

## Fields of application of COPERNICUS data

### Remote Sensing Application Center - ReSAC

**Radko Radkov**

*Project manager*

**Tel./Fax: +359 2 980 0731**

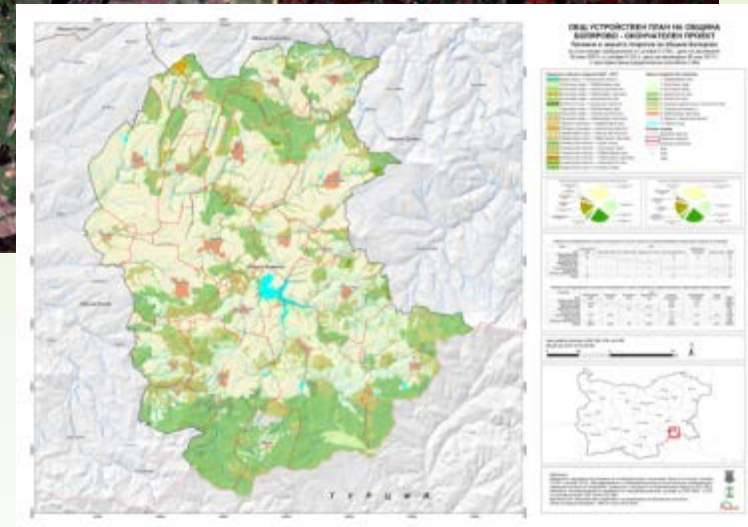
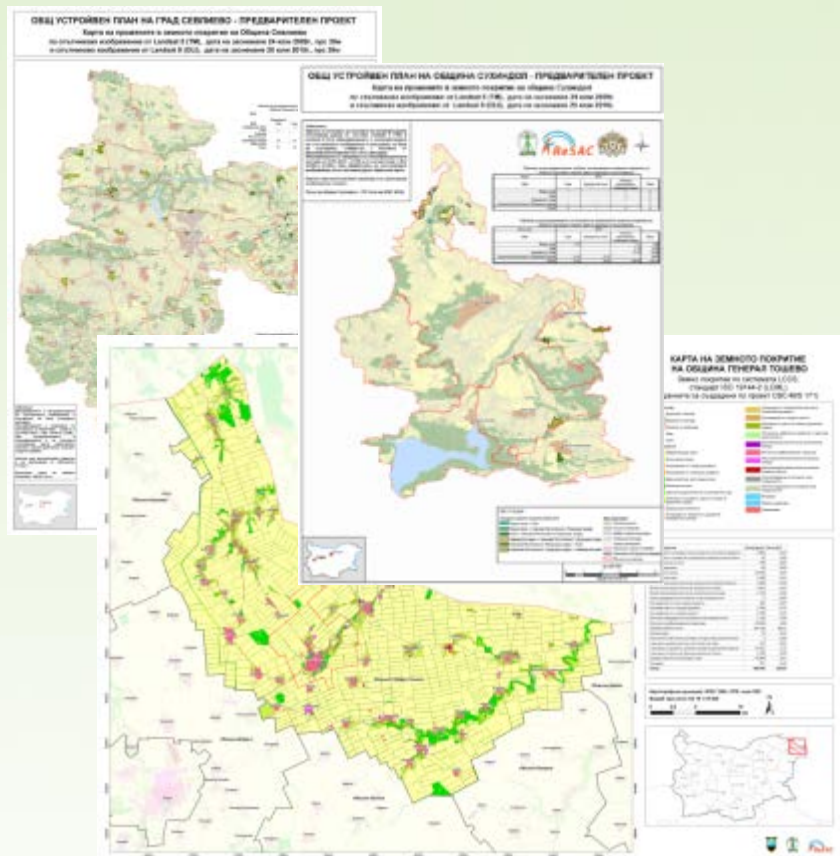
**E-mail: [resac@techno-link.com](mailto:resac@techno-link.com)**

