

EU SPACE WEEK 2023

7 - 9 November - Sevilla, Spain

BirdWatch - A Copernicus-based service
for farmland birds habitat monitoring

Session *UCP: Environmental - Climate & Biodiversity*

Nastasja Scholz, PhD – Luftbild Umwelt Planung GmbH



LUFTBILD UMWELT PLANUNG



- SME, established in 1996, located in Potsdam, Germany
- 25 employees specialized in remote sensing, environmental and landscape planning, biology, ecology, geography, cartography, geophysics, computer science and geoinformatics
 - REMOTE SENSING
 - GEO-IT
 - ENVIRONMENTAL MANAGEMENT
 - CLIMATE CHANGE ADAPTION AND MITIGATION





EU Horizon Project (GA
101082634)
Feb 2023 – Jan 2026
<https://birdwatch-europe.org/>



Our Advisers:



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Motivation

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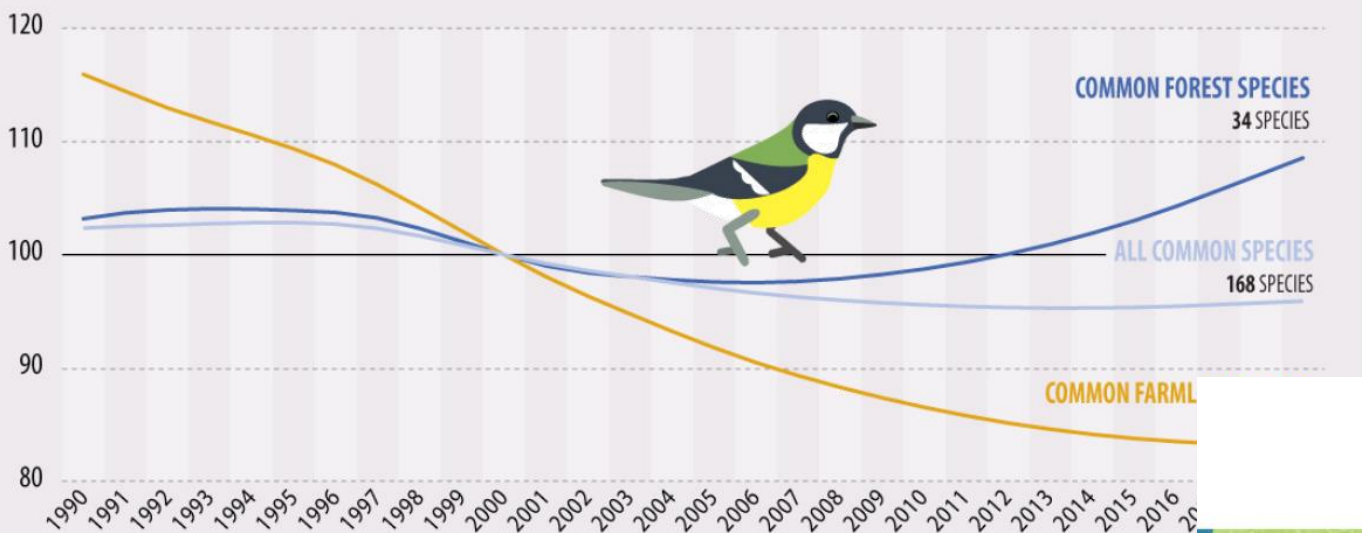


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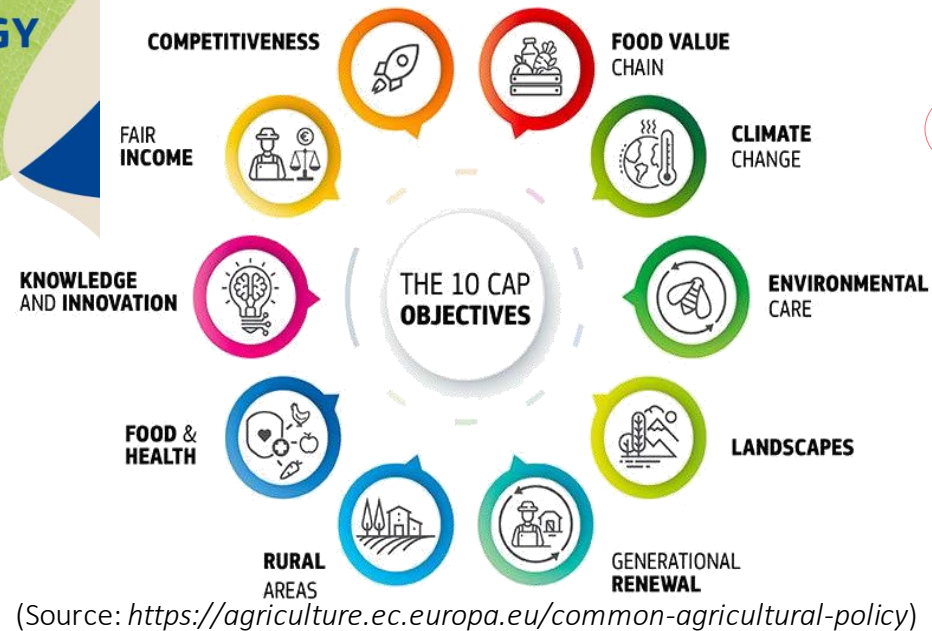


