Risk Map Awareness

Medilabsecure Global Meeting

Avia-GIS R&D department

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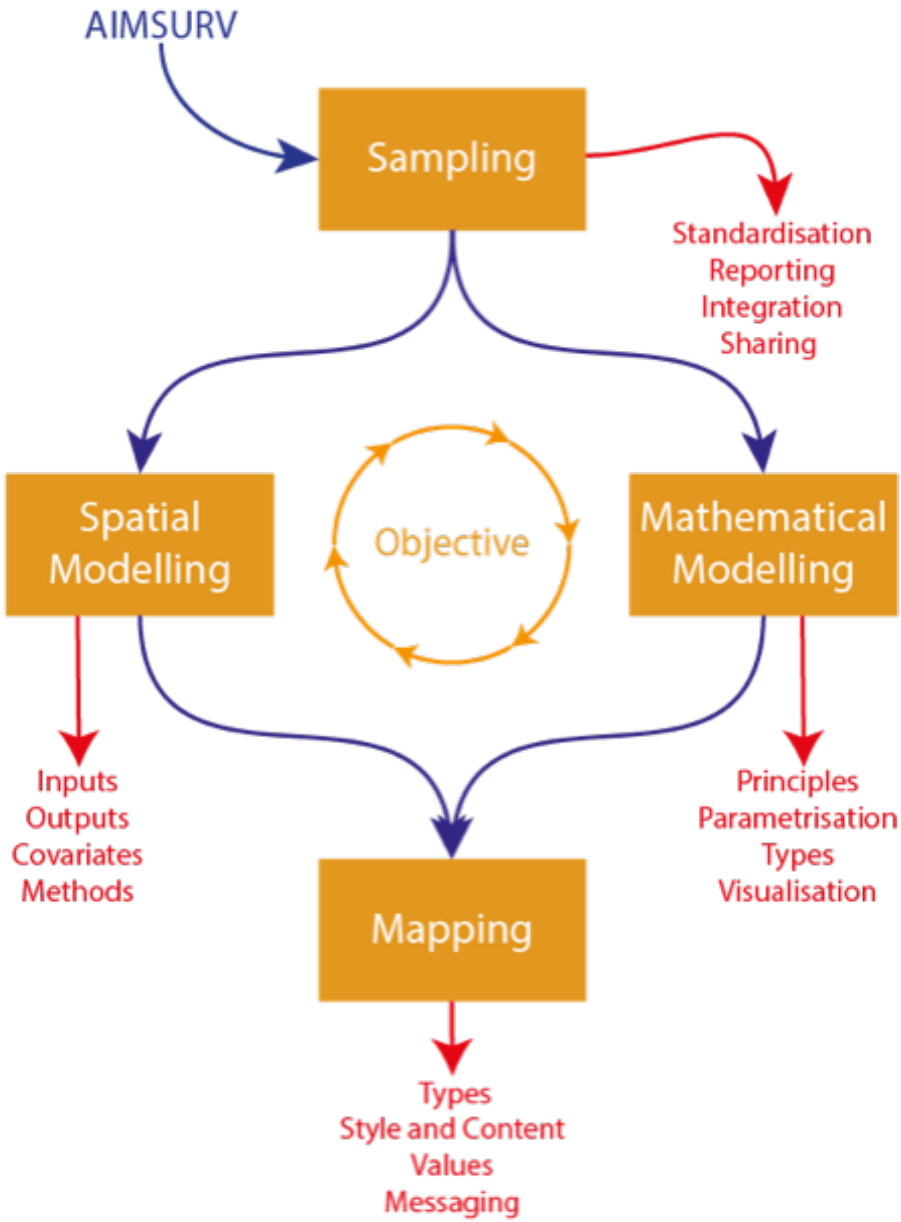
Introduction

