FACULTY OF SCIENCES

DEPARTMENT OF BIOLOGY
TERRESTRIAL ECOLOGY UNIT (TEREC)

TrIAS

Tracking Invasive Alien Species

Amy J.S. Davis, Tim Adriaens, Quentin Groom, Sonia Vanderhoeven, Damiano Oldoni, Peter Desmet, Lien Reyserhove and Diederik Strubbe.

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INVASIVE SPECIES

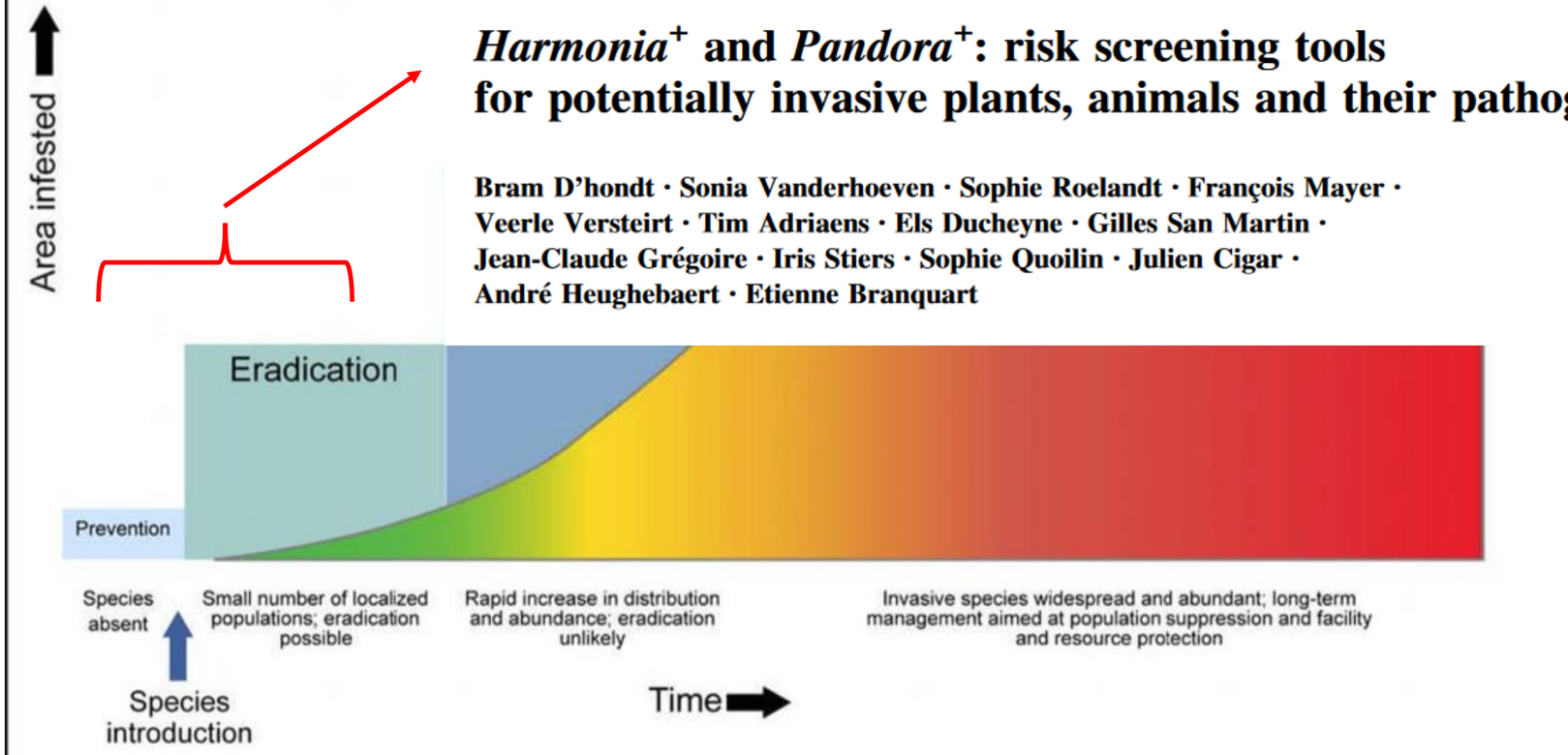
Biol Invasions (2015) 17:1869–1883
DOI 10.1007/s10530-015-0843-1

CrossMark

ORIGINAL PAPER

Harmonia^{+} and *Pandora*$^{+}$: risk screening tools for potentially invasive plants, animals and their pathogens

Bram D'hondt · Sonia Vanderhoeven · Sophie Roelandt · François Mayer · Veerle Versteirt · Tim Adriaens · Els Ducheyne · Gilles San Martin · Jean-Claude Grégoire · Iris Stiers · Sophie Quoilin · Julien Cigar · André Heughebaert · Etienne Branquart



Sources: National Invasive Species Council; U.S. Department of Agriculture; National Park Service; U.S. Fish and Wildlife Service; Rodgers, L, South Florida Water Management District; Department of Primary Industries, State of Victoria, Australia; and GAO. | GAO-16-49

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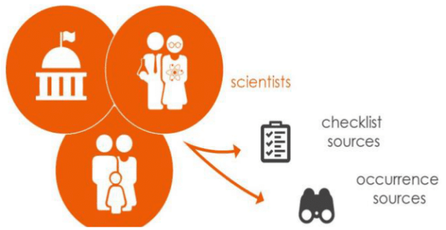
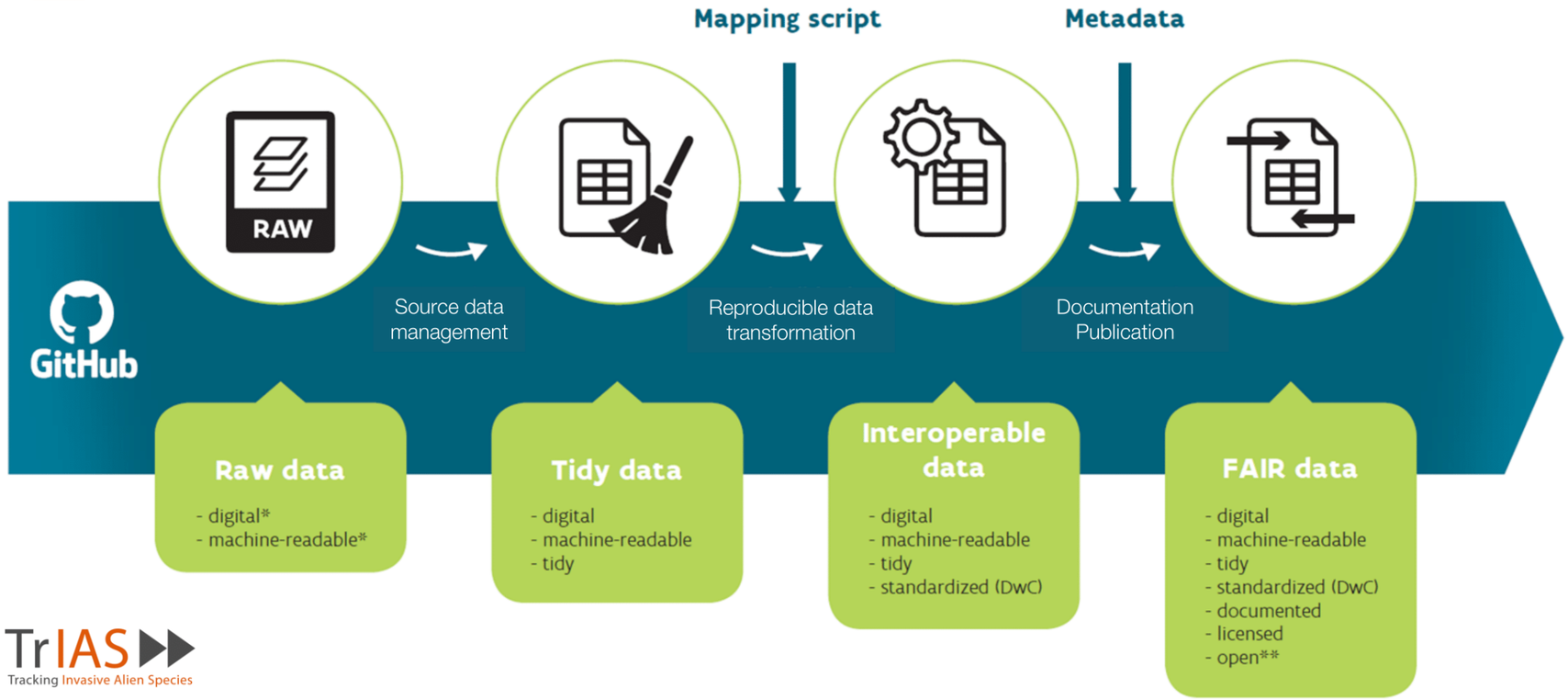
IPBES Global Report

INVASIVE SPECIES



For each expert checklist and each occurrence data source



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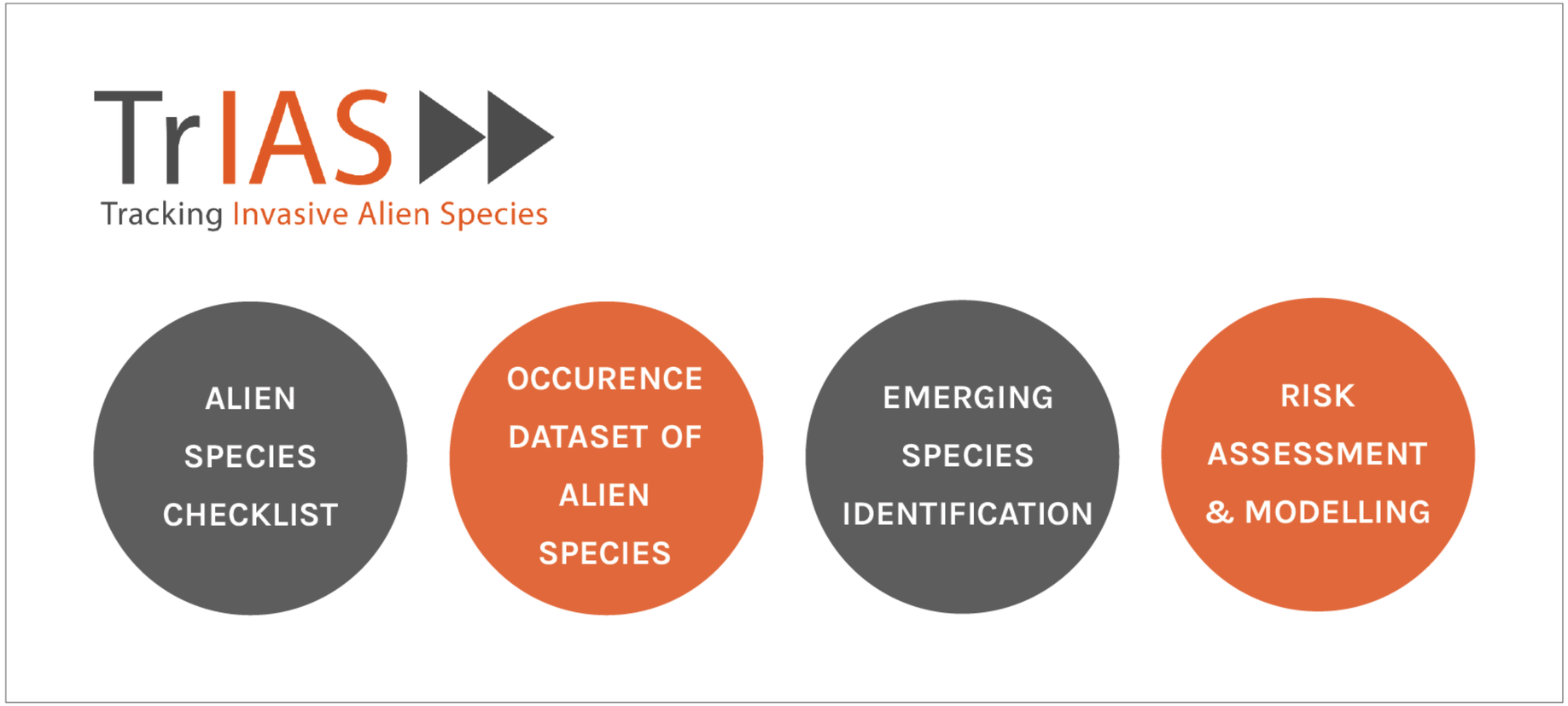

