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Effective decision-making in crisis management using geoinformation technologies

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Polish Academy of Sciences

Disaster Risk Reduction, 15-16.10.2015

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Agenda

1. About Crisis Information Centre.
2. Spatial information in emergency management.
3. Examples of use of spatial information in emergency management.
4. The concept of geoinformation service for emergency management.

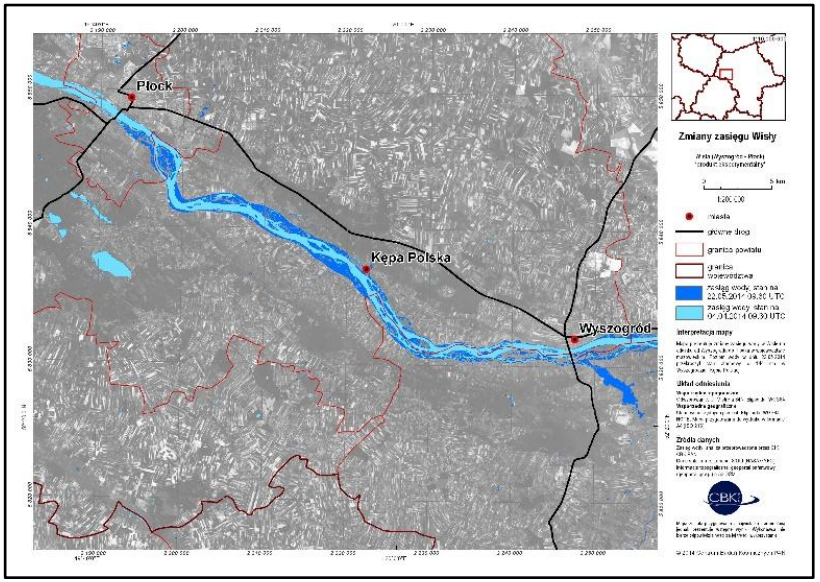
Crisis Information Centre mission

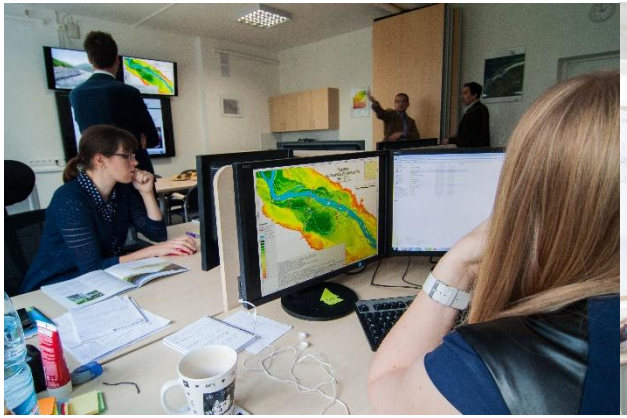
- support of the State Fire Service, institutions responsible for crisis management and Polish non-governmental organizations while using the geospatial information and satellite imagery

- development of new methods and tools in this area
- development of applications of satellite technology
- testing of new pre-operational technical solutions

Crisis Information Centre activities

- Activations (EO-based and geoinformation products)
- Participation in field exercises
- Preparing and conducting simulation games
- Public outreach activities





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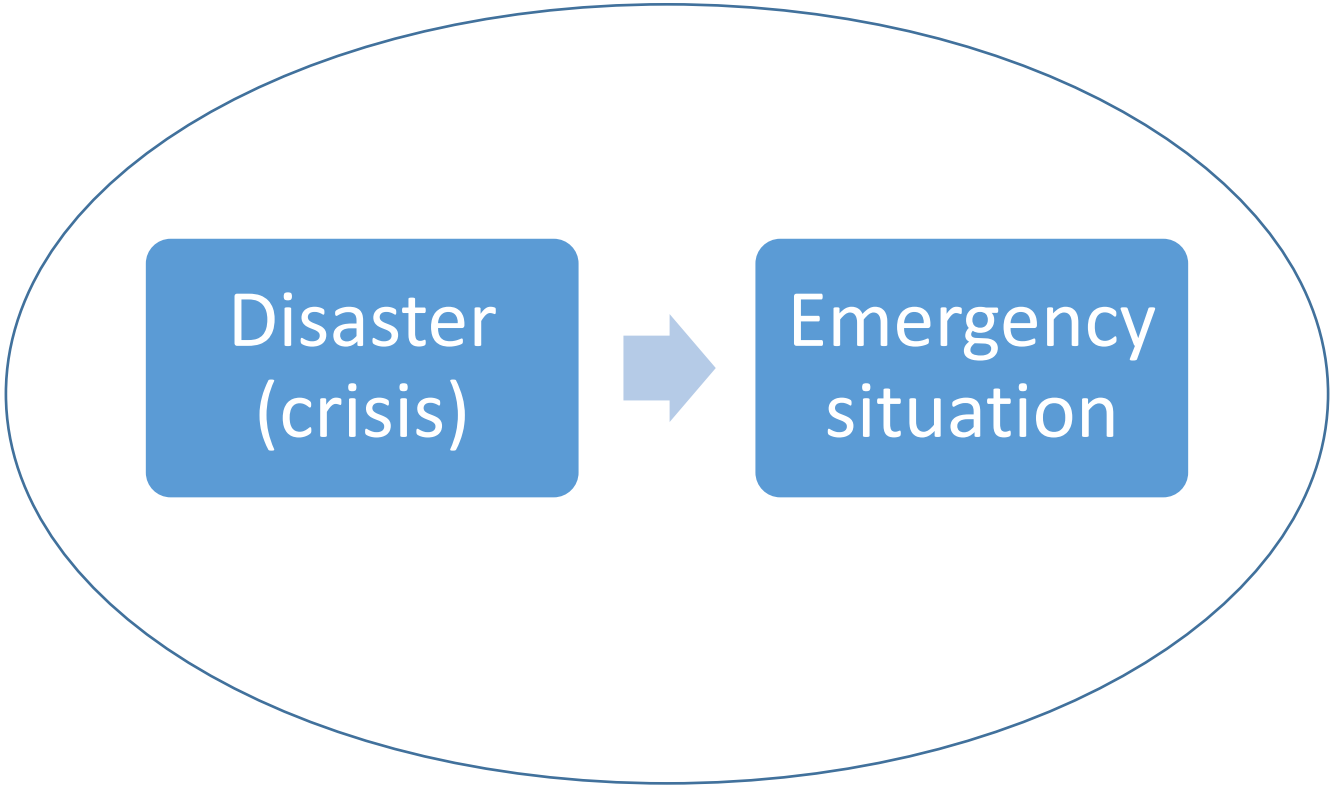
Spatial information in emergency management



