



Geographic Information System (GIS) in Protection and Rescue

Mladen CVRLJE



What is GIS?

Geographic Information System

Geographics

Vectors
Rasters
TIN
Ortophoto
DMT

Informatics

Hardware
Software
Network

Users

Military
Police
Protection and Rescue
Transport
Telecommunication
Agriculture
Environmental protection

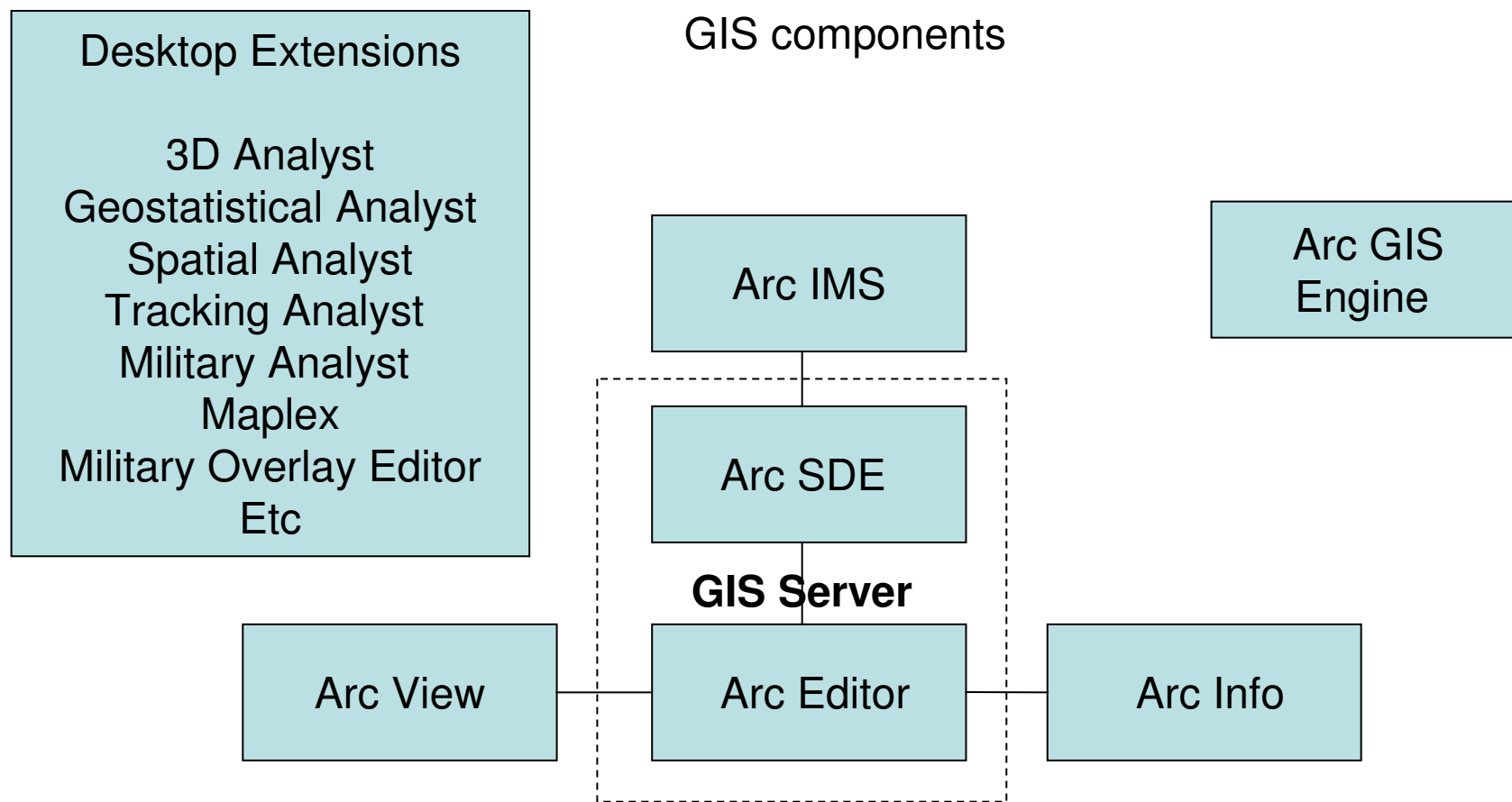