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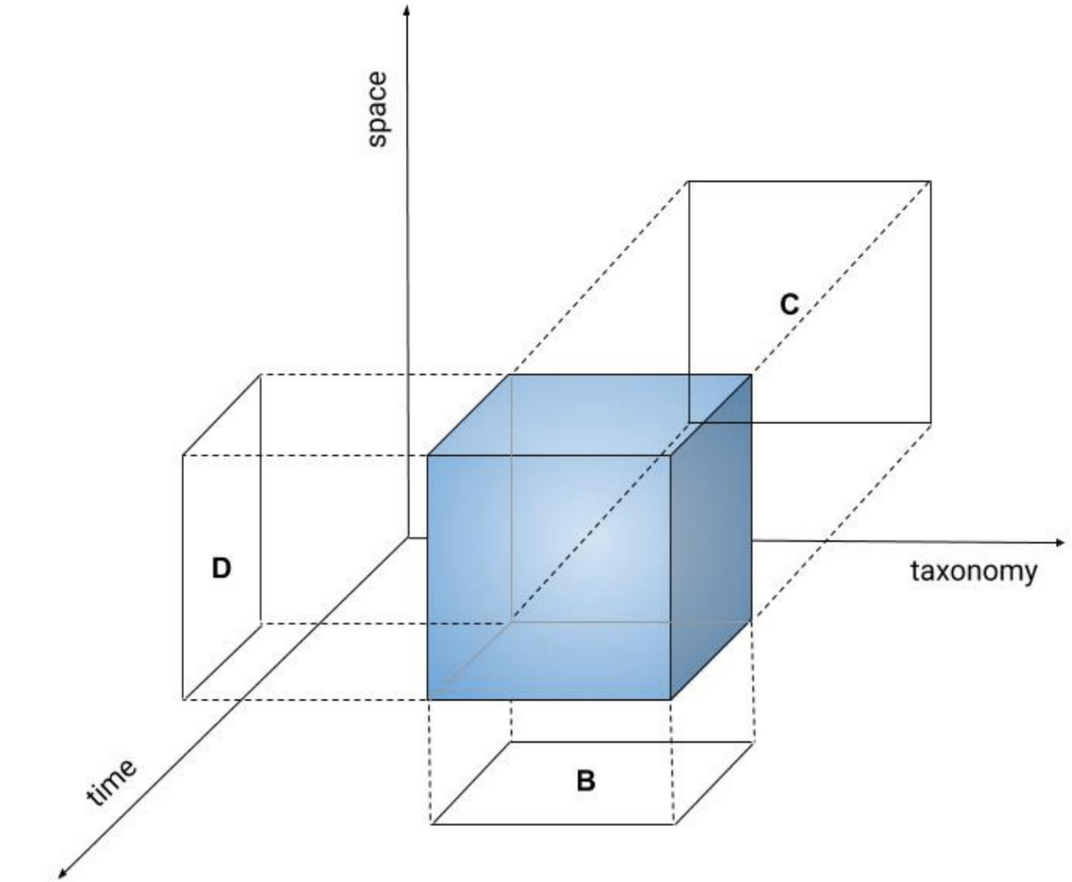
INVASIVE SPECIES



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Tracking Invasive Alien Species

Occurrence cube

Occurrence cubes: a new paradigm for aggregating species occurrence data

Damiano Oldoni, Quentin Groom, Tim Adriaens, Amy J.S. Davis, Lien Reyserhove, Diederik Strubbe, Sonia Vanderhoeven, Peter Desmet

bioRxiv 2020.03.23.983601; https://doi.org/10.1101/2020.03.23.983601

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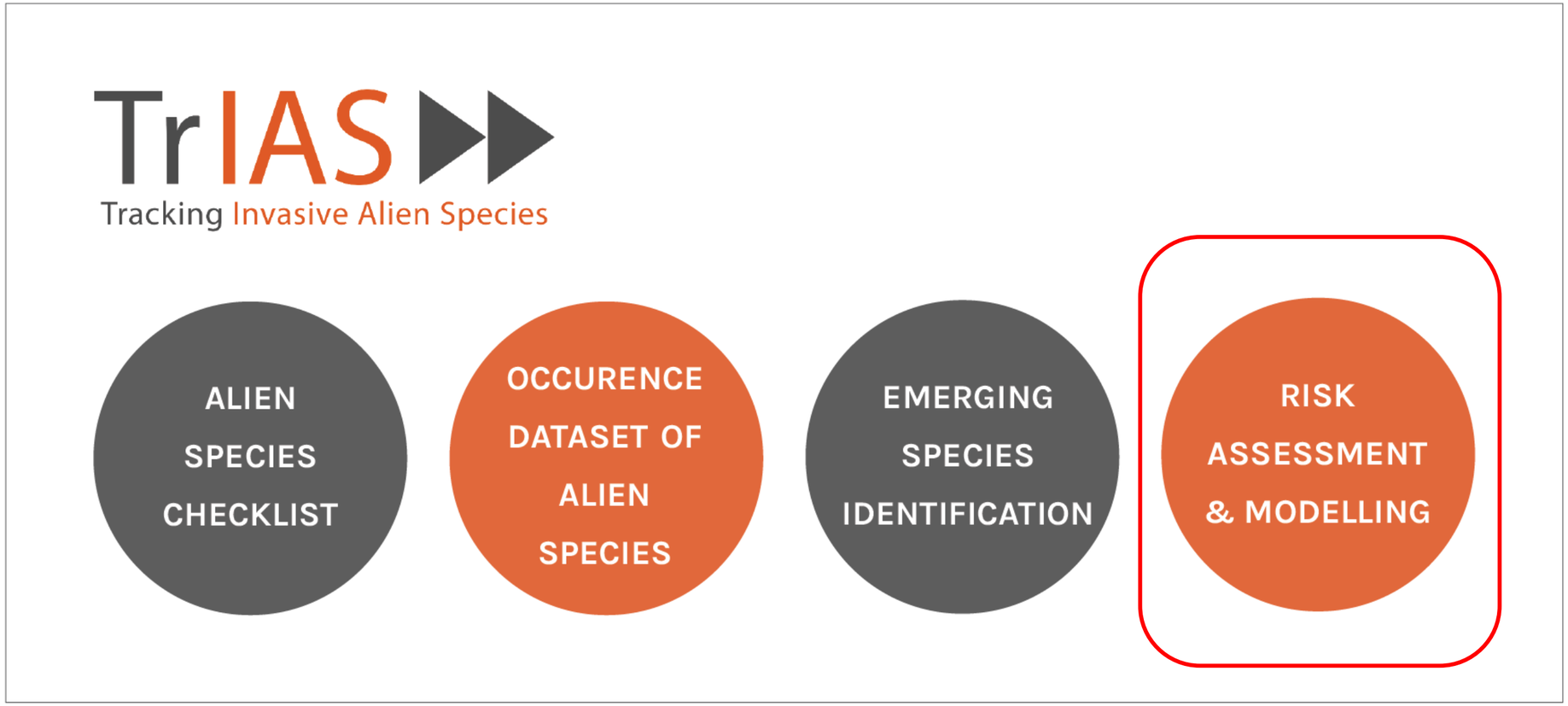

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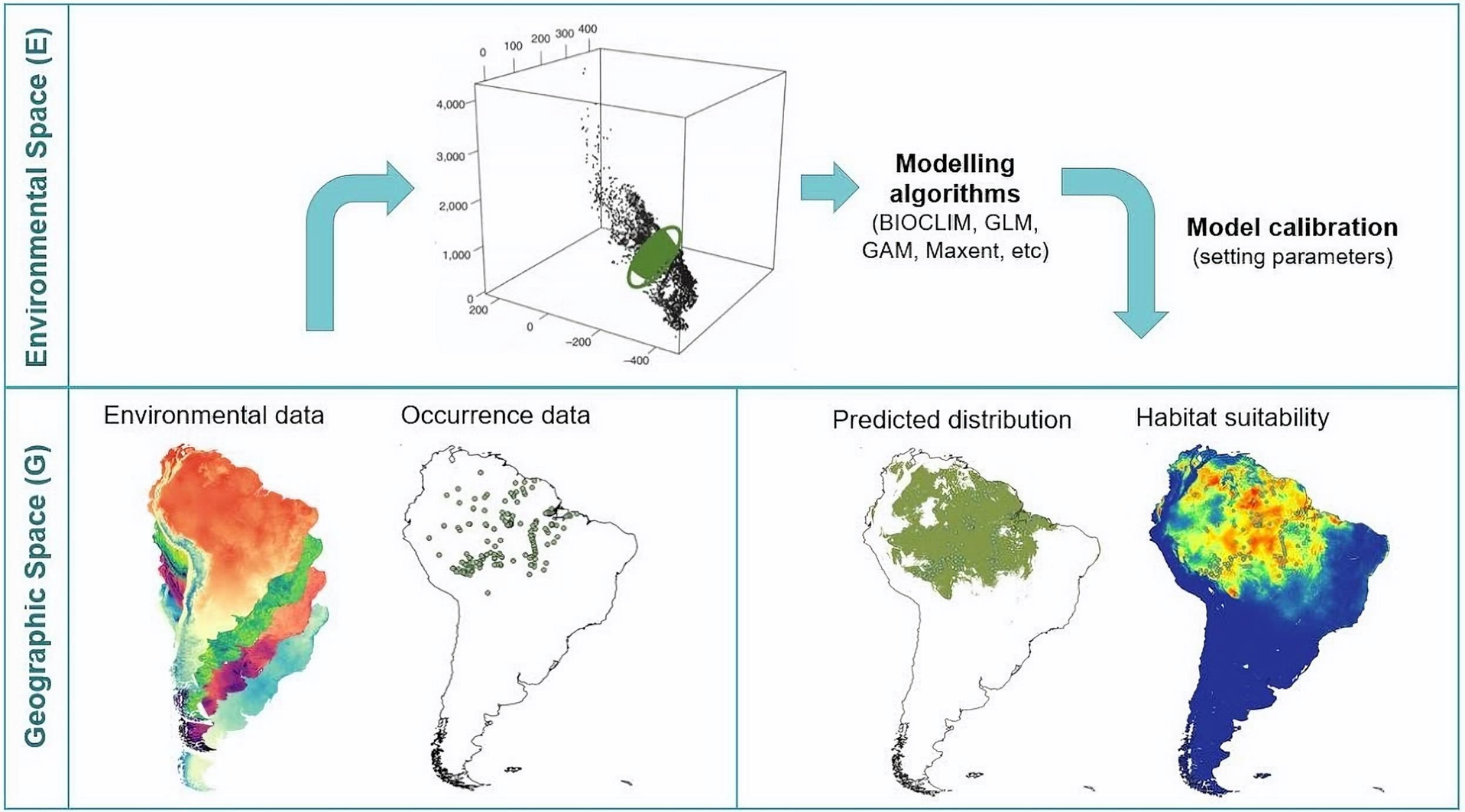
DISTRIBUTION MODELING



