

dynamical.org

SHARES THROUGH SOURCE

INTRODUCING DYNAMICAL.ORG:

dynamical.org is a not-for-profit organization with a mission to advance humanity's ability to access, understand, and act on accurate weather and climate data. The organization uses a governance model that their team calls 'Public Benefit Corporation, Hardcore Mode' — designed to prioritize long-term operations and stewardship. They explicitly: 1) prohibit sale of the organization; 2) require (hypothetical) profit be reinvested in the organization's purpose; and 3) set organizational priorities led by active members and users. Unlike other solutions for weather data management, dynamical.org is building a common utility, making weather data accessible and easy to use as a public good.

FAST, EASY, OPEN WEATHER DATA FOR EVERYONE

The team at dynamical.org knows firsthand how hard it can be to obtain and utilize weather data. As part of their work with Upstream Tech, the founders focused on hydrological predictions — building a model to forecast water flowing through rivers. This required a robust center of weather data to train a model, let alone to operationalize it and deliver a regular forecast. They had many engineers working solely on optimizing weather data infrastructure to accomplish their downstream objectives. They realized many other organizations using weather data were duplicating the same work, reinventing the wheel with scarce resources.

Dynamical is committed to preparing weather data so it is more accessible and easy to use for people with fewer technical skills — making it a public good for everyone. Today, dynamical's weather datasets are accessed by users from all over the world, with 13,000 unique visitors and 31.3 million data requests just in the month of July 2025.

DYNAMICAL.ORG SHARES THROUGH SOURCE COOPERATIVE

dynamical.org created a public, live-updating catalog of Zarr-formatted weather datasets that are:

- Easy: Load with one line of code.
- Fast: Read performance optimized for real-time analysis and fast experimentation.
- Open: No lock-in, free access to data.
- Consistent: Standardized structure across all datasets.

“Source makes the hurdle disappear for folks trying to do something for the public good. The impact for us was being able to get started—focus on the science and experimentation. This kick-started the flywheel in a way that wouldn't otherwise have been possible. It created a virtuous cycle of gaining support because we were able to demonstrate the work. The external impact has been hundreds of organizations saving dozens, if not hundreds of hours dealing with weather data.”

Marshall Moutenot, dynamical.org Founder



DYNAMICAL.ORG SHARES THROUGH SOURCE

SHARING THROUGH SOURCE: KEY BENEFITS

- Enabled dynamical.org to demonstrate impact, helping secure support from NOAA and Amazon.
- Allowed dynamical.org to focus on scientific work and data homogenization rather than fundraising for infrastructure.
- Supported nimbleness and experimentation for petabytes of data storage.

SHARING THROUGH SOURCE: IMPACT

- Saved hundreds of organizations significant time (dozens to hundreds of hours) managing weather data.
- Contributes to accelerating weather research, improving humanity's ability to enhance weather forecasts, and enhancing end-users' capacity to consume and understand new forecasts.

LOOKING FORWARD

While dynamical currently primarily uses NOAA data, they have plans to integrate data from other government agencies, such as the European center, and private tech weather forecasts.

EARTH GENOME DATASETS ON SOURCE

[NOAA GEFS analysis](#)

[NOAA GEFS forecast, 35 day](#)

[NOAA GFS analysis, hourly](#)

FIND OUT MORE ABOUT DYNAMICAL.ORG

Learn more about dynamical.org : www.dynamical.org

ABOUT SOURCE COOPERATIVE

[Source Cooperative](#) is a data publishing utility that allows trusted organizations and individuals to share data using standard HTTP methods.

A core belief behind Source is that it should be much easier for people and organizations to share data on the open web. Commoditized cloud object storage has made it easier than ever to store and share data, but it has not made it easier to discover and access that data. Source is an attempt to change this by making it easy for data providers to publish data in an object storage service and make it available on the open web without needing to run their own server, create a data portal, an API, or a dashboard.

Find out more at <https://source.coop/>