Epidemic Intelligence, Forecasting and Foresight in Animal Health to Improve Members' Preparedness



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Data Integration and Analytics Department (DIAD)

32nd Conference of the WOAH Commission for Europe
Riga, Latvia
21 September 2026

World Organisation for Animal Health
Organisation mondiale de la santé animale
Organización Mundial de Sanidad Animal

Why improving animal health monitoring matters



Why improving animal health monitoring matters

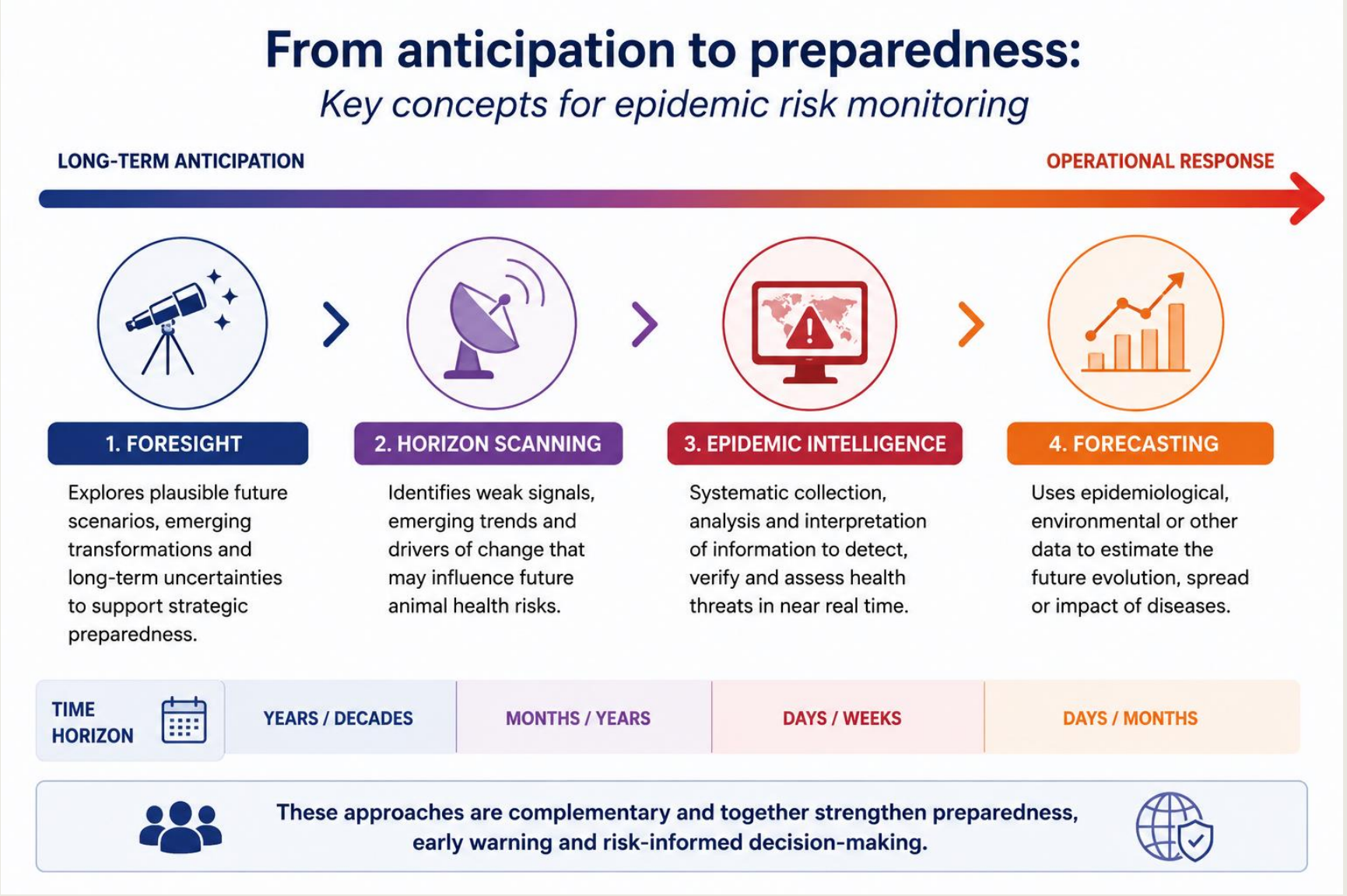
Clarifying terminology

Foresight

Epidemic intelligence

Horizon scanning

Forecasting



Why improving animal health monitoring matters



Building the World Organisation for Animal Health (WOAH) framework for Epidemic Intelligence

Document for internal purposes (WOAH only)

This work was made possible thanks to the contribution of the following departments, technical units, Regional and Sub-Regional Representations

Coordination

Data Integration Department – Paolo Tizzani (lead), Lina Awada, Laure Weber-Vintzel

WOAH Epidemic Intelligence Core Group

Antimicrobial Resistance and Veterinary Products Department – Andrés García Campos and Delfy Góchez

Foresight Advisor – Tianna Brand

Preparedness and Resilience Department – Claire Cayol and Madison Wimmers

Science Department – Mariana Delgado

World Animal Health Information and Analysis Department – Itlala Gizo and Colin Basler

WOAH Epidemic Intelligence Extended Group

GF-TADs Coordinator – Alexandre Fediaevsky

One Health Coordinator – Chadia Wannous

Regional Representation for the Americas – Luis Barcos and Martin Minassian

Regional Representation for Africa – Serge Eugene Mpouam

Regional Representation for Asia and the Pacific – Jacqueline Lusat and Shohei Urushizaki

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Sub-Regional Representation in Brussels – Denise Dubois

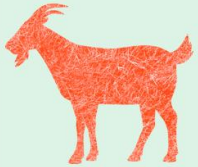


Foresight, horizon scanning and epidemic intelligence to improve risk monitoring and preparedness



Date: Fri 22 May,
Hour: 12h45 -13h45
Venue: Dragonnier 4
Sandwiches provided
Event in **English**







The aim of the side event is to
i) clarify key concepts in epidemic intelligence, horizon scanning, forecasting,
ii) discuss available tools and approaches, and
iii) highlight how WOAH and its partners and network of experts can support its members