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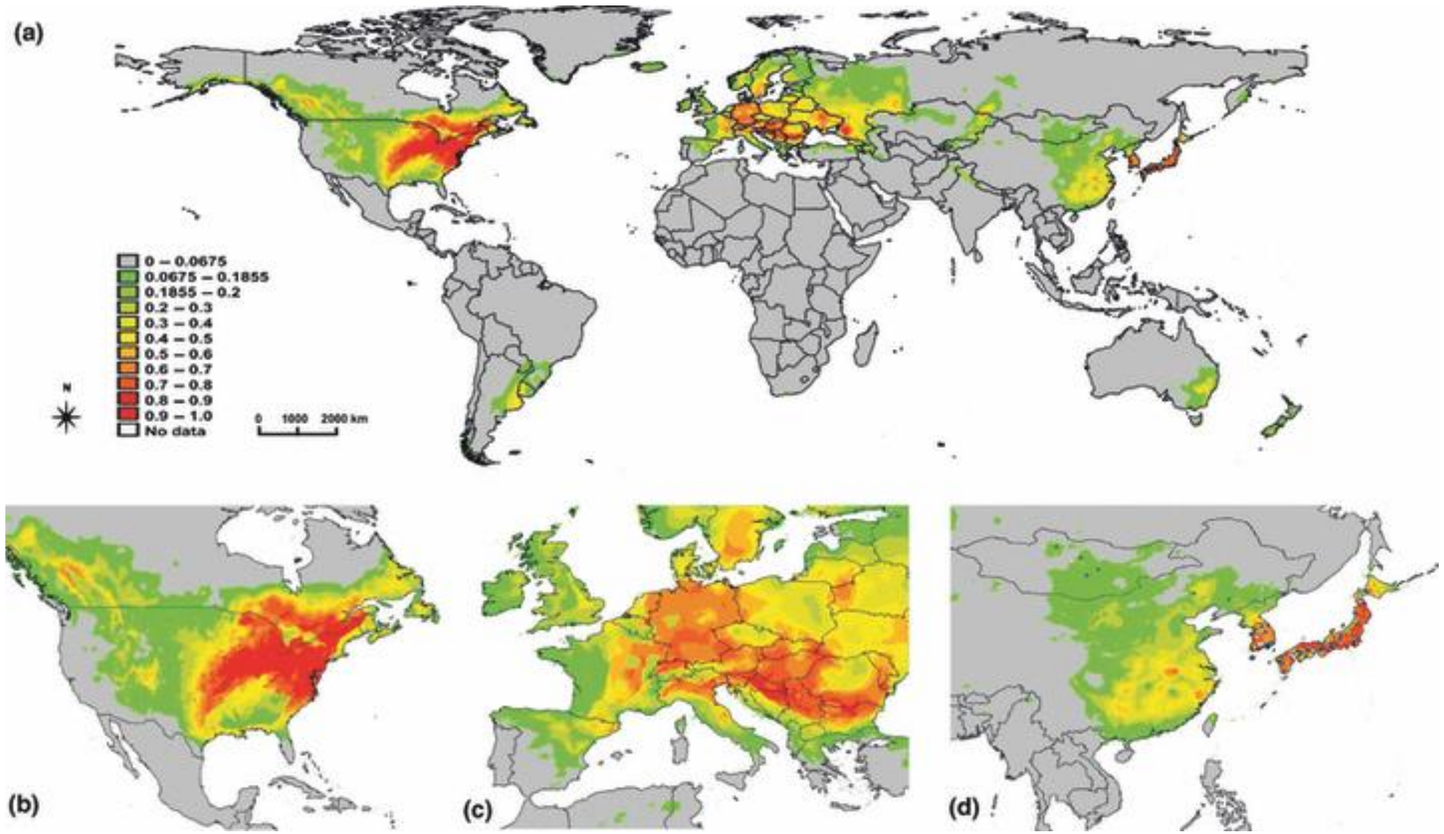
DISTRIBUTION MODELING



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DISTRIBUTION MODELLING: LIMITED UPTAKE

Biological Conservation 199 (2016) 157–171

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Biological Conservation

journal homepage: www.elsevier.com/locate/bioc

Review

Conservation planners tend to ignore improved accuracy of modelled species distributions to focus on multiple threats and ecological processes

Ayesha I.T. Tulloch [a,j,*], Patricia Sutcliffe [b], Ilona Naujokaitis-Lewis [c,l], Reid Tingley [d], Lluis Brotons [e,k], Katia Maria P.M.B. Ferraz [f], Hugh Possingham [b,g], Antoine Guisan [h,i], Jonathan R. Rhodes [a]

CAB Reviews 2019 **14**, No. 020

Species distribution models (SDM): applications, benefits and challenges in invasive species management

Vivek Srivastava, Valentine Lafond and Verena C. Griess*

Address: Department of Forest Resources Management, Faculty of Forestry, University of British Columbia, Forest Sciences Centre, 2424 Main Mall, Vancouver, British Columbia V6T1Z4, Canada.
VS: 0000-0001-7299-6693, VCG: 0000-0002-3856-3736.

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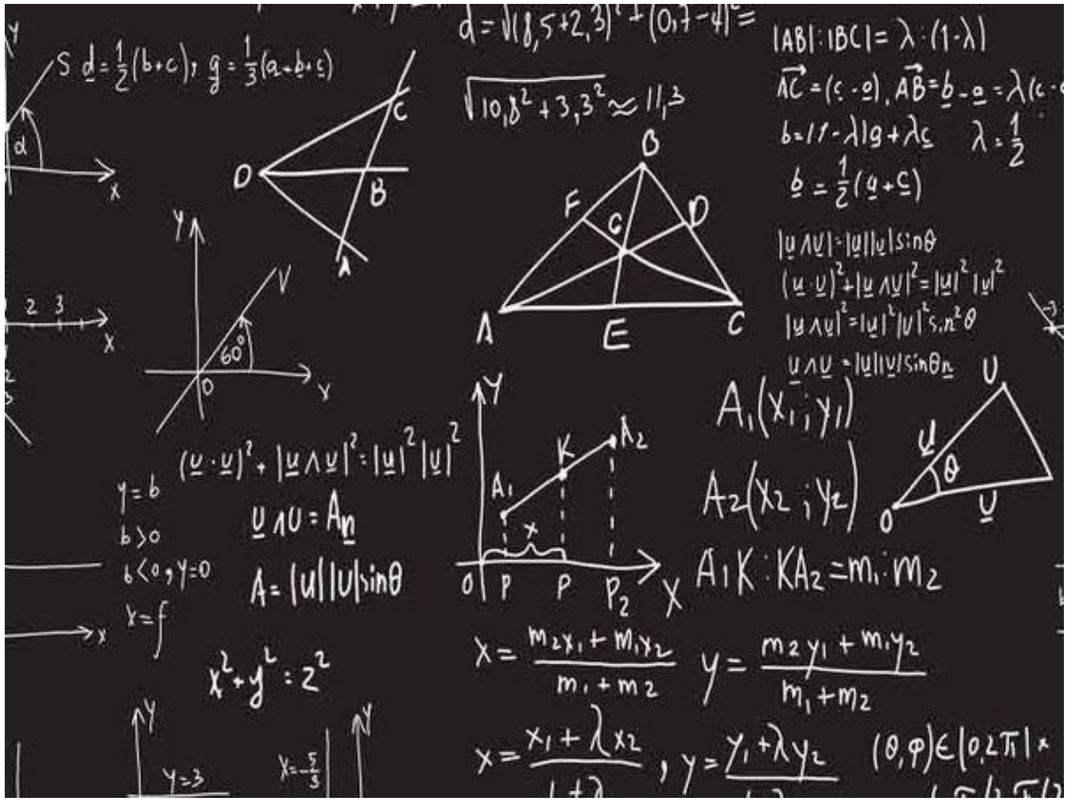
DISTRIBUTION MODELLING: LIMITED UPTAKE

- Predictive accuracy
- Uncertainty
- Transparancy
- Reproducibility
- Easy of interpretation