**Website: [www.resac-bg.org](http://www.resac-bg.org)**

## Who we are?

- The **Remote Sensing Applications Center (ReSAC)** was established in **1998**.
- Till the end of **2004** it was part of the **Bulgarian Aerospace Agency - BASA** as its R&D structure.
- From the beginning of **2005** ReSAC is registered as an independent juridical body and during the past years works very close to the **Agency for Sustainable Development and Eurointegration - ASDE**.
- As **ASDE** has signed a **Collaboration Agreement** with **JRC / DRMKC - EU**, in this Agreement ReSAC was designated as focal point of ASDE for providing service capability, mainly in R&D area, including EU CAP.
- **EARSC** (European Association of Remote Sensing Companies) member since **2005**

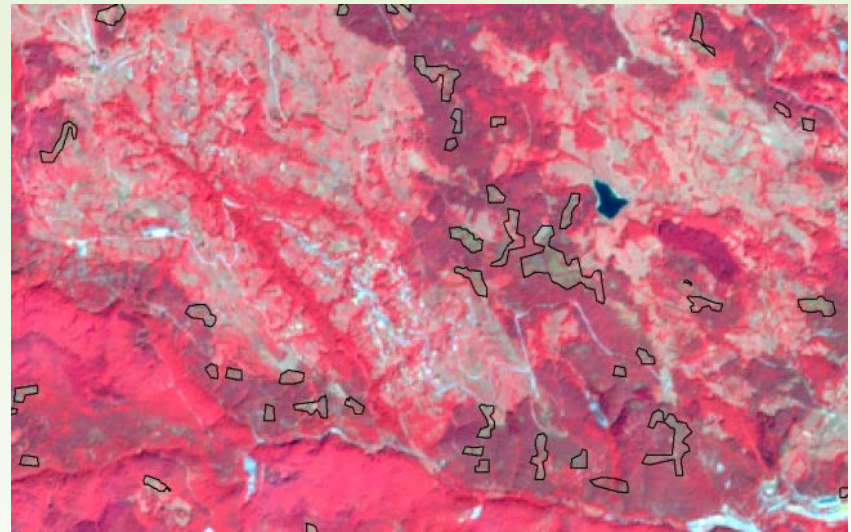
## Verification of the status of the land cover / land use on the territory of municipalities in the preparation of General Master plans using data from Sentinel 1, Sentinel 2 and Kompsat 5



Land Cover (UN/FAO LCCS methodology, ISO 19144-2. (LCML) => Land Cover Changes => Determination of development trends => Analyses => Prediction and Planning

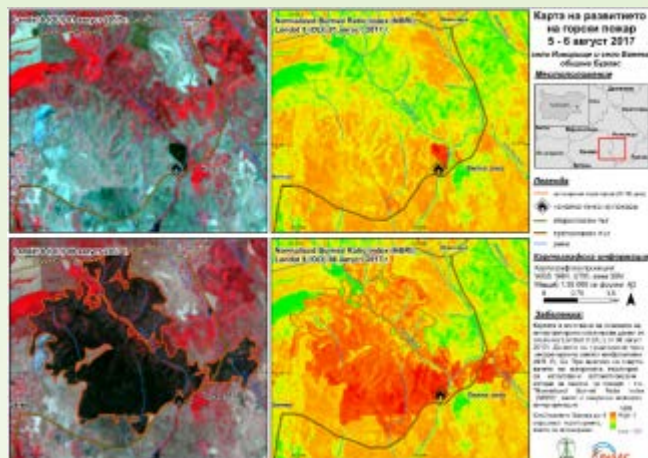


Monitoring, assessment and risk management - assessment of forest territories in the presence of a natural disaster (fire, invasion of bark beetles) using Sentinel 2 data.