GIS functions

**Capture
Store
Query
Analyze
Display
Output**

Most people are still using GIS to make maps

GIS can do much more





NDPR **duzs**
DRŽAVNA UPRAVA ZA
ZASTITU I SPASAVANJE



Fire
Service

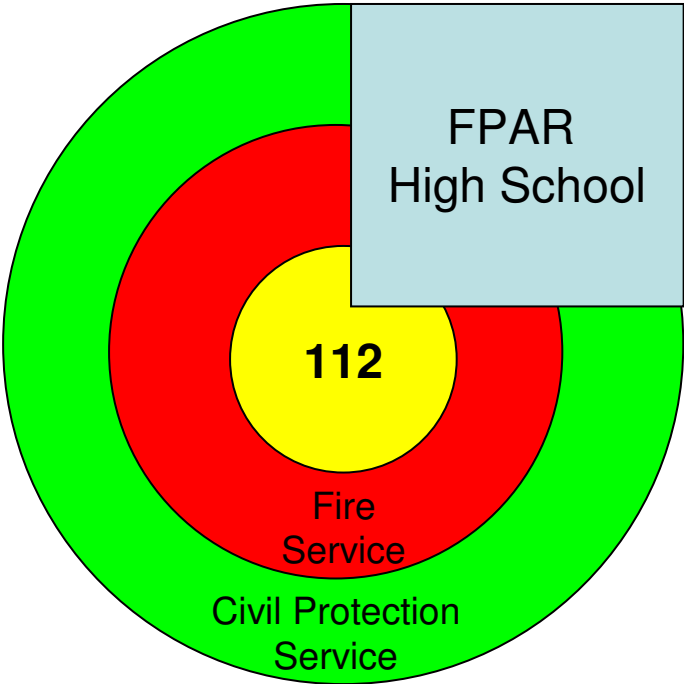
112
Service

Civil Protection
Service

FPAR
High School

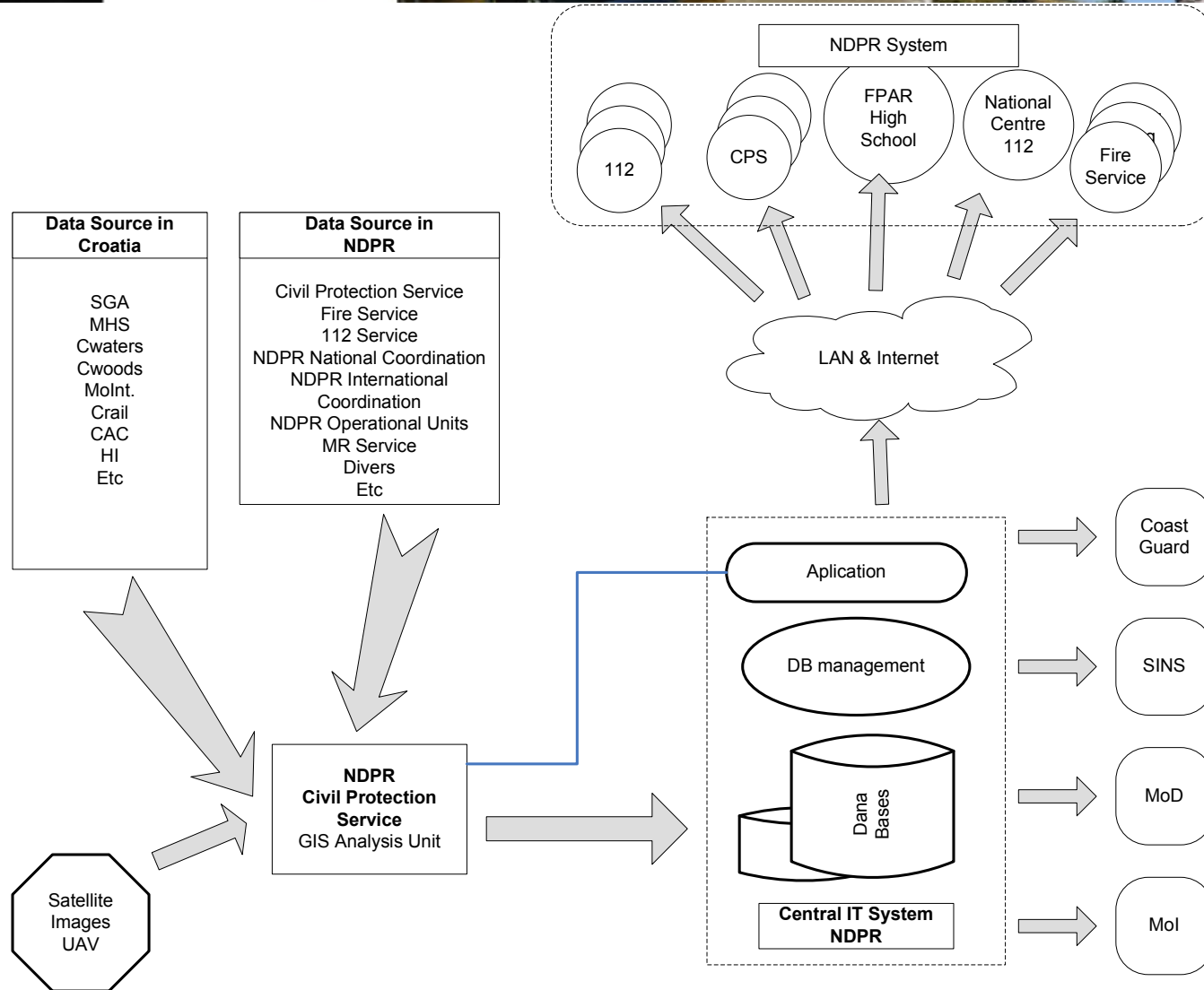
Logistics
