VBORNET

"European Network for Arthropod Vector Surveillance for Human Public Health"

Third AGM Riga 2012

VBORNET – WP1.5

Gap analysis

Distribution maps

- Data sources:
  - Expert contributions
  - Published information
  - Existing data bases
- VBORNET vector distribution data base
- VBORNET quality control check
- Three monthly map updates
- RESULT: “maps with gaps”

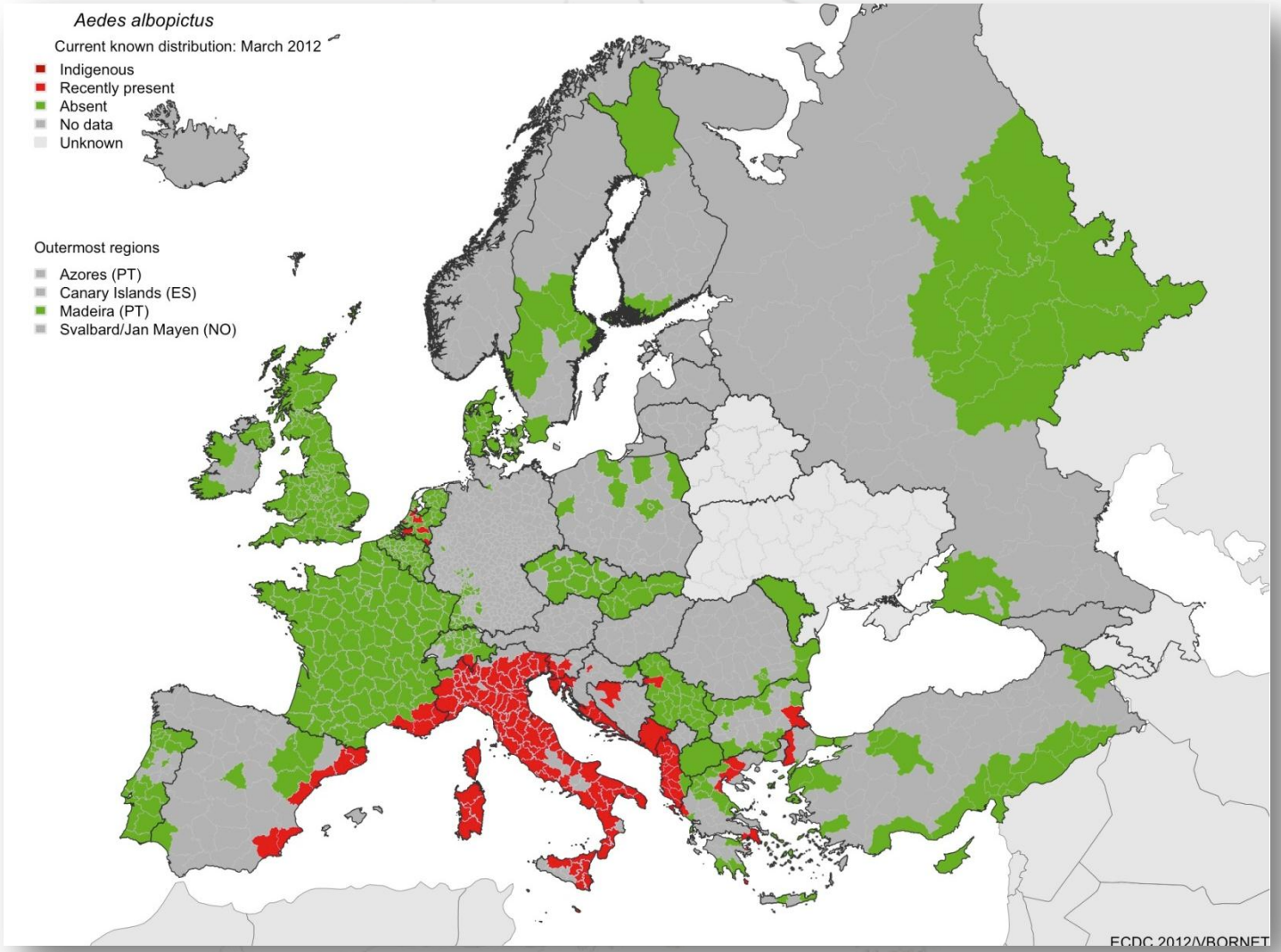
WP1.5 – Distribution gap analysis

- Where no data are available → expert based identification of confirmed absence zones at NUTS3 level;
  - Gaps within distribution limits
  - Narrow down on distribution limits
- Develop a modeling approach based on the use of VBORNET polygon data at NUTS3 level:
  - General environmental predictor data sets
  - Species specific predictor data sets
  - Robust modeling approaches

