Phase 4- 2017

Task	Partner involved	Final data	Expected Results
Task 4.1. ***Seismic hazard mapping in Vrancea area and surrounding***	**CO, P1, P2, P3**	**30.09.2017**	**Seismic hazard maps Scientific Report**
Task 4.2. ***Seismic Impact/Risc for Vrancea zone analysis***	**CO, P1,P3**	**30.09.2017**	**Study- Seismic Impact/Risc of Vrancea source**
Task 4.3.Promotion and Dissemination of seismic hazard information through VRAGEO's project results	**CO**	**30.09.2017**	**- VRAGEO booklet -1 ISI paper 2 papers presented at international conferences VRAGEO Project "After – Life Time Plan"**

Phase IV of VRAGEO Project targeted the following tasks:

1) Seismic hazard mapping in Vrancea area and surrounding;
2) Seismic Impact/Risc for Vrancea zone analysis;
3) Promotion and Dissemination of seismic hazard information through VRAGEO's project results

The monitoring of the seismic precursors in the Vrancea area was continued through the acquisition of time-series satellite and in-situ data and the permenent updating of the multiparametric geodatabase for the Vrancea and the surrounding areas consisting of a) Landsat TM / ETM, NOAA AVHRR, MODIS TERRA / AQUA, SPOT satellite data , IKONOS Quickbird, Sentinel 1, ASTER, SAR ERS-1 and ERS-2, ENVISAT, FORMOSAT, b) GPS-GNSS referencing data based on field measurements and data provided by national and European GPS networks; c) meteorological and climatic data (Air temperature, relative humidity, air pressure, wind speed and direction, rainfall, albedo surface, net solar radiation, cloud cover, soil surface temperature, emissivity, etc.) the INFP and USGS catalogs; e) Spectroradiometric field and laboratory data obtained with Spectroradiometer GER 2600 for the validation of satellite data; geological and geomorphological data for the Vrancea area and its surroundings; g) geochemical data (radon emissions); f) geodynamic data. g) gravimetric; h) levelment.

Also, geodetic observations were made and made on the crossing of Greşu- Vidra-Focşani, in a number of 7 epoch points, including pilasters from the Tulnici-Valea Sării-Vrâncioaia geodynamic polygon. Only 2-frequency GNSS equipment was used and special centering systems were used to center the antennas on the measured points. In addition, data from public permanent GNSS stations in the area (Bacău, Constanţa, etc.), stations of private companies (SC Topo Service Focşani, SC TopGeocart Bucharest and INFP Bucharest) were purchased, with public data (at a rate of 30s

The VRAGEO project brochure "Seismic Hazard Assessment through geospatial and in-situ monitoring of precursors in Vrancea areas" has been edited.
The Follow-up Project Plan "After its Completion"was done.
In frame of IV phase VRAGEO‘s project web page was permanently updated :
http://vrageo.inoe.ro.

Have been published 8 scientific papers (1 ISI and 7 articles in ISI and other web base data) .

In publishing 4 papers for SPIE ISI web proceedings.

18 papers have been presented at International Conferences.