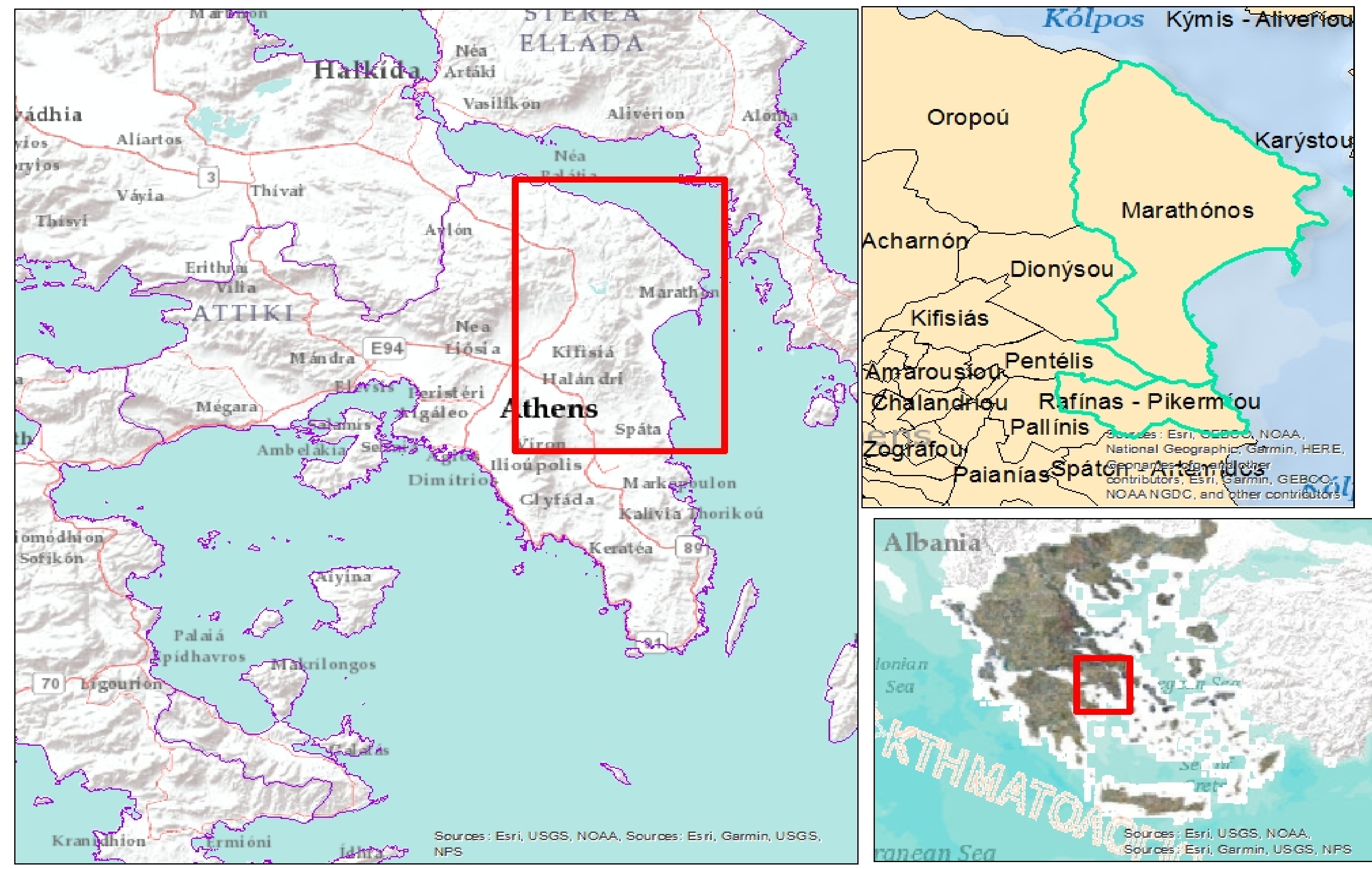
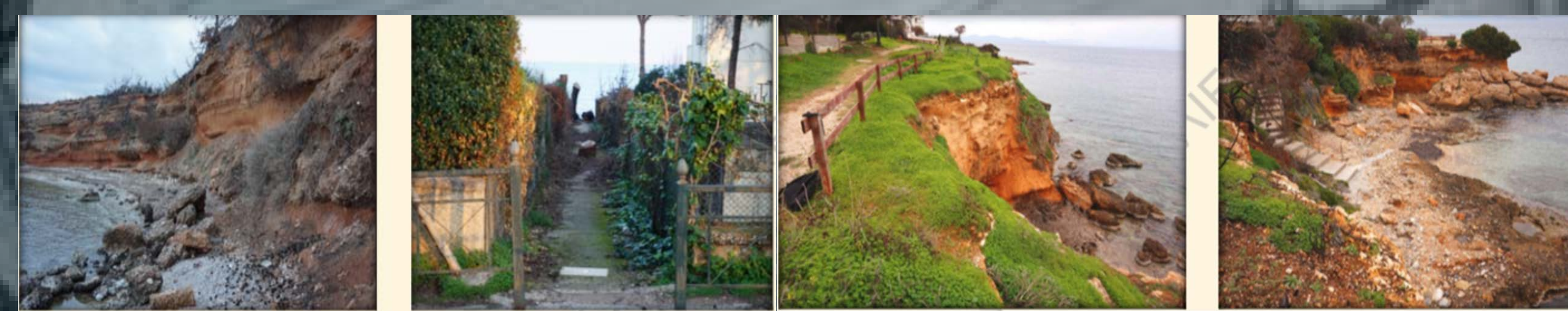