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TRIAS SDM WORKFLOW

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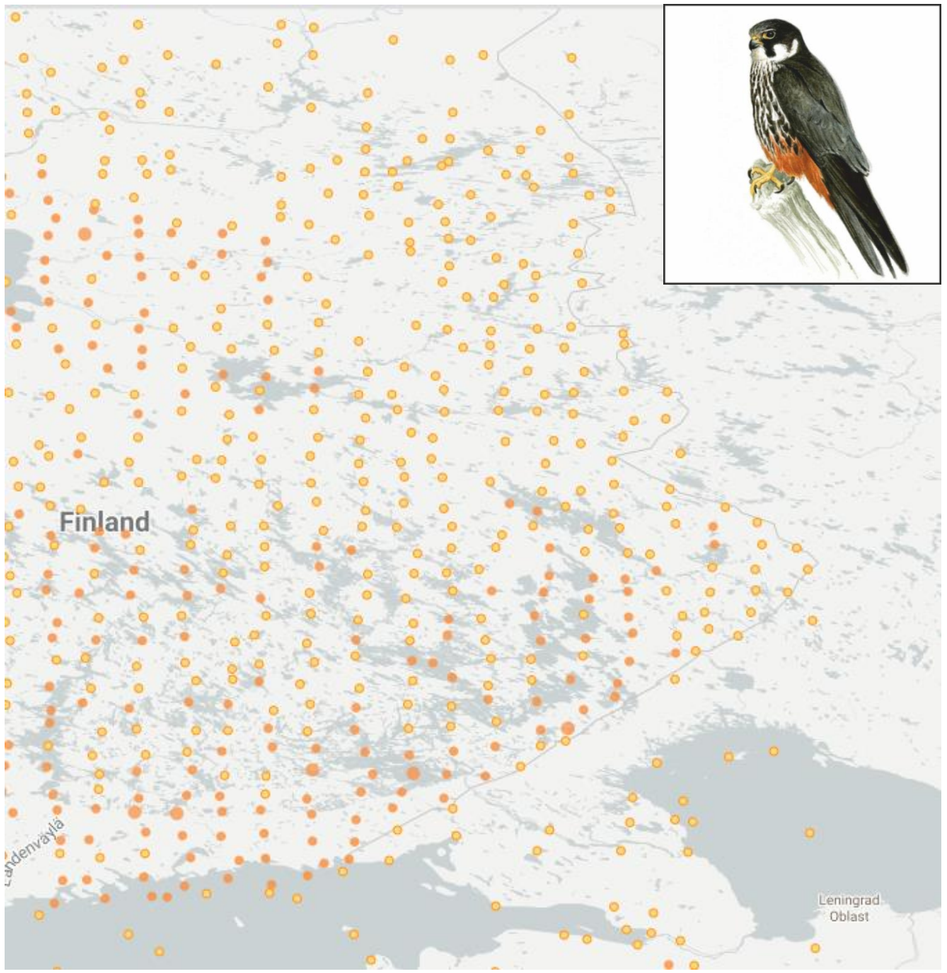
PREDICTIVE ACCURACY

(spatial) sampling bias



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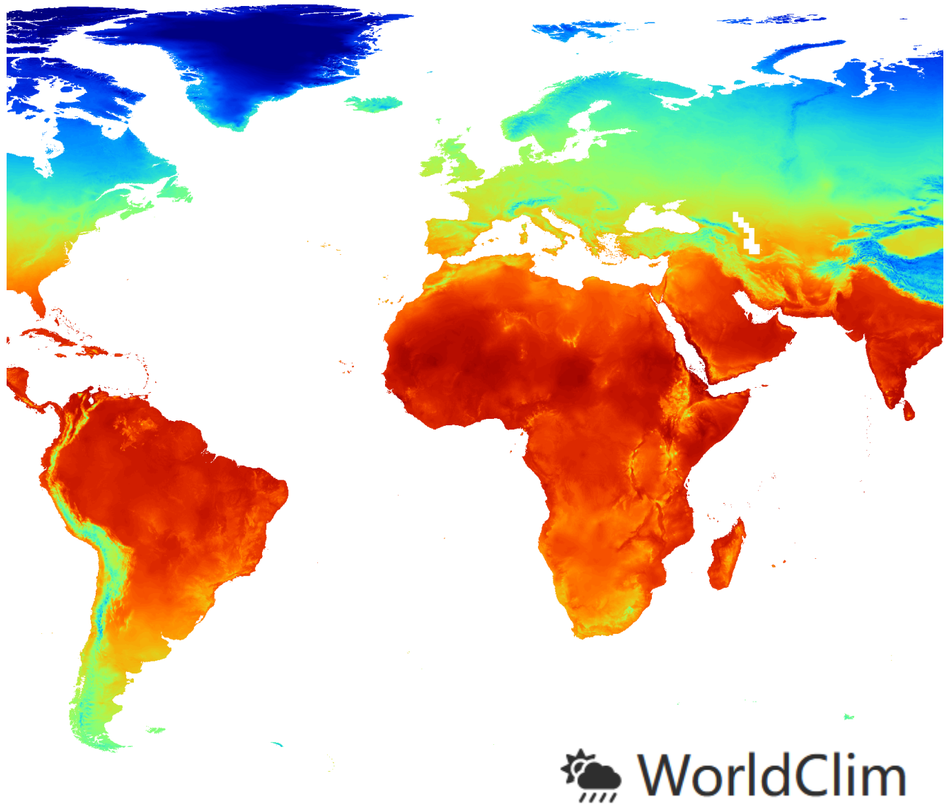
PREDICTIVE ACCURACY

(spatial) sampling bias

(correlated) predictor variables

climate



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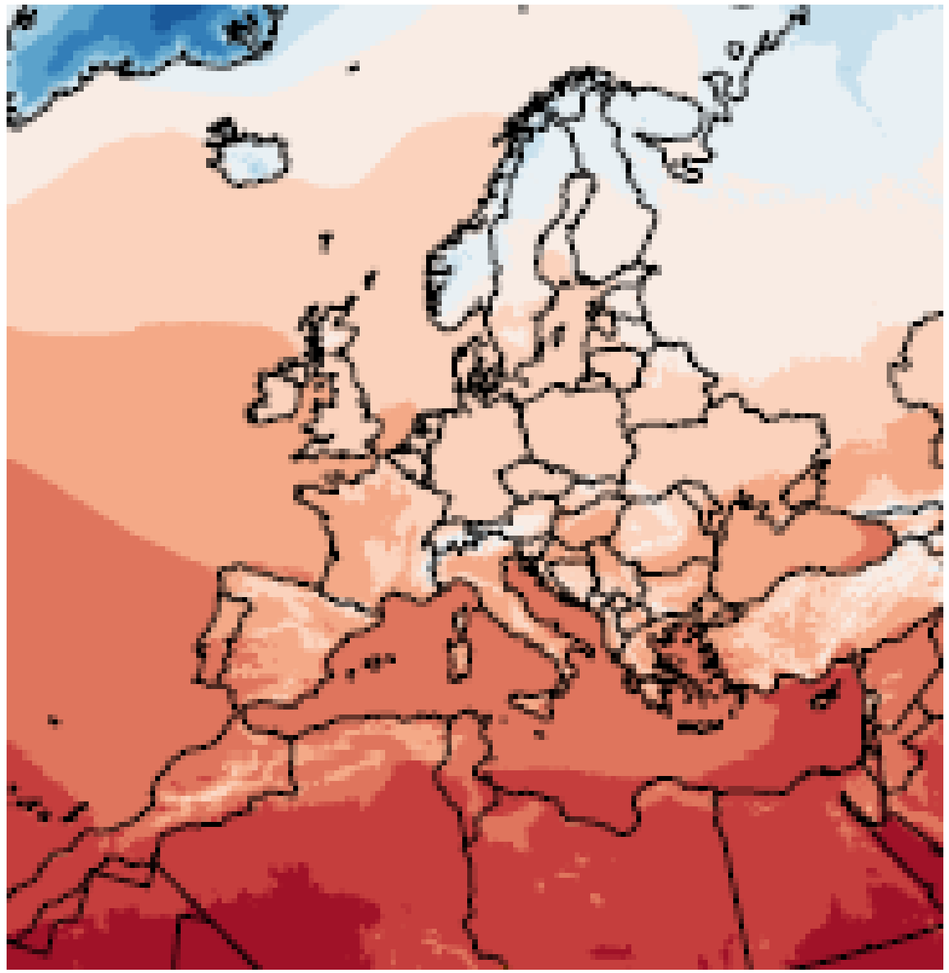
PREDICTIVE ACCURACY

(spatial) sampling bias

(correlated) predictor variables

climate



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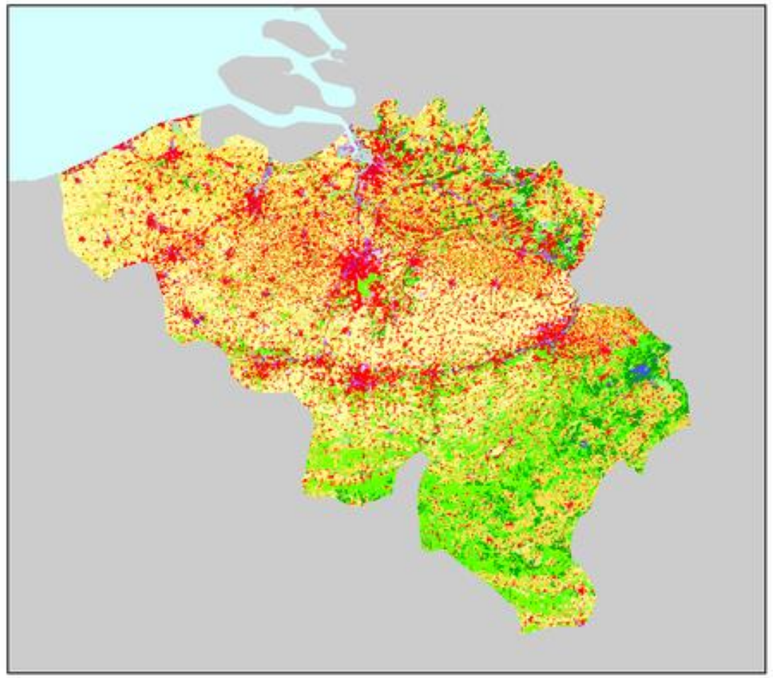
PREDICTIVE ACCURACY

(spatial) sampling bias

(correlated) predictor variables

climate & habitat



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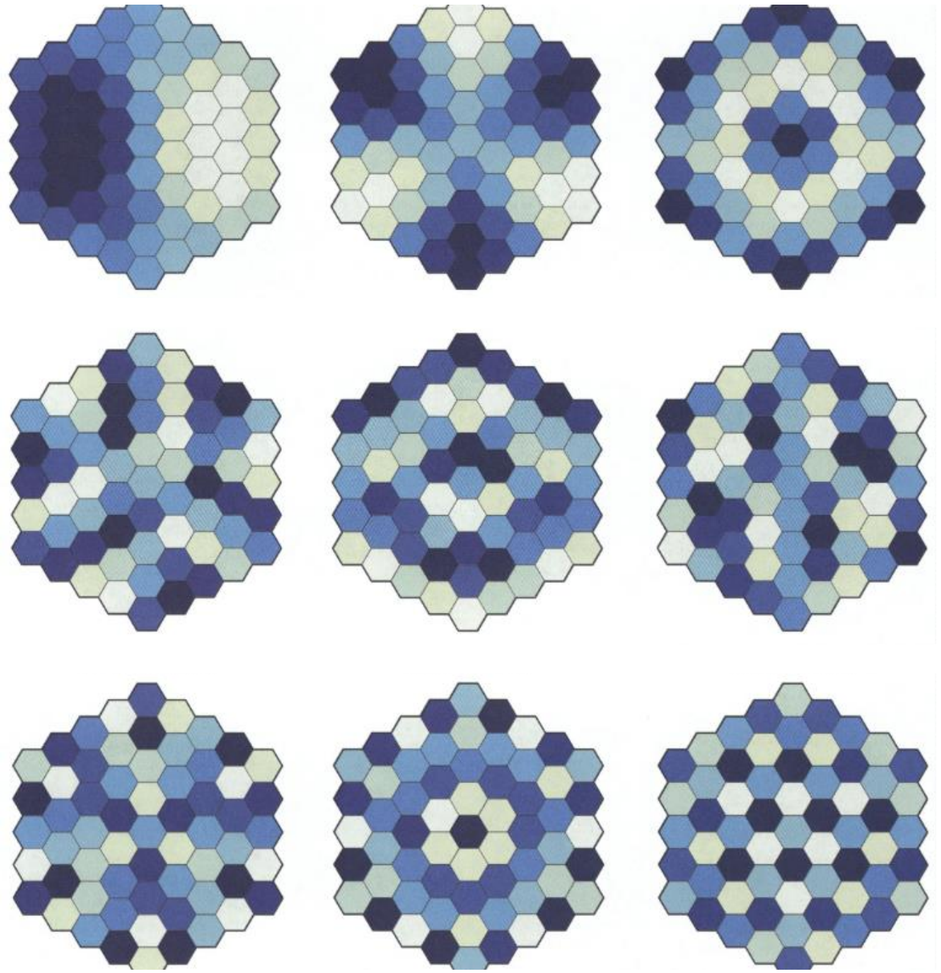
PREDICTIVE ACCURACY

