



WOAH workshop on PROVNA project and Foresight

2>3 July 2024

LISBOA

SESSION 1

Project presentation and main objectives

Dr Francesco Valentini

WOAH Project on PROVNA project and Foresight
2-3 July 2024, Lisbon, Portugal



World
Organisation
for Animal
Health
Founded in 1924

Organisation
mondiale
de la santé
animale
Fondée en 1924

Organización
Mundial
de Sanidad
Animal
Fundada en 1924



CONTEXT





... is a unique ecosystem

... is a strategic political and economic corridor

... no longer represents an effective barrier against the introduction/spread of diseases

Climate change and interconnected risks to sustainable development in the Mediterranean

Wolfgang Cramer^{1*}, Joël Guiot², Mariana Fader³, Joaquim Garrabou^{4,5}, Jean-Pierre Gattuso^{6,7}, Ana Iglesias⁸, Manfred A. Lange⁹, Piero Lionello^{10,11}, Maria Carmen Llasat¹², Shlomit Paz¹³, Josep Peñuelas^{14,15}, Maria Snoussi¹⁶, Andrea Toreti¹⁷, Michael N. Tsimplis¹⁸ and Elena Xoplaki¹⁹

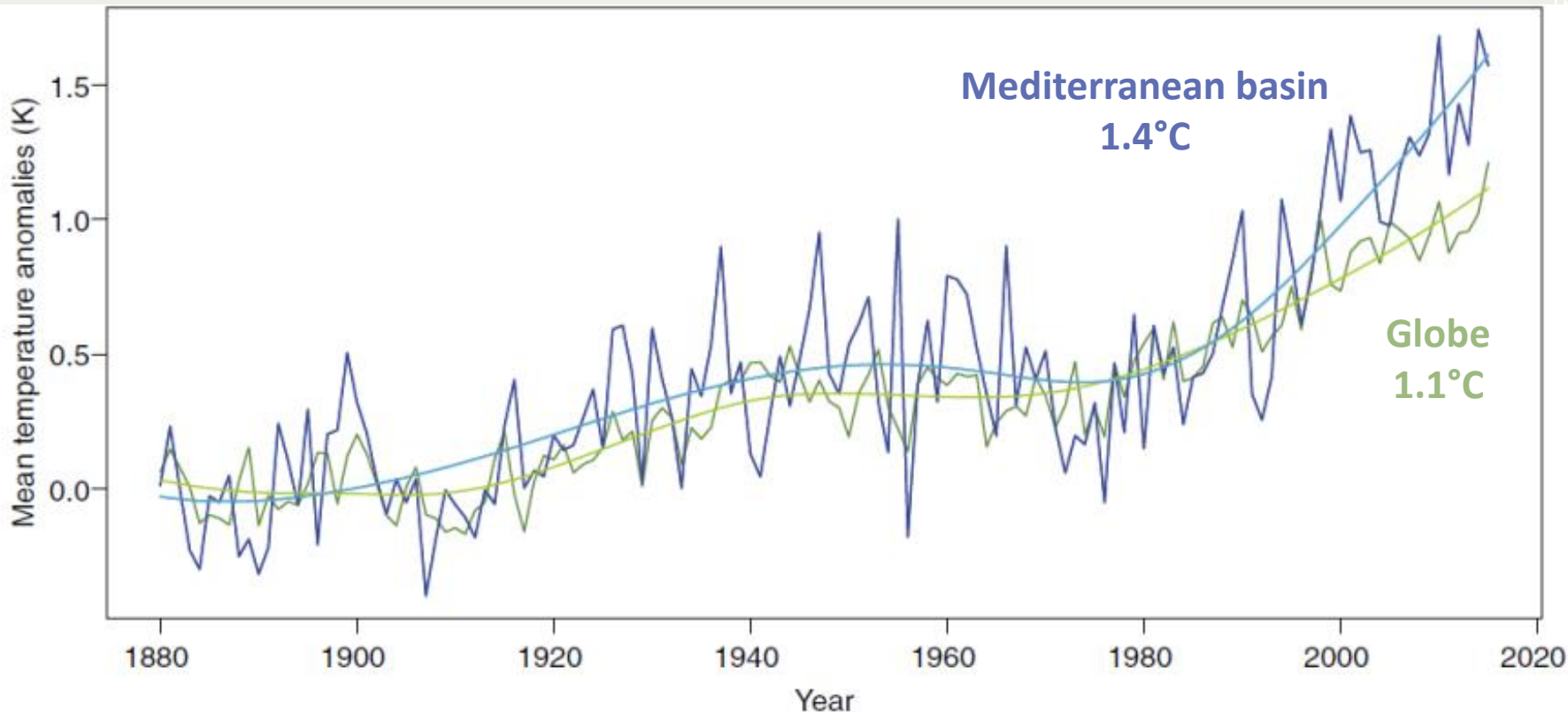
The first-ever study synthesizing risks posed by climate and environmental changes in the Mediterranean

5

The Mediterranean basin is warming faster than the whole planet

(Annual average temperature compared to pre-industrial

temperatures)