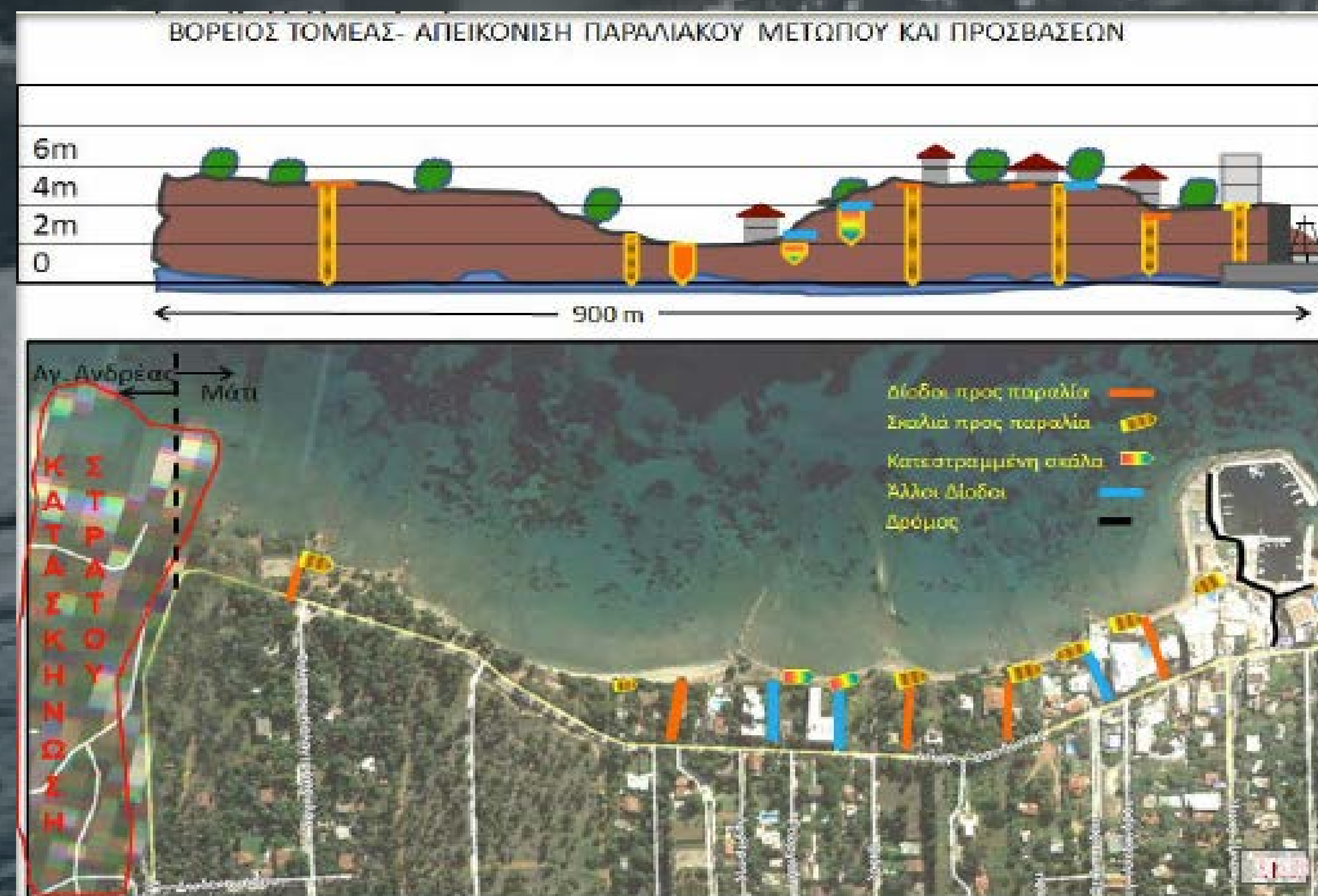


