

GPS Overview

History

- Started in the 60's/70's by US DOD
- After Korean Air Lines Flight 007 was shot down in 1983 after straying into the USSR's prohibited airspace, President Ronald Reagan issued a directive making GPS freely available for civilian use, once it was sufficiently developed, as a common good.
- The first satellite to meet this mandate was launched in 1989 and the 24th and last satellite was launched in 1994.

History (cont.)

- Fully functional on April 27, 1995 - NAVSTAR GPS.
- Open to everyone.
- Highest quality was reserved for DOD use and civilian signal intentionally downgraded.
- Downgrading or Selective Availability ended in 2000 and improved GPS quality from 100 meters to 20 meters.

WAAS

- The Wide Area Augmentation System (WAAS) - developed by the FAA to augment the GPS. Essentially, WAAS is intended to enable aircraft to rely on GPS for all phases of flight, including precision approaches to any airport within its coverage area.
- The WAAS specification requires accuracy of 7.6 meters or better at least 95% of the time. Actual performance measurements of system at specific locations shows it typically provides better than 1.0 meters laterally and 1.5 meters vertically.

Feature For Back Country

- WAAS Enabled - WAAS is highly recommended for back country use as it holds the signal much better, especially in canyons and dense timber locations .
- Mapping – street maps will not help you. You need a device that has built-in topo maps or the ability to upload maps to it that already have your route and waypoint info in it.
- Color display – very nice to have.
- Built-in compass (better than no compass.)
- Device that allows uploading and downloading of waypoints, routes, tracks.
- Tracking.

Tracking

- Keeps track of where you have been by recording track points along the way.
- You can see where you have been so far on the trail.
- Also can be used to track how well you have stayed on a defined route you are following.
- Cabin Ride.

Waypoints

- Waypoints are sets of coordinates that identify a point in physical space.
- Used to create routes.
- Used to record locations that you may want to visit again. (Mark)
- Collection of waypoints may represent hunting stations around a camp.

In the Field

- Mark – create a waypoint of a base camp enabling you to find your way back. (AVR)
- Use tracking log to determine alternative route back to camp.
- Use a predefined route to get to where you want in the most optimized way.
- Use a predefined route to ensure you avoid or pass by certain landmarks.

On the Computer

- Create a route and waypoints prior to setting out that includes all the points of interest you want.
- Print out maps with your route on it.
- Print out detailed maps of the waypoint locations.
- Use to calculate travel distance and can be used to find alternative routes before trip.

Other

- Street Maps
- Trip Computer
- Road Navigation
- Waypoint to Waypoint navigation (straight line.)
- Using built-in maps in the field to determine what is around you.

Geocaching – Practice Makes Perfect

- Worldwide game of hide and seek.
- Makes practicing use of GPS fun.
- Waypoints are defined for treasures.
- Use GPS to locate treasure.
- Treasures can be anywhere and this will allow you to use your GPS on the road and off trail.
- 880K caches world wide. Johnson and Sheridan counties have many - including in the Bighorns.
- Benchmarks.