

Southern Chilean Rainforests Pose Huge Challenge for GNSS Receivers



In the temperate rainforest of the Los Lagos Region of Southern Chile, where rainfall annually exceeds 1,500mm and two-thirds of the days are rainy, the dense forest canopy poses a huge challenge for GNSS receivers. One survey firm, Motivazion, headquartered in Puerto Montt, a port city just below the rainforests, makes its living surveying under the densely canopied forest and rugged terrain. Motivazion works principally for hydropower development companies, surveying contours, cross sections and longitudinal profiles, as well as staking out proposed facilities. In an effort to ensure it was using the best GNSS receivers for the conditions, Motivazion recently conducted field tests to determine just which brand excelled.

Motivazion's owner, Jorge Mesias, said he typically uses a combination of total stations and GNSS receivers for his work. If understory performance could be improved, efficiency would increase dramatically and reduce the need for using the more time-consuming total station, said Mesias. They had been having generally poor results with their current GNSS receiver which is why he decided to examine several additional competing brands.

Field tests were conducted in the nearby Lake Rupanco area near a small town of the same name. A light rain fell at all times during the two-day test. The test routine consisted of surveying a total of 21 points in two days. Results were compared to points established by a total station.

Base stations were set up in a small area cleared for the purpose and the rovers moved from point to point under the canopy. The [SP80](#) achieved fixed solutions in less than three minutes 95 percent of the time. The SP80 was the clear winner among the GNSS receivers as it achieved remarkable results compared to the benchmark total station results, said Mesias. Geocom, Spectra Precision's dealer in Chile, provided the SP80 and technical support.