EU common bird indices, 1990 – 2019

(index 2000 = 100)



2018 - 2019 data: estimates
Sources: European Bird Census Council (EBCC); national BirdLife organisations; Royal Society for the Protection of Birds (RSPB); Czech Society for Ornithology (CSO)



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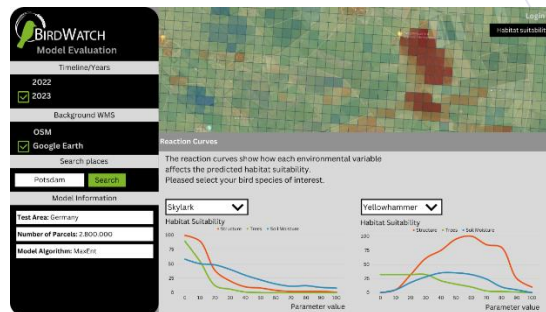
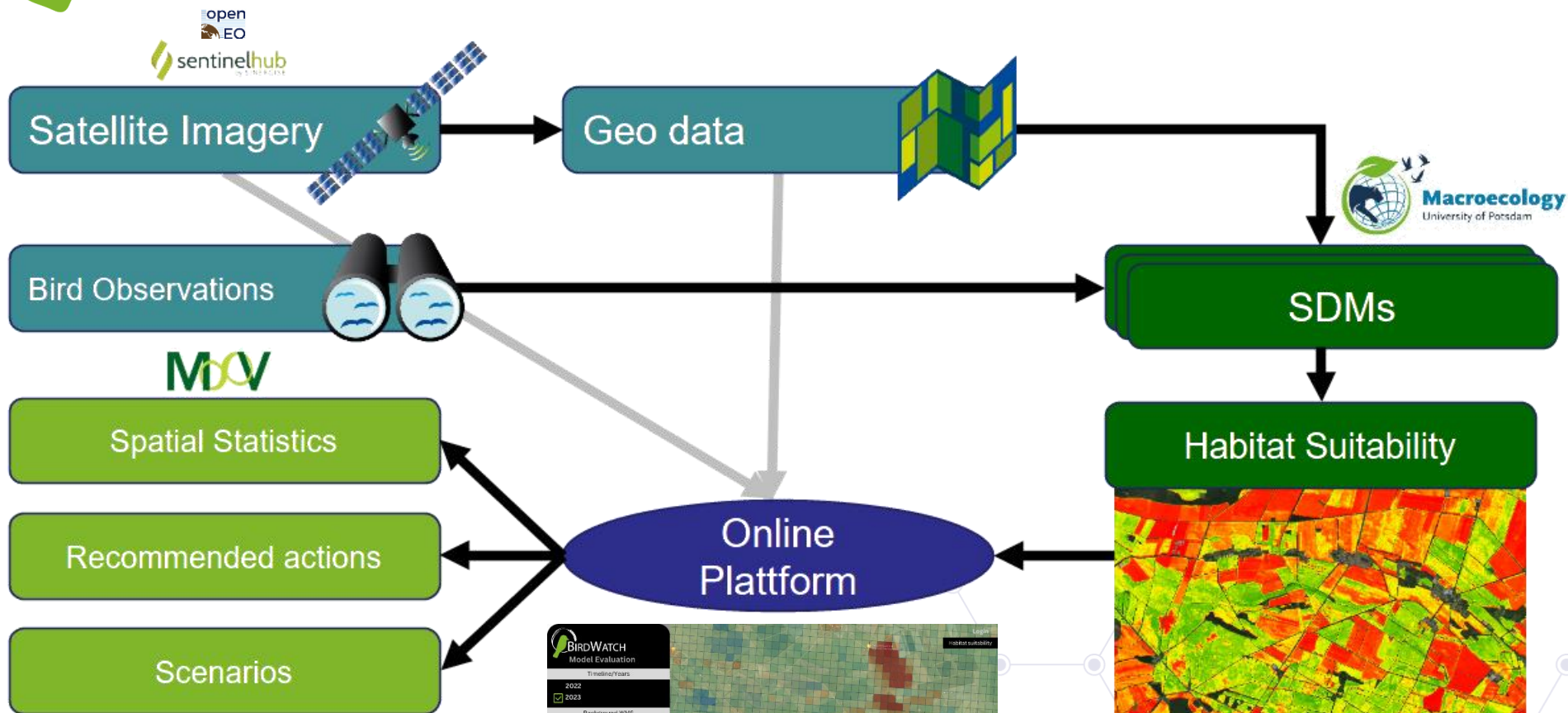
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The Application

