

LIST OF TABLES

Tab. I.1	The largest amount of snow cover in selected river basins in 2015
Tab. I.2	Monthly runoff in 2015 as a percentage of long-term averages of monthly discharge for the period 1981–2010
Tab. I.3	Annual precipitation and runoff depth, and runoff coefficient in 2015
Tab. I.4	Characteristic hydrological data at selected water gauging stations in 2015 and their ratios to long-term characteristics
Tab. I.5	Peak water stages in 2015 exceeding the 3 rd flood level or the discharge with more than a 5-year return period
Tab. I.6	Monthly medians of water level at selected shallow boreholes in 2015
Tab. I.7	Monthly medians of yield at selected springs in 2015
Tab. III.1	Frequency of values of selected determinands in groundwater samples in 2015 according to river basin districts
Tab. III.2	Mean annual and highest concentrations (c , c_{max}) and annual loads of suspended solids (G_{pl})
Tab. III.3W	Classification of water quality determinands in selected profiles pursuant to ČSN 75 7221
Tab. III.4W	Classification of water quality pursuant to EQS (Order No. 23/2011 Coll. and Decree No. 98/2011 Coll.)
Tab. III.5W	Maximum values of determinands of groundwater quality exceeding the threshold values pursuant to the Decree No. 5/2011 Coll. of the Ministry of the Environment and Ministry of Agriculture
Tab. III.6W	Classification of water quality of suspended solids, sediments and suspended particulate matter pursuant to EQS (Order No. 23/2011 Coll. and Decree No. 98/2011 Coll.)
Tab. III.7W	Trends of chemical parameters in suspended solids and sediments
Tab. III.8W	Ratio of values under the limit of determination and the highest measured concentrations of priority hazardous substances in solid matrices of river basin districts
Tab. V.1	List of water gauges where complete dryout was observed
Tab. V.2	Number of days of mean daily discharge smaller or equal to Q_{355d} and Q_{364d} during 2015 (selected gauging stations)
Tab. V.3	Return period of annual minimum 7-day and 30-day discharge at selected gauging sites
Tab. V.4	Evaluation of groundwater level in shallow boreholes in 2015. Numbers represent probability of exceedance of monthly values derived from the 1981–2010 reference period for selected basin districts
Tab. V.5	Evaluation of spring yields in 2015. Numbers represent probability of exceedance of monthly values derived from the 1981–2010 reference period for selected basin districts
Tab. V.6	Water gauging stations used in the calculation in the profiles Praha-Chuchle and Dečín
Tab. V.7	Criteria for different categories of stability and sensitivity of river gauging sites
Tab. V.8	River gauging sites totals included in the particular stability and sensitivity category
Tab. P.1	Number of monitoring sites in 2015
Tab. P.2W	Analysed quality determinands in surface water, groundwater and solid matrices

LIST OF FIGURES

Fig. I.1	Means of monthly air temperature in the Czech Republic in 2015
Fig. I.2	Means of monthly precipitation totals in the Czech Republic in 2015
Fig. I.3	Development of snow storage upstream of the Orlík water reservoir in individual winter periods from 1970
Fig. I.4	Development of snow storage on the territory of the Czech Republic in individual winter periods from 1970
Fig. I.5	Daily discharges (table, hydrograph and flow duration curve) in 2015 for the Tuřice-Předměřice water gauging station on the Jizera River
Fig. I.6	Daily discharges (table, hydrograph and flow duration curve) in 2015 for the Kostelec nad Labem water gauging station on the Labe River
Fig. I.7	Daily discharges (table, hydrograph and flow duration curve) in 2015 for the Písek water gauging station on the Otava River
Fig. I.8	Daily discharges (table, hydrograph and flow duration curve) in 2015 for the Beroun water gauging station on the Berounka River
Fig. I.9	Daily discharges (table, hydrograph and flow duration curve) in 2015 for the Praha-Chuchle water gauging station on the Vltava River
Fig. I.10	Daily discharges (table, hydrograph and flow duration curve) in 2015 for the Hřensko water gauging station on the Labe River
Fig. I.11	Daily discharges (table, hydrograph and flow duration curve) in 2015 for the Bohumín water gauging station on the Odra River
Fig. I.12	Daily discharges (table, hydrograph and flow duration curve) in 2015 for the Olomouc-Nové Sady water gauging station on the Morava River
Fig. I.13	Daily discharges (table, hydrograph and flow duration curve) in 2015 for the Dluhonice water gauging station on the Bečva River

