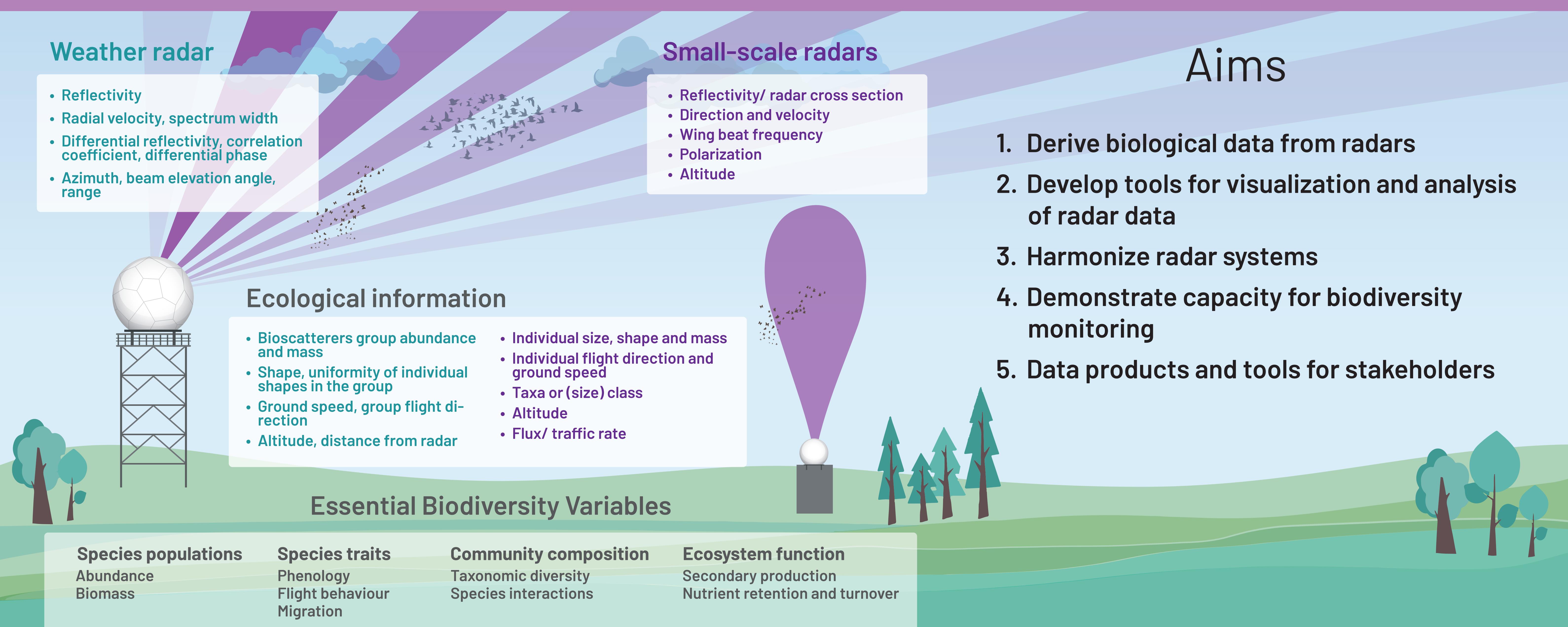


Radar-based approaches for monitoring Aerial bioDiversity

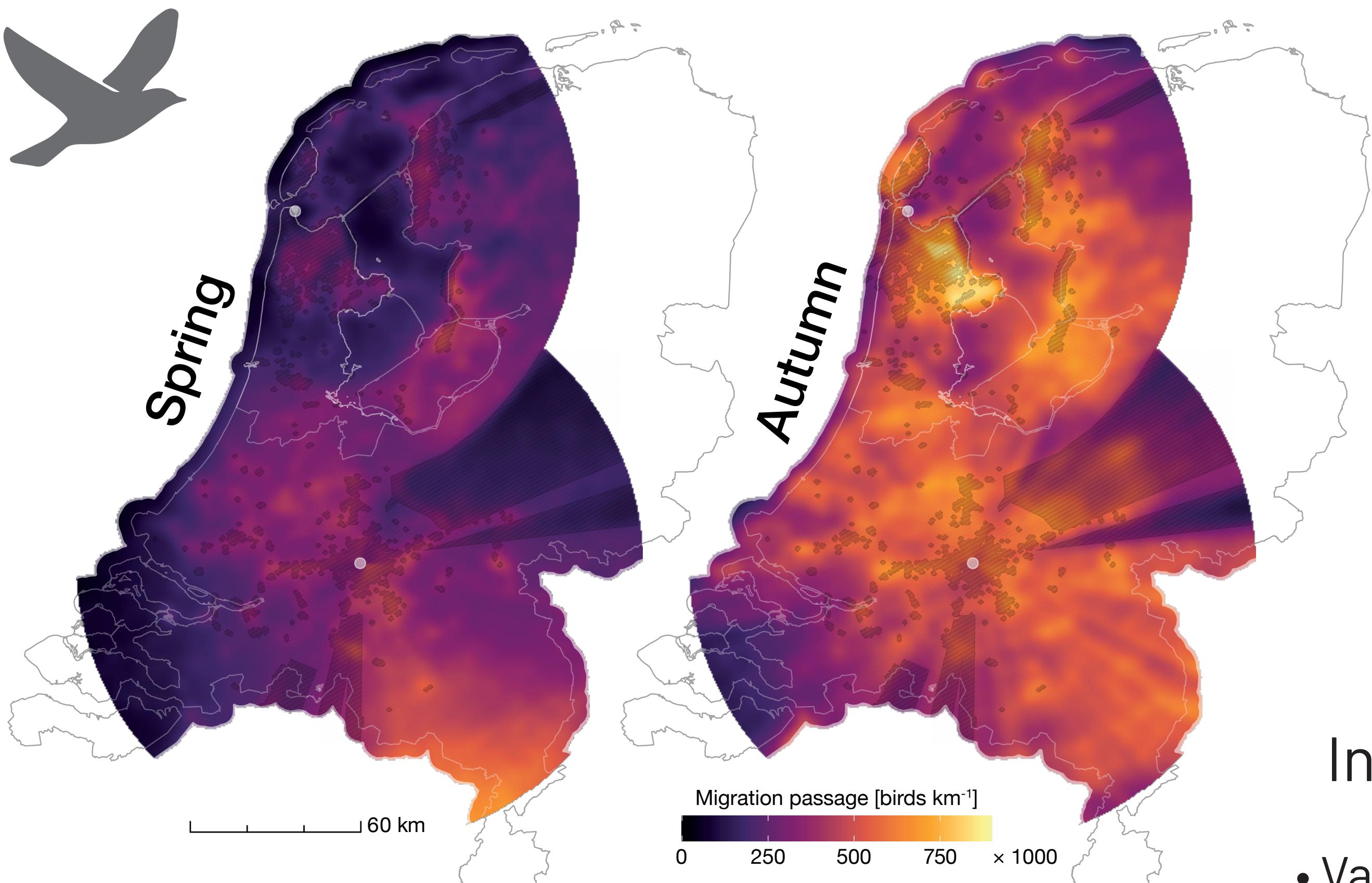


S Bauer (silke.bauer@wsl.ch), T Desert, P Desmet, A Farnsworth, B Haest, B Hoekstra, P Huybrechts, D Kleger, B Kranstauber, E Knop, F Liechti, IC Metz, C Nilsson, B Rutschmann, EK Tielens, H van Gasteren, N Weisshaupt, J Shamoun-Baranes.

Birds, bats and insects take to the air for essential activities; yet, measuring their numbers and movements is extremely challenging. Radar systems provide long-term, continuous and automated monitoring of a broad range of species.

