

## LOCAL TIME TO UNIVERSAL TIME CALCULATION

This is a requirement for the GLOBE programme and involves a simple calculation. If you are unsure of how to do this, some step-by-step instructions are below.

1. Open the GLOBE website ([www.globe.gov](http://www.globe.gov))
2. Note the current date and local time from you watch, and write this down in 24 hour notation
3. Note the current time and date in Universal Time which can be found at the top left hand corner of the GLOBE home page. Write this down in 24 hour notation.

Eg.

Local Time	21:00	October 6
Universal Time	08:00	October 6

4. Calculate the difference from Local Time to Universal Time. In this example it is minus 13 hours.
5. Therefore to convert from Local Time to Universal Time, subtract 13 hours from the local time. Conversely, to convert from Universal Time to Local Time, add 13 hours to the Universal time given. If you go past 24:00 you will need to take into consideration a change in the date. Note – this conversion with the 13 hour difference is valid for New Zealand daylight saving time (October – March).

A particular feature of New Zealand's longitude means that sometimes when you convert from Local Time to Universal Time the date of the measurement will change. This is because we are just west of the International Date Line.

Eg.

Local Time	12:30	October 7
Universal Time	23:30	October 6

If you take your measurements towards the beginning of the 2 hour local solar noon window on one day (say the 6<sup>th</sup>), and then at the end of the 2 hour window on the next day (the 7<sup>th</sup>), this may seem in Universal Time as occurring on one day, then 2 days later (the 5<sup>th</sup> just before midnight and then the 7<sup>th</sup> just after midnight).

Note – some cell phones and GPS units can easily calculate Universal Time also