

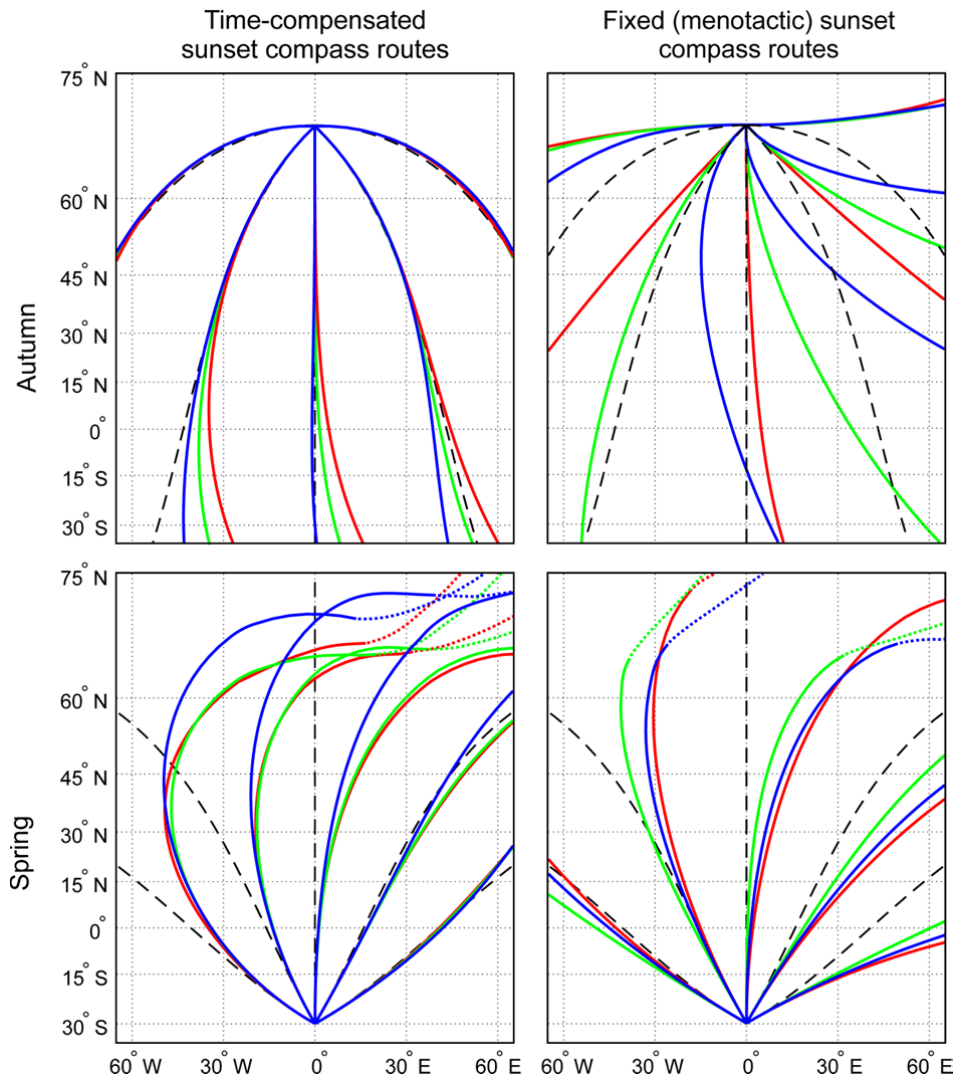


Figure S2. Effect of time of season on flight trajectories of migrants following time-compensated sunset and fixed (menotactic) sunset compass routes. Autumn migration routes were simulated with 1 Aug (blue), 1 Sept (green), and 1 Oct (red) as initial departure dates and with initial departure directions of 90°, 135°, 180°, 225° and 270° from departure locations at latitudes 70°N. Spring migration were simulated with 1 March (blue), 1 April (green), and 1 May (red) as departure dates and with initial departure directions of 300°, 330°, 360°, 30° and 60° from departure locations at latitudes 30°S. All routes were calculated in daily steps of 200 km with a new course for each step based on astronomical conditions at each daily departure location/time and assuming a constant geographic course within a step. Dotted sections of routes indicate situations where the sun did not set anymore once the birds reached higher latitudes, thus where the lowest sun elevation was taken as reference instead. Great circle routes (dark grey dashed) are given for comparison to indicate the shortest routes. The routes are presented in Mercator projection.