Emergency Management

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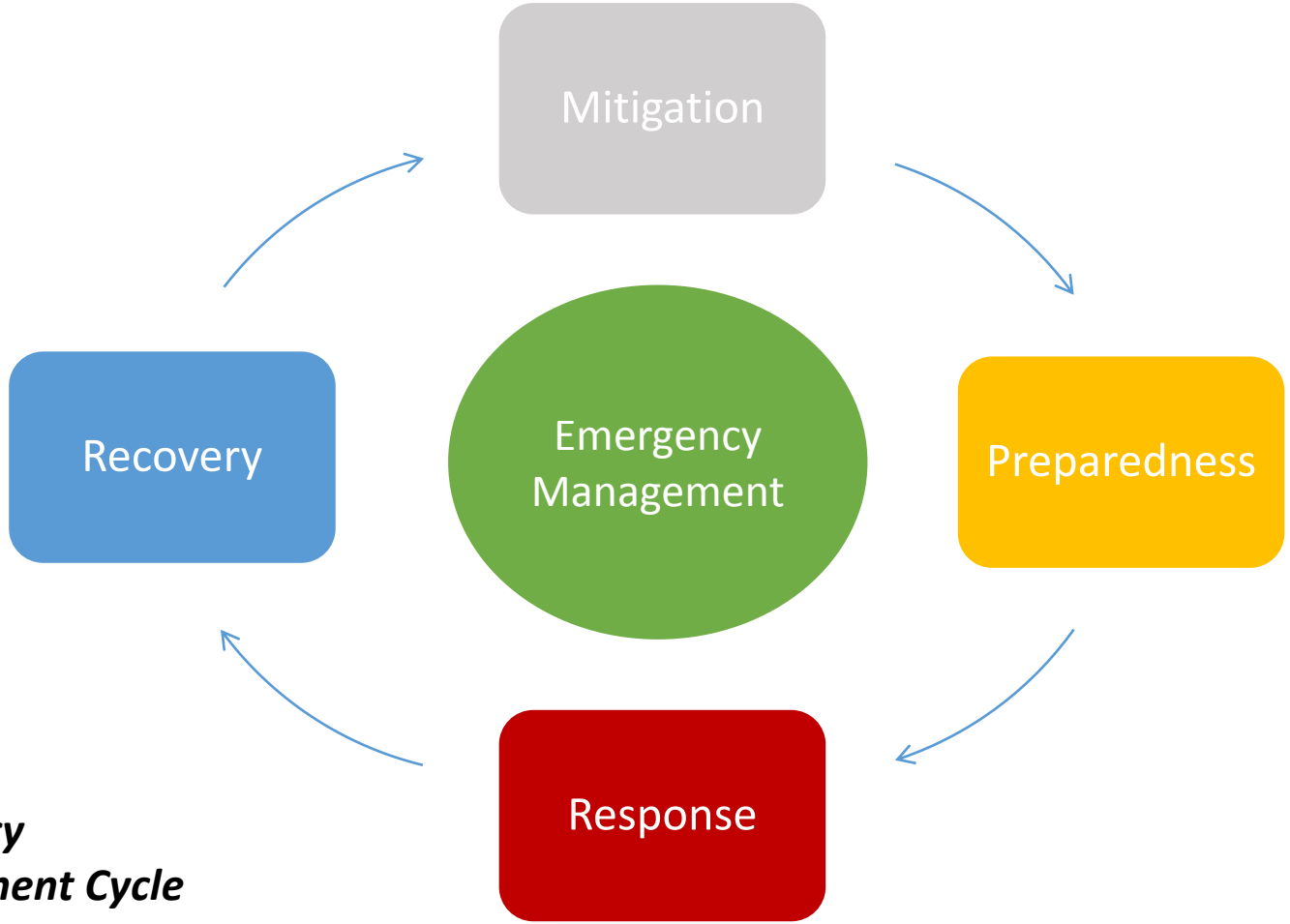
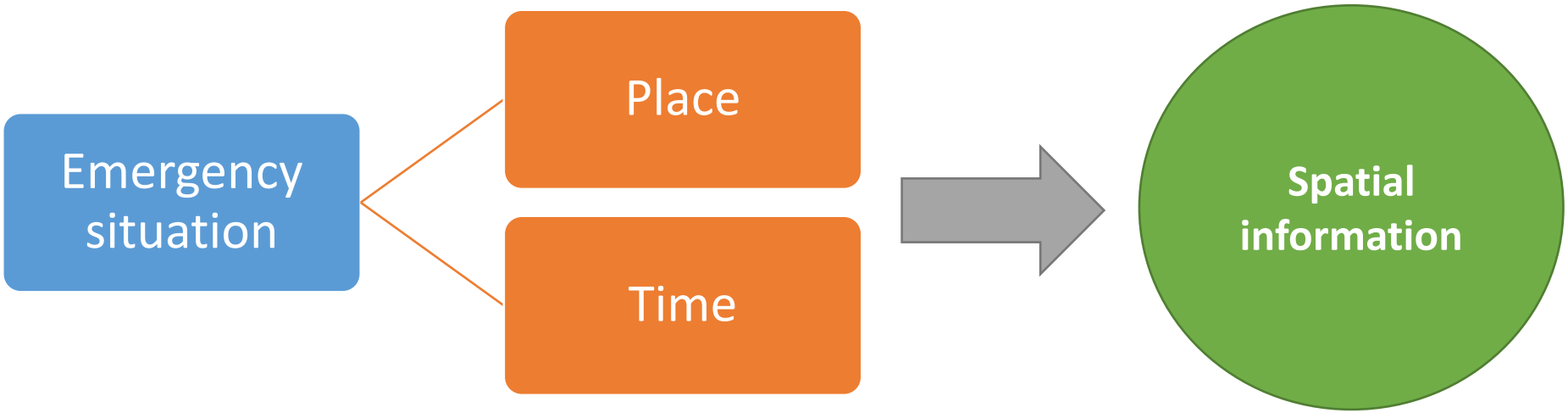
Spatial information in emergency management



Emergency Management Cycle

Spatial information in emergency management



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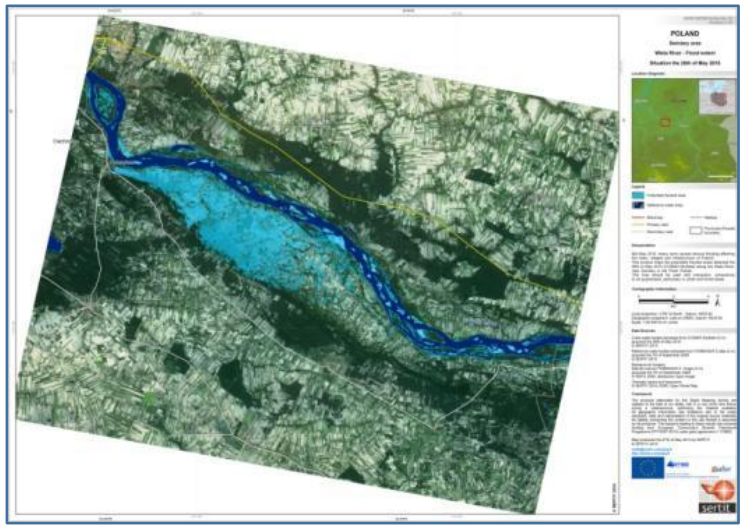
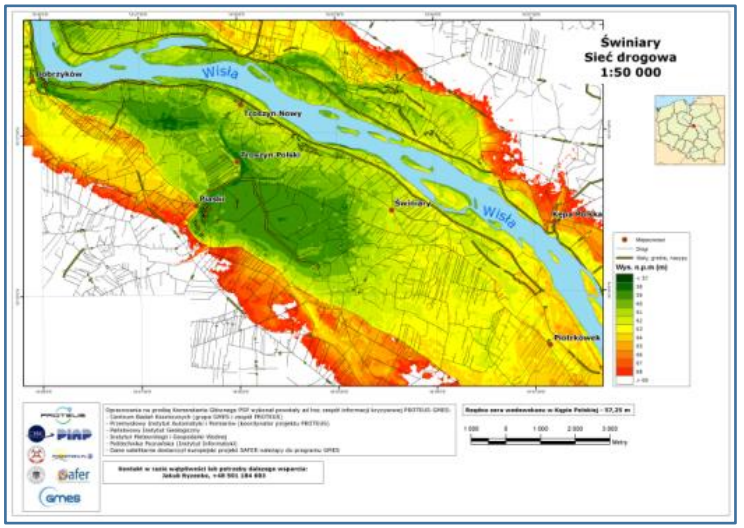
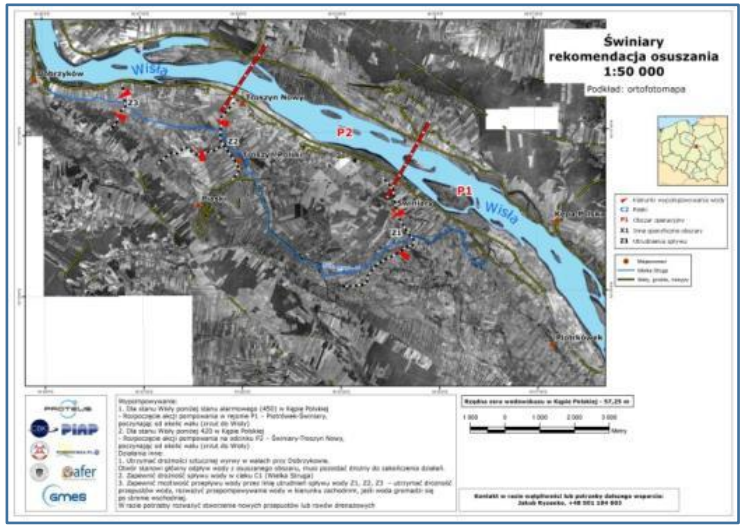
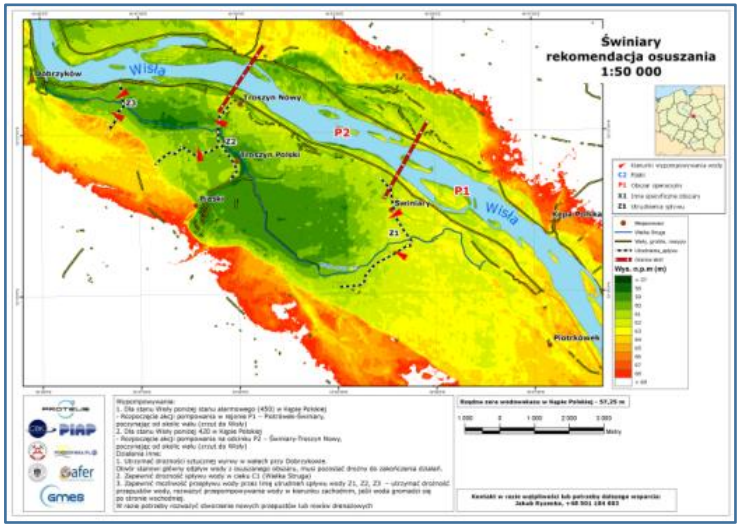
Flood in Poland in 2010
From satellite imagery to operational information









