HGS REAL TIME

Explore hydrologic forecasts of your watershed in near-real-time

An advanced cloud-based computing system that effortlessly integrates near-real-time field observations and remote sensing products with the latest meteorological predictions to produce dependable hydrological forecasts.

HGSRT – HydroGeoSphere RealTime

HydroGeoSphere RealTime (HGSRT) offers fully integrated hydrologic modelling as a service, delivering a near-real-time representation of a watershed for water resources decision support. Coupling of daily hydrologic forecasts with a wide-range of real-world monitoring/observation data and remote sensing data products provides a comprehensive global perspective of hydrologic conditions.

Powered by **HydroGeoSphere**, **HGSRT** will deepen your understanding of watershed hydrology and provide predictive analytics for both short- and long-term water resources planning. This intuitive technology plays a crucial role in assessing drought and flood risks, enhancing water management plans, and quantifying climate risk.

In a changing world with escalating climate stress, HGSRT stands as a sophisticated solution to support all stakeholders facing water resources challenges.

Applications and Advantages

- **Enhance decision support** regarding flood and drought prediction, water allocation, land-use planning, and more.
- **Analyze hydrologic systems in real-time** with an integrated HGS model.
- **Improve climate change planning** by developing adaptive strategies to sustain water resources and ecosystem health.
- **Integrate real-time data seamlessly** from diverse sources to accurately forecast a wide range of outcomes.
- **Use Aquanty's modelling on demand** for precise soil moisture forecasts in any region.

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- **Flood/drought management**
- **Flood plain mapping scenario analysis** for extreme events
- **Climate change risk analysis**, assessment of mitigation/adaptation strategies
- **Assessing land-use scenarios** and identifying best management practices for watershed health

Weather Forecast · Data Assimilation · Cloud Computing · 3D Watershed Model · Hydrologic Forecast
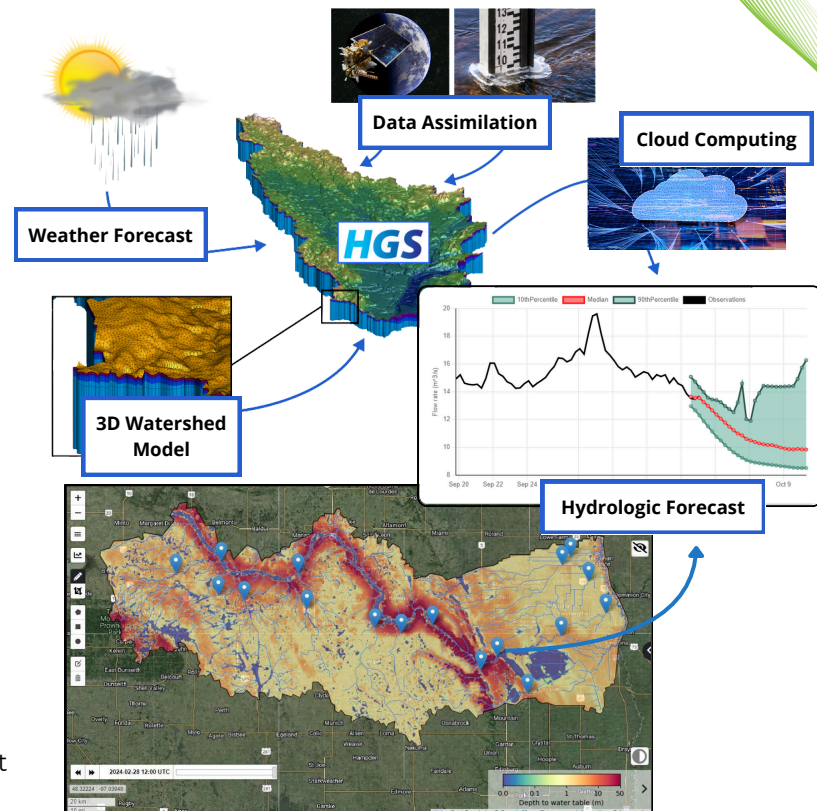
Visit hgsrt.com or more information.

Aquanty – World-Class Water Resources Science and Technology

Aquanty specializes in predictive analytics, simulation and forecasting, and research services. Our technology and services are deployed globally across a broad range of industrial sectors including; agriculture, oil and gas, mining, watershed management, contaminant remediation, and nuclear storage and disposal. Aquanty's scientists are recognized as leading international experts in integrated climate, groundwater & surface water modelling. Our mission is to deliver holistic water resource and climate solutions to support informed decision making for our clients in a rapidly changing world.

HydroGeoSphere™

The world's most powerful hydrologic modelling platform

- **Fully integrated surface and groundwater simulations** provide a holistic understanding of complex and interconnected watershed dynamics for water resources management.
- **Reactive solute and thermal energy transport** capabilities give you the tools to predict contaminant fate and travel time probability statistics for source identification.
- **Advanced numerical methods** to support simulations of unprecedented scale and complexity; fully-implicit coupling for all domains provides for a robust, mass conserved solution.
- **A physics-based approach** to hydrology greatly reduces the inherent uncertainty of empirical modelling techniques and provides the most robust approach to simulating the effects of climate change.

HGS REAL TIME

Reliable hydrologic forecasting powered by HydroGeoSphere

- **Multi-objective hydrologic forecasting** for flood, drought, base-flow, soil moisture, surface water and groundwater.
- **Enhanced decision support** for water resources management based on a holistic, integrated approach to watershed hydrology.
- **Synergize operational data sources** including near-real-time field observations and remote sensing products with meteorological predictions to produce reliable forecasts.
- **Cloud-computing architecture** supports ensemble of weather forecast scenarios, forecast outputs analyzed and reported in a probabilistic framework.

HydroClimateSight™

Aquanty's web architecture puts earth system modelling within reach of every person

- **Unify data management and analytics** for an integrated understanding of hydrology, geology, meteorology and climatology.
- **White label web infrastructure** to deliver best-in-class hydrologic modelling and decision support to your clients.
- **Flexible and extensible** architecture to handle any data pipeline world-wide, putting the right information in front of the right people at the right time.
- **Analytical tools and custom workflows** to simplify your unique operational requirements.

Modelling On Demand™

Automatic web-based simulations for decision support and scenario analysis

- **Time saving through automation:** models constructed at the click of a button using comprehensive geological data framework producing results in minutes for rapid decision support.
- **Flexible and agile** model inputs allow you to adapt to changing requirements. When needs evolve, models can be created or modified as necessary, enabling quick responses to dynamic situations.
- **Globally scalable, versatile and ready to deploy** for field-scale soil moisture forecasting and pesticide/nutrient runoff and fate; watershed-based customizable scenario analysis and climate change assessment.

Proud Partner of the Canada1Water initiative

www.canada1water.ca