**WOAH Collaborative Centre Reports Activities 2023**

**Activities in 2023**

*This report has been submitted: 3 juin 2024 09:47*

**Centre Information**

<table>
<thead>
<tr>
<th>Title of WOAH Collaborating Centre</th>
<th>Istituto Zooprofilattico Sperimentale dell’Abruzzo e del Molise “G. Caporale”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address of WOAH Collaborating Centre</td>
<td>Via Campo Boario, 64100 Teramo</td>
</tr>
<tr>
<td>Tel:</td>
<td>+39 0861 33.22.05</td>
</tr>
<tr>
<td>E-mail address:</td>
<td><a href="mailto:p.calistri@izs.it">p.calistri@izs.it</a></td>
</tr>
<tr>
<td>Website:</td>
<td><a href="http://www.izs.it">www.izs.it</a></td>
</tr>
<tr>
<td>Name Director of Institute (Responsible Official):</td>
<td>Nicola D’Alterio</td>
</tr>
<tr>
<td>Name (including Title and Position) of Head of the Collaborating Centre (WOAH Contact Point):</td>
<td>Paolo Calistri - Responsible of Epidemiology Laboratory</td>
</tr>
<tr>
<td>Name of the writer:</td>
<td>Paolo Calistri</td>
</tr>
</tbody>
</table>

**TOR1 AND 2: SERVICES PROVIDED**

1. Activities as a centre of research, expertise, standardisation and dissemination of techniques within the remit of the mandate given by WOAH

<table>
<thead>
<tr>
<th>Category</th>
<th>Title of activity</th>
<th>Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epidemiology, surveillance, risk assessment, (true)</td>
<td>Defining Ecoregions and Prototyping on EO-based Vector-borne Disease Surveillance System for North Africa (PROVNA)</td>
<td>In the framework of the project titled “Defining Ecoregions and Prototyping on EO-based Vector-borne Disease Surveillance System for North Africa (PROVNA)” satellite data of various climatic and environmental indexes have been analysed with the production of dynamic maps representing the “eco-regions” of the six countries (Mauritania, Morocco, Algeria, Tunisia, Libya, Egypt) of North Africa region. These “eco-regions” will be used to guide the surveillance for vector-borne diseases, and in particular for Rift Valley fever.</td>
</tr>
<tr>
<td>Epidemiology, surveillance, risk assessment, modelling (true)</td>
<td>EquiTracing application for the visualization and management of tracing activities in horses</td>
<td>During 2023 a new web application, named “EquiTracing”, has been developed. It allows the dynamic exploration of data for trace-forward e trace-back and the identification of spatio-temporal patterns of spreading of infectious diseases in horses. A promotional video on EquiTracing is available on: <a href="https://www.youtube.com/watch?v=JGjsNg9xdlk">https://www.youtube.com/watch?v=JGjsNg9xdlk</a></td>
</tr>
</tbody>
</table>
**Epidemiology modelling and surveillance**

**An epidemiological bulletin has been developed and constantly updated with the most recent data on the situation of African Swine Fever (ASF) in Italy, showing monitoring results using maps, tables, graphs and narrative text. The bulletin is available (English version) on https://storymaps.arcgis.com/stories/9fe6aa3980ca438cb9c7e8d656358f35**

**Management of the Veterinary National Epidemiological Bulletin**

The Veterinary National Epidemiological Bulletin is published quarterly and contains the main figures regarding the epidemiological situation of animal diseases in Italy and some articles on main emerging arguments. https://www.izs.it/BENV_NEW/index_en.html

**Training, capacity building (true)**

**Training course on “Rapid Risk Assessment Methods and Approaches”, held in Teramo (Italy) from 11 to 15 September 2023**

The specific objectives of the training were: - to acquire the necessary knowledge and skills to design an RRA study; - to apply effectively the RRA tool in response to animal health emergency threats, such as an outbreak situation. During the training, the participants were guided step-by-step along all topics foreseen by the FAO guidelines. The target group was represented by 15 persons (5 from Armenia, 4 from Azerbaijan, 4 from Georgia and 4 from Ukraine), usually involved in providing risk assessment studies and related expertise to the decision-makers in the animal health sector and belonging to national veterinary authorities or related national bodies.

