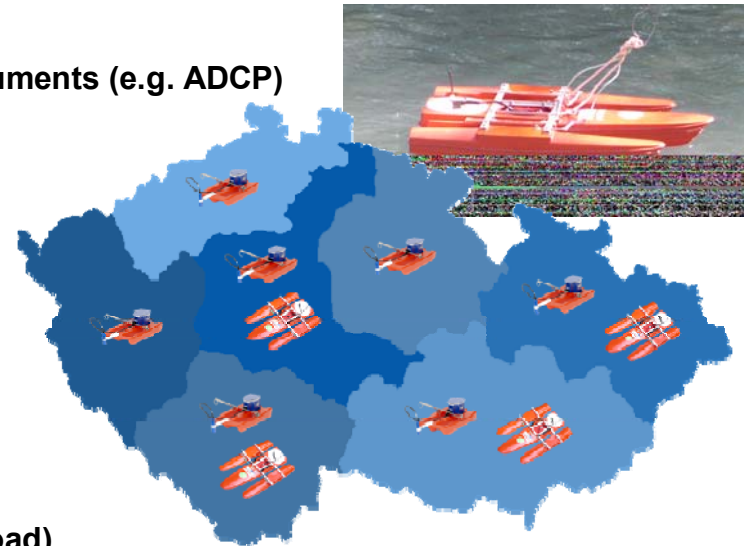
- standardization of measurement
- inter-comparison measurement and calibration of instruments (e.g. ADCP)
-

Data processing and hydrological applications

- standardization of reference period (1980 – 2010)
- methods for cleaning up artificial influence in data sets
- methodology for assessment of hydrological processes
problem of non-stacionarity, antropogenic influence
and possible climate change influence)

Data and products exchange

- not so crucial for our service (minimum inflow from abroad)
- improvement of EFAS in routine operation (increase of resolution)



Expectations

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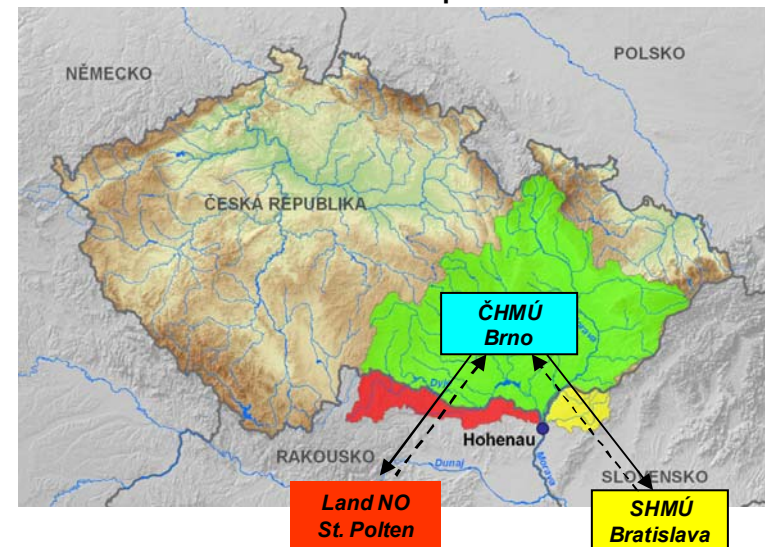
Operation of hydrological networks

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Data and products exchange

- not so crucial for our service (minimum inflow)
- we provide data and products to surrauding states
- improvement of EFAS in routine operation
(increase of resolution to be useful
for smaller basins)

**Collective forecasting system for
downstream part of the Morava river**





Regional Association VI, Forum Hydrology,
Koblenz, May 8 – 10, 2012

Thank you for attention

Jan Kubát

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