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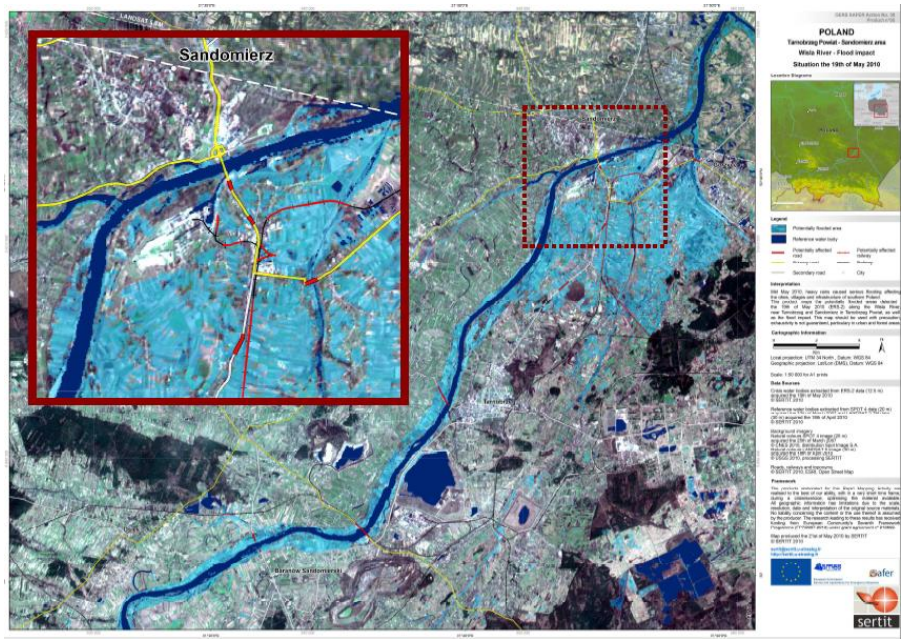
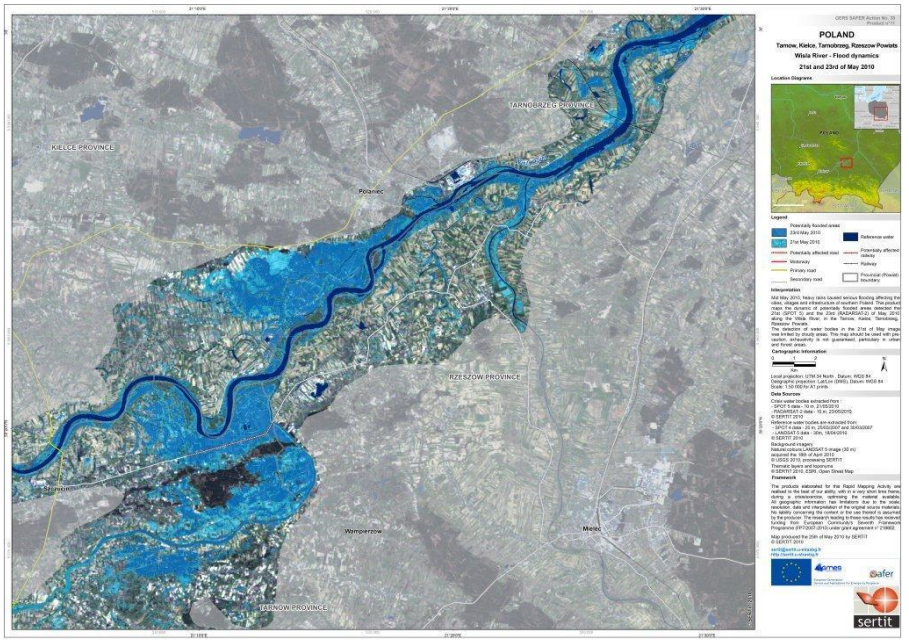
Flood in Poland 2010 – GMES Safer activation

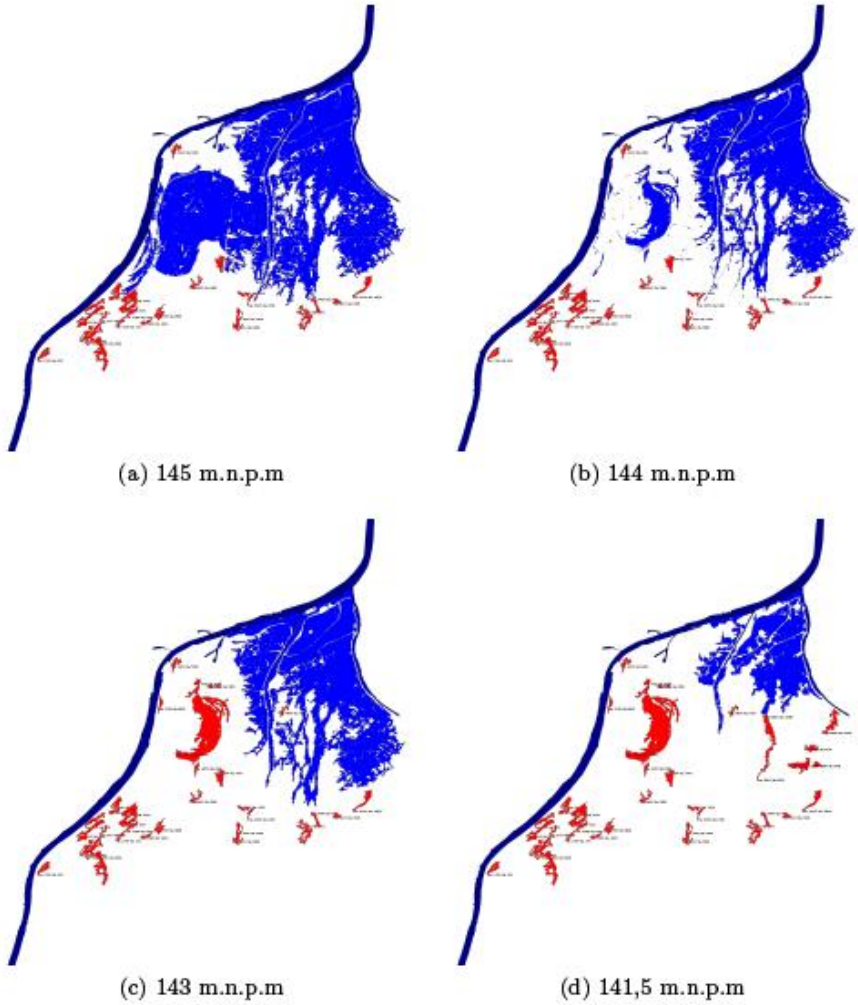
Tarnobrzeg Poviat
Vistula River Flood impact
19th of May 2010



Tarnów, Kielce, Tarnobrzeg, Rzeszów Poviats
Wisła River Flood dynamics
21st and 23rd of May 2010