**Training, capacity building (true)**

**Regional training course on “Cours de formation régionale sur la fièvre de la vallée du Rift (FVR)”, held in Teramo (Italy) from 25 to 26 September 2023**

The overall aim of this training course was to enhance the capacity of the countries in RVF management and to provide the technical inputs for the preparation of the preliminary countries' action plan. Four countries of North Africa (Algeria, Tunisia, Mauritania, and Morocco) were the beneficiaries of the RVF training workshop.

**Training, capacity building (true)**

**Organization of the GEOVET 2023 Conference**


**TOR3: HARMONISATION OF STANDARDS**

2. Proposal or development of any procedure that will facilitate harmonisation of international regulations applicable to the main focus area for which you were designated

<table>
<thead>
<tr>
<th>Proposal title</th>
<th>Scope/Content</th>
<th>Applicable area</th>
</tr>
</thead>
</table>

3. In exercising your activities, have you identified any regulatory research needs* relevant for WOAH?

No

4. Did your Collaborating Centre maintain a network with other WOAH Collaborating Centres (CC), Reference Laboratories (RL), or organisations designated for the same specialty, to coordinate scientific and technical studies?

Yes

<table>
<thead>
<tr>
<th>Name of WOAH CC/RL/other organisation(s)</th>
<th>Location</th>
<th>Region of networking Centre</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>WOAH CC on Epidemiology Emerging Avian Diseases</td>
<td>Italy</td>
<td>Europe</td>
<td>Implementation of a standard for the collection and sharing of zone geographic</td>
</tr>
</tbody>
</table>
### Epidemiology modelling and surveillance

**National Center for Global Health Istituto Superiore di Sanità (ISS)**
- **Location:** Italy
- **Region:** Europe
- **Component (GeoZone):** Project "Preventing biological risks increased by environmental and climate change in the Mediterranean, Black Sea and Sahel regions by strengthening a structured, inclusive and institutionalized One Health approach" (MediLabSecure)

**European Space Agency (ESA)**
- **Location:** France
- **Region:** Europe
- **Collaboration in the framework of various project initiatives in the fields of Earth Observation Data and Satellite Imagery.**

**Goddard Earth Sciences Technology and Research (GESTAR) II Center**
- **Location:** United States of America
- **Region:** Americas
- **Collaboration in the framework of the project: "Defining Ecoregions and Prototyping on EO-based Vector-borne Disease Surveillance System for North Africa (PROVNA)."**

### TOR4 AND 5: NETWORKING AND COLLABORATION

5. Did your Collaborating Centre maintain a network with other WOAH Collaborating Centres, Reference laboratories, or organisations in other disciplines, to coordinate scientific and technical studies?

Yes

<table>
<thead>
<tr>
<th>Name of WOAH CC/RL/other organisation(s)</th>
<th>Location</th>
<th>Region of networking Centre</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>WOAH CC on Reduction of the Risk of Disasters in Animal Health</td>
<td>Cuba</td>
<td>Americas</td>
<td>Collaboration in the framework of the OIE Collaborating Centre network on Veterinary Emergencies (OIE EmVetNet)</td>
</tr>
<tr>
<td>WOAH Reference Laboratory for Viral Encephalopathy and Retinopathy of Marine Fish</td>
<td>Italy</td>
<td>Europe</td>
<td>Strengthening capacity on aquatic animal health and epidemiological surveillance (Aquae strength)</td>
</tr>
<tr>
<td>WOAH Collaborating Centre on Biological Threat Reduction</td>
<td>United States of America</td>
<td>Americas</td>
<td>Collaboration in the framework of the OIE Collaborating Centre network on Veterinary Emergencies (OIE EmVetNet)</td>
</tr>
<tr>
<td>WOAH CC on Animal Production Food</td>
<td>Europe</td>
<td>Development of risk</td>
<td></td>
</tr>
</tbody>
</table>

WOAH Collaborative Centre Reports Activities 2023

3
Safety

**WOAH CC on Veterinary Training and Capacity Building**
- Italy
- Europe
- Collaboration on international training initiatives with particular focus on the development of e-learning contents on epidemiology, surveillance and risk analysis

**ERFAN - Enhancing Research for Africa Network**
- Italy
- Europe
- Collaboration with training initiatives and project activities.