Service

GIS in NDPR



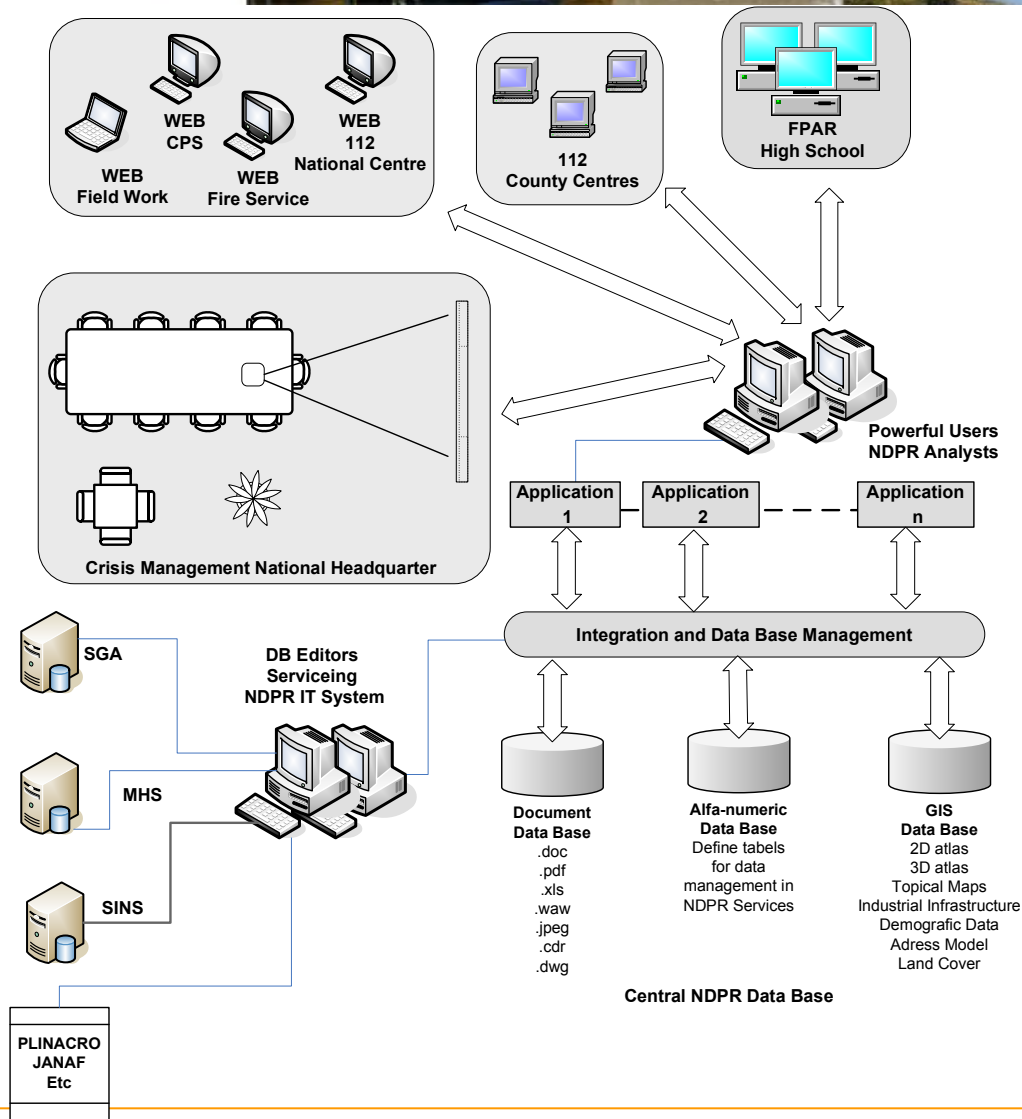


Technological organization



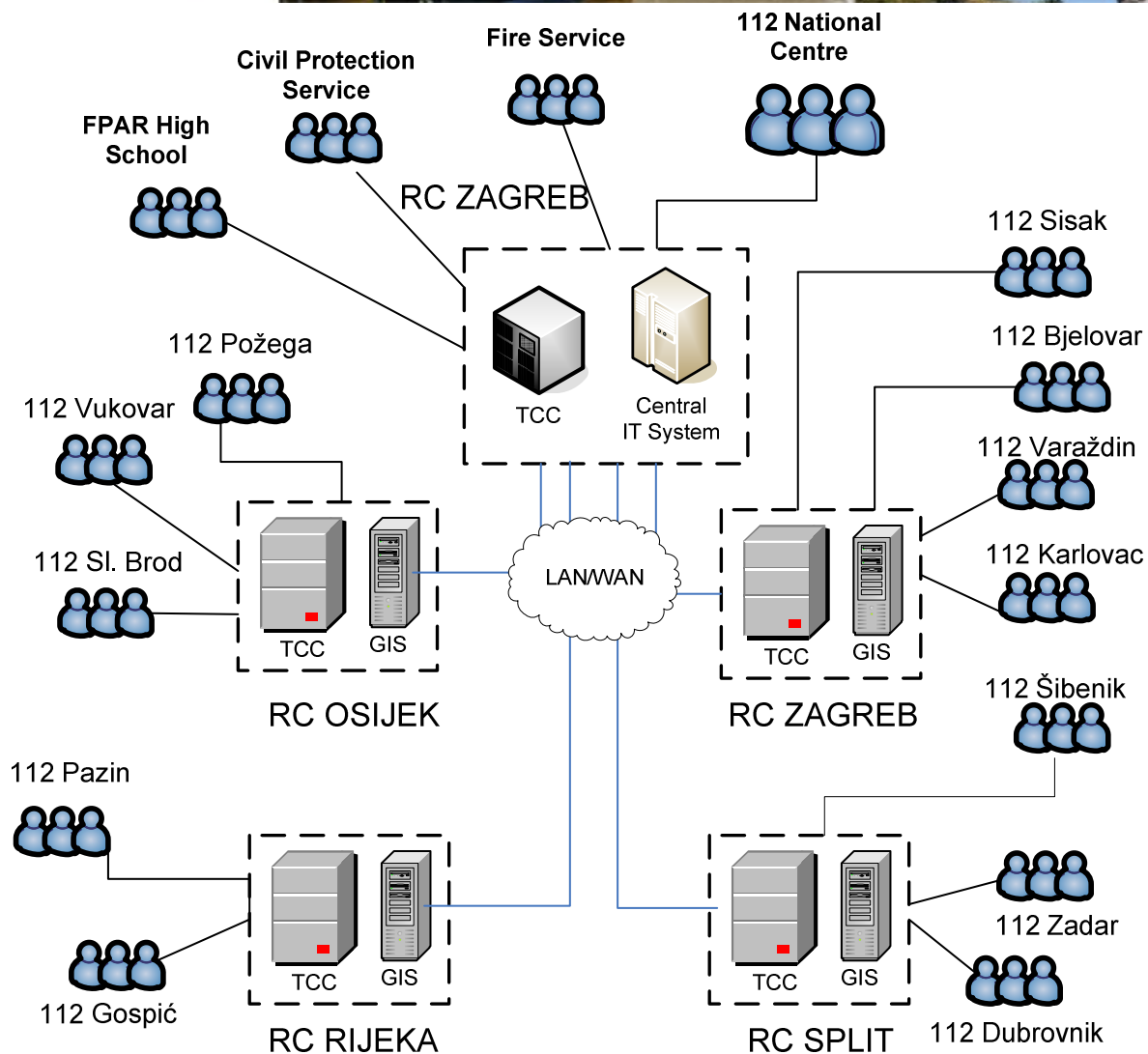


Customer architecture



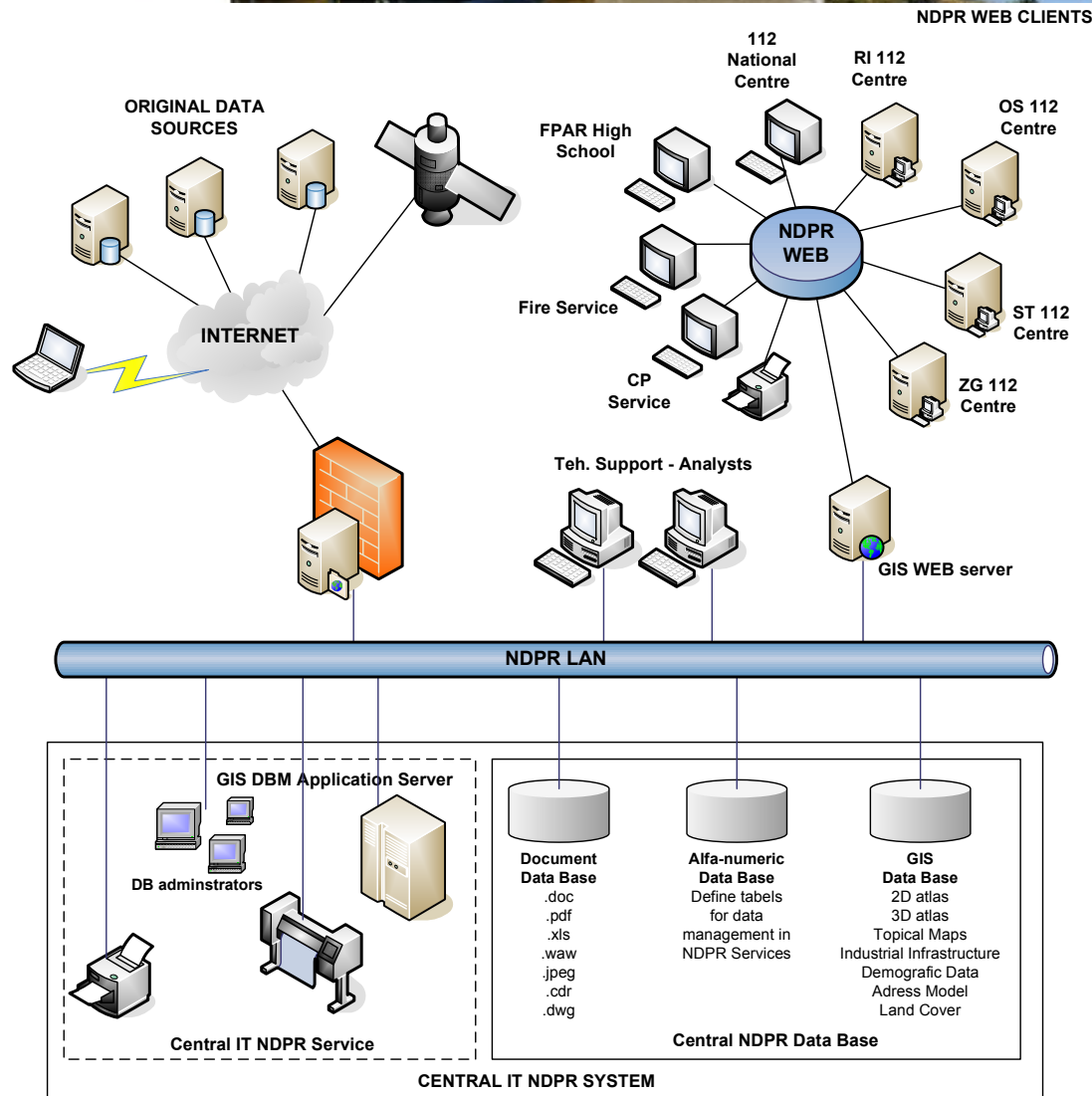


Telecommunicational and informatical architecture



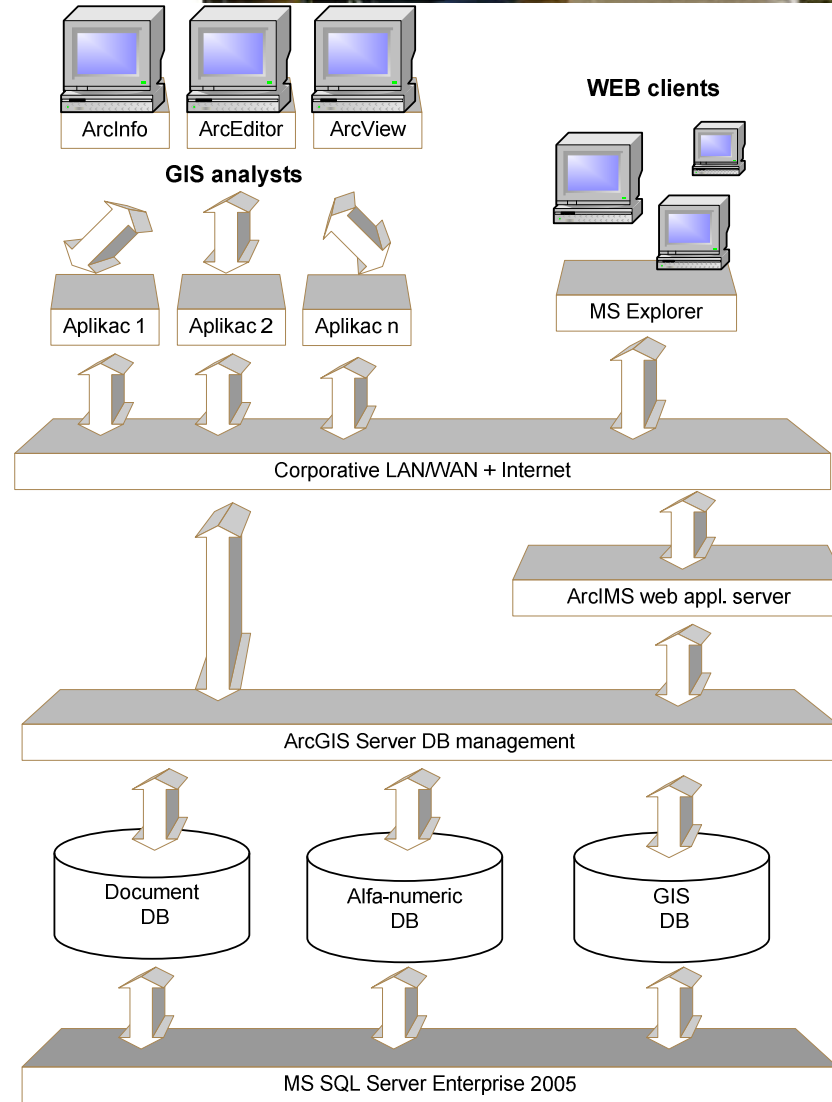


Hardware architecture





Software architecture