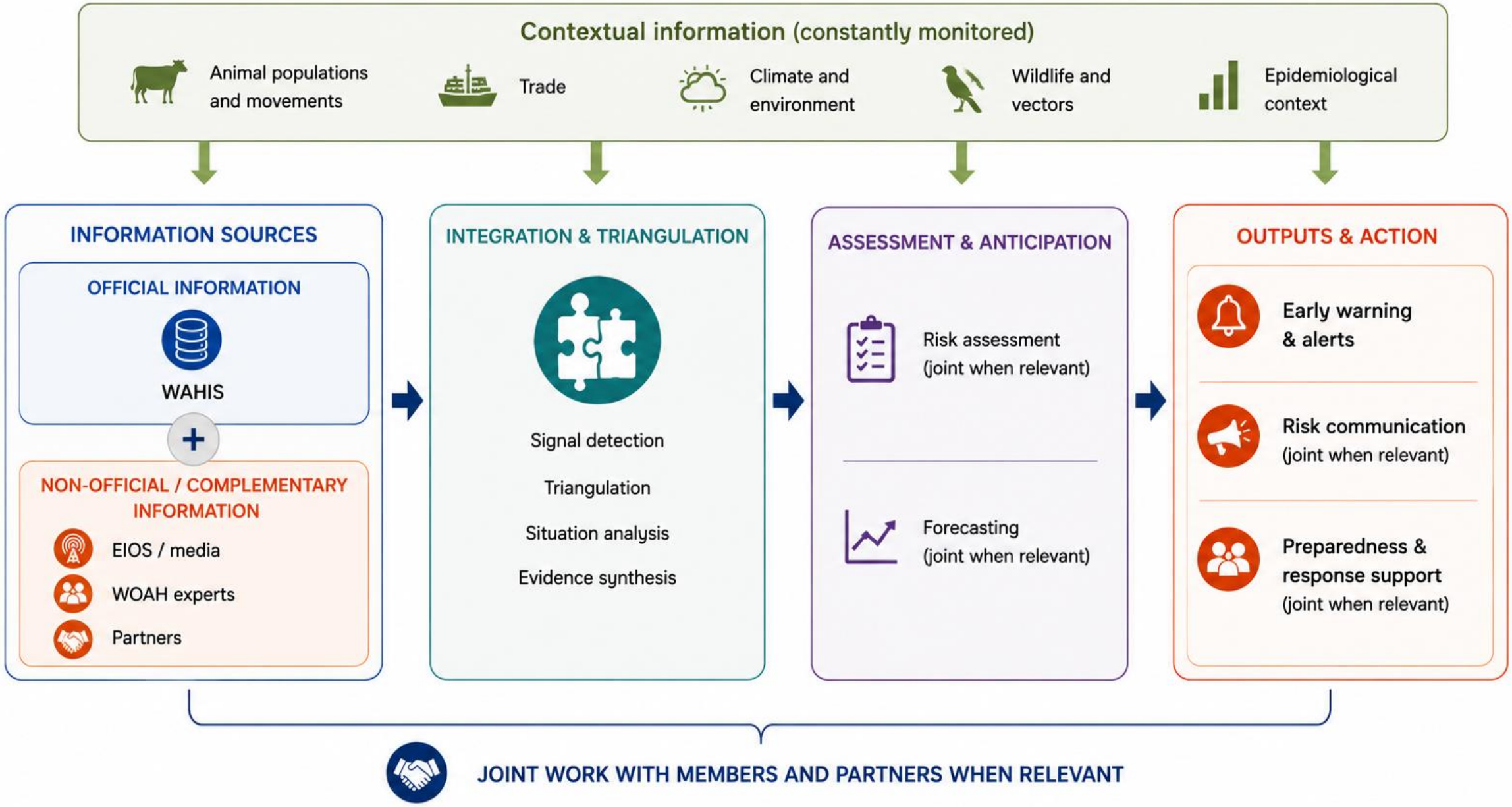
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Epidemic intelligence definition from WOAH EI framework

Epidemic Intelligence conducted at WOAH is defined as the cycle of ***organised and standardised collection, analysis and interpretation*** *of information from* ***multiple sources (official and non-official)*** *to detect, verify and investigate potential animal health risks in a timely manner […] taking into account a One Health approach.*



WOAH activities for global early warning



EI components: some key points

Immature data integration stage - siloed systems

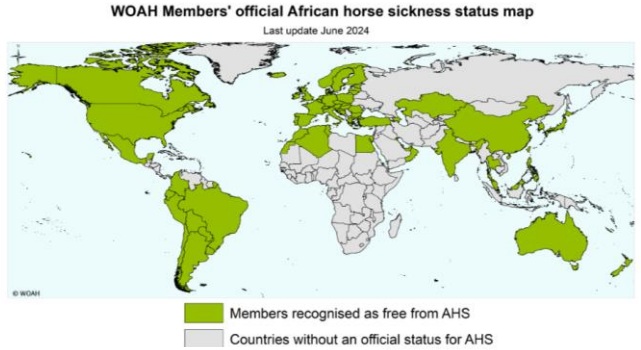
Several information not captured in database

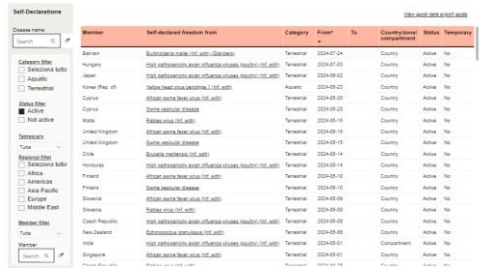
Data collected is not used to its maximum capacity

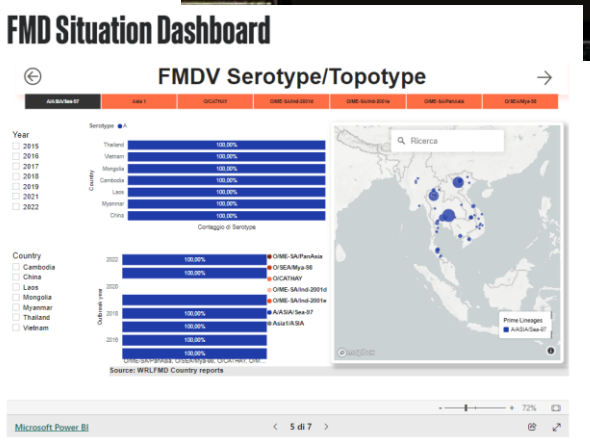
EI data routinely collected not stored in a consistent and harmonised way

