

EXPRESSION OF INTEREST to attend at MedRIN Network

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NATIONAL INSTITUTE OF R&D FOR OPTOELECTRONICS- ROMANIA

is a current user of NASA and COPERNICUS satellite data in synergy with field data for different environmental applications research projects:

- **Natural Hazards (Earthquakes, Landslides, etc)**
- **Urban Air Quality and climate**
- **Urban green**
- **Land use land over changes (LULCC)**
- **Climate changes impacts on forest ecosystems and their feedbacks**
- **Black Sea and Danube Delta Coastal zone changes**
- **Flooding**
- **Mining areas**
- **Geological applications**
- **Nuclear Power Plant Cernavoda on Danube River environmental impact analysis**
- **Earthquake precursors**
- **Crustal displacements**

EXPECTED RESULTS

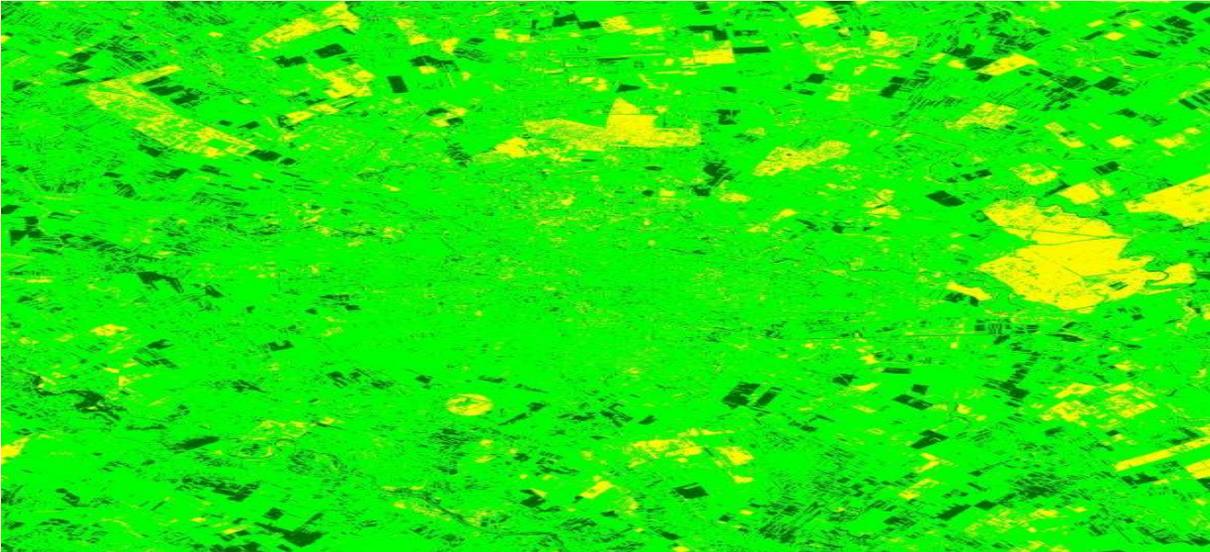
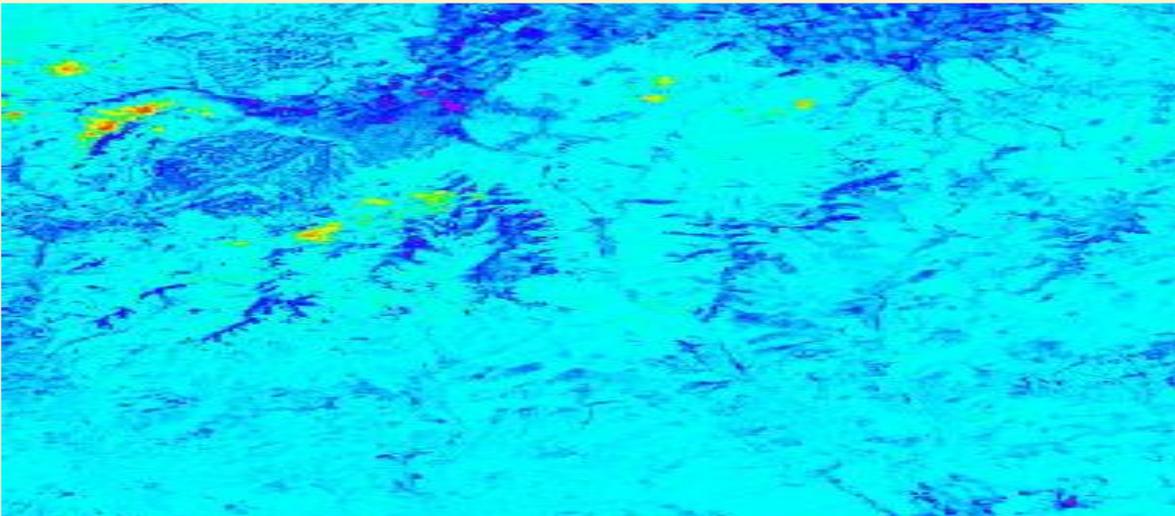
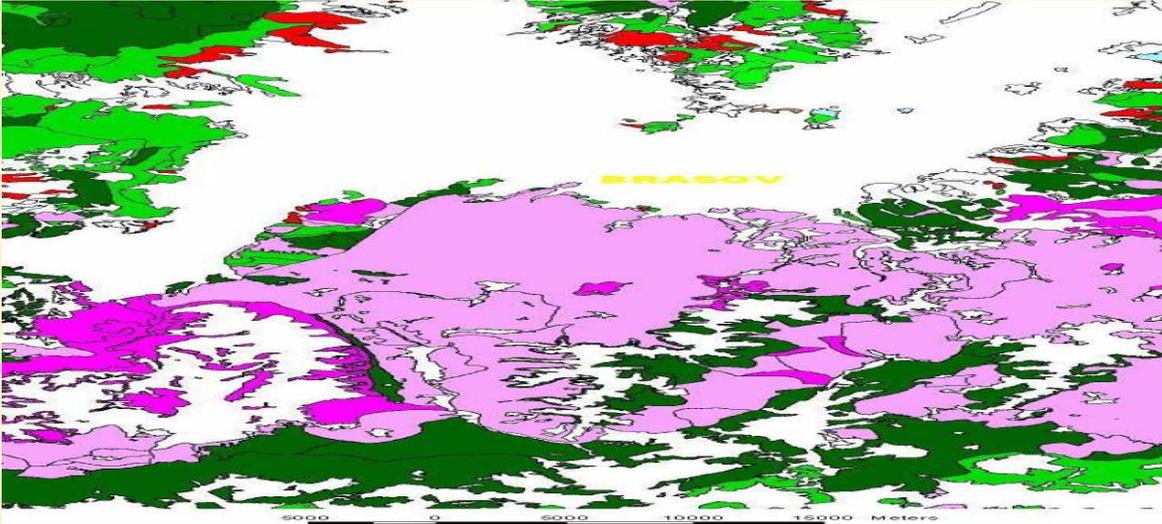
According to MedRIN objectives, Romanian expertise can contribute at:

