

using space data to provide space for the environment

Distribution maps

FEEDBACK, EVALUATION, POSSIBLE IMPROVEMENTS

THIRD WORKSHOP ON REPORTING UNDER RESOLUTION No. 8(2012) OF THE BERN CONVENTION,
PARIS, 23 MAY 2019

CHRISTOPHER PHILIPSEN, EUROPEAN TOPIC CENTRE ON BIOLOGICAL DIVERSITY (ETC/BD) /
SPACE4ENVIRONMENT, LUXEMBOURG



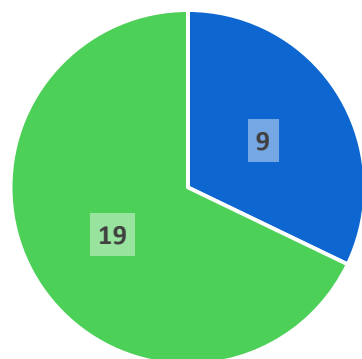
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General status of reporting

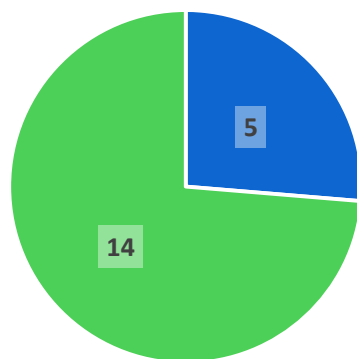
- Revised or first-time reportings of spatial data received from 6 countries for 28 species/habitat distributions (19 species / 9 habitats)
 - 20 new reported habitats and species
 - 8 revised datasets on species and habitats

Reported distributions

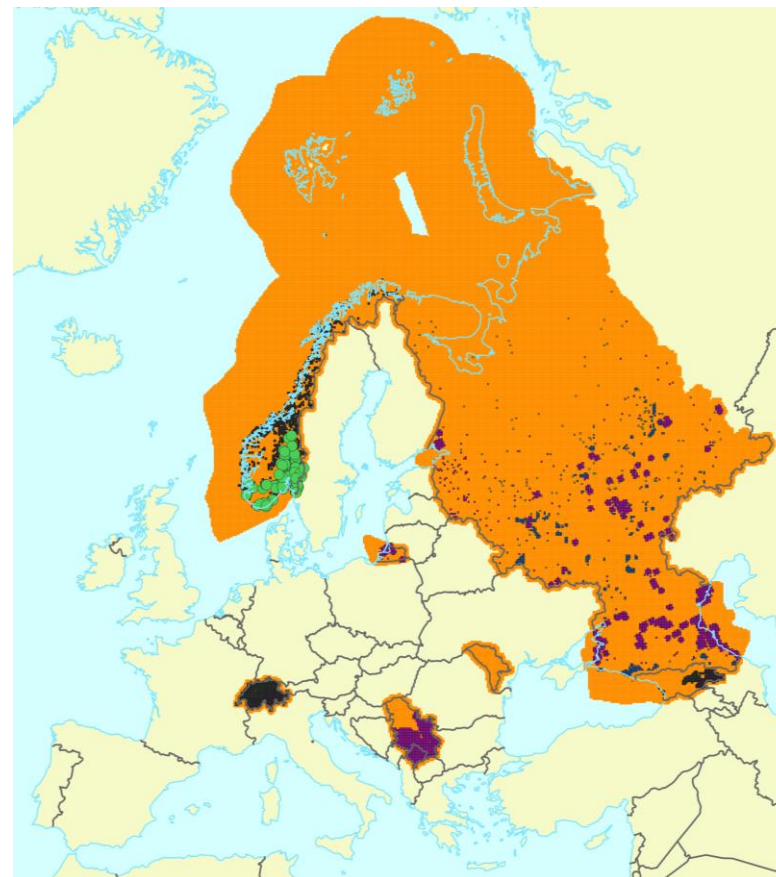


■ Habitat ■ Species

Count of different distributions



■ Habitats ■ Species ■



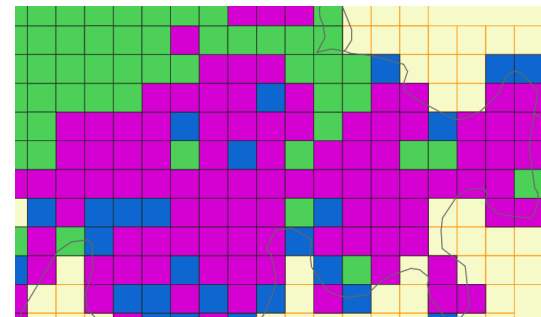
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General evaluation - I

- 8 reported spatial distributions are essentially conform with the requirements (content-wise and geometry)