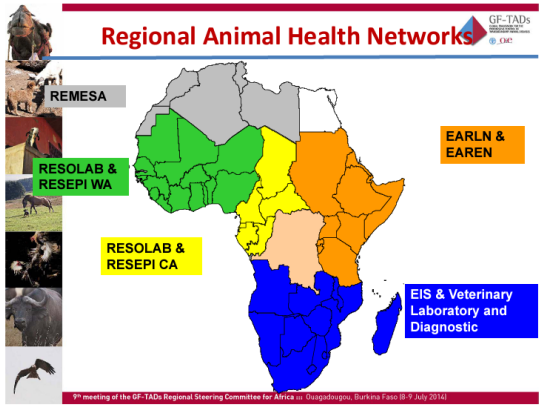






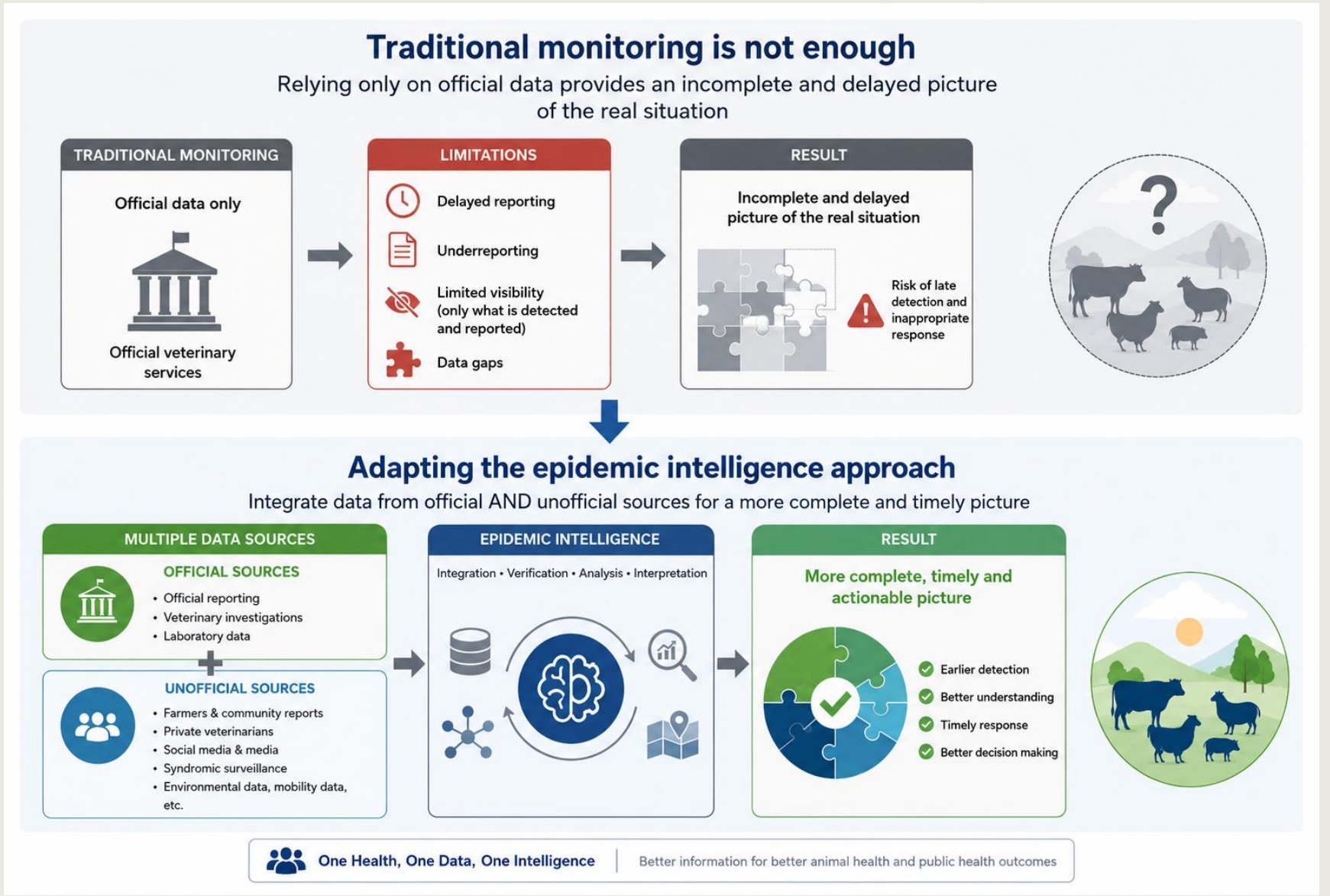








Why improving animal health monitoring matters



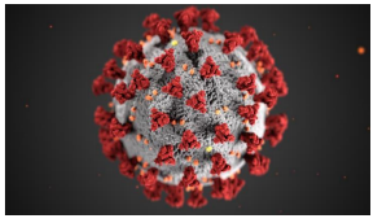
WOAH Epidemic intelligence outputs



Outputs – Active search activity

EIOS EPIDEMIC INTELLIGENCE FROM OPEN SOURCES Monitoring 2.1.5

The Active Search Procedure





- **EIOS** system main source for animal health scanning from unofficial sources
- **Daily screening**
- Around **200** animal disease categories since 2017
- Around **120,000** signals / year
- Communication between **WOAH** and its **Members for verification**

Outputs – Epidemic intelligence, analysis, horizon scanning

Using epidemic intelligence (EI) to monitor animal health threats, including mis- and disinformation, using WOAH's Incident Management System (IMS): case study on FMD in Europe

WIMMERS Madison[1], DONACHIE Daniel[1], TIZZANI Paolo[1], HAMILTON Keith[1], EWANN Fanny[2], KIM Cheong Ju[2], LIOBARD Elodie[2], Silvi Marchini Camilla[2], CARACCIO Camilla[2], DUBOIS Denise[1], MELENS Peter[1], TORRES Gregorio[1], PARK Min-Kyung[1], BEGER Gerrit[1], SIVIGNON Adrien[2], FEDIAEVSKY Alexandre[2]

[1] WOAH; [2] INTERPOL

Background

In 2025, the World Organisation for Animal Health (WOAH) established an Incident Management System (IMS), thanks to the support of the Government of Canada, to coordinate its response to animal health emergencies, with epidemic intelligence as a core component (Figure 1). Epidemic intelligence (EI) is defined as the cycle of organised and standardised collection, analysis and interpretation of information from multiple sources to detect, verify and investigate potential animal health risks in a timely manner.