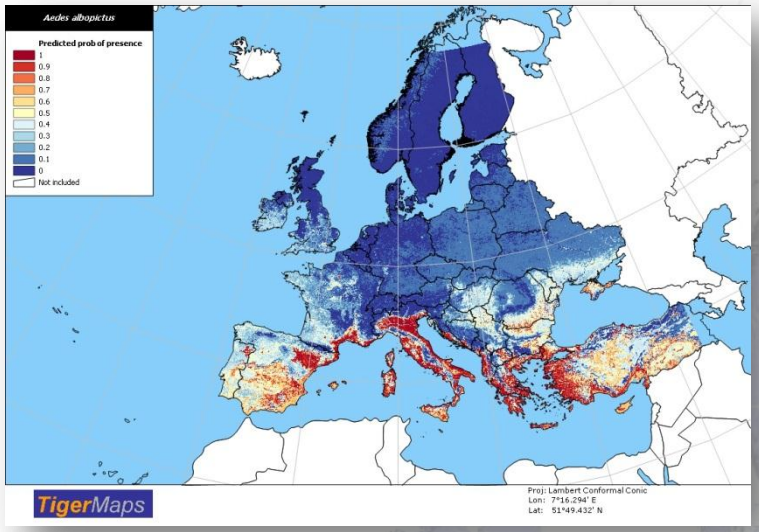
WP1.5 – Distribution gap analysis

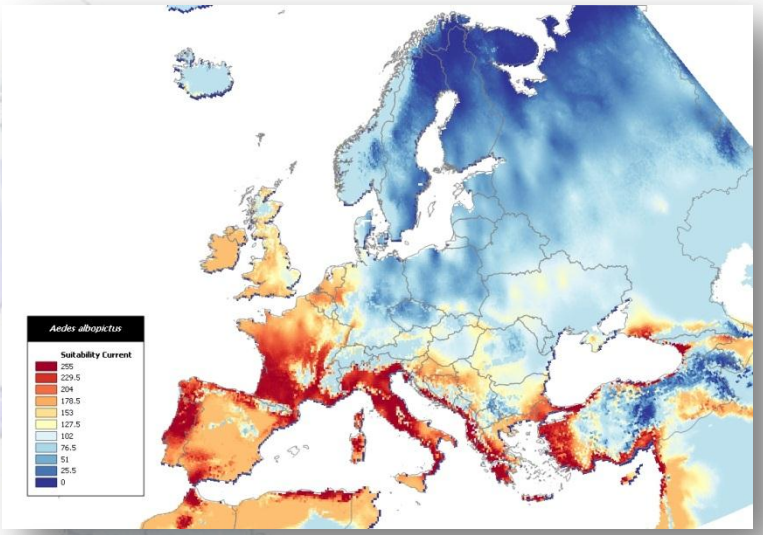
- Production of mixed NUTS3 level maps:
  - Observed presence/ absence,
  - Predicted presence (0/1 class based on p0.5 threshold) in identified gap zones,
  - Adapted legend.
- Expert evaluation by VBORNET community of produced output to trigger new inputs in VBORNET databases.
- Approach needs to be adapted when dealing with invasive species