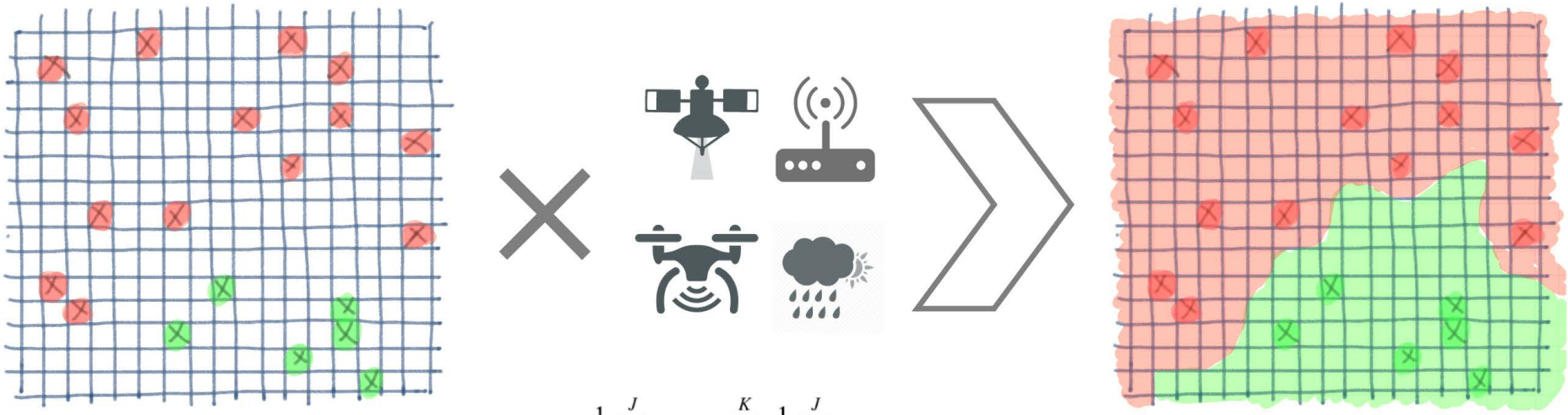
- Mapping and modelling can be a useful tool
- There is no single way of mapping
- Modelling can be made to support different points
- Interpretation is as important as the model itself
- Lessons learned from the pandemic
- Open discussion with examples from the AIM-COST Roadmap