The IMS and use of EI enables WOAH to combine official (e.g. information coming from veterinary services) and unofficial information (e.g. Media reports) to support its Members and partners during incidents and improve preparedness and response.

WOAH uses the Epidemic Intelligence from Open Sources (EIOS) as its main tool to scan and analyse media, reports and other informal data sources to produce timely, evidence-based epidemic intelligence situation reports. WOAH's IMS is informed through this EI activity (Figure 2).

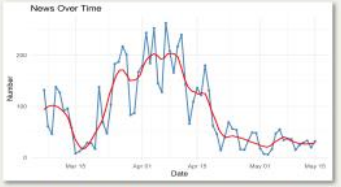


Figure 4. Number of news items related to the FMD event in Europe between 3 March and 15 May 2025.



Figure 3. FMD outbreaks reported to WOAH through the World Animal Health Information System (WAHIS) in some countries in Europe in 2025.



Figure 1. Full scale WOAH Incident Response Team, highlighting Intelligence role.



Figure 2. Screenshot of the dedicated FMD board in the EIOS system.

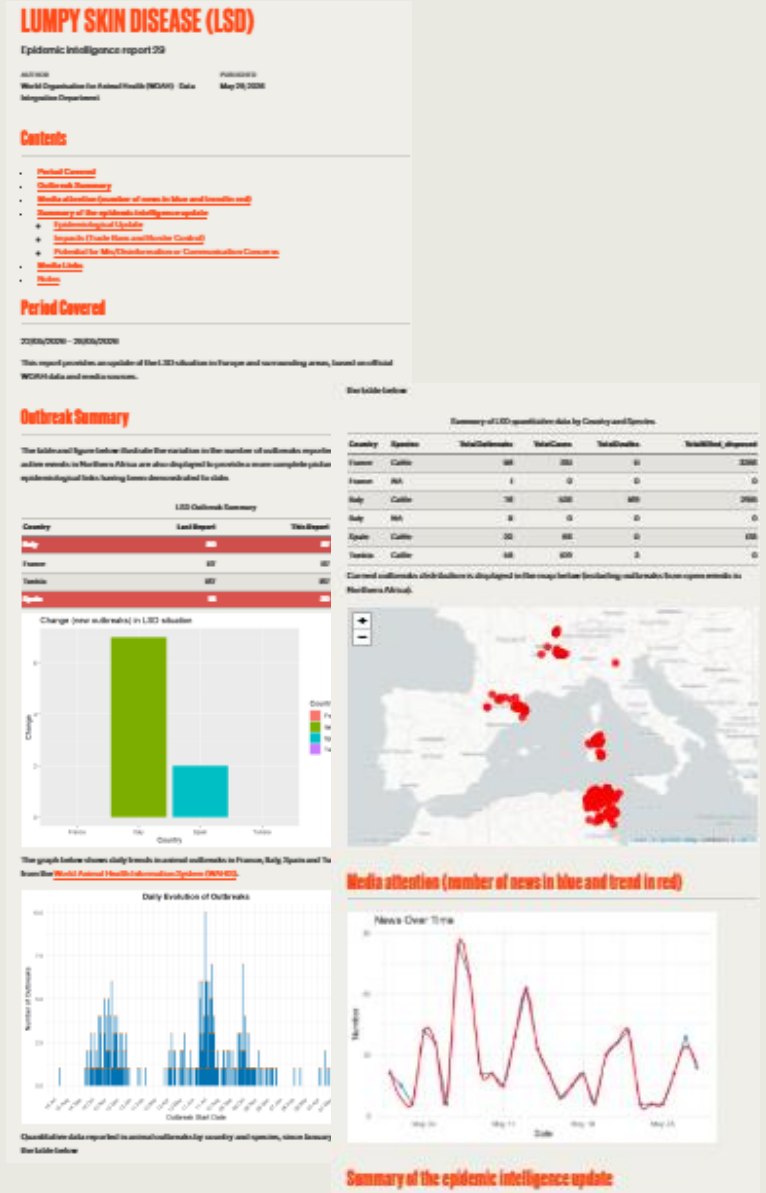
Results and Discussions

The WOAH-IMS was activated for the first time in 2025 following the resurgence of foot-and-mouth disease (FMD) in some areas in Europe (Figure 3).
WOAH staff involved in the response had previously undergone training in IMS procedures.
From 3/3/2025 to 15/5/2025, news monitoring was conducted. Around 6,400 relevant news items were monitored, analysed, and summarised in weekly EI situation reports (Figure 3). These reports were shared internally to improve risk-based decision-making. WOAH also partnered with INTERPOL to exchange EI, including on misinformation, and coordinated efforts to engage Law Enforcement agencies to support the efforts of Veterinary Services. INTERPOL used WOAH's information to inform its threat assessment and own monitoring of the event from a security perspective.
Based on information exchanges and analysis, the following actions were taken to support Members and partners:

- publication of an article by WOAH on tackling misinformation (specific to the event - https://www.woah.org/en/article/fmd-managing-the-response-amidst-media-chaos-during-a-recent-resurgence/)
- coordination of actions with EU institutions (e.g. GF-TADs information Webinar on the FMD situation) and other international organisations
- publication of an epidemiological report on the FMD situation
- release of a Q&A to convey correct information to the public
- production of joint key messages for law enforcement in collaboration with INTERPOL WOAH intends to continue expanding the use of EI within its alert and response mechanisms.

World Organisation for Animal Health | INTERPOL | in partnership with Canada





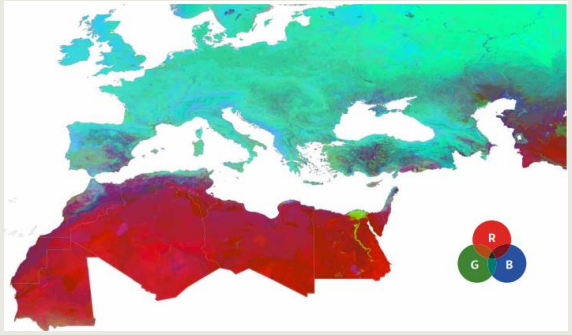
Epidemic intelligence in action – data integration from several sources

OUTPUTS

Data integration

World Organisation for Animal Health | WAHIS

EIOS



Copernicus Europe's eyes on Earth | Climate Change Service

AI use:
-Summary of news from different sources
-News title translation
- News aggregation