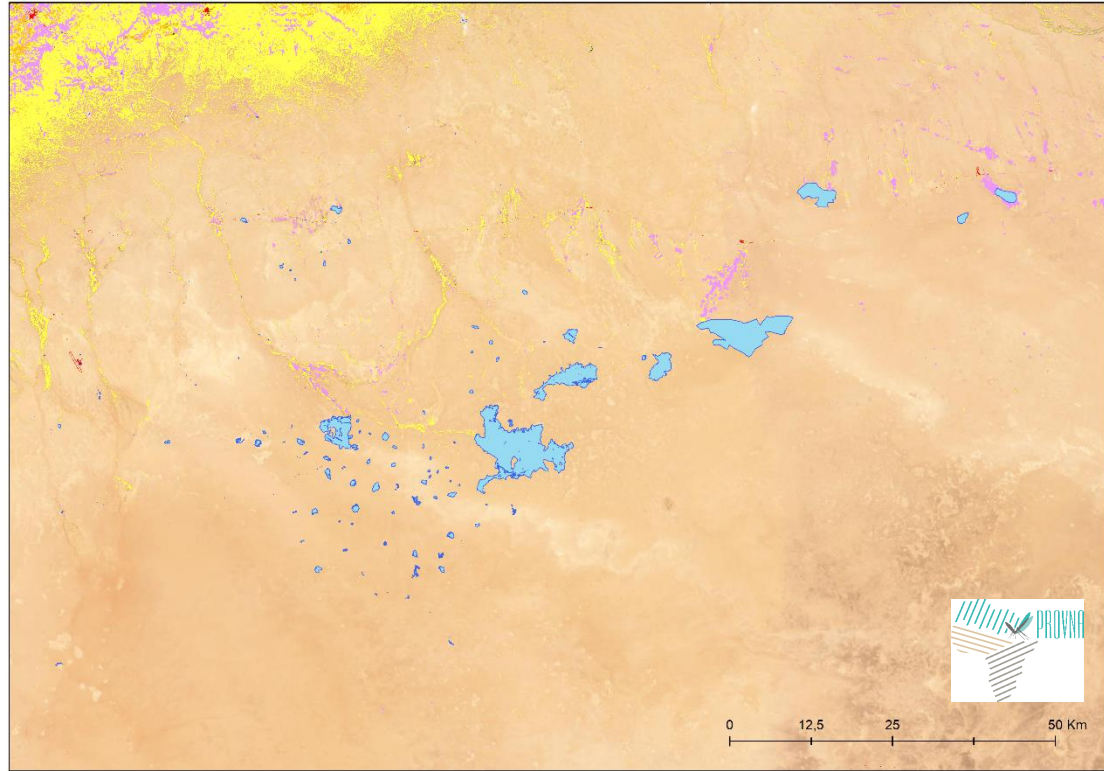


Data from <http://berkeleyearth.org/>

The paper classifies the risks posed by these changes in five major interconnected domains, namely:

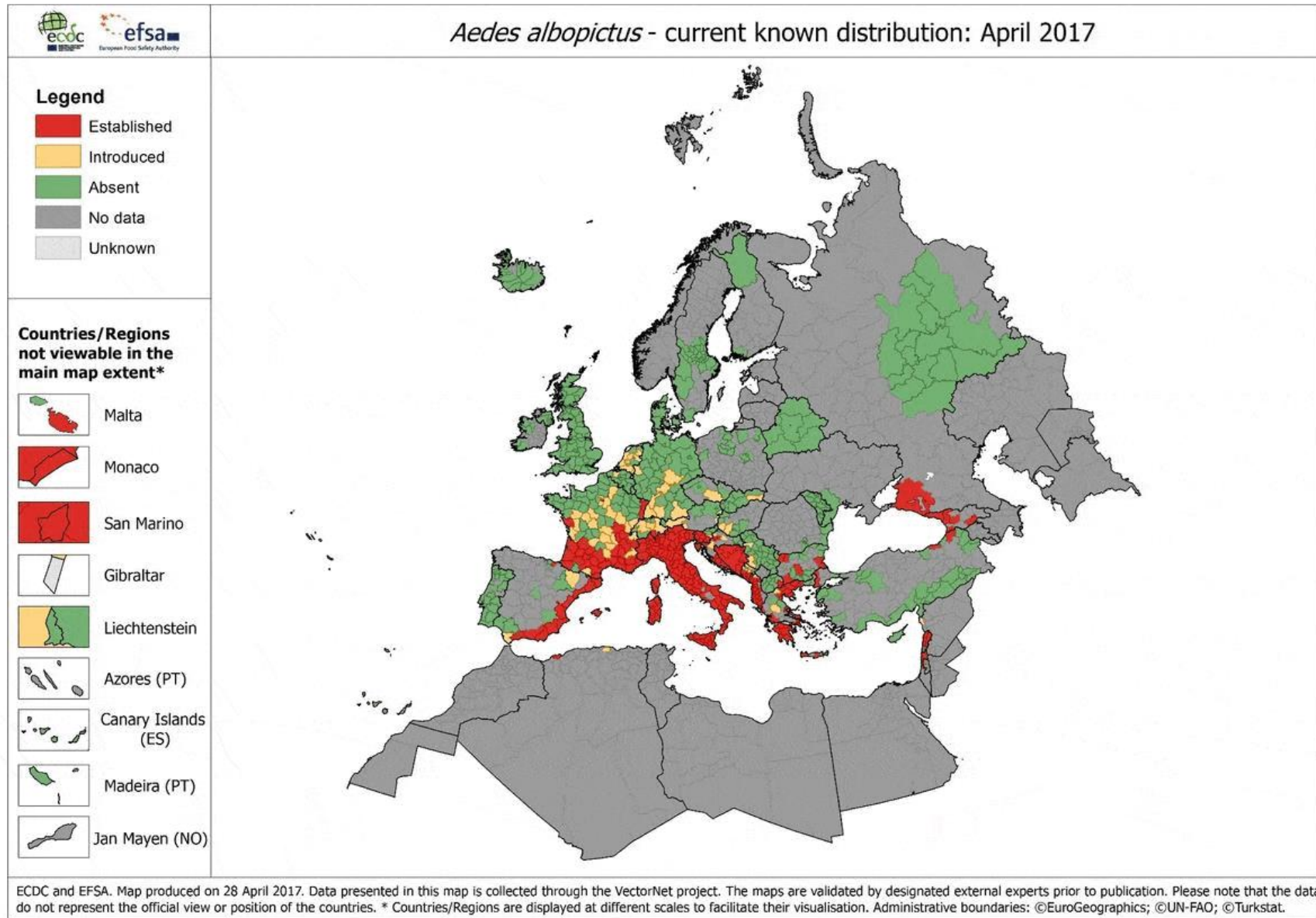
- i. Water resources,
- ii. Natural and managed ecosystems,
- iii. Food safety and security,
- iv. Human health (climate change may influence the emergence of VBDs)
- v. Human security (extreme events and societal conflict)

