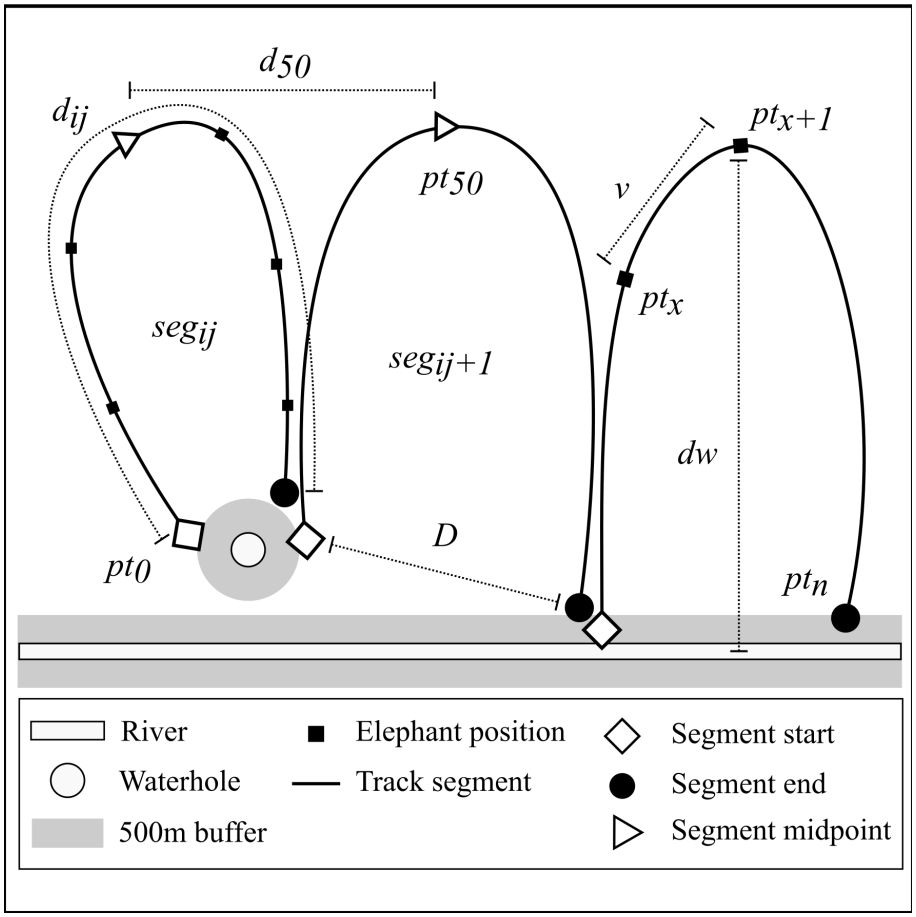

Fig. 4: Schematic of elephant track segments between water points. We collected elephant positions (filled squares, denoted by pt_x) using GPS transmitters. Positions within 500m (shaded grey area) of a water source (river: open rectangle, waterhole: open circle) were identified as water points.

For each individual elephant i*, we identified track segments* j *(solid lines, denoted seg_{ij}) as the path joining all positions chronologically between successive water points. Each segment began at a water point (open rhombi, pt_0), and ended at the point immediately preceding the starting point of the next segment (filled circle, denoted by pt_n).*

We calculated the time-difference between each segment's start and end points as the segment time (t_{seg}), and identified the segment's midpoint (open triangle, denoted pt_{50}) as the elephant position when half the segment time had elapsed ($t_{seg}/2$).

We computed the distance travelled between successive positions ($pt_x \rightarrow pt_{x+1}$) in a segment as the steplength (denoted by v), and the sum of all v in a segment as the distance travelled along the segment (denoted d_{ij}). We calculated the displacement (linear distance, denoted D) between each segment's start and end points, and the displacement (linear distance, denoted d_{50}) between the midpoints of successive segments.

Finally, we obtained the linear distance from each elephant position to the nearest water source (denoted dw), and the thermochron temperature at each position (T_x).