Gemini

Positron

R

Rstudio
Integrate information and produce report

IMS Report

LUMPY SKIN DISEASE (LSD) – GLOBAL

Global epidemic intelligence report - 3

AUTHOR
World Organisation for Animal Health (WOAH) - Data Integration and Analytics Department

PUBLISHED
September 10, 2026

Contents

- Period Covered
- Outbreak Summary
  - Information from animal health event module
  - Information from animal health monitoring module
- Climate outlook
  - Monthly anomalies
- Media attention (number of news in blue and trend in red)
- Summary of the epidemic intelligence update
  - Epidemiological Update
  - Impacts (Trade Bans and Border Control)
  - Potential for Mis/Disinformation or Communication Concerns
- Media Links
- Notes

Period Covered

04/09/2026 – 10/09/2026

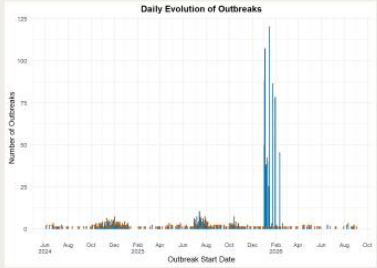
This report provides an update of the global LSD situation, based on official WOAH data and media sources.

Official data

Outbreak Summary

Information from animal health event module

The graph below shows daily trends in animal outbreaks worldwide, based on data from the World Animal Health Information System (WAHIS), reported through the **animal healt event** module for event that started since June 2024.



below.

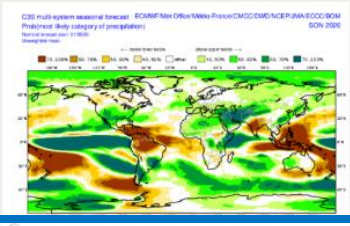


Note: this map uses interactive Mapbox tiles rendered via Leaflet, which are fixed to the Web Mercator projection (EPSG:3857). The Equal Earth projection (EPSG:8857) cannot be applied to tile-based interactive maps and is therefore not used here.

Copenicus data

Climate outlook

The table and map below summarise the 3-month seasonal forecast anomaly (temperature and precipitation) for the top 15 countries by total reported outbreaks (Jul-Dec 2024 – present), relative to the 1991–2020 climatological normal, based on the Copernicus Climate Change Service (C3S) seasonal forecasts (ECMWF SEAS5). Countries are derived dynamically from the Outbreak Summary above rather than a fixed list, so the set shown will change as reporting evolves. Positive temperature anomalies and precipitation anomalies may indicate conditions more favourable for vector activity and, potentially, the transmission of vector-borne diseases.



Media scanning (EIOS)

Media attention (number of news in blue and trend in red)



Summary of the epidemic intelligence update

Epidemiological Update

Korea (Rep. of)

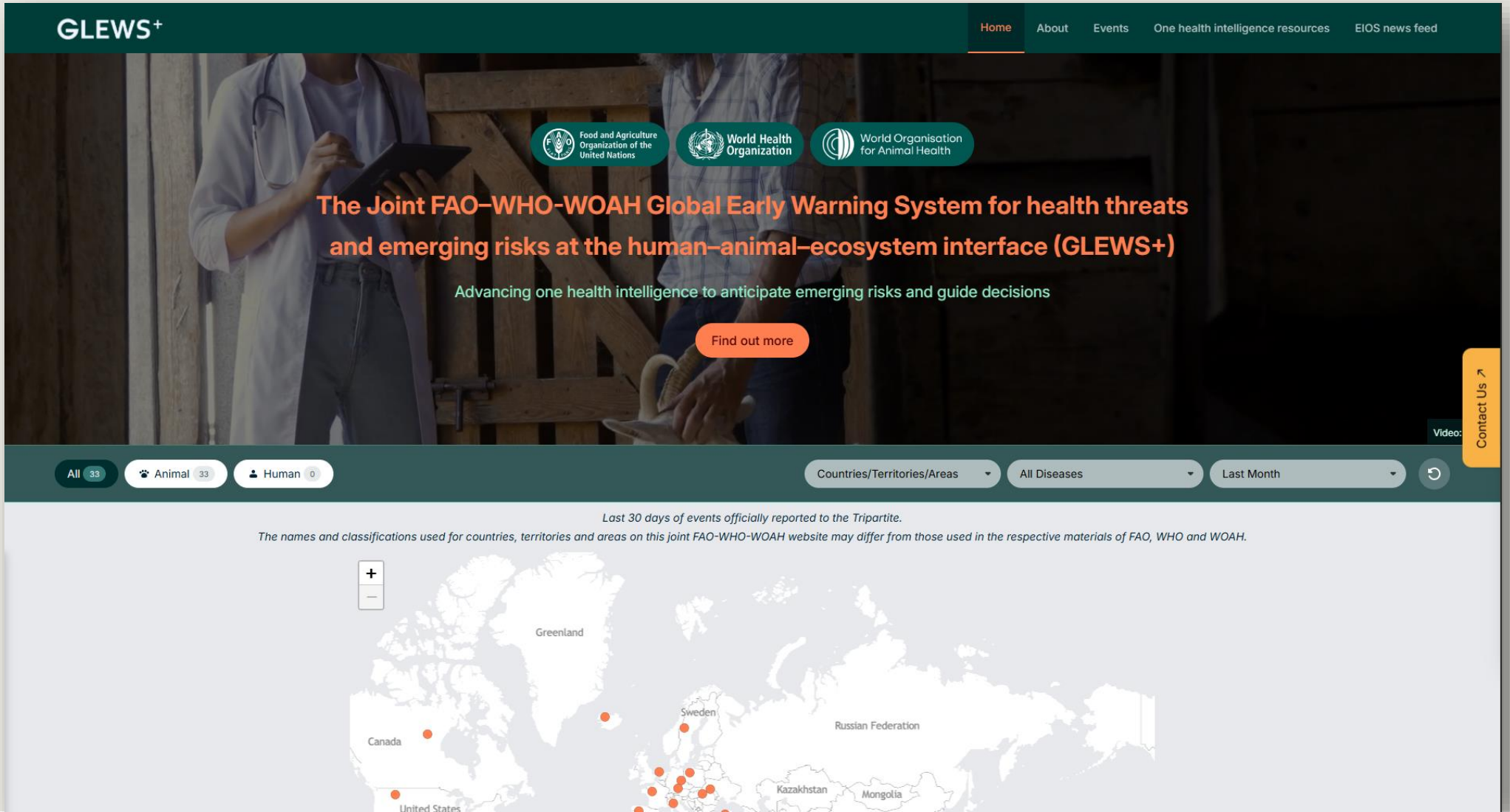
- First LSD outbreak reported on Jeju Island. A first outbreak of Lumpy Skin Disease (LSD) on Jeju Island has been reported, prompting emergency quarantine measures. Veterinary authorities have initiated disease-control measures following detection of infected cattle, including quarantine and epidemiological investigations to prevent further spread. The event is notable because Jeju had previously remained free of LSD despite the disease being established on the Korean mainland. The introduction therefore represents a new geographic expansion of LSD within the Republic of Korea.