e.g., Floods in Libya



On 10 September 2023, **Storm Daniel** made landfall in Libya causing severe weather conditions, including strong winds and sudden heavy rainfall affecting several areas in the country. Massive flooding has killed more than 6,000 people, with hundreds more still missing



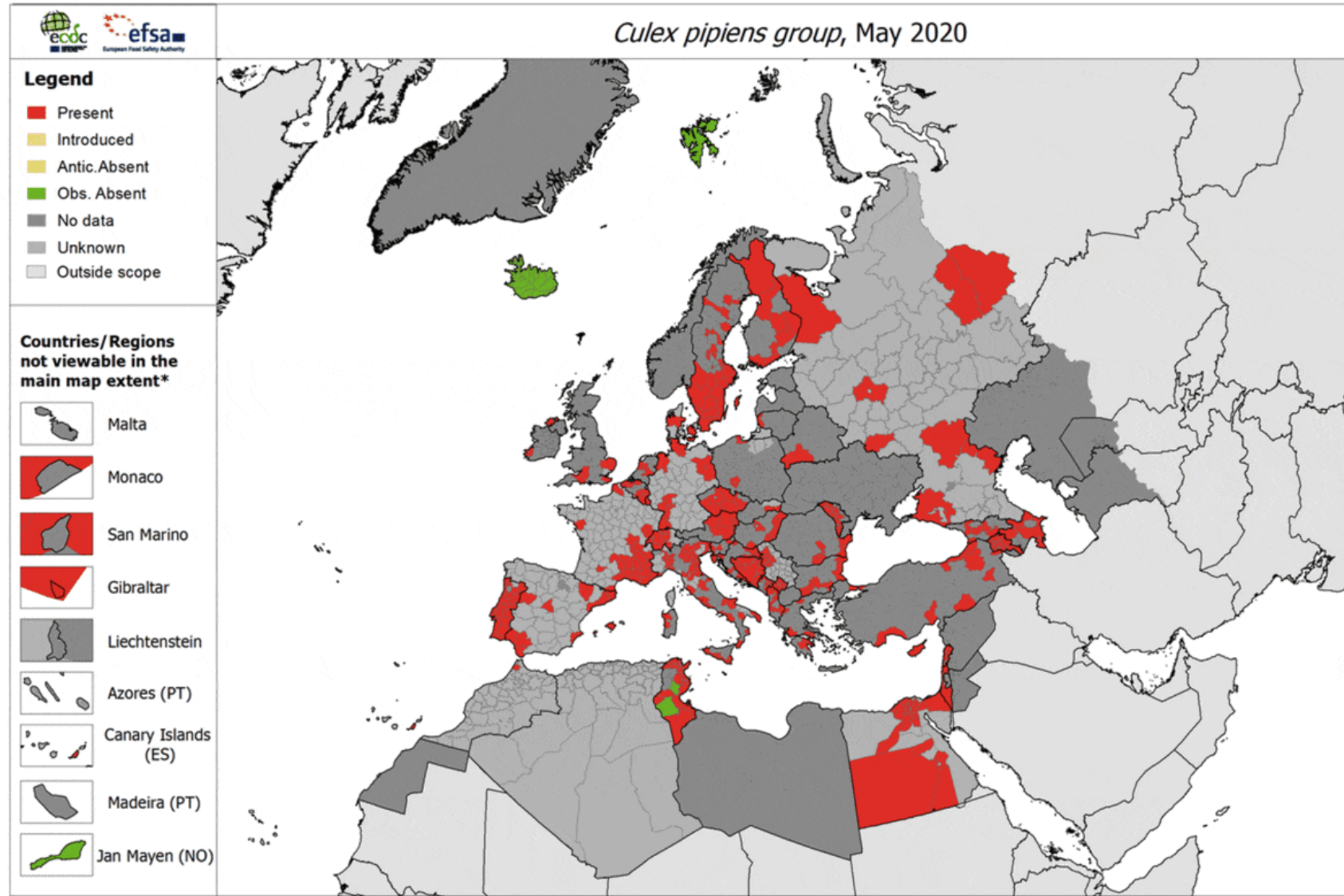


e.g., *Aedes albopictus*

The map shows the current known distribution of *Aedes albopictus* in Europe at 'regional' administrative level, as of February 2023.

