Contributions of Gembloux Agro Bio-Tech to LifeWatch Belgium

Axel Bourdouxhe[1], Thomas Coppée[1], Julien Radoux[2] and Marc Dufrêne[1]

1. University of Liège, Gembloux Agro-Bio Tech, Biodiversity and Landscape team
2. University of Louvain, Earth and Life Institute

1. Ecotopes validation

The validation of ecotopes is done on two attributes : ecotope classification and their limits.

Classification validation : Firstly, an ex-ante validation is realized by providing reference datasets to improve the pixel classification. We classified more than 34 000 polygons based on photo-interpretation of Walloon orthophotoplans and other sources of data. In a second step, an ex-post validation is realized to test the proposed classification on known areas.
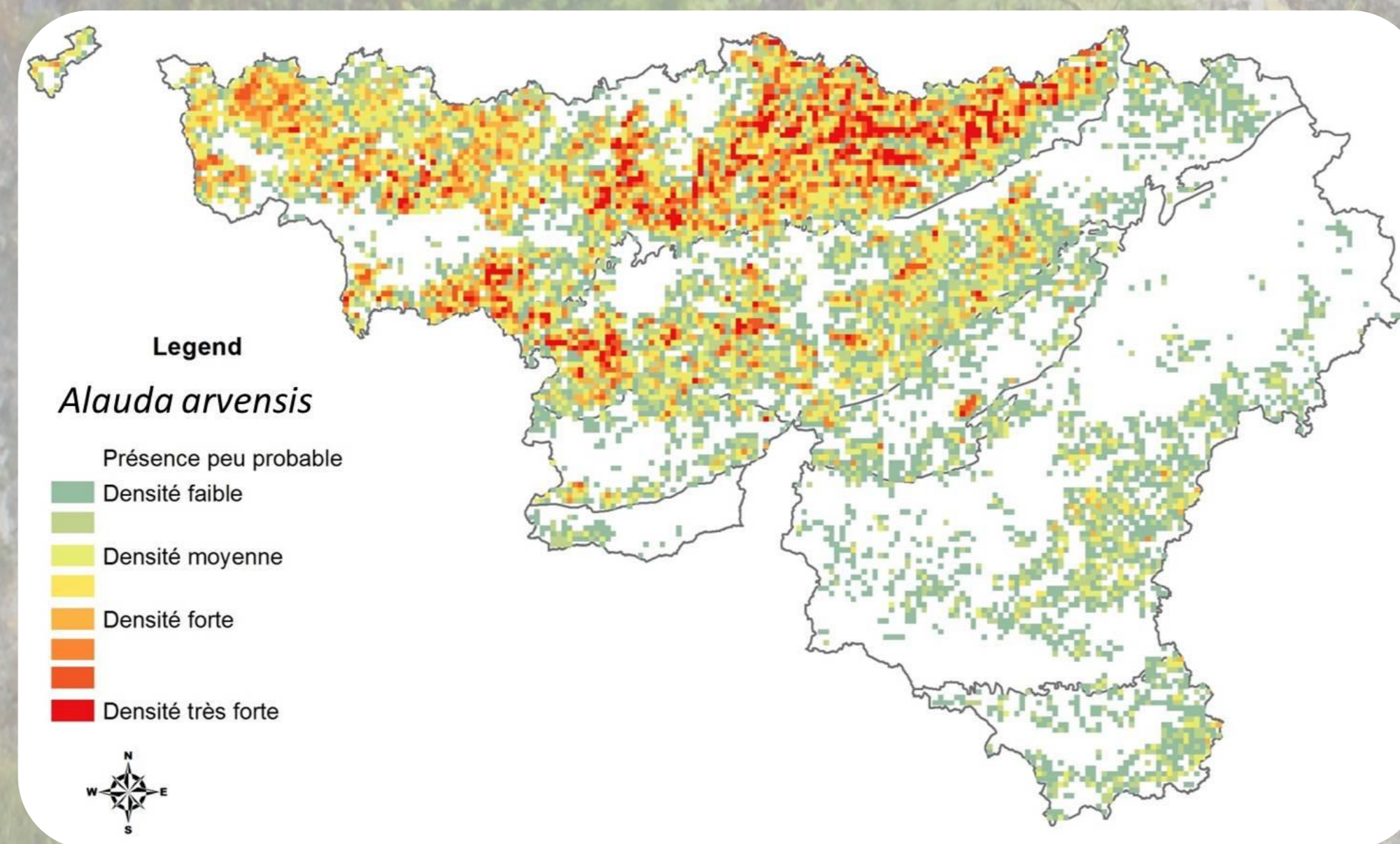
Limits validation : Limits of valuable habitats are evaluated by comparing ecotopes limits to known limits such as the Natura 2000 habitat maps and field words.