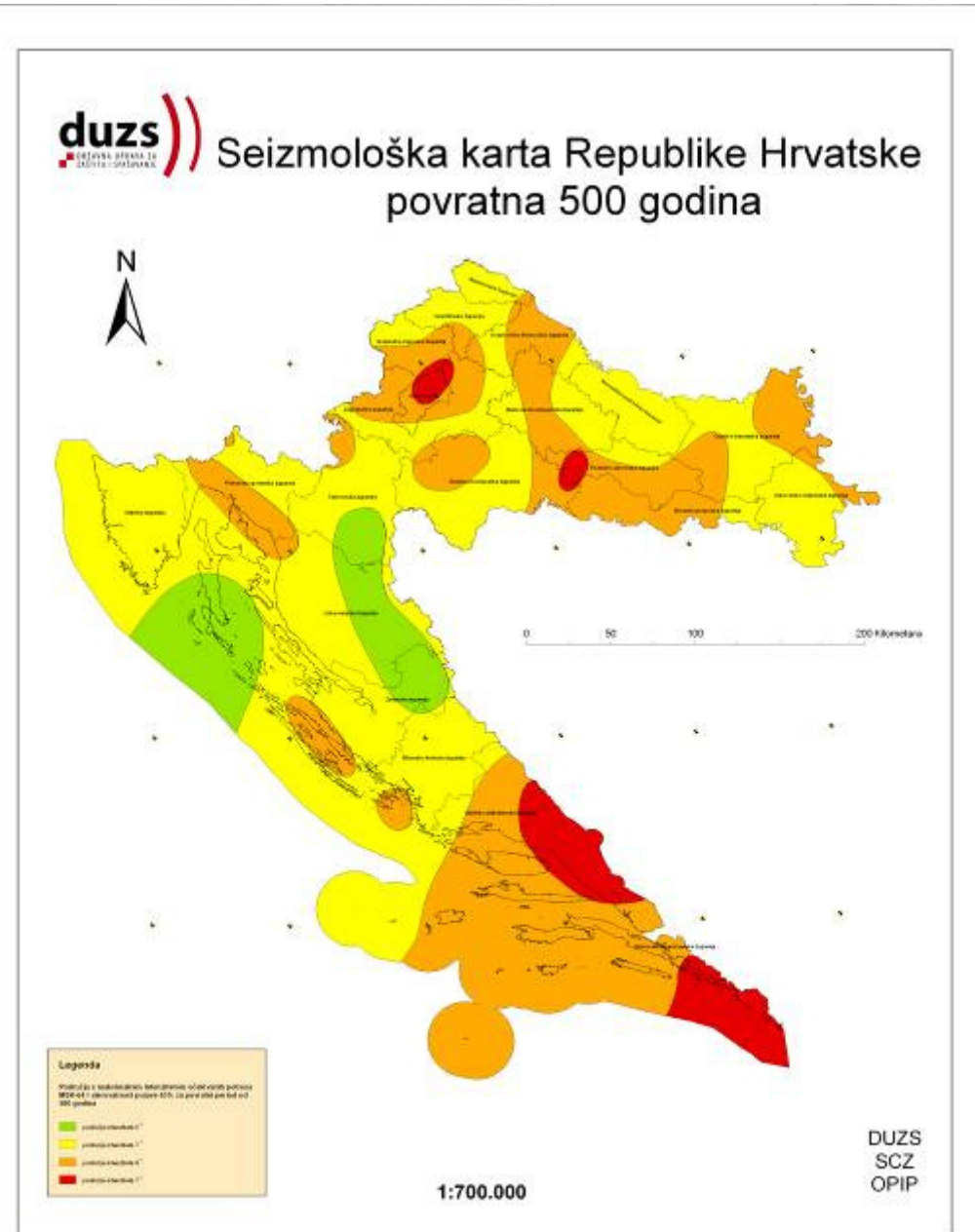
Using GIS in NDPR

Risk map of Croatia



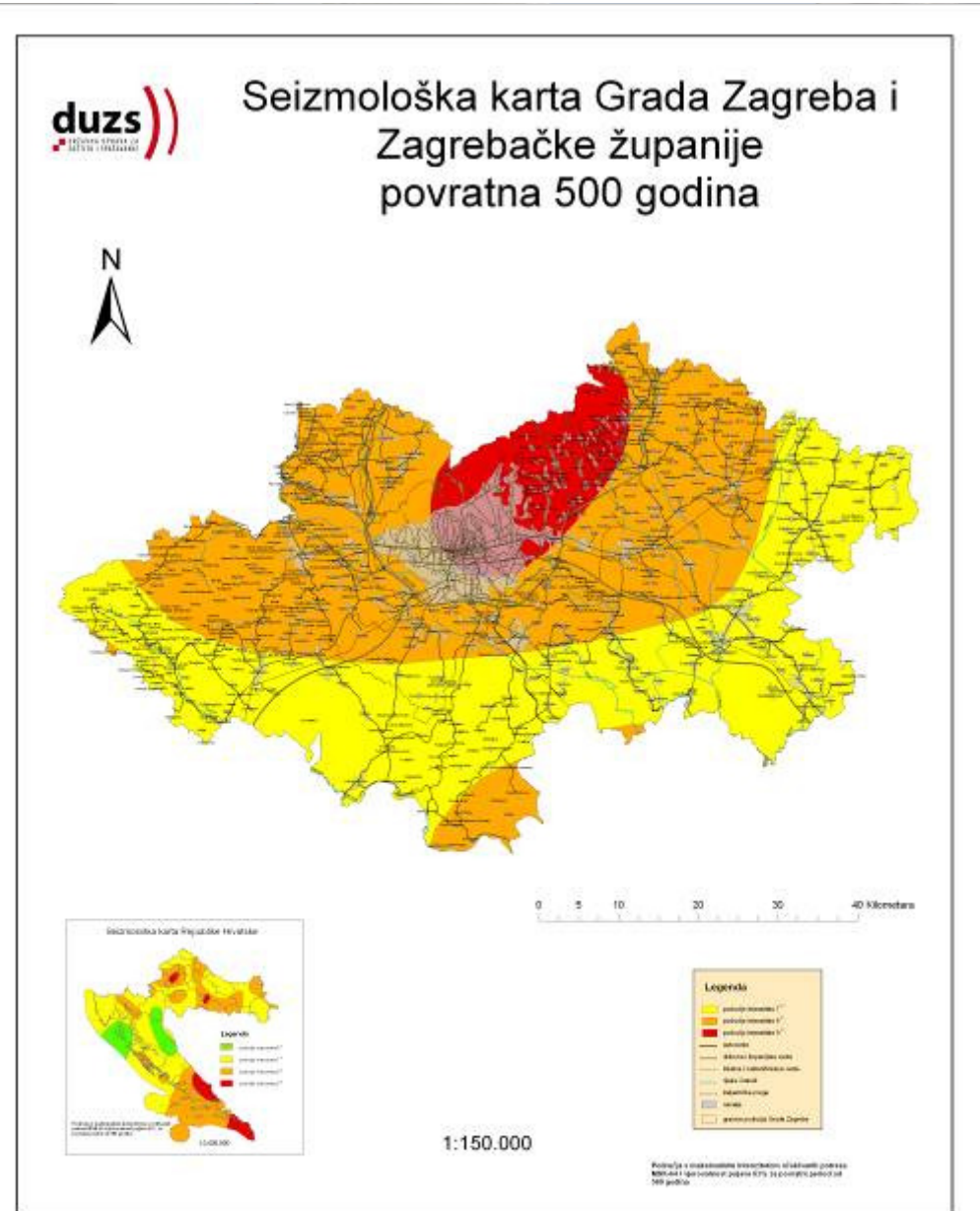


Seismically map of Croatia





Seismically map of Zagreb County and City of Zagreb

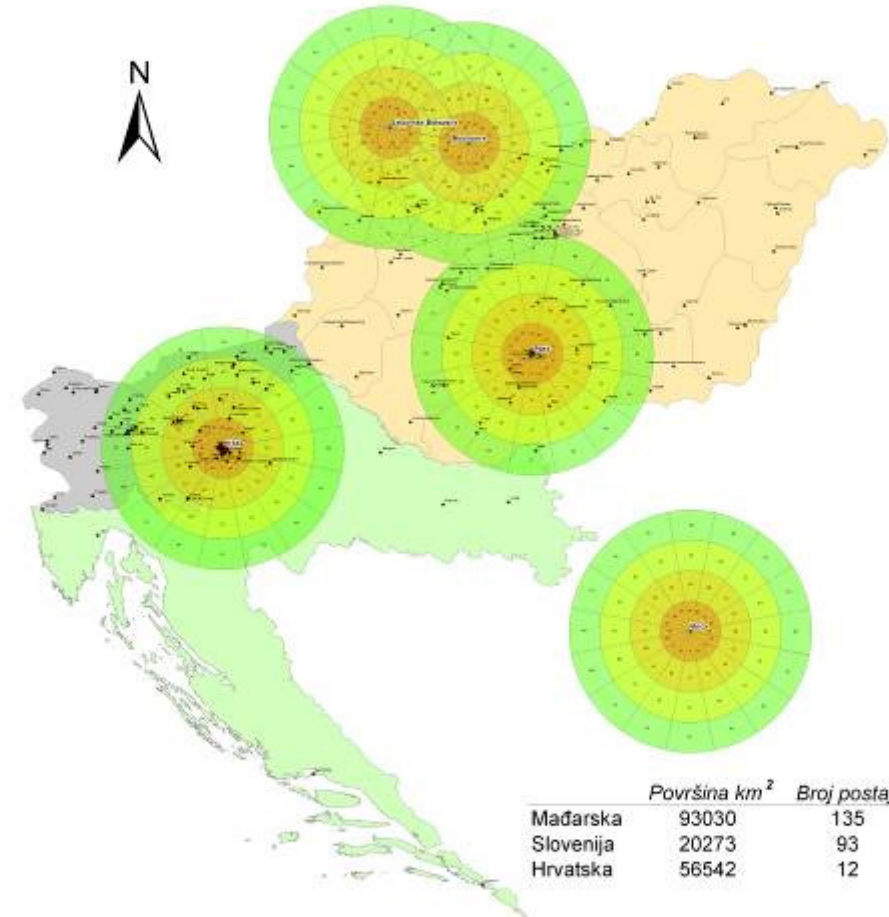




Radiological measurements stations



Radiološke mjerne postaje sa zonama potencijalne ugroženosti