(spatial) sampling bias

(correlated) predictor variables

climate & habitat

spatial autocorrelation



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PREDICTIVE ACCURACY

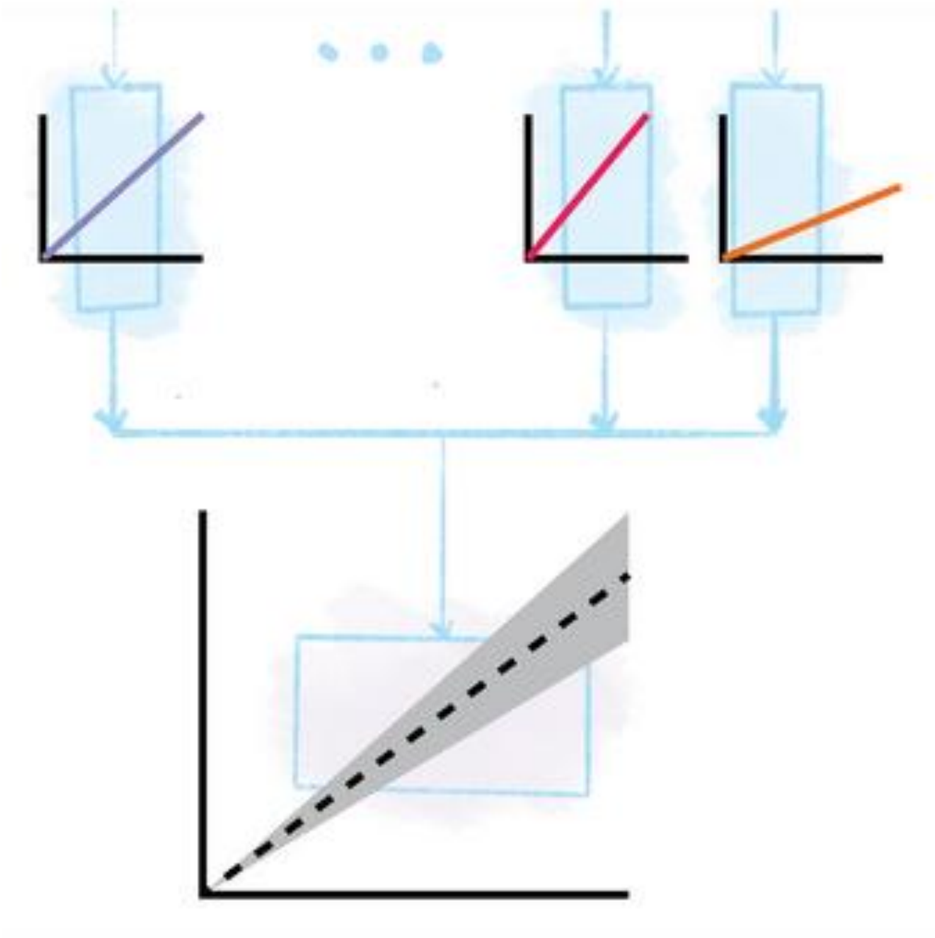
(spatial) sampling bias

(correlated) predictor variables

climate & habitat

spatial autocorrelation

ensemble modeling



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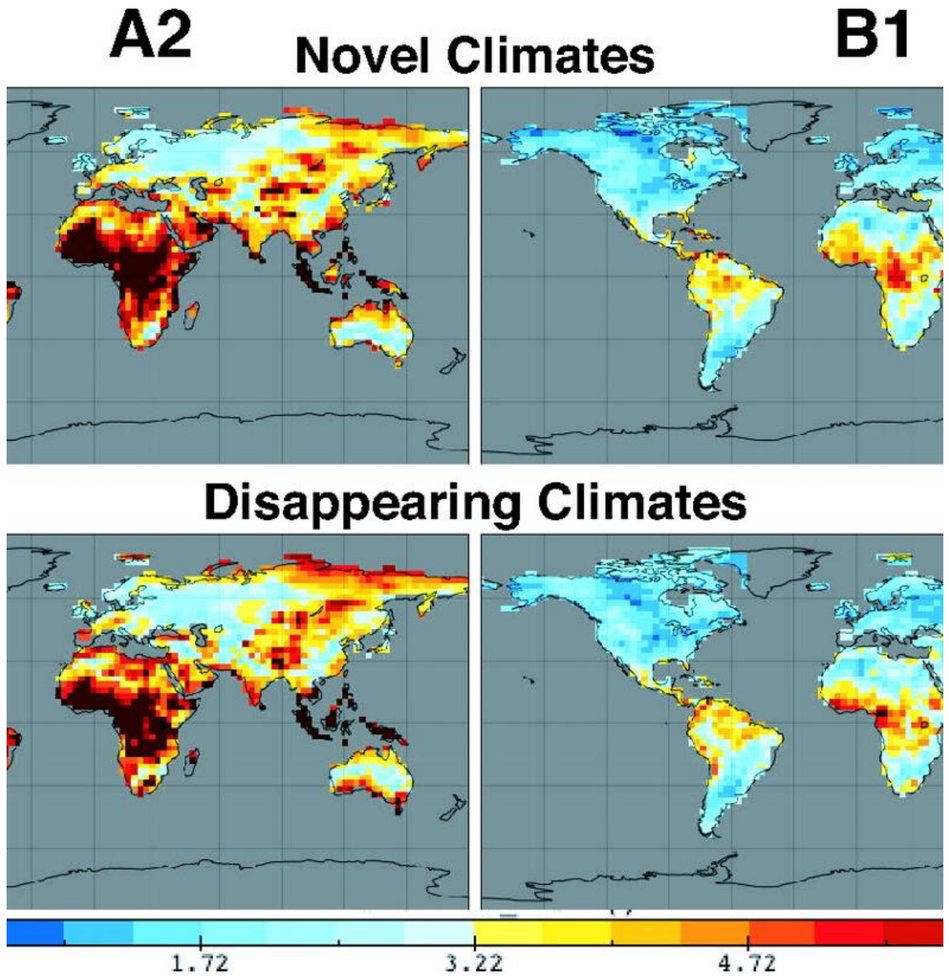
UNCERTAINTY

novel conditions



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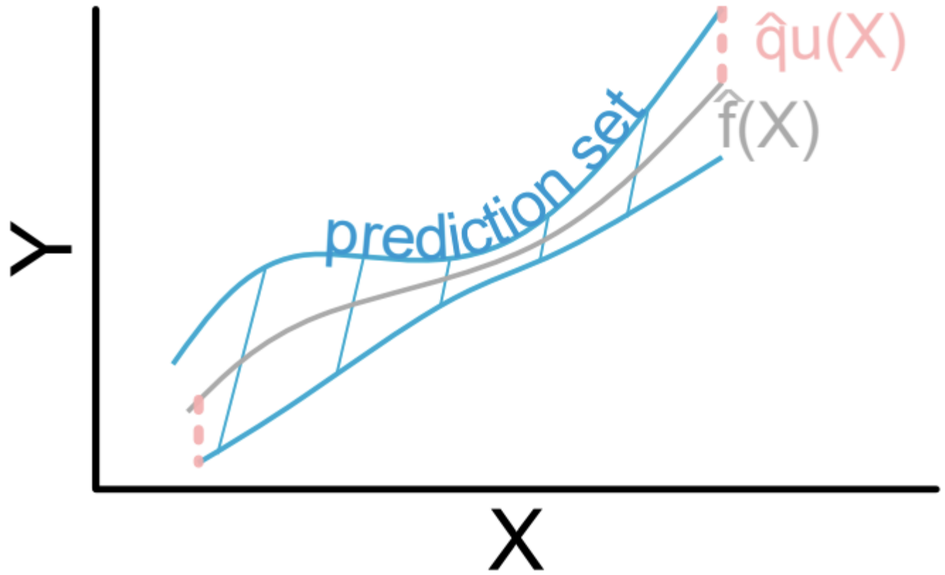
UNCERTAINTY

novel conditions

↳ ‘conformal prediction’