The Fire of July 23rd, 2018 Mati, Attiki Greece: Lessons Learned in the Face of Lacking Crisis Management

Municipalities affected by the July 23rd, 2018 fire

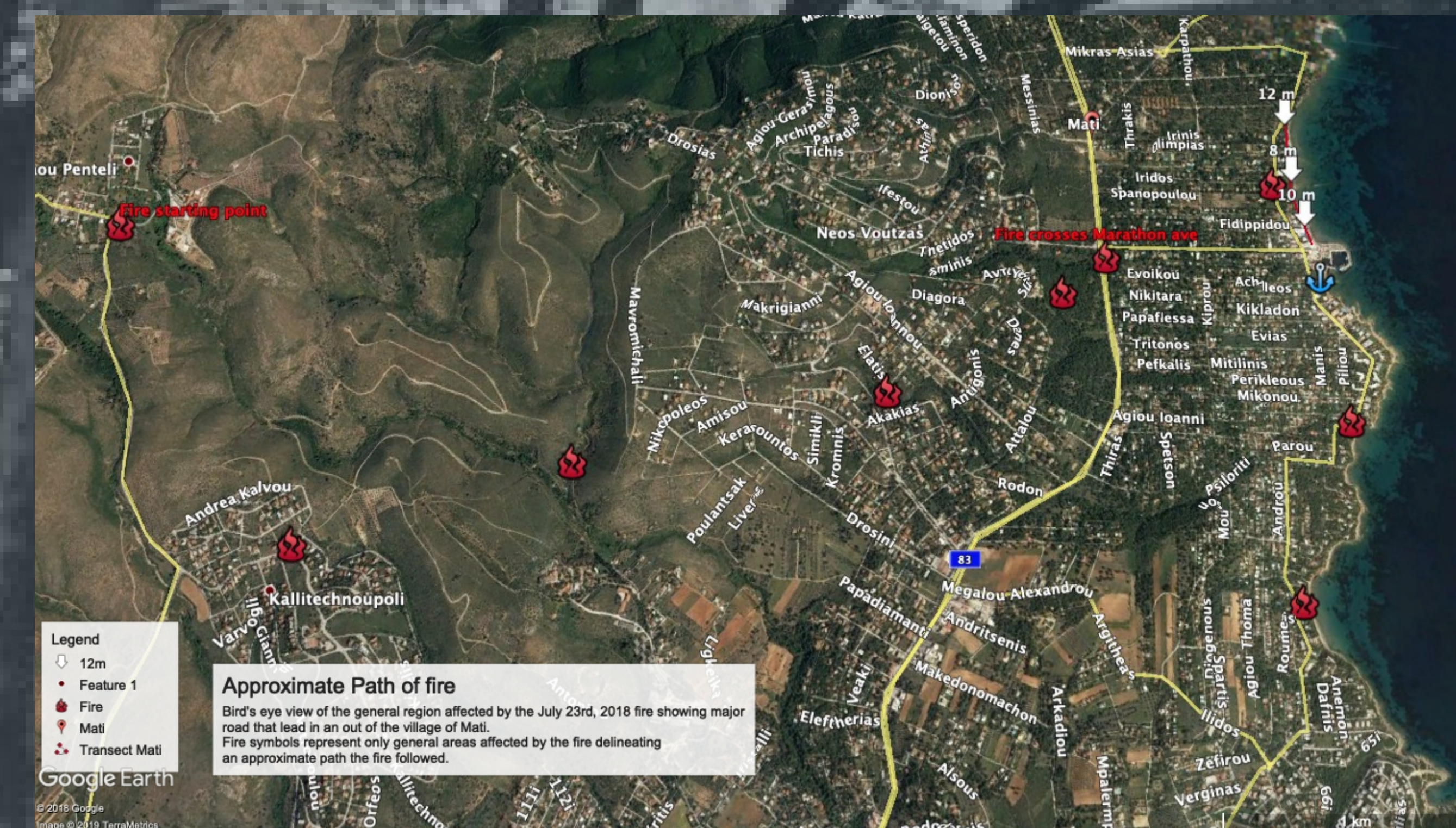


NORTHERN MATI CHARACTERISTICS AND BEACH ACCESS



High cliffs and narrow beaches are characteristic of Mati. Access to the beaches have been built by residents but signage for beach access is largely lacking (Photos Courtesy of Themis Tsiropoulos)

ABSTRACT. Greece is affected by many natural disasters, including earthquakes, floods, fires, and tsunamis. Fires, in particular, every summer, account for thousands of burned acres of land (farm/forest/urban). Greece is at greatest vulnerability during the summer months when high temperatures and high winds set the “ideal” conditions for this natural disaster. For example, in 2007, according to the Greek Fire Department, 19,054 fires broke out in urbanized areas and 11868 in other (farm/forest). The fires killed 84 people and burned more than 12% of Greece’s forest land (Gitas et al. 2007). More recently, on Monday, July 23rd, 2018 a fire started on the west of Attiki prefecture (NW of Athens). A few hours later another fire NNE of Athens near Penteli suburb was also reported. Within two hours the second fire, became the worst fire disaster in modern Greek history, worst fire disaster in Europe and one of the worst fire disasters globally in the last hundred years. At least 100 people perished and hundreds of houses burned in an area of 3-4 square km. There are many aspects that make this disaster an interesting case study. Since a warning was never issued, people evacuated based on the best information available, which in most cases meant their best judgment. The author looks into the different facets of the impact of one of the worst fire disasters of the 20th century, including individual perseverance in the face of no crisis management.



FACTS IN BRIEF FOR THE FIRE DISASTER

