Wildfires and Heat Waves in the Mediterranean
Climate and Health Rapid Response
Summary and Lessons Learned

Top Line

As a region of the world already suffering from almost 1.5 degrees celsius of warming since pre-industrial levels, the Mediterranean is a case study in how climate change will bring out compounding climate related events that will impact health. The multi-hazard threats require an all-hazards approach for response efforts and while some regional leaders are acknowledging the critical need for improved resilience in the face of climate change, a larger scale and more cohesive strategy is needed.

Climate change and extreme weather events in the Mediterranean

- The most recent IPCC report plainly and definitively confirms that extreme weather events are increasing and that the Mediterranean region will be particularly hard hit. Whereas the world as a whole has only reached 1.25 degrees C temperature rise since pre-industrial levels, the Mediterranean has already reached 1.5 degrees.
- The Lancet commission has identified climate change as the greatest threat to public health of the 21st century, and extreme heat is a major driver of this risk. The Mediterranean is already seeing heat waves increased in frequency, duration, and intensity by 6.75 times and a moderate climate warming scenario predicts more than 42 additional days of of heat wave by the end of the century, taking up more than half of the summer.

Wildfires and human health

- Several large wildfires in Greece including one in Attica and one in Evia resulted in 240,000 and 508,000 acres of land burned, much of it forested land. These fires have devastating impacts on human health.
- In response to these fires, there have been increased calls from Greek Prime Minister Kriakos Mistotakis to recognize the importance of climate change to public health.
- Wildfires impact human health through direct and indirect mechanisms. Directly wildfires can threaten human life through exposure but the majority of the direct effects come from particulate matter. Indirectly, wildfires can damage infrastructure, result in the loss of access to medical care, affect psychological health, and contribute to the emergence of new infections.
- COVID-19 is a good example of this and wildfires are thought to increase the incidence of zoonotic infections due to ecosystem disruption. Moreover, data suggests that mortality increases for patient's with COVID-19 infection if they are also exposed to high levels of particulate matter such as those produced by wildfires.

Compounding Crises

- The Mediterranean has seen overlapping climate related events including decreased annual precipitation, increasing temperatures, more forest fires and increased flooding. This is consistent with IPCC working group II's assessment that the Mediterranean is vulnerable to "highly interconnected climate risks."
- One example of these compounding risks is the way a changing climate impacts ecosystem dynamics resulting in the proliferation of pathogenic insects that affect forests and therefore make them more vulnerable to wildfires. Pine beetles and pine moths are just two examples of such pathogens.