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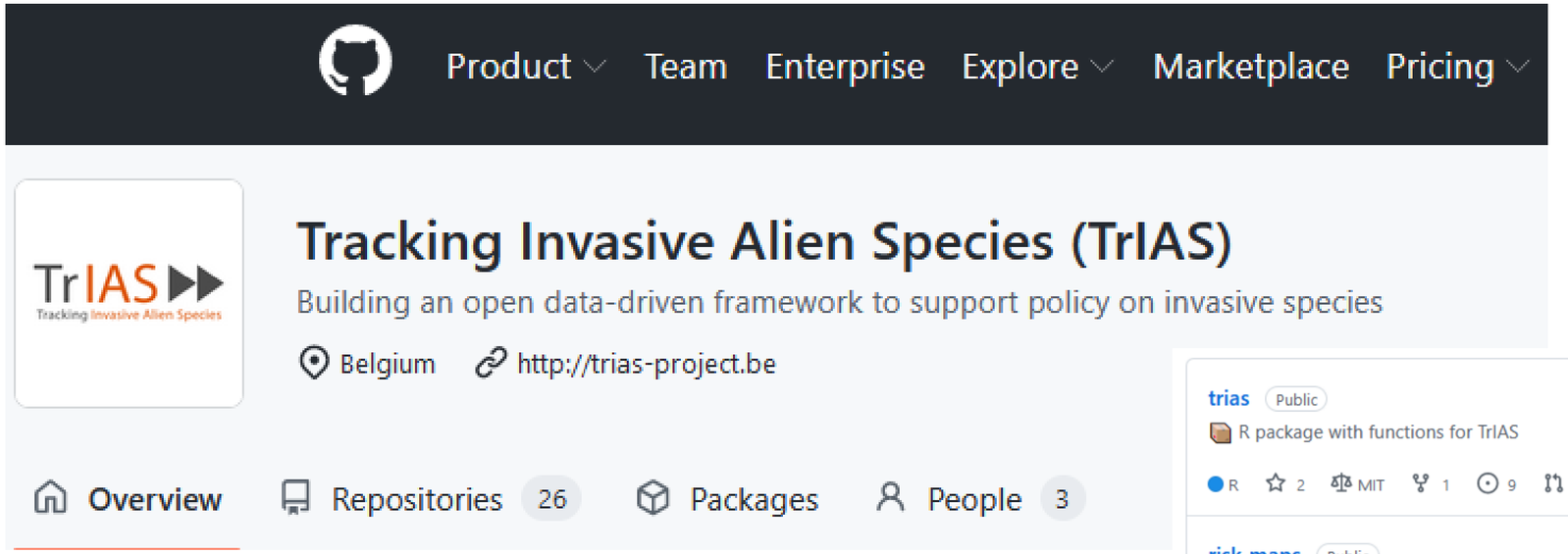
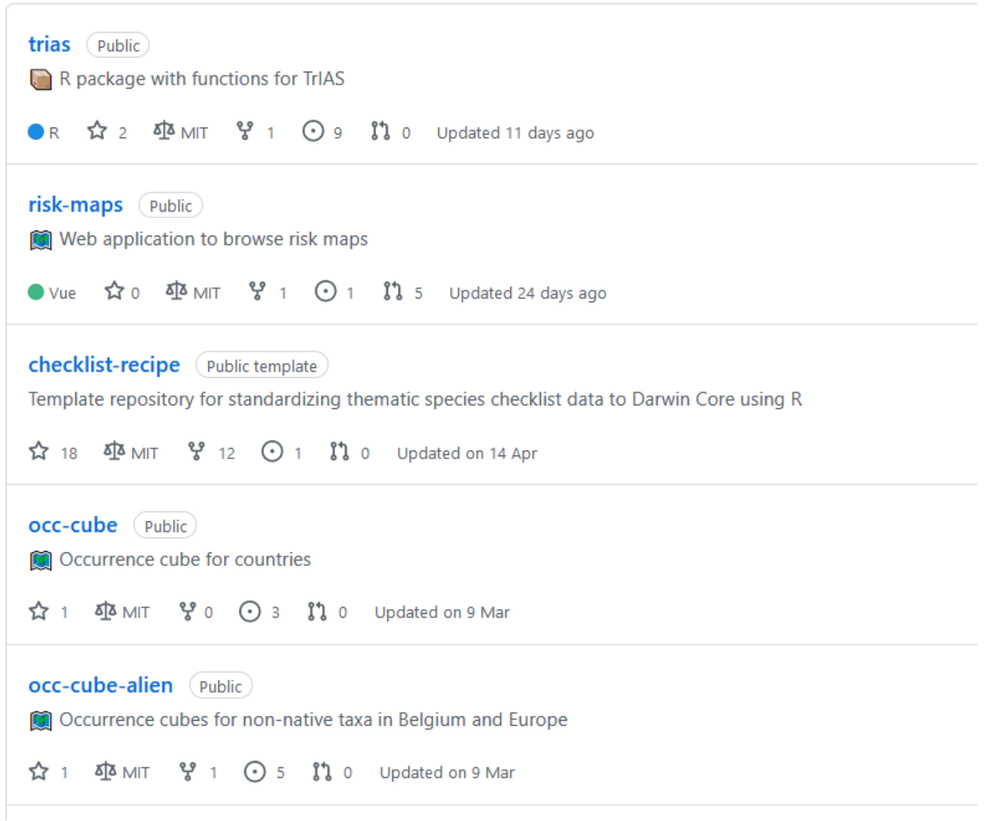
TRANSPARANCY & REPRODUCIBILITY



trias-risk-map

Small Vue-based tool to show risk maps (modelled data from GeoTiff files, and occurrences from), without any server-side component.

Installation and deployment



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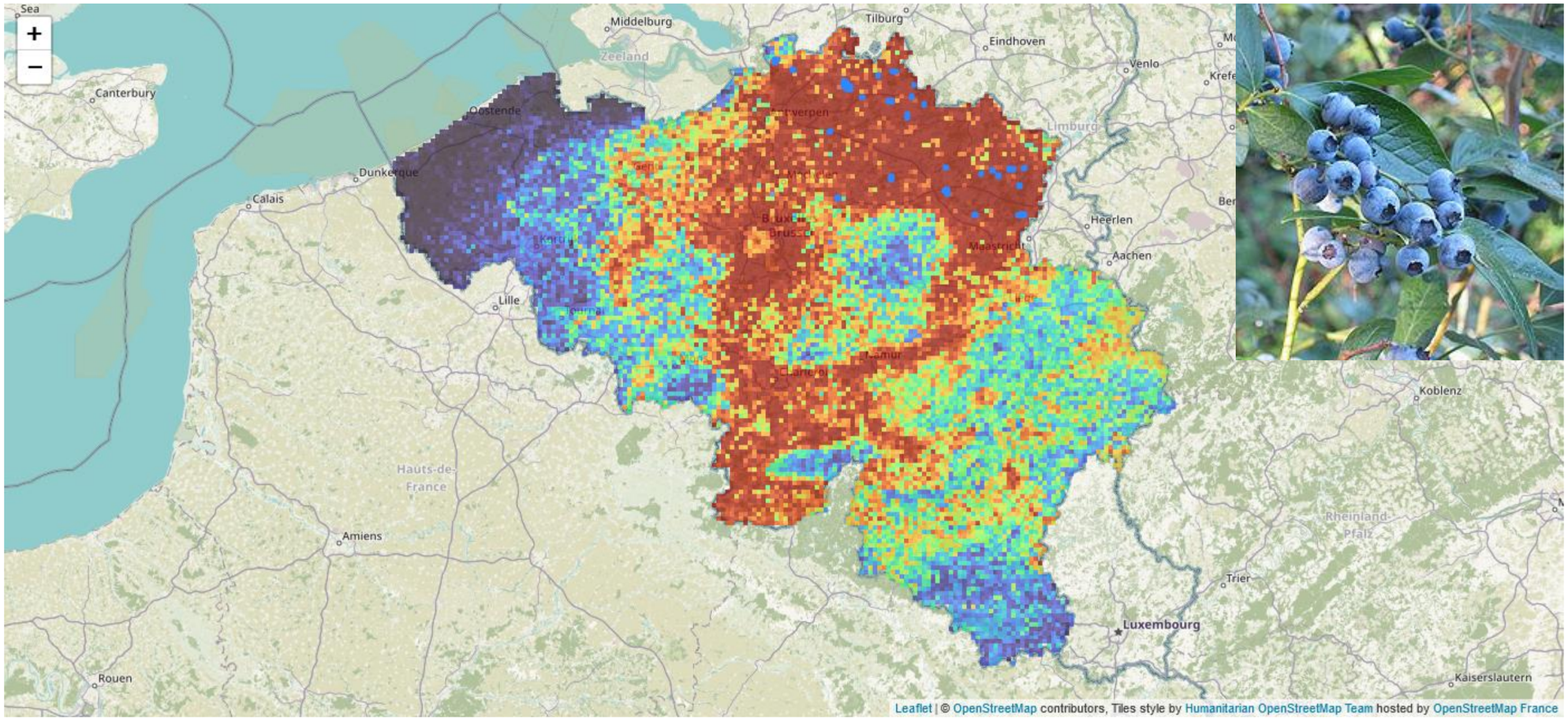
EASY OF INTERPRETATION: RISK

