Cooperation in the international Elbe basin in the field of hydrology and flood protection

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INTERNATIONAL COMMISSION FOR THE PROTECTION OF THE RIVER ELBE (ICPER - IKSE - MKOL)

established in 1990 (Agreement on the ICPE)

members:
- Germany (65.5 % of the basin)
- Czech Republic (33.7 %)
- European Union (until 2003)

observers:
- Austria (0.6 %)
- Poland (0.2 %)

secretariat: Magdeburg

president: changed in two years period

language: German and Czech

main tasks:
- to improve water quality
- to enable water usage (supply)
- to achieve natural ecosystems (flora, fauna)
- to decrease a pollution load of the North Sea
- to reduce pollution accidents
- to improve flood protection (1997)
- to coordinate implementation of WFD (2000)
- to coordinate implementation of FD (2007)

http://www.ikse-mkol.org
IKSE – MKOL structure
after optimalization in 2005

IKSE - MKOL
president
heads of delegations
heads of working groups

ICG
president, heads of
deleagations, representatives
of Austria and Poland

secretariat (7 people)

WG - WFD
implementation of WFD in Elbe basin

group of experts
Surface water

group of experts
Ground water

group of experts
Data management

WG - H
accidental water pollution

WG - FP
flood protection

group of experts
Hydrology

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)

2005 – to now working group on flood protection (FP)
group of experts on hydrology
Cooperation IKSE - MKOL  
in the field of hydrology and flood protection

**Germany** - administrative structure – the Elbe basin interferes into 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 Basin Company (Elbe, Vltava, Ohře)  
-unified meteorological and hydrological service (CHMI)
Publication activities of the working group FP and its predecessors

Conception documents:
Mapping of current level of flood protection in the Elbe basin (2001)
Publication activities of the working group FP and its predecessors

Common floods assessment:
Hydrological assessment of the floods in August and September 2010 in the Elbe basin (2012)
Publication activities of the working group FP and its predecessors

Other publications:
The Elbe and its catchment (2005)
Hydrological low-flow characteristics of the Elbe river ant its major tributaries (2012)

Under preparation:
Hydrological assessment of the floods in June 2013 in the Elbe basin (2013-2014)

All publications are in German and Czech versions on http://www.ikse-mkol.org (in .pdf format)
Longitudinal profile of top discharges along the Vltava and Elbe rivers during flood 2002 and flood 2013
Influence of reservoirs on the Vltava and Elbe flood regime

Lipno 1959    33,17 mil.m³    < 2 % of catchment area to state border
Orlík 1961    62,07 mil.m³    23,5 %
Nechranice 1968 36,56 mil.m³    7 % of catchment area to state border

Reservoirs effect decreases downstream the river

Analysis of yearly maximum discharges
using double mass curves
Homogenization of long HQ data series of gauges of the German reach of the Elbe

Project leader – German Federal Institute of Hydrology (BfG)
Cooperation on the Czech site – Water Research Institute TGM Prague
Czech Hydrometeorological Institute
Methodological surveillance – Group of experts on hydrology IKSE - MKOL

Methodology

1. Choice of about 25 typical flood events (out of time series 1968 to 2013):
   - Winter floods and summer floods
   - flood origin in Vltava catchment area (Prague), in Czech part of Elbe catchment area (Dresden) and in German mountain areas (Barby)

2. (a) Modelling of real course of flood event

   - current river situation, that means with dams (after 1968)
   - 1:1-use of the existing model
Thank you for attention

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