Interreg - IPA CBC

CCI 2014 TC 16 I5CB 009

J-CROSS

CENTER FOR DEVELOPMENT OF PELAGONIJA REGION

JOINT CROSS BORDER COOPERATION FOR SECURING SOCIETIES AGAINST NATURAL AND MAN MADE DISASTERS J-CROSS


Programme: The Interreg IPA CBC Programme "Greece – Republic of North Macedonia 2014-2020"
IMPLEMENTED BY
Center for development of Pelagonija planning region
Website: http://pelagonijaregion.mk
Republic of North Macedonia
Vardar
Southeast
Southwest
Pelagonia
Serres
Pella
Kilkis
Florina
Thessaloniki
Greece
Interreg-IPA CBC
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J-CROSS
EUROPEAN UNION
Project co-funded by European Union and National funds of the participating countries
"The views expressed in this publication do not necessarily reflect the views of the European Union, the participating

This brochure is part of the project "Joint Cross Border Cooperation for Securing Societies against Natural and Manmade Disasters (J-CROSS)" funded by Interreg IPA Cross border Cooperation Program" Greece - Republic of North Macedonia 2014-2020."

J-CROSS project is the result of long term collaboration between the Region of Western Macedonia, Greece and the Pelagonia Region, Republic of North Macedonia. Both regions are fully aware of the need to secure development initiatives and opportunities, against risks from natural and man made/ human indicated disasters and therefore have acknowledged the importance of civil protection in securing big infrastructure projects and investments. Climate change increases the risk of natural hazards, while big infrastructure projects increase the risks of man made/human indiceted disasters. Therefore, J-CROSS tackles the challenge to minimize increasing by climate change- frequency and severity of risks in both regions by jointly planned, developed and implemented practical actions.

The overall J-CROSS objective is to minimize the risks from natural and man made disasters for the Pelagonia region in North Macedonia and the Region of Western Macedonia in Greece in a longterm. In a way, that can be replicated in other cross border areas, while the purpose of this brochure is to raise awareness of the population in both countries about natural disasters and how to react in case of one.

Center for Development of Pelagonia Planning Region, North Macedonia

CDPPR

CENTER FOR DEVELOPMENT OF PELAGONIJA REGION

is a legal entity, established by the units of local selfgovernment comprising the Pelagonija planning region - Bitola, Prilep, Krushevo, Resen, Demir Hisar, Mogila, Novaci, Dolneni and Krivogashtani.

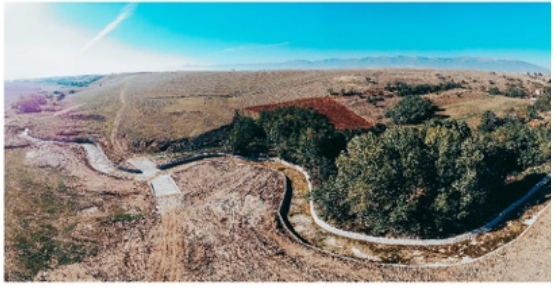
The second partner's meeting with the purpose of representation of achieved results and completed milestones from the projects. Also, future steps with participation of all project partners, setting up dates in correlation with the partners, draft agendas for the meetings on the topic needed for the specific meeting, preparing information for publicity on website and media.

Cross border event for earthquakes, floods and landslides organized on June 07, 2019. It was attended by fifty participants - stakeholders from the Pelagonija region and representatives from the J-CROSS partner organizations from North Macedonia and Greece.

Two training events in Pelagonija Region for civil protection authorities, media, volunteers, students.
The first training event for floods and landslides was organized on October 29, 2019. It was attended by 40 participants from stakeholder's organizations and all project partners.
The second training event for earthquakes was organized on October 30, 2019. It was attended by a total of 34 students from secondary schools from the region and representatives from J-CROSS partners organizations.

River chanel in Germian settlement works

In the Region of Pelagonija in Germian village (third part of km 1 + 152.10 to km 1 + 492.10) with a length of 340m river chanel settelment works was realised. With this infrastructural activity was solve the problem with flooding of agricultural land, residential and farm buildings in this part of the region that often occurred in recent years as a result of torrential rains and weak protection system from floods.



Study for mapping of landslides as a result of the floods in Pelagonija region

The study maps all potential landslides areas which are crucial for the future activities in civil protection in the region. It is based on available data on the natural factor, historical data on floods and landslide events, landslide and flood data analysis from our own databases, and others sources. Its purpose is to highlight the problem of landslides and floods in the region and to propose future steps to reduce the potential damage from these natural hazards.