AIM-COST Roadmap



Pdf of the Roadmap

Mapping and Modelling

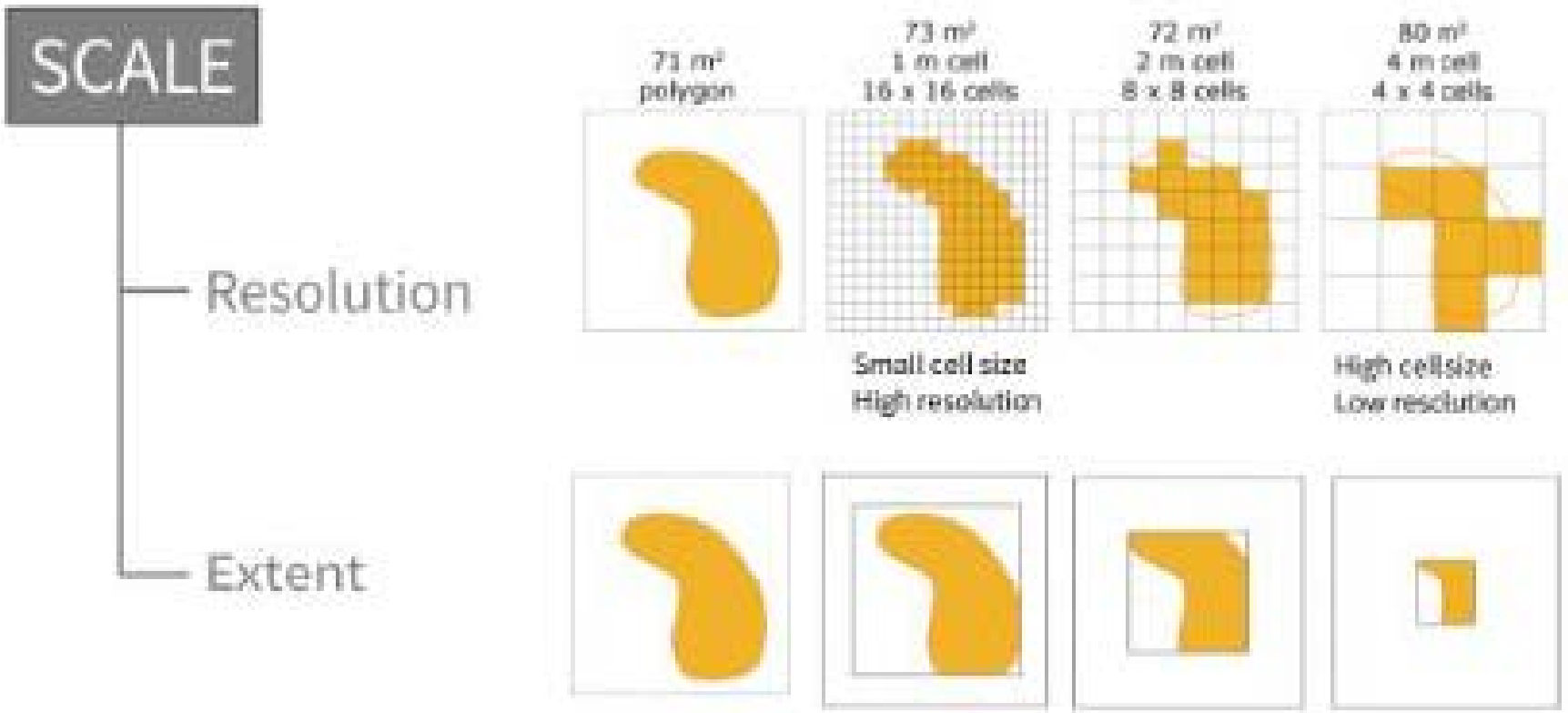


$$F(x) = \frac{1}{J}\sum_{j=1}^{J} c_{j_{full}} + \sum_{k=1}^{K}(\frac{1}{J}\sum_{j=1}^{J} contribution_j(x,k))$$

Input data

- Field sampling is usually not designed with the analysis in mind
- A modelling data set is usually a collection of different projects
- Absences usually are not collected
- Typical issues:
  - Clustering
  - Aggregated data
  - Polygon $<->$ Gridded data
  - Scale and resolution