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Bird Images by *Macaulay Library* please check <https://birdwatch-europe.org/species/> for more information

- 10 bird species are used as biodiversity indicators
- Some of them are already quite threatened, some of them have declining numbers
- All of them are part of the common farmland bird index for their respective region
- Ornithological and citizen science observation data are available



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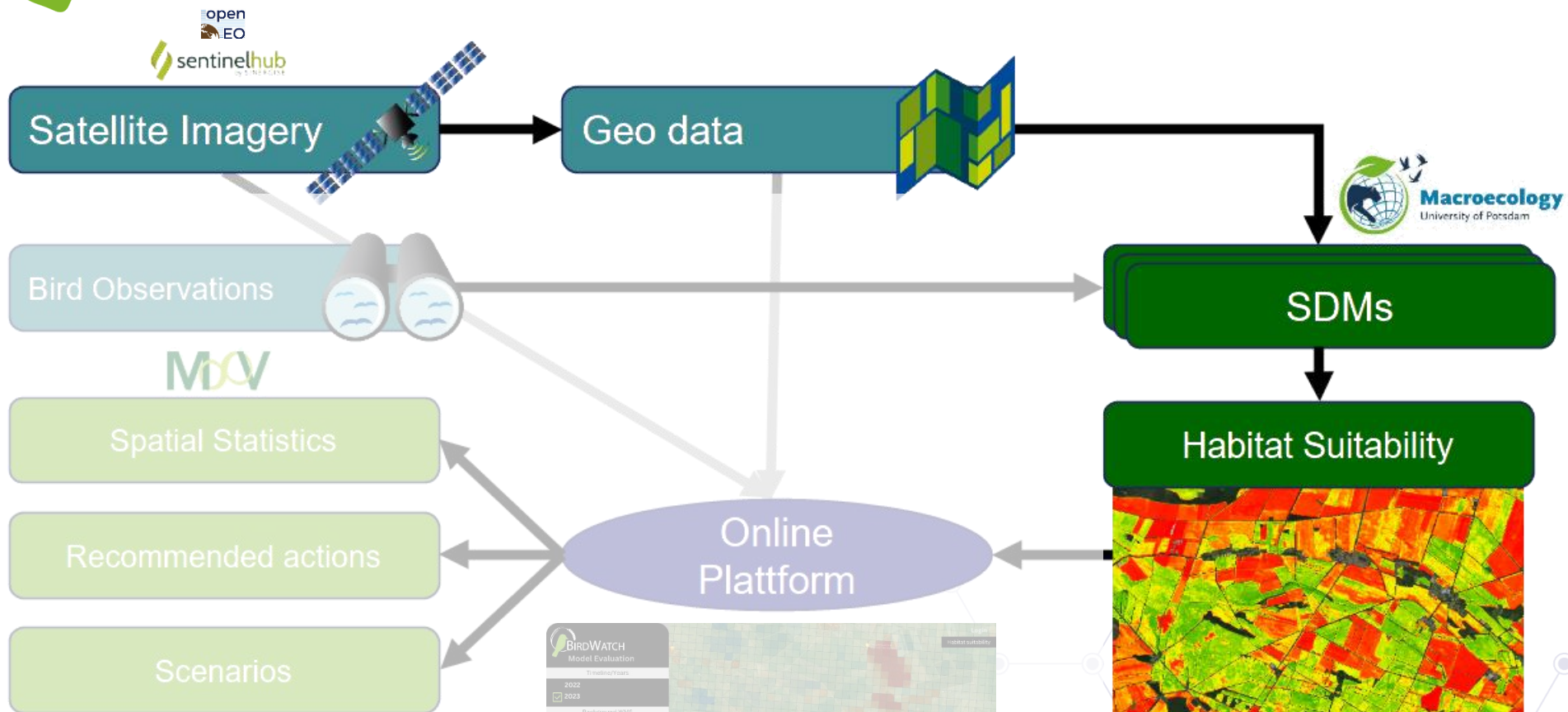