Water tank vehicle

For the needs of the population of Pelagonija region, a vehicle was donated to PE "Vodovod" - Bitola, so it could be used for drinking water supply in a situation of natural disaster. It will be at the disposal of residents of all municipalities in the Pelagonija region in case of need for drinking water supply.

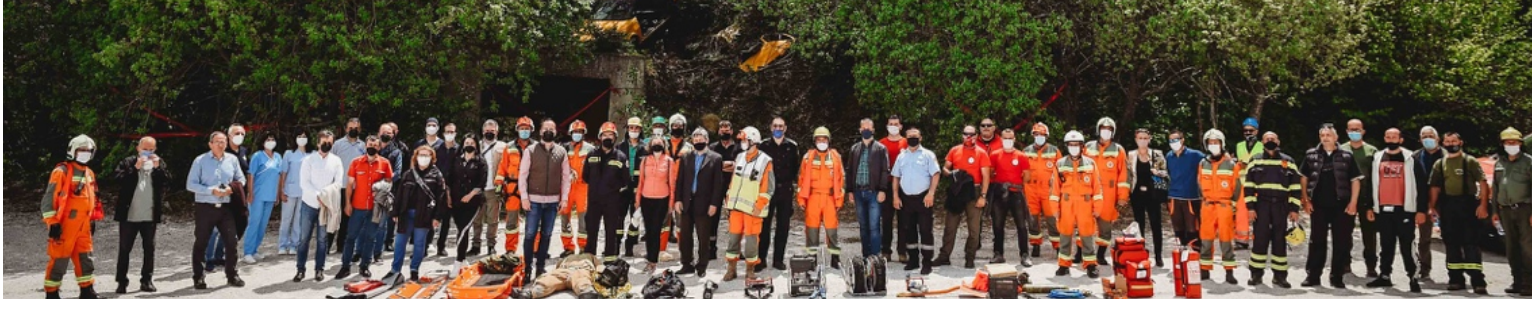
Cross Border Emergency Logistics Study

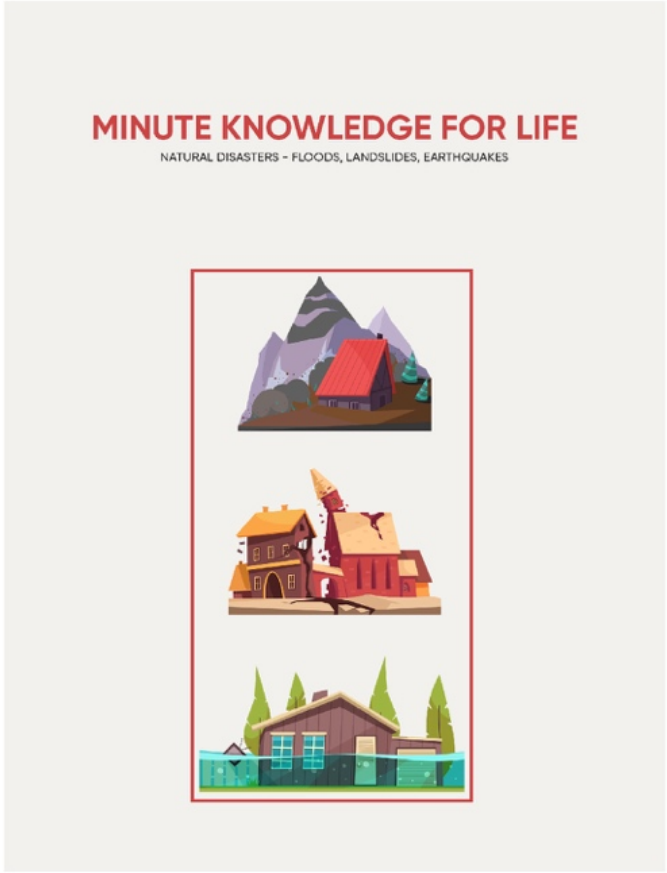
That is a new concept for the whole Balkan area. The study covers the both cross border regions (Pelagonia Region in Republic of North Macedonia and Region of Western Macedonia in Greece), and includes plan for logistic support during disasters, maps the available infrastructure, possible camping sides, action procedures, managing procedures for emergency supply chain, identifies stakeholders, plan for disaster logistic preparedness and planning etc.

