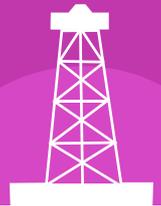


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De-risking hydrocarbon prospects

Making deep ocean sediment data more accessible could aid the exploration and discovery of new hydrocarbon resources



Publicly-available data, acquired through over 50 years of international ocean drilling programmes, have been made more accessible to the petroleum industry by the **global geoscientific data product and service provider, TGS.**

The database - known as the **Deepwater Borehole Data Atlas** - is helping to increase understanding of earth processes and of the subsurface beneath our seas and oceans. It could also be of broader benefit in the future, leading to the discovery and exploitation of new hydrocarbon resources.



Photo: L/B Kayd during IODP Expedition 313
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Since 1966, an international community has been **exploring the sea floor** using ocean coring technologies and borehole observations. The data garnered from these research programmes are released into the public domain and are made available via a number of academic web sites.

In 2014, **TGS** developed a web scraping tool to automatically seek-out, download and compile the open-source data for the 3,499 boreholes available through the Deep Sea Drilling Program (DSDP), Ocean Drilling Program (ODP), Integrated Ocean Drilling Program (IODP1) and International Ocean Discovery Program (IODP).

Deepwater Borehole Data Atlas



The compiled data were then analysed, standardised and presented in a way that would make them useful both internally within TGS and to its extensive client database.

The result was the **Deepwater Borehole Data (DBD) Atlas**.

The **DBD Atlas** includes a database describing each well chronologically, focussing on data that are essential to the petroleum industry.



Composite logs were created for the 1,722 boreholes that recovered core data dating from the Pliocene (5.3 million - 2.6 million years BP) or older.

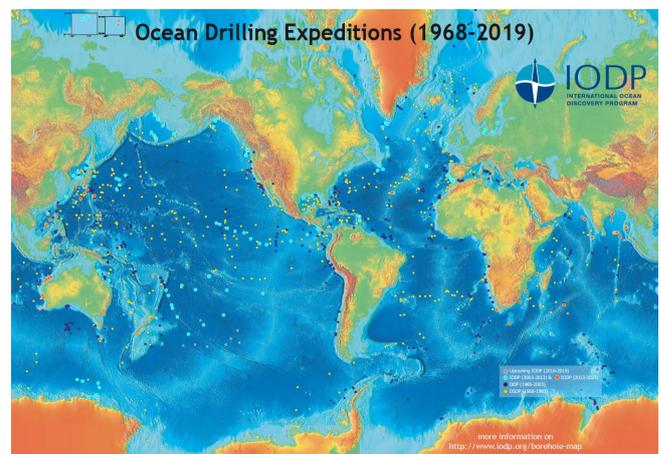


Image: DSP, ODP and IODP drillsites (Source: IODP/ ECORD)



What we've done is give the oil and gas industry easy access to data collected by academics in places where the commercial sector might not have gone and where there is commonly a paucity of data. By enhancing and repackaging the most relevant data we can help the industry improve their understanding of these frontier regions, which could ultimately lead to the discovery of new hydrocarbon resources."



Steve Allen

International Sales and Business Development Manager
TGS, Geological Products and Services Division

Industry users have claimed that the DBD Atlas provides a useful starting point in areas where industry wells don't exist.

Internally, the DBD Atlas has proven invaluable. For example, TGS has used the data to age sediments in Orphan Knoll (Newfoundland), 175 km from the nearest exploration well, which is a critical step in de-risking prospects in the region. TGS has also tied the data to deepwater seismic data they acquired in order to get information, such as total organic content (TOC), about Cenomanian-Turonian source rock. These data were for offshore Senegal, 250 km from exploration wells,

and showed one of the highest TOC values in the West Atlantic margins (more than 20%).

The **DBD Atlas** provides information about what's going on below the surface, often in deep-water, frontier areas where few, if any, oil wells have been drilled. The Atlas therefore provides some of the only data available to help base the configuration and layout of new seismic surveys in frontier regions. It is therefore an invaluable aid in seismic survey planning and interpretation. ■

Additional Information

■ The **Deepwater Borehole Data Atlas** was developed by **TGS**, who provide global geoscientific data products and services to the oil and gas industry to assist with licensing rounds and the preparation of regional data programs. For more information on TGS and the Atlas, visit tgs.com or email WellData@tgs.com



■ The **International Ocean Discovery Program** is a continuation of over five decades of international collaboration to recover geological data and samples from beneath the ocean floor to study the history and dynamics of Planet Earth. The UK is a member of the IODP as part of the European Consortium for Ocean Research Drilling (ECORD). The UK IODP is a NERC directed research programme that supports UK participation in IODP. www.iodp.rocks





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