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Hard as a rock? Looking for typical and atypical reference sites in the Greek network

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Although it is nowadays desirable and even typical to characterise site conditions in detail at modern recording stations, this is not yet a general rule in Greece, due to the large number and geographical dispersion of stations. Indeed, most of them are still characterised merely through geological descriptions or proxy-based parameters, rather than through in-situ measurements. Considering: 1. the progress made in recent years with sophisticated ground motion models and the need to define region-specific rock conditions based on data, 2. the move towards large open-access strong-motion databases that require detailed site metadata, and 3. that Greek-provenance recordings represent a significant portion of European seismic data, there are many reasons to improve our understanding of site response at these stations. Moreover, it has been shown recently in several regions that even sites considered as rock can exhibit amplification and ground motion variability, which has given rise to more scientific research into the definition of reference sites. For Greece, in-situ-characterisation campaigns for the entire network would impose unattainable time/budget constraints; so, instead, we implement alternative empirical approaches using the recordings themselves, such as the horizontal-to-vertical spectral ratio technique and its variability. We present examples of 'well-behaved', typical rock sites, and others whose response diverges from what is assumed for their class.