



Equine Infectious Anaemia:

Lessons learned from the six year application of the National Italian Surveillance Programme

Roma 1 ottobre 2012

The new equine infectious anaemia Website, an instrument for data management

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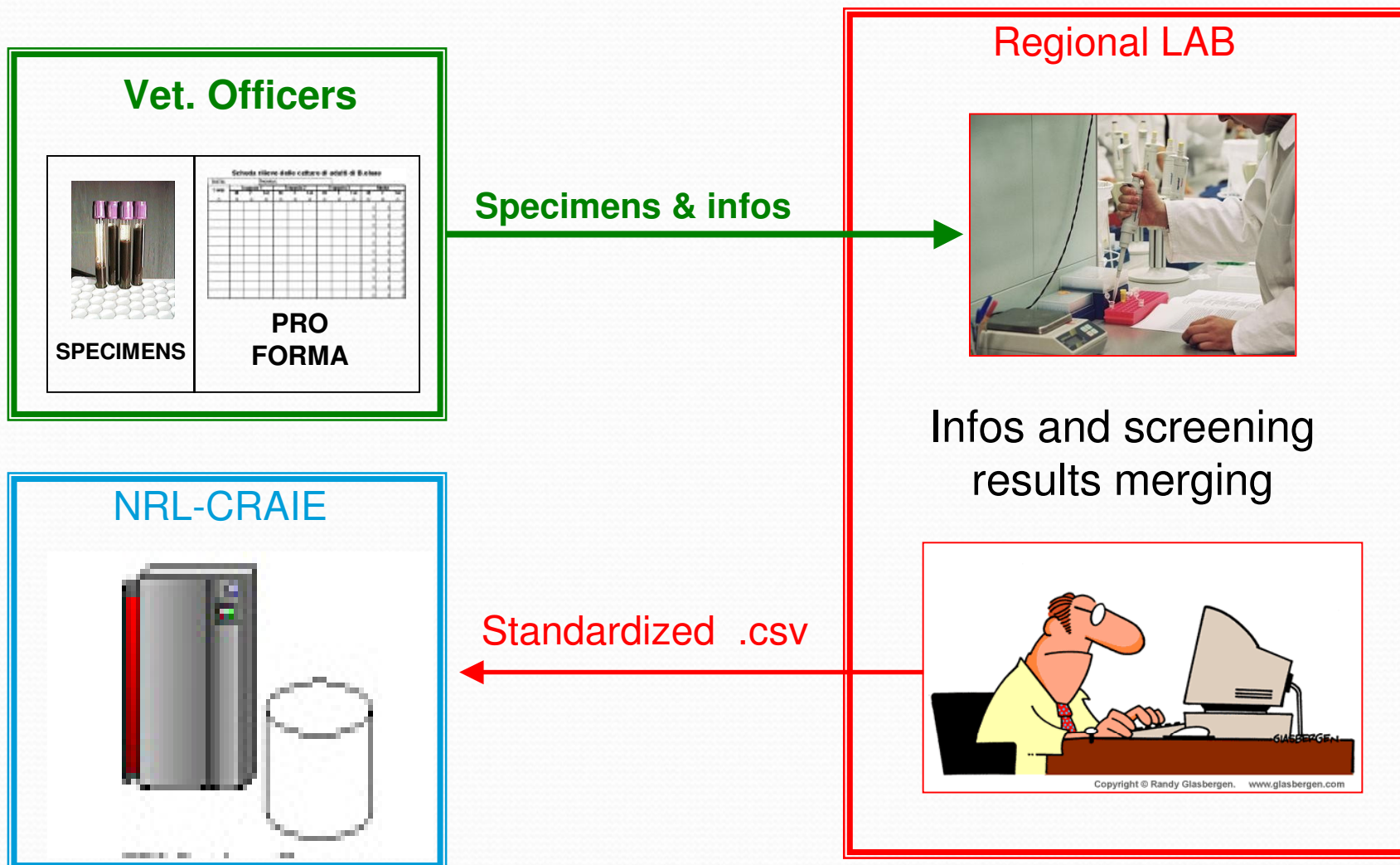
^aOsservatorio Epidemiologico (OES)

^bConsulente CRAIE per il portale Web-GIS

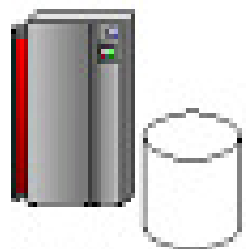
Istituto Zooprofilattico Sperimentale del Lazio e della Toscana

Via Appia Nuova 1411 – 00178 Roma

Data flow 2007-2012



Data flow 2007-2012

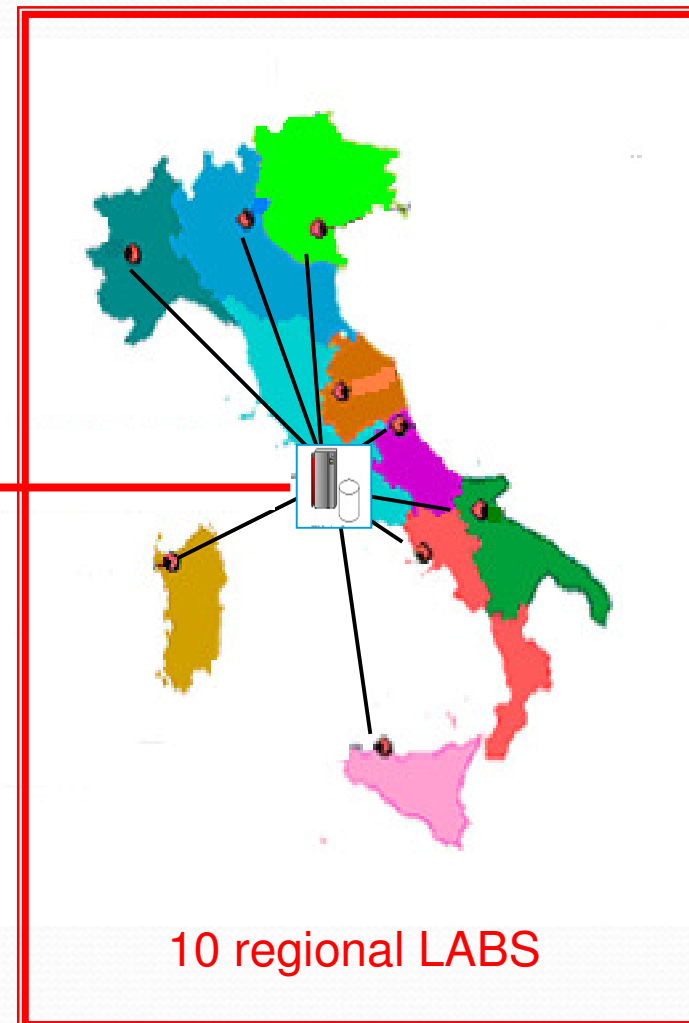


NRL-CRAIE

merging
data clean up
data mining
data analysis



**Webupload
2010-11new**



10 regional LABS

Feedback



Ministry of health
Regions
Web (open access)



Every 15 days
Web (open access)