Planning, Execution and Evaluation of Joint Cross Border Field Exercise

Implementation of a scenario for rescue and evacuation of the population in case of a landslide, for which simulation was exercised, including wide media coverage, video recording, etc. The exercise was done in two phases, coordination meetings between stakeholders, and field operational exercise. Thirty five participants took place in the Field Exercise, video recording and live streaming was provided for the Greek partners.

Event for natural disasters - earthquakes, floods and landslides organized on May 20, 2021. The event was attended by 50 participants – stakeholders from Pelagonija region. Experts in the field of prevention and protection from floods, landslides and earthquakes, were speakers at the event with a main purpose to inform the public about the new researches regarding the actual topics, as well as to demonstrate how to act and react in case of such disasters.





Raising Awareness Guide for raising awareness of the population for natural disasters

Specific ways for adapting and reacting to such disasters, with particular emphasis on floods, landslides and earthquakes. The Guide contents assessment of existing materials, publications, studies, guides and other media publications for awareness of the population for natural disasters in both cross border regions (Pelagonija Region and Region of Western Macedonia) and existing legislation on this issue in both cross border countries.
The Guide contains information and analysis regarding the current situation on awareness of the population for natural disasters, specific ways and scenarios for adapting and reacting to such disasters, plan for evacuation with particular emphasis on floods, landslides and earthquakes. The Guide is developed in three languages, Macedonian, English and Greek.

Video for raising awareness of the population for natural disasters

One fifteen-minutes long video and a short one-minute video for raising awareness of the population for natural disasters were made in Macedonian language with English subtitles and were broadcasted on 1 TV station and promoted on social networks. It covers the following topics: risk areas of floods, landslides and earthquakes in Pelagonija Region, infrastructure work within the project, interviews with stakeholders and institutions from the region, part of the activities from project implementation events, interviews with stakeholders in the field of civil protection etc.

Brochure with J-CROSS project results

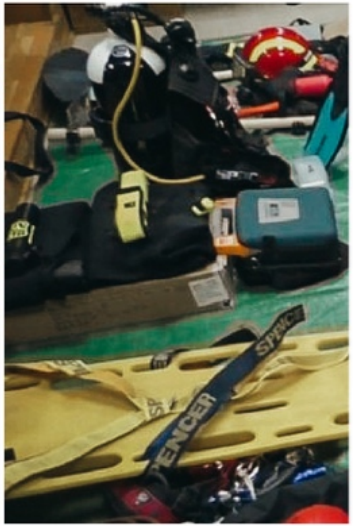
This brochure covers the activities by all project partners and also results that were achieved during the implementation of the whole project. Brochure was developed in 3 languages: Macedonian, English and Greek.

REGION OF WESTERN MACEDONIA
GREECE
RWM

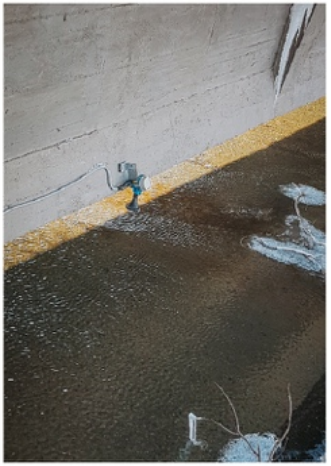
It is a self-governing territorial public entity. Its main responsibility is to design, plan and implement policies at regional level in the framework of their powers, in accordance with the principles of sustainable development and social cohesion of the country, taking into account national and European policies. Western Macedonia is divided into the regional units of Grevena, Kastoria, Kozani and Florina.

ACTIVITIES

Organization of the first partners' meeting and presentation of the equipment that was bought for the purposes of the protection.



Acquirement of equipment: A Telemetric system consisting of 2 water quantity measuring stations equipped with remote sensing Radar type sensors. The data is collected every 15 minutes in high-grade data logger, transmitted to the center every 30 – 60 min via GPRS wireless technology, which is power supplied by a solar panel. It is remotely accessible via internet, with possibility of email alarms notifications, servers and monitors with networking equipment for receiving data from sensors and providing common operational view to all units, communication equipment.



Infrastructure works on the Sakouleva riverbed settlement in the Region of Western Macedonia, based on the long term Regional Planning for infrastructure in the whole risk area of the river. The procedures executed were based on approvals, licenses and authorization.

Delivery of civil protection equipment for the young rescuers of the experimental school of Florina, done in the framework of the European co-financed projects J-cross "Joint Cross Border Cooperation for Securing Societies Against Natural and Man Made Disasters" and Recall "Resillient European Communities Against Local Landslides" of the INTERREG IPA-CBC program delivered by PE Florina on March 3 2021 and constitutes the holistic approach of the synergy of both European projects.

