



## **International Quality Controlled Ocean Database (IQuOD) version 0.1 (Invited)**

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Reliable long-term ocean subsurface temperature measurements are critical for understanding changes in the Earth's Energy Imbalance, ocean temperature, sea level, and also separating natural variability from anthropogenic factors. The International Quality Controlled Ocean Database (IQuOD), with support from programmes such as CLIVAR, SCOR and IODE, is the first internationally-coordinated community effort to enhance the content, utility, and quality of the global historical profile database of subsurface temperature observations, and with the potential to expand to other oceanographic variables (salinity, oxygen, etc.). Efforts are underway to establish an internationally-agreed optimal set of automatic quality control procedures and to incorporate machine learning into expert quality control. Progress to date includes attaching uncertainty estimates to temperature profiles on each depth (pressure) and intelligent metadata for unknown probe types for a major instrument of the historical record (identified through a deterministic approach using country, year, depth, etc). This initial progress will be released as part of an interim product, IQuOD v0.1, which will be part of the existing World Ocean Database (WOD) and WOD quality flags, but also with additional systematic quality control from the Coriolis team in France. Users can publicly download this WOD/IQuODv0.1 through the WODselect system in a Climate-Forecast (CF) compliant netCDF ragged array format. This interim product will also be distributed to the public via other data centers in Australia, France, Germany, Japan and the UK.