

Geography Department Survey Equipment

The Geography Department has a limited collection of survey equipment used to support the Field Methods Class. This equipment may be made available to faculty and students conducting research in the field. Field class support has priority over research use.

PRECISION DATA COLLECTION (TOTAL STATIONS & AUTO LEVELS)



Topcon Laser Total Station: ES-105

High Precision, Significant Setup, Topcon Proprietary Software Knowledge

- This unit is operated via a separate field computer with a digital interface that provides greater flexibility in recording data, but also requires greater user knowledge.
- Operates in both prism and non-prism mode for some survey projects.



Topcon Laser Total Station: GTS-4

High Precision, Significant Setup

- This unit is operated via the onboard keypad. All data points need to be recorded manually.

Support Equipment

- 4 Prisms
- 5 Prism Poles
- 1 Prism Pole Bipod
- 2 Total Station Tripods
- Battery Chargers and Extra Batteries



CST/Berger Automatic Levels (2 Units)

Low Precision, Easy Setup and Use, No Software

- This unit records fairly accurate heights, distance (Y axis) and bearing (X axis) in close range. All axes suffer accuracy deterioration at distances beyond 10 – 20 meters.

Supported Equipment

6 Stadia Rods
2 Level Tripods

GPS UNITS FOR DATA POINT COLLECTION VIA SATELLITE



Trimble GeoExplorer 6000 GPS (Mapping Grade)

High Accuracy (decimeter possible), Integrated GPS and Field Computer, Easy to Use, Some Proprietary Software Knowledge Required

- Decimeter accuracy possible after post-processing, which compares collected data to time equivalent base station data located nearby.
- This unit can make use of GLONASS (Russian) Satellites, providing a far greater number of satellite contact points in the sky. This feature is only helpful in areas covered by GLONASS capable correction base stations.
- Features “Floodlight” technology that allows greater satellite connection/precision.

Support Equipment

Adjustable 1 - 1.5 meter Carbon Fiber Range Pole w/ GPS Mount
Chargers and Case



Trimble Geo XH GPS (Mapping Grade)

High Accuracy (3 decimeter possible), Integrated GPS and Field Computer, Easy to Use, Some Proprietary Software Knowledge Required

- 30cm accuracy possible after post-processing, which compares collected data to time equivalent base station data located nearby.
- Antenna can be added to improve satellite connection/precision.

Supported Equipment

Zephyr Antenna Kit
2 meter Carbon Fiber Range Pole w/ GPS Clamp
Chargers and Case



Garmin GPS Handhelds (Recreational Grade)

Low Accuracy, Easy to Use, Highly Portable

Garmin GPS 12 (2 Units)

5-30m Accuracy

Garmin GPS 72

WAAS Enabled: 1-5m Accuracy

Garmin GPS 76MAP

WAAS Enabled: 1-5m Accuracy

MISCELLANEOUS SURVEY EQUIPMENT

Compasses, Clinometers and Abney Levels
50 meter Field Measuring Tapes
6' Measuring Wheel
Handheld FM Radios

Please see Dan Plumlee for access to the equipment. You may email him at dplum@berkeley.edu