- **A better coordination and linkage of Earth observation monitoring systems and databases across Mediterranean and European regions,**
- **Strengthening and upgrading existing European regional/national Earth Observation networks on environmental applied remote sensing. (Our institute is affiliated at AERONET and EARLINET Networks and has a METEOSAT receiving station).**
- **Will be achieved alignment of multi-modal and multi-source data compliant to international norms.**
- **A better utilization of Copernicus and NASA relevant freely distributed services in the region by end users will improve forecasting modeling and early warning systems designed.**
- **An increased contribution to free publicly-available data through interoperable databases and services will be provided.**

USE of LANDSAT TM/ETM/OLI and MODIS Time series : Vegetation

**Carpathian Mountains
Forest ecosystem changes**

Urban green changes for Bucharest city



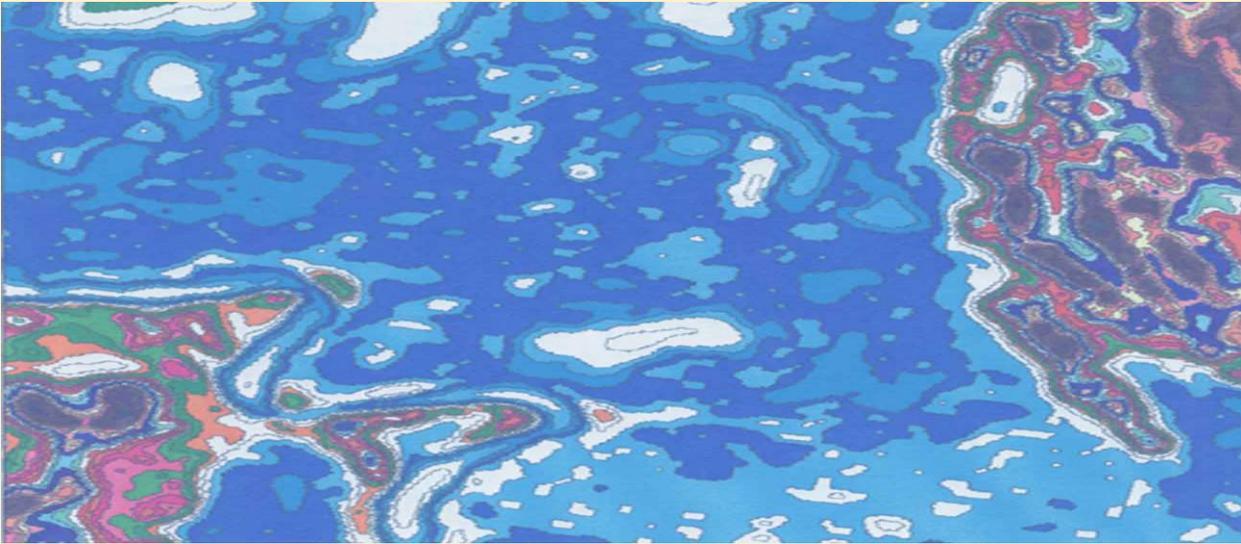
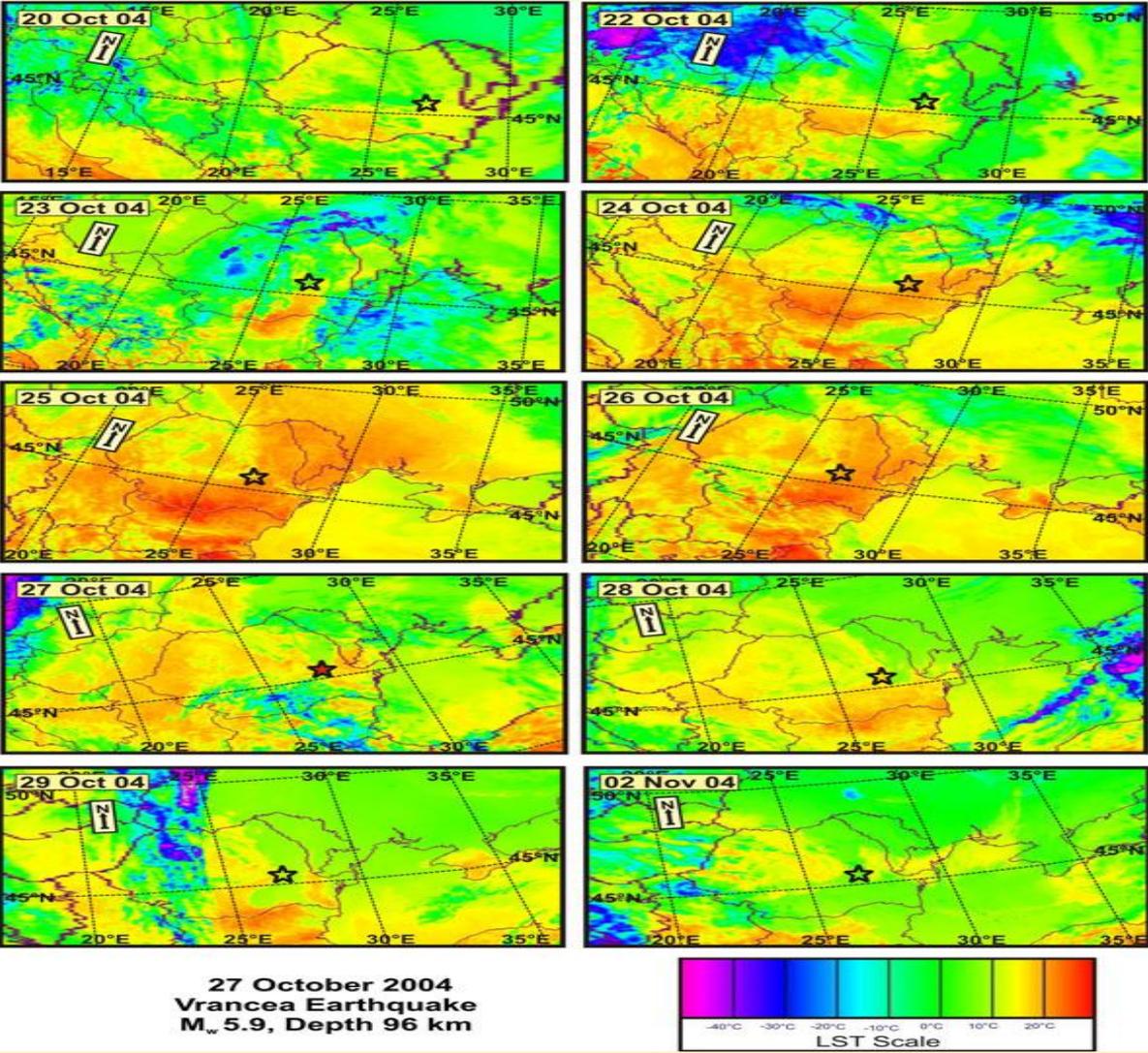
USE of LANDSAT , NOAA, MODIS Time series : Environmental Hazards

