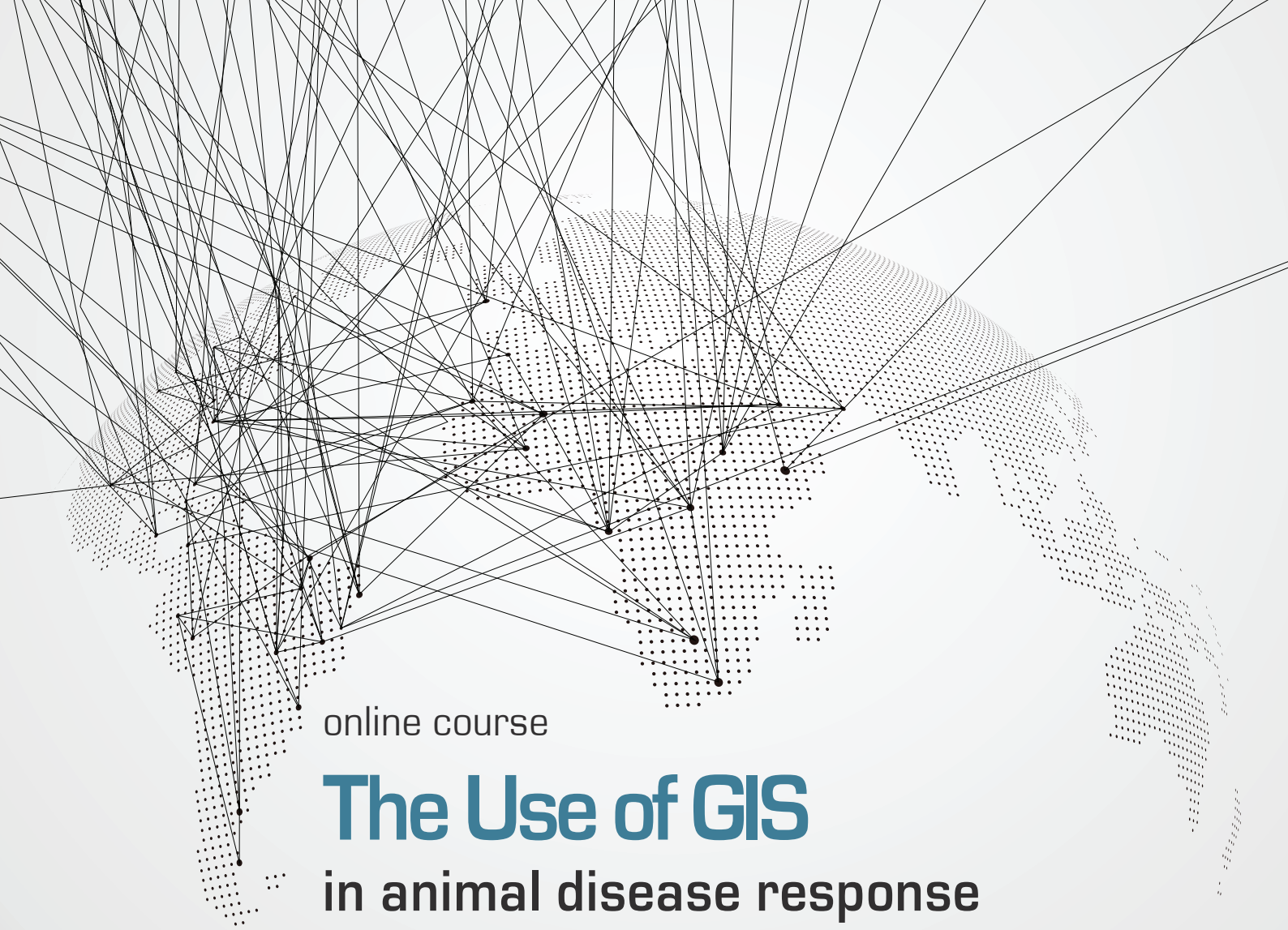

online course

The Use of GIS

in animal disease response

An empirical approach for the implementation of a GIS project to capture, manage and analyse spatial data related to disease events

Istituto Zooprofilattico Sperimentale delle Venezie

OIE Collaborating Centre for Epidemiology, Training and Control of Emerging Avian Diseases

Introduction

"The Use of GIS in animal diseases response" is a course intended to present an empirical approach to implement a GIS project to capture, manage and analyse spatial data related to disease events. In particular, this course provides an introduction to QGIS (Quantum GIS – http://www.qgis.org/it/site/ – an Open Source GIS software for viewing, editing, and managing spatial data), a practical training on a specific QGIS plug-in.