**Anses - Agence nationale de sécurité sanitaire de l’alimentation**
- France
- Europe
- Project for provision of support to EFSA and to ECDC in the production of the EU One Health Zoonoses report and in related zoonoses online interactive data visualisation dashboards and zoonoses

**Istituto Superiore di Sanità**
- Italy
- Europe
- Project for provision of support to EFSA and to ECDC in the production of the EU One Health Zoonoses report and in related zoonoses online interactive data visualisation dashboards and zoonoses

**Istituto Zooprofilattico Sperimentale delle Venezie**
- Italy
- Europe
- Project for provision of support to EFSA and to ECDC in the production of the EU One Health Zoonoses report and in related zoonoses online interactive data visualisation dashboards and zoonoses

**Istituto Zooprofilattico Sperimentale della Lombardia e dell’Emilia Romagna**
- Italy
- Europe
- Project for provision of support to EFSA and to ECDC in the production of the EU One Health Zoonoses report and in related zoonoses online interactive data visualisation dashboards and zoonoses

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**TOR6: EXPERT CONSULTANTS**

6. Did your Collaborating Centre place expert consultants at the disposal of WOAH?

Yes

<table>
<thead>
<tr>
<th>NAME OF EXPERT</th>
<th>KIND OF CONSULTANCY</th>
<th>SUBJECT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daria Di Sabatino</td>
<td>Consultancy and support mission in Jordan 13 - 16 February 2023</td>
<td>On-site mission for supporting the Jordan Veterinary Services in the epidemiological investigations following the outbreaks of FMS SAT-2 in Jordan.</td>
</tr>
</tbody>
</table>
### Epidemiology modelling and surveillance

<table>
<thead>
<tr>
<th>Name</th>
<th>Event</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paolo Calisti</td>
<td>Participation at the Meeting of the WOAH Emerging Diseases Group (EDG). 5-7 December 2023 - WOAH, Paris</td>
<td>The PROVNA initiative in North Africa.</td>
</tr>
<tr>
<td>Paolo Calisti</td>
<td>Rift Valley fever: online fora, Jointly presented by Enhancing Research for Africa Network (ERFAN) and the designated RVF European Union Reference Laboratory (EURL). Teramo, 23 May 2023.</td>
<td>Factors triggering the spread of RVF</td>
</tr>
<tr>
<td>Annamaria Conte</td>
<td>Rift Valley fever: online fora, Jointly presented by Enhancing Research for Africa Network (ERFAN) and the designated RVF European Union Reference Laboratory (EURL). Teramo, 25 July 2023.</td>
<td>Modelling and prediction of RVF outbreaks.</td>
</tr>
<tr>
<td>Paolo Calisti</td>
<td>OIE Laboratory Reference Twinning Project btw IZSAM and National Animal Health Diagnostic and Investigation Centre (NAHIDIC)/Ethiopia Strengthening the capacity of Contagious Bovine Pleuro-Pneumonia (CBPP) diagnosis including development of reagents for serological tests and enhance the surveillance in Ethiopia.</td>
<td>To discuss with the Ethiopian veterinary authorities the possibility of establishing an active surveillance for CBPP</td>
</tr>
</tbody>
</table>

### TOR7: SCIENTIFIC AND TECHNICAL TRAINING

7. Did your Collaborating Centre provide advice/services to requests from Members in your main focus area?
Yes
The WOAH CC provide advice and/or services mainly in the establishment of the surveillance systems, including the design and development of supporting information systems, and risk assessment methodologies, providing advice to the competent authorities of WOAH Members and through specific capacity building initiatives. These activities are carried out in the framework of various project upon different funding lines and other opportunities provided by international workshops and conferences.

The WOAH Member Countries mainly involved in these activities are those belonging to the following geographical areas: North Africa, the Balkans, the Middle East and Arabic Peninsula. Sub-Saharan countries are involved through the ERFAN initiative.
In addition, between 13 and 16 February 2023, Daria Di Sabatino, on behalf of the WOAH CC provide on-site assistance to the Jordan Veterinary Services in the epidemiological investigations following the outbreaks of FMS SAT-2 in Jordan.

