TIPS
Technical Innovation and Professional Services

Trimble Yuma GIS/GPS Data Collection System

TIPS provides customers with Trimble Yuma hardware running TerraSync or ArcPAD software as a customer check-out system. The Yuma is designed as a real-time 2-5 meter accuracy GPS solution to enable georeferencing for GIS-building, accurate control for remote sensing, and precision navigation, among other uses. Yuma data is convertible to CAD and GIS formats, and offers a higher degree of accuracy than navigation/recreation GPS equipment.

GPS Overview

Global Positioning System technology allows digital capture of three-dimensional locations anywhere on or above the earth's surface with 24/7 availability. This free system is the same one used for vehicle navigation or hiking. GPS horizontal positional accuracy ranges from 2-5 meters for navigation/recreation equipment to around one inch for survey units. Elevation accuracy is generally one half or one third of the XY accuracy. GPS accuracies can be enhanced in real-time by use of commercial or WAAS satellite correction signals or by later post-processing using base station data posted on the Internet. Navigational /recreational GPS is biased towards yield of GPS signals irrespective of accuracy; GIS mapping GPS is biased toward collecting GPS positions of known accuracy.

Field to Map

The Trimble Yuma is a rugged tablet computer, all-in-one GPS receiver and GIS feature and attribute data collector running the Windows Operating System. The Yuma uses signals broadcast from the NAVSTAR GPS system, and also receives correction signals from WAAS satellites. The combination of both signals creates a real-time corrected position that is georeferenced to commonly-used coordinate systems and datums. These signals can translate mine or reclamation features into GIS or CAD digital file formats. These files are then turned into GIS or CAD maps or used for GIS analysis.

Geospatial Data Portability

GPS data is automatically collected into standard "real-world" coordinate systems that can be easily translated into GIS coordinate systems. CAD system support is provided for geospatially-enabling CAD drawings. Using GPS data exported into standard GIS/CAD formats allows TIPS users to more effectively access and share geospatial data across organizational boundaries.

Hardware:
Trimble Yuma

SMCRA BENEFITS/USES:

- Capture digital field data for permitting and reclamation investigations.
- Use imagery and vector drawings as backgrounds.
- Collect data in standard coordinate systems and datums.
- Provide accurate positions that spatially–enable AML and Title V analysis.
- Capture digital images

TIPS TRAINING CLASSES:
Advanced GIS Data Collection Using the Trimble Yuma

NEED HELP????
http://www.tips.osmre.gov/tips_html/mobile_computing.asp

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