The Aristotle University of Thessaloniki, Greece

ARISTOTLE UNIVERSITY OF THESSALONIKI

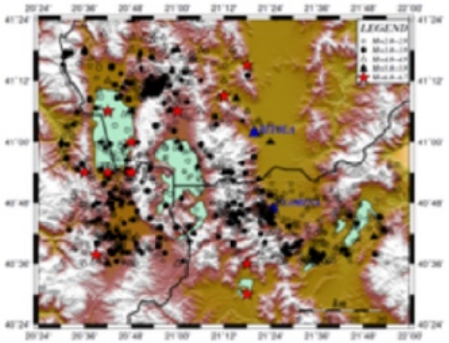
AUTH

The main campus of The Aristotle University of Theassaloniki is located in the center of the city of Thessaloniki, and covers an area of about 33.4 hectares. It comprises 10 faculties which consist of 40 schools and 1 single-School Faculty.

E-communication and dissemination material for the regional, scientific and technical entities

Training videos have been created to inform focused groups on specific topics of interest and become the basis for further online synchronous and asynchronous training to follow, during and after project duration. For training purposes a training platform has been developed. AUTH and IMET prepared also a video for the Thessaloniki International Fair 2019.

Evaluation of existing evacuation plans of regions of Western Macedonia and Pelagonija for earthquakes and landslides: Based on the new guidelines of DG ECHO on cross border cooperation, host nation support framework and the special characteristics of the pilot are (Florina – Bitola), evacuation plans have been studied and proposals for improvements were made. The 4662 /2020 law on Greek Civil Protection was taken into consideration as well Prespes lake agreement provisions on civil protection.



Implementation of seismicity study in the cross border area by the scientific and technical team of AUTH to cover major cities and critical infrastructures: A study on the seismicity and seismic hazard has been contacted across the borders of Greece and the Republic of North Macedonia. Portable seismographers have been used to create a local network to identify and record micro seismicity that can show hidden risks for cities and critical infrastructures such as dams, pipelines, power stations etc. Indeed, cascade effects are very important as well as triggering ones and training events have been organized to make professionals, volunteers and citizens capable of understanding the phenomena, impacts proper reaction as well as the sequence of activities that must take place.

Implementation of Dams breaking studies in the Region of Western Macedonia: Due to seismicity of the area specialized scientists studied the worst case scenario of dam(s) failure in the Region of Western Macedonia, due to a strong earthquake and the subsequent flood, to propose specific measures for dams' management and monitoring / early warning. The results of the study have been used to train people of local communities at risk to self-react the 1st critical moments of the event. All dams have been displayed in GIS system in a dynamic way to be used in the Decision Support System. ("Papadia" Dam in Region of Western Macedonia (own work, geographical background retrieved from Google Earth)).

Early Warning Systems Evaluation: AUTH studied the best available early warning systems on earthquakes, floods and landslides at international level to present the latest evolutions and support decision makers evaluate and match with actual needs in the cross border area. An earthquake can trigger landslides, cause dam failures and therefore integration is necessary to achieve the maximum feasible security level.

Joint Cross Border Action Plan Study: AUTH and IMET elaborated the skeleton of a joint Action Plan that both Pelagonija and Western Macedonia regions can use to plan, implement and evaluate joint activities, mainstreaming the results of J-CROSS and other relevant projects.

Study on Cross Border Emergency Logistics that includes the review of worldwide best practices on emergency logistics as well as algorithmic tools and methods applied to the same field, best practices aimed at optimizing emergency logistics at a cross-border level under various scenarios to be developed, and finally specific measures aimed at facilitating the development of Union Civil Protection Mechanism and rescEU initiative.

Design, development and operation of Decision Support System: AUTH and IMET designed and developed a Decision Support System (DSS) for the management of natural or man-made disasters to be deployed within the regions/regional units of Florina (Greece) and Pelagonija (North Macedonia). Specifically, this DSS is meant to provide the various stakeholders involved in the disaster management field present in both of the before mentioned areas with a platform that incorporates various information, communication, and algorithmic tools that will be interoperable with each other and will boost said stakeholders' relevant competencies.

Support in design, execution and evaluation of field exercise: The Aristotle University of Thessaloniki together with Hellenic Institute of Transport analyzed the situation at cross border area and planned few realistic scenarios to be tested in exercises. The exercises followed, at all stages, the latest guidelines from National Civil Protection Authorities of both countries, as well as the DG ECHO proposals as expressed in DG ECHO FSX conducted the last years:

Overview of the scenario involving a high magnitude earthquake in the cross-border area between Florina and Bitola.