Flood in Poland 2010
Flood simulations and recomendations

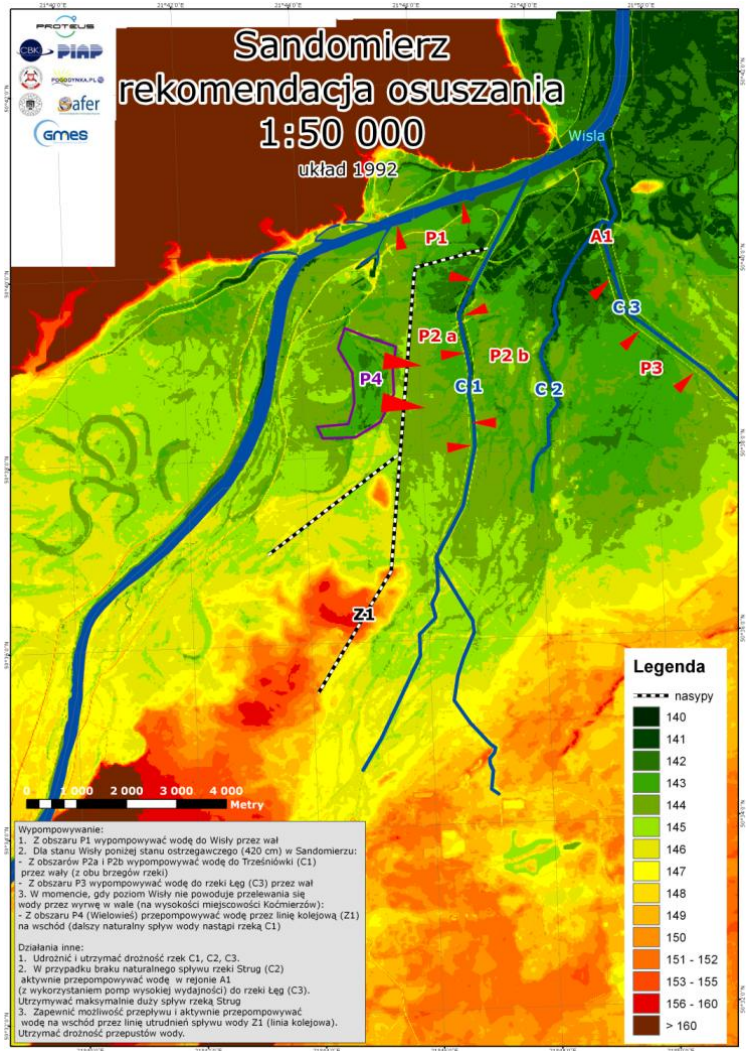


(a) 145 m.n.p.m

(b) 144 m.n.p.m

(c) 143 m.n.p.m

(d) 141,5 m.n.p.m



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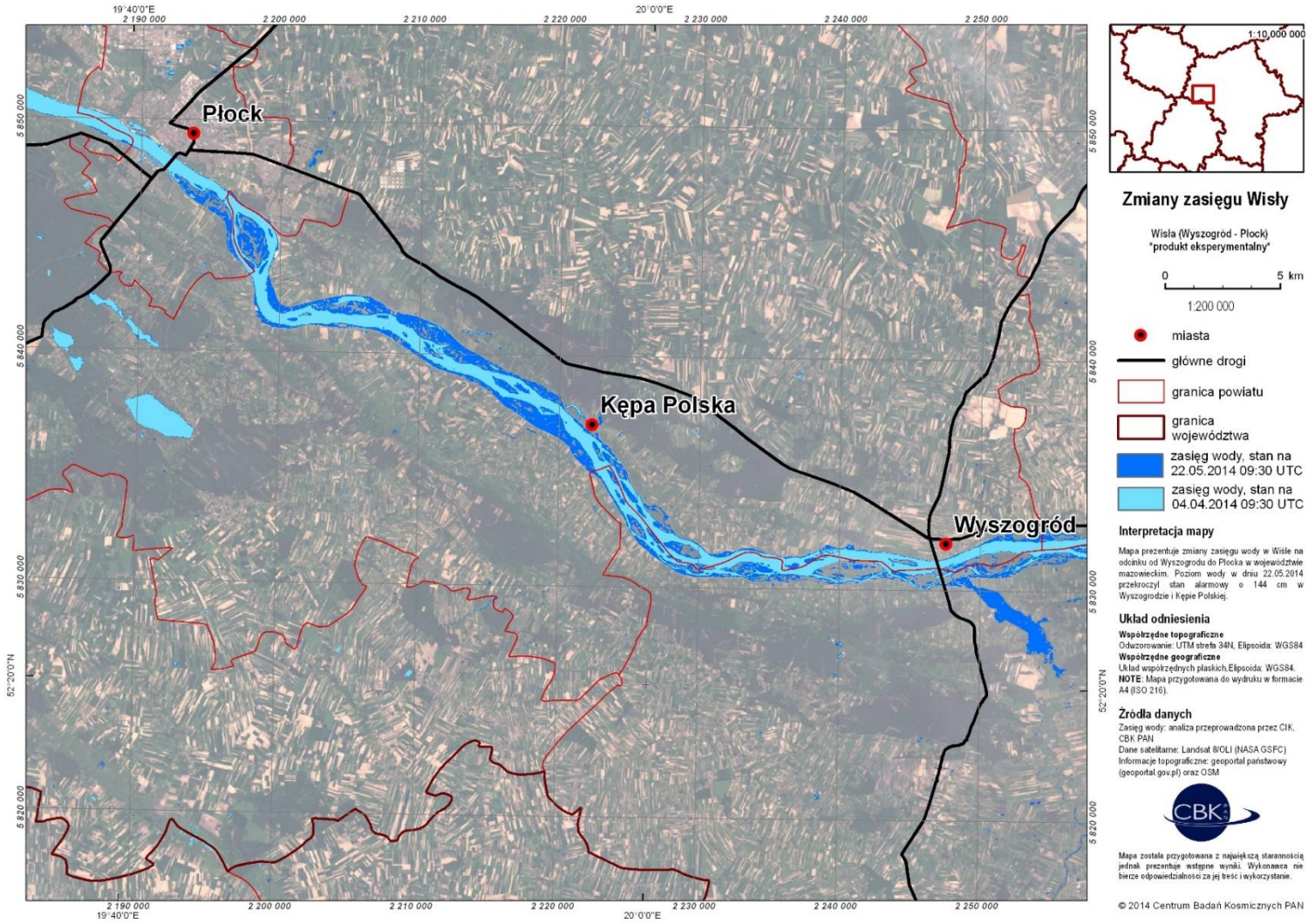
Flood in Poland 2014



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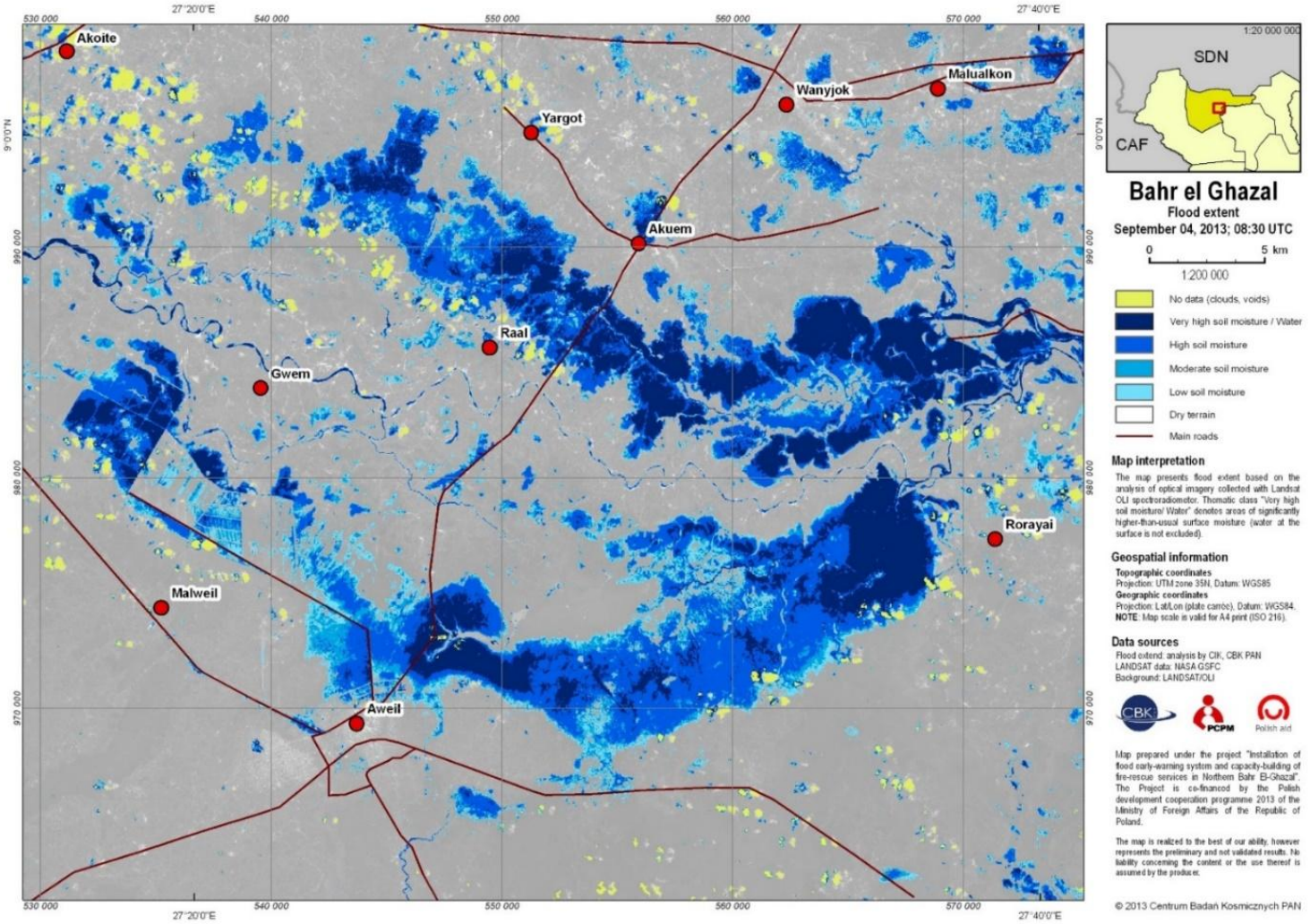
Anti-flood early warning system in South Sudan