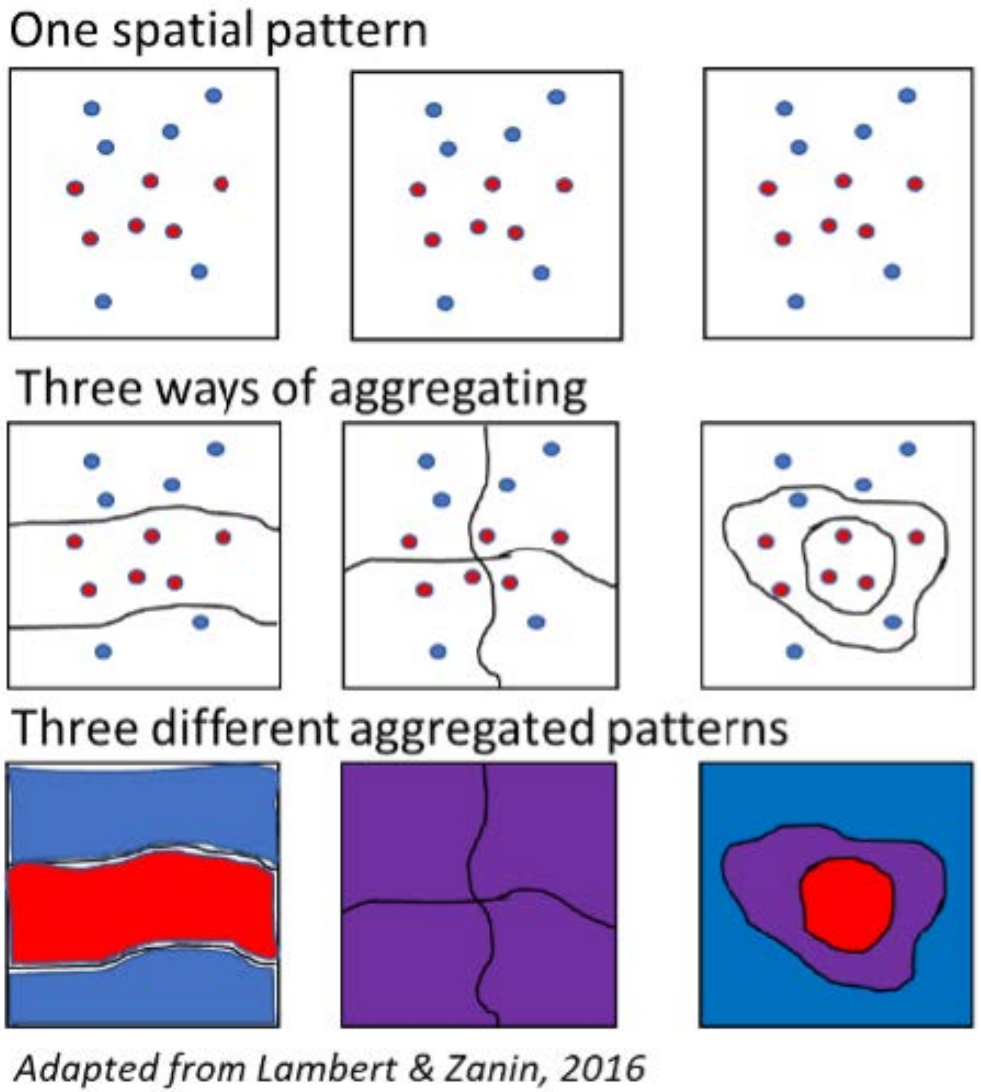
Scale and Resolution



Mapping outputs

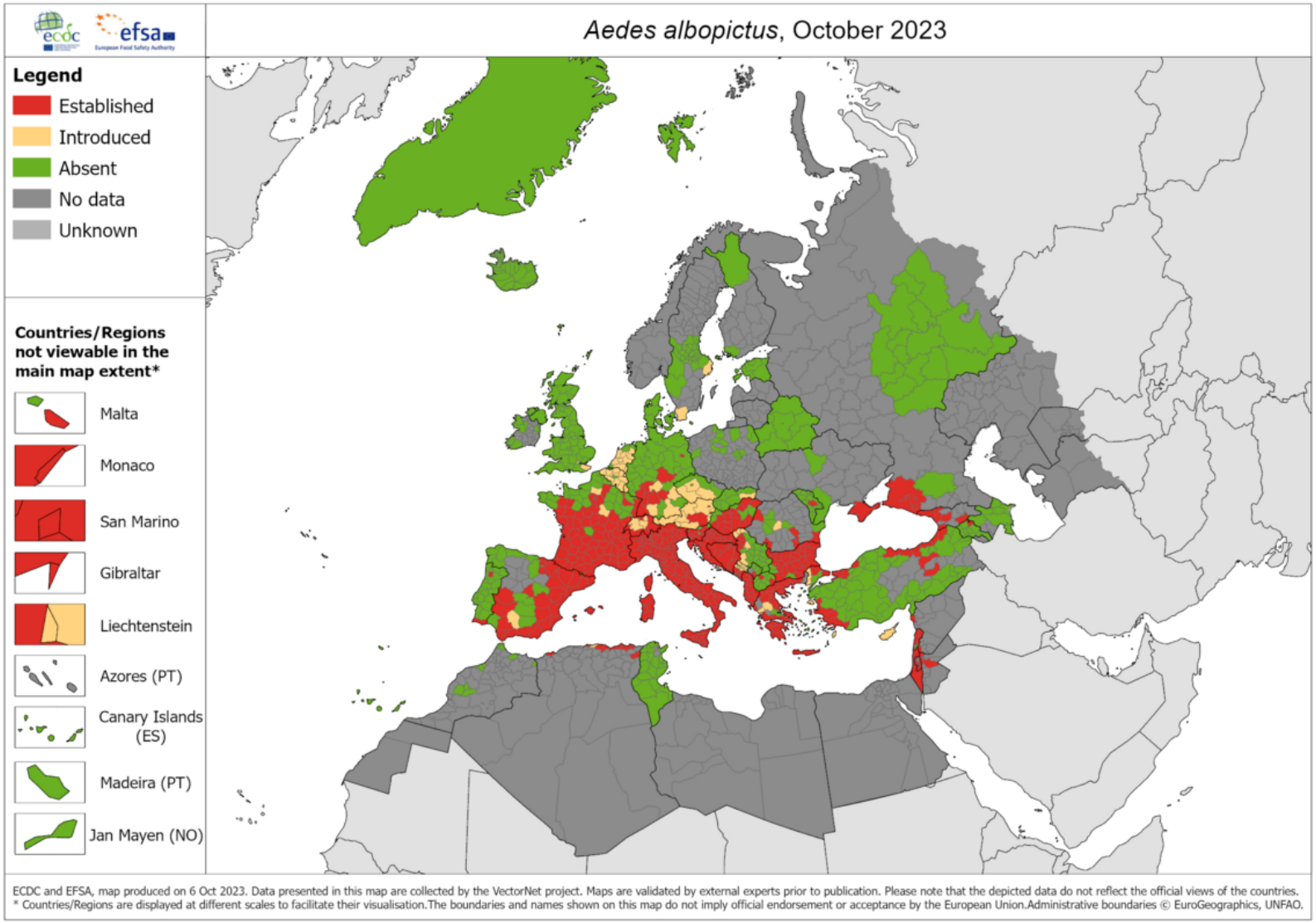
- Maps are (mis)communication devices
- How maps will be disseminated will give options and limitations
- What works in one context may not be ideal in another
- All maps are a simplification of reality
- Generalisation is necessary for conveying a clear message