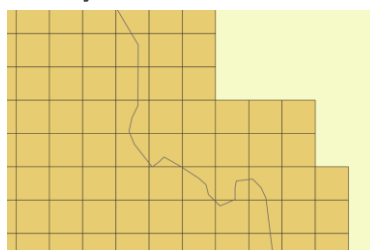
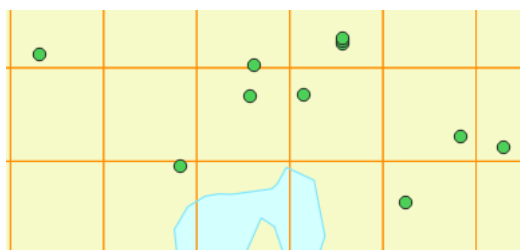
code	maptype	category	isocode	refgrid	sensitive
G1.A4	Distribution	Habitats	XX	EEA-10km GRID	Non-sensitive
G1.A4	Distribution	Habitats	XX	EEA-10km GRID	Non-sensitive
G1.A4	Distribution	Habitats	XX	EEA-10km GRID	Non-sensitive
A091	Distribution	Birds	XX	EEA-10km GRID	Non-sensitive
A091	Distribution	Birds	XX	EEA-10km GRID	Non-sensitive
1193	Distribution	Species	XX	EEA-10km GRID	Non-sensitive
1193	Distribution	Species	XX	EEA-10km GRID	Non-sensitive
1193	Distribution	Species	XX	EEA-10km GRID	Non-sensitive



- 13 spatial distribution datasets showing correct geometry but missing or incorrect attributes (e.g. no code, category, sensitive, isocode,... provided or even empty attributes)

species

- 7 distribution datasets are either not correctly converted into the European EEA grid system or the dataset itself is not usable the way it has been reported



General evaluation - II

- Improvement in spatial data quality and consistency compared to first draft reportings
- Some countries have implemented the feedback and corrected their data
- But:
 - Attributes still missing for many countries
 - No reporting at all from many countries
 - Some feedback and proposed corrections not taken into account and data still shows similar errors
- Main weaknesses:
 1. Required attribution not followed consequently
 2. Missing transfer into EEA-Grid system
 3. Erroneous transfer into grid system



Issues and possible improvements - Attribution

- Attributes at least partially missing for deliveries from 4 out of 6 countries

List of required attributes			
Name	Description	TYPE	Example
code	The Unique identifier. Use the code given in the checklist for reporting	string(15)	1530
maptype	Distribution	string(15)	<i>Distribution</i>
category	Habitats/Species	string(15)	<i>Habitats</i>
isocode	Country code: Use the two-digit codes from ISO 3166, except that UK should be used instead of GB for the United Kingdom. A table giving the codes can be found on the Reference Portal.	string(2)	AT
refgrid	Information about EEA GRID used and its mesh size such as 10x10km, 1x1km, ...	string(25)	EEA-10km GRID
sensitive	Description if data contains sensitive information "sensitive" or "non-sensitive"	string(15)	<i>sensitive</i>



Issues and possible improvements - Attribution

➤ Attributes used in data

CELLCODE	EOFORIGIN	NOFORIGIN
10kmE687N260	6870000	2600000
10kmE687N263	6870000	2630000
10kmE687N264	6870000	2640000
10kmE686N265	6860000	2650000
10kmE687N265	6870000	2650000
10kmE684N267	6840000	2670000

Join_Count	TARGET_FID	CellCode	EofOrigin	NofOrigin	C_garrulus	Code
1	902	10kmE712N267	7120000	2670000	Yes	1
1	903	10kmE713N267	7130000	2670000	Yes	1
1	970	10kmE709N268	7090000	2680000	Yes	1

Missing attributes (code, sensitive, refgrid,...) and superfluous fields (not an error but ignored)

species
Hamatocaulis vernicosus
Hamatocaulis vernicosus
Hamatocaulis vernicosus
Hamatocaulis vernicosus

Species name instead of species / habitat code

Possible improvement and correction:

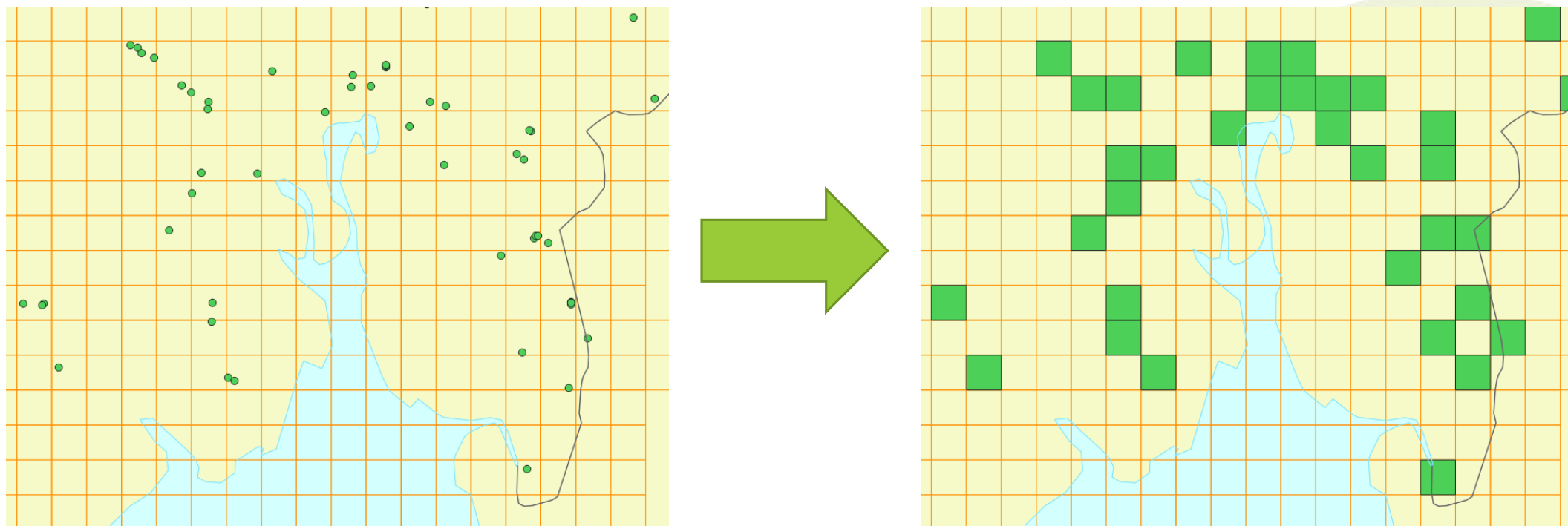
Addition of all attributes required by the guidance document and provision of all needed details for the species / habitats

