



## **A Metadata Standard for Hydroinformatic Data Conforming to International Standards**

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The affordable availability of computing power and digital storage has been a boon for the scientific community. The hydroinformatics community has also benefitted from the so-called digital revolution, which has enabled the tackling of more and more complex physical phenomena using hydroinformatic models, instruments, sensors, etc. With models getting more and more complex, computational domains getting larger and the resolution of computational grids and measurement data getting finer, a large amount of data is generated and consumed in any hydroinformatics related project. The ubiquitous availability of internet also contributes to this phenomenon with data being collected through sensor networks connected to telecommunications networks and the internet long before the term Internet of Things existed. Although generally good, this exponential increase in the number of available datasets gives rise to the need to describe this data in a standardised way to not only be able to get a quick overview about the data but to also facilitate interoperability of data from different sources.

The Federal Waterways Engineering and Research Institute (BAW) is a federal authority of the German Federal Ministry of Transport and Digital Infrastructure. BAW acts as a consultant for the safe and efficient operation of the German waterways. As part of its consultation role, BAW operates a number of physical and numerical models for sections of inland and marine waterways. In order to uniformly describe the data produced and consumed by these models throughout BAW and to ensure interoperability with other federal and state institutes on the one hand and with EU countries on the other, a metadata profile for hydroinformatic data has been developed at BAW. The metadata profile is composed in its entirety using the ISO 19115 international standard for metadata related to geographic information. Due to the widespread use of the ISO 19115 standard in the existing geodata infrastructure worldwide, the profile provides a means to describe hydroinformatic data that conforms to existing metadata standards. Additionally, EU and German national standards, INSPIRE and GDI-DE have been considered to ensure interoperability on an international and national level. Finally, elements of the GovData profile of the Federal Government of Germany have been integrated to be able to participate in its Open Data initiative. All these factors make the metadata profile developed at BAW highly suitable for describing hydroinformatic data in particular and physical state variables in general. Further details about this metadata profile will be presented at the conference.

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