2013

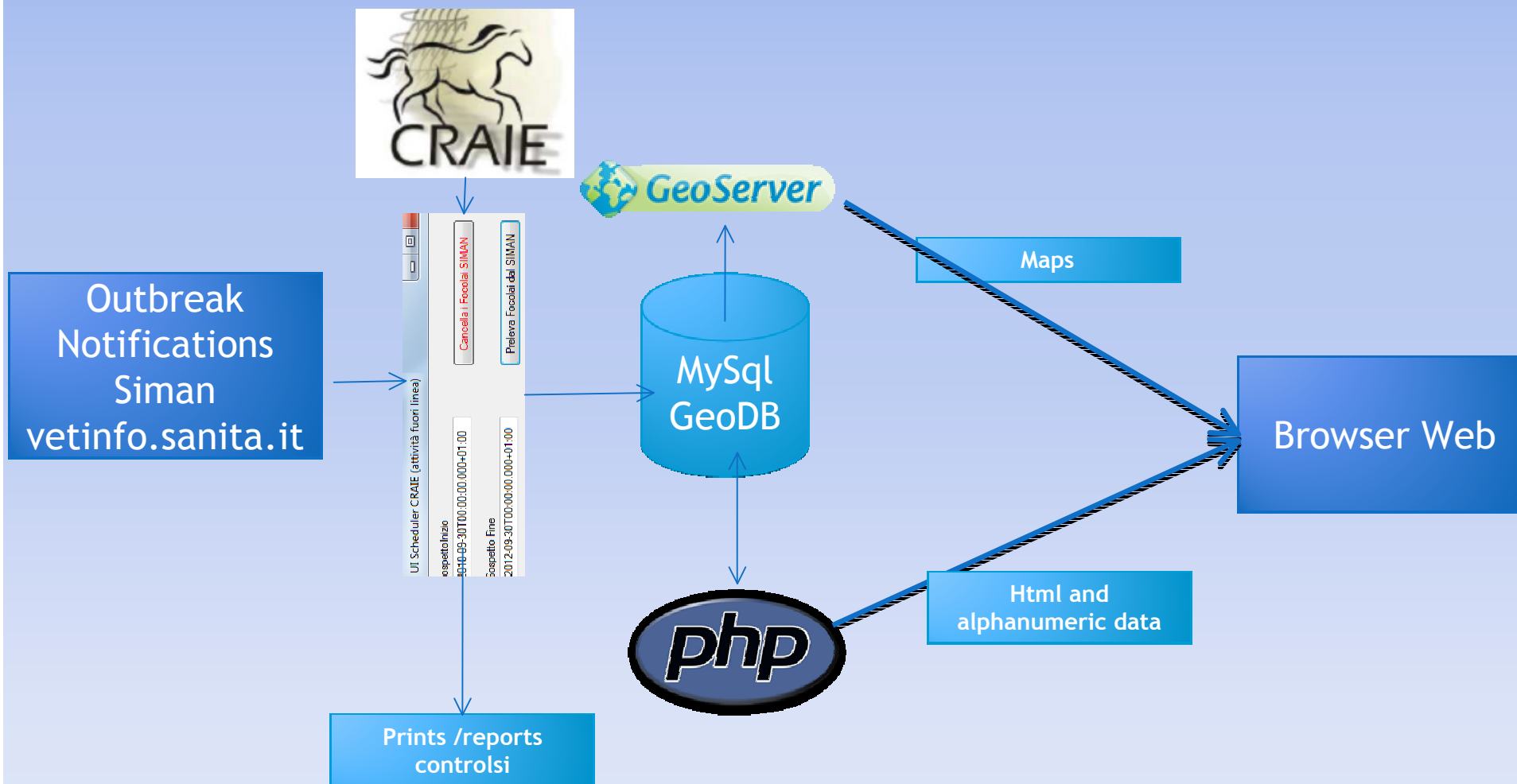
The new CRAIE WebGIS

The aims for AIE management

1. To preserve the current features in order to ensure the surveillance data web-uploading and the regular reports transfer to Ministry of Health and Regions
2. To enforce dynamic GIS functions for a real-time display of the epidemiologic evolution (outbreaks)
3. To ensure useful tools for the official controls within the area at risk

Architecture

Interface scheme



The new CRAIE WebGIS functions

1. Integration of the data from SIMAN (notifications) and CRAIE (confirmed cases)
2. Dynamic map including the tracking of CRAIE confirmed cases, SIMAN notified or not (**alert for local health units**)
3. Dynamic map with the outbreak tracking
Incident, Prevalent, Relapsed, Extinct
4. Cursor activating informative pop-up describing each outbreak

The new CRAIE WebGIS Functions

5. Linked to the national registry (BDN)
6. Automated creation of the areas at risk

Examples:

- Area of active surveillance around an outbreak(ASA)
- Cluster (distance between 2 outbreaks <10Km)
extension - erosion
- Automated creation of the list of holdings to be controlled within the area at risk

The new CRAIE WebGIS



Start simulation

The new CRAIE WebGIS



Fonti (sources) layers

Base Map Areal - Bing

Base Map Areal - Esri

Base Map Areal – Ministry of Environment

Base Map streets 3d - Esri

Base Map topography - Esri

Layers group of municipalities borders (ISTAT)

Fonti dati- data sources

1. Siman (focolai notificati-notified outbreaks)

2. SIL CRAIE (conferme-confirmed cases)

3. BDN (aziende-holdings)

➡ Procedura di Geocoding automatica da indirizzo azienda (BDN)

➡ Automated geocoding procedure from holding address (BDN)

The new CRAIE WebGIS

An opportunity , a responsibility

- A transparent and open web-system like the upcoming CRAIE Web-GIS implies a taking on responsibility at all levels:
- Central and local Veterinary Services and owners
- **Common objective:** to create the conditions for an effective EIA surveillance, along with the strenght of the measures against the sources of infection towards the progressive decrease of the control levels needed for the national equids population

The new CRAIE WebGIS simulation



Step 1

- Localizzazione focolai - Outbreak tracking
(web service SIMAN)
 - Incidenti . Incident
 - Prevalenti . Prevalent
 - Recidivi . Relapsed
 - Estinti . Extinct



simulation Step 2

- **A**rea od Active Surveillance (ASA)

buffer 3Km automatico
automated buffer 3km

- **C**lusters-municipalities borders junction

- Espansione - Expansion (1..2..3..4...)
- Erosione - Erosion (4..3..2..1..)
- Ritorno ad ASA - back to ASA

Lista aziende
da controllare

Automated
tracking of
holdindgs to be
controlled





Aerea Ibrida Vie Vie 3D Topo

Legenda

Aziende (BDN)	ASA
Conferme CRAIE	Focolai
i Incidente	● Estinto
P Prevalente	● Aperto
R Recidivo Prevalente	
R Recidivo	

TOC Craie

L **I**

Aziende

Foc. Silman

Estinto: No

ASA alpha

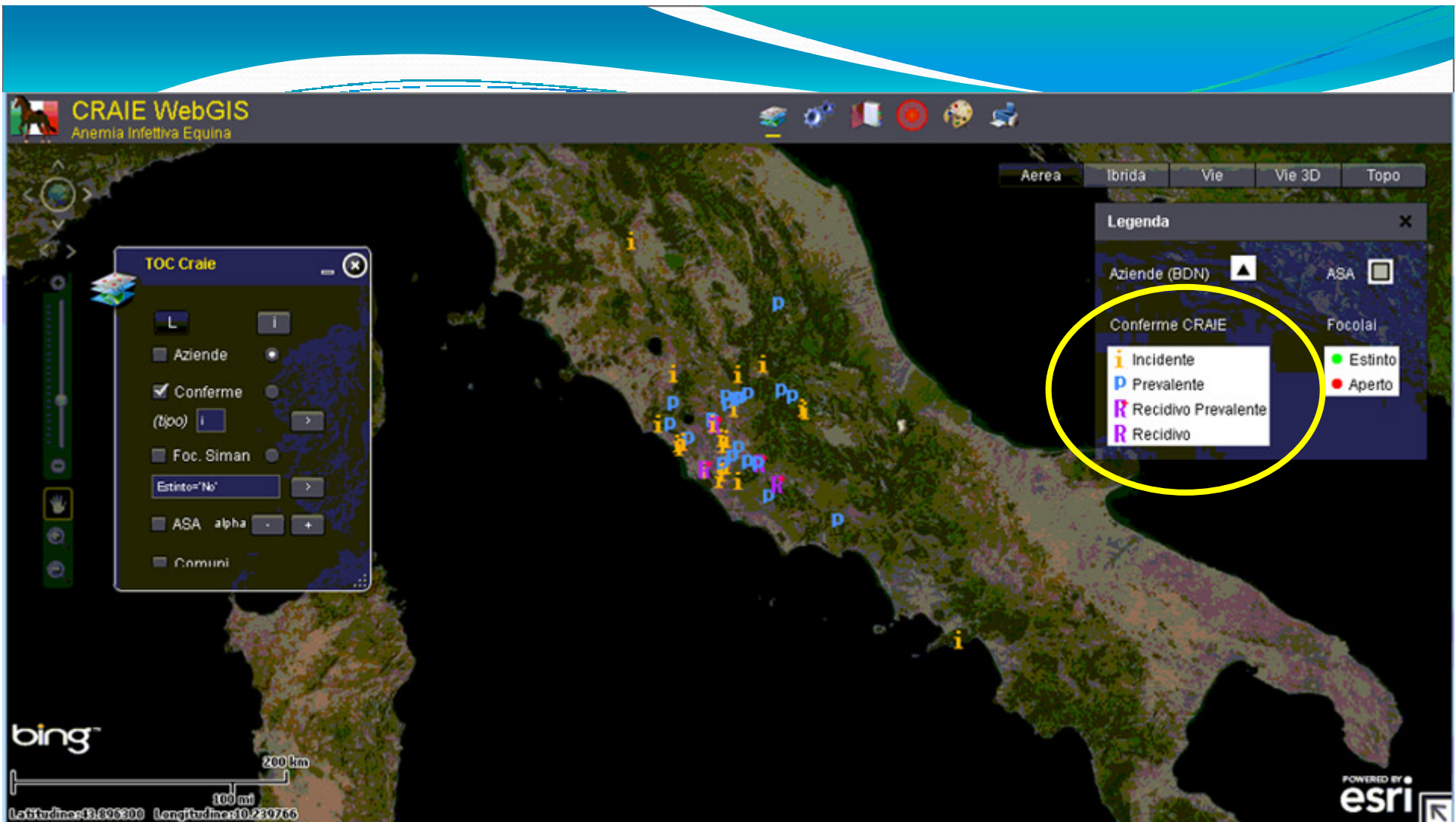
Comuni

Conferme

bing

400 Km
500 m
Latitudine: 41.564012 Longitudine: 12.759228

POWERED BY
esri



Localizzazione aziende con conferma CRAIE
Tracking of holdingd confirmed positive by
CRAIE

