

Press release

Automated RI monitoring during extreme weather conditions

(Athens, May 2022) Over the last years, higher temperature fluctuations, and an increase in fires, are observed. Extreme rainfall events occur more frequently. Such cases have multiple adverse effects on the condition and maintenance of road infrastructures. Climatic conditions have a big impact on the economical livability of a city, especially if we have extensive disruption to transportation infrastructures.

Roads and bridges were designed to withstand the average weather conditions of a previous era. Yet, the intensity and the duration of extreme events intensified by the years. As result, most of the infrastructures became more vulnerable, resulting in increased maintenance costs. During the second half of 2019, USA officials share over \$55 million funds for the restoration of roads and bridges across the country. Those funds are 3 times higher comparing with the same period of the previous year¹.

In Europe it is estimated that, due to the climate change, the extreme rainfall events will be more frequent in this Iberic region². In addition to, due to the increased temperatures during the summer, the Mediterranean countries have experienced more than 48.000 forest fires between 2007 and 2016³. Therefore, EU must be prepared, to avoid economic loses similar to USA.

The PANOPTIS project, introduced microclimate models for estimating and forecasting the factors that may result in extreme weather events. These systems provide access to multiple channels of information and estimate the current road and weather condition status and give feedback to the drivers and operators. Such information can be used for adjusting the current speed limits during extreme weather conditions.

Additional information can be found in PANOPTIS site, just follow the link: <http://www.panoptis.eu/>.

¹ Paerl, H. W., Hall, N. S., Hounshell, A. G., Luettich, R. A., Rossignol, K. L., Osburn, C. L., & Bales, J. (2019). Recent increase in catastrophic tropical cyclone flooding in coastal North Carolina, USA: Long-term observations suggest a regime shift. *Scientific reports*, 9(1), 1-9.

² Araújo, J.R., Ramos, A.M., Soares, P.M.M. et al. Impact of extreme rainfall events on landslide activity in Portugal under climate change scenarios. *Landslides* (2022). <https://doi.org/10.1007/s10346-022-01895-7>

³ Dupuy, JI., Fargeon, H., Martin-StPaul, N. et al. Climate change impact on future wildfire danger and activity in southern Europe: a review. *Annals of Forest Science* 77, 35 (2020). <https://doi.org/10.1007/s13595-020-00933-5>



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