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Issues and possible improvements – Missing transfer into EEA-grid

- Some distribution data reported in “raw” species or habitat occurrence geometries
→ described by actual extent of habitat / species occurrence instead of representative grid cells



- pdf-map delivered as part of reporting already shows correct transfer
→ potentially upload of wrong file



Issues and possible improvements – Missing transfer into EEA-grid

- Distribution can only be symbolised by selection of corresponding EEA reference grid cells determined to be representative for the specific species / habitat
 - species / habitat appears at all
 - species / habitat accounts for defined share in cell (area or length of linear objects)
 - expert decision to declare grid cell to be part of distribution
- See guidelines for different options of how to identify grid cells which stand for the actual distribution

Possible improvement and correction:

Spatial distribution can only be accepted as subsets of the EEA grid (either single cells or dissolved for neighbouring cells of same species/habitat)

Transfer all data from national format (points/polygons/lines) in mostly national projection into the European grid in European projection (identify cells of distribution) and create subset of these

→ see guidance document provided as part of workshop documents in Nov. 2018 for general approach (some attributes have changed in the meantime)

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Issues and possible improvements – Erroneous transfer into grid system

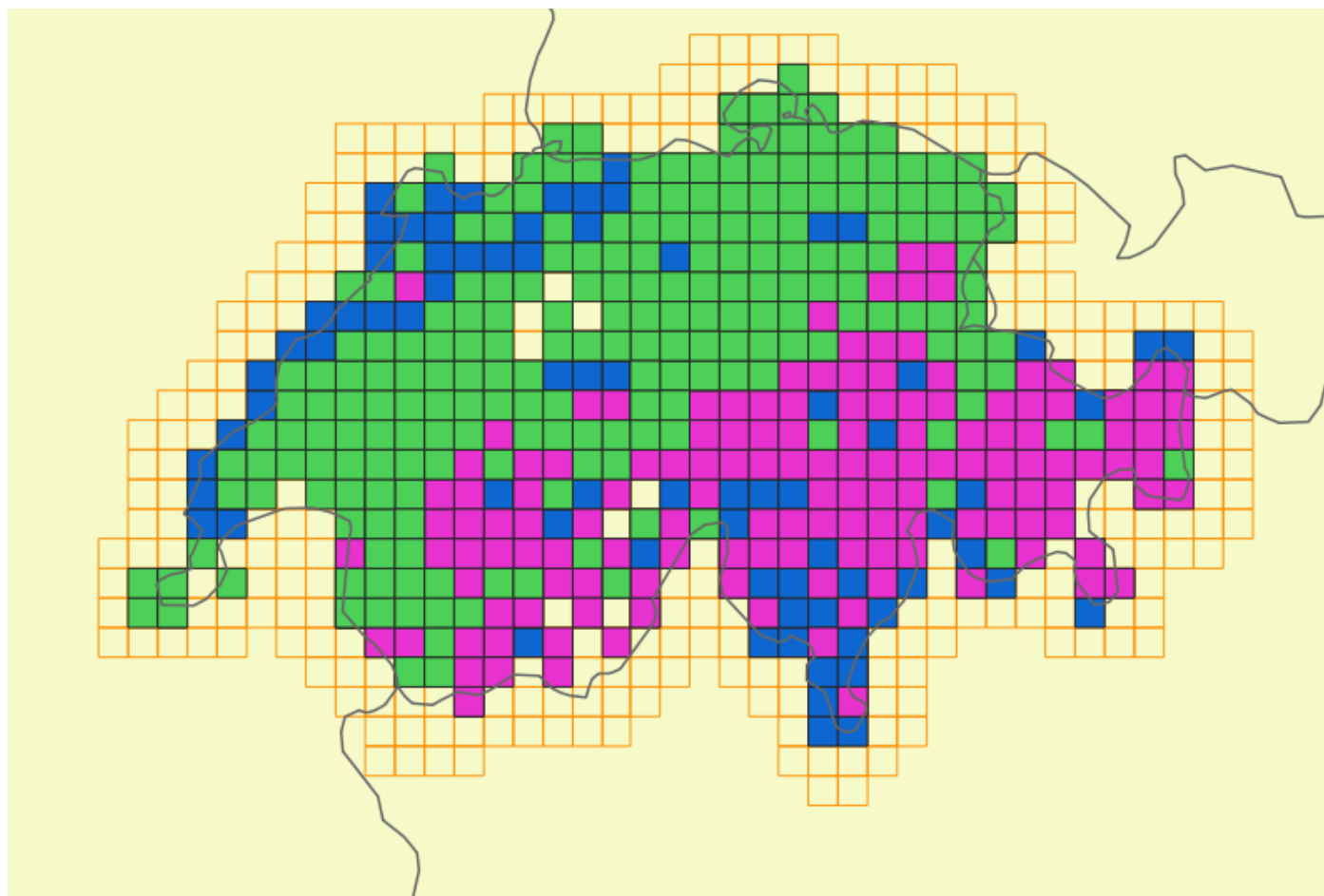
- Instead of creating subset of grid cells representing distribution full country grid is reported
 - Distribution cannot be described by a Boolean attribute (1/yes or 0/no)
→ only distribution cells may be included in reporting
 - Separation of distribution and non-distribution cells by any other way (colouring, attributes,...) cannot be accepted
- One reporting mainly done in MapInfo format with differentiation of distribution and non-distribution by colouring only (whole country grid reported)
 - invalid format (Shapefile requested)
 - colouring not read by all software
 - colouring not explaining what is represented by specific colour
 - non-distribution cells have to be eliminated
 - invalid CRS used: only valid CRS is epsg:3035 EPSG89/LAEA