European Centre for Disease Prevention and Control and European Food Safety Authority. Mosquito maps [internet]. Stockholm: ECDC; 2023. Available from: <https://ecdc.europa.eu/en/disease-vectors/surveillance-and-disease-data/mosquito-maps>

... Dengue, Zika, Chikungunya, Yellow fever, Filariasis ...



ECDC and EFSA, map produced on 28 May 2020. 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.

e.g., Culex pipiens group

The map shows the current known distribution of the *Culex pipiens* group (*Culex pipiens* and *Culex torrentium*) in Europe at 'regional' administrative level, as of February 2023.

European Centre for Disease Prevention and Control and European Food Safety Authority. Mosquito maps [internet]. Stockholm: ECDC; 2023. Available from: <https://ecdc.europa.eu/en/disease-vectors/surveillance-and-disease-data/mosquito-maps>

... West Nile, Rift Valley, Usutu, *Dirofilaria* spp. ...

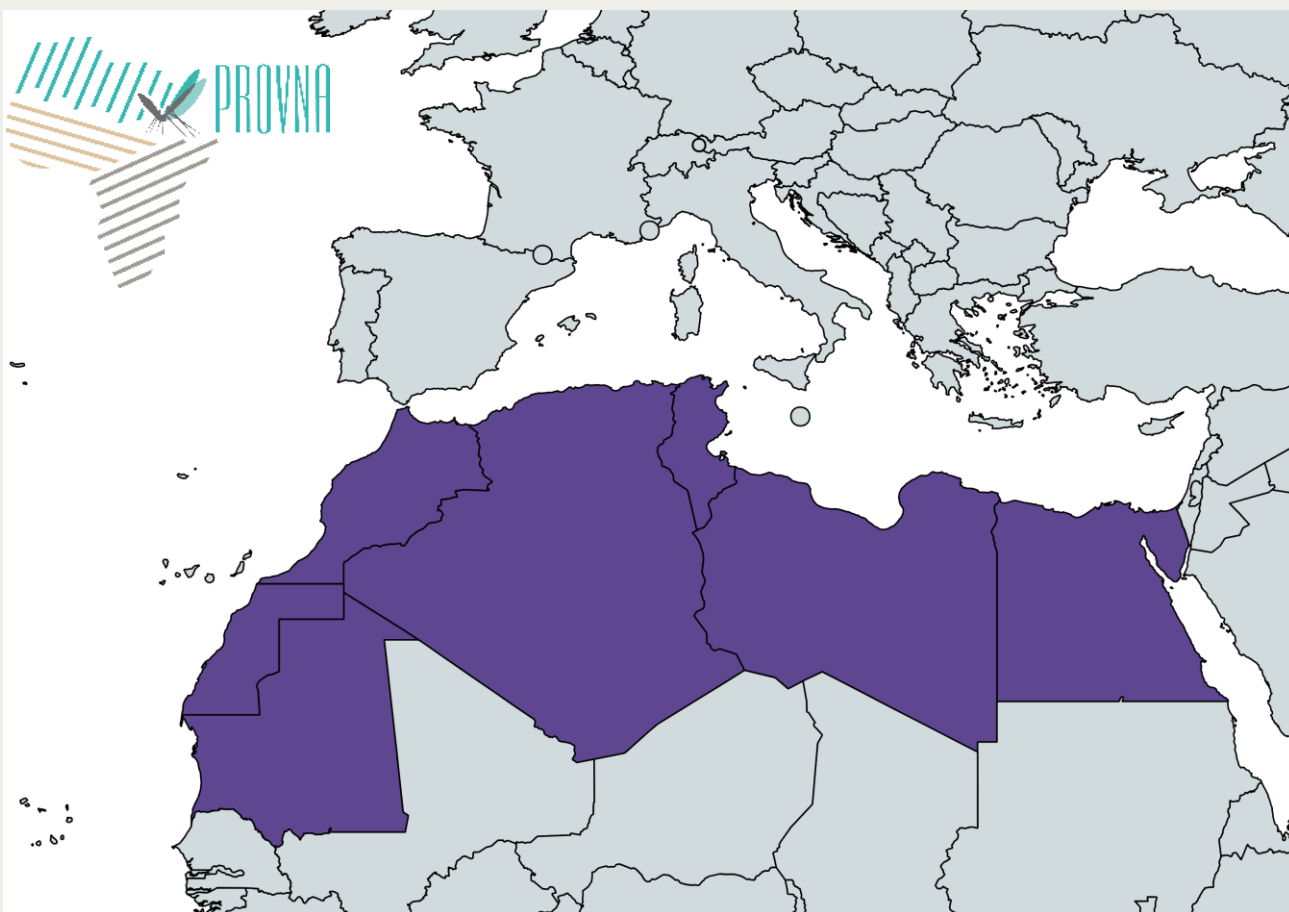
PROVNA

Defining Ecoregions and Prototyping an E0-
based VBDs Surveillance System for North Africa

100 Overview – “phase 1”



ISTITUTO
ZOOPROFILATTICO
SPERIMENTALE
DELL'ABRUZZO
E DEL MOLISE
"G. CAPORALE"

