EGU23-15461, updated on 01 Dec 2023
https://doi.org/10.5194/egusphere-egu23-15461
EGU General Assembly 2023

Attribution and communication of climate indices in Hungary and Greece

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Although anthropogenic global warming is well-known within the scientific community, the public is still not certain how to associate specific local climate events to this global issue. Therefore, it is essential to raise public awareness by providing sound, graphical, interesting and easily understandable scientific information. Our attribution projects aim for this task both in Hungary and Greece – the former started in September 2021, while the latter a year later. Within the projects, we have slightly different approaches for analysis and dissemination as well. In Hungary, seasonally relevant indices are calculated and published in each season near the time of an event occurrence, and the dissemination is done mainly via a national platform aiming for climate awareness (www.masfelfok.hu), but to reach the public even more, a broad media platform and a large social media network is used as well. In Greece, NOA has also developed a dissemination strategy that mainly focuses on weather and climate extremes and produces layman and explanatory articles that are published on www.meteo.gr, which is visited more than 350.000 times daily.

We found common and relevant indices both for Hungary and Greece that can be shown, thus we selected agriculturally-relevant, spring climate indices for both countries: vegetation start for cold-resistant plants, vegetation start for warm-demanding plants, late frost, and possible frost period. The analyses are performed within the two projects based on several data sources with daily temporal resolution: (1) an ensemble of CMIP6 global climate model simulations of both natural-only forcings and historical runs, (2) an ensemble of regional climate model simulations from Euro-CORDEX, including the RCP4.5 and RCP8.5 scenarios, (3) a fine-resolution, homogenized observation-based gridded data for Hungary.