

Enhancing resilience of cultural heritage sites: lessons learnt from initiatives undertaken by Greece

George Kremlis

Member of the Board of the EPLO and Director of its Circular Economy & Climate Institute

Chairman of the Greek Initiative at UN level: Addressing climate change impacts on cultural and natural heritage

U.S. Climate Heritage in the International Context
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INITIATIVE #1. DEFINE VULNERABILITY FOR ARCHAEOLOGICAL SITES AND MONUMENTS FROM CLIMATE CHANGE IMPACTS– DEVELOP 19 ADAPTATION PLANS BY THE END OF 2025



INITIATIVE #2. PROMOTE PROACTIVE TECHNICAL WORKS FOR 5 ARCHAEOLOGICAL SITES

Countermeasures against
rock falls in Delphi



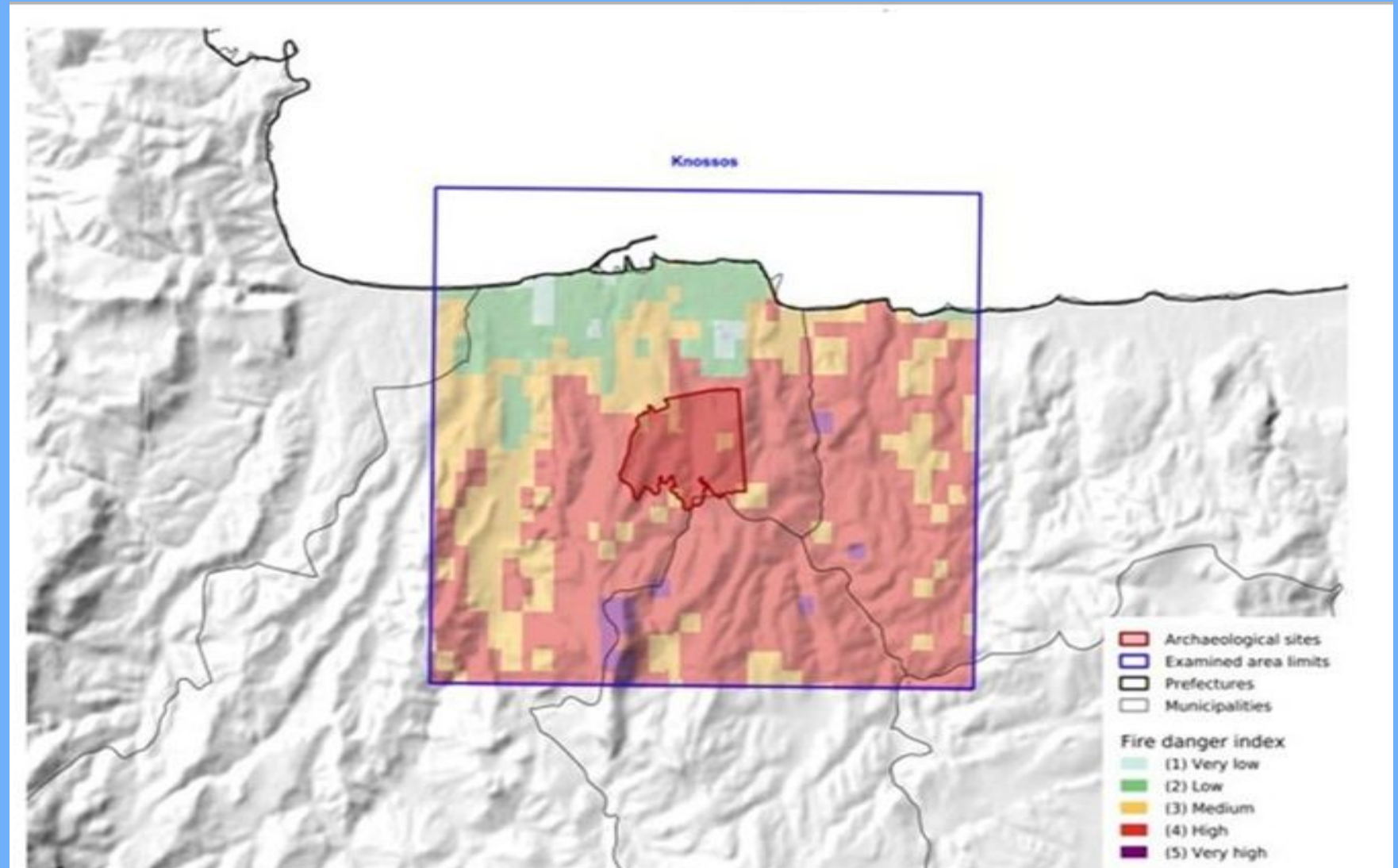
FLOOD PROTECTION WORKS AT DION



INITIATIVE #3: ENHANCE THE RESILIENCE DIMENSION FOR THE MANAGEMENT PLANS OF UNESCO SITES FOR PRESENT AND FUTURE CLIMATE RISKS (FOREST FIRES AND FLOODS)

Knossos

Maps like this have been produced for all the 19 UNESCO archaeological sites.