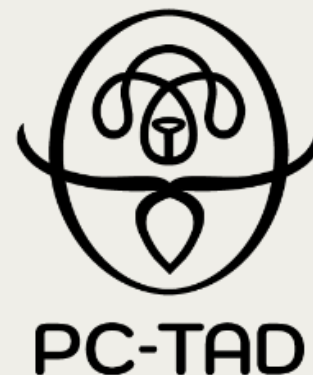


START: 26/04/2022 (proposal 17/02/2022)

END: 31/10/2023 – 18 months

No cost extension: 30/06/2024

Total budget: ≈ 160.000 €



General objective:

Supporting the local competent authorities in North Africa for the identification of specific areas on which to carry out entomological/serological surveillance for vector-borne diseases.

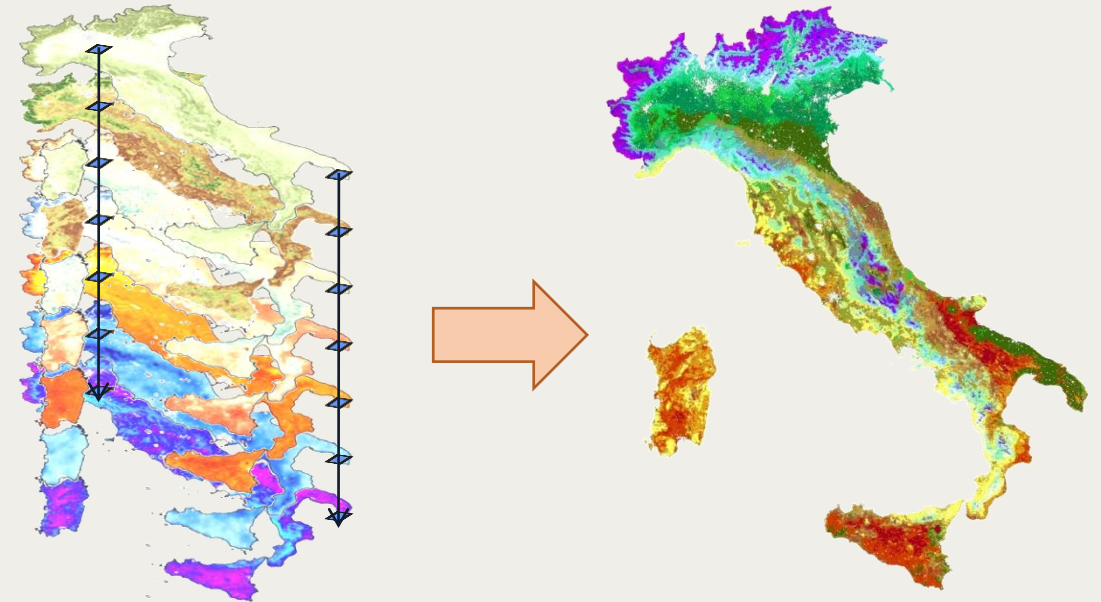
2 Specific objectives:

- To define the “**ecoregions**” of the North African territory, characterized by distinct environmental and climatic factors
- To build a **customised prototype application** to identify areas at risk for VBDs in North Africa region.

RVF

Ecoregionalization

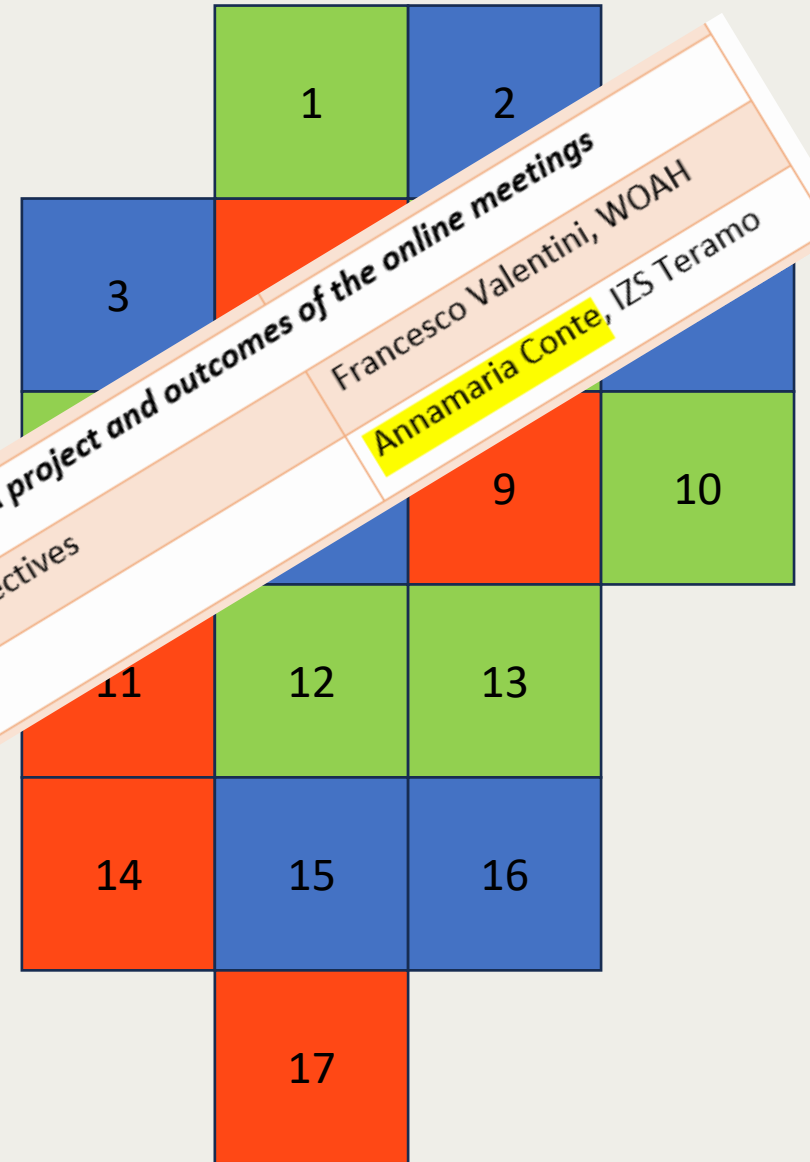
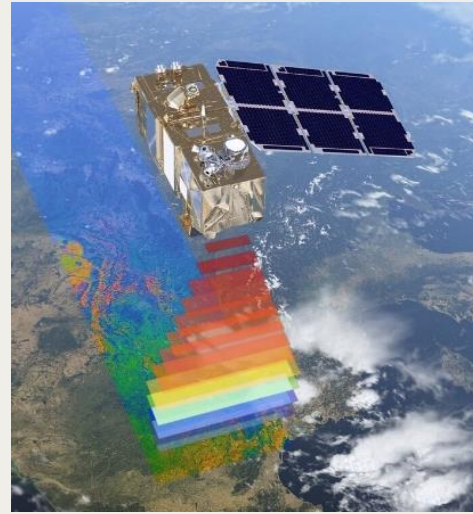
The process through which a territory is classified into similar areas (“**ecoregions**”) according to specific environmental and climatic factors (e.g., elevation, vegetation, rainfall, temperature).



