

Eighth GEBCO Science – presentation abstract

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Oral presentation title: Bringing Ocean Data to the Cloud

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Abstract

New technologies for hydrographic and oceanographic data collection systems have led to an exponential increase in the amount of data collected, stored and processed. New studies report that over 90% of all data collected across a wide range of domains are never examined. Ocean data falls prey to this same phenomenon.

This unused data is called “dark data”. The data could be of high quality and have high utility but because they are not easily searchable, are in proprietary formats, or are too large to transfer or easily access, the data and the value they hold, remain untapped.

Workflows and software applications have attempted to evolve and adapt to this increase that would continue to enable scientists and data managers to maintain a sense of control over the data. However, these data volumes are now exceeding the ability to efficiently store, manage, discover, analyze and deliver the information captured.

It is not just data collection rates are that are increasing. The cost for traditional storage of data is increasing and regional diversity of the demand for data is increasing. Because the complexity of data is also escalating, the necessity of effectively communicating about the data is of critical importance. Cloud technologies are proven solutions to this problem for data storage, discovery, and delivery.

Cloud based storage methods help to drive costs down and increase access. Employing relevant metadata and keyword tags in search make discovery and delivery a practical reality for users who would otherwise not be able to illuminate dark data. Technologies that index, summarize and present complex data structures in an easy to communicate manner are emerging and have the potential to dramatically alter the way the ocean data community approaches new data challenges.