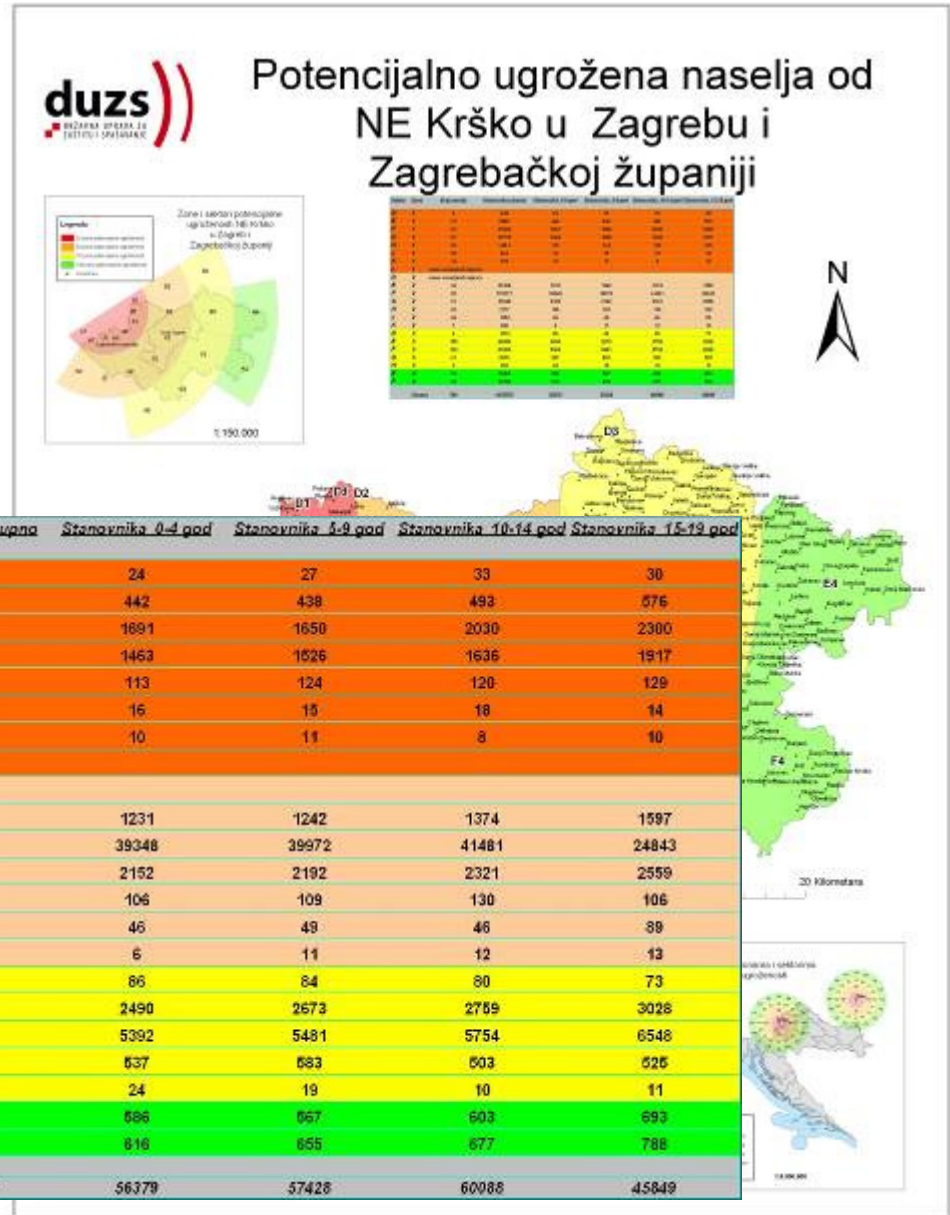
	<i>Površina km²</i>	<i>Broj postaja</i>
Mađarska	93030	135
Slovenija	20273	93
Hrvatska	56542	12

1:1.000.000

Da bi se postigla pokrivenost mjernim postajama kakvu ima Mađarska, u Hrvatskoj bi trebalo izgraditi još 70 postaja.
 Za postizanje pokrivenosti kakvu ima Slovenija, u Hrvatskoj bi trebalo izgraditi još 247 postaja.

