

Unit 4 - Using the Global Positioning System (GPS)

The Global Positioning System (GPS) is the standard method for recording and reporting the locations of archaeological sites and reference points (e.g. site datum, centre of site) in Stages 2, 3 and 4 of the Ministry of Culture's standards and guidelines for consultant archaeologists.

Standards

To ensure consistency, the following information must be provided when reporting locations of archaeological sites and reference points (all unit measurements in metric):

1. Site identifier: either the site registration number, or the PIF number and a project-specific descriptor (e.g. Location 1, 2, 3 and so on) for locations of archaeological resources where no site registration number exists.
2. GPS receiver model and type (e.g. Garmin 12 XL).
3. The Universal Transverse Mercator (UTM) grid zone (i.e. Ontario zones will be one of 15, 16, 17, or 18), along with the 6 digit easting and 7 digit northing coordinates.
4. The recorded geographic coordinates:
 - For small archaeological sites (less than 10 x 10 metres), one centre site coordinate reading is required
 - For archaeological sites larger than this, five readings are required, including a coordinate at the site centre, and four readings at the furthest site extent at each of the cardinal directions.
5. The datum used (e.g. North American Datum (NAD) 83).
6. Degrees method of correction, if used (e.g. Wide-Area Augmentation System (WAAS), Differential GPS (DGPS)).

Guidelines

The following information may be provided:

1. Decimal Degree coordinates.
2. Additional multiple edge readings for very large sites.
3. The date the coordinates were taken (yyyy-mm-dd).

4. Antenna height (the height of the top of the backpack or tripod. Low-level vegetation may affect readings).
5. An indication of quality of data (e.g. Position Dilution of Precision (PDOP), Estimated Position Error (EPE)).
6. Weather conditions or other factors that could affect readings (e.g. overcast, heavy wet foliage).
7. Other readings as determined necessary to record fieldwork activities (e.g. extent of property surveyed, survey methodologies and interval spacing changes).