Vaccinium corymbosum



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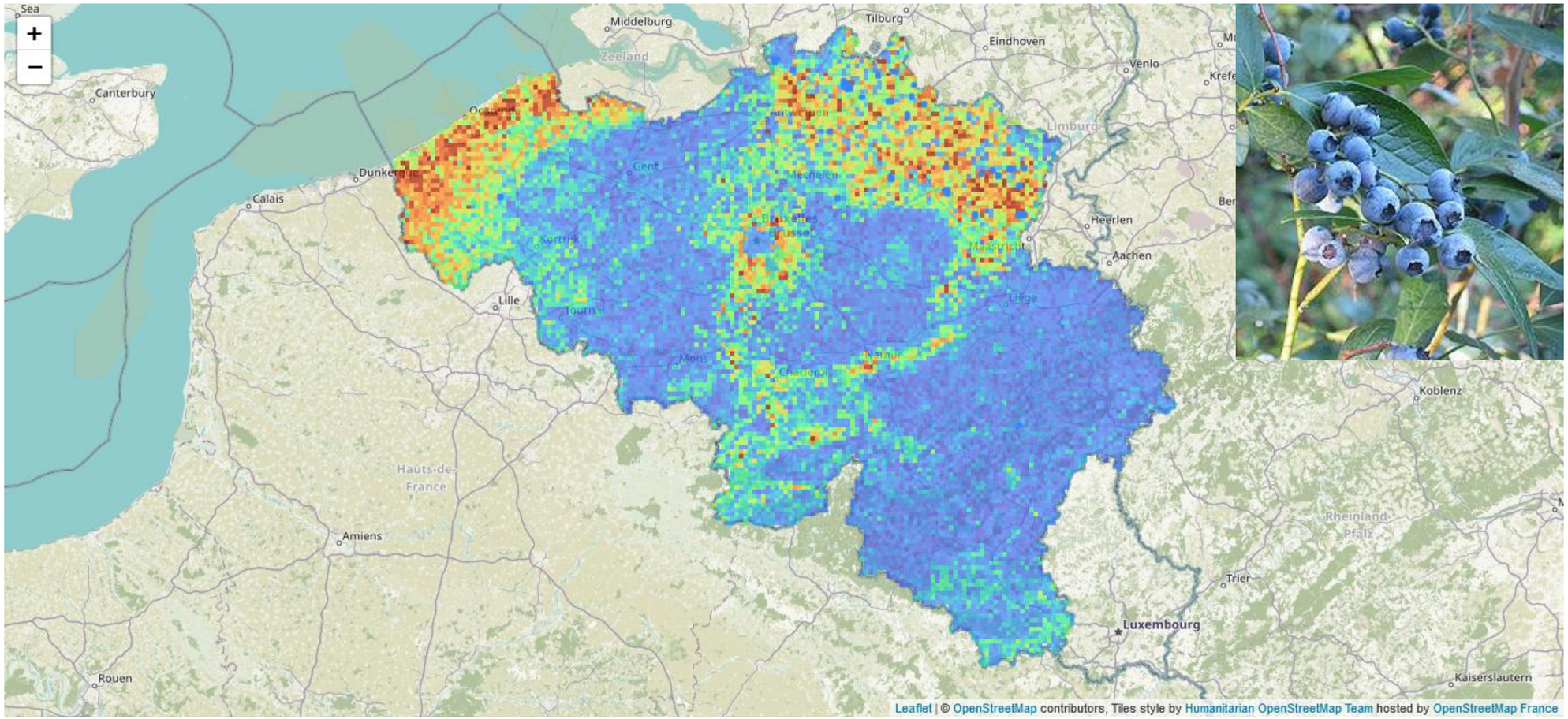
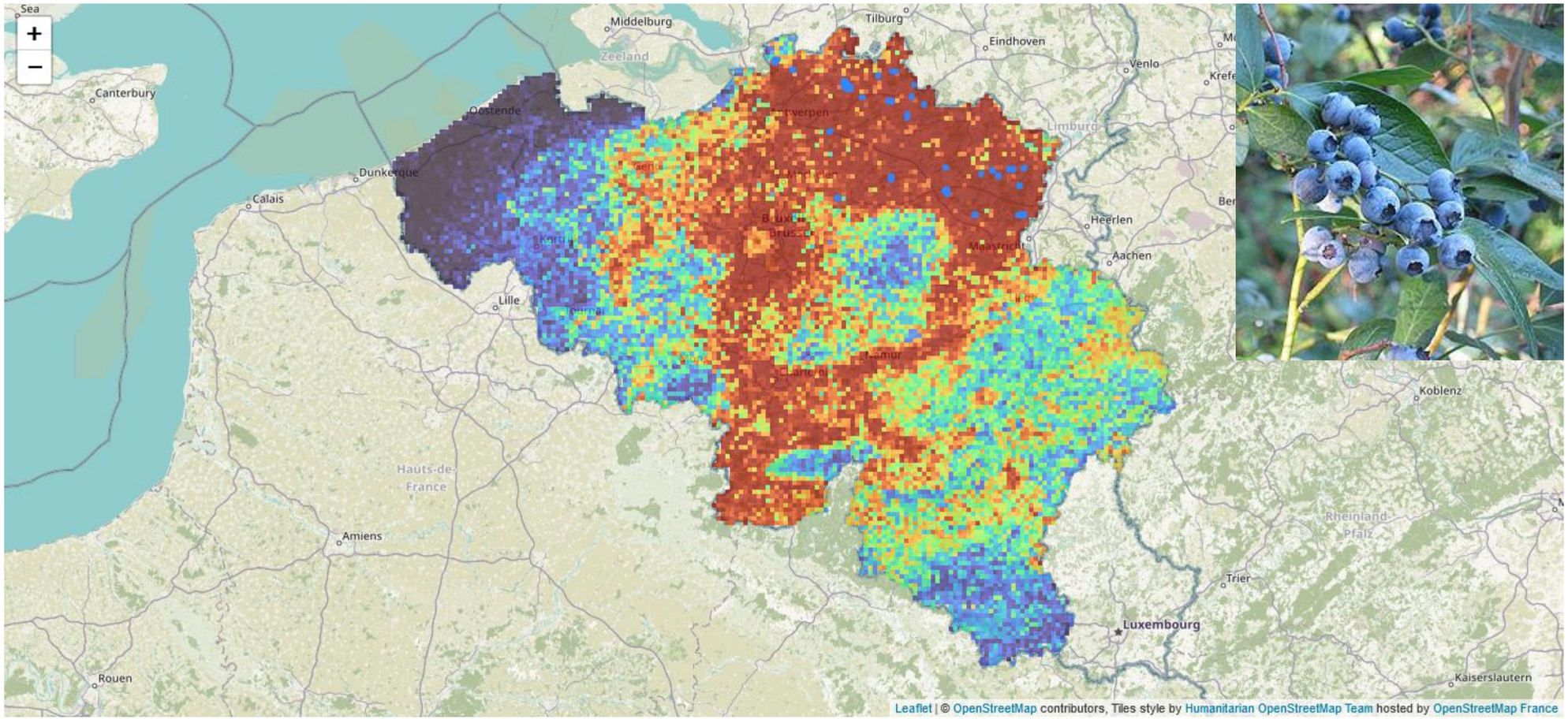
EASY OF INTERPRETATION: CONFIDENCE

Vaccinium corymbosum



EASY OF INTERPRETATION: RISK

Vaccinium corymbosum



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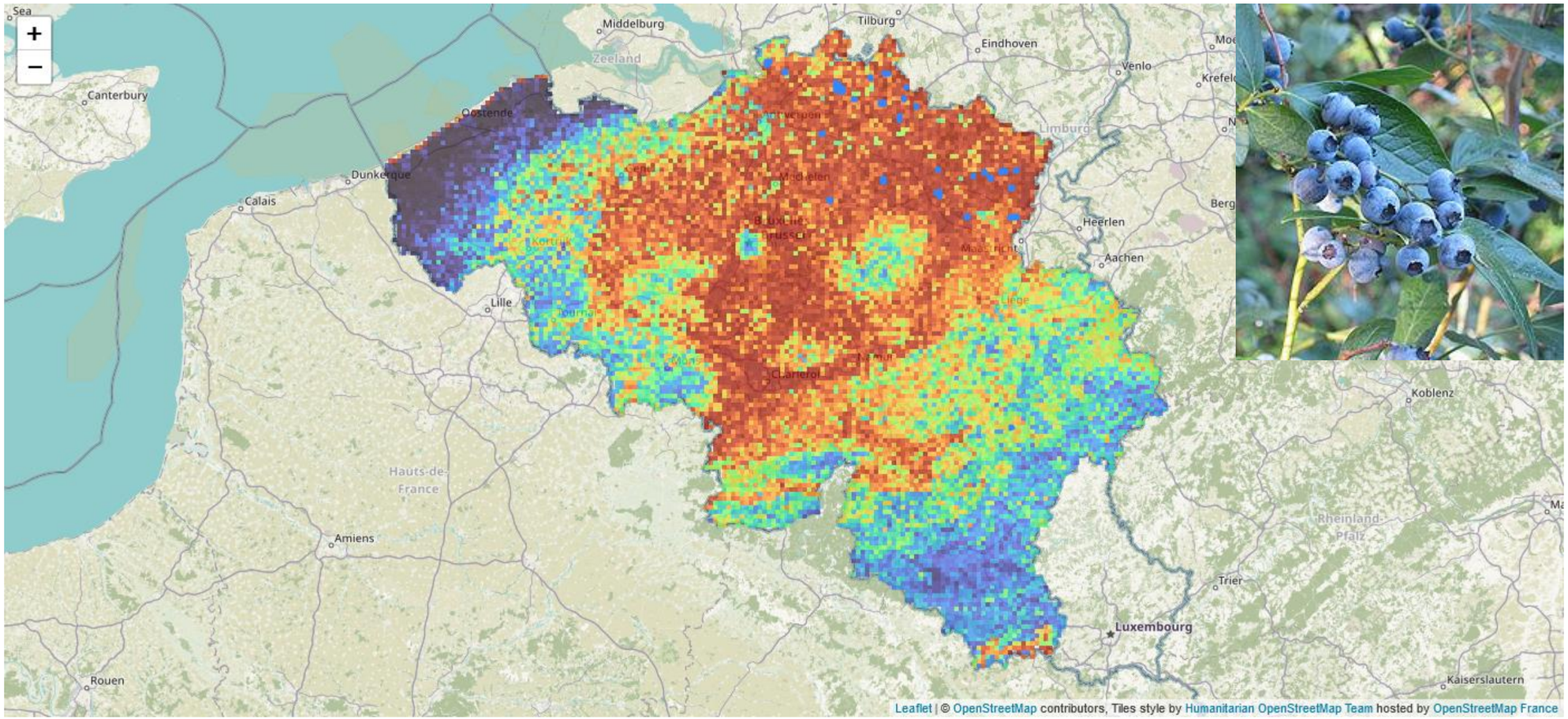
EASY OF INTERPRETATION: FUTURE RISK

Vaccinium corymbosum



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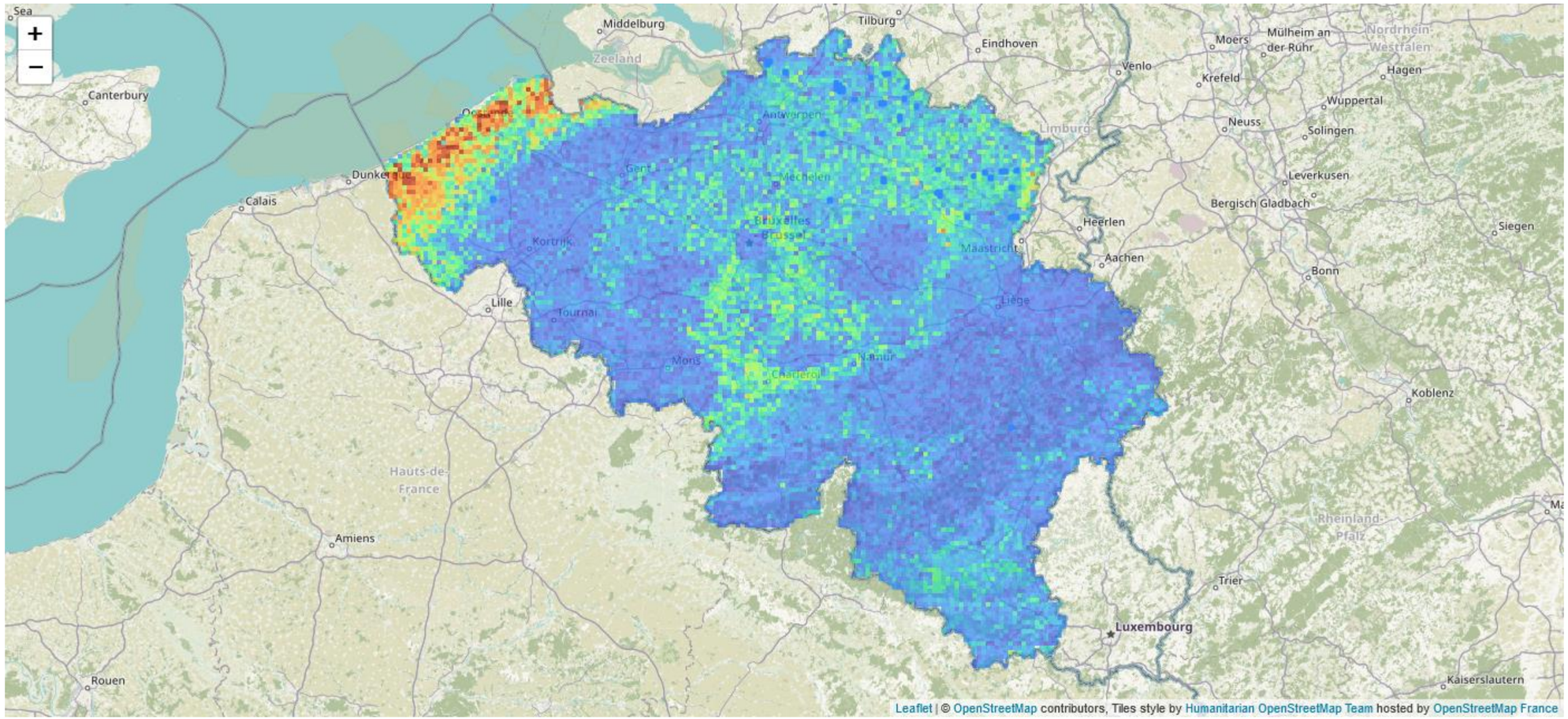
EASY OF INTERPRETATION: CONFIDENCE