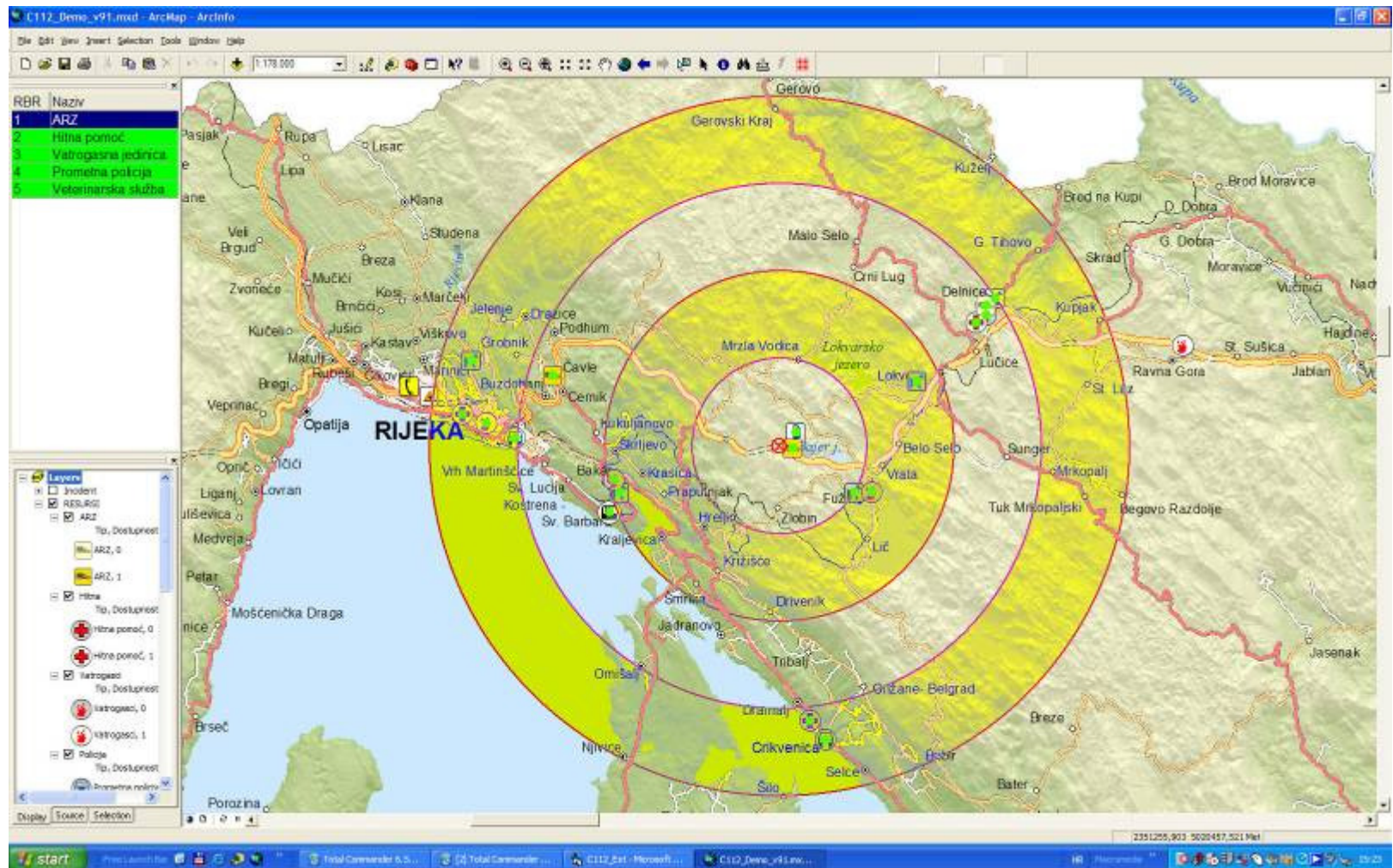


Radiologically risk of Zagreb County and City of Zagreb





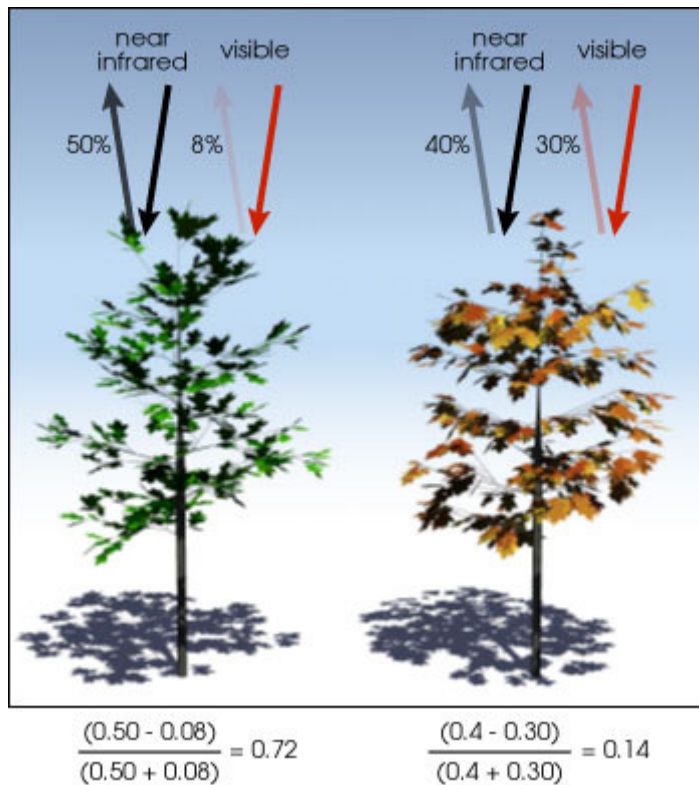
112 Service Application





Kornat 3. srpnja 2008.

Using satellite images and land cover for forest fire risk assessment



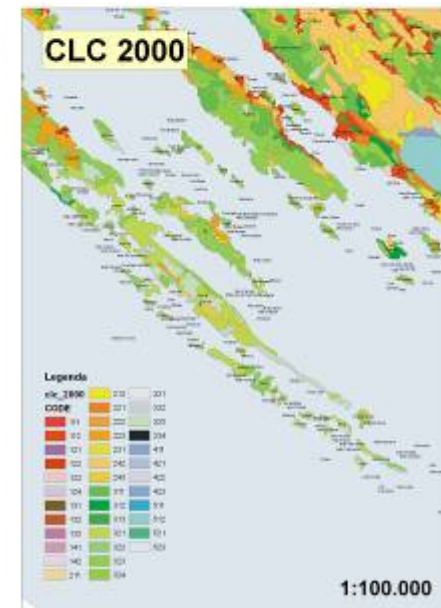
Rapid Response System ne detektira nikakve toplinske anomalije.

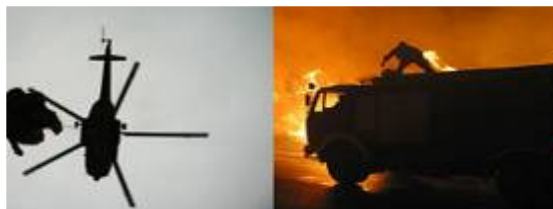
Normalized Difference Vegetation Index (NDVI) na južnom dijelu otoka ima vrijednost ispod 0,3. Tako niska vrijednost upućuje na suhi biljni pokrov ili na izostanak vegetacije.

Prema CLC 2000 na južnom dijelu otoka prevladavaju razredi 333 - područja s oskudnom vegetacijom i 321- prirodni travnjaci.

Zaključak:

Oskudna vegetacije je uzrok niskog NDVI-a. Kako na ostatku otoka NDVI ima vrijednosti veću od 0,3 ne postoji opasnost od požara.





11. rujna 2008.



Terra Orbit Track
11:45 CEST

Forest fires over-
borders early warning



- požari na području Punitovca, Antunovca, Strizivojne, Trpinje, Starih Jankovaca i Lovasa
- u BIH požari (1 km), u CG požari (7 km)
- u SR požari (0,1 km), u MD požar (23 km)

