Aerial insights: the Yurok Tribeâ€™s environmental efforts

Condor Aviation, a partnership between the Yurok Tribe's Fisheries Department and the Yurok Tribe Construction Corporation, acquired a RIEGL Lidar sensor to collect data that will inform natural resource management decisions and environmental restoration projects on tribal land and across the western United States. RIEGL Airborne Lidar was selected to help the Yurok Tribe achieve its mission to collect a large magnitude of high-resolution topographic data needed to support its suite of projects and partners.

“We are extremely proud to support the Yurok Tribe with remote sensing technologies that are being used in such a meaningful way to map, analyse and manage their lands and natural environments,” said Michael Sitar, airborne division manager for RIEGL USA.

Renewal of the planet

The Yurok Fisheries Department and the Yurok Tribe Construction Corporation plan, design and implement large-scale river restoration projects on the West Coast. Condor Aviation owns and operates a growing fleet of aircraft and unmanned aerial vehicles equipped with a wide range of remote sensing technologies. The RIEGL VQ-1560 II-S was recently installed in the tribal entity's new Cessna Grand Caravan EX aircraft. The advanced Lidar sensor, coupled with high-resolution aerial imaging equipment, will be employed to accumulate a diverse range of information regarding terrestrial and aquatic environments. The topographic and imagery data will help drive the design of the fish and wildlife habitat restoration projects, inform long-term natural resource management decisions and quantify the impact of climate change. The laser mapping system will also be used to document changes that occur on the Klamath River – California's second longest salmon stream – after four dams are removed next year in what is considered the largest salmon habitat restoration project in world history. Condor Aviation also offers airborne data collection services to support other tribal, federal, state and local partners in the Klamath Basin and throughout the western US.

Creating a culture of preservation

The RIEGL VQ-1560 II-S by way of Condor Aviation and the Yurok Tribe's extensive restoration toolkit is providing autonomy and positively impacting the prosperity of the Yurok Tribe. Not only are they establishing themselves as a voice in the realm of natural resource management, but they are protecting and restoring the environment for generations to come. Condor Aviation is training young Yurok citizens to use cutting-edge laser scanners and participate in the active management of their resources.

“The acquisition of RIEGL's premier airborne laser scanning system represents the next evolution in the Yurok Tribe's effort to transform severely degraded ecosystems into biologically diverse environments for fish and wildlife,” said Yurok Tribe vice-chairman Frankie Myers. “The cutting-edge technology will also help us expand our restoration-based economy, enabling us to collect ultra-precise data on forest growth, snowpack, wildfires and much more for our partners across the region.”

RIEGL's VQ-1560 II-S wide area mapping sensor is a dual-channel hybrid laser and imaging system that features a unique ‘cross-fire’ scan geometry for maximum canopy penetration and improved vertical detail often required for urban, forestry and corridor applications. The system is typically equipped with a gyro-stabilized mount and an internally integrated 150-megapixel RGB or 4-band metric camera system to enable the co-collection of high-resolution imagery and high-density Lidar data for maximum application success.

The Yurok Tribe's Condor Aviation: advancing environmental projects with RIEGL Lidar technology.