



MINISTRY OF DEVELOPMENT AND INVESTMENTS  
GENERAL SECRETARIAT FOR RESEARCH AND INNOVATION



NATIONAL OBSERVATORY OF ATHENS  
INSTITUTE FOR ASTRONOMY, ASTROPHYSICS, SPACE APPLICATIONS AND  
REMOTE SENSING (IAASARS)

I.Metaxa & Vas. Pavlou Penteli, 15236 ATHENS  
Dr. Kontoes Charalambos (Haris)  
NOA Research Director  
e-mail: kontoes@noa.gr, phone: +30 210 3490011

Press Release

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**The Attica region unites its forces and institutions with the aim of creating a “shield of protection” from natural disasters for its citizens and environment.**

On March 1st, 2021, the Attica Regional Authority, the National Observatory of Athens (NOA) and the National and Kapodistrian University of Athens (NKUA), joined forces by signing a tripartite Operational Contract, with the aim of protecting both citizens and the environment from natural disasters. More specifically, the BEYOND Centre of Earth Observation Research and Satellite Remote Sensing of the National Observatory of Athens will conduct an extensive research project titled "Risk Assessment for Earthquakes, Fire and Flood in the Attica Region".

The Attica Regional Authority will utilize the experienced scientific personnel and state-of-the-art technology of BEYOND Center of Excellence [Institute for Astronomy, Astrophysics, Space Applications and Remote Sensing (IAASARS) of NOA] which will prepare detailed risk assessment studies for fire, flood and earthquakes and formulate effective plans to deal with them in numerous municipalities of the Region, selected based on the vulnerability of different risks.

The research, focusing on multiple natural hazards and analyzed on a settlement scale, will be the first of its type to be conducted in Greece. The project will generate original knowledge in support of the Attica Region's optimal implementation of the envisaged National Civil Protection Plan, as well as the work of the Coordinating Bodies of Civil Protection.

But why was Attica selected for such a research? What is the framework of this cooperation, what will be the results of the project and why was the BEYOND Center of NOA/IAASARS was selected to be one of the main implementing bodies? Are there, after all, scientific tools that can contribute to civil protection? The answers to all those questions can be found below:

**Why Attica?**

The Attica Region is a key area with a number of particular characteristics - among them overpopulation, over-concentration of critical infrastructure and socio-economic activities, a long coastline, significant inland areas and various geo-environmental units. At the same time, recent catastrophic events that

plagued the Attica Region such as the flood in Mandra in 2017 and the fire in Mati in 2018, are illuminating examples of the tragic consequences of the combination of natural hazards and man-made interventions in the region. Reliable quantification of risk and design of mitigation measures are, therefore, more imperative than ever before.

### **What is the context of this collaboration?**

The contracting parties start from a common starting point for the common service of the public interest. The Operational Contract will support all the actions provided by Law 4662/2020 (A' 27) "*National Mechanism for Crisis Management and Risk Mitigation, restructuring of the General Secretariat of Civil Protection, upgrading of Civil Protection Volunteerism, reorganization of the Fire Brigade and other clauses*" in matters of prevention and preparedness.

### **What will be the results of the project?**

The results of this original research project will support authorities on two fronts: on one hand they will inform relevant protection measures and improve the planning of civil protection projects, and on the other hand they will better prepare appropriate crisis management measures in case of a fire, a flood, or an earthquake. Effective crisis management presupposes the timely assessment of the risk. This will be achieved through the creation of reports as well as a geoinformation internet system, that will assist the actions of the competent services of the Attica Region for the analysis and design of civil protection measures and the implementation of studies and interventions to reduce the risk of the specific natural disasters.