Possible improvement and correction:

Separate the actual distribution cells and create a subset of these using the correct CRS



Good example of transfer into European grid



- Subsets of grid cells being part of species / habitat
- Required attributes provided
- All distributions compiled in one file
→ optional so far



Good practice

- All species/habitats stored in one file per type
→ separable by code

CODE	MAPTYPE	ISOCODE	REFGRID	SENSITIVE	CATEGORY
G1.A4	Distribution	CH	EEA-10km GRID	Non-sensitive	Habitats
G1.A4	Distribution	CH	EEA-10km GRID	Non-sensitive	Habitats
G1.A4	Distribution	CH	EEA-10km GRID	Non-sensitive	Habitats
A091	Distribution	CH	EEA-10km GRID	non-sensitive	Birds
A091	Distribution	CH	EEA-10km GRID	non-sensitive	Birds

- species 1193 - *Bombina variegata*
■ species 1308 - *Barbastella barbastellus*
□ EEA 10km-reference grid

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Good practice II

- All species and habitats stored in one shapefile each
 - e.g. 4 species distributions are covered by the reporting → one shapefile containing all 4 species each described by its specific attributes (most important species code)

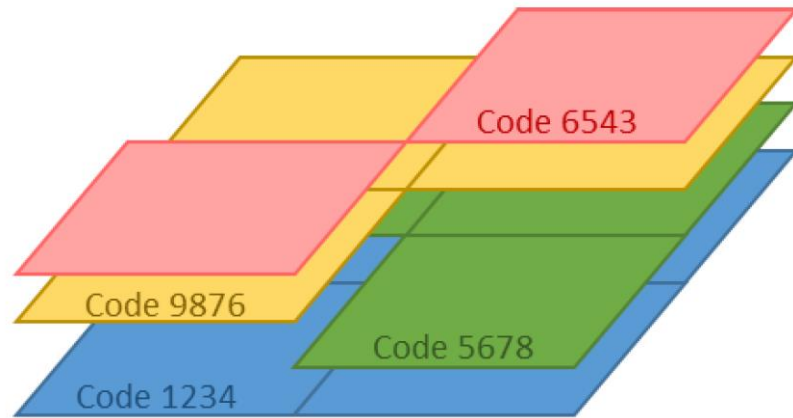
code	maptype	category	isocode	refgrid	sensitive
1308	Distribution	Species	XX	EEA-10km GRID	non-sensitive
1308	Distribution	Species	XX	EEA-10km GRID	non-sensitive
1308	Distribution	Species	XX	EEA-10km GRID	non-sensitive
1193	Distribution	Species	XX	EEA-10km GRID	sensitive
1193	Distribution	Species	XX	EEA-10km GRID	sensitive
1193	Distribution	Species	XX	EEA-10km GRID	sensitive
1193	Distribution	Species	XX	EEA-10km GRID	sensitive

- In total two shapefiles have to be reported (species/habitat)
- in case of reporting containing distribution meant to be not published later on:
→ separate and additional shapefile of sensitive/non-disseminated data to be delivered

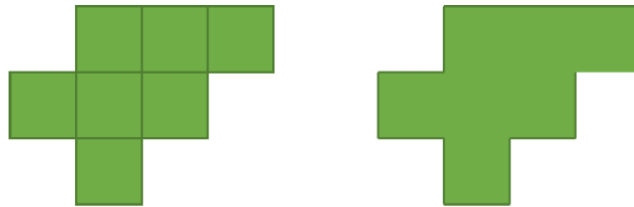


Good practice III

- Multilayer shapefile comprising all distributions of species or habitats



- Data reported as single grid cells (multi-layer overlapping) or optionally dissolved by code (→ reduced file size)



Improvements / Corrections

- Attribution (example for Georgia, *Paeonia tenuifolia*, code: 2098)