PCPM Polish Center for International Aid

Polish aid

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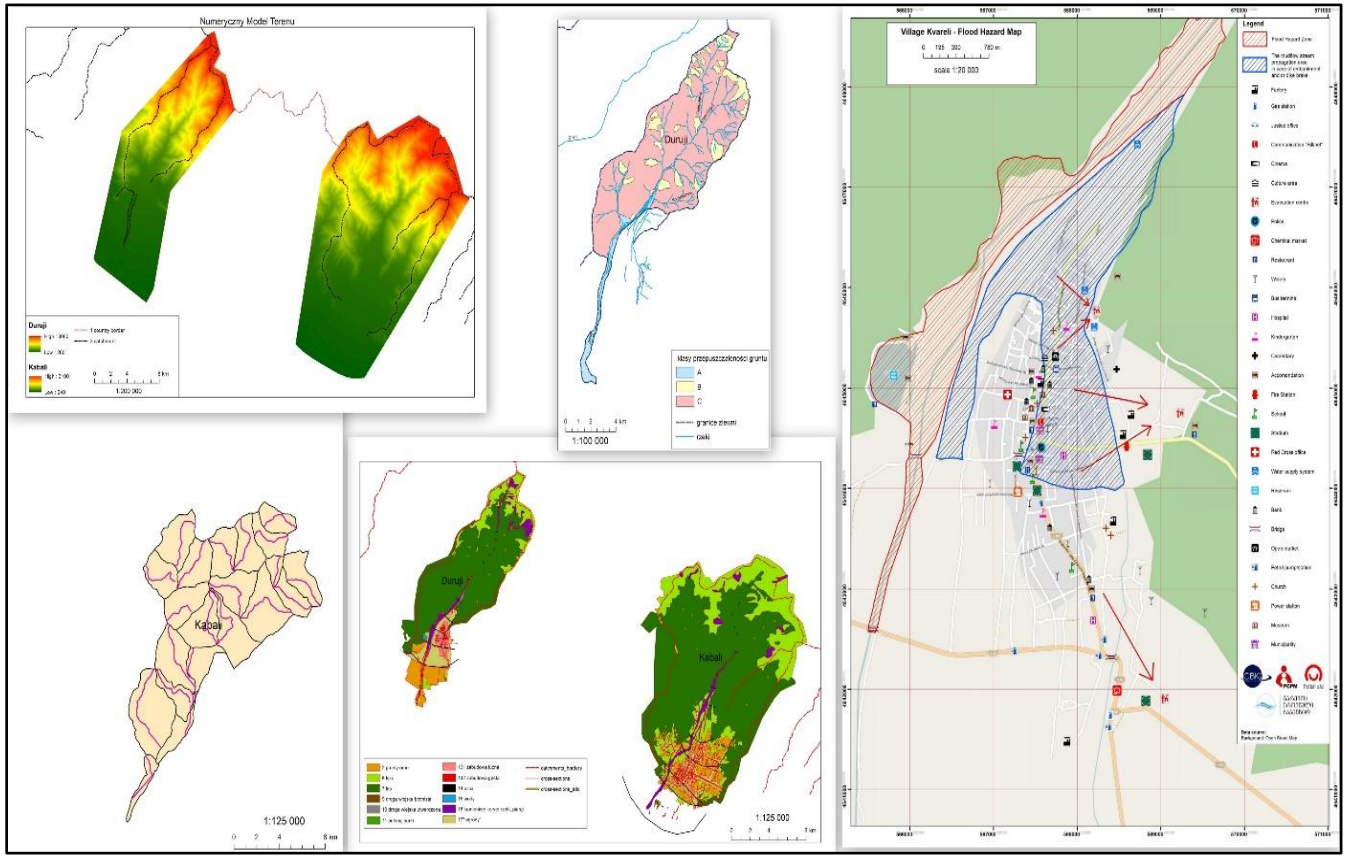
Anti-flood early warning and prevention systems in Georgia: special focus on Kabali and Duruji rivers



PCPM Polish aid CBK PAN

Civitas Georgica

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The need of geoinformation service in emergency management

- quick update of various data and information,
- cooperation between crisis management entities allowing free flow of information,
- standardization of data from different sources,
- coherent structure of exchanging spatial information.