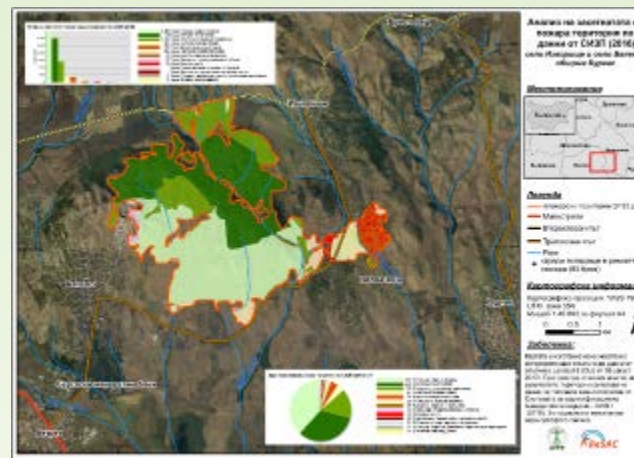


Territories affected by bark beetles, Sentinel 2 data

## Monitoring, assessment and risk management - assessment of forest territories in the presence of a natural disaster (fire, invasion of bark beetles)



Burned territory (images from August 1 and 8, 2017) and a corresponding Normalized Burned Ratio Index (NBRI).



Types of affected areas according to classification of the land cover - LCCS; ISO 19144-2 (LCML)

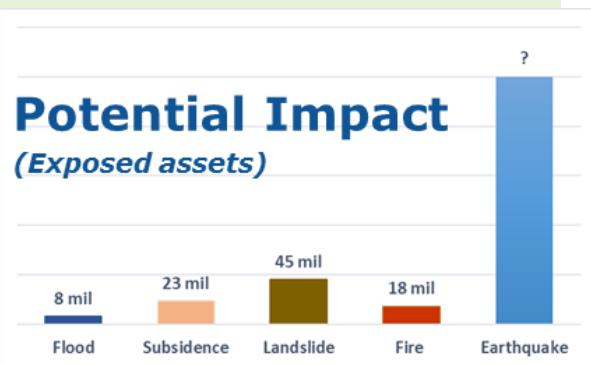
Comparative table of the areas of several types of territories according to different sources:

| Type of territory                     | Media                       | LCCS   |
|---------------------------------------|-----------------------------|--------|
| Forest                                | varies from 70 ha to 400 ha | 122 ha |
| Grasslands                            | 350 ha                      | 400 ha |
| Shrubs and Grasslands/ Low vegetation | 400 ha                      | 274 ha |

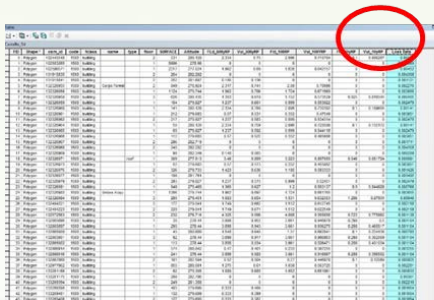


## Support to the collaborative pilot project between DG JRC-E1-DRMKC and ASDE-ECOREGIONS DRR/DRM - Data and Analysis for Prevention, Recovery and Reconstruction