Four Test Regions:

- Flanders
- Germany
- Lithuania
- South Tyrol

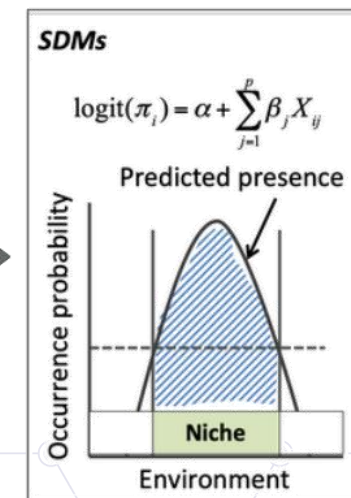
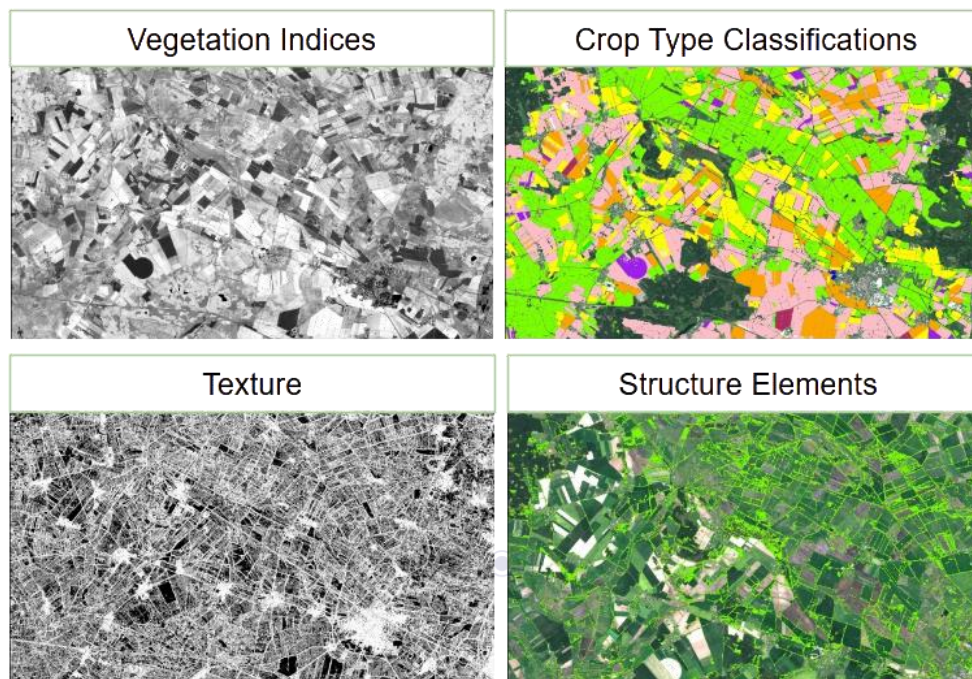
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- Our species distribution models (SDMs) use **Sentinel-1** and **Sentinel-2** datasets as well as data from the **European Land Monitoring Service** to map important parameters for farmland bird **habitat suitability**:

- Landscape Features
- Landcover
- Crop Type
- Mowing Patterns
- Soil moisture
- Heterogeneity of the Landscape



Introduction to Species Distribution Modeling, by Damaris Zurell

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User Needs

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Our **wishlist** includes

- data which helps to derive the **landscape features** (especially size & shape)
- data which helps to derive the **height of objects**, including trees, shrubs, hedges or buildings.
- **in situ / validation data** for our models: bird observations, soil moisture measurements, information on crop / vegetation species

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THANK YOU

And please don't hesitate to get in touch!

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