Outputs – GLEWS+

https://www.glews.net/

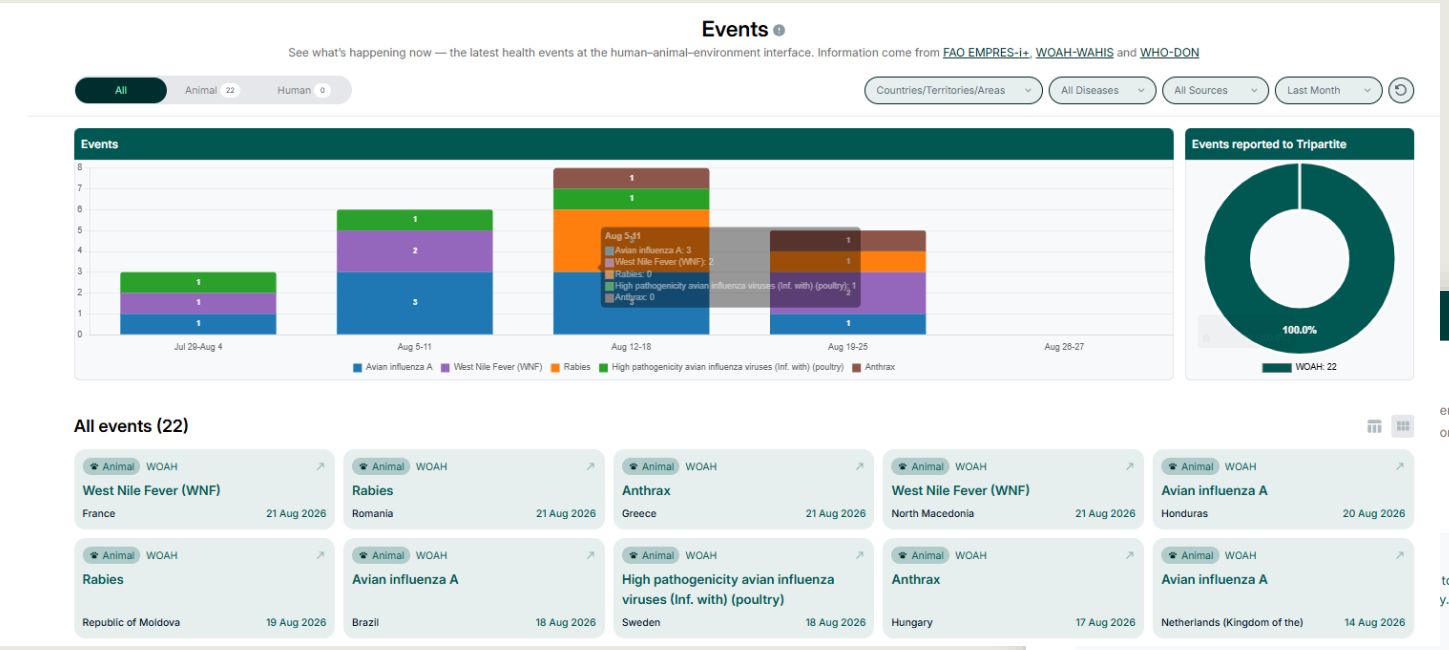
One Health. One Mission. One Global System.

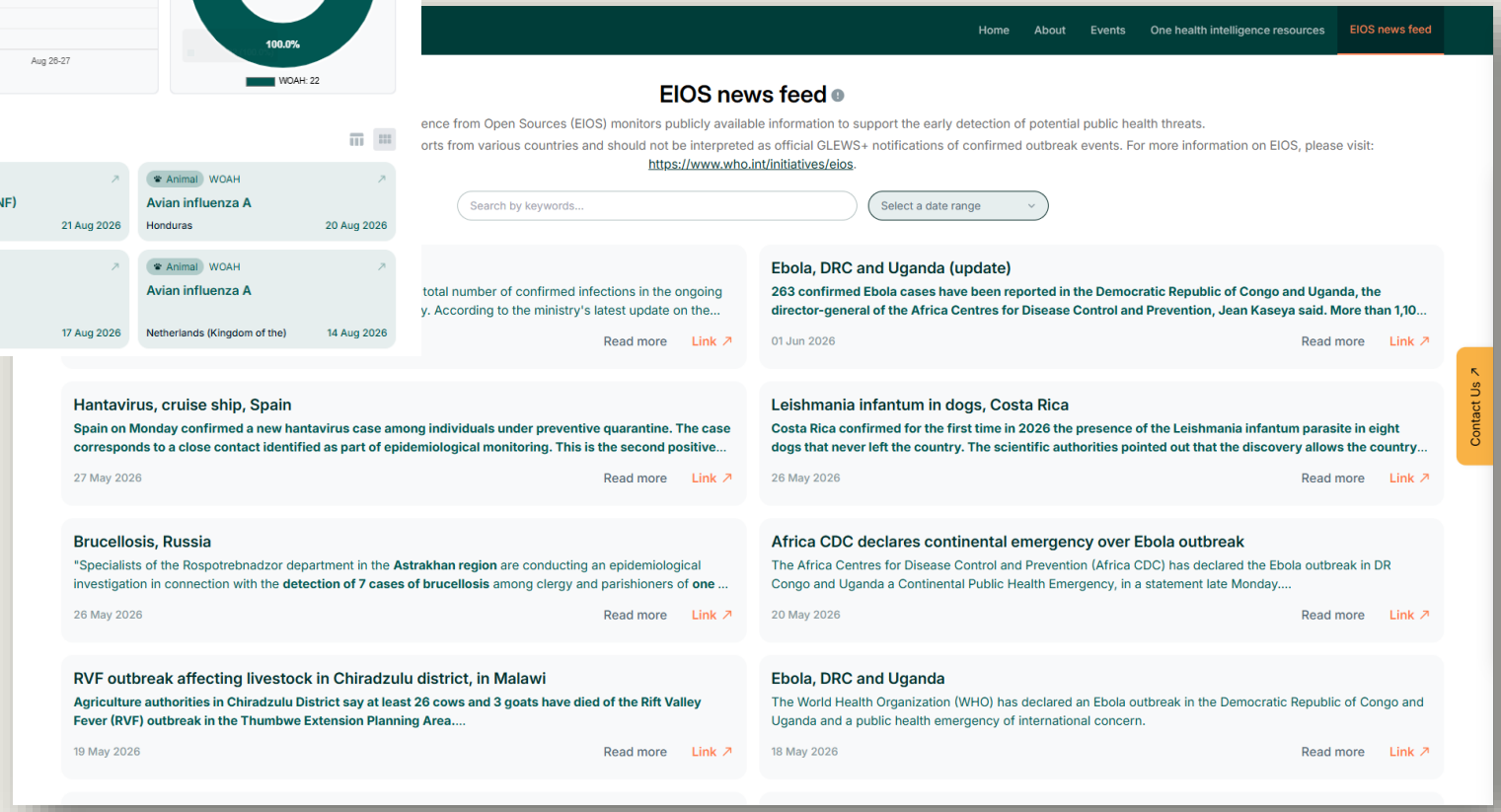
GLEWS+ is a joint initiative of FAO, WHO, and WOAH. It helps detect, verify, and respond to health threats at the human-animal interface.