CELLCODE	EOFORIGIN	NOFORIGIN
10kmE714N277	7140000	2770000
10kmE713N277	7130000	2770000
10kmE712N277	7120000	2770000
10kmE711N277	7110000	2770000
10kmE708N278	7080000	2780000



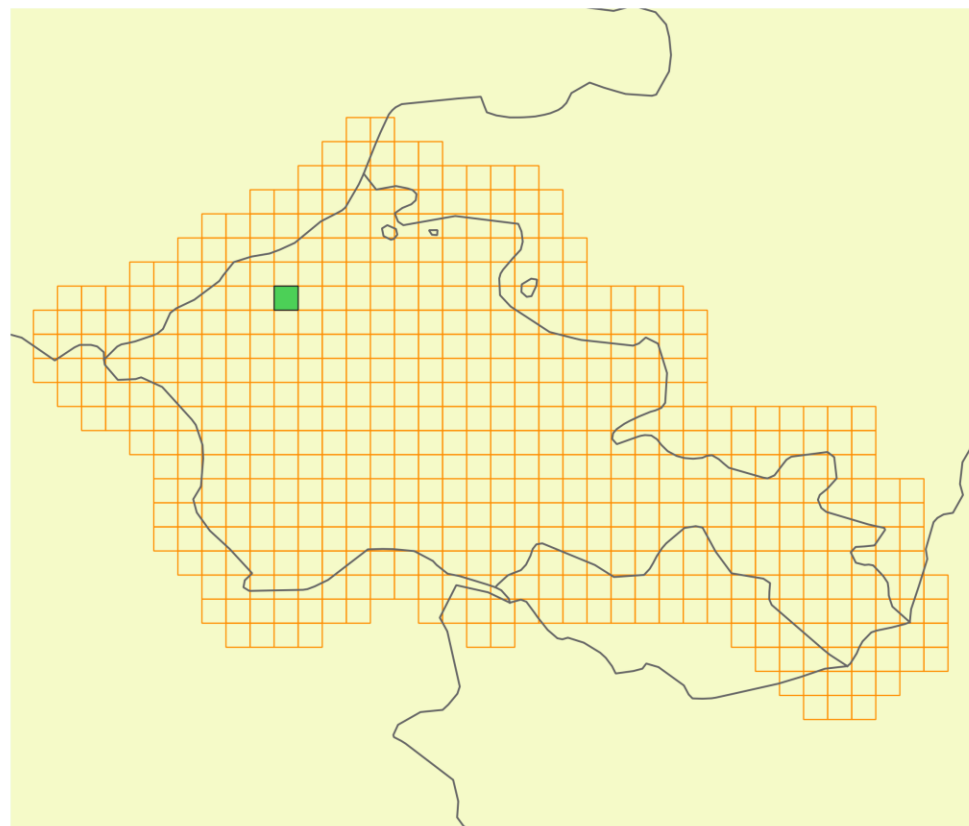
CELLCODE	EOFORIGIN	NOFORIGIN	code	maptype	category	isocode	refgrid	sensitive
10kmE714N277	7140000	2770000	2098	Distribution	Species	GE	EEA-10km GRID	non-sensitive
10kmE713N277	7130000	2770000	2098	Distribution	Species	GE	EEA-10km GRID	non-sensitive
10kmE712N277	7120000	2770000	2098	Distribution	Species	GE	EEA-10km GRID	non-sensitive
10kmE711N277	7110000	2770000	2098	Distribution	Species	GE	EEA-10km GRID	non-sensitive
10kmE708N278	7080000	2780000	2098	Distribution	Species	GE	EEA-10km GRID	non-sensitive



Country distribution maps received so far - AM

Feedback distribution data reported under Resolution No. 8 (2012) of the Bern Convention

