

INTRODUCTION

The hydrological yearbook is one of the forms of the public presentation of monitoring results and assessment of hydrological conditions in the Czech Republic carried out by the Czech Hydrometeorological Institute (CHMI) on the basis of an authorization of the Ministry of Environment. For the last few years, processing of the hydrological yearbook has been closely interconnected with the hydrological balance prepared by the CHMI under the Ministry of Agriculture Decree No. 431/2001 Coll. The content of this hydrological yearbook is based on the processed results of measurements and monitoring in 2016 and their annual assessment according to long-term characteristics. The present-day yearbooks no longer offer complete data as was the case in the earlier ones. Results of all hydrological measurements and observations are stored in digital form in CHMI's databases and the yearbook presents only summary characteristics derived from the data sets. The primary data are presented for illustration for some selected monitoring sites on the main rivers and for some groundwater observation sites.

For the most part, the Yearbook presents an assessment of the whole calendar year 2016. If some assessments and annual characteristics are related to the hydrological year, i.e. the period from 1 November 2015 to 31 October 2016, this is highlighted in the text. All water quality characteristics relate to the calendar year.

The 2016 Hydrological Yearbook comprises six separate chapters and two appendices. The second and the third chapters, based on the results of the water quantity and quality hydrological balance, form the core of the Yearbook. The fifth chapter is devoted to selected current topics of the respective year.

Chapter I. „Hydrological assessment of 2016“

The chapter contains a description of the meteorological and hydrological situation in 2016. Complete runoff data (mean daily discharges) for selected main water gauging stations and monthly data on boreholes water levels and on spring yields for selected groundwater observation sites are given just for completeness.

Chapter II. „Hydrological balance – water quantity assessment“

The chapter contains spatial and temporal assessment of the hydrological balance elements, especially runoff and changes in groundwater resources. The assessment of the balance results is described in the text for individual river basin districts and accompanied by tables, graphs and maps.

Chapter III. „Hydrological balance – water quality assessment“

The chapter offers an evaluation of surface water and groundwater quality parameters and their comparison to reference values. The evaluation is based on results of monitoring programs of surface and groundwater in accordance with 2000/60/EC Water Framework Directive and national legislation.

The water quality balance assessment is structured according to individual river basin districts. Water quality maps based on selected determinants are presented. The water temperature, concentration and quantity of suspended solids are also assessed on selected streams.

Chapter IV. „Processing of data and its publication“

The first part of the chapter outlines real-time information provided by the CHMI within the frame of flood warning and forecasting service on the CHMI web-sites. The second part of the chapter informs about regime data and characteristics, which are stored in a CHMI database. The information can be processed to order according to the individual user's requirements. Information on surface and groundwater quality is made public via the information system ARROW on the CHMI web-site.

Chapter V. „Topical and regional hydrological problems and tasks“

The penultimate chapter of the Yearbook is targeted on selected topical themes of the given year and on regional problems. It provides a scope for the presentation of work of individual hydrological departments of the Headquarters and Regional Offices of the Institute. This yearbook is devoted to the short biography of Mr. Josef Hladný, who affected the development of the Czech hydrological service from the 1950s, to the presentation of hydrological instruments measuring surface waters, and to the long-term effects of drought in the Czech Republic in terms of an evaluation of runoff minima during a multi-year period:

- „Josef Hladný in Czech hydrology“,
- „Presentation of hydrological instruments for measuring in open channels“,
- „Assessment of hydrological conditions during the period 2014–2016“.

Chapter VI. „References of published works in 2016“

As usual, the last chapter contains a review of hydrological papers and studies in the given year. For selected titles, an annotation is quoted, which describes the aims and results of the quoted works.

Appendix PI. „Overview of hydrological observations in 2016“

This appendix contains an overview of the numbers of observation sites and profiles, list of the hydrological ordering of the main river basins and the list of the hydrogeological regions. Furthermore, observed parameters of water quality are listed. More detailed information, including an interactive map project, is available only in the electronic version of the Yearbook.

Appendix PII. „Overview of the CHMI hydrological offices“

This appendix contains updated addresses and contact details for the CHMI hydrological offices.

The hydrological yearbook in this printed form has been published since 1992. Since the 2004 edition it has been also published in an electronic form, and since the same year, it has been also available on the web-sites of the CHMI. The printed version of the yearbook does not contain some appendices that are part of the electronic version only.

The hydrological yearbook is published only in the Czech version and a brief English summary is included in the introduction to the yearbook and in introductions to the individual chapters. Titles of hydrological papers and studies in the bibliography and legends to tables, figures and maps are given in English as well.