Outputs – GLEWS+

https://www.glews.net/





Expansion to Asia- Pacific

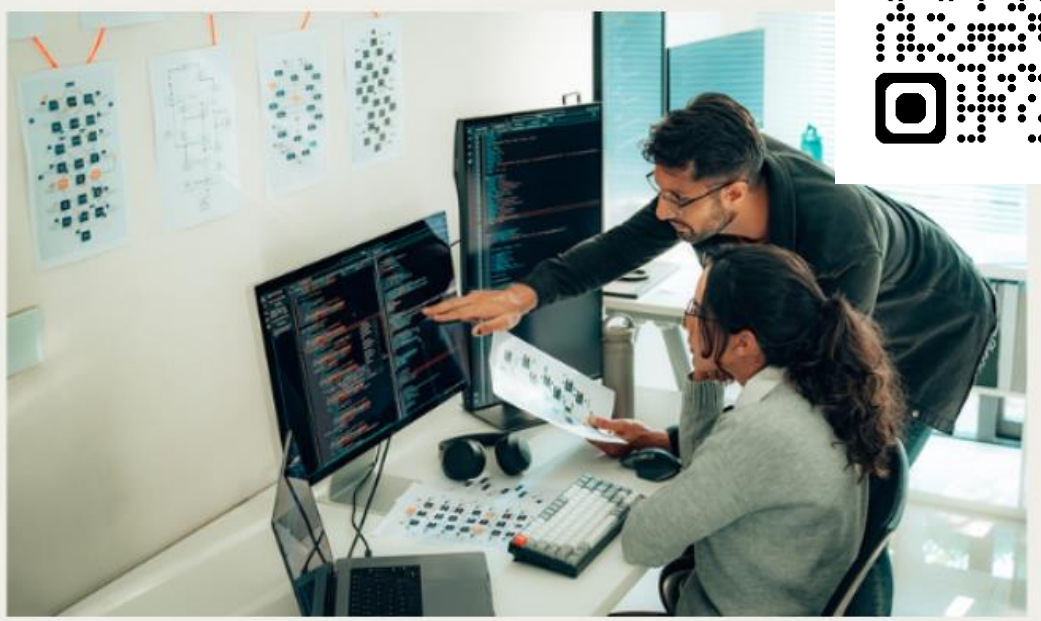
REGION : Asia and the Pacific | English | Login | Main site | Search

World Organisation for Animal Health

Home > Regional Activities > Epidemic Intelligence in Asia-Pacific

ACTIVE SEARCH ACTIVITY

Epidemic Intelligence in Asia-Pacific



https://rr-asia.woah.org/en/projects/strengthening-early-threat-warning-in-the-region/

Project background

World Organisation for Animal Health
Founded in 1924

Australian Government
Department of Agriculture, Fisheries and Forestry



One of WOAH 's missions: to ensure transparency of the animal disease situation worldwide.

To meet this objective, WOAH collects official notifications of animal diseases from its Members and disseminates the information to the international community.

Title: Supporting early threat warning project for WOAH 7th Strategic Plan funded by the Australian Department of Agriculture, Fisheries and Forestry (DAFF).

Aim: to promote transparency in disease reporting and sharing.

Objective: to strengthen WOAH's early warning systems in Asia-Pacific region through epidemic intelligence-gathering, active search activity ('rumour tracking'), and information sharing.

Target participants: WOAH Members and territories in Asia-Pacific.

Components:

1. Intelligence gathering - gap analysis summary report, consultancy survey
2. Asia-Pacific weekly rumour tracking
3. Development & implementation of a strategy – i.e., information sharing

World Organisation for Animal Health
Founded as OIE

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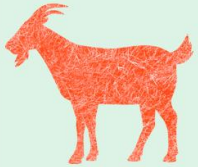


Foresight, horizon scanning and epidemic intelligence to improve risk monitoring and preparedness



Date: Fri 22 May,
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Event in **English**







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Why improving animal health monitoring matters

Foresight and strategic preparedness

Lessons from the 2025 G7 CVO Forum

Dr. Marie Jane Ireland
Chief Veterinary Officer and WOAH Delegate for Canada



KEY MESSAGE

Foresight is a practical decision-support tool to build stronger, more resilient Veterinary Services.