Photo-interpretation of ecotopes containing valuable grassland (in green) versus intensive grassland (in red)
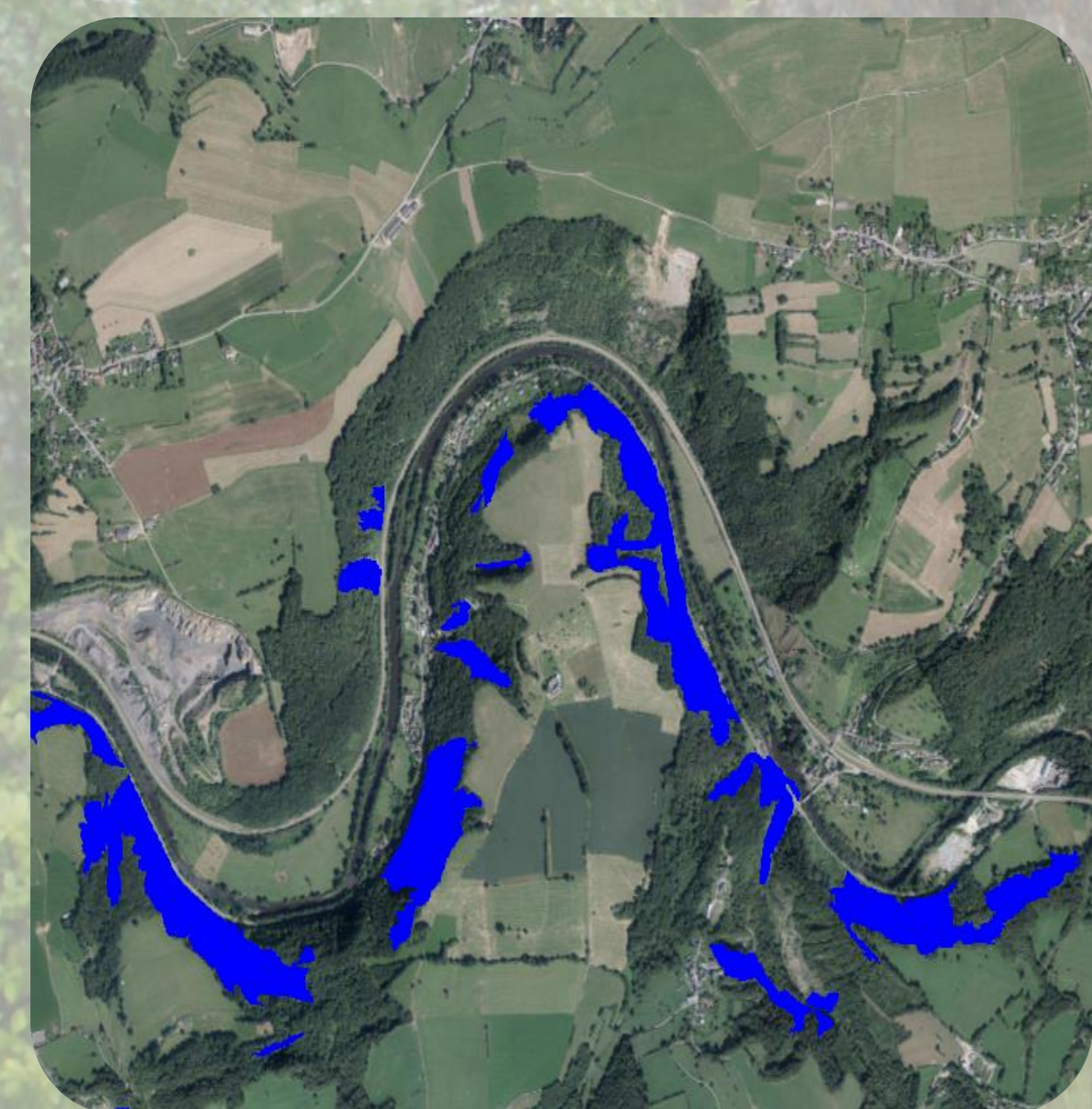
High probability (>90%) of ravine forest distribution

Distribution of Alauda arvensis (cropland bird) in Walloon Region using ecotopes database

2. Biological interest of ecotopes

Two PhD thesis has been initiated to evaluate ecotopes interest for biological modelling focusing on biotope and species models using ecotopes polygons and embedded data.