Overview of the scenario involving a high magnitude earthquake in the vicinity of the Strevezo dam.

Crisis Management Centre North Macedonia CMC

It is an independent state administrative body, having the status and function of a directorate, which legal competences include gathering of information, assessment, situation analysis, objectives and tasks determination, development and implementation of the necessary actions for prevention, early warning and handling crises.

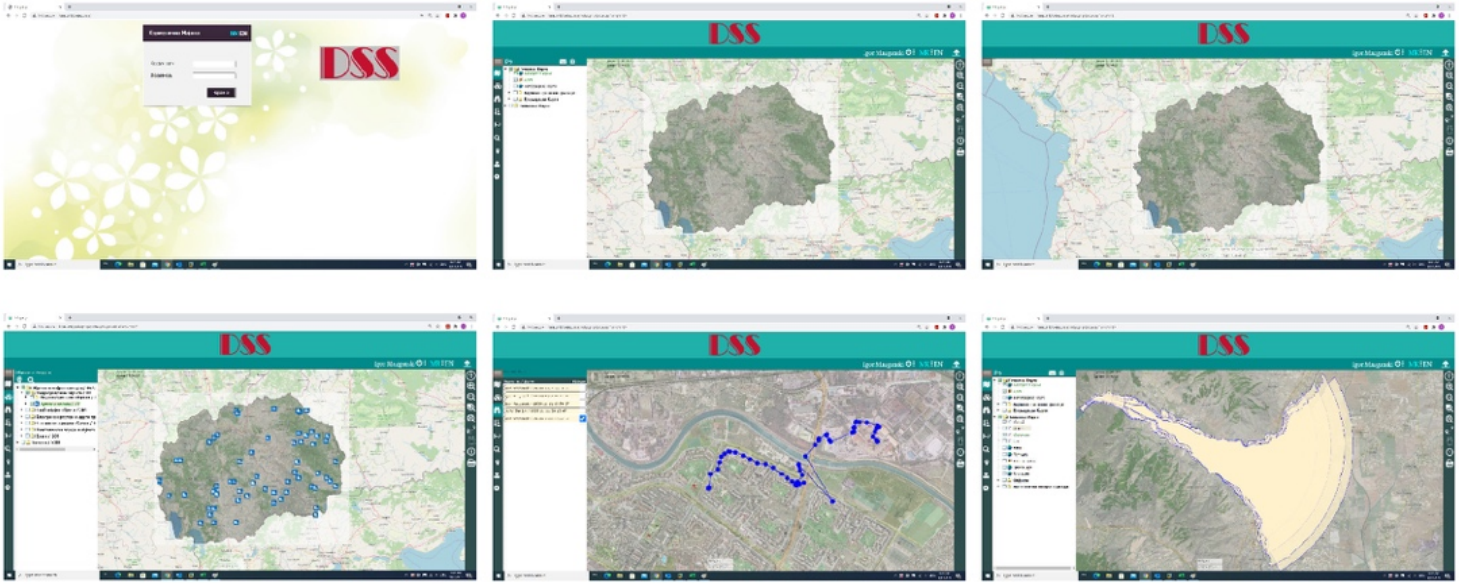
Cross-border plans - Civil Protection needs in the Pelagonija (Southern) planning region for the preparation of an analysis on existing documents and identifying proper institutions from Crisis Management System from both countries. The result of this activity is the study on "Preparation and Development of Cross-border Protocols for Communication, Cooperation and Coordination in the Pelagonija Planning Region in Republic of North Macedonia", with the purpose to develop cross-border protocols serving to the competent authorities to act together in time of crisis situation.

Digital maps on flood waves in case of dam breaking in the Pelagonia region. The result of this activity is the study on "Digitalization of Flood Wave Maps in Case of Dam Demolition in Accumulation – Strezevo" with the purpose to provide GIS maps from Strezevo dam in Pelagonija (Southern) planning region.

Special transfer of knowledge related to early warning systems and their functionalities (i.e. interoperability), compatibility of the existing systems with cross-border dimension and procedures for alerting the stakeholders of civil protection and the general public in the Pelagonia region. The result of this activity are the two studies: "Analysis of Alarm Mass Notification Systems and Early Warning Procedures, taking into account the Cross-Border Segment" and "Analysis of the Newly Developed Early Warning Systems on the market, taking into account the Cross-Border Segment". The first study is an analysis of the existing alarm mass notification and early warning systems in Republic of North Macedonia, taking into account the cross border segment.