Aggregation

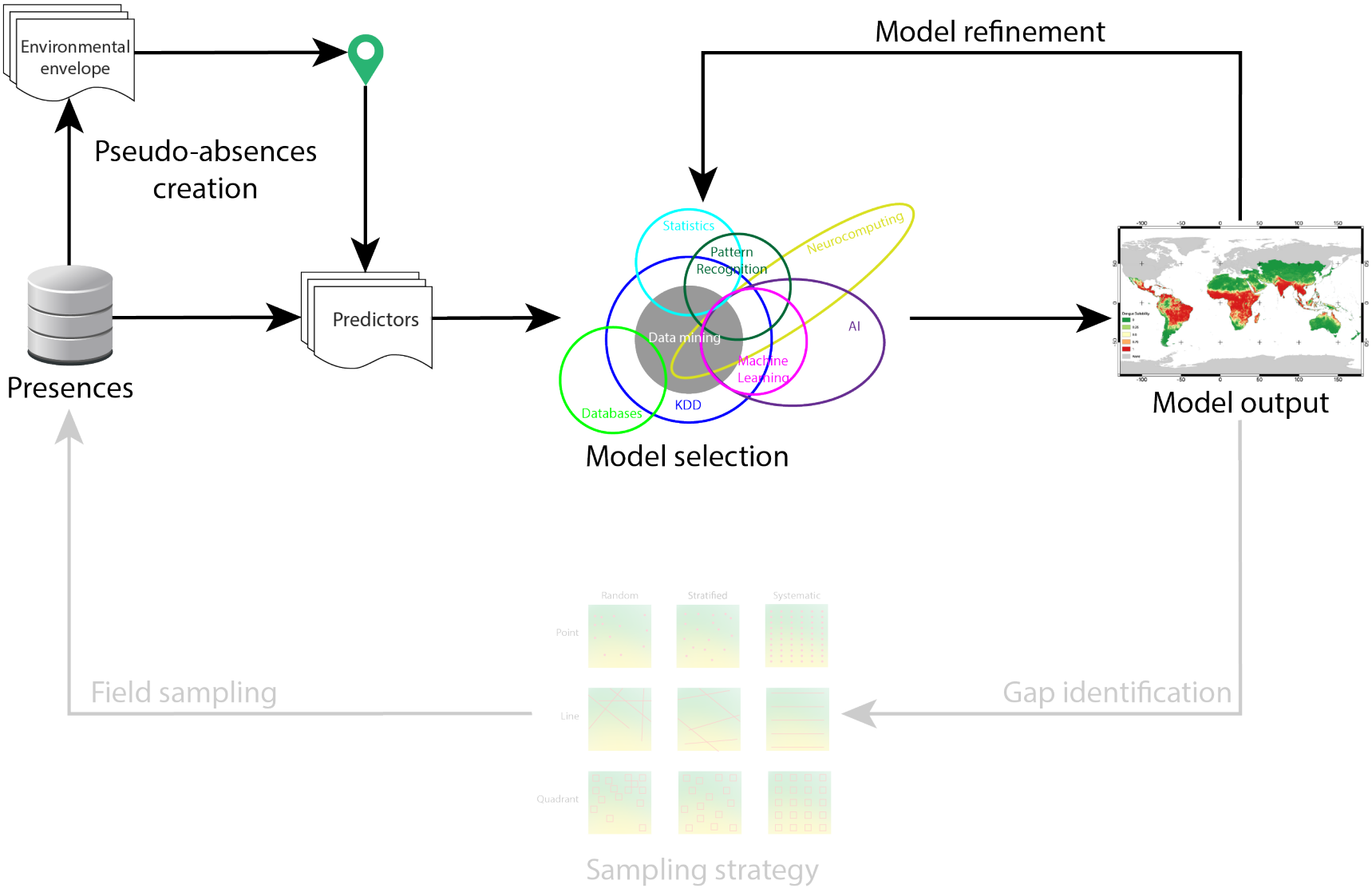


Adapted from Lambert & Zanin, 2016

Vectornet


ecdc
efsa
European Food Safety Authority
Aedes albopictus, October 2023
Legend
Established
Introduced
Absent
No data
Unknown
Countries/Regions not viewable in the main map extent*
Malta
Monaco
San Marino
Gibraltar
Liechtenstein
Azores (PT)
Canary Islands (ES)
Madeira (PT)
Jan Mayen (NO)
ECDC and EFSA, map produced on 6 Oct 2023. Data presented in this map are collected by the VectorNet project. Maps are validated by external experts prior to publication. Please note that the depicted data do not reflect the official views of the countries.
* Countries/Regions are displayed at different scales to facilitate their visualisation.The boundaries and names shown on this map do not imply official endorsement or acceptance by the European Union.Administrative boundaries © EuroGeographics, UNFAO.