Armenia



- Habitats
- Species
- EEA 10km reference grid
- Countryborder
- Coastline

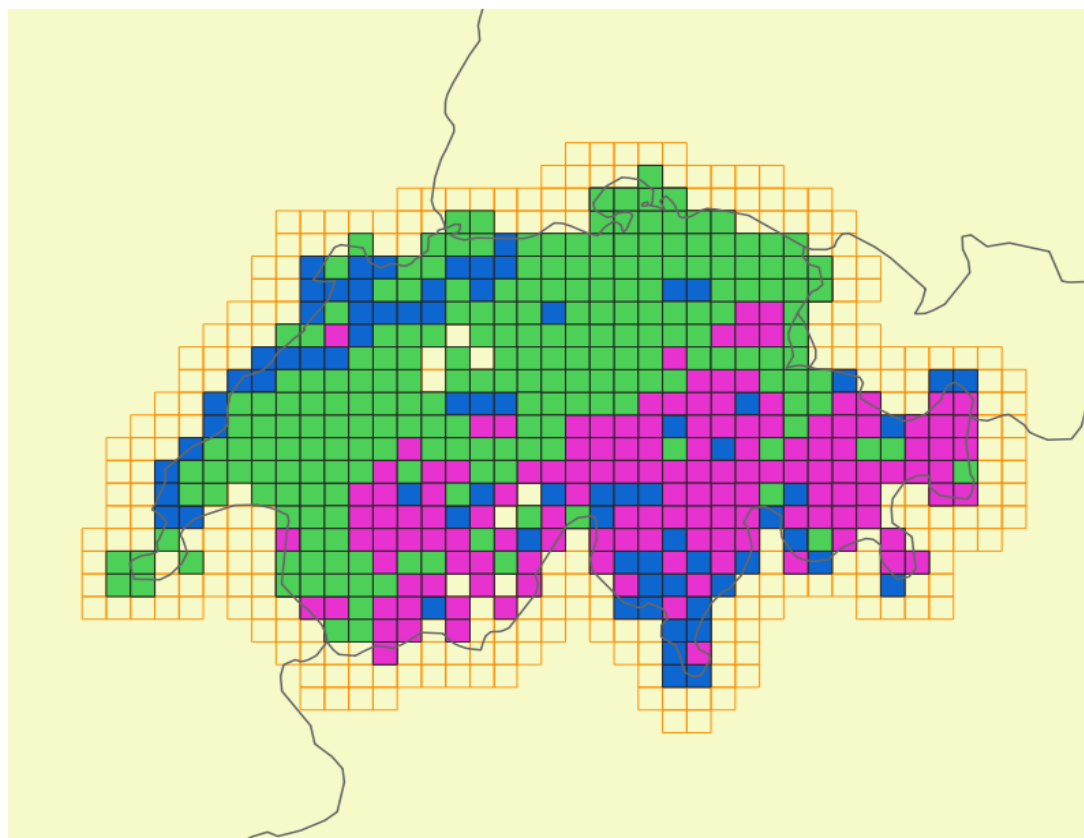
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Country distribution maps received so far - CH

Feedback distribution data reported under Resolution No. 8 (2012) of the Bern Convention

Switzerland



- Birds
- Habitats
- Species
- 10km EEA reference grid
- Countryborder
- Coastline

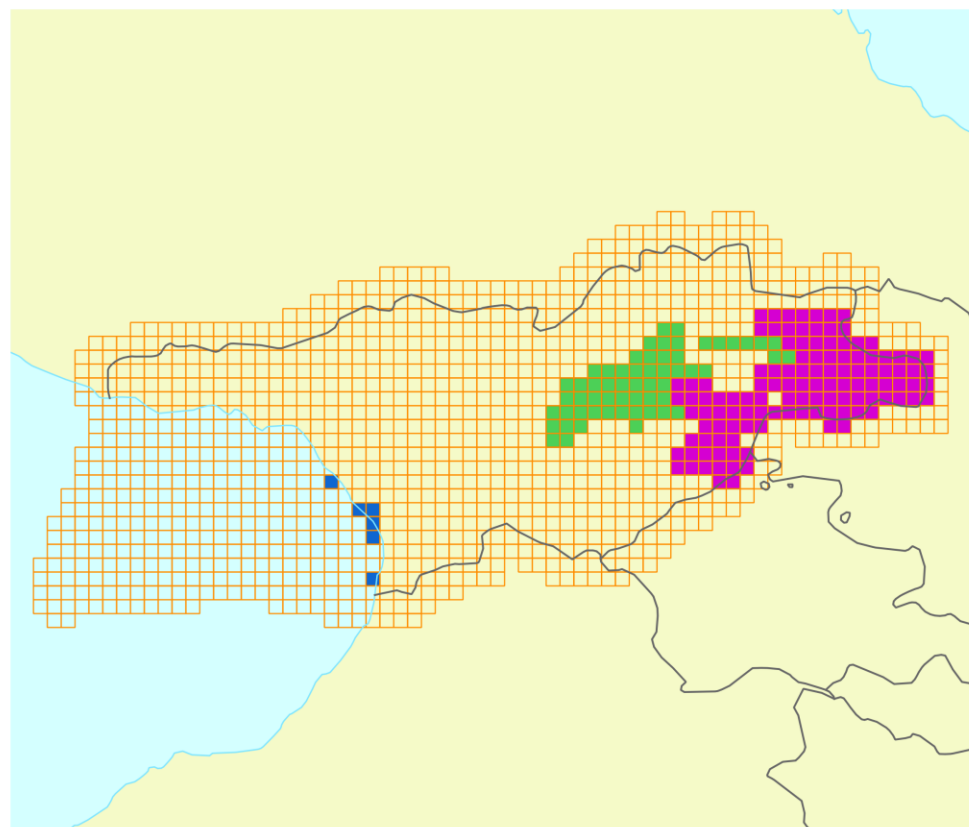
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Country distribution maps received so far - GE

Feedback distribution data reported under Resolution No. 8 (2012) of the Bern Convention

Georgia



- Birds
- Habitats
- Species
- EEA 10km reference grid
- Countryborder
- Coastline