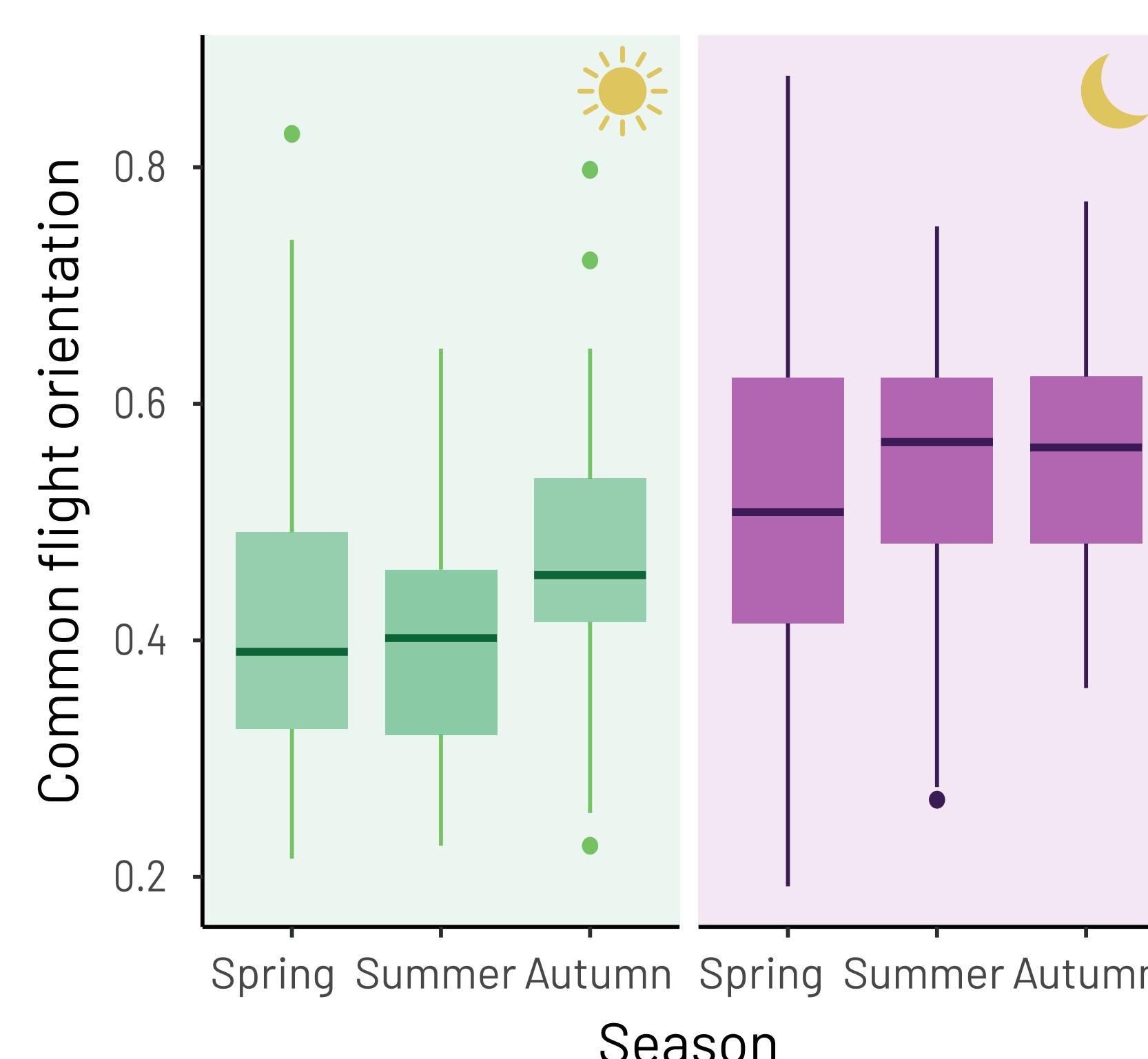


Exemplary Outcomes



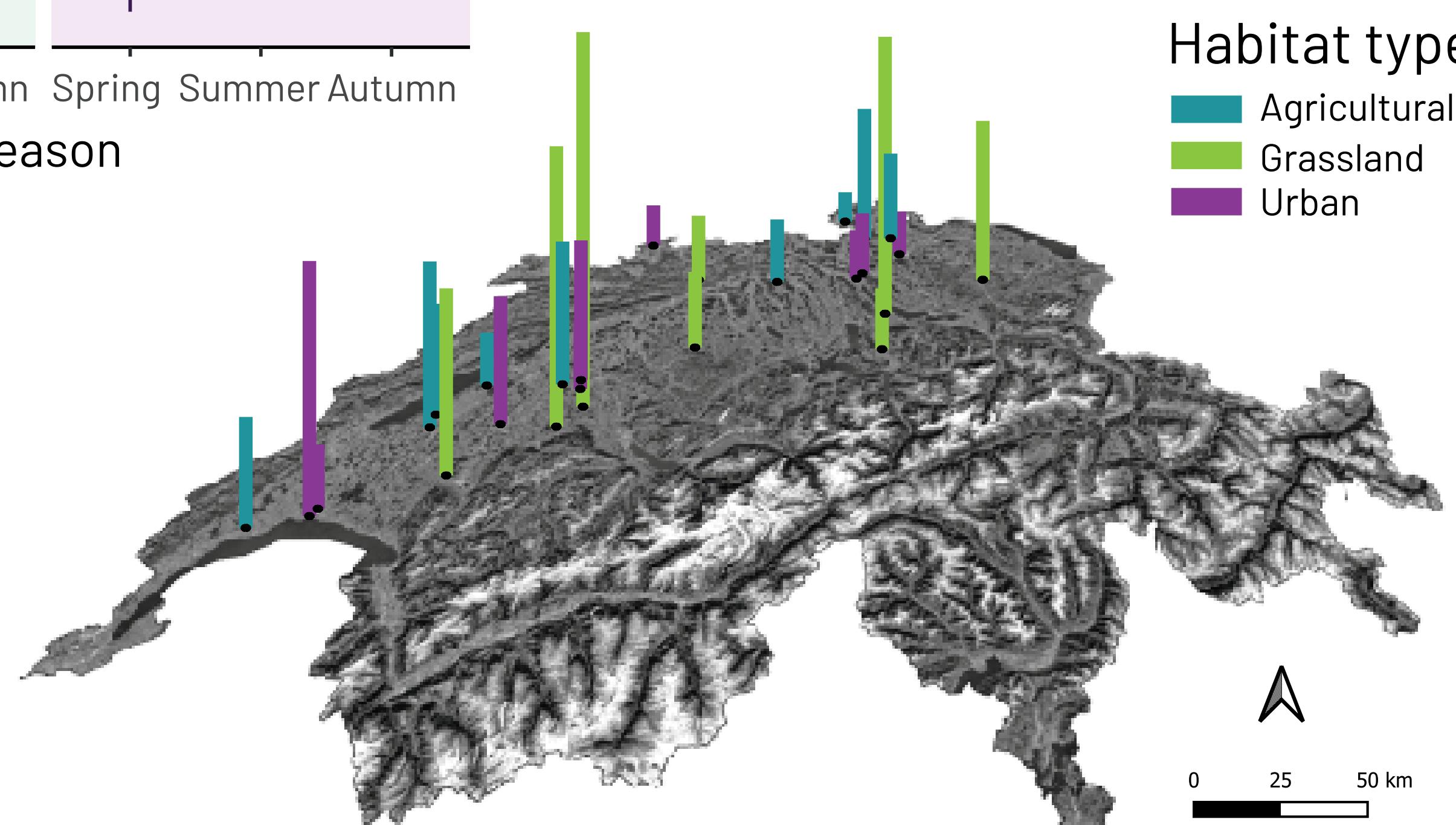
Bird migration intensity

Weather-radar derived bird migration intensity over the Netherlands is higher in autumn than spring
High regional variation in migration intensity



Insect activity

- Varied across Switzerland
- Grassland with more insects than agricultural and urban habitats
- Maximum $>18'000$ insects $\text{day}^{-1}\text{km}^{-1}$; minimum 1500



Insect flight orientation

- More directed movement at night and more scattered during day
- More directed flights in autumn

More info



- Swiss Federal Research Institute WSL, Switzerland
- University of Amsterdam, NL
- Research Institute for Nature and Forest, Belgium
- Finnish Meteorological Institute, Finland
- Agroscope, Switzerland

- Swiss BirdRadar Solutions AG
- Météo-France
- Deutsches Zentrum für Luft- und Raumfahrt (DLR)
- Royal Netherlands Air Force
- Actions at EBMF