16.49 (local time) approximate time that fire broke (fire starting point)

18.22 fire has crossed Marathon avenue

18.40 the fire has now reached the sea burning rocks

Fire of July 23rd 2018 affected two municipalities of the prefecture of Attiki (Rafina and Marathon)

At least 100 (13 drowned) perished although number is believed to be much higher

Temperatures near the coast reached extreme values some say as high as 950 C (~1740 F)

Winds had average speed of 50-60km/hr although they reached 90km/hr (~56mph)



Cars showing melted aluminum rims (aluminum melting point is 600 C(1220F).



Crisis management or lack thereof

Transit population/evacuees, heavy trucks and vehicle traffic from ships arriving to the Port of Rafina (south of Mati) was directed to already congested areas throughout the development of this event seriously hindering emergency services and response

Help for evacuees was fairly limited early on, leaving them for many hours in the water which proved to be fatal for some who had originally survived

Waves from ships made the evacuation difficult for people who found temporary refuge in the water

Major lifelines like Marathon avenue was closed instead of used to release traffic away from impacted areas

Residential streets (inappropriate for use in evacuating heavy traffic), high cliffs and low to no visibility became a trap for many who perished under extreme temperatures

No order of evacuation was ever given to residents of Mati

Coordination during a disaster is usually done by the Fire Department however it appears that the FD had their hands full with many tasks assigned to them (e.g. 199 calls reached 200/min), and no clear coordination early on



Left: Residential buildings. Right: Evacuees that found refuge in the water. Some of them stayed there for many hours some of them perished. Eyewitnesses described the air as very thick and the water burning. The first evacuees in the water were saved by volunteers' boats.

