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GO-SHIP Easy Ocean: Formatted and gridded ship-based hydrographic section data

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Despite numerous technological advances over the last several decades, ship-based hydrography remains the only method for obtaining high-quality, high spatial and vertical resolution measurements of a suite of physical, chemical, and biological parameters over the full water column essential for physical, chemical, and biological oceanography and climate science. The Global Ocean Ship-based Hydrographic Investigations Program (GO-SHIP) coordinates a network of globally sustained hydrographic sections as part of the global ocean observing system, building on previous programs. These data provide a unique data set that spans four decades, comprised of more than 40 cross-ocean transects, many with multiple repeats. The section data are, however, difficult to use owing to inhomogeneous format. The purpose of this data product is to increase the value of these data by better combining, reformatting and gridding in order to facilitate their use with less effort by a wider audience. The product is machine readable and readily accessible by many existing visualisation and analysis software packages. The data processing can be repeated with modifications to suit various applications such as analysis of deep ocean, validation of numerical simulation output, and calibration of autonomous platforms. This initial release includes temperature, salinity, and dissolved oxygen data from Conductivity-Temperature-Depth profiles, but the product will include other properties in future releases.