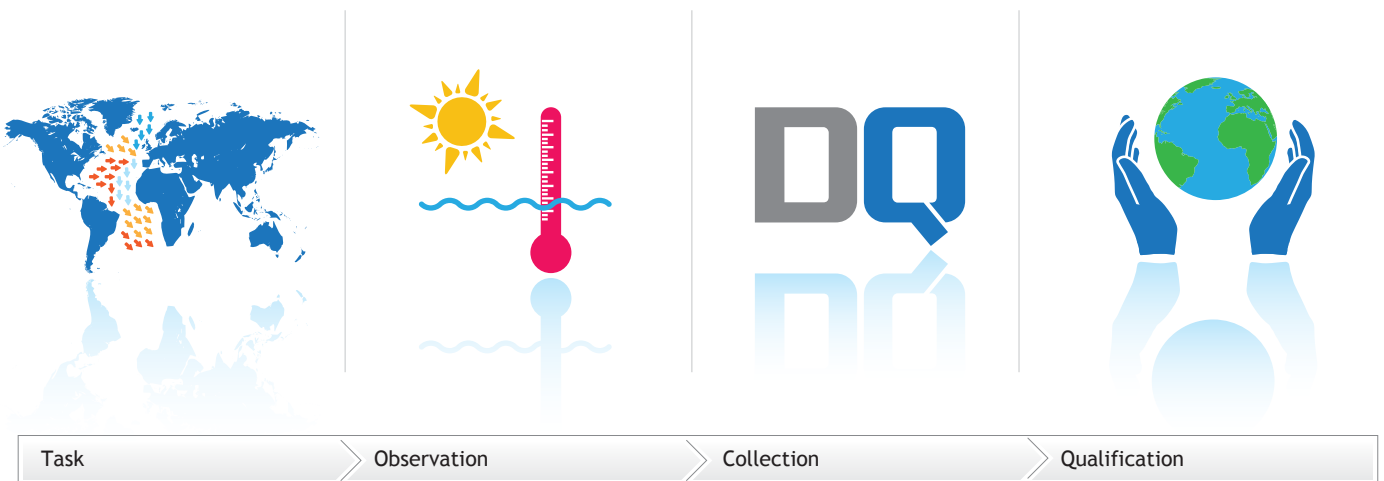


DQ DATA QUALITY SYSTEMS

Why does data qualification matter?

The need for reliable meteorological-oceanographic (Met-Ocean) observations has never been greater. The world climate is changing. Scientists are dependent on Met-Ocean data to monitor and quantify climate change and to assess the counter measures taken.

Data Quality Systems (DQS) meets the challenge of efficient data management and qualification, faced by the global community. DQS uses the term “data qualification” to describe the process required to transform raw data to meet the specified data quality criteria.



Making Met-Ocean Data Useful

The contribution of mankind to climate change is widely accepted. It is also evident that we can act to resolve this problem and we should but “*without observations there is no science*” (Niels Bohr). To a certain degree recorded observations and data exist, but not to the

extent and of the quality that will be needed. Sufficient, manageable and high quality data are the essential prerequisites to ensure that the most effective initiatives are implemented. Today human resources and operational costs limit the availability of such data.

Data Quality Systems offers a solution which provides improved quality information and manageability of the data, at a reduced cost.



DQS covers full value chain – focusing on qualification



Data Quality Systems in a value chain context

Why does data qualification matter?

➤ Idea

The qualification of data from an observed/measured Met-Ocean phenomena is an acknowledged “knowledge intensive” task.

The main factors are:

- the specific tasks/decisions in question
- the Met-Ocean organizations involved
- the professionals engaged in the business and
- the applied procedures, algorithms and managed entities

The DQS solution provides the tools to simplify the process, and to ensure optimal knowledge management.

➤ Measurements and data quality explained

In practice, data qualification is performed by highly skilled personnel in a local organisational setting with limited transparency throughout the process.

It is common that only a fraction of available data is ever used, probably because of inadequate quality. The reason for inadequate quality is most likely the high cost of data qualification with the available tools.

To resolve this issue, a set of features enabling the relevant parties to contribute to the qualified data product at the appropriate time and place in the process is a key requirement. In knowledge management this method is known as “embedding knowledge in the working process”.

➤ Solution

The DQS solution will:

- Ensure a significant increase in the available useful data for all professionals involved in the value chain.
- Improve the overall efficiency of the process

The value chain ranges from the project specification, station deployment, data observation, and qualification to the reporting/exporting of the observation scheme output.

DQS utilises intelligent software solutions and related skills to resolve the critical Met-Ocean data quality management issues.



The data qualification software choice for Met-Ocean professionals

➤ Offers a unique approach

Which embeds a vital knowledge management capability into the working processes.

➤ Supports Met-Ocean working processes

Which enhance the user interfaces designed to support the relevant Met-Ocean working processes.

➤ Facilitates knowledge sharing

Which includes powerful software tools applicable across the entire process e.g. observation scheme designers, data providers, project managers and instrument providers.

➤ Optimises resource usage

Which ensures minimum demand on resources resulting from the high process efficiency and an improved learning environment.

➤ Unifies knowledge

Which provides a single reference point for all the documentation and management matters related to field observation schemes.

➤ Enables communication processes

Which facilitates a unified communication and transport means for the qualified data between the users and related organisations.

DQS combines the management of observation activities and data qualification in a single powerful solution



The Management of observation activities is an integrated part of DQS, including parameter management, instrument management and station & deployment management.

The DQS solution ensures that personnel located in geographically dispersed locations have the facility to contribute to any task even when these personnel have no specific knowledge of any other involved persons' activities.

The generation and distribution of Reports are possible including both observational data and metadata.

The feature of agile, streamlined management procedures facilitates the systematic deployment across all users and organisations

The Data qualification operations in DQS are capable of supporting a wide range of observation scheme standards and deployment procedures.

The powerful data qualification core enables the user to apply monitoring algorithms, diagnostic algorithms, and/or data manipulation algorithms to the original dataset in any number of dimensions. Users have the option to specify and use flags in these operations.

Full transparency is maintained between the original and the qualified data values to secure a valuable end-to-end perspective of the data set. The final output information package includes the original data set, the qualified data set, and a record of the operations carried out.