- Fig. I.14 Daily discharges (table, hydrograph and flow duration curve) in 2015 for the Strážnice water gauging station on the Morava River
- Fig. I.15 Daily discharges (table, hydrograph and flow duration curve) in 2015 for the Ivančice water gauging station on the Jihlava River
- Fig. I.16 Daily discharges (table, hydrograph and flow duration curve) in 2015 for the Břeclav-Ladná water gauging station on the Dyje River
- Fig. I.17 Hydrographs of selected floods in 2015
- Fig. I.18 Course of averaged standardized water level at shallow boreholes belonging to the reporting network (in blue) in 2015 in comparison to the long-term monthly values of the period 1981–2010
- Fig. I.19 Course of averaged standardized yield of springs belonging to the reporting network (in blue) in 2015 in comparison to the long-term monthly values of the period 1981–2010
- Fig. I.20 Regime of water level at shallow boreholes of the reporting network in the Czech Republic in selected groups. Values were standardized
- Fig. I.21 Regime of yield of springs belonging to the reporting network in the Czech Republic in selected groups. Values were standardized
- Fig. I.22 Base flow in selected groups in 2015
- Fig. III.1 Frequency of values of selected parameters in groundwater samples in 2015 according to river basin districts
- Fig. III.2 Monthly loads of suspended solids G_{pl} [ths t]
- Fig. III.3 Monthly medians and variability of water temperature in 2015
- Fig. III.4W Biota contamination by selected dangerous substances in 2015
- Fig. V.1 Deviation of monthly mean areal precipitation from the 1981–2010 normal and accumulated precipitation deficit for the area of Bohemia (red) and Moravia (green) during 2014–2015
- Fig. V.2 Monthly precipitation totals in 2014–2015 as a percentage of the 1981–2010 normal for the Czech Republic
- Fig. V.3 Overview of gauging sites where low flows ($Q \leq Q_{355d}$) were measured in 2015
- Fig. V.4 Precipitation total in the Czech Republic for the period from 16th to 19th August 2015
- Fig. V.5 Annual minimum 30-day runoff depth of the Lužnice River at the Bechyně water gauge
- Fig. V.6 Annual minimum 30-day runoff depth of the Labe River at the Děčín water gauge
- Fig. V.7 Annual minimum 30-day runoff depth of the Odra River at the Ostrava-Svinov water gauge
- Fig. V.8 Annual minimum 30-day runoff depth of the Morava River at the Strážnice water gauge
- Fig. V.9 Evaluation of groundwater level in shallow boreholes in mid-August 2015. Evaluation is based on exceedance probability for a given week with respect to the 1981–2010 reference period. Red and orange colours indicate drought conditions.
- Fig. V.10 Course of groundwater level in shallow boreholes expressed by monthly probability of exceedance (in %) based on the 1981–2015 reference period (MKP) and annual moving average (RKP)
- Fig. V.11 Course of standardized groundwater level in shallow boreholes in 2015 in comparison to dry years 1991, 1992 and 1993. Course of median (PP50) obtained from measuring network during the period 1981–2010.
- Fig. V.12 Evaluation of annual groundwater level in shallow boreholes in 2015 (top) and 1993 (bottom). Red and orange colours indicate drought conditions.
- Fig. V.13 Course of groundwater level in the deep borehole VP7410 Lužany
- Fig. V.14 Course of groundwater level in the deep borehole VP7018 Provodov
- Fig. V.15 Course of spring yields expressed by monthly probability of exceedance (in %) based on the 1981–2015 reference period (MKP) and annual moving average (RKP)
- Fig. V.16 Course of standardized spring yields in 2015 in comparison to dry years of 1991, 1992 and 1993. Course of median (PP50) obtained from measuring network during the period 1981–2010
- Fig. V.17 Evaluation of annual spring yields in 2015 (top) and 1993 (bottom). Red and orange colours indicate drought conditions
- Fig. V.18 Observed mean daily discharge of the Vltava River in Prague from 1947 and 2015 and calculated mean daily discharge in Prague-Chuchle from 2015 without the influence of the operation of large water reservoirs. For comparison empirical values Q_{355d} and Q_{364d} for the reference periods 1931–1960 and 1981–2010 are presented
- Fig. V.19 Observed mean daily discharge of the Labe River in Děčín from 1947 and 2015 and calculated mean daily discharge in Děčín from 2015 without the influence of the operation of selected water reservoirs. For comparison empirical values Q_{355d} and Q_{364d} for the reference periods 1931–1960 and 1981–2010 are presented
- Fig. V.20 The change of rating curve influenced by vegetation growth or alluviation
- Fig. V.21 The influence of river site shape on the slope of rating curve
- Fig. V.22 Evaluation of measuring sites stability
- Fig. V.23 Evaluation of measuring sites sensitivity
- Fig. V.24 Evaluation of river gauging sites stability and sensitivity (0 – very good, 4 – unsuitable)

