

We integrate in-house field data collection with our other professional services to ensure that the right information is collected accurately, efficiently, and safely. This ensures that our hydrologic and hydraulic planning and design services are based on the most reliable information possible and that our clients' needs are fully achieved in a timely manner.

Services

NHC offers field services to collect data in virtually any river environment or climatic region found on the planet, from very large rivers to small, steep mountain streams, and from the tropics to the far north.

- Bathymetric and topographic surveys using RTK-GPS, groundbased LiDAR, total station, sounders, and sonar.
- Installing and maintaining real-time loggers and earlywarning systems to monitor water level, turbidity, water quality, temperature, precipitation, wind, waves, and flow velocities.
- Measuring flow discharge and velocity using acoustic Doppler current profilers (ADCPs) in challenging environments including moving bottoms, salt wedges, and rough conditions.
- Sampling sediment for hydraulic modeling, sediment budget, Pb210/Cs137 dating, and interpretive geomorphic analysis.
- Ice measurements, including airborne LiDAR, sub-ice flow measurements, and ice strength testing.

Approach and Capabilities

Making accurate measurements in rivers that are turbid, fast-flowing, and obscured by vegetation or ice can be extremely challenging.



However, our field staff has thousands of hours of experience and has been specifically trained to collect accurate and reliable field data, in a safe manner, under demanding conditions. This ensures correct and efficient collection of critical data to describe the hydraulics of study sites and to support further analysis, planning, and design.

Our Expertise

Field data collection in challenging environments and conditions has been a cornerstone of our professional services for over 40 years. NHC experts are leaders in developing new and innovative approaches for monitoring field conditions using the newest technology.

Flow Velocity and Discharge Measurements:

Determining river discharge is central to many studies, and stagedischarge gaging techniques typically provide the necessary data for the discharge estimation. NHC develops and verifies the discharge relationship using ADCP, ADV, and/or salt dilution field measurements. We have also applied surface velocimetry techniques to measure velocity distributions where conventional instruments cannot be deployed. Our Aquarius Database is used to provide up-to-date flow predictions and ongoing validation of discharge rating curves for real-time applications.

Quantitative and Qualitative Field Surveys: We routinely acquire topographic and bathymetric data to support water resources analysis, modeling, design, and construction. Surveys are completed to quantify topographic conditions, as well as vegetation and sediment characteristics. Surveys are also obtained on hydraulic structures for developing hydraulic designs for spillway or fish passage modifications. We merge bathymetric surveys with LiDAR, and other photogrammetric datasets, for hydraulic modeling and development of flood mitigation or riparian restoration designs.

Measuring and Monitoring Sediment: NHC monitors sediment transport and conducts sedimentation studies in rivers, estuaries, and coastlines. We utilize a wide range of sediment sampling equipment, including turbidity sensors, bed load and bed material samplers, isokinetic suspended sediment samplers, and sediment corers.

Contact Us Today

For more details on our services and office locations, please visit: www.nhcwater.com

