

Topcon gave us accuracy within centimeter level



TOPCON
AT WORK

“The increase in accuracy enabled us to automate processes”

“We can now draw comparisons between the situations over time”

The Instituto Pirenaico de Ecología (IPE - Pyrenean Ecological Institute) is a centre belonging to the CSIC (Consejo Superior de Investigaciones Científicas - Spanish High Council of Scientific Research) attached to the Spanish Education and Science Ministry.

The central aim of the Institute is to analyze the conditions of stability in the ecosystems and its response to the factors regulating or modifying these conditions, particularly changes brought about by human usage.

Despite the name of the Institute, engineer Alvaro Cabezas tells us: “The scope of action is not restricted to the Pyrenean region, as the stability conditions studies are transferable from one place to another.” For this reason, the Institute has carried out work in countries as far away as Chile. These studies include the production of ‘Vegetation Maps’. Alvaro Cabezas: “This map type is designed for landscape ecology to analyze soil usage, vegetation succession and others.” Previously, the institute carried out these kinds of studies by analyzing aerial photos, manually marking out vegetation patches and replanting borders ‘by eye’.

Alvaro Cabezas indicates that: “This working method was not accurate enough, as the 2D data had a precision of several meters and this made the work useless owing to a lack of rigor.”

To resolve this problem, the Institute decided (some time ago) to purchase Topcon GIS equipment, consisting of a Legacy H receiver with the capability of receiving Egnos corrections and thus benefit from precision of around one meter. They rounded off the equipment with a FC-1000 controller and the TopSURV GIS application. Alvaro Cabezas states: “This increase in precision achieved with the GPS receiver, also enabled us to automate processes so we could export points and lines in SHP format into our GIS program (ArcMap). We were therefore able to manage that information and reload it into the field system to locate the necessary elements.”

These automated studies also make it possible, according to Alvaro Cabezas: “To draw comparisons between the different situations over time of the vegetation masses and thus monitor their progress by measuring the areas and their perimeters.”

In the same Institute, over time they saw that some studies required increased accuracy, and therefore added another receiver to their equipment. Alvaro Cabezas: “The modular solution enabled us to increase the services of the equipment with another receiver and a radio link, thus achieving an RTK real-time solution and precision within a range of centimeters, which is perfectly adapted to our current needs.” He added: “Another aspect to take into account involves the support service offered by Topcon through its Inland distributor.



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