CRAIE WebGIS
Anemia Infettiva Equina

Aerea Ibrida Vie Vie 3D Topo

TOC Craie

- Aziende
- Conferme
- (tipo)
- Foc. Siman
- Estinto="No"
- ASA alpha
- Comuni

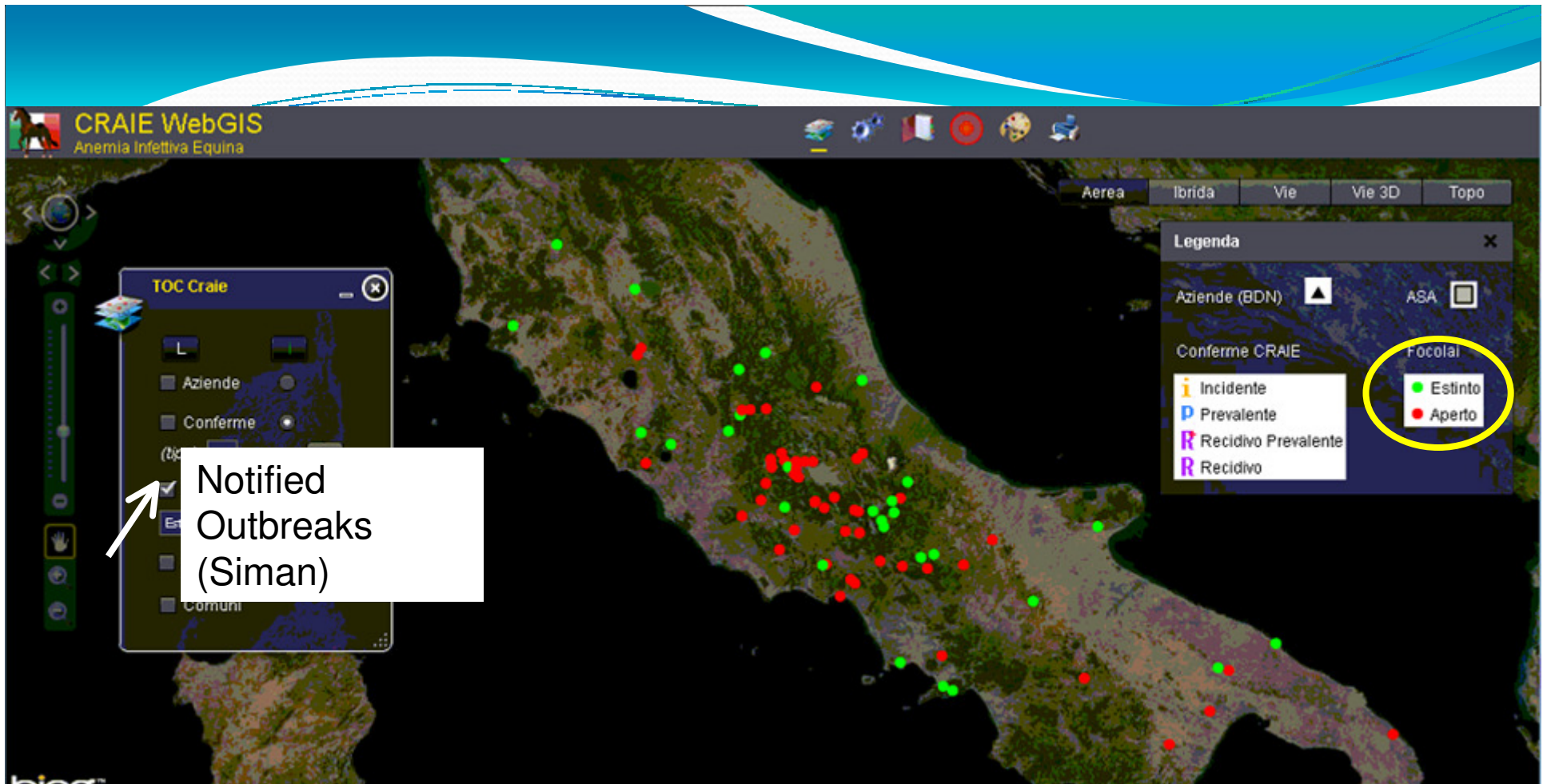
Legenda

- Aziende (BDN)
- ASA
- Conferme CRAIE
- Incidente
- Prevalente
- Recidivo Prevalente
- Recidivo
- Focolai
- Estinto
- Aperto

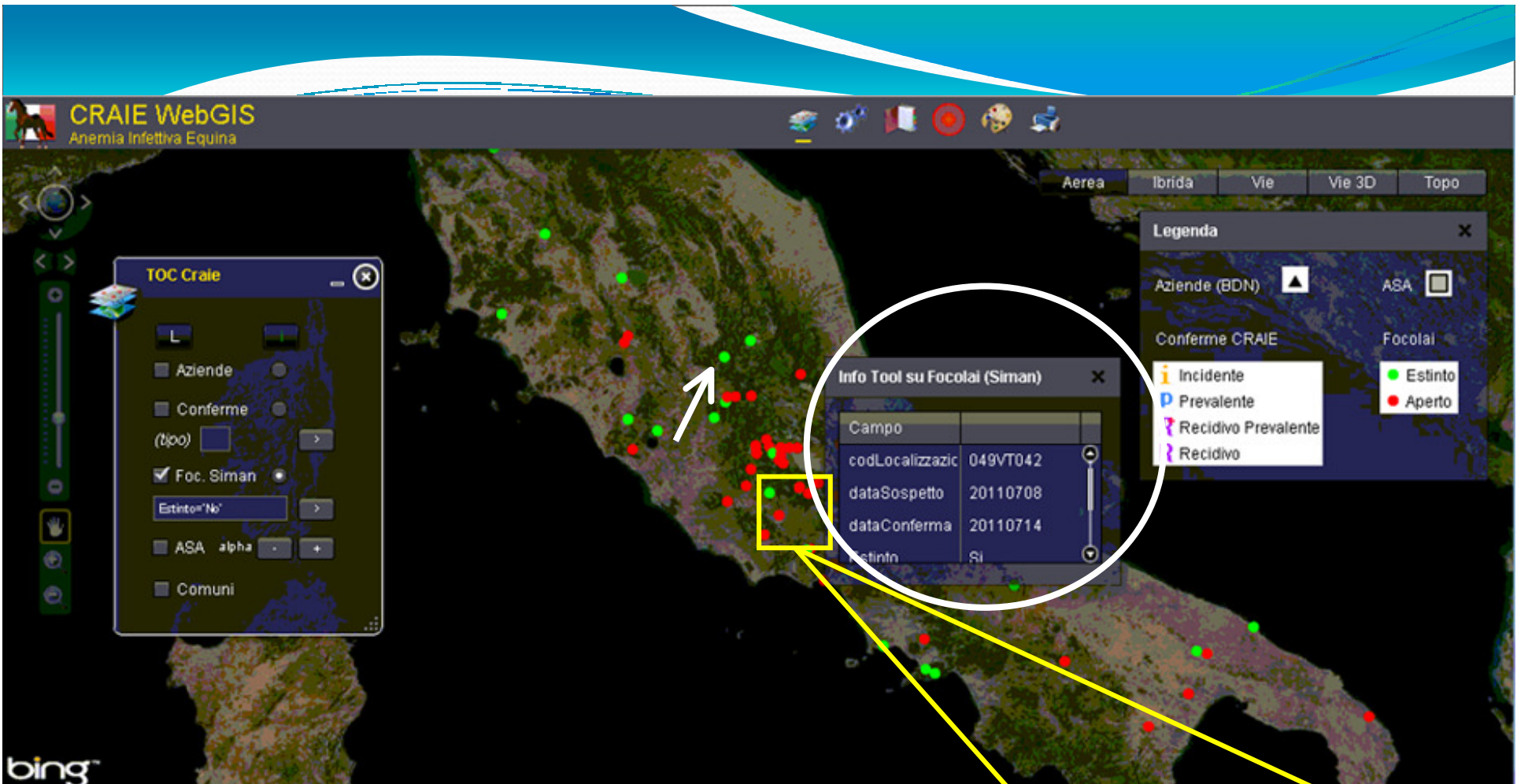
Info Tool su Conferme CRAIE

Campo	
Codice Azienda	059VT155
Data Registrazio	13/2/2012

Cursore di puntamento - pop-up con info azienda
 Cursor activating informative pop-up describing
 holding