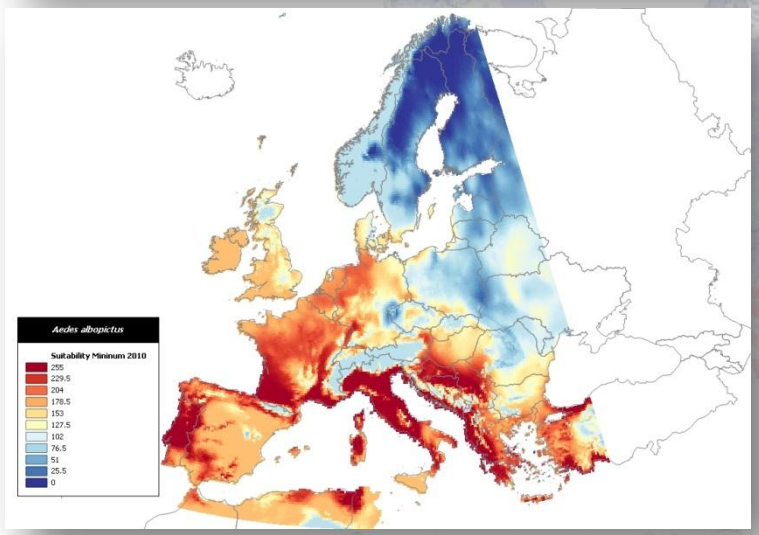
Aedes albopictus

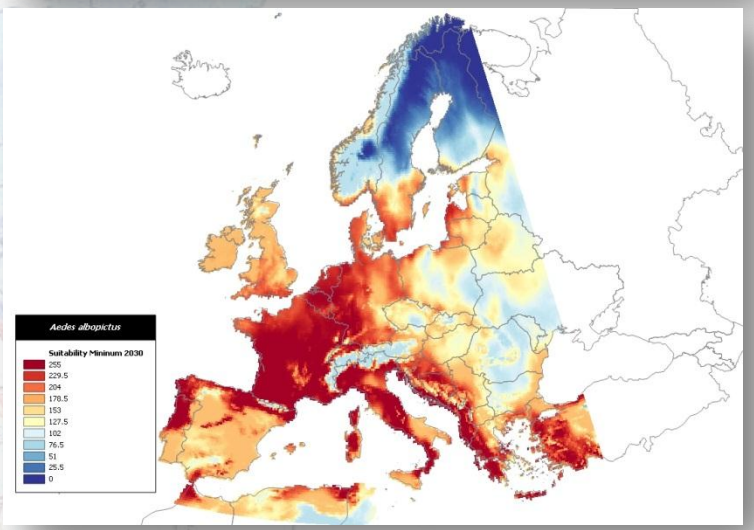


Aedes albopictus









Invasive species

- Introduction → establishment → spread
- Per definition distribution limits not known
- Models based on presence data underestimate area at risk
- Proposed strategy:
  - Limit maps to observed data (P/A, No data, Unknown)
  - Use model outputs to trigger interest for surveillance activities
  - Keep active contact with network of national experts for regular updates

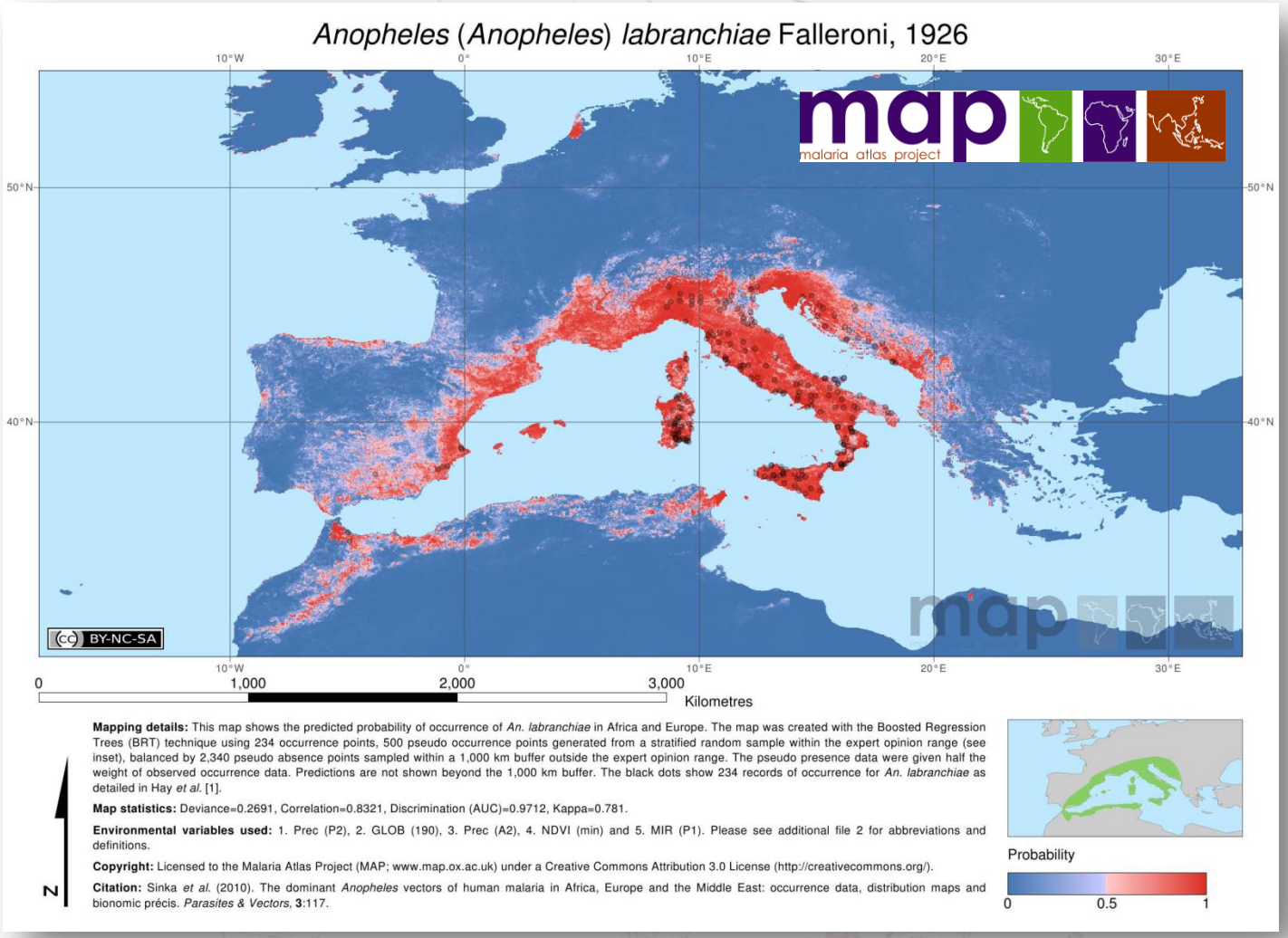
Non-invasive species

- Mosquitoes:
  - Malaria vectors
  - West Nile vectors
  - RVF vectors (collaboration with EFSA)
- Ticks: *Ixodes ricinus/ persulcatus*, *Hyalomma marginatum, Dermacentor reticulatus*, *Ornithodoros sp.*
- Phlebotomines:
  - Prime priority: *P. ariasi* and *P. perniciosus*
  - Second priority: *P. papatasi* and *P. perfiliewi*

