

# Accelerating Hydrographic Data Management with Absolute Ocean and HYPACK Integration



## Client Overview

CR Environmental, Inc., a leader in hydrographic survey services, specializes in environmental monitoring and marine mapping. Their operations require efficient workflows for collecting, transferring, and processing data to deliver actionable insights from some of the world's most challenging marine environments.

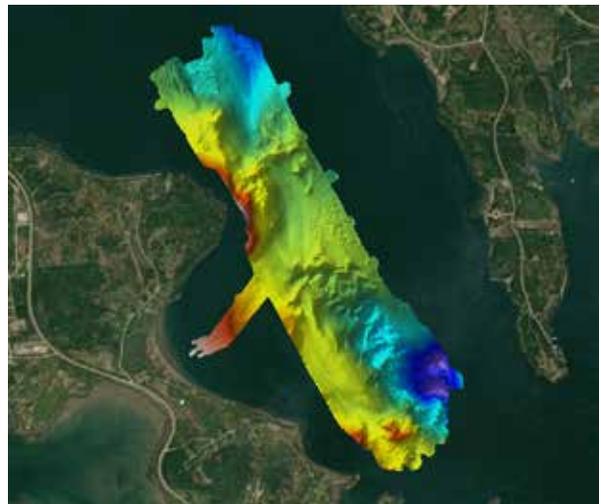


Our testing of the integration of Absolute Ocean and HYPACK has demonstrated substantial value for data transfer, remote processing and off-site storage of hydrographic data. The seamless user experience and improved efficiency will improve our capacity for handling large, complex datasets and will allow more efficient client communications.”

**Christopher Wright, Senior Hydrographer, CR Environmental, Inc.**

## Challenge

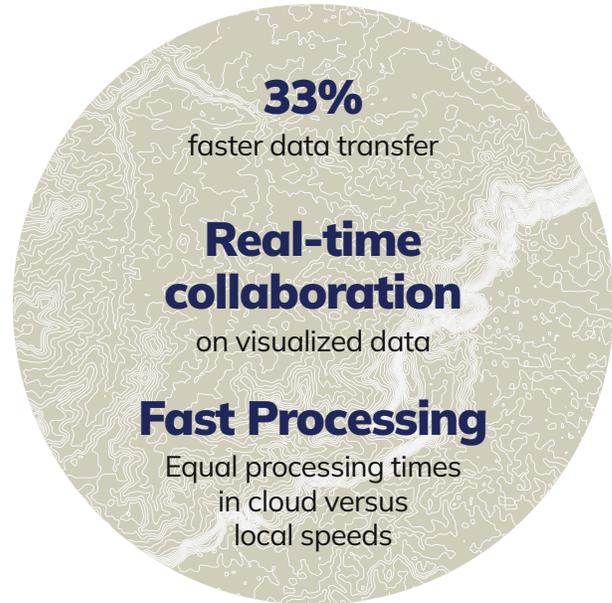
Hydrographic survey firms like CR Environmental continually seek opportunities to optimize data workflows and accelerate project delivery. With large datasets and tight schedules, streamlining operations is increasingly critical. To evaluate the potential of a cloud-based approach, CR Environmental conducted an assessment of the integration between HYPACK and Terradepth's Absolute Ocean (AO) platform. Their goals were to understand the benefits of a cloud-native ocean data workflow by comparing the speed and efficiency of traditional methods versus AO, and to assess processing performance using a cloud-based HYPACK virtual machine (VM) compared to local systems. The assessment used an 11.5 GB dataset from the Bay of Fundy—an ideal test case given its extreme tidal range and highly variable seabed topography.



Bathymetric Survey Data

## Evaluation

CR Environmental conducted a comprehensive assessment of Absolute Ocean and HYPACK VM integration. They compared in a time study the cloud-based solution against their conventional methods. The dataset was uploaded directly to the AO platform and compared to the traditional process of file compression, transfer via a file sharing service and extraction on a local server. In terms of data processing, identical workflows were applied for both local and cloud-based processing to ensure consistency. The user experience was also evaluated, focusing on the end-to-end process of collecting, transferring, and processing data in the cloud, with particular attention to accessibility and usability. and marine mapping. Their operations require efficient workflows for collecting, transferring, and processing data to deliver actionable insights from some of the world's most challenging marine environments.



## Conclusion

Transitioning to a cloud-based workflow will allow remote processors and managers to access data and perform quality checks in near real-time. This capability will enable faster delivery of partial datasets to clients as the data is being collected and processed, which will improve responsiveness and client satisfaction. Uploading the dataset directly to the AO server reduced transfer times by 33%, completing the process in 1.5 hours compared to 2.1 hours using conventional methods. This improvement can streamline operations and accelerate project timelines. The cloud-based HYPACK processing achieved speeds nearly identical to local systems, with the dataset processed in 1 hour and 2 minutes versus 1 hour and 4 minutes locally, demonstrating that cloud processing does not sacrifice performance. The seamless integration of Absolute Ocean and HYPACK simplified workflows with the added benefit of remote data storage. CR Environmental's successful assessment highlights the transformative potential of Absolute Ocean and its integration with HYPACK for hydrographic surveyors. Moving data to the cloud can achieve faster data transfer and improved collaboration—all while enabling scalable and efficient workflows for managing large, complex datasets. Absolute Ocean has proven to be a game-changing tool for professionals navigating the demands of modern marine mapping and data management.



This successful trial with CR Environmental underscores the power of cloud-based hydrographic workflows. The seamless integration of Absolute Ocean and HYPACK not only enhanced data transfer and processing efficiency but also demonstrated how real-time accessibility can elevate project outcomes. This is a significant step forward for the industry and highlights the value of innovation in marine data management.”

**Jerry Knisley, Manager of Technology at HYPACK, a Xylem Brand**