The second study represents an investigation of the various technologies that are available for public warning. It enables a comparison between the different technologies in use today and of those being considered, through initiatives in many countries, for the deployment of next generation PWS.

Preparation of design for Decision Support System (DSS) and for the preparation of technical specification for software development in the Pelagonija region. The result of this activity are the two studies: "Analysis of technology for designing a decision support system in the Pelagonija planning region" and "Technical specification for software development for decision support system in the Pelagonija planning region", with the purpose to support decision makers for easier, faster and more appropriate decision making in a situation of crisisad.



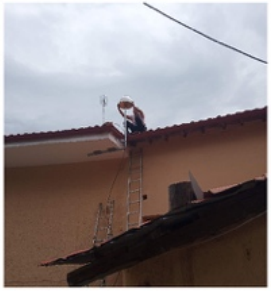
Software design for the Decision Support System (DSS) using WFS services and manipulation with the spatial data to provide platform for quick assessment in time of emergencies and disasters, that is planned to be used by decision makers to make easy and fast decisions using spatial data and features of GI systems. All necessary GIS data is loaded in the system for overlapping different layers and with that getting clear picture what will be affected and what nearest resources can be used in case of crisis situation.

National Observatory of Athens Greece

NOA

Founded in 1842, it is the oldest research foundation in Greece, as it was the first scientific research institute built after Greece became independent in 1829, and one of the oldest research institutes in Southern Europe.

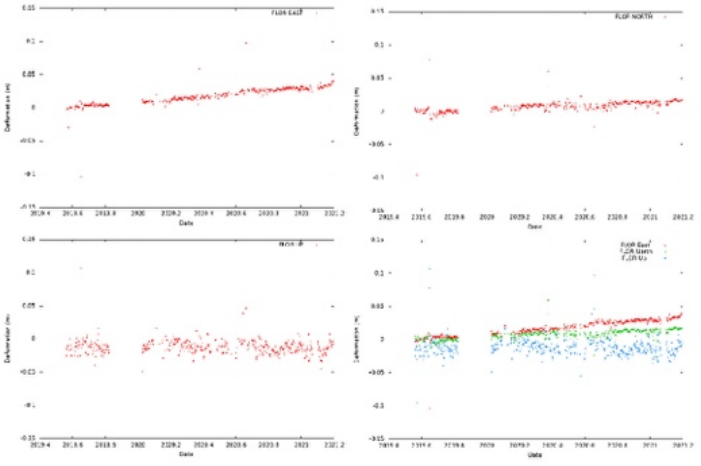
Implementation of Pilot Study in Selected Area in the region of Western Macedonia.



Permanent geodetic GNSS station in the premises of the Mountaineering Club of Florina located in the slope North of Florina. The positioning daily solution is shown at:

http://aips.space.noa.gr/index.php/j-cross-interreg/flor-florina

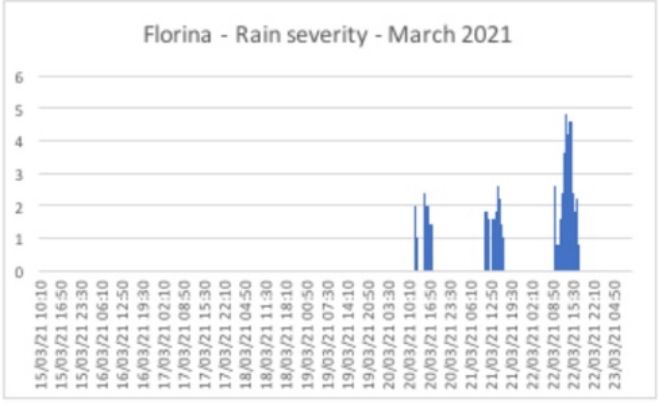
Making of a daily deformation time series until March 13, 2021



Installation of a permanent meteorological station in Florina

Its webpage is at:

http://penteli.meteo.gr/stations/florinawest/



Installation of corner reflectors in the slope north of Florina to assist the deformation monitoring with satellite data

The Corner reflector is a metallic construction of three Isosceles orthogonal triangles merged at their vertical tips at right angle. They have the property to reflect the emitted from the satellite electromagnetic microwave back to it, with a steady radio electric behavior over time, making it a reliable and recognizable measuring point.

Acquisition of 40 microwave satellite half from the ascending orbital pass and half of the descending one.

The processing will be performed of May 2021 in order to include all the acquired satellite data.

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