Natural- Earthquakes

TIR precursors- Vrancea active area

Anthropogenic- Thermal Plume NPP

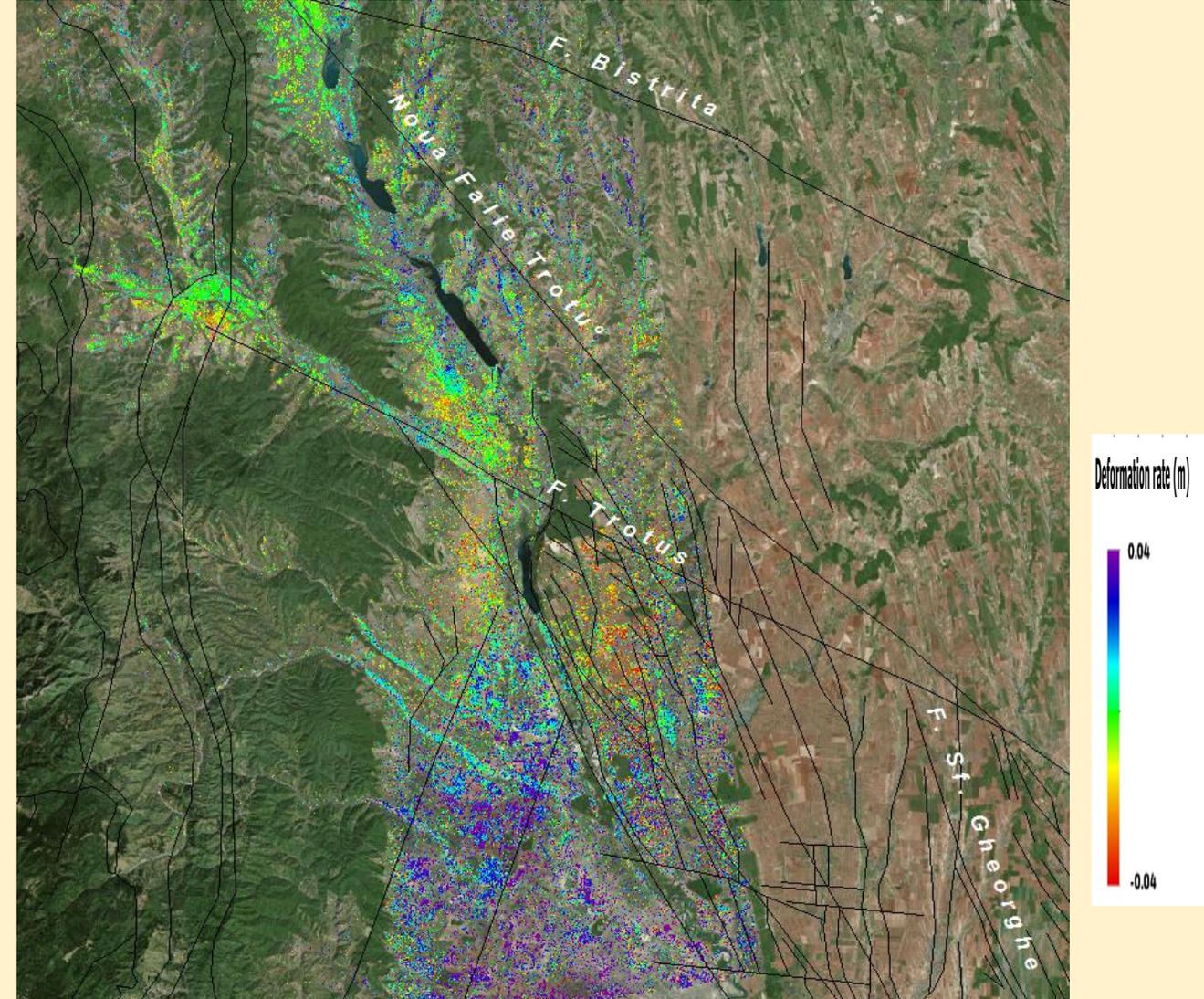
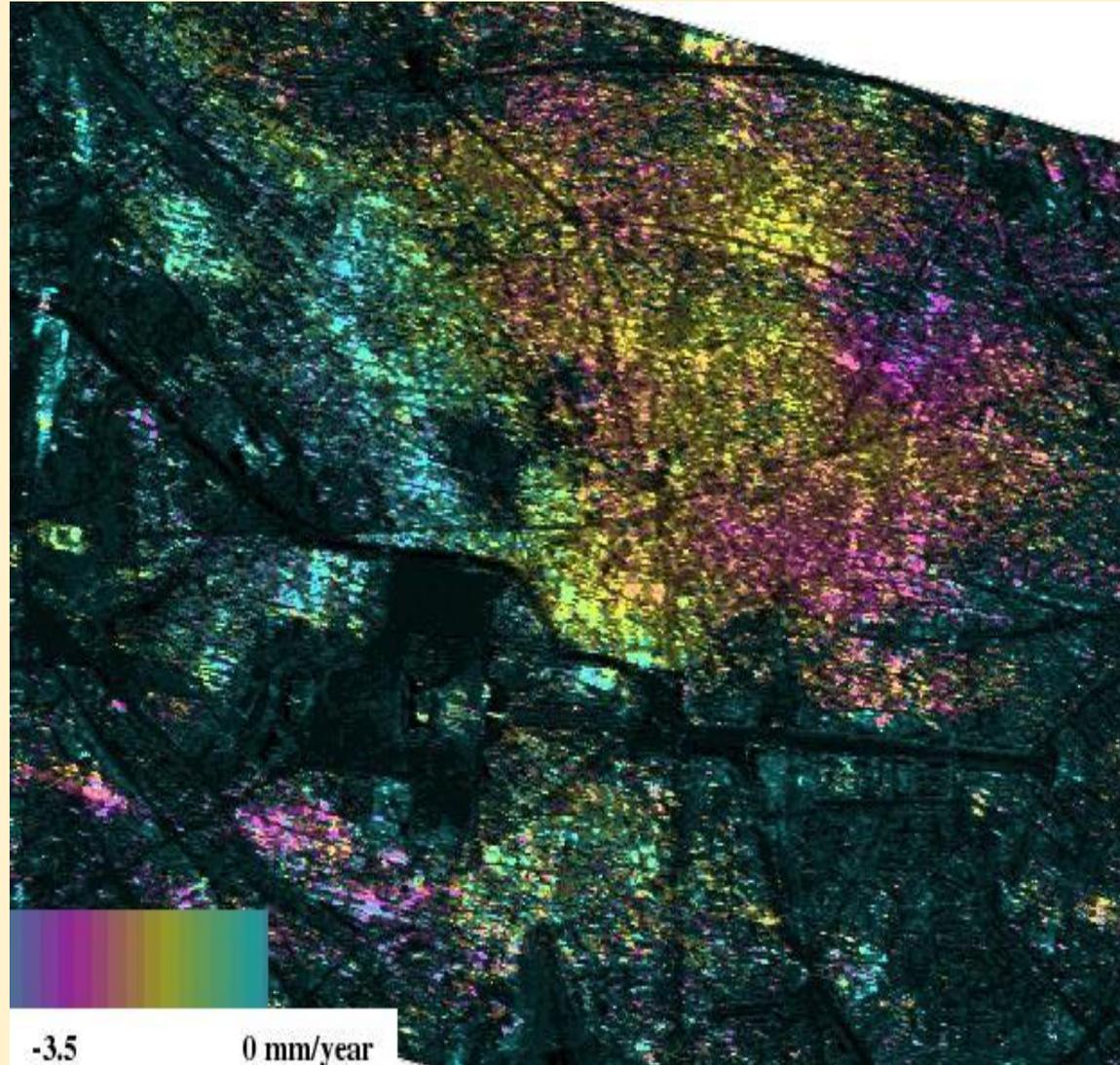
(Nuclear Power Plant)-Cernavoda



Sentinel 1- Monitoring of land surface deformation

Crustal displacements for
Bucharest metropolitan zone

Deformation map of Vrancea seismic area during
2014-2016 period due to small and moderate
earthquakes



**Thanks to RSCy2019
Organizers
for Invitation to attend at
MedRIN !**