

Machine precision is important in GPS calculations to accurately represent a location on earth. This application is interesting because speed of calculation is also very important in many GPS location uses. So the question is will using the faster floating point numbers give adequate accuracy? The worst case loss of accuracy due to single precision calculations is 2.37 meters. In the continental US the worst case is 0.706 meters. These errors are less than the standard GPS accuracy (Berk, 2009).

Berk, T. (2009, May) *Required Precision for GPS Calculations*. Retrieved from <https://sites.google.com/site/trescopter/Home/concepts/required-precision-for-gps-calculations>