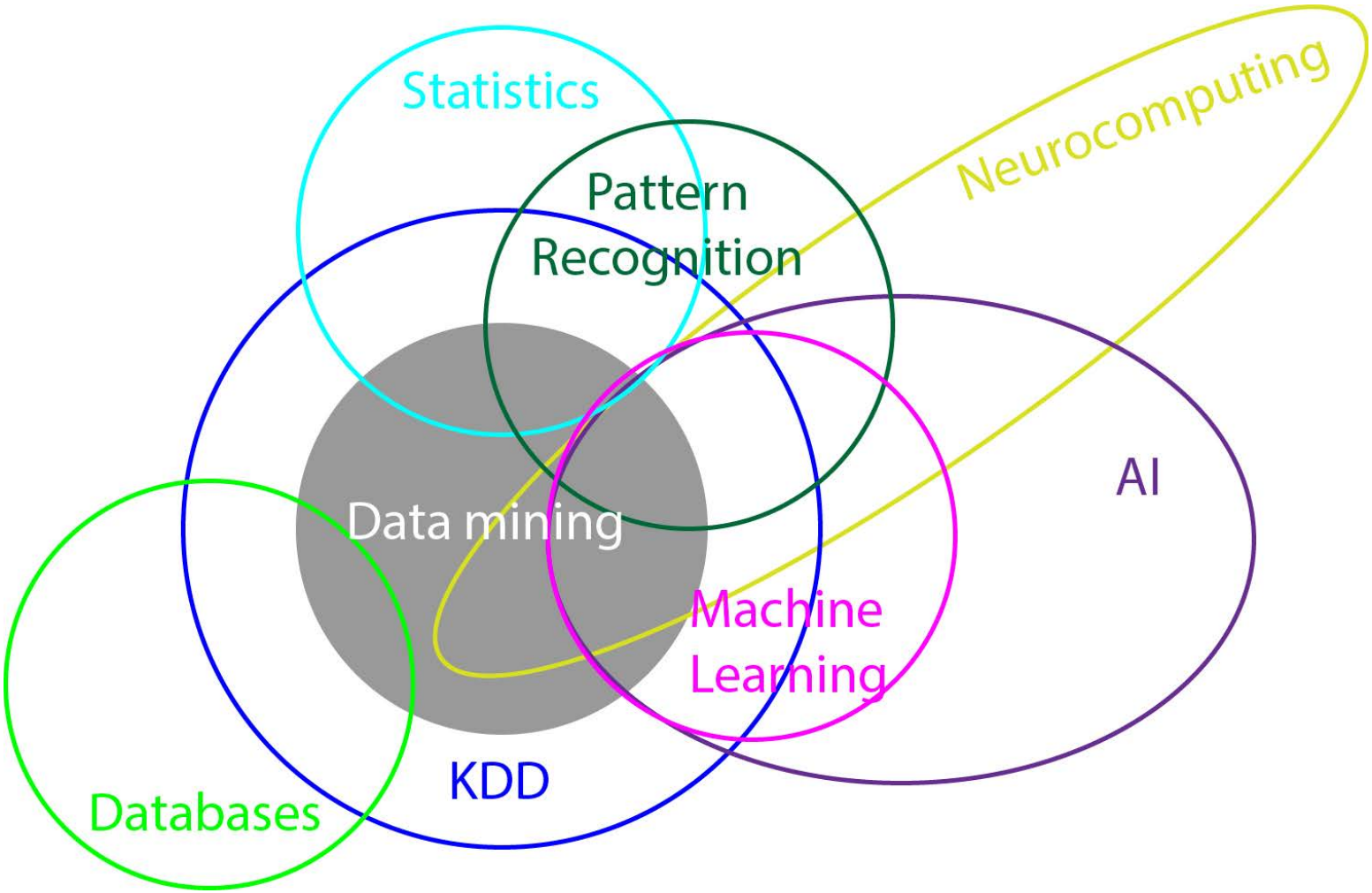
Modelling is a process



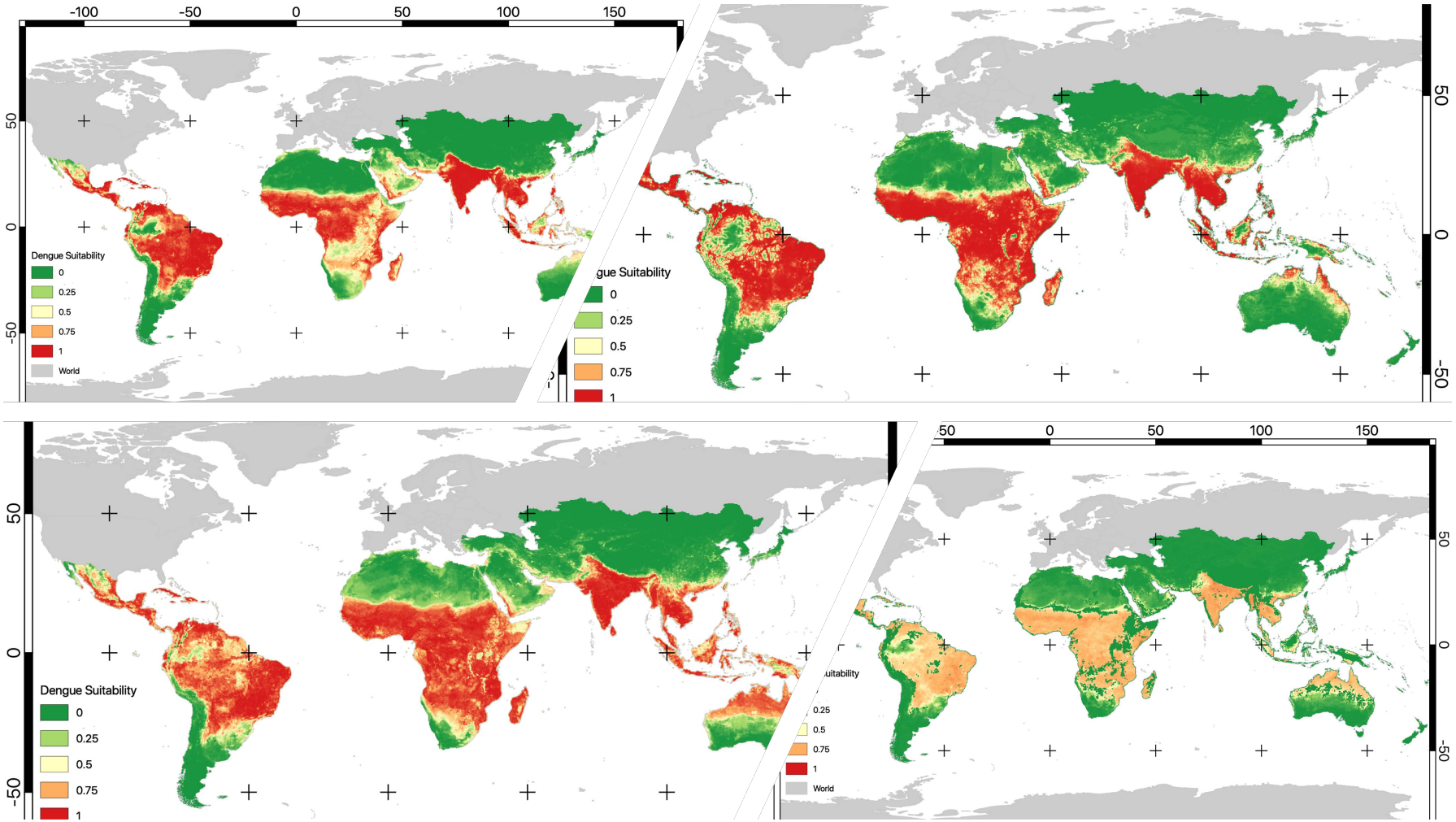
Pittfalls in Modelling

- Several factors can influence model output
  - Input data
  - Pseudo-absences
  - Covariates
  - Model choice