### **Why is the BEYOND Center a key pillar in the implementation of the project?**

The BEYOND Center/NOA has implemented a series of similar projects worldwide, as part of its flagship action for the Copernicus Emergency Management Service program. To date, more than 20 state-owned civil protection services worldwide - including the Balkans (Greece, Bulgaria, Croatia) the rest of Europe (Italy, Spain, Portugal, Austria), Latin America (Chile, Peru) and Africa (Mozambique, Congo) have activated the BEYOND Center's services for risk assessment and the implementation of risk mitigation plans in cases of fire, flood, earthquake, volcano eruptions, soil or coastal erosion, tsunami, industrial accidents (e.g. explosions with toxic gas leaks) and humanitarian crises (e.g. war zone in Yemen).

Operational crisis response is not the subject of this particular Contract, however after its completion the Attica Regional Authority will be able to make combined use of the results of this project, as well as integrated real-time information systems available to the BEYOND Centre/NOA, for disaster management and the generation of operational information in times of crisis. Similar systems in place are the well-known FIREHUB, FLOODHUB, SMOKE-DUSTHUB, GEOHUB, etc. that have been developed and distributed by BEYOND's team to the operational center of the Fire Service, the General Secretariat of Civil Protection, in the Attica Region, but also in other countries through its strategic role as UN-SPIDER Regional Support Office of the UN.

### **What are the areas that will be studied?**

**For Flood risk**, areas of very high risk were selected in accordance with the approved flood risk management plans of the Special Secretariat for Water of the Ministry of Environment & Energy:

- Pikrodafni basin (Municipalities of Agios Dimitrios, Alimos, Ilioupoli and Palaio Faliro)
- Koulourioti stream basin (Municipality of Megareon)
- Soures and Agia Aikaterini streams basin (Municipality of Mandra-Eidyllia)

- Sarantapotamos basin (Municipality of Elefsina)
- Kifissos basin (Municipalities of Agioi Anargyroi-Kamatero, Athens, Aigaleo, Acharnes, Ilio, Kallithea, Kifisia, Metamorfosi, Moschato-Tavros, Nikaia-Agios Ioannis Rentis, Peristeri, Piraeus, Philadelphia-Chalkidona)

**For Fire risk**, the vulnerable areas selected were mainly mixed areas, i.e. areas where forest regions coexist with houses, which present a very high risk according to the firefighting operation plan of the Fire Brigade for 2018:

- Porto Rafti, Chamolia, Vravrona (Municipality of Markopoulo-Mesogaia)
- Ippokrateios Politeia (Municipality of Oropos).
- Thrakomakedones (Municipality of Acharnes)
- Nea Zoi, Kiafa, Korakas, Agia Sotira, Pournari, Karaouli, Fichthi, Agios Nektarios Vilion, Agios Panteleimonas, Paleokountoura (Municipality of Mandra-Eidyllia)
- Mazi (Municipality of Megareon)
- Kalyvia, Kouvaras, Lagonissi, Saronida, Anavyssos (Municipality of Saronikos)
- Lavrion Keratea, Kakki Thalassa, Kato Posidonia, Soúnio (Municipality Lavrion)
- Schinias National Park Region (Municipality of Marathonas)
- Pikermi (Municipality of Rafina - Pikermi)
- Municipality of Agistri.
- Municipality of Kythera.

**For Earthquake risk**, the following Municipalities were selected:

- Southern Sector of Athens (Municipalities of Alimos, Glyfada, Elliniko-Argyroupoli)
- Northern Sector of Athens (Municipalities of Heraklion, Nea Ionia)
- Western Sector of Athens (Municipalities of Agia Varvara, Agioi Anargyroi-Kamatero, Ilio)
- West Attica (Municipalities of Aspropyrgos, Elefsina, Megareon, Fili)
- East Attica (Municipalities of Acharnes, Oropos)
- Piraeus (Municipality of Keratsini - Drapetsona)

**With which bodies will the BEYOND Center collaborate?**

To achieve this common goal, BEYOND Centre/NOA, will collaborate with leading research institutions in Greece - specifically the National Technical University of Athens, the International University of Greece, the Aristotle University of Thessaloniki, and the Institute of Engineering Seismology and Earthquake Engineering.