Ippoliti et al, 2019. PLoS ONE 14(7): e0219072



Objective 1 - Eco regionalization



Session 1 - Results of the "phase 1" of the PROVNA project and outcomes of the online meetings

Project presentation and main objectives

Ecoregions results

9:45-10:00

10:00-10:30

Original input row vectors $A_{1,*}, A_{2,*}, A_{3,*}, A_{4,*}, A_{5,*}, \dots, A_{n,*}$

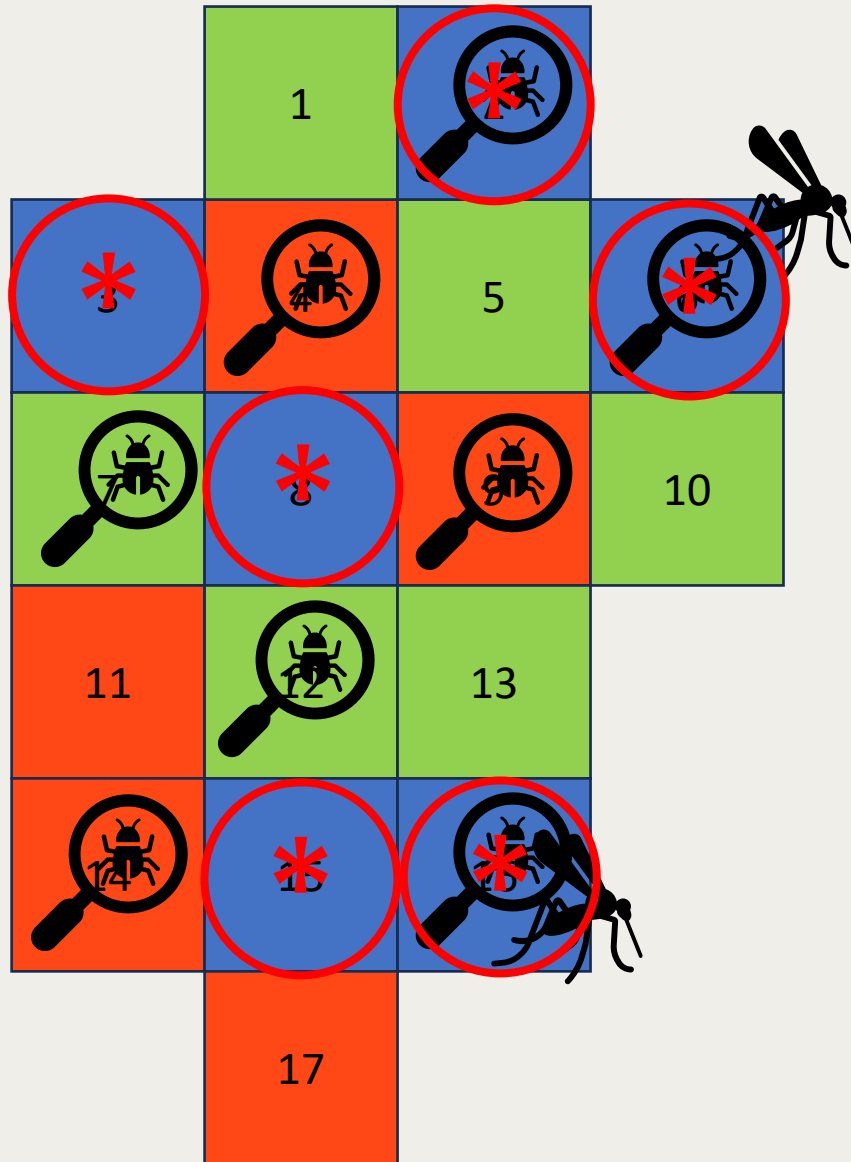
Intermediate vectors $L_{1,j}, L_{2,j}, \dots, L_{j,j}$