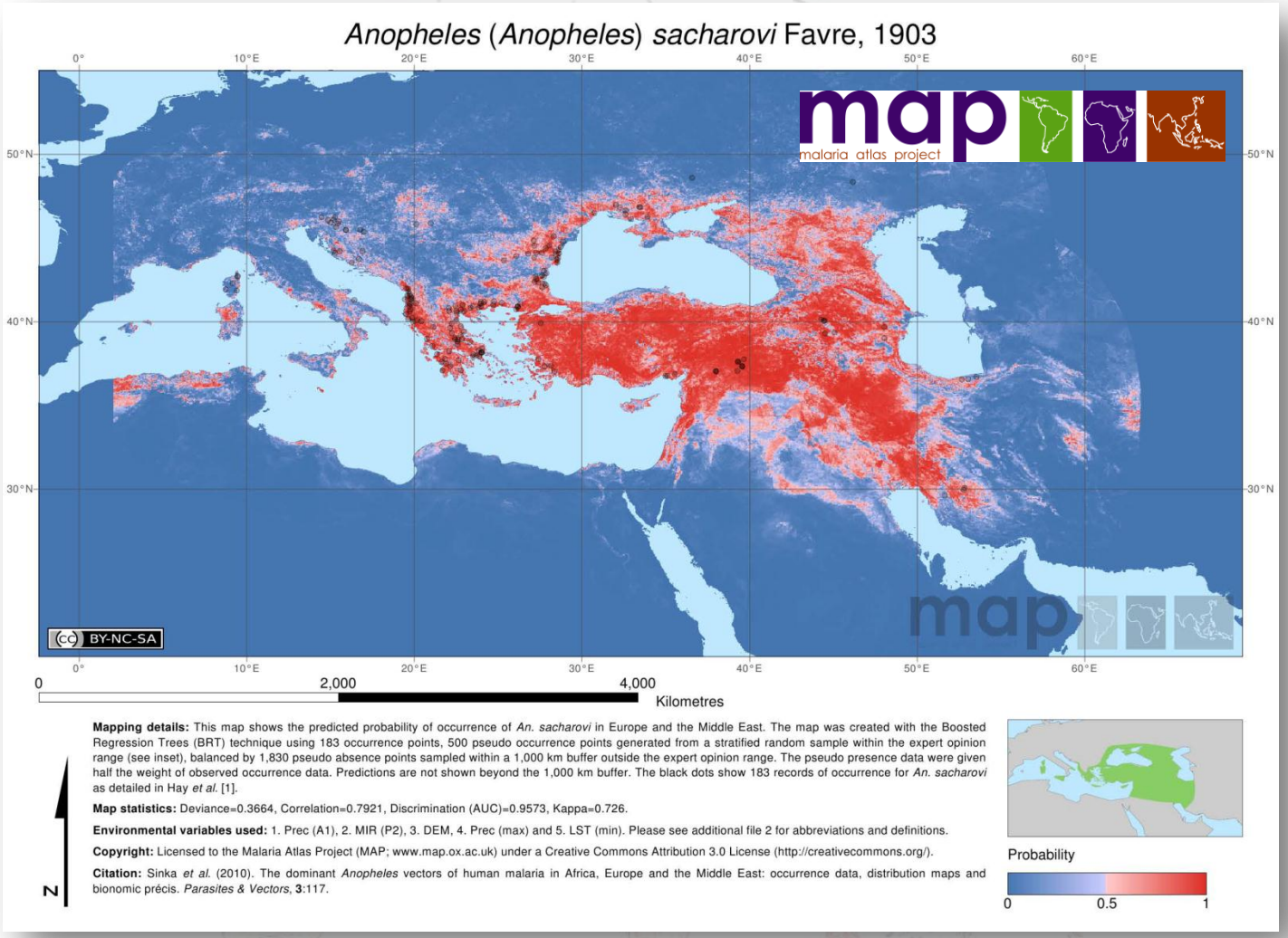
Anopheline species

- Factsheets:
  - By 31st of May 2012 *Anopheles labranchiae* and *Anopheles sacharovi*, the two most important Mediterranean species;
  - By 30th of June 2012 *Anopheles atroparvus* and *Anopheles plumbeus*.
- Availability of information:
  - *A. labranchiae*, *A. sacharovi*, *A. atroparvus*: no VBORNET data available → Malaria Atlas Project
  - *A. plumbeus*: VBORNET data available from a few countries