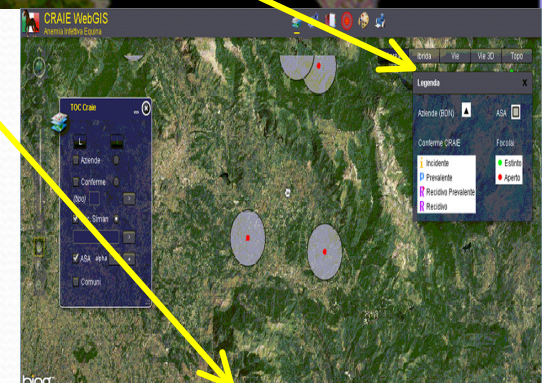


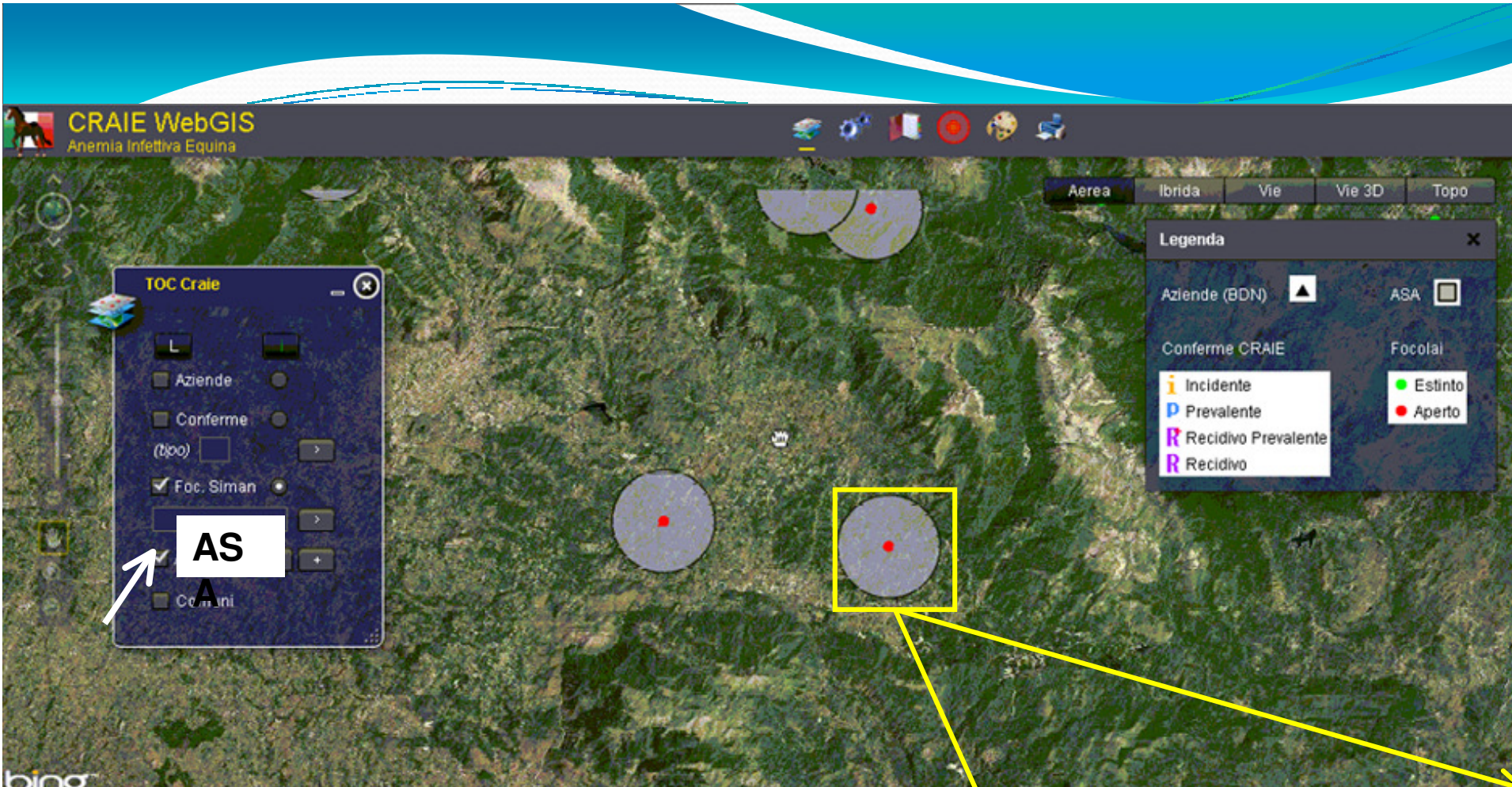
Localizzazione focolai attivi/estinti notificati (Siman) -
Notified outbreak tracking – active/extinct (Siman)



Cursore di puntamento - pop-up con info focolaio

Cursor activating informative pop-up describing outbreak



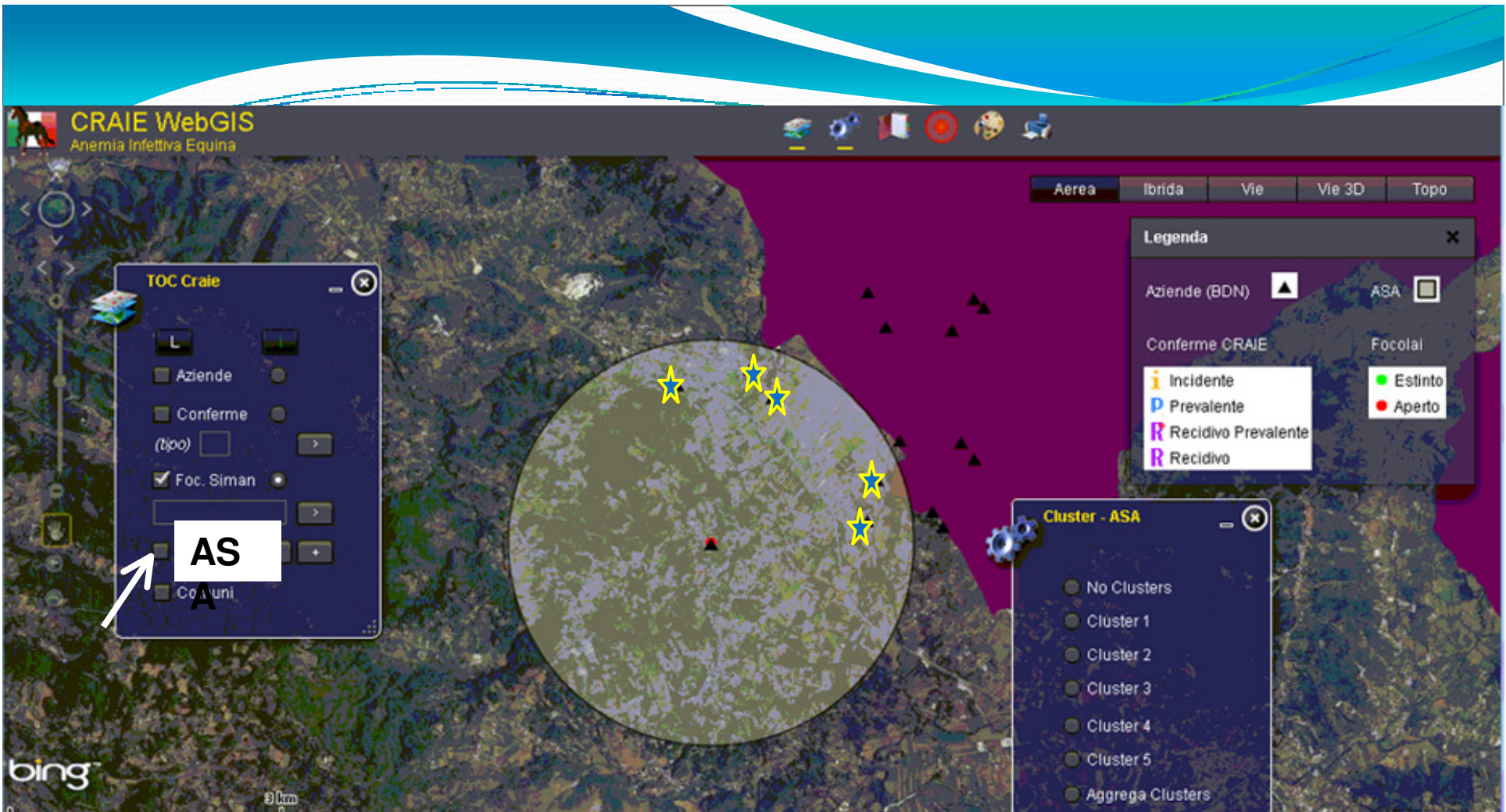


buffer 3Km automatico
automated buffer 3km





Dettaglio ASA
A detail of ASA



Dettaglio ASA
A detail of ASA

Mozilla Firefox
file:///C:/tmp/TAB_ASA.html

CODICE_AZIENDA	INDIRIZZO	COMUNE_AZI	PROVINCIA	fonte	LAT_bdn
018FR002	FITT FRITTATA 0	CASALVIERI	FR	siev_bdn	41,65
018FR013	VIA FRITTATA	CASALVIERI	FR	siev_bdn	41,65
018FR111	VIA FRITTATA 1	CASALVIERI	FR	siev_bdn	41,65
018FR079	VIA S.LEONARDO 81	CASALVIERI	FR	siev_bdn	41,65
004FR126	VIA VAL DI RIO 21	ALVITO	FR	siev_bdn	41,60
004FR292	VIA VAL DIRIO	ALVITO	FR	siev_bdn	41,60
085FR003	FITT SAN LEONARDO 0	VICALVI	FR	siev_bdn	41,65
018FR126	VIA SAN LEONARDO	CASALVIERI	FR	siev_bdn	41,65
018FR134	VIA SAN LEONARDO	CASALVIERI	FR	siev_bdn	41,65