Vaccinium corymbosum



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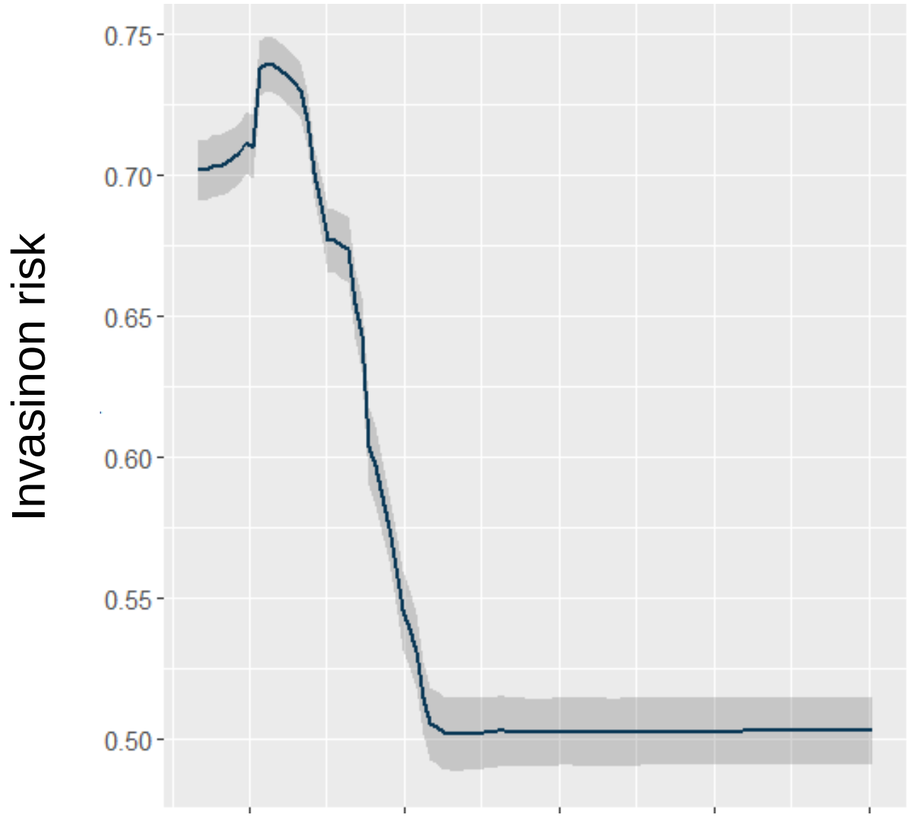
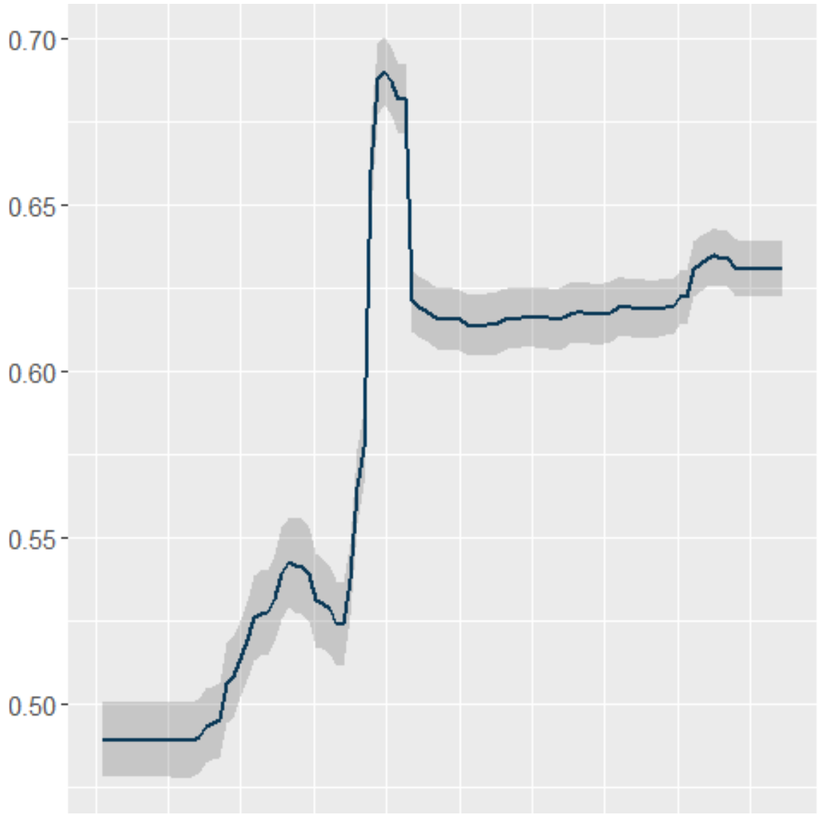
EASY OF INTERPRETATION: RESPONSES



precipitation



temperature

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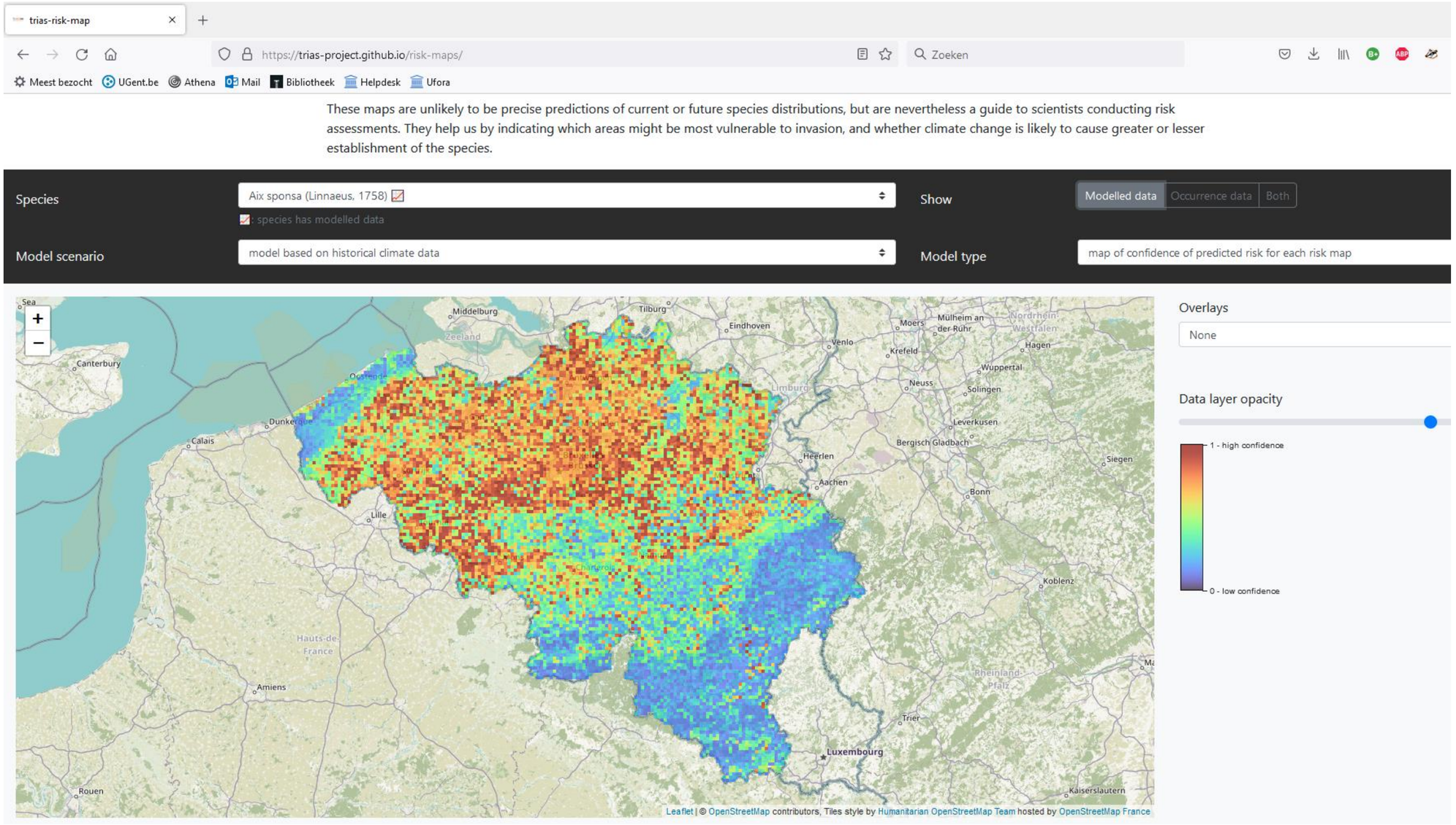
RISK ASSESSMENTS



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RISK ASSESSMENTS

Biodiversity.be

Assessment

context

a01. Provide the name(s) of the assessors: Fleur Petersen
a02. Provide the name of the organism under assessment: Myiopsitta monachus (Boddaert, 1783)
Comments: i.e. monniksparkiet (nl), muisparkiet (nl), torresparkiet (nl), monk parakeet (en), Quaker parrot (en)

a03. Define the area under assessment: Belgium
a04. The Organism is: alien to, and established within The Area's wild
Comments: The Monk parakeet (Myiopsitta monachus), native to southern South America, was introduced to Belgium in the late 1970s and a first breeding couple was observed in Brussels in 1979 (Weiserbs, 2008a). Nowadays, the population size is estimated at 200-250 individuals (Weiserbs et al., 2016, Postigo et al., 2019)

a05. This assessment is considering potential impacts within the following domains: (an)other domain, the human (health) domain, the domesticated animal domain, the cultivated plant domain, the environmental domain
Comments: All domains are under consideration for this assessment.

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Diederik Strubbe
doctor-assistant

TERRESTRIAL ECOLOGY UNIT (TEREC)

@DiederikStrubbe

E diederik.strubbe@ugent.be
T +32 9 264 52 24
M +32 477 44 55 68

www.ecology.ugent.be/terec/

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