

The Machine Learning Revolution for Hydrological Forecasting

Harness the power of Artificial Intelligence and Machine Learning to predict streamflow with unparalleled accuracy.

HydroSphereAI

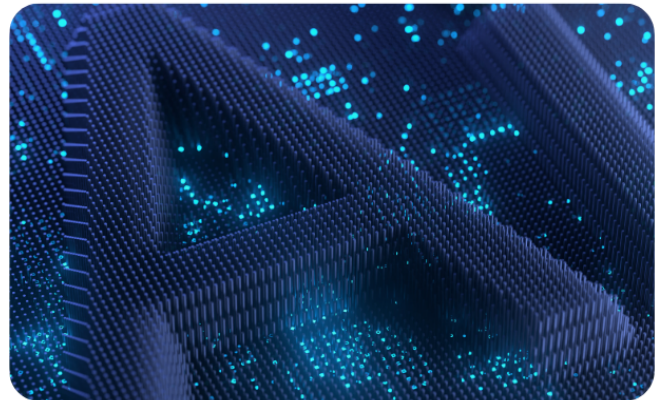
HydroSphereAI is an advanced hydrological forecasting tool that leverages machine learning to predict streamflow with exceptional accuracy. Traditional forecasting methods require considerable historical observation data to produce a relationship between rainfall and streamflow. However, under a changing climate, these historical relationships are becoming less reliable. Addressing the limitations, the cutting-edge HydroSphereAI platform excels in performance, particularly in ungauged watersheds.

By integrating state-of-the-art machine learning techniques, **HydroSphereAI** represents the next generation of hydrological forecasting. With a foundation in advanced data analytics, **HydroSphereAI** supports a wide range of capabilities, including real-time data assimilation, adaptive learning algorithms, and predictive analytics.

By integrating state-of-the-art machine learning techniques, **HydroSphereAI** represents the next generation in the evolving field of hydrological forecasting for extreme events.

Key Features and Benefits

- **Advanced AI:** Utilizes Long Short-Term Memory (LSTM) networks, trained on extensive historical data, to model complex hydrological processes.
- **High Forecast Skill in Ungauged Basins:** Demonstrates superior forecast accuracy compared to traditional rainfall-runoff models, especially in regions without historical gauge data.
- **Near Real-Time Forecasting:** Integrates seamlessly with numerical weather predictions to provide timely and reliable hydrological forecasts up to 30 days in duration.



- **Custom + Augmented Training Datasets:** Trained on our custom watershed database with a wide range of hydro-environmental attributes; re-train our algorithm with your site data for unprecedented accuracy.
- **Data Integration:** Aquanty's web systems are designed to deliver data via API to most environmental data management platforms. Augment your existing data and forecasting infrastructure.
- **Extreme Event Preparedness:** Provides early warnings to mitigate the impact of **floods**; manage water resources effectively during **drought**, ensuring water availability for critical needs.
- **Globally Scalable:** Trained on a comprehensive watershed database with a wide range of hydro-environmental attributes, HydroSphereAI is readily deployable in watersheds of all types around the world.