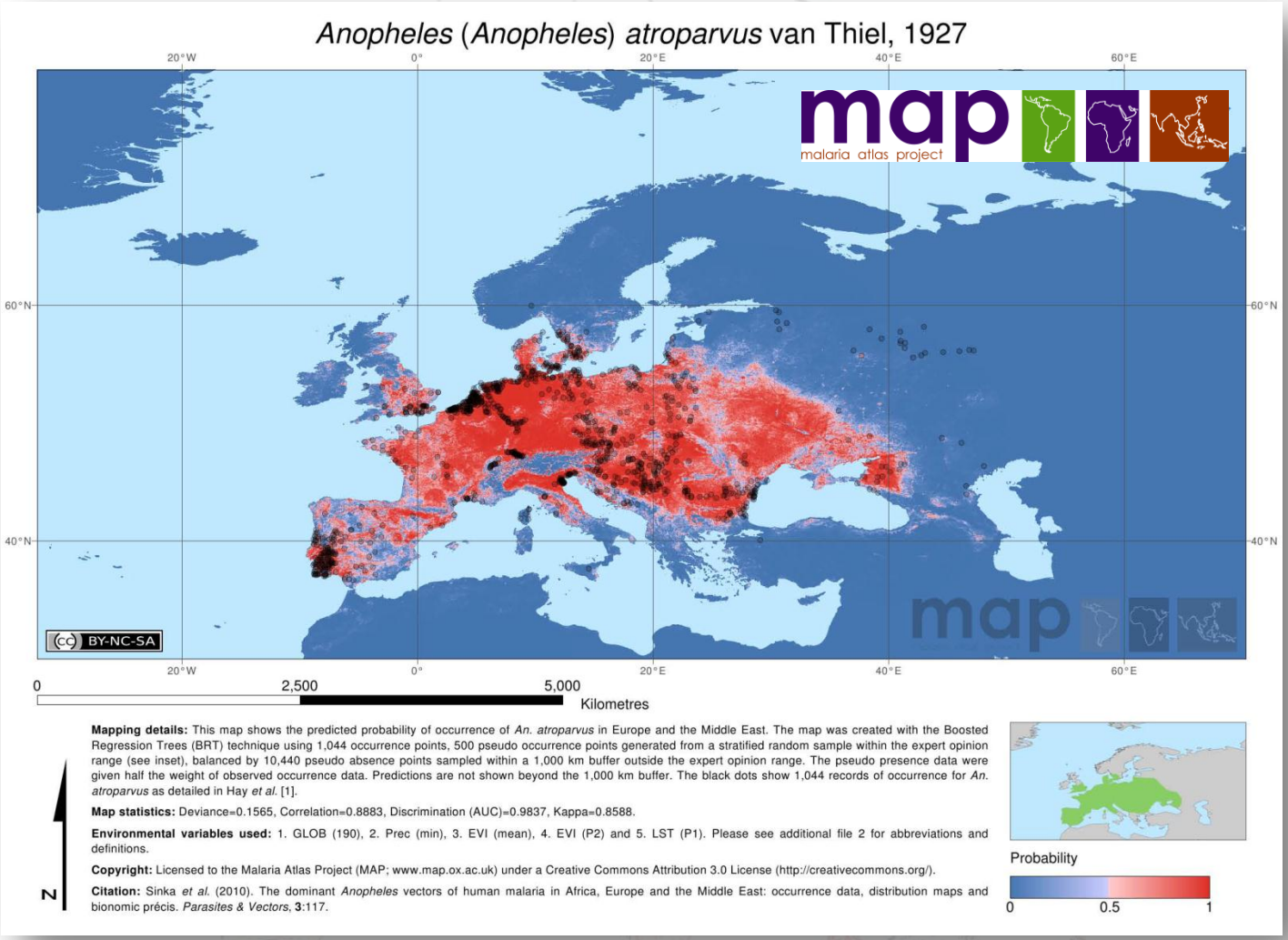
Malaria Atlas Data



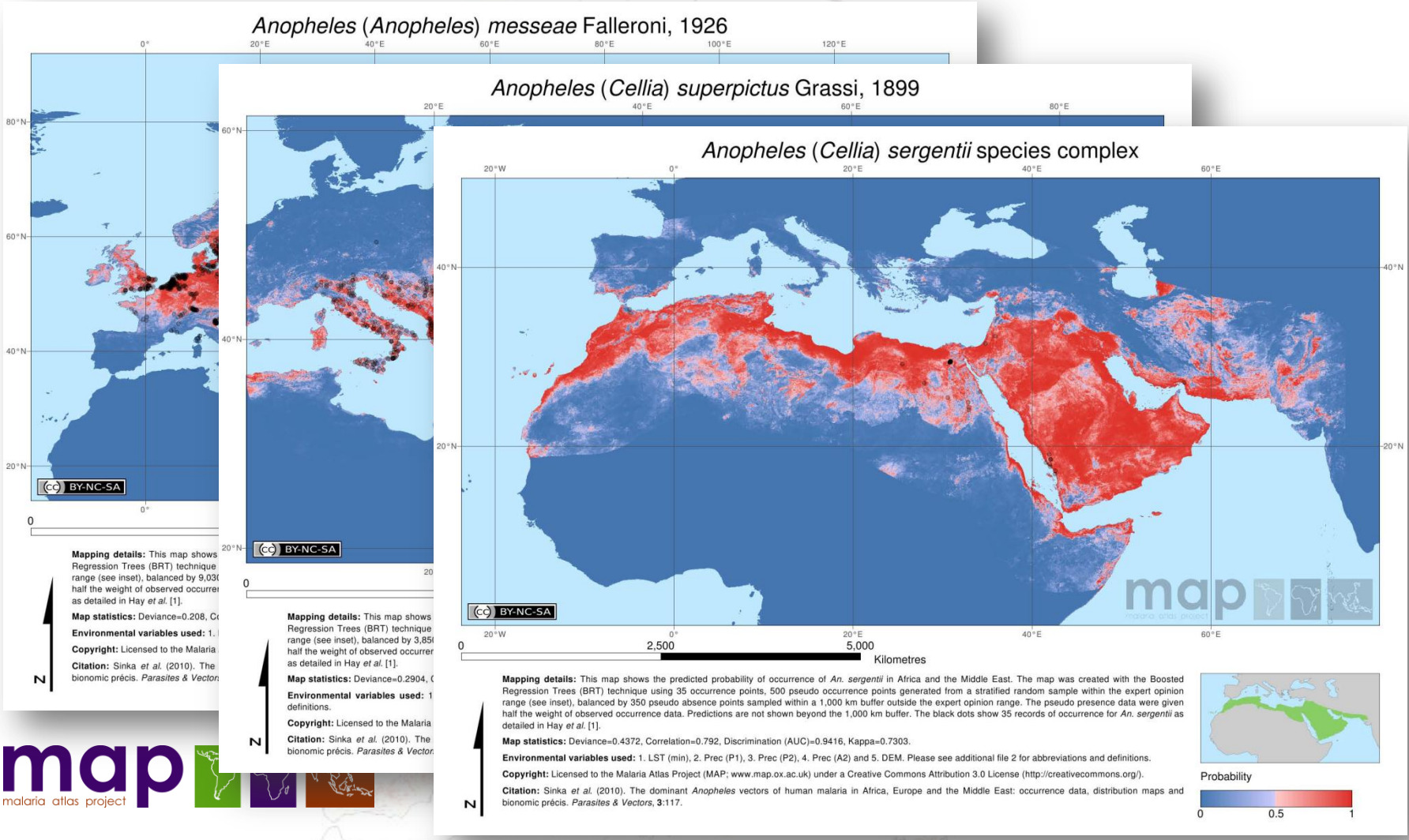
Malaria Atlas Data



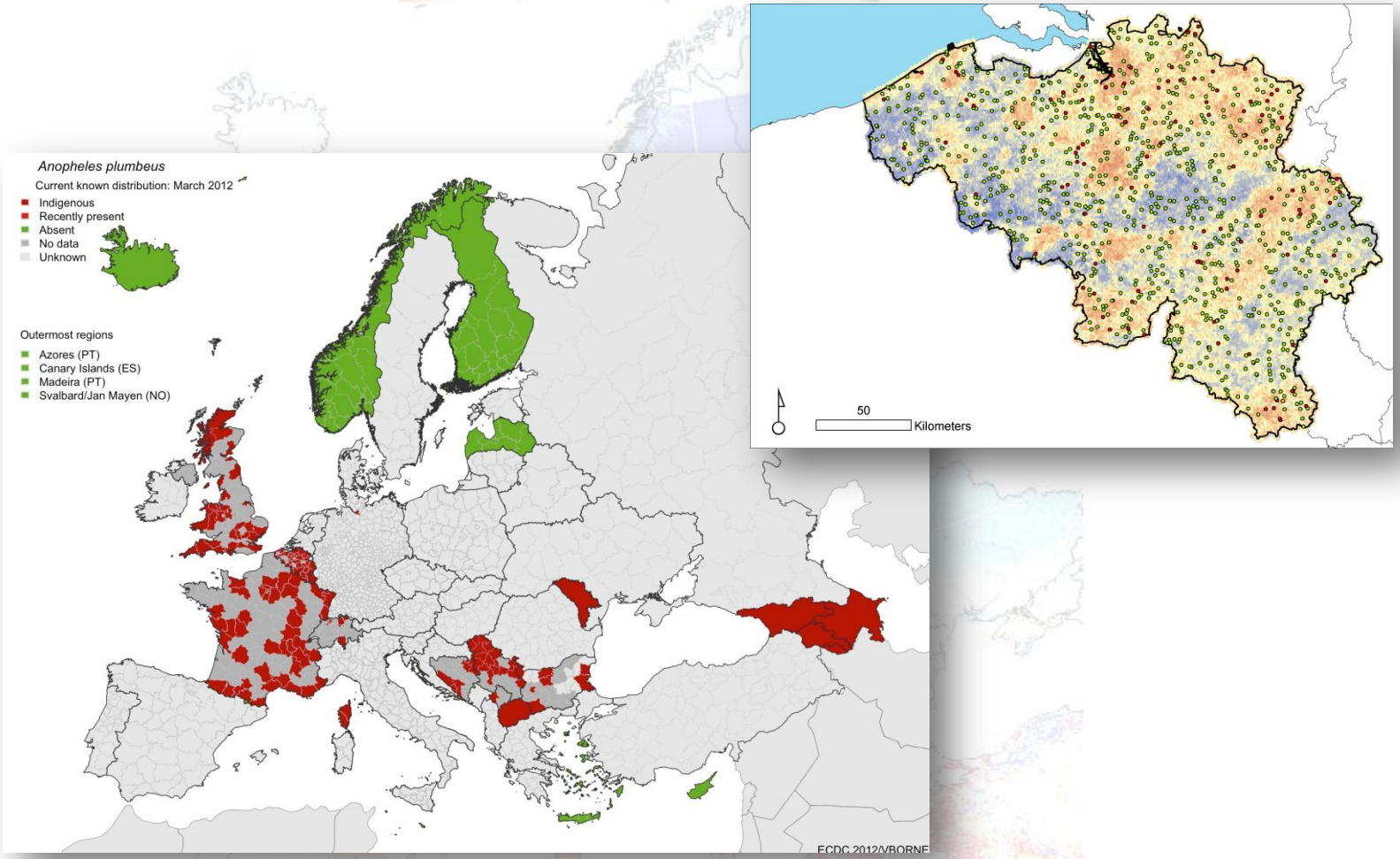
