TAKE CLIMATE INTELLIGENCE TO THE NEXT LEVEL WITH OCIENT

(OCIENT)®

Analyzing and predicting climate and weather patterns at scale play a crucial role in addressing the growing challenges associated with climate change and its impact on the environment, society, and the global economy. From informing near real-time decisions to empowering adaptations and resilience initiatives, climate intelligence goes far beyond predicting the weather.

Existing geospatial database systems weren't designed to handle the size and scale of climate-related data required to efficiently model the long-term impacts of climate change. The Ocient Hyperscale Data Warehouse™ can not only analyze petabytes of data in seconds — it also ingests, transforms, models, and delivers data quickly and cost effectively with no vendor lock-in.

Leverage Ocient's hyperscale data analytics solutions for climate intelligence to:

- **Scale performance and processing** of climate and weather data while simultaneously reducing the cost of executing these workloads at scale.

- **Streamline operations** by consolidating multiple workloads and capabilities across real-time analytics, OLAP SQL workloads, machine learning (ML), and geospatial data analytics into a single solution.

- **Continuously ingest data from a variety of sources and users**, transforming and processing it in near real-time for a range of users and agencies.

- **Accelerate ML directly in the database**, using hundreds of terabytes of fresh data and a catalog of customizable ML models to build, train, and deploy new AI-driven capabilities.

- **Reduce costs** by optimizing for continuous data processing at hyperscale with a system designed for always-on availability versus usage-based elastic workloads.

THE PLATFORM DESIGNED FOR COMPLEX DATA ANALYTICS AT SCALE

We designed the Ocient Hyperscale Data Warehouse from the ground up to enable a new level of hyperscale data processing and analytics, with powerful features including:

Compute Adjacent Storage Architecture™ (CASA) provides 420x the data bandwidth and 2,000x more IOPs than standard cloud data warehouses.

Native support for large geospatial datatypes and geospatial indexes supercharges queries on points, linestrings, and polygons.

Built-in ETL and ELT allows companies to leverage continuous loading and transformation capabilities to build their own data pipelines, eliminating third-party data integration tools (e.g. Spark, Informatica) and speeding time to insight.

Sophisticated workload management enables the concurrent processing of complex queries alongside continuous data ingest and AI/ML workloads.

Exceptional ease of use and connectivity. Ocient ingests a variety of data formats, connects to a range of third party tools, and utilizes standard ANSI SQL.

Built-in compression and Zero Copy Reliability™ enable Ocient to deploy reliably within a tenth of the system size and footprint of copy-based data warehousing providers. As a result, Ocient uses up to 98% less power and cooling.

Ocient tackles exascale supercomputer data to speed the analysis of petabytes of climate data

A major meteorological agency operates a 14-teraflop supercomputer that uses multiple processors to model complex systems over time, performing extremely large numbers of calculations per second. The supercomputer generates a full meteorological forecast every six hours, but the agency has to archive the forecasts into external storage immediately because the supercomputer's 2 petabytes of memory is insufficient.

Ocient was tasked with taking the data from storage and performing additional predictive modeling and analysis to capture and showcase longer-term climate scenarios. Accomplishing this required Ocient to:

- **Load petabytes of data** quickly and efficiently
- **Perform intelligent downsampling** of full-resolution geospatial models for efficient processing and analysis
- **Store long-term models** for historical analysis
- **Make raw source data and ML models available** to hundreds of data scientists quickly and cost effectively

Ocient successfully ingested two days of forecast data — nearly 800 billion records — from the supercomputer system and used it to run climate and weather data analytical models. Typically, time-to-query on a dataset of this size is measured in days, but Ocient was able make the data available for query in just minutes.

ENHANCE YOUR CLIMATE INTELLIGENCE AND ANALYTICS CAPABILITIES WITH OCIENT

Ocient is on a mission to remove all barriers to exploring and unlocking value from data at hyperscale. Our Customer Solutions team partners closely with customers to understand complex workloads and accelerate time to value, delivering end-to-end solutions in the environment best suited to the project's requirements.

On Premises   **Public Cloud**   **OcientCloud™**

We will prove the business, technical, and financial cases for migrating to Ocient and facilitate the re-platforming of your solution so you can focus on the challenges ahead. And with Ocient Management Services, you have the option to leverage Ocient's expert team to manage your Ocient solution 24/7.

READY TO LEARN MORE?

Contact sales@ocient.com for a demo of our weather and climate data analytics solutions

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