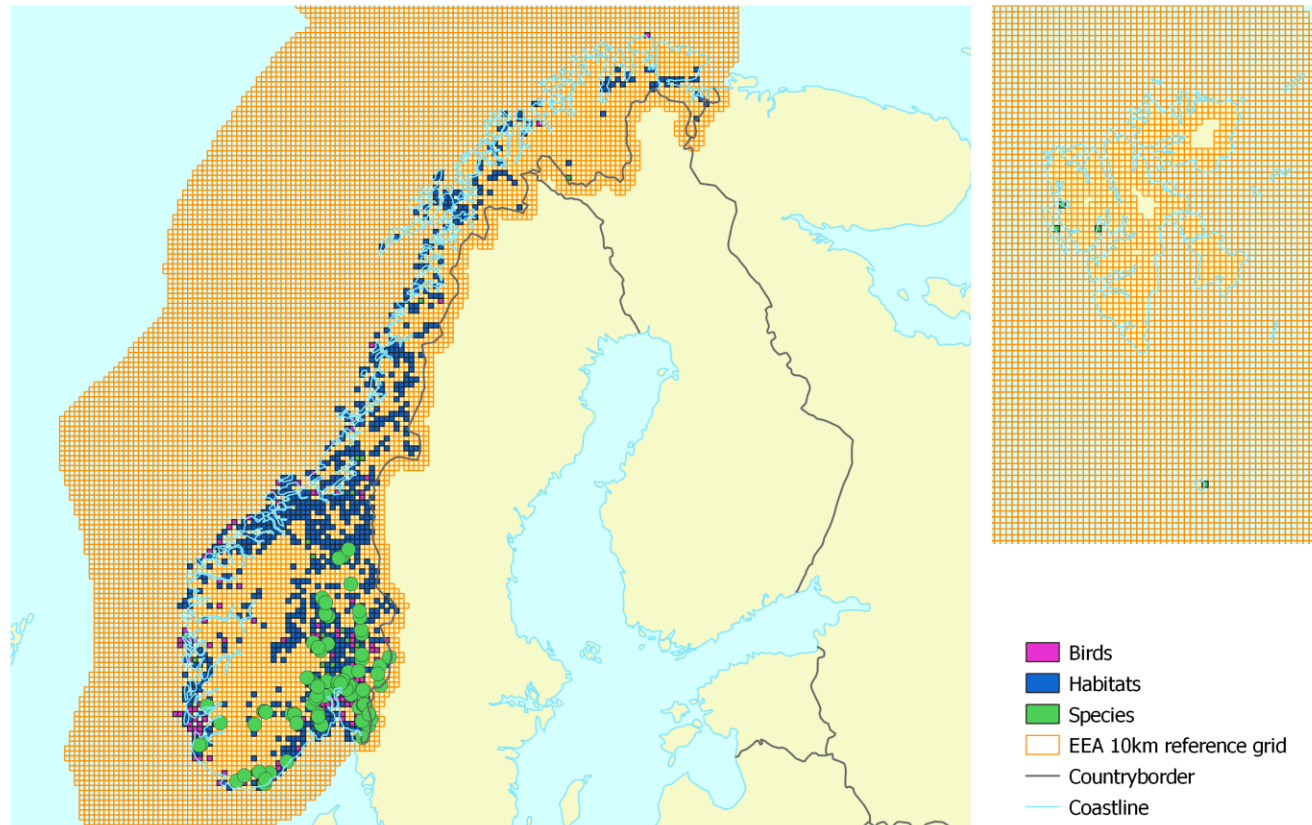
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Country distribution maps received so far - NO

Feedback distribution data reported under Resolution No. 8 (2012) of the Bern Convention

Norway



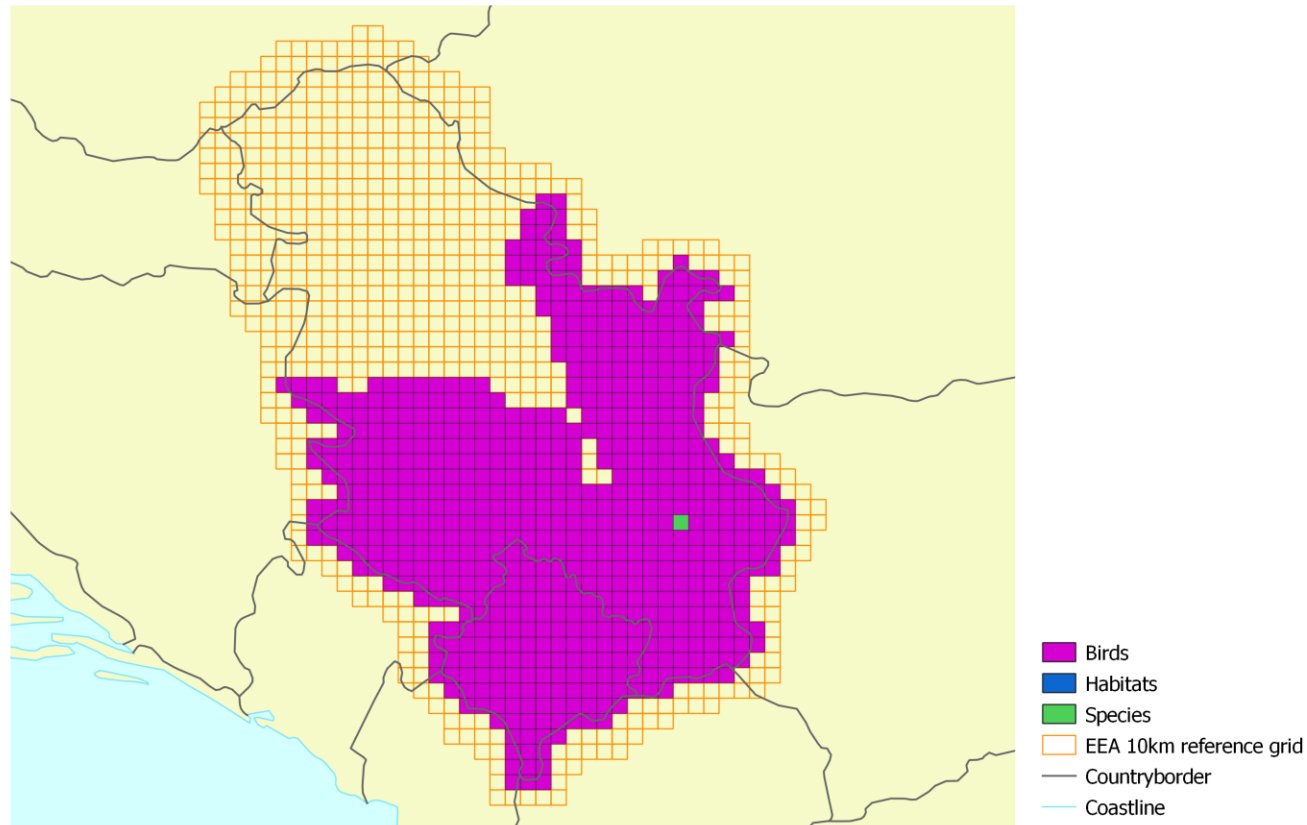
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Country distribution maps received so far - RS