Google

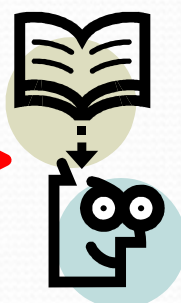
Aerea Ibrida Vie Vie 3D Topo

Legenda

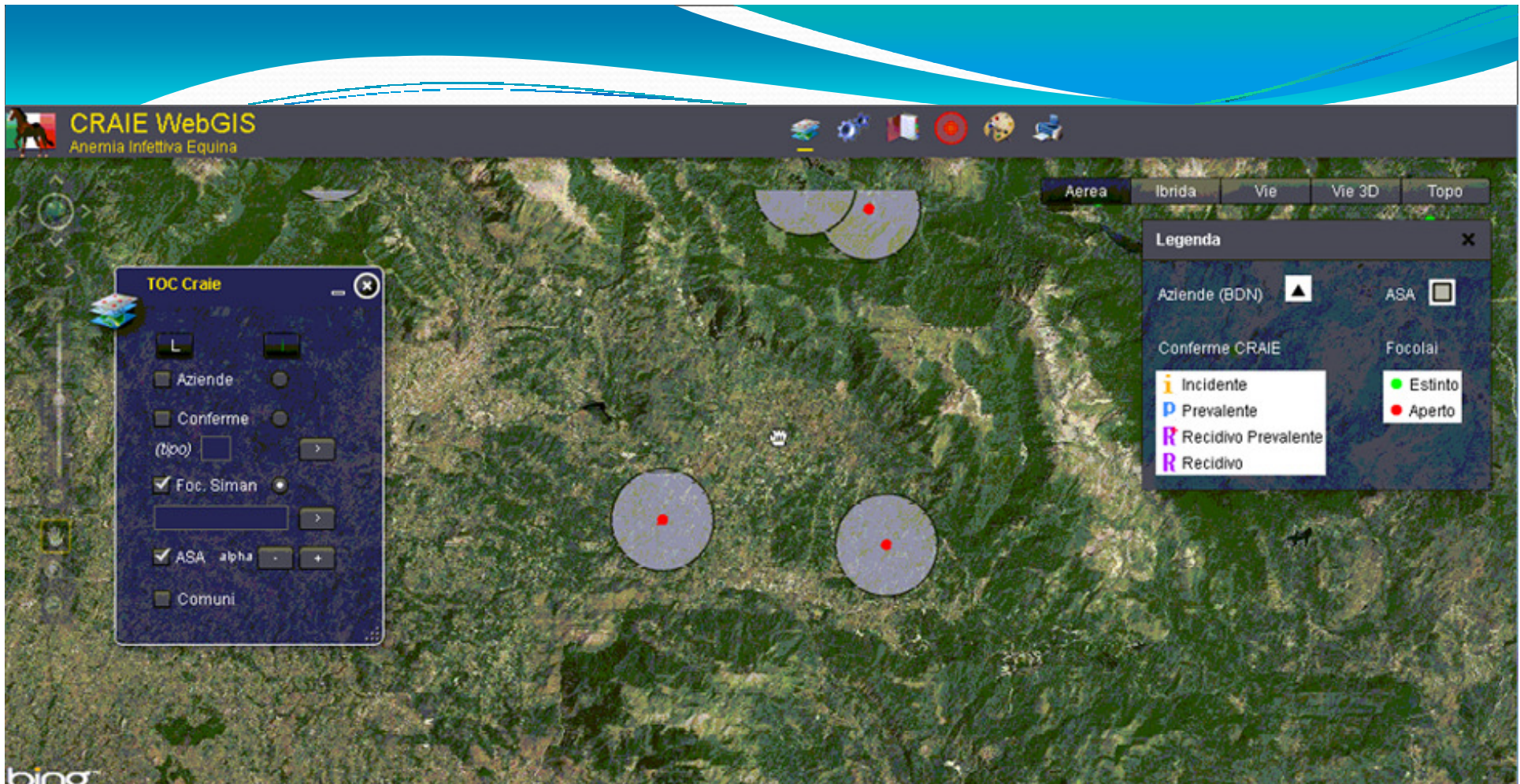
Aziende (BDN) ASA

Conferme CRAIE Focolai

- Incidente
- Prevalente
- Recidivo Prevalente
- Recidivo
- Estinto
- Aperto

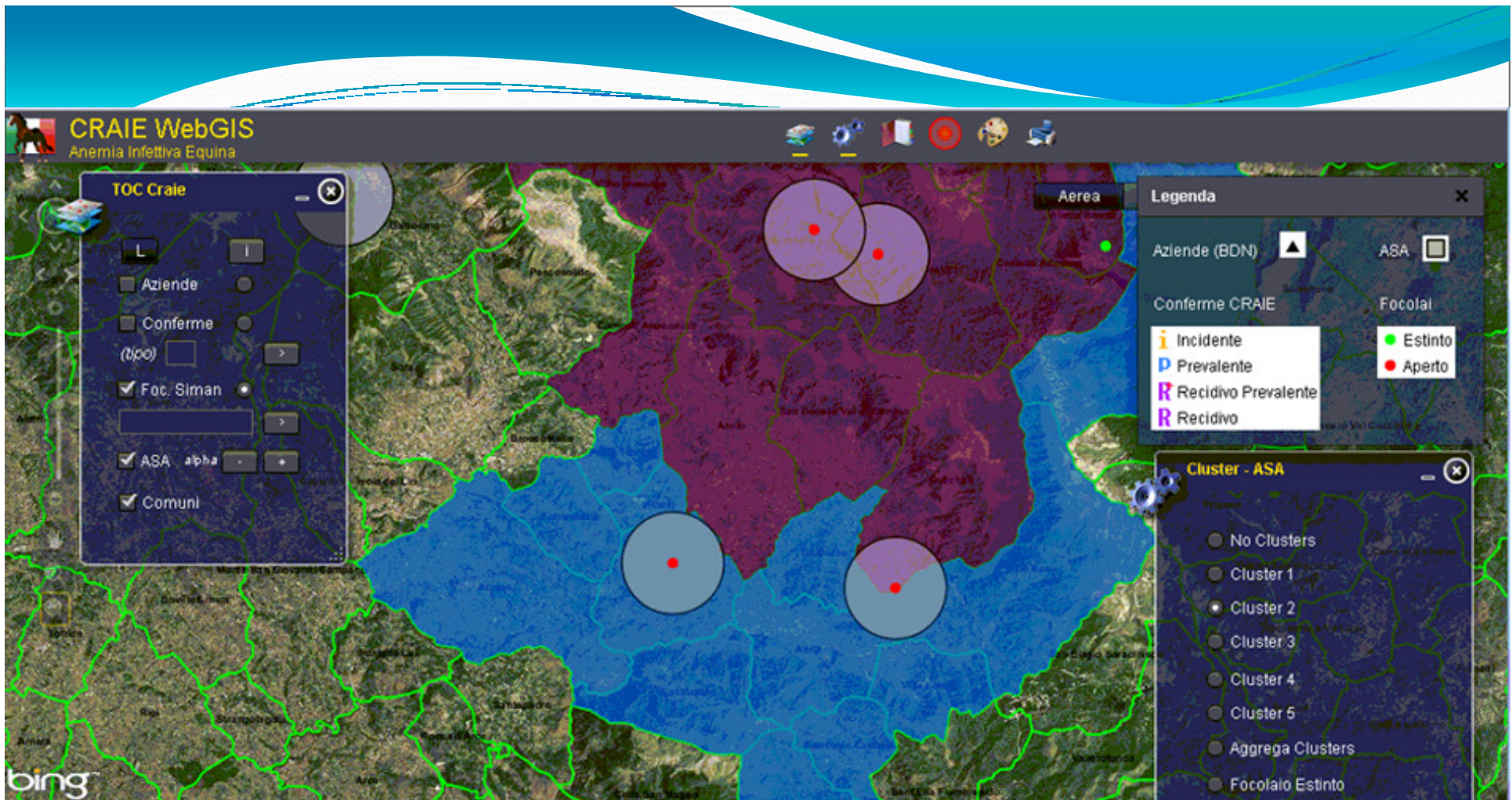


ASA
Lista aziende - Holdings
list Stampa – salva
Print-store



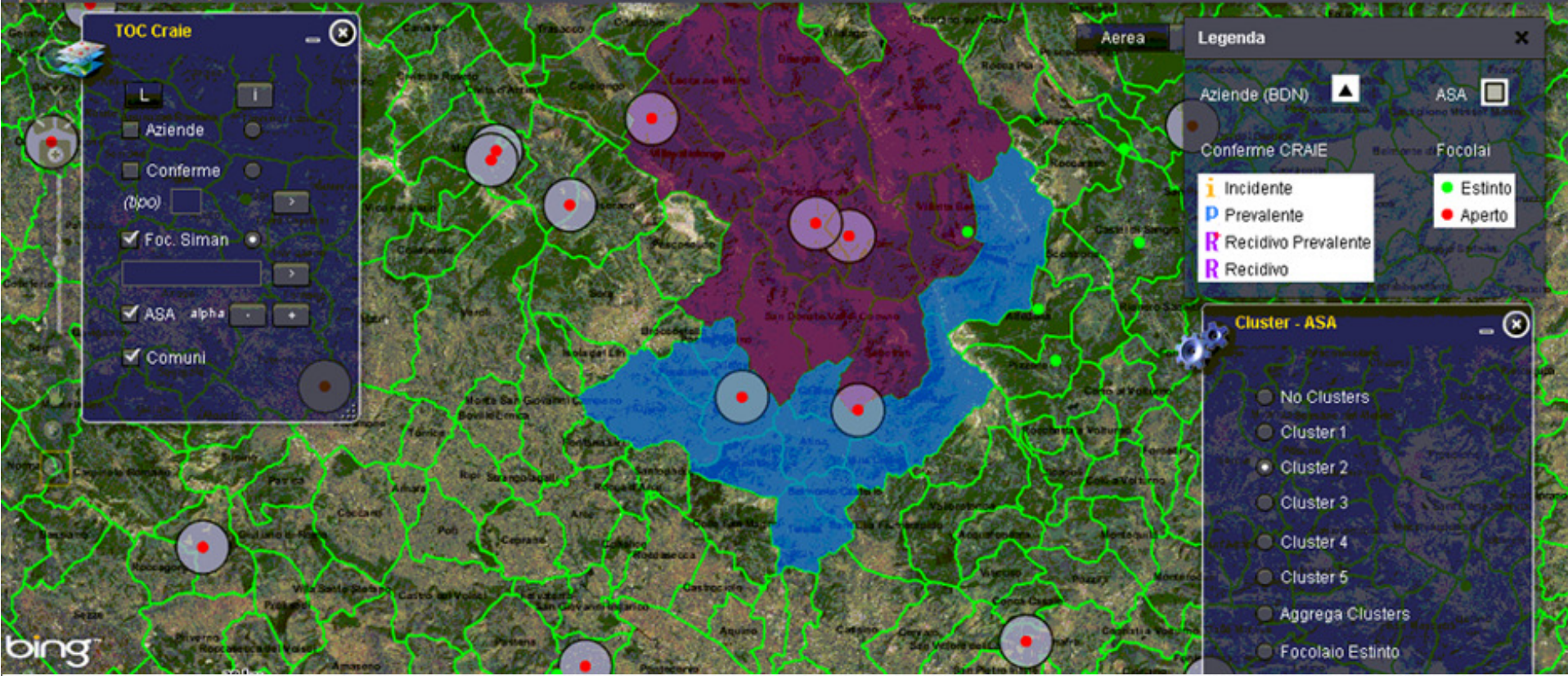
Cluster (focolai distanti < 10Km)