The main goal is to compare the ecotopes to a more classical approach using rasters. The hypothesis is that polygons are more organic and thus more representative of landscapes, ecological factor distributions and habitat species delineation. Natural processes such as species or biotope distribution could be better depicted with that kind of approach.
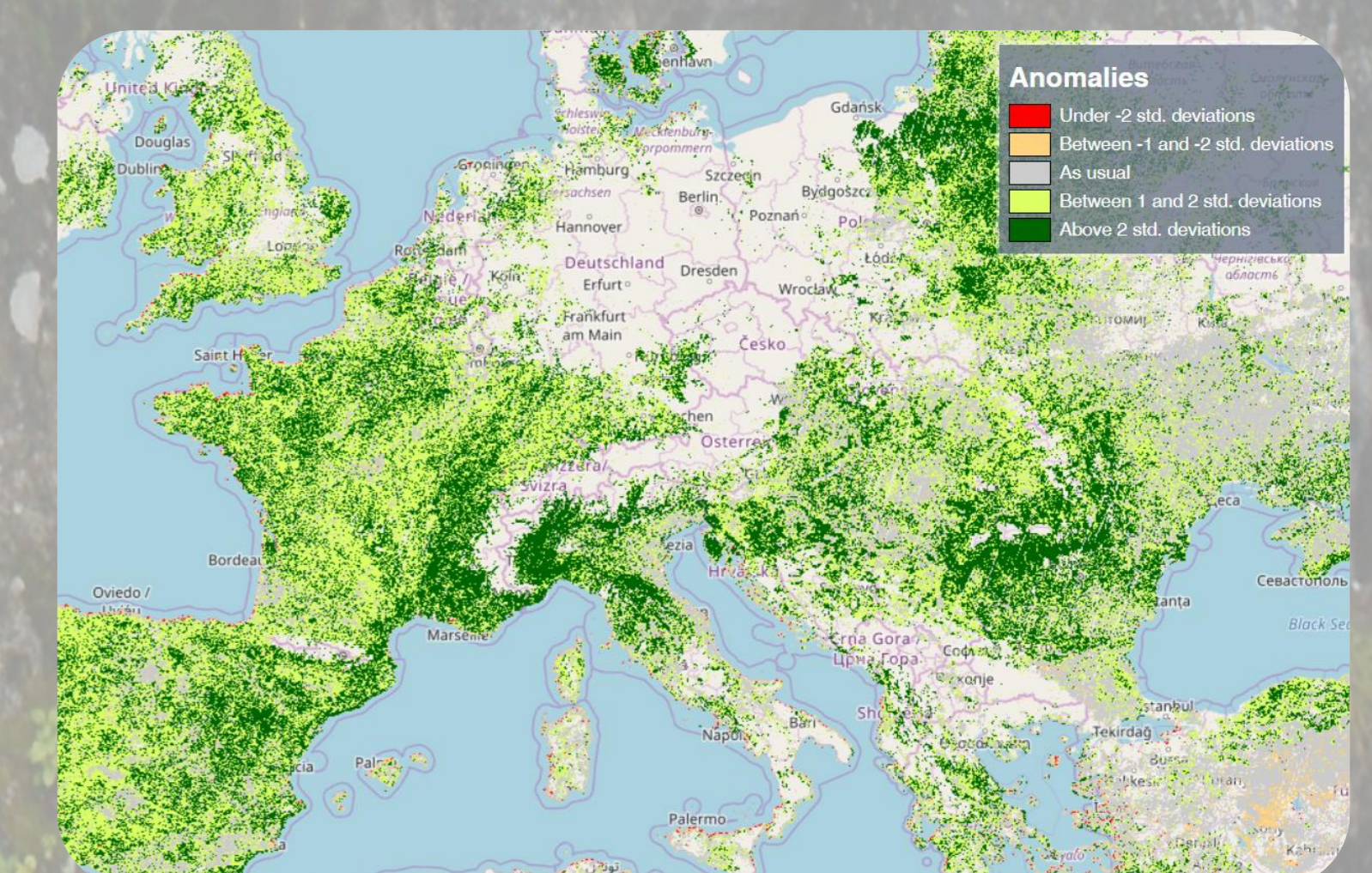
3. Interest of ecological data derived of RS data

UCL team derived several ecological indicators from remote-sensing at the European scale allowing to identify "anomalies" on snow, greenness and fire events. Such anomalies can be related to species dynamics (migration, mortality, invasions, …).