INITIATIVE #4: COOPERATION WITH THE MINISTRY OF CLIMATE CRISIS AND CIVIL PROTECTION FOR THE IMPLEMENTATION OF PROACTIVE MEASURES FOR OVER 30 ARCHAEOLOGICAL SITES THAT DEMONSTRATE HIGH CLIMATE RISK FOR FOREST FIRES

- Improvement of the passive and active fire prevention systems within the archaeological area.
- Back-up systems for power supply.
- Instalment of watering systems in the vicinity of the archaeological sites.
- Fire propagation modelling/sensors in the visible and thermal infrared
- Fire drills
- Evacuation plans for visitors and workers.

INITIATIVES DEVELOPED IN RELATION TO ADAPTATION/RESILIENCE OF CULTURAL AND NATURAL HERITAGE BY THE GREEK MINISTRY OF CULTURE & SPORTS

- 1.Mapping, at the national level, of the vulnerability of cultural sites and monuments from the impacts of climate change.
- 2.Development of adaptation/resilience plans for cultural/archaeological sites and monuments of nature.
- 3.Energy retrofitting of selected Museums to cope with the impacts of climate change – circular museums.
- 4.Drafting, in cooperation with the Ministries of Civil Protection, of civil protection plans for areas where cultural/archaeological sites and monuments of nature are located.

INITIATIVES DEVELOPED IN RELATION TO ADAPTATION/RESILIENCE OF CULTURAL AND NATURAL HERITAGE BY THE GREEK MINISTRY OF CULTURE & SPORTS

5. Special protection plans for selected cultural/archaeological sites and monuments of nature to cope with climate risks.

□ World Heritage Properties in Greece - two current initiatives:

- Compilation of management plans for 15 World Heritage Sites (14 cultural, 1 mixed)
- Pilot Disaster Risk Management Plans for World Heritage Sites in Greece (Tiryns and Mycenae, Acropolis of Athens, Daphne Monastery)

6. Dedicated program for the preventive protection and conservation of monuments.

7. Project funded by European Recovery Fund titled “Tackling the threats of climate change to the long-term viability of cultural sites of tourist and economic significance”

(Recording and monitoring systems of the effect of climate change on micro-environment & identification and documentation of the climate change impacts on cultural heritage).

INITIATIVES UNDERTAKEN BY THE MINISTRY OF ENVIRONMENT AND ENERGY OF GREECE

1. National Plan for Adaptation to Climate Change (NAS)
2. 13 Regional Adaptation Action Plans (RAAPs)



Greek Initiative at UN level: “Addressing climate change impacts on cultural and natural heritage”

FLEXIBLE MECHANISM steering committee (Greece, UNESCO, WMO, UNFCCC)

Experts, Scientists

- **identify and digitalize** the threatened sites/monuments upon proposals of the countries concerned (Questionnaire - 31 replies until Sept. 2024)
- **create a database with best practices** in the field of climate change impacts on cultural and natural heritage
- **record and develop know-how and data** related to the threats faced by international cultural heritage and monuments of nature, because of the climate crisis

Focal Points

- **create an international network** with the view to establishing synergies in the fields of protection of the cultural and natural heritage from climate change impacts

EU MED 9 Pilot Project : A “Climate identity” for each selected monument
Greece: island of Delos
Cyprus: Archaeological site of Nea Paphos
Spain: Alhambra and Generalife

HORIZON EUROPE “TRIQUETRA PROJECT”

It aims at creating an **evidence-based assessment platform** that allows **precise risk stratification**, and also creates a **database of available mitigation measures and strategies**, acting as a Decision Support Tool towards efficient risk mitigation and site remediation.

The overall approach of Triquetra is based on three distinct steps:

1. Risk Identification
2. Risk Quantification
3. Risk Mitigation

- ✓ Addressed Cultural Heritage Typologies (mainland – rural areas, underwater sites and coastal areas)
- ✓ Innovative Tools for In-situ Sensing & Monitoring
- ✓ Decision Support Platform (8 different pilot sites across Europe)

21 organizations from 7 countries, 3 year-duration: started on 01/01/2023

Lead Partner: National Technical University of Athens

<https://triquetra-project.eu/>

2nd NEW ELEUSIS SYMPOSION

“Mysteries of Flourishing – Ancient Roots, Modern Blossoms”

**In the framework of 2023 Eleusis European Capital of Culture
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- Ancestral Intelligence**
- Artificial Intelligence**
- Emotional Intelligence**

LESSONS LEARNT

- There is a need to refine the criteria for ecosystems in order to also refer to the concentration, continuity and integrity of the cultural heritage.
- The strong variation in climate vulnerability by location requires a site-based analysis.

An adaptation plan cannot be applied indiscreetly to all sites

- Monitor how climate change and the socio-economic changes may impact the communities which support the conservation of cultural heritage.
- Exhaust all efforts to promote **adaptation on site** to respect the immovable concept and **avoid the loss of cultural memory and intangible heritage**.
- Communicate **local knowledge** in adaptation.
- Take note that **adaptation is not limitless**.

THANK YOU!

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gkremlis@eplo.int