- Understanding the system is of vital importance

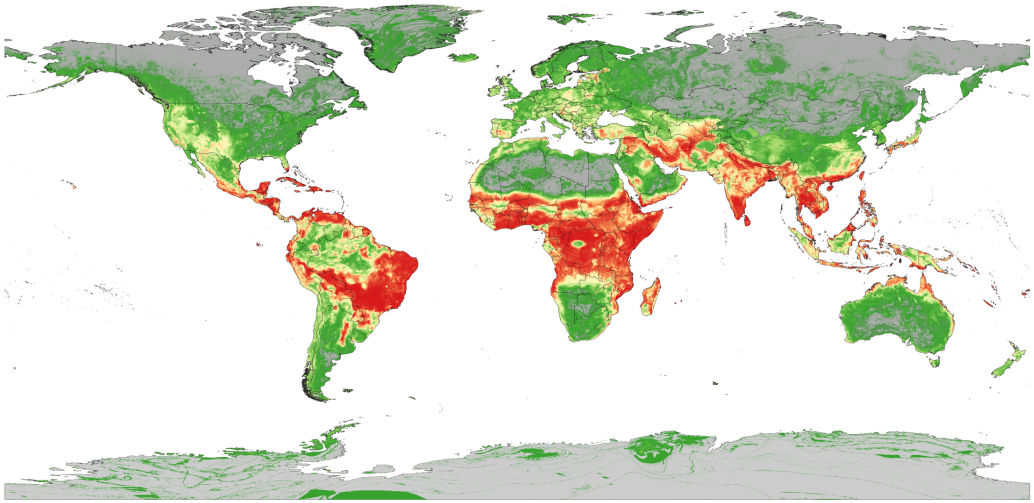
Model choice

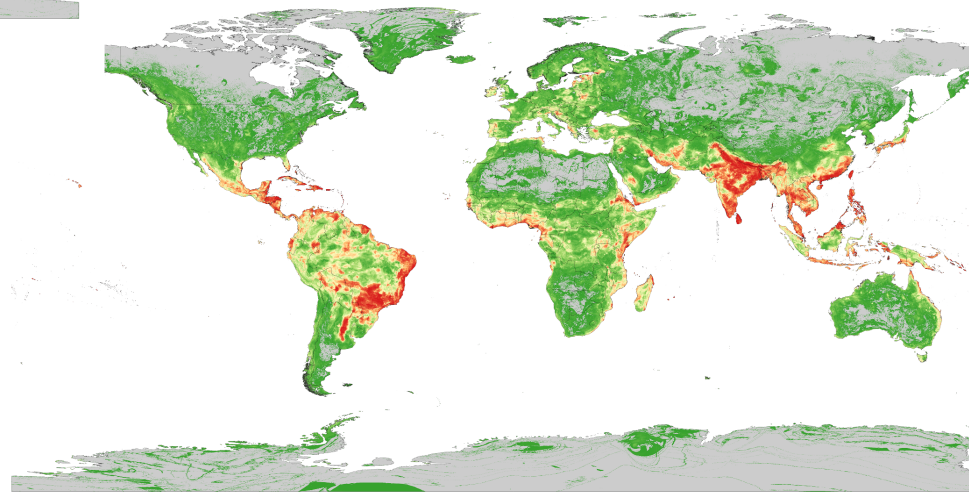


Model choice



Pseudo-absences choice





Let's discuss

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