Cluster (outbreaks distance <10Km)

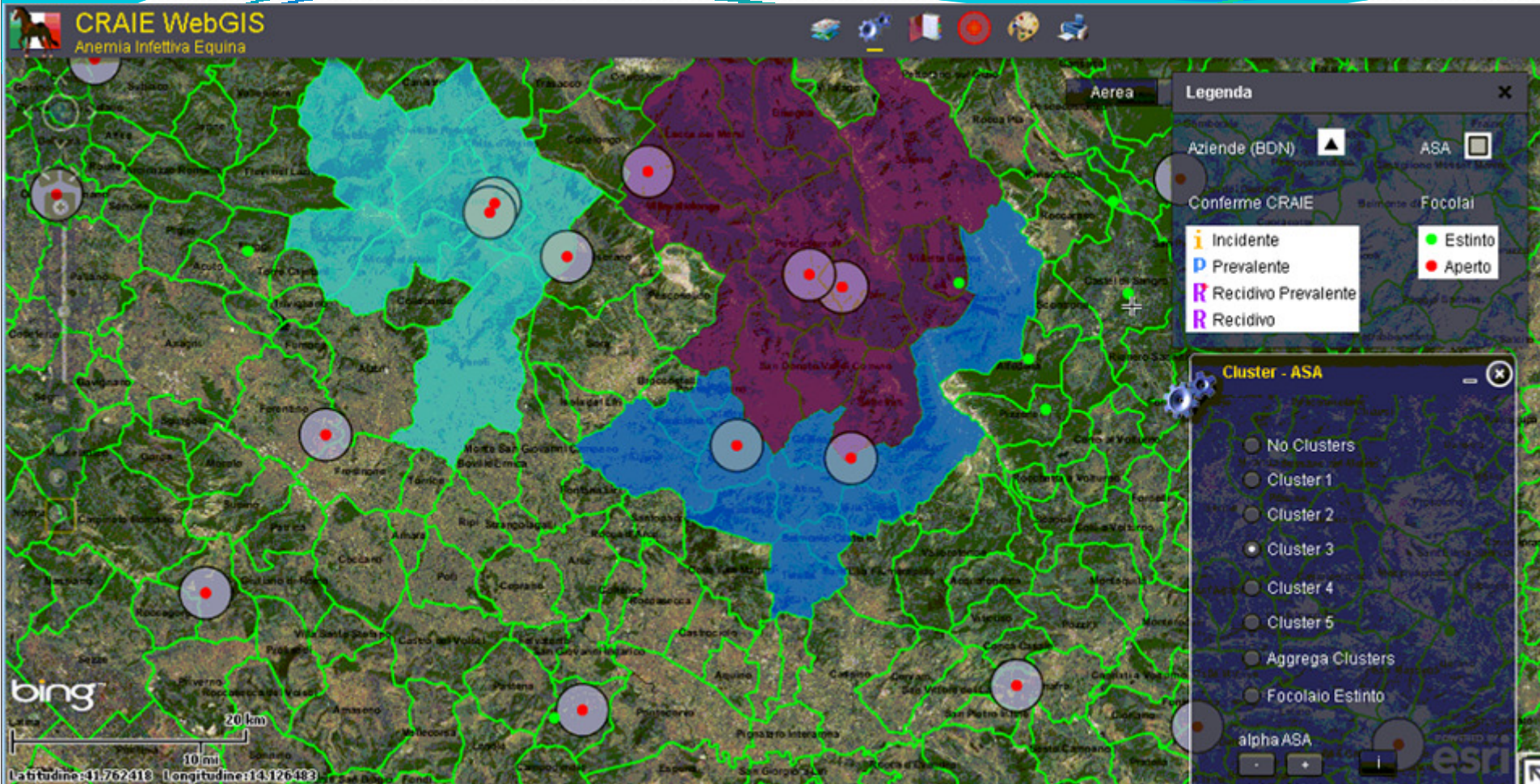


1 CLUSTER

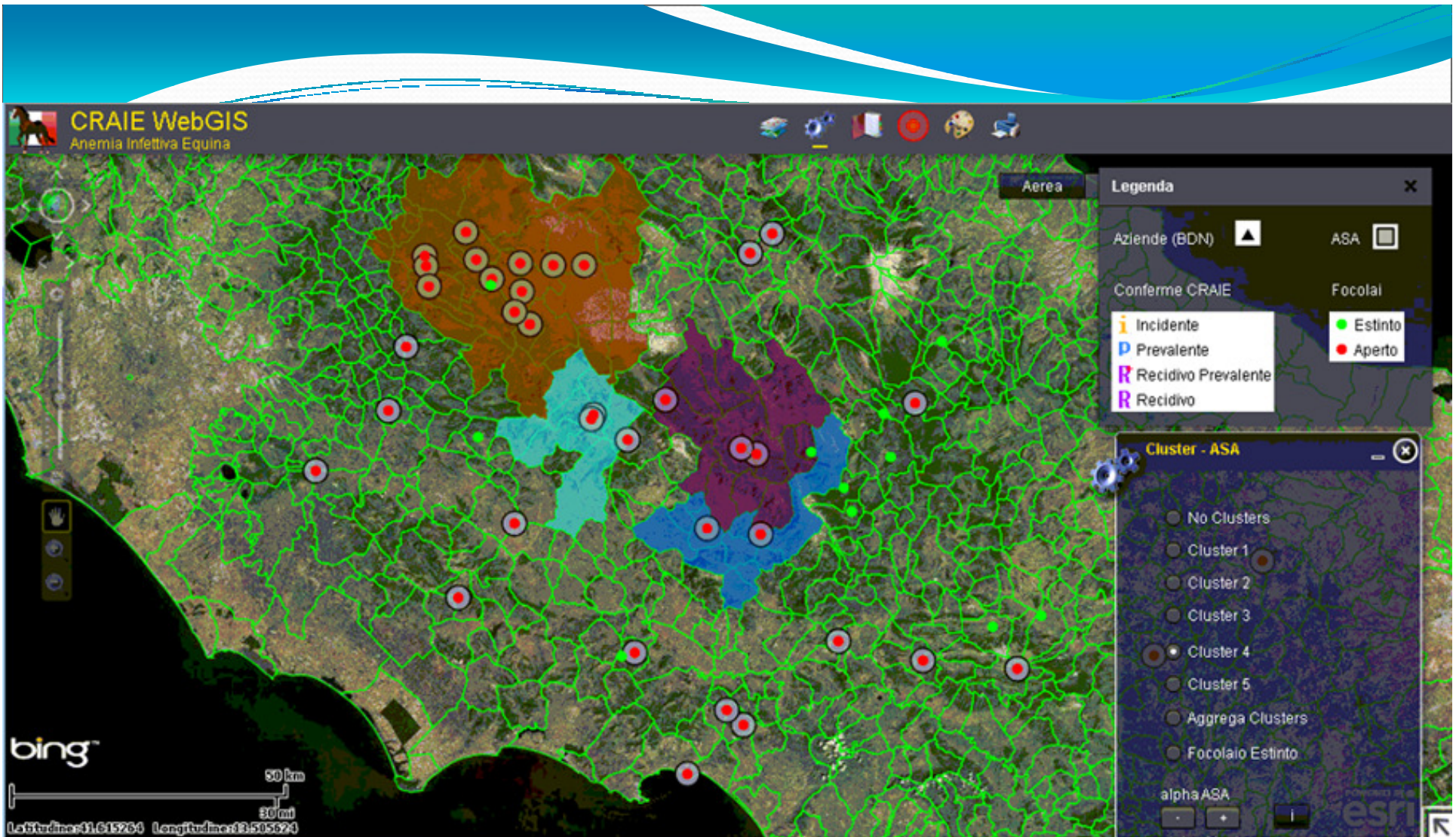
Unione dei confini amministrativi dei comuni
Municipalities borders junction