Malaria Atlas Data



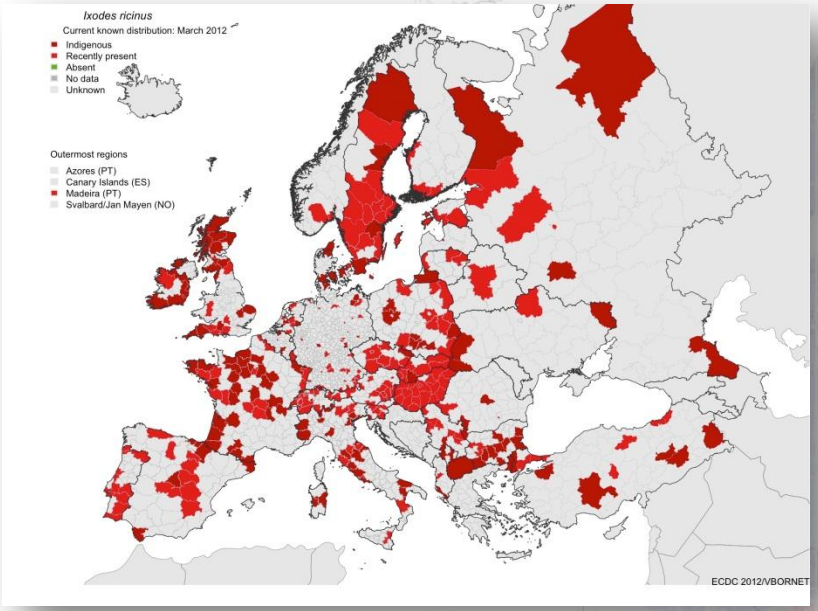
Malaria Atlas Data

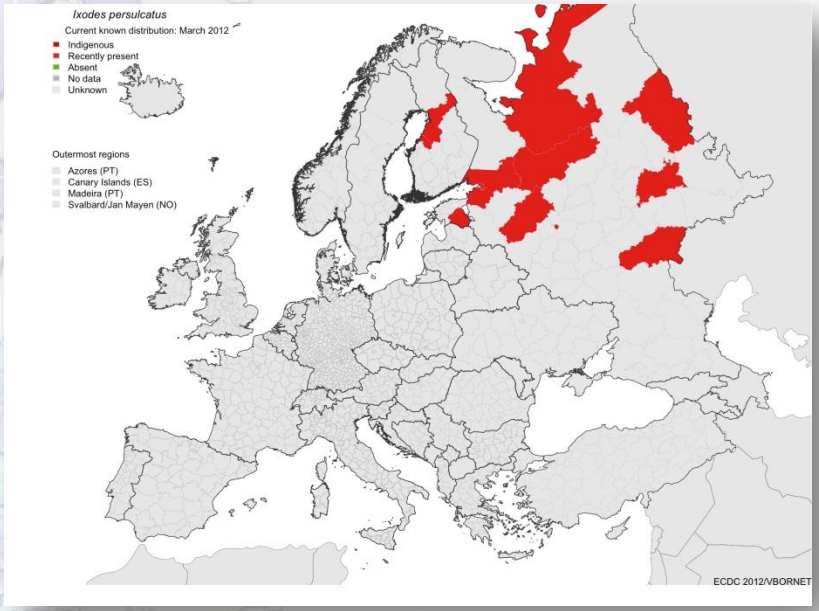


Anopheles plumbeus

