

The importance of preparedness

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Context

The Mediterranean basin, other geographical EU borders and the trade barriers no longer represent an effective barrier against the introduction of some viral diseases, especially in case of vector-borne diseases (e.g. BTV, LSD, RVF...).

The increased permeability of the Sahara Desert allows pathogens to arrive and spread across North African countries.

The West Eurasia and Middle East corridor is a hotspot for movement of TADs towards Europe



Climate change



Recent accelerated climate change has exacerbated existing environmental problems in the Mediterranean Basin that are caused by the combination of changes in land use, increasing pollution and declining biodiversity.



nature
climate change

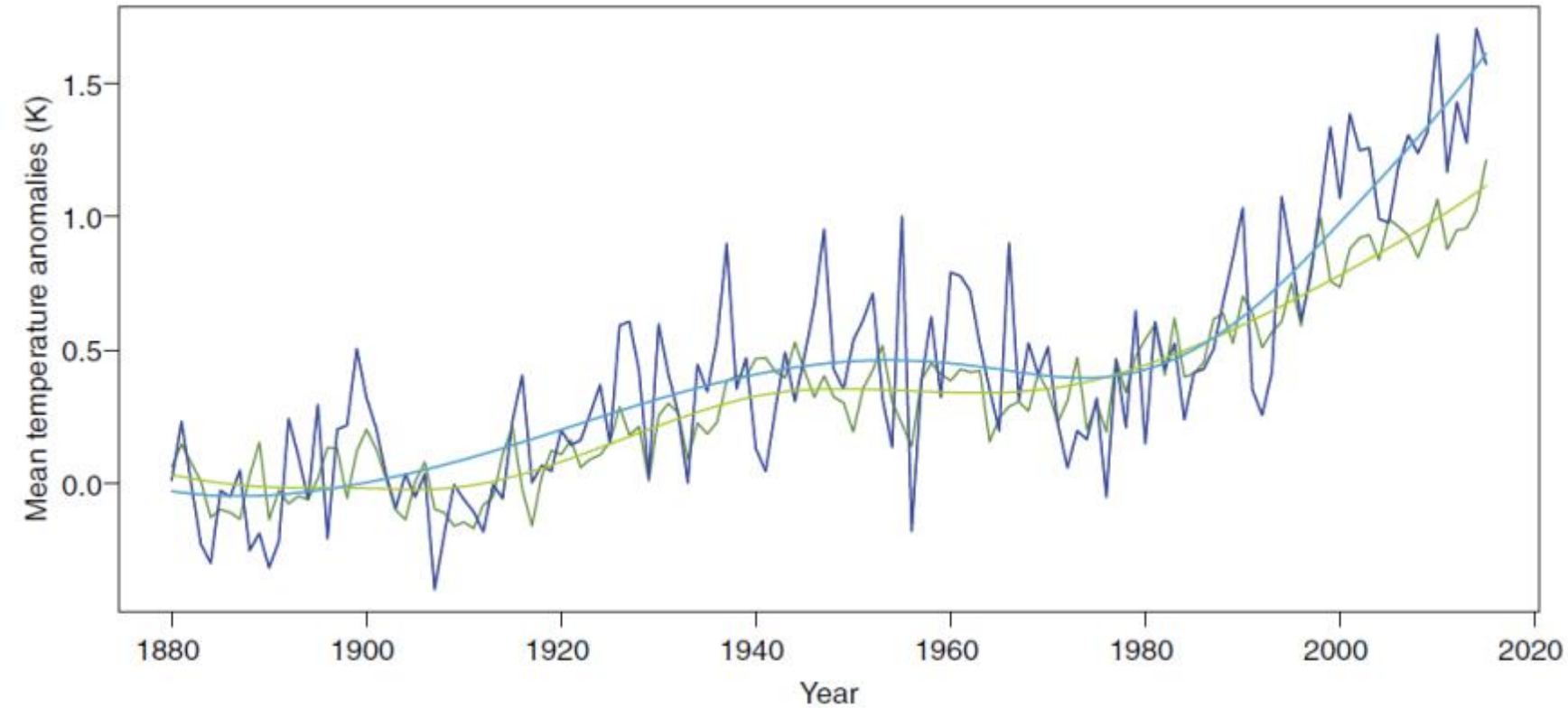
REVIEW ARTICLE

<https://doi.org/10.1038/s41558-018-0299-2>

Climate change and interconnected risks to sustainable development in the Mediterranean

Wolfgang Cramer^{1*}, Joël Guiot², Marianela 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

Climate change



Basin-wide, annual mean temperatures are **now 1.4 °C above late-nineteenth-century** levels, particularly during the summer months. Heat waves now occur more frequently, and the frequency and intensity of droughts have increased since 1950. For each of the most recent decades, **the surface of the Mediterranean Sea has warmed by around 0.4 °C**

Climate change

- ❑ First isolated detection of *Aedes albopictus* in North Africa in Algeria in 2010
- ❑ Today abundant presence in the region (*eggs, larvae, pupae, adults*)

....dengue fever,
Chikungunya fever,
Usutu virus, Zika
virus.....

