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# Differences in Spatial Cognition in Captive Tiger and Bears

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# DIFFERENCES IN SPATIAL COGNITION IN CAPTIVE TIGER AND BEARS

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Migrating long distances to find food, mates, and territories requires animals navigate long distances, yet exactly what cognitive mechanisms support such navigation remains unclear. Non-mammalian spatial cognition research suggests animals have an integrated map consisting of bearing (egocentric mechanisms: e.g., dead reckoning) and sketch (allocentric mechanisms: e.g., landmarks) maps. Do mammals that migrate, tigers and bears, also use these maps? Two Sumatran tigers, one grizzly bear, and one polar observed a rotating apparatus with two distinct landmarks, one baited with food. The animals chose which side had food using landmarks or rotation as cues. Binomial tests revealed animals found food more than expected by chance, and bears found food more than tigers. Thus, mammals can use a sketch map (landmarks or rotation) to find food. Further research should explore whether mammals rely on bearing maps and should further investigate species differences in sketch map use.