UNEtracker

UNEtracker is a simple store-on-board GPS collar based on a low cost, integrated GPS and data logger chipset encapsulated, along with supporting hardware in resin and mounted in a waterproof polycarbonate housing. UNEtracker can be programmed to sample continuously, at log individual points at specified time intervals or collect a burst of points at specified intervals (Multi-point Interval Tracking) and can be deployed for over to 12 months (Table 1).

The UNEtracker can store up to 45,000 positional data records. Under optimal conditions the UNEtracker can obtain and record a location fix within 10 seconds. Results of a static accuracy test are shown in Figure 1. UNEtracker was able to record a GPS position solution on 99% of attempts. The mean error from actual receiver position was 4.14 metres with a standard deviation of 3.04 metres.

Table 1. A summary of the deployment periods that can be achieved at different sampling intervals and under varying conditions. * Under optimal conditions the data storage limit of 45,000 records is achieved before the energy supply is exhausted.

Sampling interval (minutes)	Maximum days of deployment under varying conditions		
	Optimal (10 second fix)	Average (20 second fix)	Poor (30 second fix)
5	156*	118	79
10	313*	236	157
30	938*	708	472
60	1875*	1417	944

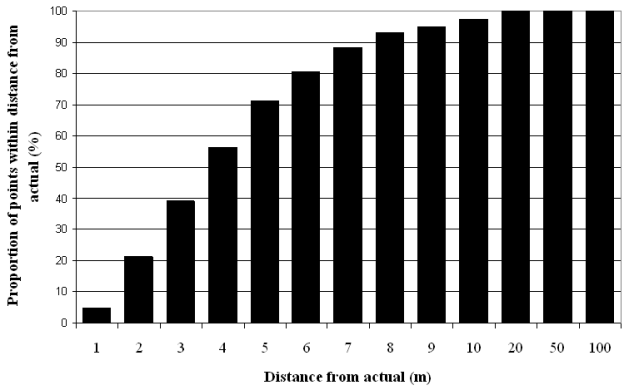

Figure 1. Histogram distribution of positions recorded by UNEtracker GPS collar within various distances from actual known location during the static accuracy test.

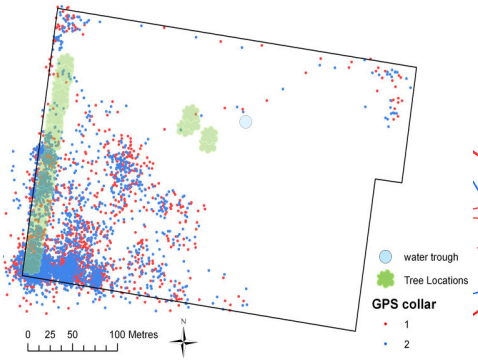

Figure 2 Simple point log data

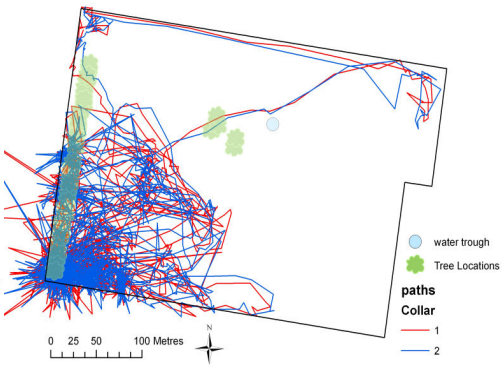

Figure 3 Points to paths

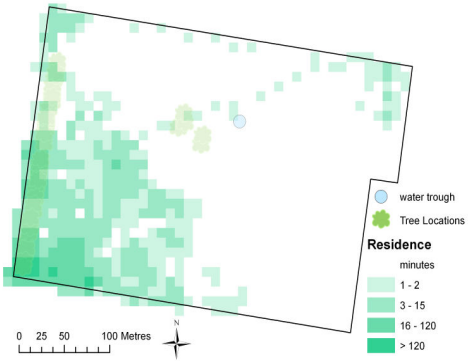

Figure 4 Total residency (10m grid)