8. Did your Collaborating Centre provide scientific and technical training, within the remit of the mandate given by WOAH, to personnel from WOAH Members?
Yes
a) Technical visit: 3
b) Seminars: 370
c) Hands-on training courses: 34
d) Internships (>1 month): 0

<table>
<thead>
<tr>
<th>TYPE OF TECHNICAL TRAINING PROVIDED (A, B, C OR D)</th>
<th>CONTENT</th>
<th>COUNTRY OF ORIGIN OF THE EXPERT(S) PROVIDED WITH TRAINING</th>
<th>NO. PARTICIPANTS FROM THE CORRESPONDING COUNTRY</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>Surveillance and surveillance systems. Addis Ababa. 8 February 2023.</td>
<td>Ethiopia</td>
<td>5</td>
</tr>
<tr>
<td>C</td>
<td>Training course on “Rapid Risk Assessment Methods and Approaches”, held in Teramo (Italy) from 11 to 15 September 2023</td>
<td>Armenia, Azerbaijan, Georgia and Ukraine</td>
<td>15</td>
</tr>
<tr>
<td>C</td>
<td>Regional training course on “Cours de formation régionale sur la fièvre de la vallée du Rift (FVR)”, held in Teramo (Italy) from 25 to 26 September 2023</td>
<td>Algeria, Tunisia, Mauritania, and Morocco</td>
<td>5</td>
</tr>
<tr>
<td>B</td>
<td>Rift Valley fever: online ERFAN webinar Factors triggering the spread of RVF, 23 May 2023. Modelling and prediction of RVF outbreaks, 25 July 2023.</td>
<td>Algeria, Morocco, Senegal, Myanmar, Tunisia, Libya, Namibia, Mauritania, Sudan, South Africa, Tanzania, Mozambique, Angola, Zimbabwe, Botswana, Egypt, Turkey, Ivory Coast</td>
<td>370</td>
</tr>
<tr>
<td>A</td>
<td>Technical visits of two epidemiologists from Ethiopia 29-31 May 2023</td>
<td>Ethiopia</td>
<td>2</td>
</tr>
<tr>
<td>A</td>
<td>Technical visits of one epidemiologist from CENSA (Cuba) 21-22 September 2023</td>
<td>Cuba</td>
<td>1</td>
</tr>
</tbody>
</table>

TOR8: SCIENTIFIC MEETINGS

9. Did your Collaborating Centre organise or participate in the organisation of scientific meetings related to your main focus area on behalf of WOAH?
No

TOR9: DATA AND INFORMATION DISSEMINATION

10. Publication and dissemination of any information within the remit of the mandate given by WOAH that may be useful to Members of WOAH

a) Articles published in peer-reviewed journals:
18
b) International conferences:


2. Ippoliti C. “Satellite Earth Observation data and Deep Learning methods for suitable environmental conditions: mapping Culex pipiens distribution in central Italy”. Invited speaker 45’. Joint ICTP-IAEA Workshop on Accounting for Climate in Vector-borne Disease Intervention Planning Including the Sterile Insect Technique (SIT) | Trieste, France, from 3 to 5 April 2023.


b) International conferences:


2. Ippoliti C. “Satellite Earth Observation data and Deep Learning methods for suitable environmental conditions: mapping Culex pipiens distribution in central Italy”. Invited speaker 45’. Joint ICTP-IAEA Workshop on Accounting for Climate in Vector-borne Disease Intervention Planning Including the Sterile Insect Technique (SIT) | Trieste, France, from 3 to 5 April 2023.


8. Angelo Porreca, Carla Ippoliti, Lorenzo Bonicelli, Federica Iapaolo, Daniela Morelli, Federica Monica, Simone Calderara, Annamaria Conte. “Forecasting West Nile Virus Circulation through Sentinel and Landsat Imagery and Graph Neural Networks.” GeoVet2023 International Conference, 19–21 September 2023, Silvi Marina (TE).


d) Other (Provide website address or link to appropriate information):

11. What have you done in the past year to advance your area of focus, e.g. updated technology?
   More efforts and studies have been put into the application of Machine Learning techniques for the interpretation and modelling of big data coming from different sources (e.g. satellites, genome sequencing, etc.), with the more general aim of enhancing the efficiency and the capacity of risk-based surveillance systems at local, national and international levels.

12. Additional comments regarding your report: