



Climate Engine®

CAPGEMINI GOOGLE CLOUD CLIMATE INSIGHTS POWERED BY CLIMATE ENGINE

Improving robustness and resilience in
the face of extreme weather events



More than \$100 billion: that's the global cost of weather and climate events as reported in State of the Global Climate 2021 from the United Nations World Meteorological Organization. Whether it's a public-sector security agency responding to a natural disaster or a company ensuring its global supply chain is resilient and robust, trusted data about weather events is essential. But there are two key challenges: those who need the data often don't know where to find it and, even if they do, the data is often out of date.

What's needed is a single, global source for accurate, timely data and insights so enterprises can evolve beyond reacting to weather events and, instead, anticipate and plan for them. What's needed is Capgemini Google Cloud Climate Insights powered by Climate Engine.

Better climate data fosters smarter decisions

Capgemini Google Cloud Climate Insights powered by Climate Engine provides climate data and insights to a range of decision-makers across the enterprise, including:

- CEOs, CIOs, and CTOs
- Chief Procurement Officers
- Chief Sustainability Officers
- Research & Development groups
- Remote sensing scientists
- Chief Science Officers.

Working with Capgemini, Google Cloud, and Climate Engine, the organization defines specific data to analyze and combine with other information – such as financial models – to derive actionable insights.

The use cases are limited only by the imagination. For example:

- An energy company might use this capability to help plan its transition away from fossil fuels.
- A consumer products company may employ it to improve its sustainable-sourcing initiatives.
- A manufacturing company might use it to determine the most reliable sources of water for a new facility.
- A logistics company could identify vulnerable warehouses in its distribution chain.
- A technology services company might assess the most secure location for a new data center.
- First responders might use it to prepare and mobilize personnel and resources for the upcoming forest-fire season.
- Municipalities might use it to optimize zoning regulations.

Organizations can work with Capgemini Google Cloud Climate Insights powered by Climate Engine at a range of commitment levels – from a subscription model under which they receive regular reports for specific geographic areas, to a full command center-style implementation.



A powerful tool to drive climate action

Through a process of assessment, solution design, pilot projects, and planning for scale, Capgemini Google Cloud Climate Insights powered by Climate Engine makes it easy for organizations to achieve early success and realize a compelling ROI – while protecting people, facilities, supply chains, and other vulnerabilities in their operation.

Each organization’s journey will be different but the program is typically rolled out to the client in four phases.

The assessment phase (2–4 weeks):	The design phase (6–8 weeks):	The execution phase (6–12 weeks):	The scaling phase (as needed):
<ul style="list-style-type: none"> • The client’s current data landscape is examined. • Needs are identified. • Current gaps in processes, data, technology, and maturity assessment are identified. 	<ul style="list-style-type: none"> • The assessment’s findings are used to identify and prioritize target use cases. • A roadmap is created to guide organizational structure, processes, and change requirements. • Technical and data requirements are confirmed. • Required data inputs are secured. 	<ul style="list-style-type: none"> • A pilot is launched for a prioritized use case. • User experience and satisfaction is tracked and assessed. 	<ul style="list-style-type: none"> • Methods of working, processes, and operating models evolve to enable implementation across the enterprise. • A plan is developed for roadshow awareness, change, and training to ensure employee buy-in. • Further customization is conducted as required.

Datasets can be tailored to individual needs, but Capgemini, Google Cloud, and Climate Engine have identified a number of climate datasets that are applicable across a broad range of organizations. These include datasets related to water availability, natural resources, drought, methane emissions, forest carbon, extreme heat, agriculture, soil carbon, algae blooms, wildfires, and floods.

Harness data from satellites

Google Earth Engine and Climate Engine form the heart of this solution. Google Earth Engine running on Google Cloud provides a centralized system to ingest, process, and deliver data that enables better decision-making.

Google Earth Engine is a geospatial platform that harnesses data from internal, public, and commercial sources. These include:

- Access to data from a network of satellites
- The world's largest archive of Earth data – more than 50 petabytes of data and more than 800 native datasets
- Dedicated cloud computing with more than 10,000 servers
- More than 800 algorithms that leverage Google's AI/ML capabilities
- Access to commercial geospatial data, models, and a library of preconfigured APIs.

Climate Engine augments the value of Earth Engine with 100-plus pre-built insights delivered via API.

The result is ongoing monitoring of reliable data that can be delivered to the user in near real-time. This blends up-to-the-minute information with historical data going back approximately 40 years, then uses the data to develop near-term projections with a significant degree of reliability. The data can be scaled from highly local to globe spanning, in high resolution.



Embed climate considerations in enterprise DNA

As a global leader in engagement and digital transformation, Capgemini has the experience and expertise to integrate climate data and enterprise insights. With Capgemini Google Cloud Climate Insights powered by Climate Engine, Capgemini helps enterprises create the strategic, enterprise-wide context for the insights generated by this platform and embeds them in the organization's DNA.

This is essential. Organizations cannot avoid extreme weather and other climate events by ignoring them. With stakes so high – including in terms of lives, livelihoods, property damage, supply-chain disruption, and financial risk – organizations can no longer afford to simply react to climate events.

Decision-makers must actively work to minimize the enterprise's exposure to these events, and to minimize the consequences when avoiding them is impossible.





About Capgemini

Capgemini is a global leader in partnering with companies to transform and manage their business by harnessing the power of technology. The Group is guided everyday by its purpose of unleashing human energy through technology for an inclusive and sustainable future. It is a responsible and diverse organization over 340,000 team members in more than 50 countries. With its strong 55-year heritage and deep industry expertise, Capgemini is trusted by its clients to address the entire breadth of their business needs, from strategy and design to operations, fueled by the fast evolving and innovative world of cloud, data, AI, connectivity, software, digital engineering and platforms. The Group reported in 2021 global revenues of €18 billion (about \$21 billion USD at 2021 average rate).

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