Descartes Labs

Find. Monitor. Predict.

Rapidly develop geospatial analytics with the Descartes Labs Platform

Overview

The Descartes Labs Platform is designed to answer some of the world's most complex and pressing geospatial analytics questions. Our customers use the platform to build algorithms and models that transform their businesses quickly, efficiently, and cost-effectively.

By giving data scientists and their line-of-business colleagues the best geospatial data and modeling tools in one package, we help turn AI into a core competency. Data science teams can use our scaling infrastructure to design models faster than ever, using our massive data archive or their own.

Data Refinery

We provide petabytes of analysis-ready geospatial data and give you the ability to rapidly ingest, clean, calibrate and benefit from any internal or third party data source

Workbench

Our cloud-based data science environment combines the Descartes Labs Platform APIs, visualization tools and sample models inside a hosted JupyterLab interface

Applications

Teams can move faster than ever to build applications that generate valuable insights and save money across multiple vertical and horizontal use cases

Datasets

The Descartes Labs Platform equips customers with petabytes of analysis-ready data from some of the world's leading satellite constellations and ground-based sensors. These sources include:

- Multiband Optical
- High-res Optical
- Atmospheric
- Geostationary
- SAR
- Elevation
- Hydrological
- Meteorlogical
- Geolocation & AIS
- Land Use
- Internal Data
- Derivative Data

Modeling Tools

Leaflet · jupyterhub · NumPy · TensorFlow

Data Refinery		Workbench	Example Applications
Raster Correction	*Vector Correction*		
Cloud ingest for fast retrieval		Managed cloud environment	Mineral exploration
Tiling & reprojection	Merge & normalize	Model design & discovery	Infrastructure detection
Atmospheric correction	Remove bad records	Functional workflow development	Land conversion monitoring
Cloud detection & masking	Handle missing data	Training & hyperscale processing	Property attribute development
Rescale, resize, clip, & subset	Statistical aggregation	Analytics generation & display	Weather analysis
Metadata & cataloging		Storing & sharing	Crop health & yield

Create advantage through scientifically validated analytics

Data Refinery

Geospatial data is large, diverse, and can be difficult to manage, so many organizations neglect it. But in doing so, they surrender an important signal that complements their existing data ecosystem and can provide competitive advantage over other market participants.

A core design principle of our data refinery is to enable AI development at scale. Built on Kubernetes in the Google Cloud, the data refinery fuels the rapid development of geospatial analytics and forecasts.

Petabytes of clean, analysis-ready geospatial data from leading public and private sources

A **cloud infrastructure** that unlocks the potential of data and scales models to continental levels

The ability to **add new data**, whether from proprietary sources or from the output of analysis

A **Python client library** and catalog interface to access and manipulate data sources at scale

Workbench

Workbench is a cloud-hosted development environment that allows you to build massively scalable workflows and applications. It offers integrated visualization tools, scalable compute, and a growing collection of functions that empower teams to innovate in a highly collaborative manner.

Business leaders more easily hypothesize about, explore, and understand data, while data scientists model faster, display results more dynamically, and shorten the timetable between new ideas and vetted projects. Workbench provides a configurable library of shareable code blocks and map widgets that enable rapid model development without the need to constantly switch between coding and results.

Applications

Descartes Labs enables rapid experimentation—so your team can hypothesize, test and discover powerful signals across your business. With the Descartes Labs Platform, customers build applications as diverse as forecasting the timing and impact of snowmelt on hydropower generation, to the detection of deforestation and land conversion across the agricultural supply chain.

Example application (right): *Lake surface area correlates strongly with water storage capacity. Power traders can better model late season hydropower contribution to the overall energy mix.*