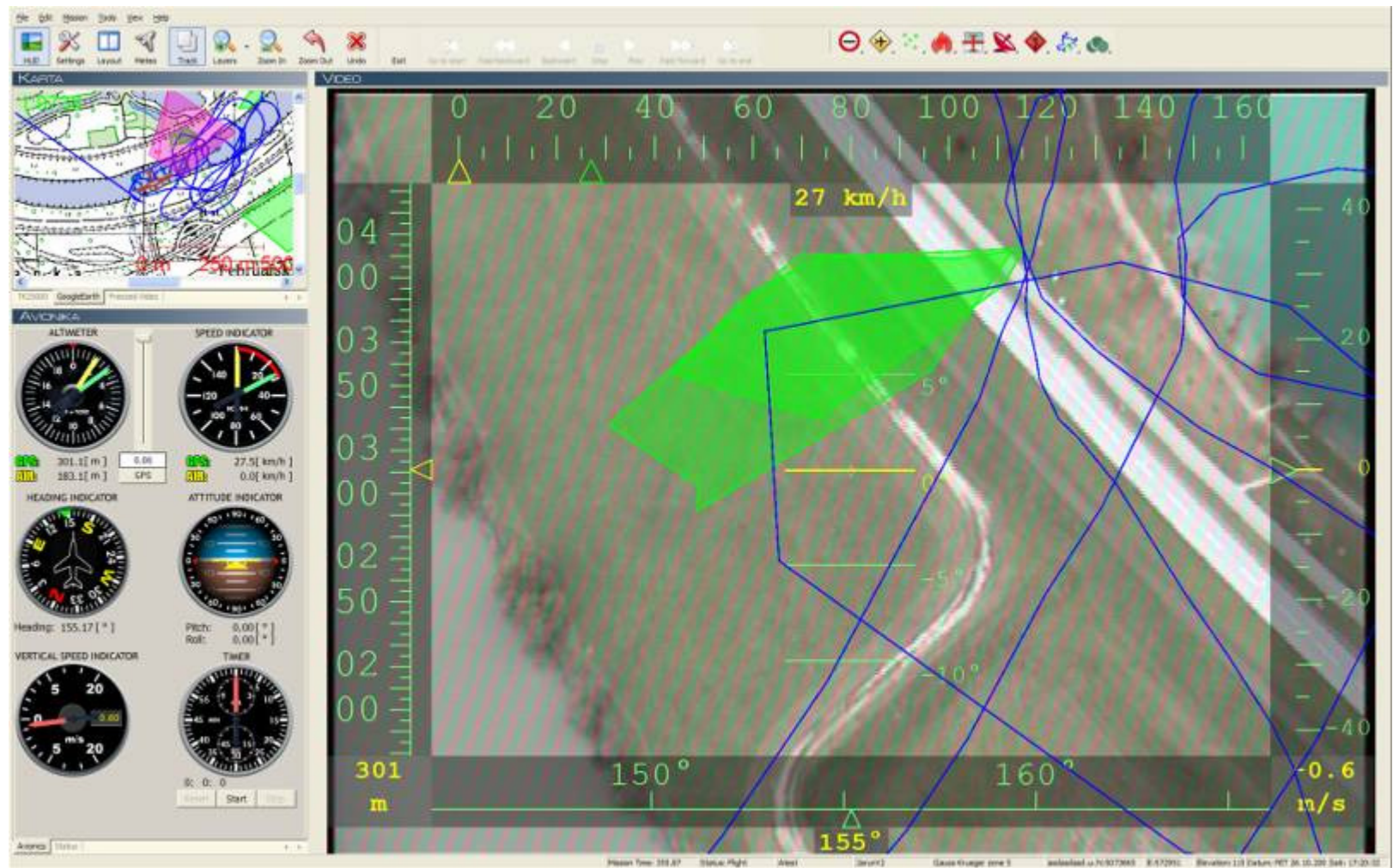
1:650.000



National Protection and Rescue Directorate

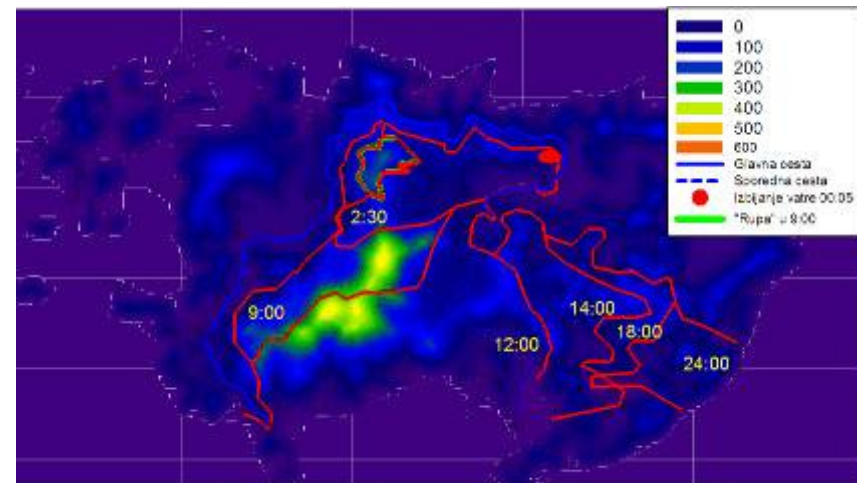
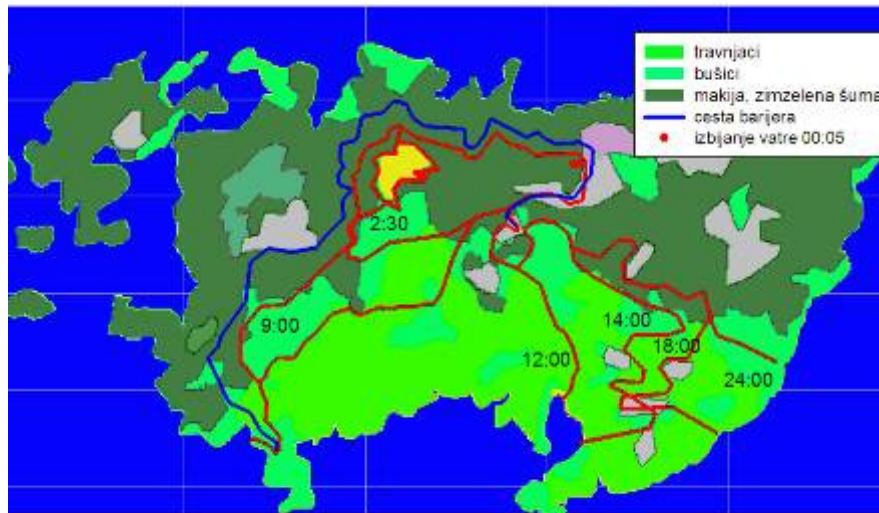