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CBK PAN

GECCO

SPACE–DERIVED GEOINFORMATION FOR CRISIS MANAGEMENT AND COORDINATION

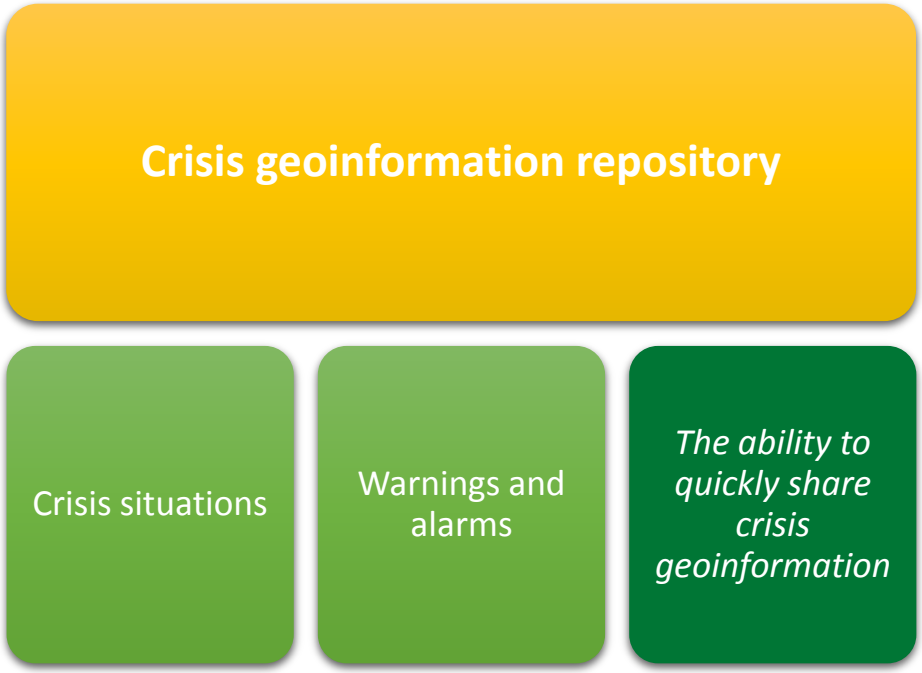
Geoinformation service

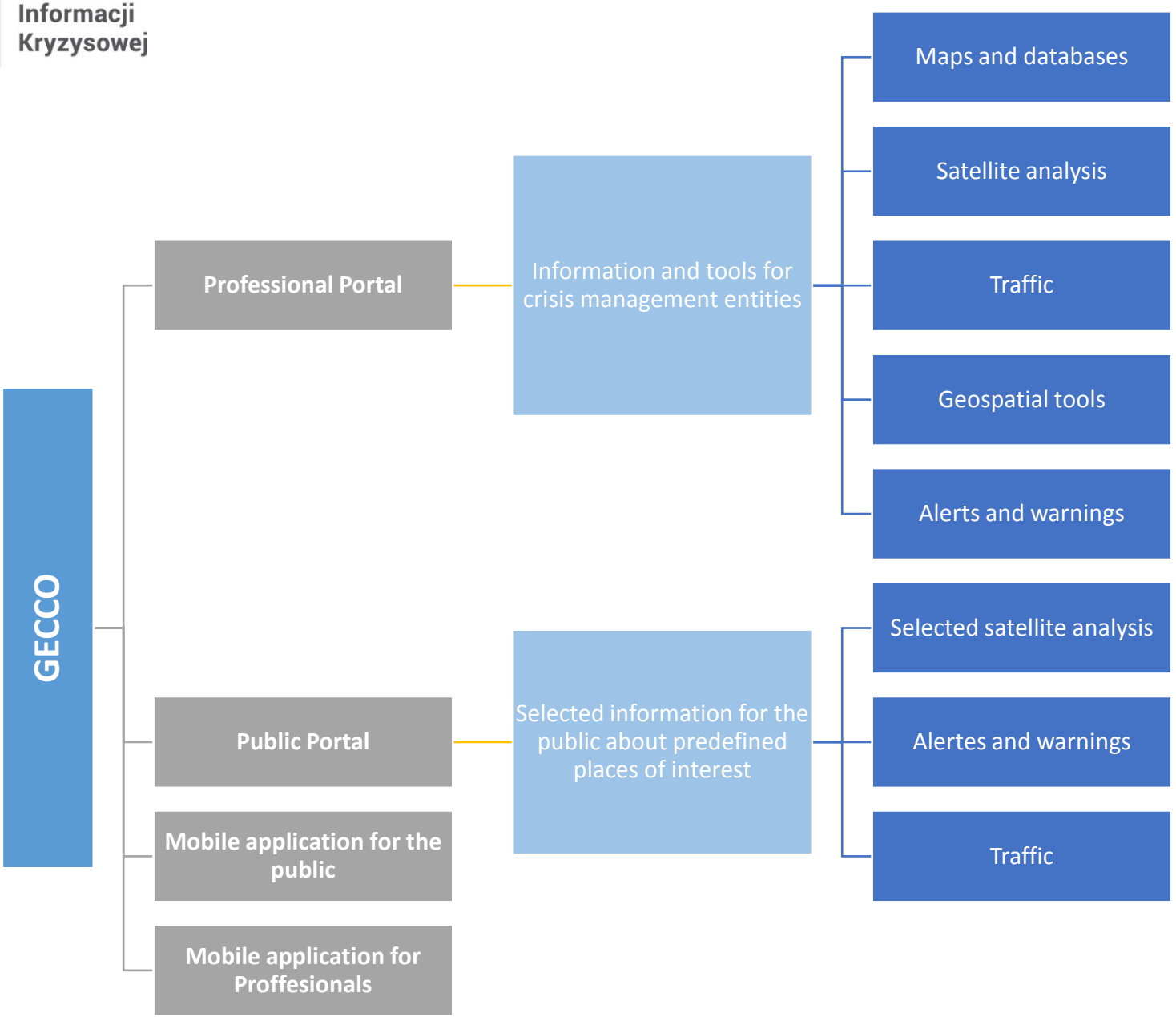
esa

The project is funded by the European Space Agency within PECS programme (Plan for European Cooperating States). The project partners are The Main School of Fire Service, Geosystems Polska Sp. z o.o., Space Research Centre of Polish Academy of Sciences, Asrti Polska and Simulation Games Manufacture.

About GECCO

GECCO is a platform (based on Targeo Analytics® technology) providing polish emergency management institutions and rescue services access to a broad set of information based on EO and GIS data.




GECCO
Professional Portal
Information and tools for crisis management entities
Maps and databases
Satellite analysis
Traffic
Geospatial tools
Alerts and warnings
Public Portal
Selected information for the public about predefined places of interest
Selected satellite analysis
Alertes and warnings
Traffic
Mobile application for the public
Mobile application for Proffesionals

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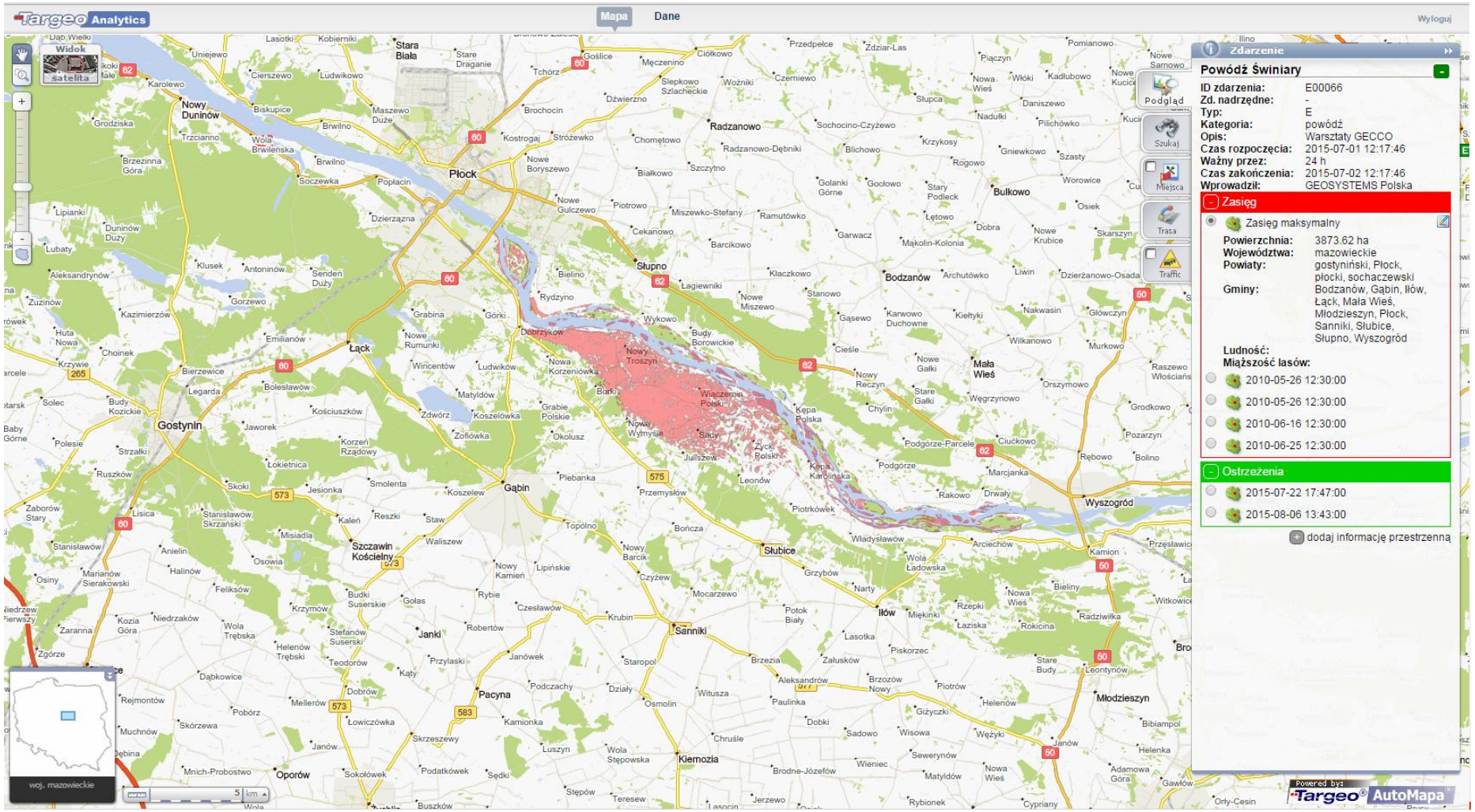
GECCO – system components



Professional Portal

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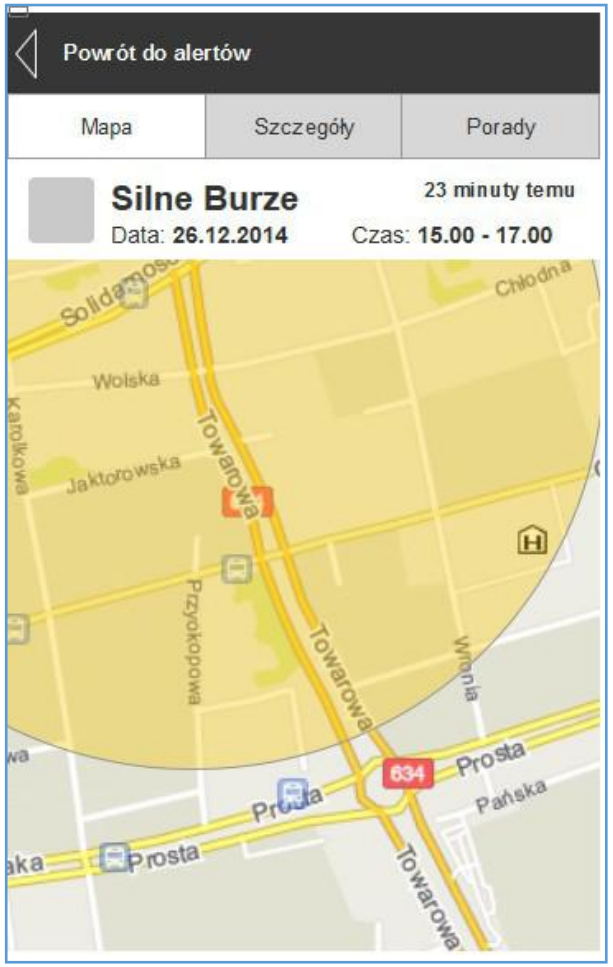
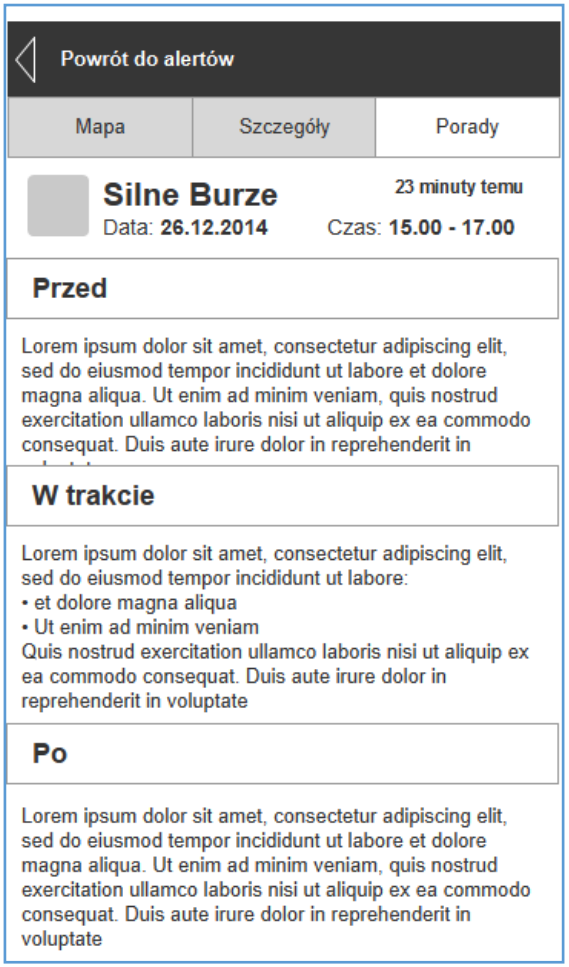
GECCO – system components

