

# Use of GPS for Determining Free Flight Performance

Prof. Bill TESKEY and Ryan FOX, Canada

**Key words:** GPS, paraglider, performance curve.

## ABSTRACT

Time aloft and distance travelled in free flight with a paraglider is determined by three factors: weather conditions, pilot skill and paraglider performance. The latter factor can be accurately determined and represented in a performance curve using sensors (a variometer and a wind speed indicator or speed probe) calibrated by GPS receivers. A test flight was carried out with a paraglider which was launched to an altitude of 750m using a stationary winch. After release, a variometer and speed probe logged horizontal velocity and vertical velocity data respectively for different angles of attack of the paraglider airfoil. From this data a performance curve was constructed. The performance curve is very useful to paraglider pilots because it allows for the correct choice of airspeed to maximize time aloft and distance travelled in particular wind and lift/sink conditions.

## CONTACT

Prof. Bill Teskey and Ryan Fox  
University of Calgary  
2500 University Drive N.W.  
Calgary  
CANADA  
Tel. + 1 403 220 5834  
Fax + 1403 284 1980  
E-mail: wteskey@ucalgary.ca and rjfox@ucalgary.ca