Real Time
Data
Processing



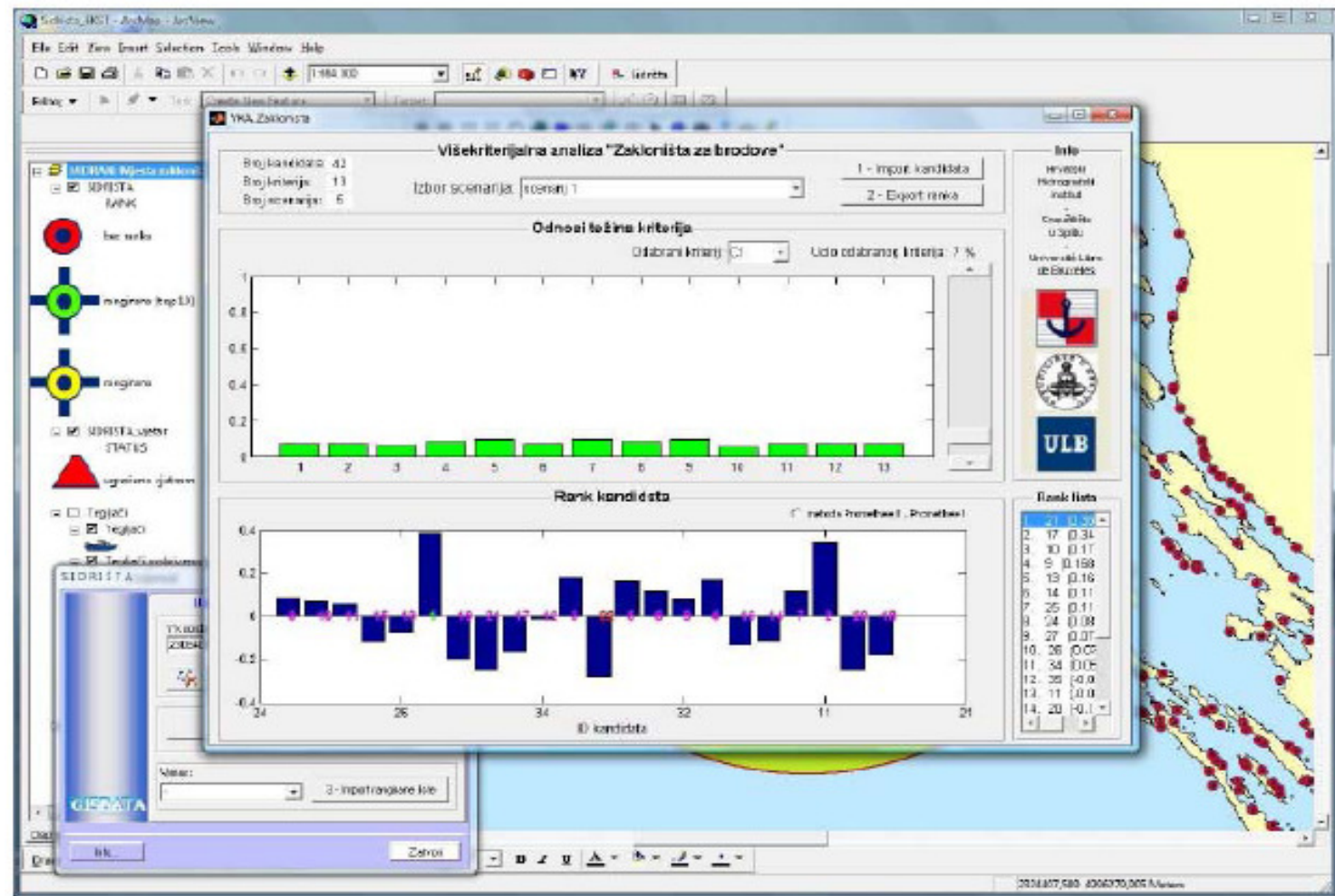


Forest fires spreading prediction module





Multicriterial
analysis





**THANK YOU
FOR YOUR ATTENTION**