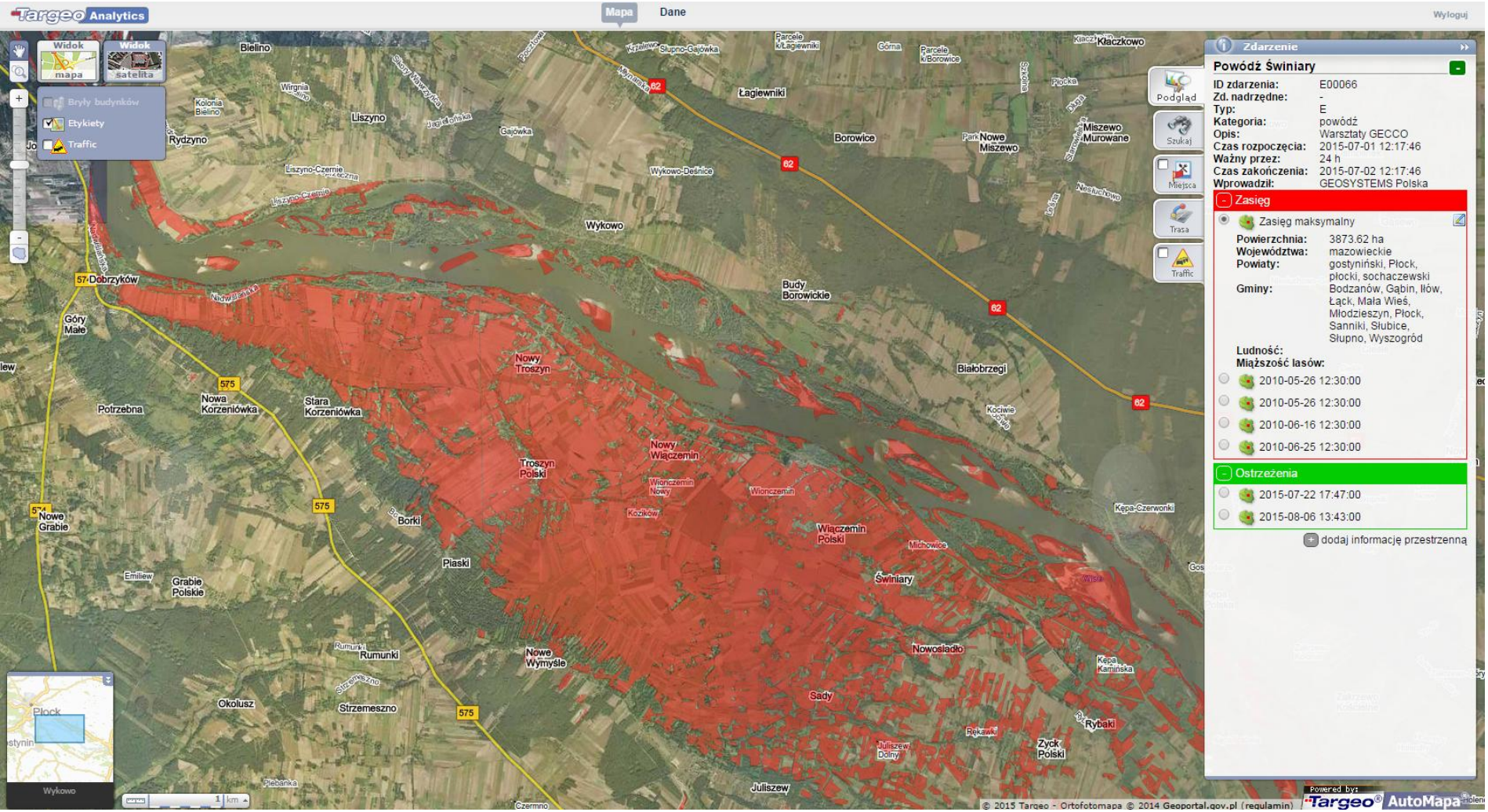




Mobile application for public

The use of GECCO – test version

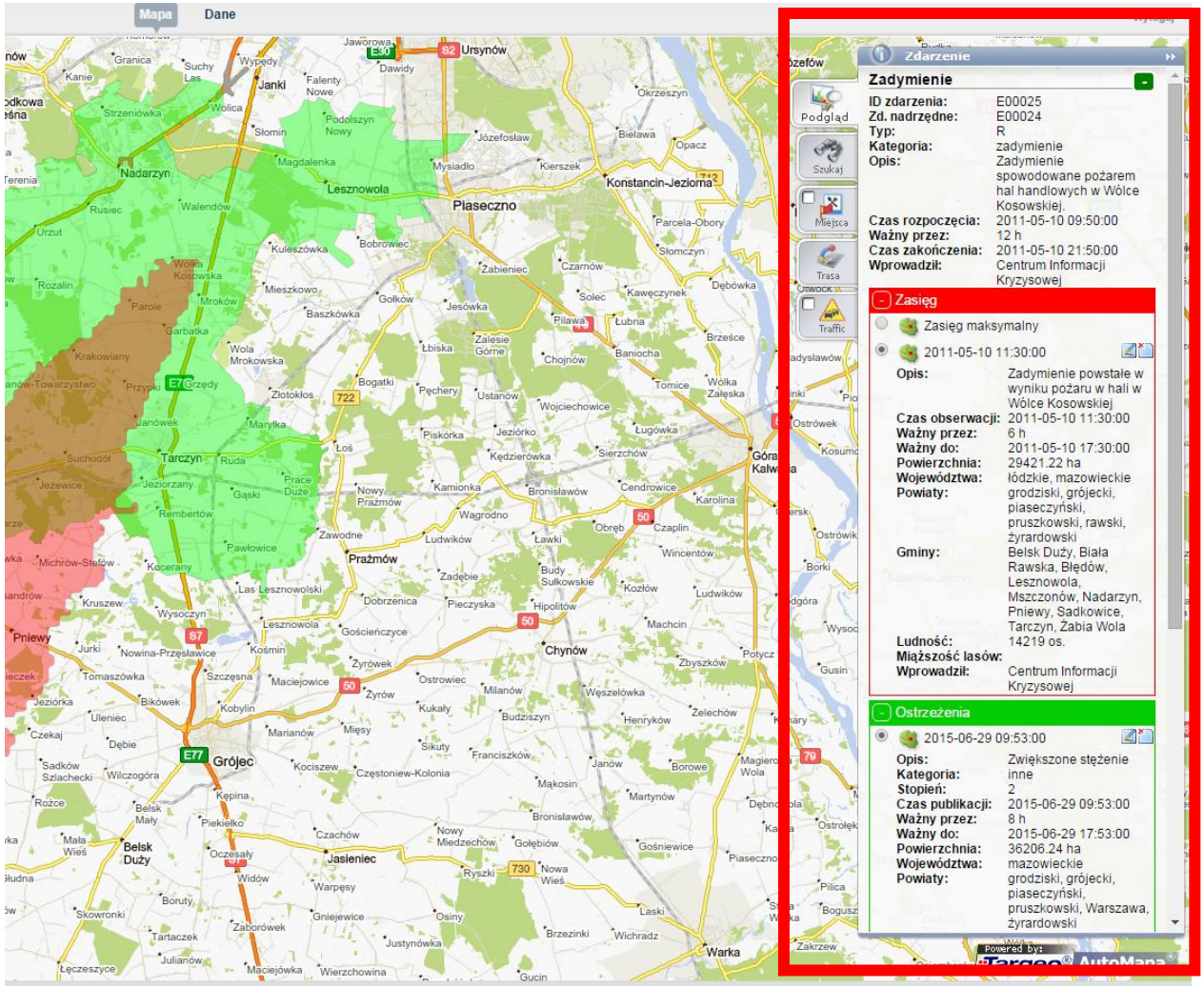
Marking out the range of crisis event



Analysis of possible consequences of the event

The ability to calculate or generate:

- the range of the event,
- the number of poviats and voivodeships affected by the event,
- the estimated number of population at risk,
- the area of forests affected by the event.



