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Code of practice for the management of observed hydrometric data

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Foreword

Publishing information

This British Standard is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 31 December 2014. It was prepared by Technical Committee CPI/113, *Hydrometry*. A list of organizations represented on this committee can be obtained on request to its secretary.

Supersession

This British Standard supersedes BS 7898:1997, which is withdrawn.

Use of this document

This British Standard takes the form of guidance and recommendation. It should not be quoted as if it were a specification and particular care should be taken to ensure that claims of compliance are not misleading.

Any user claiming compliance with this British Standard is expected to be able to justify any course of action that deviates from its recommendations.

Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its recommendations are expressed in sentences in which the principal auxiliary verb is "should".

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

The word "should" is used to express recommendations of this standard. The word "may" is used in the text to express permissibility, e.g. as an alternative to the primary recommendation of the clause. The word "can" is used to express possibility, e.g. a consequence of an action or an event.

Notes and commentaries are provided throughout the text of this standard. Notes give references and additional information that are important but do not form part of the recommendations. Commentaries give background information.

Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

Introduction

Water management decisions and policies ought to be based upon quantitative knowledge of the hydrological system. Commonly, such knowledge results from observational hydrometric data, the collection of which is the subject of other standards, e.g. BS 7843 and BS EN ISO 18365. The subsequent management of such hydrometric data provides the linkage between field measurement and the eventual use of processed data to address a wide range of strategic and operational river and water management applications. As both the demand for and complexity of hydrometric data increase, it is important that the procedures and processes used to manage these data are standardized to allow greater intergration of data and ensure their protection for future use.

The availability of high-quality observational data is vital to developing an understanding of the hydrological cycle. Optimizing data management systems helps ensure that the maximum benefits are achieved from those resources invested in hydrometric monitoring. Effective standardized procedures for data transmission, manipulation, quality control, expression of uncertainty and storage are vitally important and their use is to be promoted throughout hydrometric observation networks.

Those responsible for hydrometric data management are encouraged by this code of practice to adopt the ethos of a professional stewardship and to remember their role as guardians of an important national, and sometimes international, resource.

This code of practice is concerned with general aspects of good practice in data management. Techniques for managing data are recommended, covering metadata collection, data storage and quality control. This standard assumes that the raw data have been collected and transmitted from the field in line with other British Standards for hydrometry, so this standard concentrates on the subsequent processing and management of these hydrometric data.

1 Scope

This British Standard gives recommendations for the management of observed hydrometric data, including raw data and other data and statistics derived from these observations. While the principles of data management can be applied to all hydrometric observations, particular focus is placed on measurements of precipitation, water level (including stage) and discharge in open channels.

NOTE The range of sites where water levels, and sometimes flow, are measured includes lakes, reservoirs, rivers, canals, tidal waters, sewers, wells, and boreholes.

There are other data (for example, evaporation, soil moisture and snow depths) that are embraced by the term "hydrometry", as defined in this British Standard, and there are yet others (for example, water temperature, pH, atmospheric pressure) that are peripheral. These are not discussed explicitly but it is intended that the same general principles be applied to the management of all such data.

The standard covers metadata associated with hydrometric data, including recommendations for the production and management of descriptive, analytical and statistical material relating to sites where hydrometric data are collected. The recommendations of this standard can be applied to some forms of data directly derived from observational records (for example, summary time series of monthly mean river flows), but are not designed for the management of data resulting from more complex numerical models or spatially aggregated datasets (for example, remotely-sensed data).

This standard does not cover the field collection of data or its transmission, but focuses on the management of data once they have been received in a hydrometric information management system.