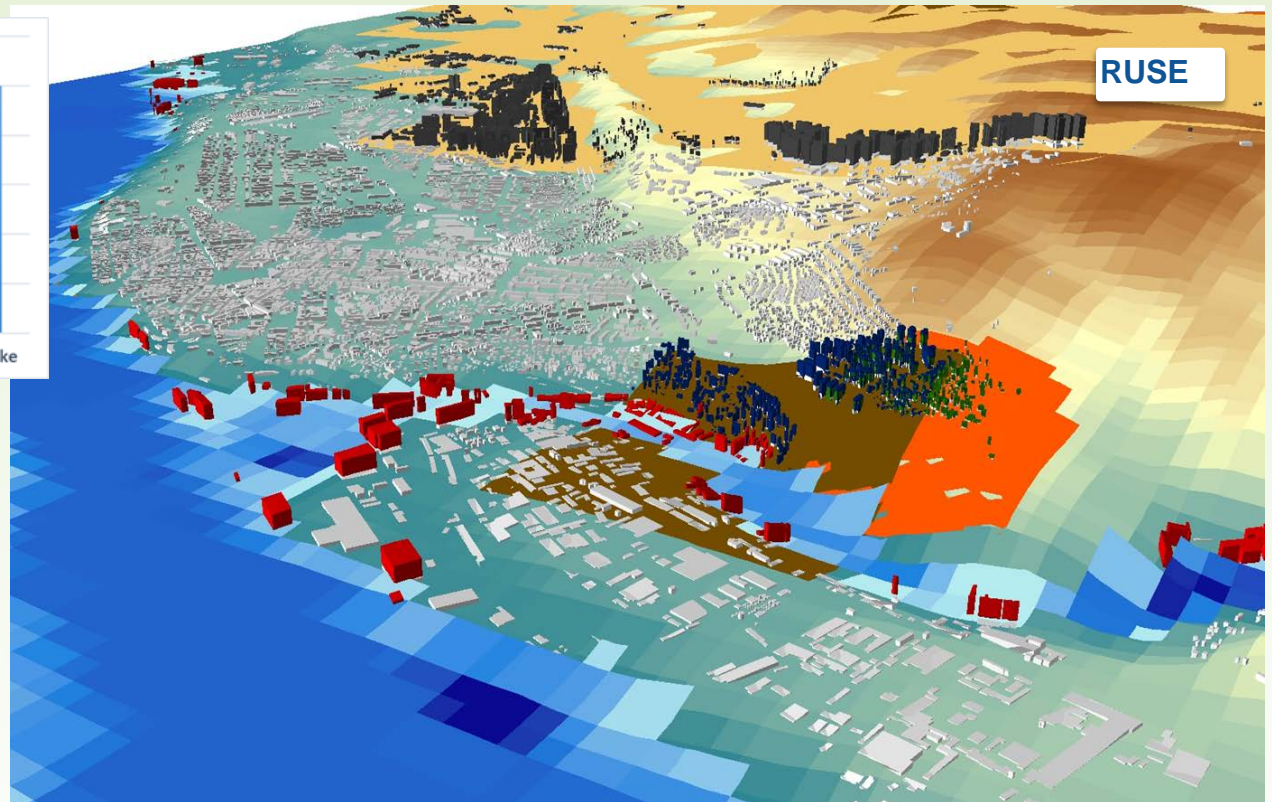
- ... **Prevention** starting at the Recovery and Reconstruction phase:  
anticipating losses by assessing risk



**LOSS DATA  
&  
EXPOSURE**



| ID | Asset Type | Asset Name  | Asset Value | Asset Category | Asset Status | Asset Location | Asset Description | Asset Details | Asset Notes |
|----|------------|-------------|-------------|----------------|--------------|----------------|-------------------|---------------|-------------|
| 1  | Building   | Building 1  | 1000000     | Residential    | Active       | 10.10.10.10    | Building 1        | Building 1    | Building 1  |
| 2  | Building   | Building 2  | 2000000     | Commercial     | Active       | 20.20.20.20    | Building 2        | Building 2    | Building 2  |
| 3  | Building   | Building 3  | 3000000     | Industrial     | Active       | 30.30.30.30    | Building 3        | Building 3    | Building 3  |
| 4  | Building   | Building 4  | 4000000     | Government     | Active       | 40.40.40.40    | Building 4        | Building 4    | Building 4  |
| 5  | Building   | Building 5  | 5000000     | Religious      | Active       | 50.50.50.50    | Building 5        | Building 5    | Building 5  |
| 6  | Building   | Building 6  | 6000000     | Education      | Active       | 60.60.60.60    | Building 6        | Building 6    | Building 6  |
| 7  | Building   | Building 7  | 7000000     | Healthcare     | Active       | 70.70.70.70    | Building 7        | Building 7    | Building 7  |
| 8  | Building   | Building 8  | 8000000     | Transportation | Active       | 80.80.80.80    | Building 8        | Building 8    | Building 8  |
| 9  | Building   | Building 9  | 9000000     | Recreation     | Active       | 90.90.90.90    | Building 9        | Building 9    | Building 9  |
| 10 | Building   | Building 10 | 10000000    | Other          | Active       | 10.10.10.10    | Building 10       | Building 10   | Building 10 |