PROBLEMS POST DISASTER

- Number of perished has been reported as 100 (although many believe the number to be larger)
- People who perished due to respiratory problems from the fire were not included in fire victims. DNA was the main method of identification of victims. Some DNA found was never matched to any claimed people. Due to many people present in the areas burned shortly after the disaster DNA evidence may have been contaminated
- Cleaning of burned areas not done following proper precautions putting first responders and residents in danger
- Health effects due to inhalation of asbestos and toxic fumes not well understood (main concern of residents)
- Only a limited number of teams appointed by the government were allowed to assess the damage limiting the amount of data collected and the ability to cross check findings between teams. Assessment was heavily relied on drones and satellite data while significant data was collected by news stations and journalists who were the first to witness victims of the disaster
- First responders, journalists and residents were not prepared for this level of disaster which may be a likely cause of PTSD and other psychological problems to people who witnessed a post disaster environment resembling of a war zone

COMMUNITY INVOLVEMENT AND VOLUNTEERISM



Left: donated clothing for fire victims, Right: Volunteers (Photos courtesy of Alexandra Kotoulia, Volunteer Team Protecta of Ilion)

One of the remarkable things of this event is the effort of residents to survive and recover while volunteers to help others. These efforts were sometimes organized sometimes were just signs of personal perseverance. Greece in an economic recession from many years but also limited resources would benefit from a resident centered organization model which would take advantage of local knowledge. Some of those efforts of residents and victims to recover, help each other post disaster is the following:

Συντονιστική Επιτροπή Κατοίκων Ματιού (ΣΕΚΜΑ) - Coordinating Committee of Mati residents: Main goal of this committee is to have a unified representation of the victims, making sure residents have a central point of information source about how to claim victim funds and what their rights are. Social media have largely been utilized for posting news and making announcements.

Residents have taken initiatives to write reports which present facts about this area and help clear myths regarding the reasons of the magnitude of this disaster

Επιτροπή Πυρόπληκτων (Fire Victims Committee)

Ερασιτεχνική ομάδα φωτογραφίας της Νέας Μάκρης (Amateur photographers group of Nea Makri): Although this group is not focused only on the fire of July 2018 they have made an effort to show the amount of devastation and other aspects of the fire (victims and post disaster life for recovering residents) in order not only to bring attention to the disaster but also make sure the problems of the fire victims did not end when the fire was extinguished

A large group of volunteers (more than 200 volunteer teams, responded to calls for helping the victims) participated in distributing clothing, food, water and first aid supplies to fire victims. It is suggested that more than 4000 volunteers were involved in these efforts.

What is next?

The authors are in the process of digitizing the buildings from the areas of Marathon and Pikermi-Rafina in order to provide a better dataset for analysis including building damage distribution.

A questionnaire for fire victims and those near or in the areas affected are in construction in order to utilize valuable data that people have and could be lost.

References

- Themis Tsiropoulos, unpublished report
www.huffingtonpost.gr/2016/08/04/grafimata-pyrkagies_n_11292464.html
www.fireservice.gr/el_GR/anoichta-dedomena
www.protothema.gr/greece/article/815490/fofia-sto-mati-tesseris-pyropikltoi-paneptistimikoi-zitoun-poinikes-euthunes-apo-tous-upaitious/
www.documentonews.gr/article/h-twita-sto-mati-elliwe-ta-sidera-sygklonizayn-oi-eikones
www.protothema.gr/greece/article/870970/eisagogeas-gia-mati-kai-na-min-fusage-me-tetoia-ellepsi-organosis-tha-sunevainan-ta-idia/