bing

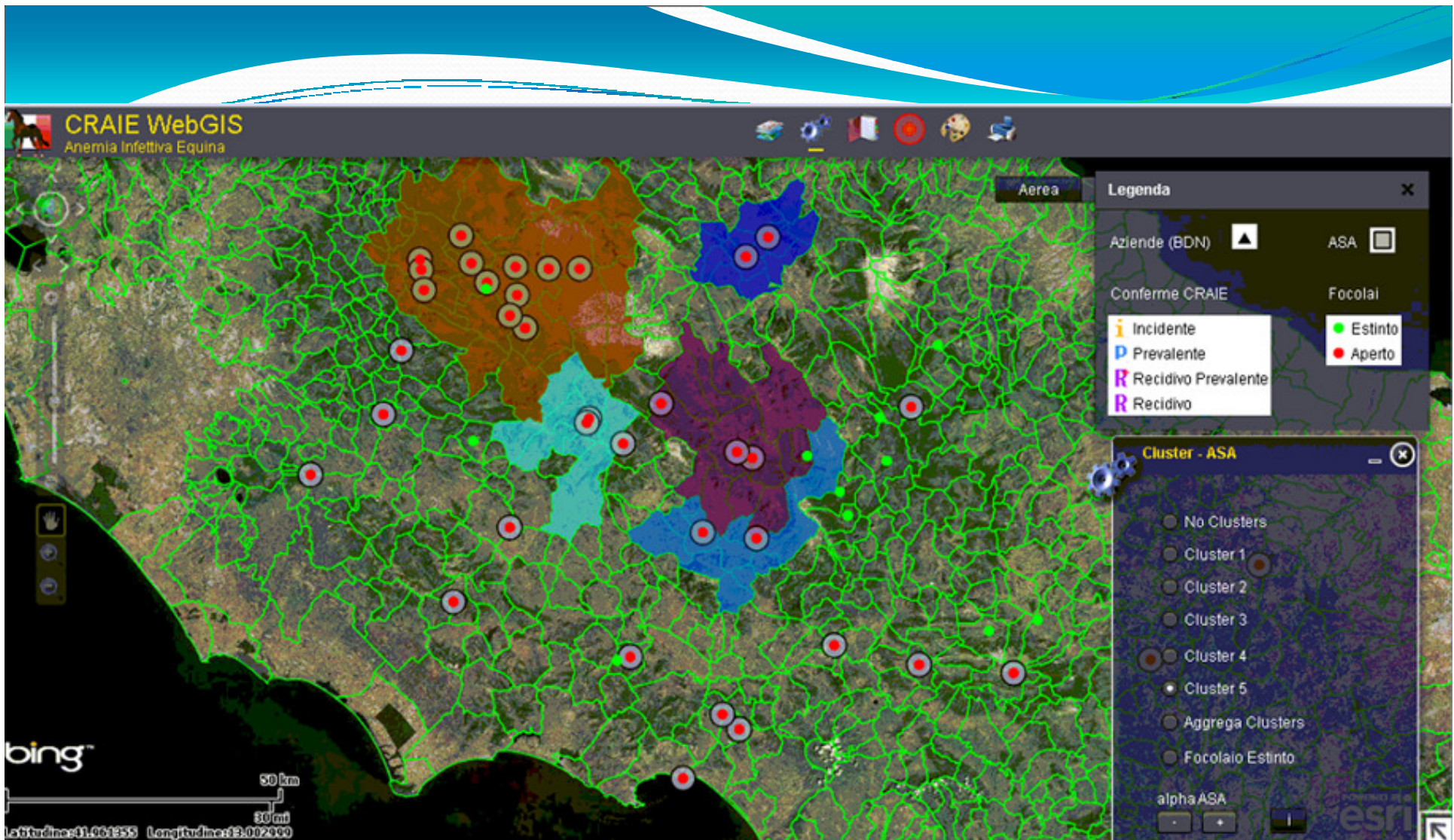


2 CLUSTER



3 CLUSTER

Unione dei confini amministrativi dei comuni
Municipalities borders junction

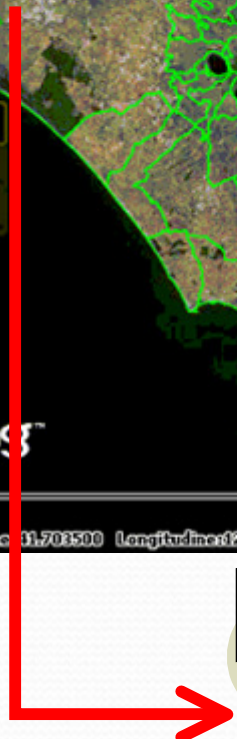


CODICE_AZIENDA	INDIRIZZO	COMUNE_AZI	PROVINCIA	fonte	LAT_bdn
018FR074	VIA COLLE ALTO	CASALVIERI	FR	siev_bdn	41,
004FR291	VIA COLLE ALTO	ALVITO	FR	siev_bdn	41,
004FR044	VIA COLLE ALTO	ALVITO	FR	siev_bdn	41,
004FR227	VIA COLLE ALTO	ALVITO	FR	siev_bdn	41,
004FR193	VIA SAN RITINTO	ALVITO	FR	siev_bdn	41,
004FR264	VIA SAN RITINTO 5	ALVITO	FR	siev_bdn	41,
004FR045	VIA VALLICELLE	ALVITO	FR	siev_bdn	41,
004FR024	VIA VADO GRANDE	ALVITO	FR	siev_bdn	41,
004FR293	VIA SPINELLE	ALVITO	FR	siev_bdn	41,
004FR069	VIA SPINELLE	ALVITO	FR	siev_bdn	41,
004FR294	VIA COLLE BUONO SERRA	ALVITO	FR	siev_bdn	41,

The screenshot shows a web browser window displaying a map application. The browser's address bar shows 'Google'. The map is overlaid with green lines representing a network and various colored markers (red, green, purple). On the right side, there are two control panels:

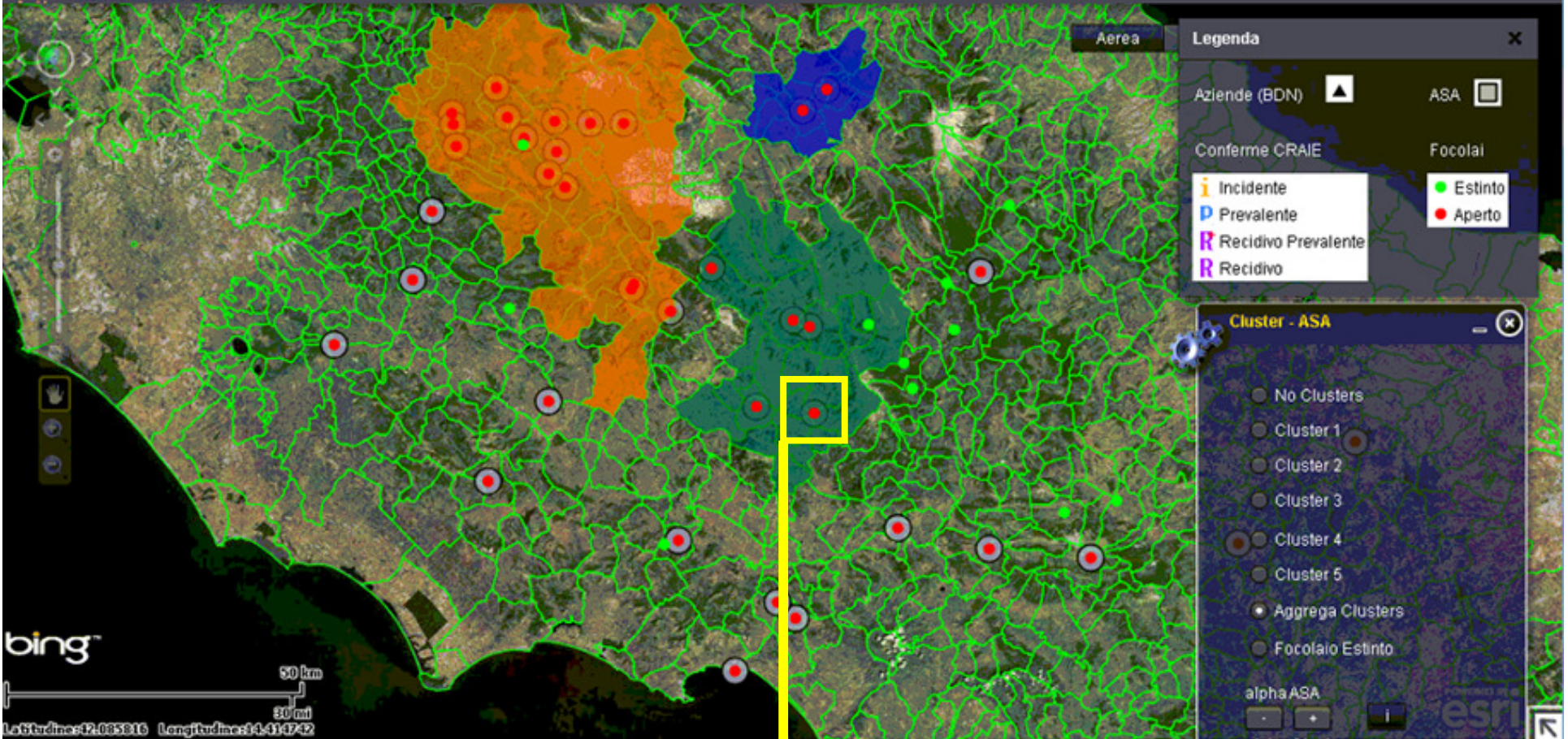
- Legenda:** Contains options for 'Aziende (BDN)', 'ASA', 'Conferme CRAIE', 'Focolai', and a legend for incident status: 'Incidente' (i), 'Prevalente' (P), 'Recidivo Prevalente' (R), 'Recidivo' (R), 'Estinto' (green dot), and 'Aperto' (red dot).
- Cluster - ASA:** A list of radio buttons for 'No Clusters', 'Cluster 1' through 'Cluster 5', 'Aggrega Clusters', and 'Focolaio Estinto'. Below this are 'alpha ASA' and 'alpha Clusters' controls with minus, plus, and info icons.