LIST OF MAPS

- Map I.1 Annual precipitation totals in millimetres (upper map) and as a percentage of the 1981–2010 normal (bottom map) on the territory of the Czech Republic in 2015
- Map I.2 Deviation of mean annual air temperature from the 1981–2010 normal on the territory of the Czech Republic in 2015
- Map I.3 The greatest snow storage water equivalent on the territory of the Czech Republic in 2015
- Map I.4 Annual runoff depth in comparison to the long-term average of 1981–2010
- Map I.5 Number of days with flow equal or lower than Q_{355d} in 2015
- Map I.6 Achievement of the flood emergency levels (SPA) in the summer (V.–X.) and winter (XI.–IV.) of 2015
- Map I.7 Return period of maximum peak discharges for floods in summer (V.–X.) in 2015
- Map I.8 Base flow in 2015 expressed as a percentage of the 1981–2010 normal
- Map I.9 Comparison of standardized average water level in shallow boreholes in 2015 to the 1981–2010 period
- Map I.10 Comparison of standardized average spring yield in 2015 to the 1981–2010 period
- Map I.11 Comparison of standardized average water level in deep boreholes in 2015 to the 1991–2010 period
- Map II.1 River basin districts in the Czech Republic according to the Water Act
- Map II.2 Water balance districts in the Czech Republic (modified for the purpose of processing hydrological balance)
- Map II.3 Precipitation depth in balance districts in 2015
- Map II.4 Runoff in balance districts in 2015
- Map II.5 Base flow in balance districts in 2015
- Map III.1 Water quality classes for COD_{Cr} and BOD_5 in 2015 assessed by ČSN 75 7221
- Map III.2 Water quality classes for dissolved oxygen and total phosphorus in 2015 assessed by ČSN 75 7221
- Map III.3 Water quality classes for ammonia and nitrate nitrogen in 2015 assessed by ČSN 75 7221
- Map III.4 Water quality classes for total organic carbon and adsorbable organohalogens in 2015 assessed by ČSN 75 7221
- Map III.5 Concentrations of selected water quality parameters in 2015 compared with the EQS assessed by Decree No. 23/2011 Coll.
- Map III.6 Concentrations of selected water quality parameters and organic pollutants in 2015 compared with the EQS assessed by Decree No. 23/2011 Coll.
- Map III.7 Concentrations priority substances and microbiological parameters in 2015 compared with the EQS assessed by Decree No. 23/2011 Coll.
- Map III.8 Volatile organic compounds in groundwaters in 2015
- Map III.9 Polycyclic aromatic hydrocarbons (PAHs) in groundwaters in 2015
- Map III.10 Pesticides in groundwaters in 2015 (substances exceeding groundwater quality standard just in 1 monitoring object)
- Map III.11 Pesticides in groundwaters in 2015 (substances exceeding groundwater quality standard in 2 or more monitoring objects)
- Map III.12 Trace elements in groundwaters in 2015
- Map III.13 Ammonium, nitrites and nitrates in groundwaters in 2015
- Map III.14 Total gross α radioactivity in groundwaters in 2015
- Map III.15 Annual average of concentration of suspended solids in 2015
- Map III.16 Annual transport of suspended solids in 2015
- Map III.17 Occurrence of substances exceeding environmental quality standards pursuant to government order No. 23/2011 Coll. in sediments in 2015
- Map III.18 Occurrence of substances exceeding environmental quality standards pursuant to government order No. 23/2011 Coll. in suspended solids in 2015
- Map III.19 Occurrence of substances exceeding environmental quality standards pursuant to government order No. 23/2011 Coll. in suspended particulate matter in 2015
- Map III.20 Toxic equivalent of sum of dioxins, furans and dioxin-like PCBs in sediments in 2015
- Map III.21 Water temperature in 2015
- Map P.1 Regional responsibility of the CHMI branch offices with respect to the Flood forecasting service (upper map) and to the regime data processing (bottom map)
- Map P.2W Hydrological ordering of the main river basins
- Map P.3W Hydrogeological regions
- Map P.4W Water gauging stations
- Map P.5W Water gauging stations with water temperature monitoring
- Map P.6W Profiles with suspended solids and river sediments monitoring
- Map P.7W Surface water quality monitoring profiles
- Map P.8W Groundwater monitoring network
- Map P.9W Groundwater quality monitoring network
- Map P.10W Groundwater reporting network
- Map P.11W Regional responsibility of the CHMI branch offices
- Map P.12W Administrative units of the Czech Republic