The course is made up of 4 different modules, for a total estimated commitment of 10 hours.

Modules 1, 2 and 3 include: video lectures, summaries, self assessment tests and an assignment, which can be useful to implement what you have just learnt. The last module contains interviews about practical methods for capturing spatial information related to farm location (learning outcomes are listed at the very beginning of each module).

The programme and the course materials are endorsed by OIE.

Learning outcomes

- ✓ The student will prove to be proficient in the functions of geospatial software, including capture of geographical and disease event data, editing and data management.
- ✓ The student will demonstrate proficiency in map creation and design principles, including thematic map display and cartographic design for decision support systems.
- ✓ The student will be able to run geoprocessing tools and develop exploratory spatial data analysis.

Who should attend

- ✓ State or departmental veterinary service technicians with minimum or no knowledge and experiences in GIS. Technicians who want to use GIS technology for eradication and control of animal diseases activities, which include the controlled area delineation and reporting, digitization of surveillance zones, production of summary maps, identificationof immediate neighbours and farms within a given distance.
- ✓ Veterinary service technicians, university researchers, technicians, statisticians who already work with database and want to explore operational activities during capture, management and analysis of data for their own research, for a local data analysis, for an integration of geographical data with statistical analysis.

Module map

Module 1

Animal disease response I The role of GIS

- ✓ Control and prevention of animal diseases - The spatial aspects
- ✓ How GIS can be practically used in veterinary medicine
- ✓ GIS vs Paper map
- ✓ Elements of GIS

Module 2

The use of GIS in veterinary spatial data management

Chapter 1 - GIS introduction

- ✓ An overview of GIS software functionalities
- ✓ QGIS - preliminary operations
- ✓ An Overview of QGIS Interface
- ✓ Feature with geometry
- ✓ Add spatial data - shape and SpatiaLite layers
- ✓ Data with coordinate
- ✓ Add spatial data - Import data with coordinate
- ✓ Symbology and semiotic
- ✓ Symbol properties
- ✓ Label properties

Chapter 2 - Coordinate Reference System

- ✓ The problem of spatial reference
- ✓ Coordinate Reference System

Chapter 3 - Working with spatial information

- ✓ The Georeferencing Principle
- ✓ Editing point
- ✓ Editing polygon

Chapter 4 - Spatial operations

- ✓ The use of GIS for spatial analysis
- ✓ Spatial operations
- ✓ Add information to spatial data
- ✓ Work with spatial information

Chapter 5 - Map composition

- ✓ Elements of cartography
- ✓ Map production

Chapter 6 - Spatial analysis

- ✓ Spatial epidemiological data
- ✓ Modifiable Area Unit Problem
- ✓ Space-time analysis

Module 3

The use of VetEpiGIS-Tool in animal disease response

- ✓ Plugins in QGIS - VetEpiGIS-Tool
- ✓ VetEpiGIS-Tool - Installation
- ✓ VetEpiGIS-Tool - Outbreaks management
- ✓ VetEpiGIS-Tool - Points of Interest
- ✓ VetEpiGIS-Tool - Geoprocessing
- ✓ VetEpiGIS-Tool - Utilities and settings

Module 4

Use case - How to georeference a farm

- ✓ Information model
- ✓ Indirect method
- ✓ Direct method
- ✓ Geocoding method

Technical requirements

To attend the online course you will need a fast and reliable internet connection. Feel free to choose your favourite device: pc, mac, tablet and smartphone (any OS) are welcome, but you need to use an up-to-date browser.

Lecturers

Nicola Ferrè - IZSVe

Paolo Mulatti - IZSVe

Monica Lorenzetto - IZSVe

Matteo Mazzucato - IZSVe

Link platform

https://learningstore.izsvenezie.it/

Link Demo

https://youtu.be/ZIke5QLXRko

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