ALGÉRIE 23/07/2018 12:15
Le moustique tigre signale dans quatre wilayas

Le moustique tigre menace les zones urbaines en Algérie



Tunisie – Le moustique tigre, vecteur de plusieurs maladies, s'invite en Tunisie



Rift Valley Fever



Rift Valley Fever Distribution Map



Transboundary and Emerging Diseases

Original Article

Identifying Areas Suitable for the Occurrence of Rift Valley Fever in North Africa: Implications for Surveillance

E. Arsevska, J. Hellal, S. Mejri, S. Hammami, P. Marianneau, D. Calavas, V. Hénau

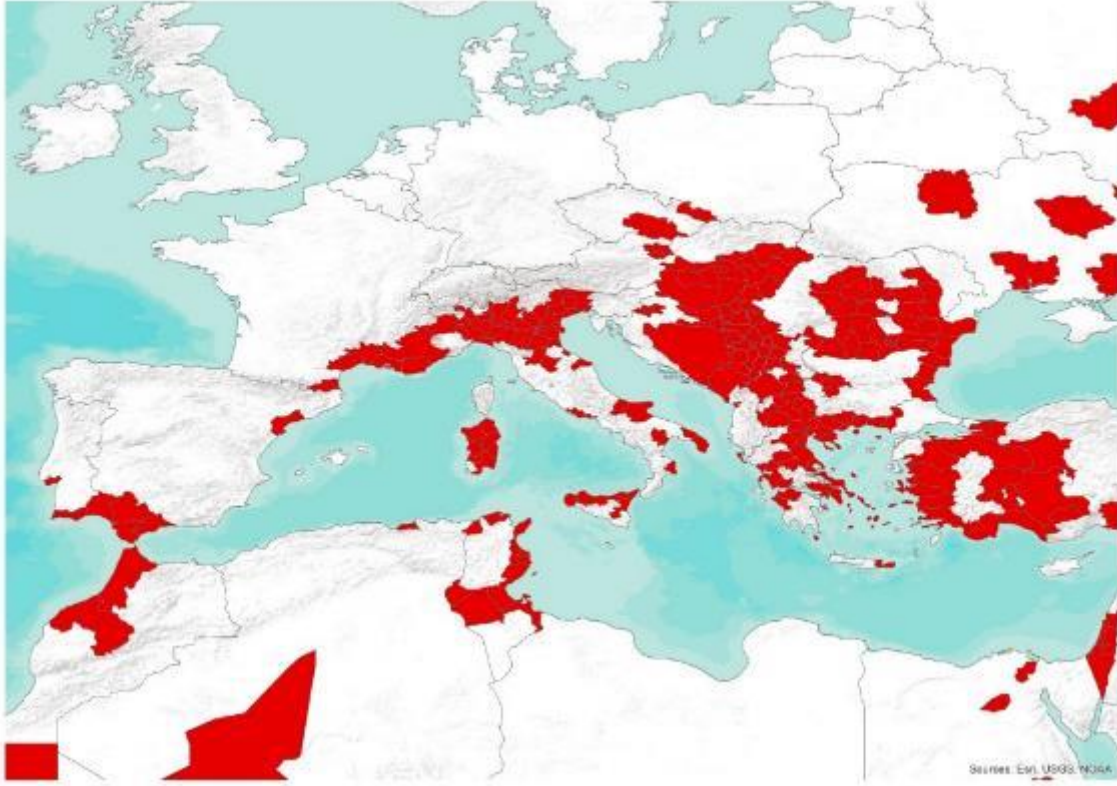
Published: 06 February 2015 | <https://doi.org/10.1111/tbed.12331> | Cited by: 2

Virus circulation/reactivity in the region

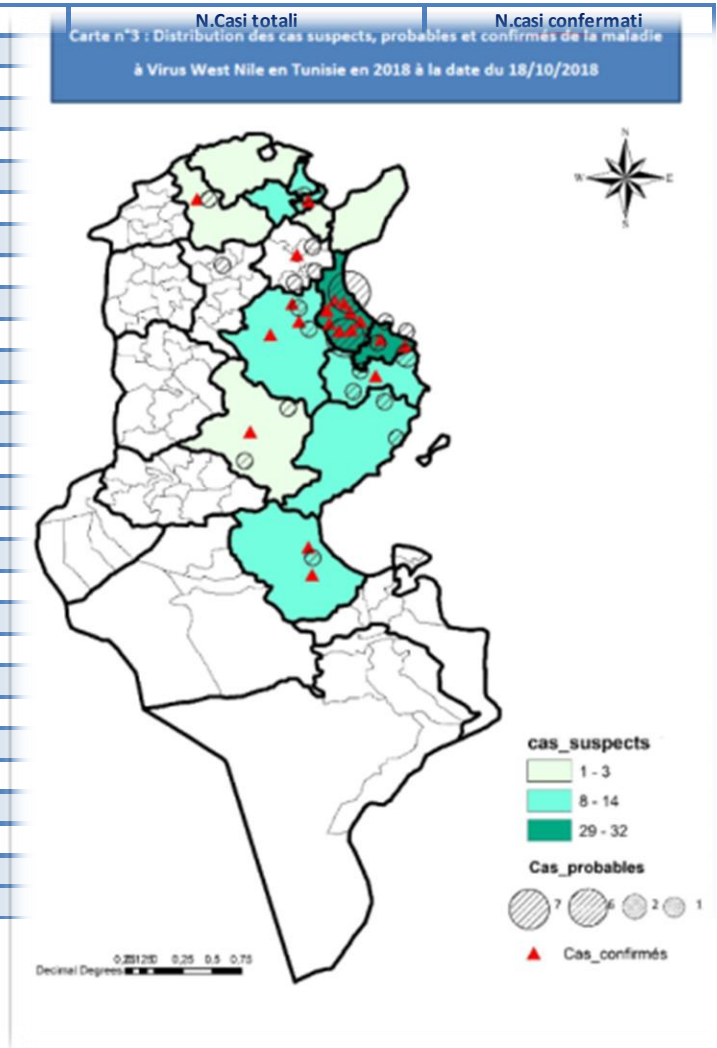
- ❑ In southern Morocco, a serological survey conducted in 2009 showed a 15% prevalence in camels nearby regions of Mauritania, with regular illegal transboundary movements of this countries to Morocco (El-Harrak et al., 2011)
- ❑ Samples taken from the Sahara in 2008 showed a seroprevalence ranging from 1 to 10% in goats, sheep and camels (Di Nardo et al., 2014)
- ❑ A serological survey (A. Bosworth et al., 2015) in humans conducted during the summer of 2014 in regions in Tunisia showing that:
 - ✓ 8.3% of unexplained febrile patients had IgM (indicating recent infection)
 - ✓ 7.8% of sera collected from slaughterhouse workers (healthy status) had IgG against this virus

West Nile Disease

2008-2017

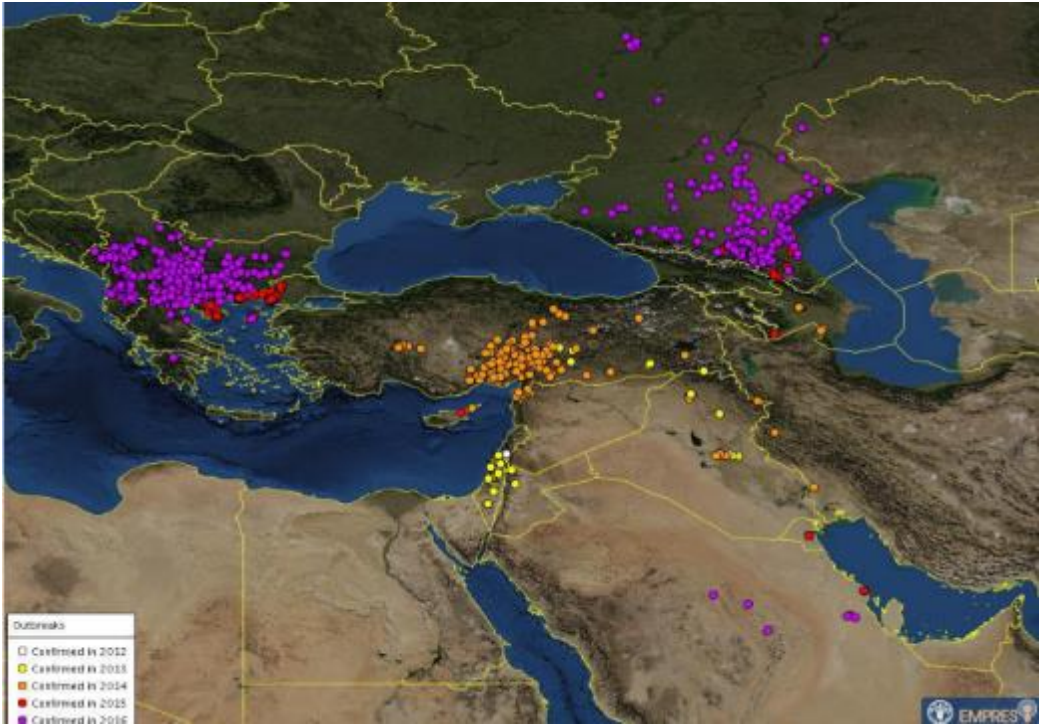


STATO	SPECIE
GRECIA	Uomo
	Equidi
UNGHERIA	Uomo
	Equidi
ITALIA	Uomo
	Equidi
ROMANIA	Uomo
	Equidi
SERBIA	Uomo
CROAZIA	Uomo
KOSOVO	Uomo
FRANCIA	Uomo
	Equidi
AUSTRIA	Uomo
	Equidi
ISRAELE	Uomo
BULGARIA	Uomo
SLOVENIA	Equidi
SLOVENIA	Uomo
	Equidi
GERMANIA	Equidi
SPAGNA	Equidi
TUNISIA	Uomo
REPUBBLICA CECA	Uomo
TURCHIA	Equidi
CIPRO	Uomo
PORTOGALLO	Equidi
Totale Uomo	
Totale Equidi	



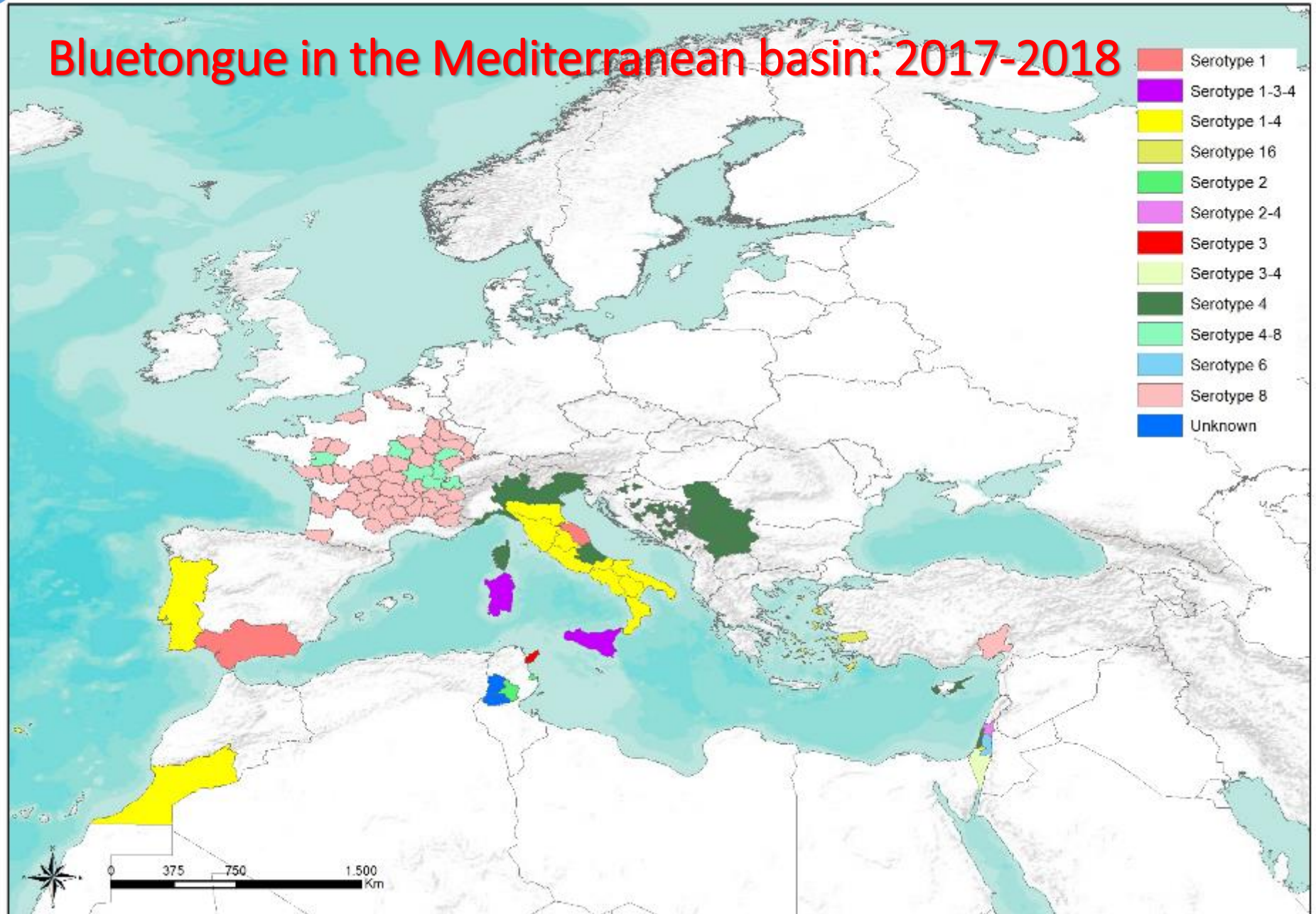
Observatoire National des Maladies Nouvelles et Emergentes (Tunisie)
 Bulletin de surveillance n°2 West Nile 2018 (23-10-2018)

EX: GLOBAL EXPANSION OF LSD

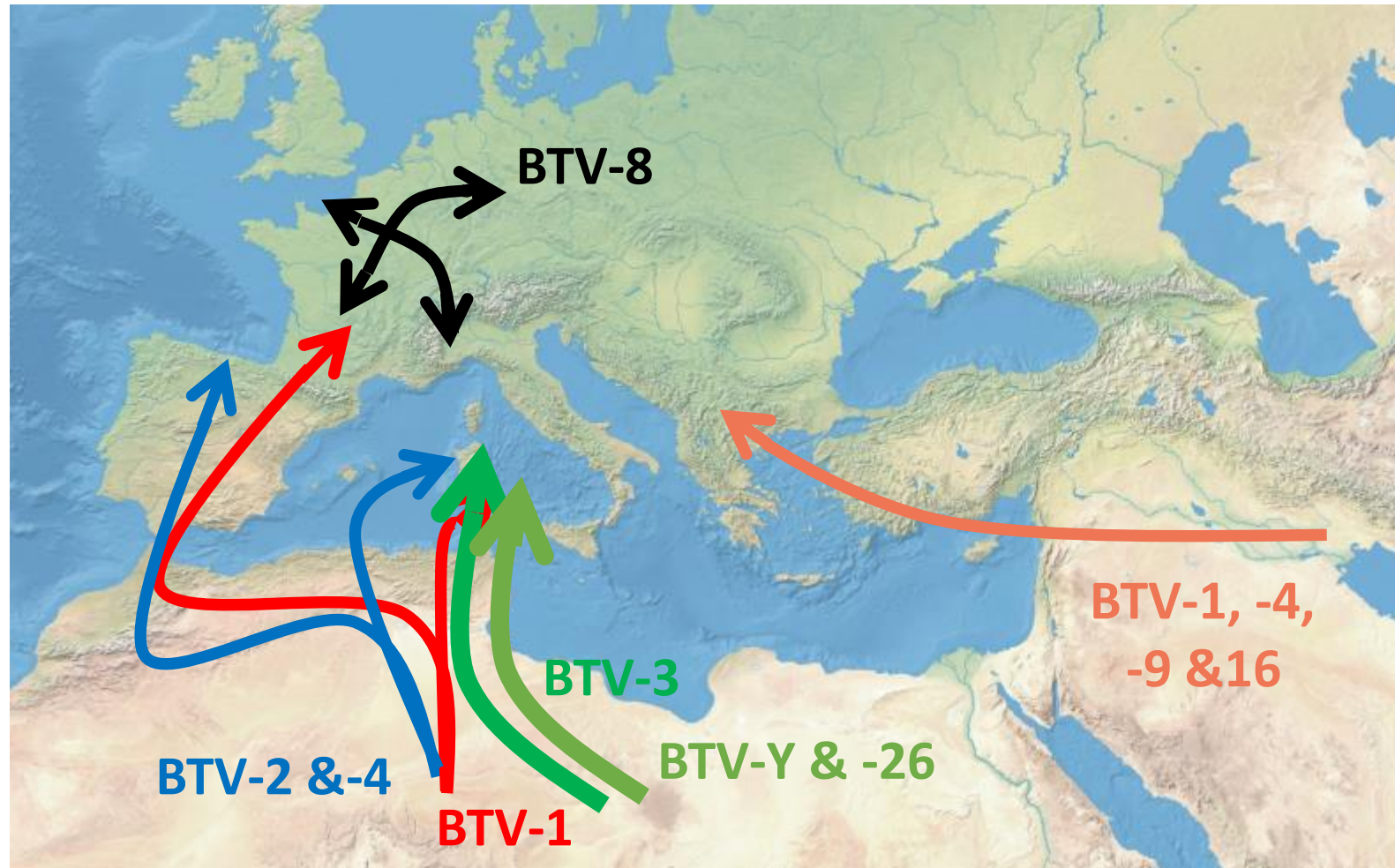


Bluetongue

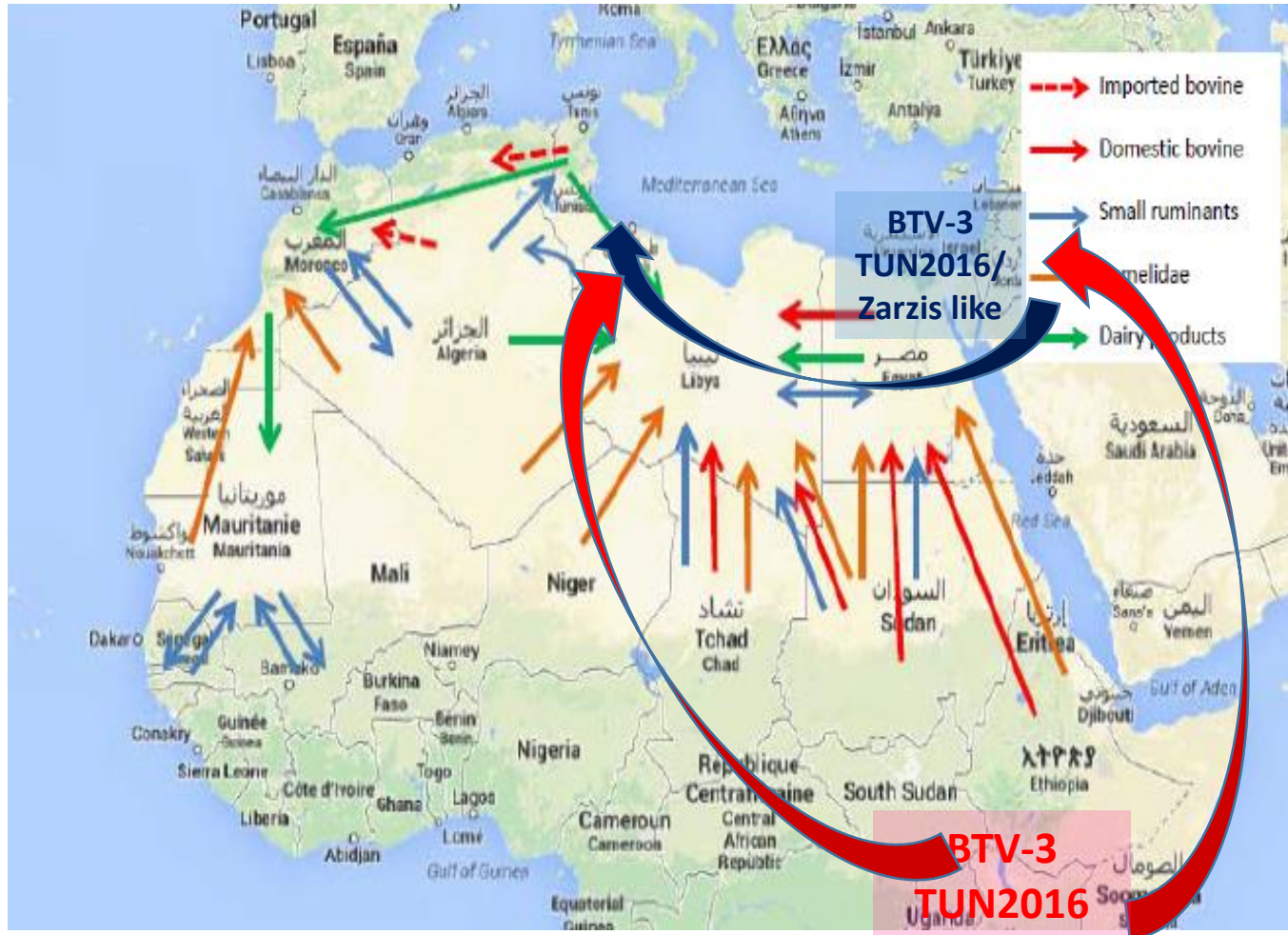
Bluetongue in the Mediterranean basin: 2017-2018



BTV incursions in the Mediterranean region



What is known



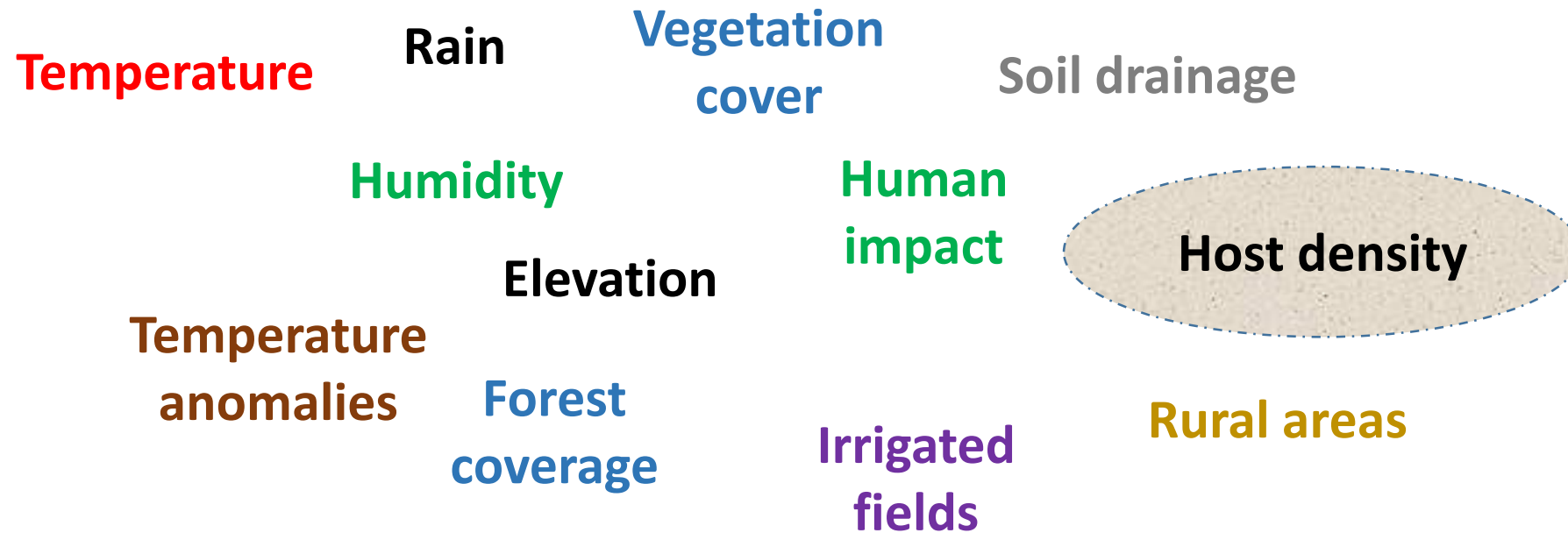
Animal trade in Africa
Ripani (OIE) et al

Bluetongue distribution
Savini (IZSAM)

Vector-borne diseases

Transmission depends on the co-occurrence - in space and time - of host populations and competent vectors.

Climate and environment have a strong connection on disease distribution because they influence the **transmission cycle** vector-host-pathogen and the **distribution and abundance of vectors**.

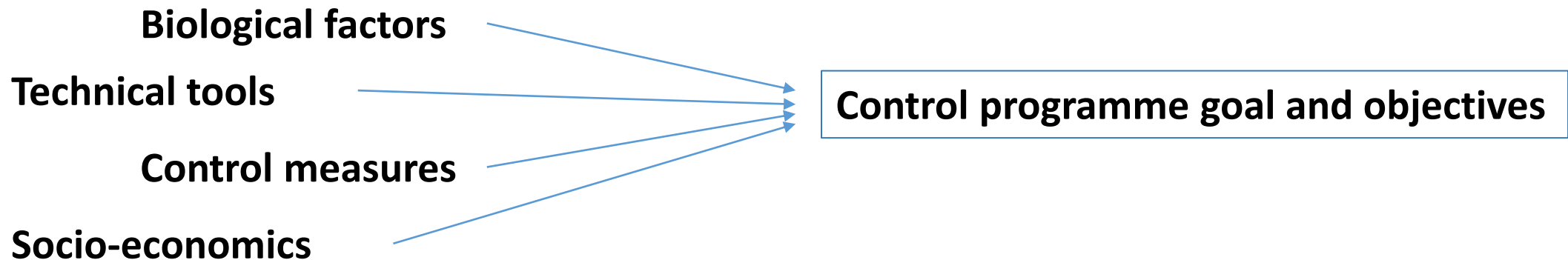


Control vs Eradication

Importance of economic assessment considering: **effectiveness, feasibility of implementation, costs and benefits.**

In addition to animal health, consideration should be given to **public health, food safety, food security, biodiversity** and **socioeconomic aspects.**

Guidelines for Animal Disease Control - OIE

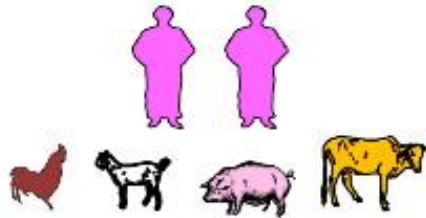


Control vs Eradication

- The programme should take into consideration the distribution of costs and benefits among different stakeholders and understand the factors limiting stakeholder participation in programme activities.

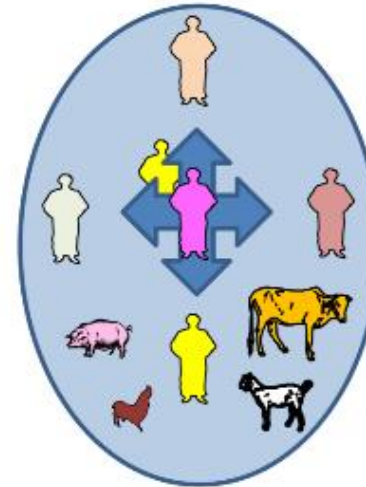
Traditional approach...

"We are the Veterinary Service and our job is to control disease"



→ ... or other such **"commodity-focused"** mandates e.g. "increase productivity"; "promote exports"

An alternative approach.....



"We are the Veterinary Service and our job is to satisfy the expectations of our stakeholders"



→ ... including animals and animal welfare

- Risk reduction for Europe starts in the neighbouring regions

Maltese presidency 2017

Planning for emergency preparedness

Aim and objectives

Collect information on the **status** of emergency preparedness in EU, recognise **best practices** and **common training needs**, identify opportunities for **sharing expertise and tools**, and **prioritize common actions for improvement**.

Through questionnaire, workshop (e.g. CVO and Fesass), meetings were focused on:

- Risk assessment
- Awareness of stakeholders
- Disease spread modelling
- Mutual assistance/partnership
- Vaccine/Antigen and diagnostic banks
- Training
- Networking
- Self- Assessment and simulation exercises

The image shows three pages of a questionnaire form. The first page is the title page, the second page contains the main questions, and the third page contains the response options. The form is titled 'EUROPEAN COMMISSION' and 'ANEXO I'.

Page 1: Title page with 'EUROPEAN COMMISSION' and 'ANEXO I'.

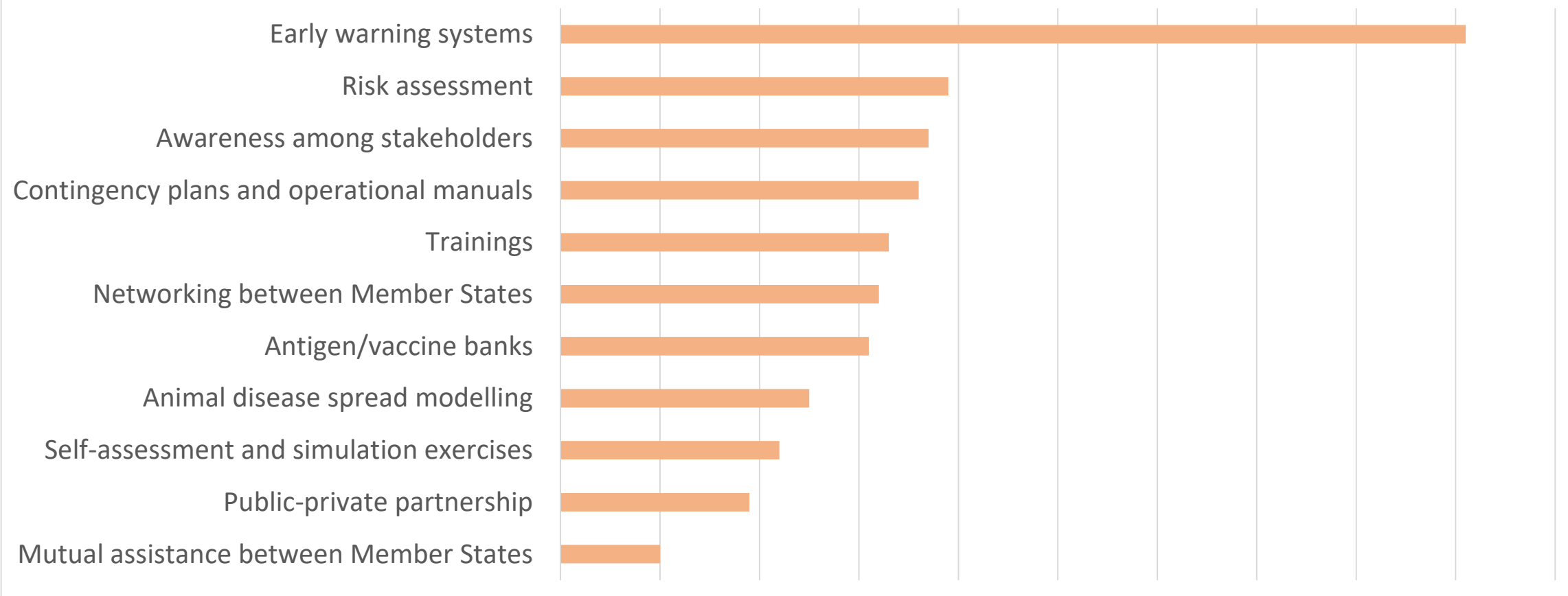
Page 2: Main questions. Question 1 asks about the existence of a national emergency plan. Question 2 asks about the effectiveness of the plan. Question 3 asks about the availability of resources. Question 4 asks about the availability of diagnostic and vaccine banks. Question 5 asks about the availability of training and simulation exercises.

Page 3: Response options for each question. Question 1 has options 'Yes', 'No', and 'Not applicable'. Question 2 has options 'Yes', 'No', and 'Not applicable'. Question 3 has options 'Yes', 'No', and 'Not applicable'. Question 4 has options 'Yes', 'No', and 'Not applicable'. Question 5 has options 'Yes', 'No', and 'Not applicable'.

Suggestions for a common way forward on emergency preparedness and identify the priority actions to improve Early Warning System

Pairwise ranking exercise (28 Member States)

Priority areas for improvement



Early Warning System

- Development of a **strategy on awareness** (EC, Gf-TADS, FAO, OIE) with common key messages, open exchange of educational material on disease detection and reporting, clear responsibilities
- Regular exchange of **risk information** (presence and impact of TADs) with the involvement of stakeholders
- Establishment of **regional risk based surveillance programmes** with active support of stakeholders
- Development of **dedicated training initiatives** (e.g. real time training, e-learning courses) with involvement of private sectors



Importance to collect risk information in EU and neighbouring areas more at risk

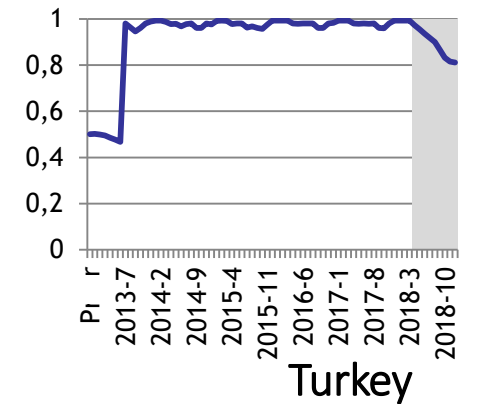
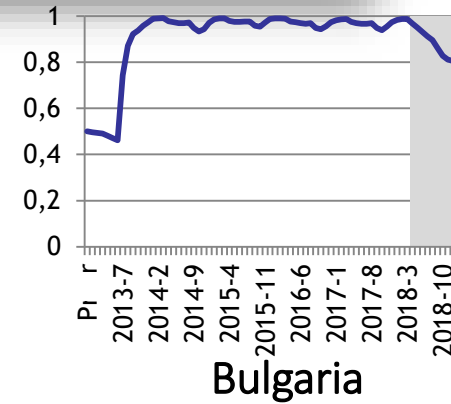
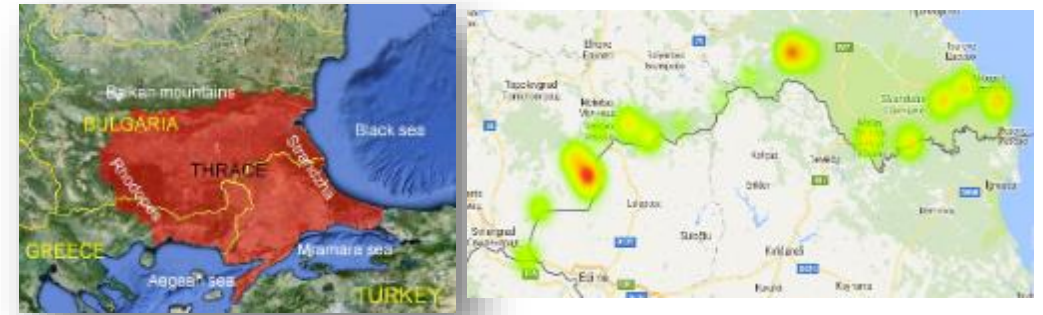
THRACE programme for FMD and other TADs (PPR, SGP LSD)

Objectives of surveillance:

- increase confidence of freedom
- increase the likelihood of early detection of incursion

Activities

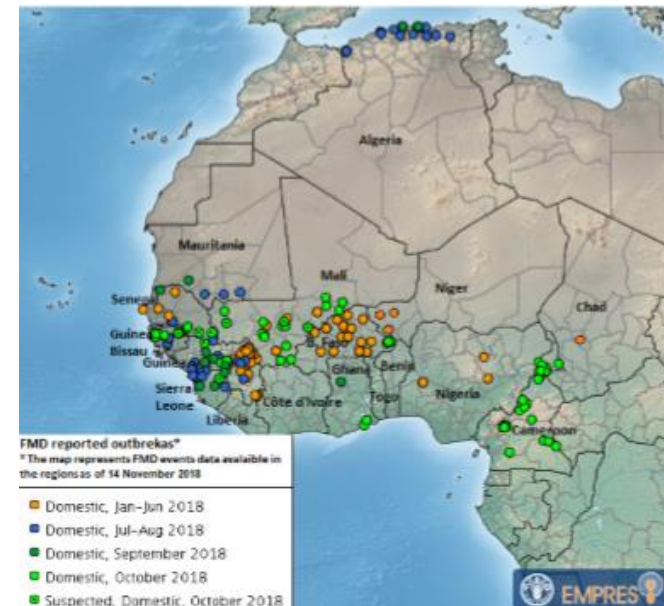
- Clinical examinations on a monthly basis
- Serological surveillance every 3 months



FMD in West and North Africa

North Africa (Algeria, Mauritania) and most countries in West Africa have reported an **epizootic of FMD in the recent three months**, with closely related strains of serotype O (EA-3 topotype)

Sufficient attention should be given to deliver on the initiatives on **livestock prices, movements and risk mapping** in these areas.



Risk assessment

- **Sharing** risk information (e.g. surveillance results, impact analysis)
- Defining a **common set of information** to be shared between MSs in addition to that required by ADNS
- Improving **cross border surveillance** and regular sharing of results
- Development of **common tool** for assessing the risk using different data (e.g. Traces, Adns, Wahis). Furthermore, encourage EFSA to continue to provide timely and relevant reports of risk assessment



Importance to establish mechanism for exchanging of information not only within EU



In 2009, the chief veterinary officers of 10 Western Mediterranean countries (Algeria, Egypt, France, Italy, Libya, Morocco, Mauritania, Portugal, Spain and Tunisia) created a common framework for work and cooperation, the Mediterranean Animal Health Network (***REseau MEditerranéen de Santé Animale – REMESA***). In 2013, the chief veterinary officers of Malta, Chypre and Greece joined the Network. Jordan and Lebanon joined the Network in 2014, .

The specific objective of REMESA is the improvement of prevention and control against the major transboundary animal diseases and zoonoses through the strengthening of the national and regional resources and capacities, the harmonization and coordination of surveillance and control activities.

Awareness – contingency plans – training – vaccine - models

- AW: Improve trust and participation of stakeholders through regular meetings/trainings and clear and complete tailored messages
- CP: Allow a clear understanding of procedures by private and public sectors through exercises and other initiatives
- CP: Proper budget allocated for simulation exercises
- TR: Support e-learning, tailored courses, study visits with participation of public and private vets and include EP in the CPD scheme
- V: improve the risk based approach for availability of vaccines in banks and their availability for Ms or neighbouring countries
- M: development of spread models flexible for application in all MSs

Key messages



Early warning



Risk assessment



Control according to risk



Contingency and test preparedness



Regular training



Awareness