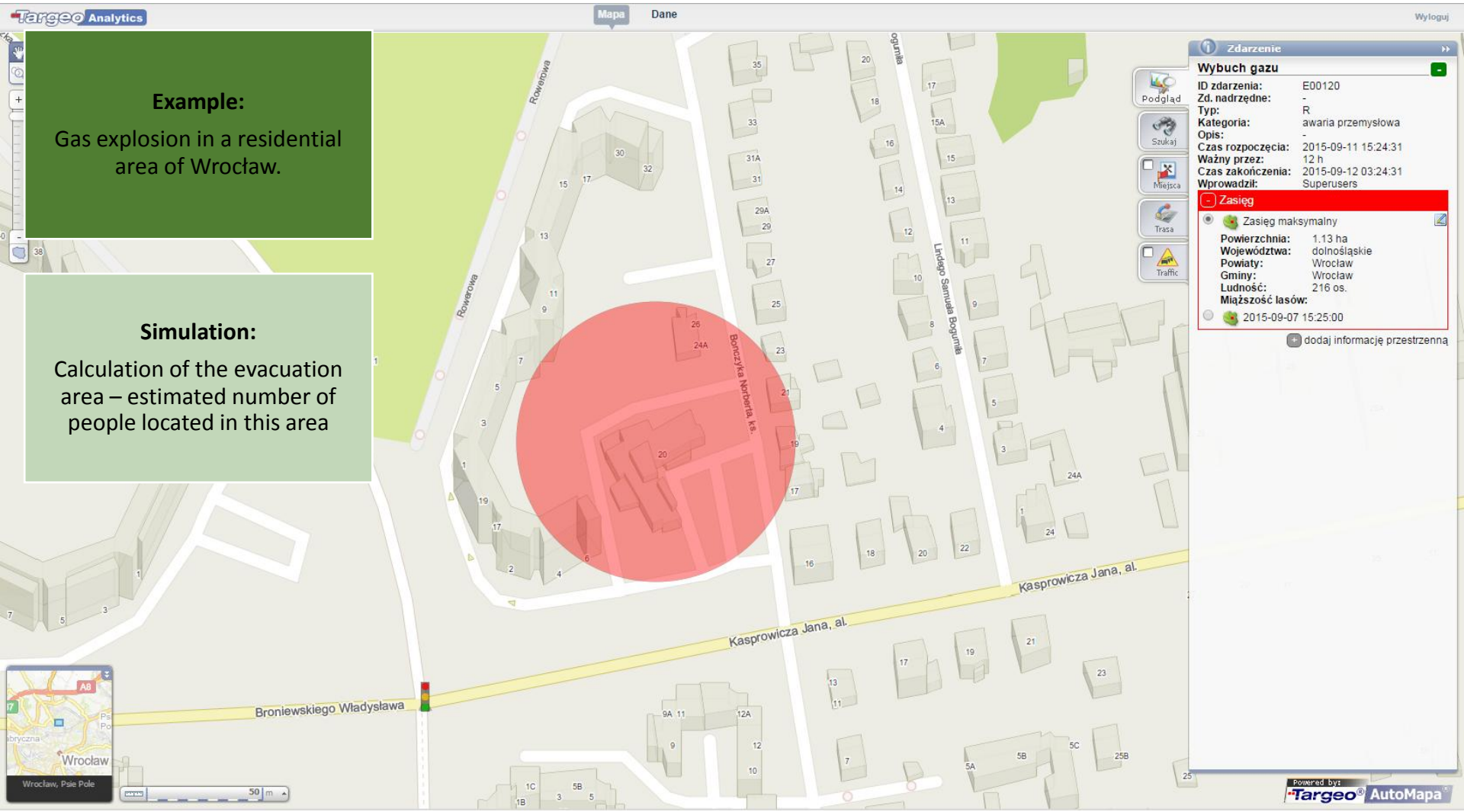
Simulation of event range

Example:

Gas explosion in a residential area of Wrocław.

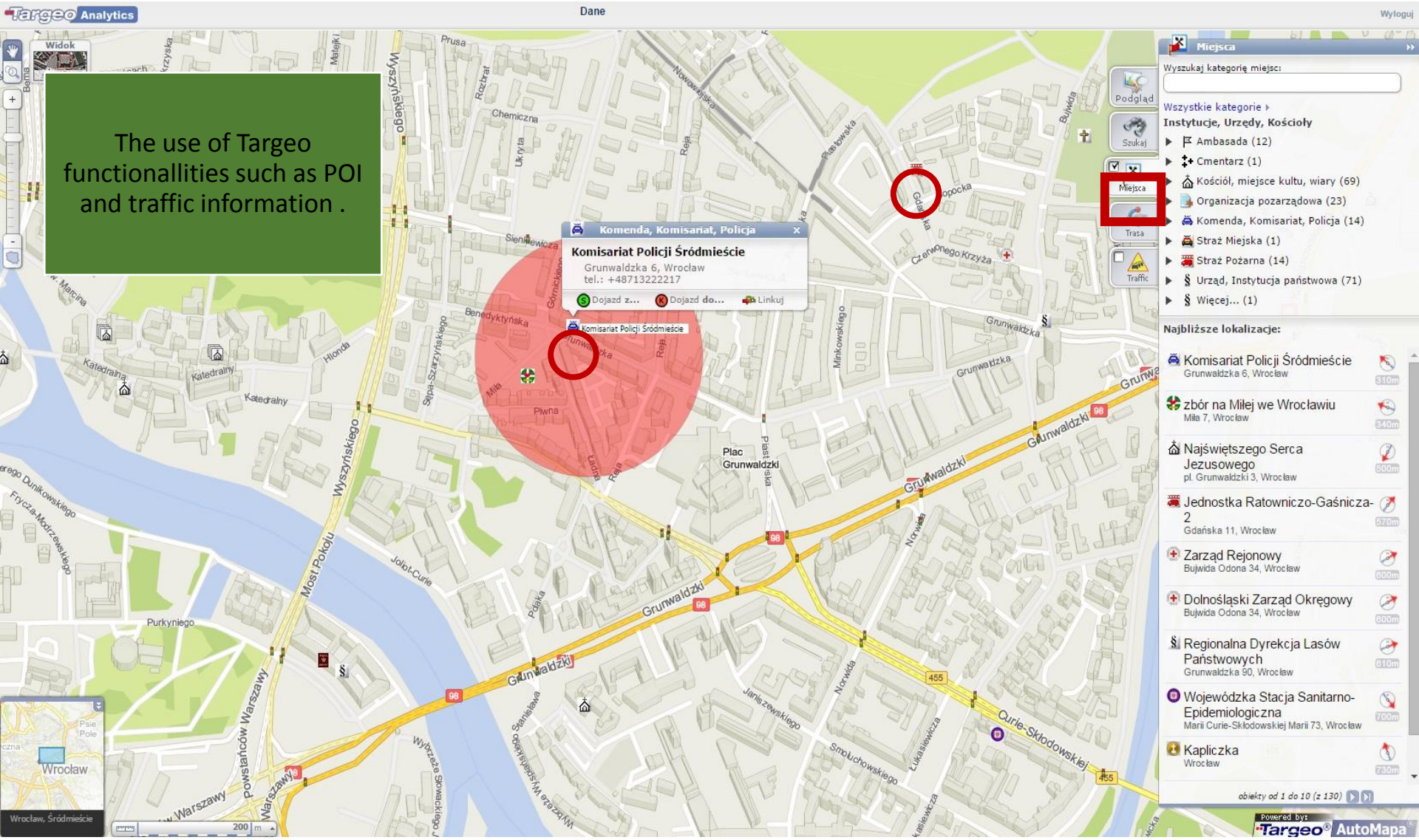
Simulation:

Calculation of the evacuation area – estimated number of people located in this area



Targeo functionallities

The use of Targeo functionallities such as POI and traffic information .



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