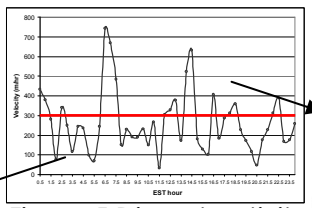

Figure 5 Diurnal activity

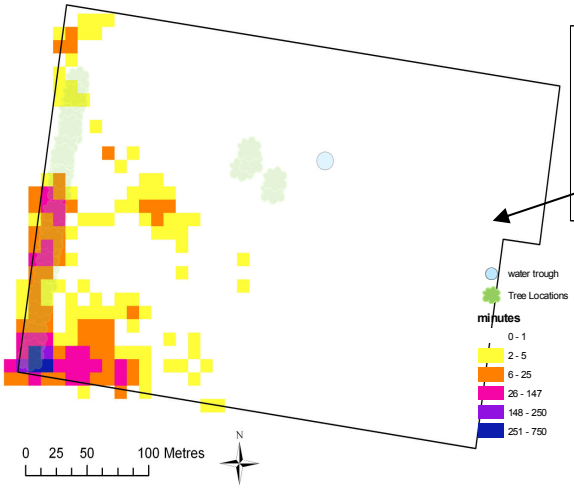

Figure 6 Low activity residency

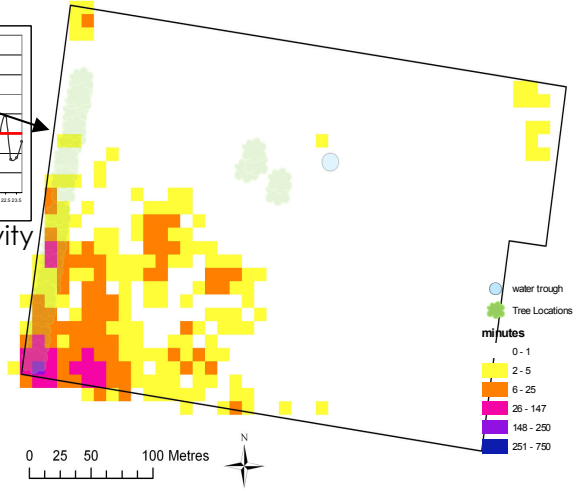

Figure 7 High activity residency

For further information contact Mark Trotter 67732465 or David Lamb 67733565 email: parg@une.edu.au

UNEtracker

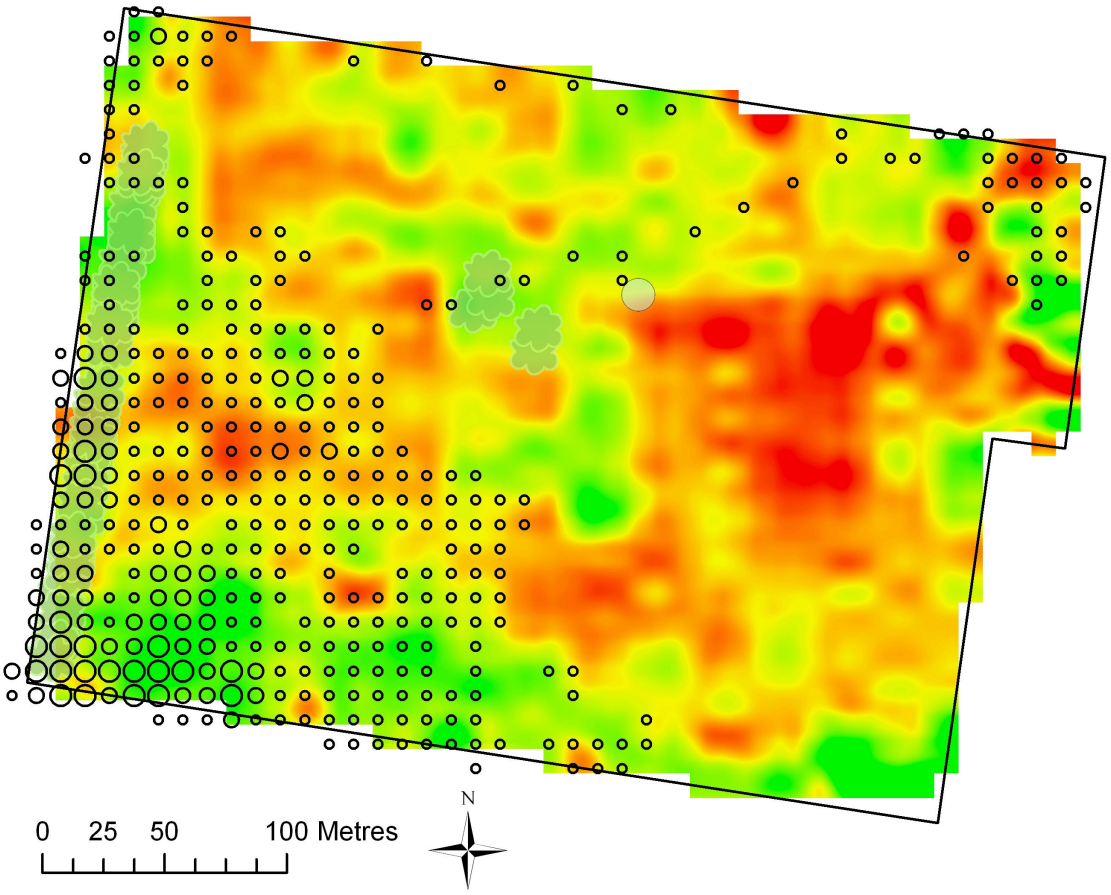

Figure 8 NDVI and Residence Map

Figure 9 The internals…

Figure 9 UNEtracker v1

Figure 10 UNEtracker v2

Figure 11 UNEtracker v3

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