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Serbia



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Country distribution maps received so far - RU

Feedback distribution data reported under Resolution No. 8 (2012) of the Bern Convention

Russian Federation

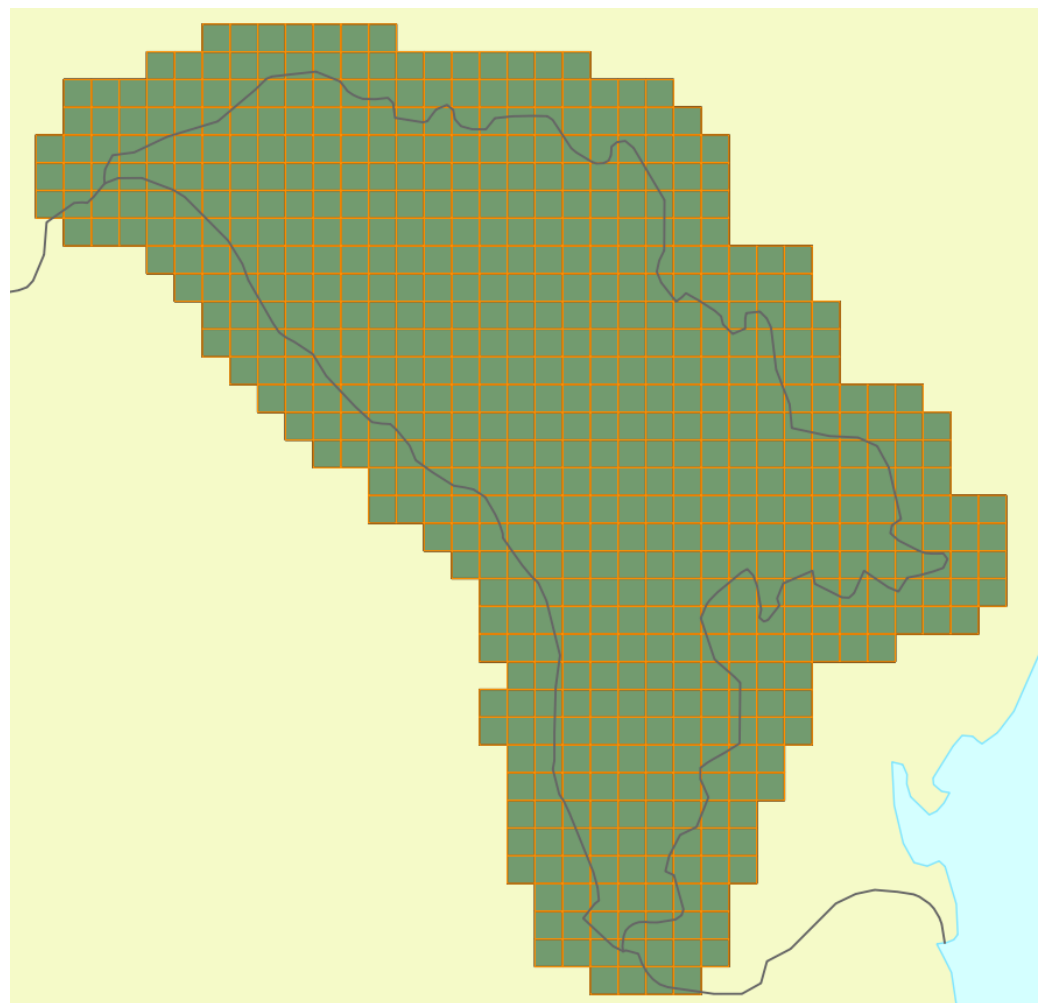


- Birds
- Habitats
- Species
- EEA 10km reference grid
- Countryborder
- Coastline

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Country distribution maps received so far - MD



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Thank you!

Thanks for your attention

**Further questions?
Challenges / difficulties?**



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