International epidemic intelligence

Combining data, tools and expert networks

Dr. Carlène Trévennec
INRAE – French National Animal Health Surveillance Platform (ESA)

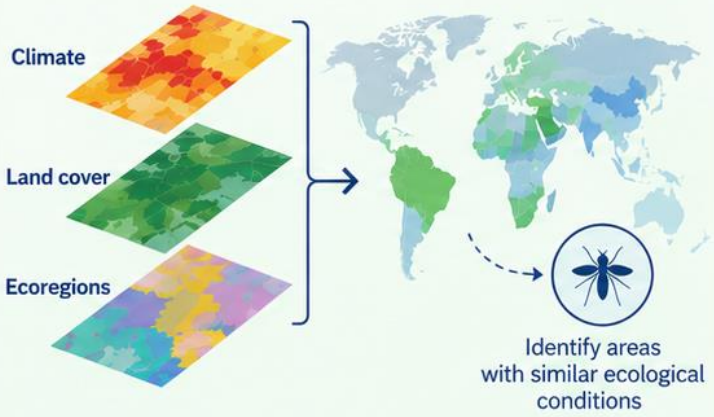


KEY MESSAGE

Multiple data sources and innovative tools enhance epidemic intelligence, but **expert networks and human judgement remain essential.**

Integrating Earth Observation and environmental information

Dr. Francesco Valentini
IZS Teramo



KEY MESSAGE

Earth Observation and environmental data provide a **powerful spatial layer** to inform epidemic intelligence and preparedness, complementing other data and supporting proactive action.

ONE HEALTH | STRONGER TOGETHER

WOAH WORLD ORGANISATION FOR ANIMAL HEALTH

Why improving animal health monitoring matters

Key messages

From discussion to action

ANTICIPATE | PREVENT | RESPOND
FOR HEALTHIER ANIMALS, SAFER SOCIETIES

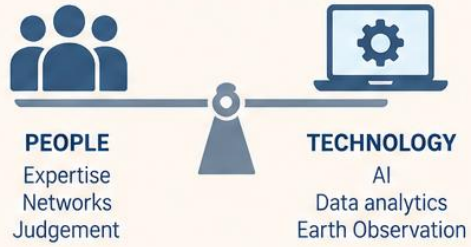
1 Move from reactive response towards proactive preparedness



2 Connect different time horizons and information streams



3 Invest in people as well as technology



4 Improve data integration and interoperability



5 Translate analytical information into operational action



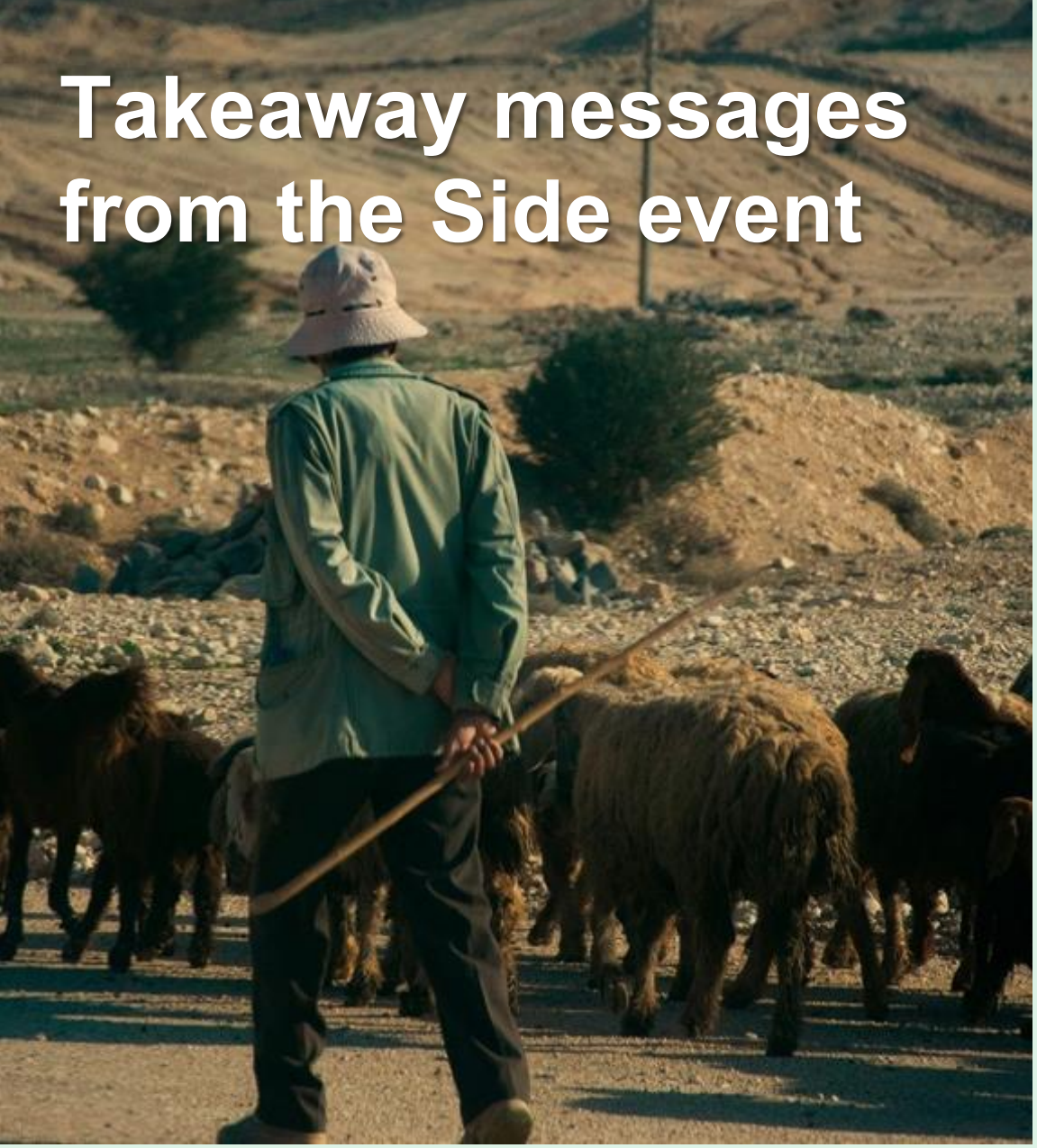
6 Build capacity progressively and collaboratively



ONE HEALTH | STRONGER TOGETHER

WOAH WORLD ORGANISATION FOR ANIMAL HEALTH

Takeaway messages from the Side event



This side event should be considered as a **starting point** rather than a standalone discussion.

Transforming concepts into operational tools requires **investment, coordination, and capacity building**.

WOAH would be happy to start discussions with Members and partners on how to **operationalise the concepts discussed today**

WOAH DIAD will hire a new staff soon to **strengthen epidemic intelligence capacity thanks to the support of United Kingdom - DEFRA**

For contact and information

- *Gilles Guillot* – *g.guillot@woah.org*
- *Paolo Tizzani* – *p.tizzani@woah.org*

Thank you

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Organización Mundial de Sanidad Animal