For the future, the plan is to create a real network of leading experts in different research thematics to be aware of abnormal phenomenon that can be related to these anomalies and then offer studies using LifeWatch data to understand these trends.
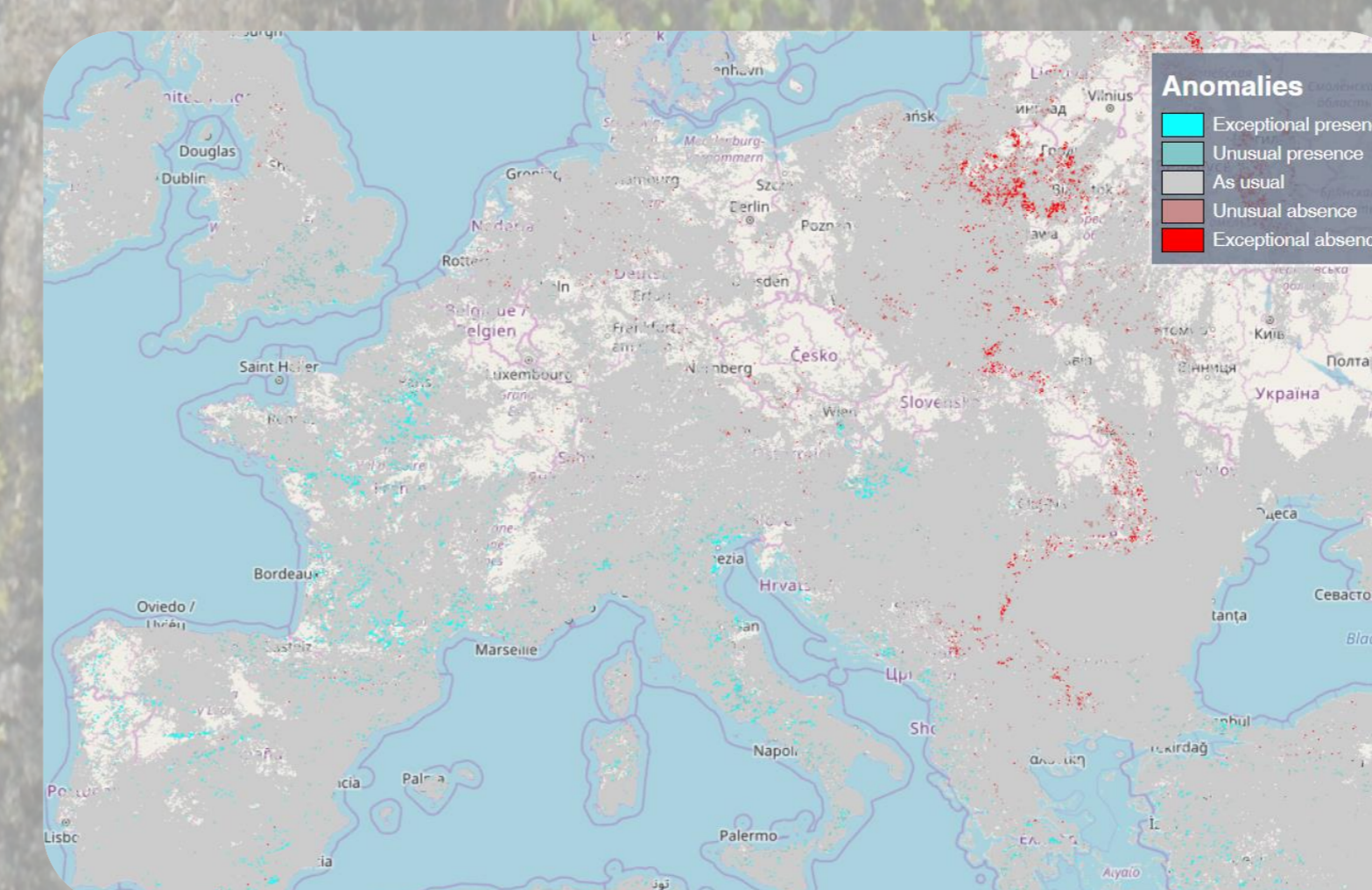
Snow anomalies

Greenness anomalies

Please, if you have any question, contact us :
axel.bourdouxhe@uliege.be
thomas.coppee@uliege.be

Thomas Coppée   **Axel Bourdouxhe**

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