## POTENTIAL FOR ENLARGEMENT UNDER AN INITIATIVE OF IMPORTANT PROJECT OF COMMON EUROPEAN INTEREST (IPCEI) – starting with the Balkans and the Danube region



### D. ON MANAGEMENT 3: **DECENTRALIZATION** - REGIONAL NETWORK FOR INTEGRATED DRM/DRR AND TERRITORY MANAGEMENT – BALKAN NETWORK

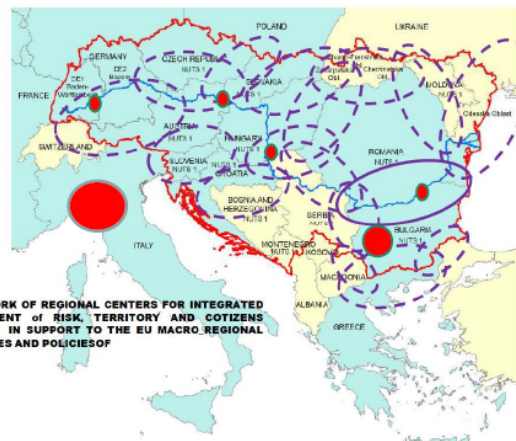
**TARGET 1: Strengthening EU macro-regional resilience in a globalized world – EU regional integrated risk&territory centers network – JRC methodological support**



**THE FIRST EUROPEAN TRANS-BORDER RESILIENCE RING/NET – maximizing COPERNICUS impact** - SOUTH EAST EUROPEAN RISK AND TERRITORY REFERENCE DATA AND SERVICES INFRASTRUCTURE ( INTEGRATED BIG DATA, HIGH PERFORMANCE COMPUTING, PREVENTION ANALYSIS/GAMIFICATION AND REGULAR MONITORING) – currently Trans-border reference SDB and SmartCover Architecture geo-portal for Bulgaria and Romania; next step – Bulgaria-Macedonia, Bulgaria-Serbia, Bulgaria-Greece and Bulgaria-Turkey; Possibility to include also Moldova and Ukraine; Third step –Danube region countries; Forth step .....



### D. ON MANAGEMENT 4: **DECENTRALIZATION** - REGIONAL NETWORK FOR INTEGRATED DRM/DRR AND TERRITORY MANAGEMENT – DANUBE REGION /SEE NETWORK



**EU NETWORK OF REGIONAL CENTERS FOR INTEGRATED MANAGEMENT OF RISK, TERRITORY AND CITIZENS SECURITY IN SUPPORT TO THE EU MACRO-REGIONAL STRATEGIES AND POLICIES OF**

**THE FIRST PAN-EUROPEAN TRANS-BORDER RESILIENCE RING/NET – maximizing COPERNICUS impact** - SOUTH EAST EUROPEAN RISK AND TERRITORY REFERENCE DATA AND SERVICES INFRASTRUCTURE ( INTEGRATED BIG DATA, HIGH PERFORMANCE COMPUTING, PREVENTION ANALYSIS/GAMIFICATION AND REGULAR MONITORING) – currently Trans-border reference SDB and SmartCover Architecture geo-portal for Bulgaria and Romania; next step – Bulgaria-Macedonia, Bulgaria-Serbia, Bulgaria-Greece and Bulgaria-Turkey; Possibility to include also Moldova and Ukraine; Third step –Danube region countries; Forth step .....



**Thank you for your attention!**

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[www.resac-bg.org](http://www.resac-bg.org)  
[resac@techno-link.com](mailto:resac@techno-link.com)