At the bottom left of the map, there is a scale bar showing 50 km and 30 mi, and coordinates: 'latitudine 41.708500 Longitudine 12.004122'.

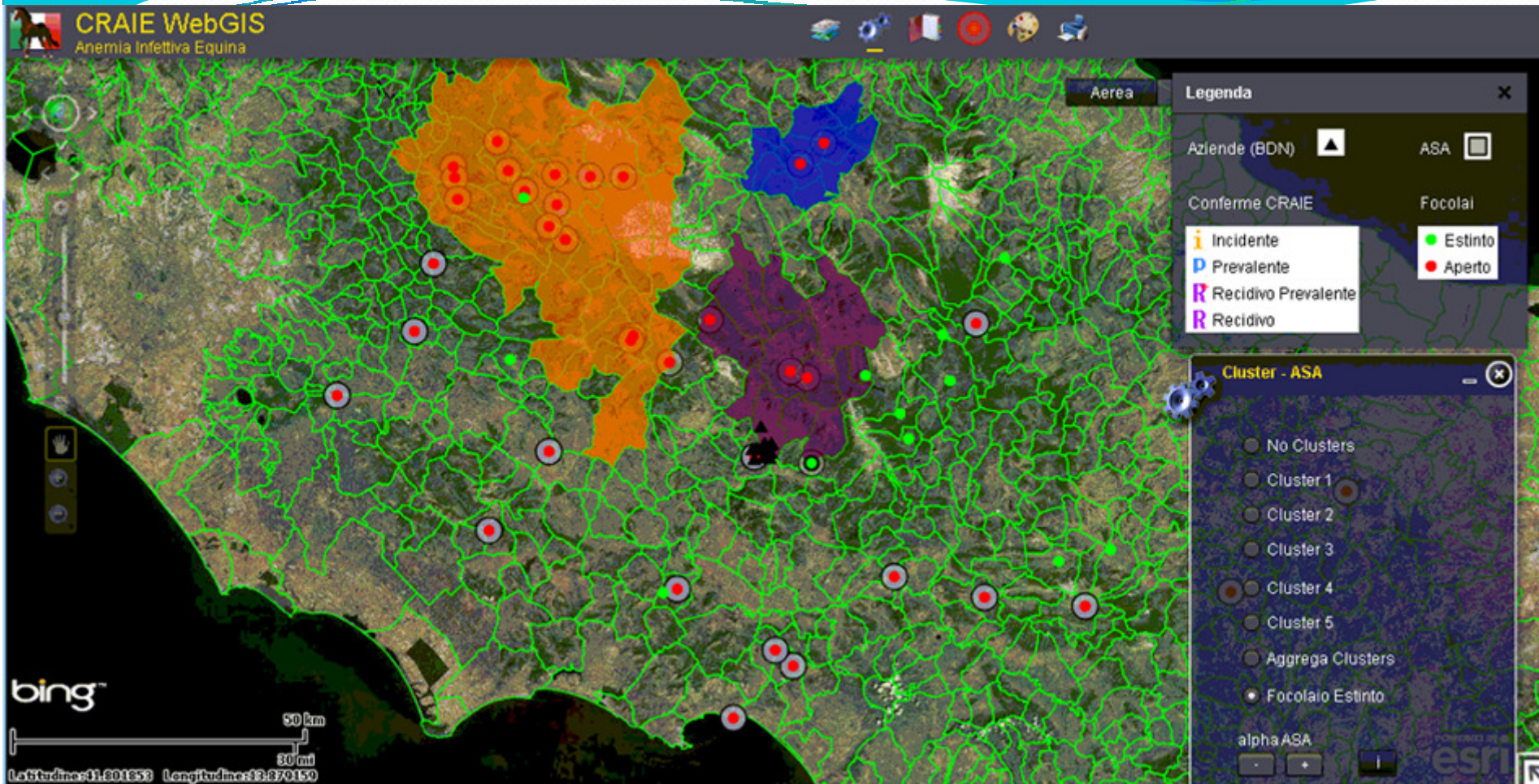


Clusters
Lista aziende - Holdings
list Stampa – salva
Print-store

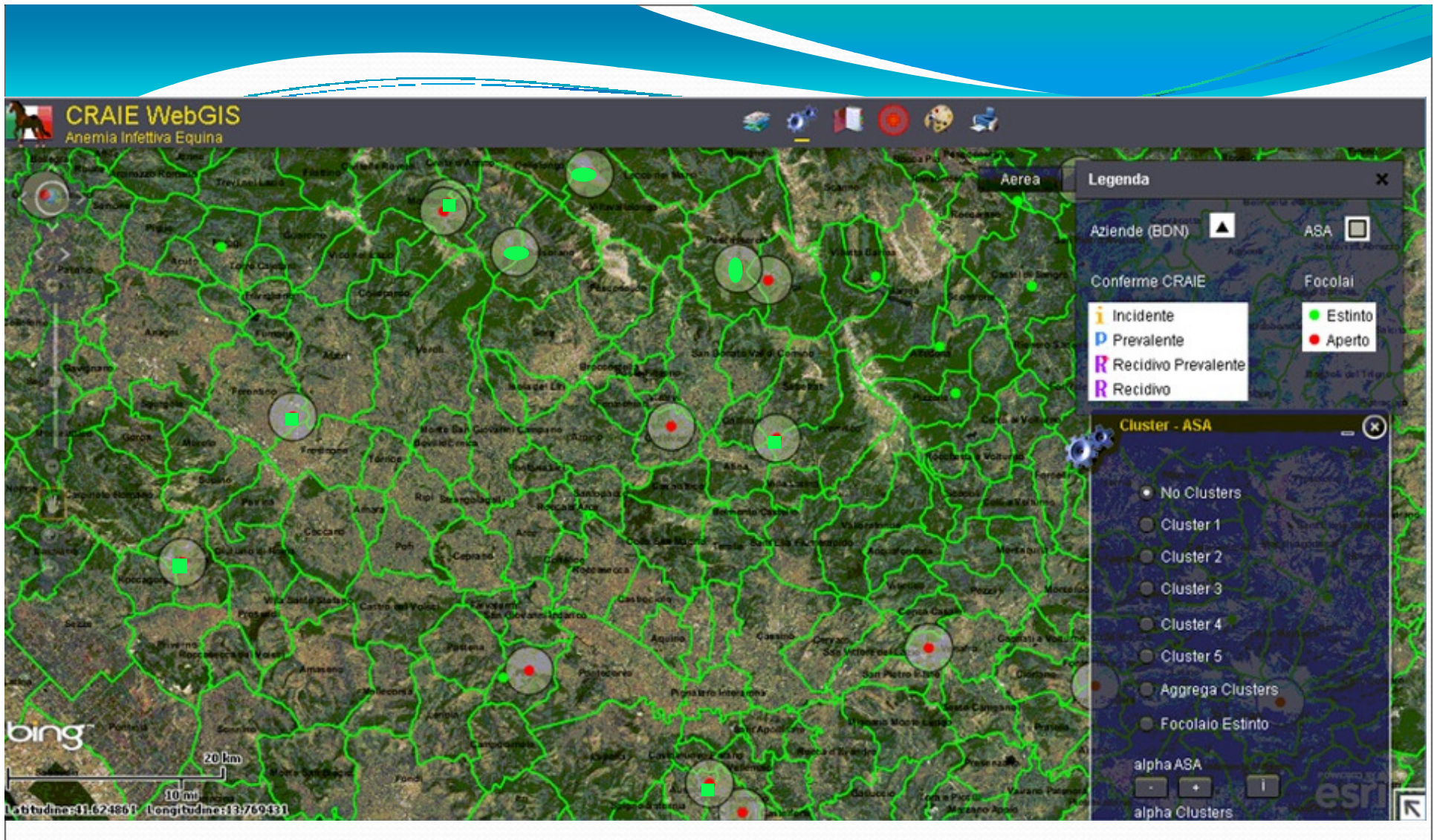
Controlli
ufficiali
Official



**Outbreak
extinction**



Erosione progressiva del CLUSTER
Progressive Erosion of clusters



Complete erosion –outbreaks extincted - Back to the original status

Erosione completa –focolai estinti - Ritorno allo stato

The new CRAIE WebGIS



- WORK IN PROGRESS
- DEADLINE JAN 2013