Final vectors $A_{n,L1}, \dots, A_{n,Lj}$

Map Nodes

Francesco Valentini, WOAH

Annamaria Conte, IZS Teramo



... on the assumption that similar areas (in space and/or time) are subject to similar diseases (especially vector-borne diseases)...
ecoregion maps can be the first step towards targeted surveillance

In Italy this approach is part of the surveillance process for West Nile

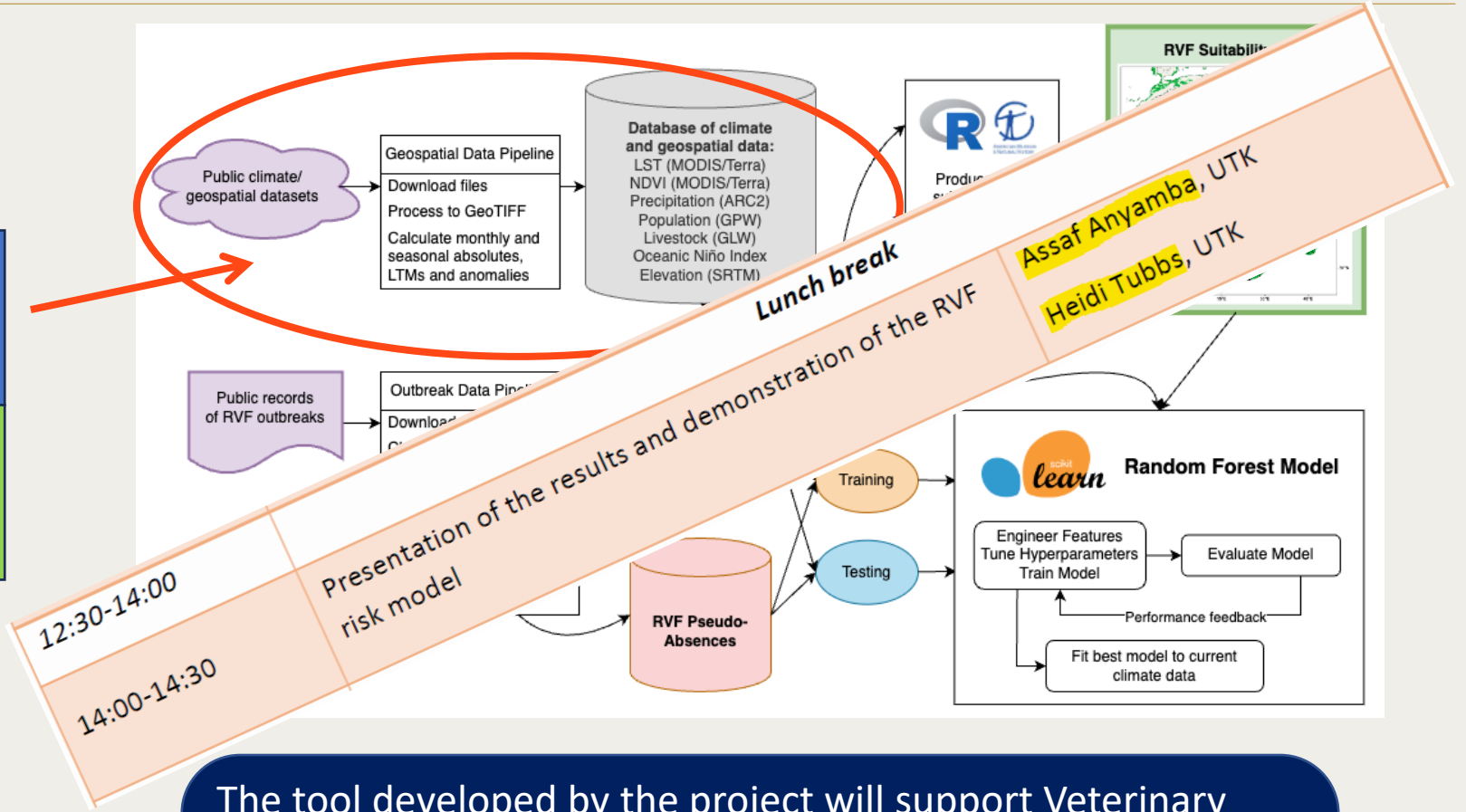
However, ecoregion maps alone

- are NOT a risk model
- are NOT an early detection tool (+ PS. are NOT specific for a disease)



Objective 2 – RVF risk model

	1	2	
3	4	5	6
7	8	9	10
11	12	13	
14	15	16	
	17		



The tool developed by the project will support Veterinary Services in:

- Improving the risk-based targeted surveillance of VBDs (introduction and persistence)
- Optimizing financial and human resources through strategic planning.

Start: 26/04/2022

Phase 1: Definition of the requirements

- Activity 1.1: literature review
- Activity 1.2: definition of Earth-Observation (EO) data
- Activity 1.3: definition of system architecture and statistical analysis

Phase 2: Earth-Observation (EO) data preparation

- Activity 2.1: data retrieval
- Activity 2.2: manipulation and processing of EO data

Phase 3: Statistical model/analysis

- Activity 3.1: multivariate clustering at regional/multi-country level, at a multiresolution scale
- Activity 3.2: multivariate seasonal clustering at regional/multi-country level, at a multiresolution scale

Phase 4: Ecoregion map evaluation/validation/application and prototype development

- Activity 4.1: entomological data/risk areas and ecoregions comparison
- Activity 4.2: Web Based Prototype Application Development

Phase 5: Communication and dissemination

End: 31/10/2023 → 30/06/2024





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Lisbon, Portugal
2-3 July 2024

AGENDA of the meeting

DAY 1		
8:30-9:00	Registration of participants	
9:00-9:30	Welcoming remarks	Susana Pombo, CVO of Portugal Rachid Bouguedour, WOA
9:30-9:45	Presentation of the OH Joint Plan of Action and where the PROVNA project fits into its implementation	Chadia Wannou, WOA
Session 1 - Results of the "phase 1" of the PROVNA project and outcomes of the online meetings		
9:45-10:00	Project presentation and main objectives	Francesco Valentini, WOA
10:00-10:30	Ecoregions results	Annamaria Conte, IZS Teramo
10:30-11:00	Coffee Break and Group photo	
11:00-11:30	Outcomes of the ad-hoc bilateral online meetings	Laura Amato, IZS Teramo
11:30-12:30	<i>Discussion</i>	
12:30-14:00	Lunch break	
14:00-14:30	Presentation of the results and demonstration of the RVF risk model	Assaf Anyamba, UTK Heidi Tubbs, UTK
14:30-15:00	<i>Discussion</i>	
Session 2 - Presentation of the proposal for the "phase 2" of PROVNA project for discussion and approval		
15:00-15:30	PROVNA Phase 2 project proposal presentation	Francesco Valentini, WOA Laura Amato, IZS Teramo
15:30-16:00	Coffee break	
16:00-17:00	Working groups –SWOT analysis of the phase 2 project proposal	Facilitators: WOA, IZS Teramo
17:00-17:30	Plenary discussion	Facilitators: WOA, IZS Teramo
17:30-18:00	Final recommendations Wrap up of the day – closing remarks	WOA
After 19:30	WOAH dinner (Vestigius Restaurant & Bar)	



DAY 2		
Session 3 - Foresight methods to explore challenges and opportunities for Animal Health Surveillance in REMESA network		
9:00-9:30	Opening Session	Rachid Bouguedour, WOA Tianna Brand, WOA and Jordi Serra del Pino, Center for Postnormal Policy and Futures Studies
9:30-10:00	Reflecting on where we are and what is on the horizon <ul style="list-style-type: none"> Timeline of REMESA - Discussion on the significant events that have influenced disease surveillance and control for REMESA until today Beyond today, what is on the horizon that will influence collaboration and actions for REMESA – social, technological, economic, environmental, political drivers of change 	Jordi and Tianna (facilitators)
10:00 – 11:00	Megatrends, what are they and why are they useful? <ul style="list-style-type: none"> Introduction to 'mega-trends' and discussion on implications on policies, actions, collaboration on animal health surveillance. 	Facilitators
11:00-11:15	Coffee Break	
11:15 – 11:25	Megatrends, what are they and why are they useful? <ul style="list-style-type: none"> Plenary discussion 	Facilitators and participants
11:25-12:15 45 minutes	Prioritising trends <ul style="list-style-type: none"> Introduction to the prioritisation matrix to determine what is important and uncertain for REMESA 	Facilitators
12:00-12:30	Plenary <ul style="list-style-type: none"> Open sharing from the groups on the prioritisation exercise 	Facilitators and participants
12:30-13:00	Reflections - outcomes and way forward Closing remarks	Facilitators and participants
13:00-14:00	Lunch break	

**30
APRIL**

Preliminary Webinar – PROVNA project

Early presentations on the status of VBDs surveillance and control in North Africa

2nd Preliminary webinar

30/04/2024

SESSION 2

“PROVNA 2” project proposal presentation

Dr Francesco Valentini

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Organización
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Animal

26-30 May 2024
Maison de la Chimie
Paris, France





World Organisation
for Animal Health
Founded as OIE



ISTITUTO
ZOOPROFILATTICO
SPERIMENTALE
DELL'ABRUZZO
E DEL MOLISE
"G. CAPORALE"

START: 01/07/2024

END: 31/12/2025 – 18 months

No cost extension: 30/06/2024

Total budget: ≈ 400.000 €



General objective:

To establish a risk-based surveillance system across North Africa, using the eco-regionalization method, to monitor the emergence and spread of key animal and zoonotic diseases transmitted by mosquitoes.



Specific objectives:

- To **strengthen the capacity** of National Veterinary Authorities in North Africa for monitoring mosquito-borne diseases.
- To **develop standardised protocols** for the **diagnosis** and **surveillance** at national level of mosquito-borne diseases in North African countries.
- To **promote the use of a risk-based approach** in the surveillance of mosquito-borne diseases in North Africa.
- To **provide** the National Veterinary Authorities of North African countries with **decision-support tools** capable of integrating satellite data characterising the various eco-regions with data collected through in- field surveillance activities.

Thank you

شكرا

Merci beaucoup

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