LIST OF SELECTED SYMBOLS AND ABBREVIATIONS

c	[mg.l ⁻¹] Concentration of suspended solids
G _{pl}	[t] Load by suspended solids
Q _{pl}	[kg.s ⁻¹] Discharge of suspended solids
Q _m	[m ³ .s ⁻¹] Monthly average discharge
Q _I ..Q _{XII}	[m ³ .s ⁻¹] Long-term monthly average discharge
Q _r	[m ³ .s ⁻¹] Annual average discharge
Q _a	[m ³ .s ⁻¹] Long-term average discharge
Q _{Md} (e.g. Q _{355d})	[m ³ .s ⁻¹] M-day discharge
Q _N (e.g. Q ₁₀₀)	[m ³ .s ⁻¹] N-year flood
a. s.	Joint stock company
AV ČR	Academy of Sciences of the Czech Republic (CAS)
P90	90 th percentile
CPP	Central forecasting office
ČHMÚ	Czech Hydrometeorological Institute
ČHP	Number of hydrological order
ČR	Czech Republic
ČSN	Czech State Standard
ČVUT	Czech Technical University
ČZU	Czech University of Life Sciences Prague
DBČ	Database number
EU	European Union
GIS	Geographical information system
HPPS	Flood forecasting service
HZS	Fire rescue brigades
KÚ	Regional Authority
MKOL	International Commission for the Protection of the Elbe River
MKP	Monthly cumulative frequency curve
MP	Methodical guidance
MŠMT	Ministry of Education, Youth and Sports (MoEYS)
MZ	Ministry of Health (MoH)
MZe	Ministry of Agriculture (MoA)
MŽP	Ministry of Environment (MoE)
NEK	Environmental quality standards (EQS)
NEK-RP	Environmental quality standards (EQS) – annual average (AA)
NEK-NPH	Environmental quality standards (EQS) – maximum allowable concentration (MAC)
NL	suspended solids
NV	Government directive
OH	Department of Hydrology
OHP	Department of Hydrological Forecasting
OHV	Department of Applied Hydrological Research
RKP	annual moving average
RL	solutes
RPP	Regional forecasting office
SEČ	Central European time (CET)
SELČ	Central European Summer Time (CEST)
SHMÚ	Slovak Hydrometeorological Institute
s. p.	state enterprise
SPA	Flood emergency stage
UTC	Coordinated universal time
VD (VN)	Water structure (water reservoir)
VÚV T. G. M.	T. G. Masaryk Water Research Institute v. v. i.
v. v. i.	public research institution
WMO	World Meteorological Organization