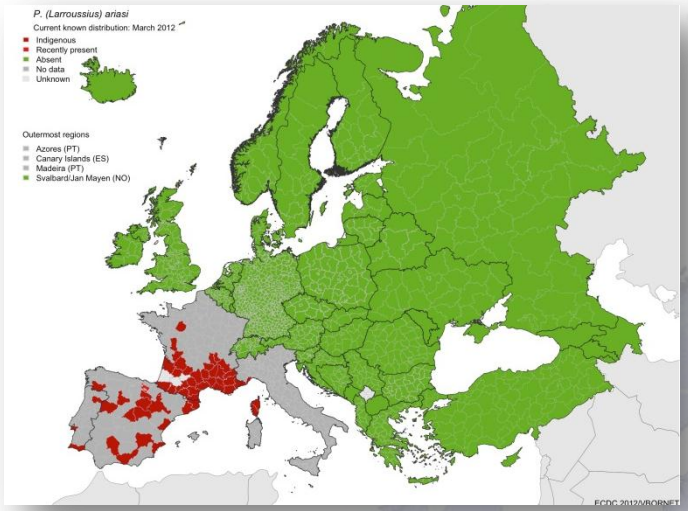


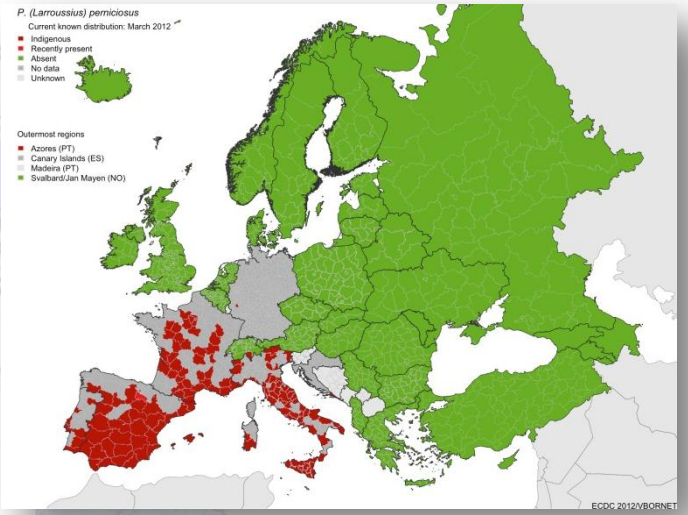
Ixodes ricinus/ persulcatus

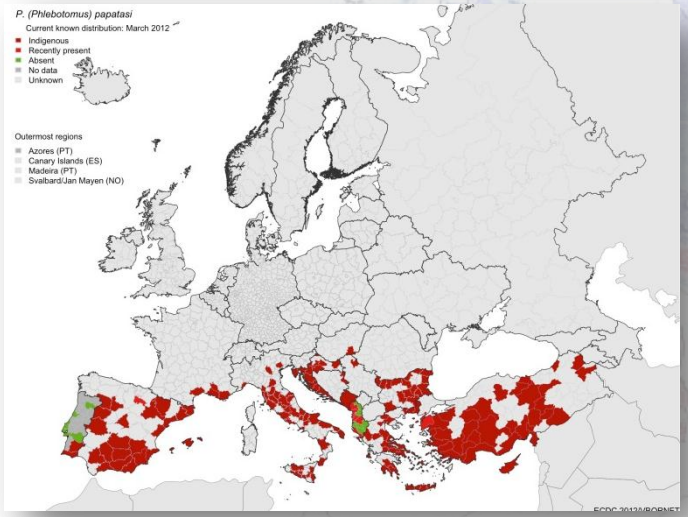


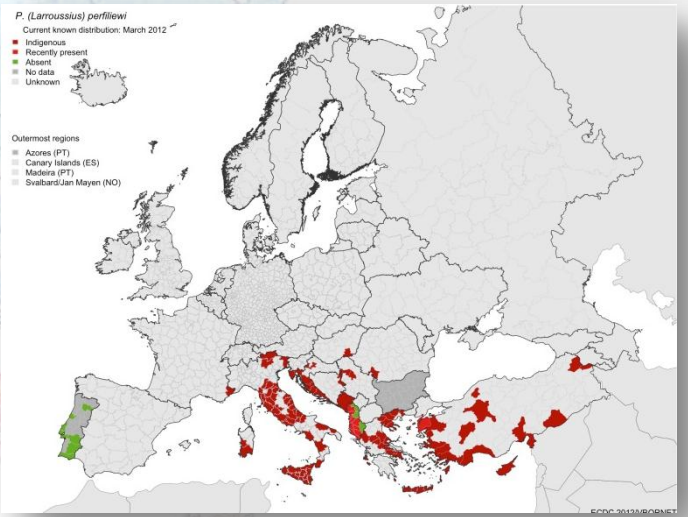


Phlebotomines









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Thank you for your questions!