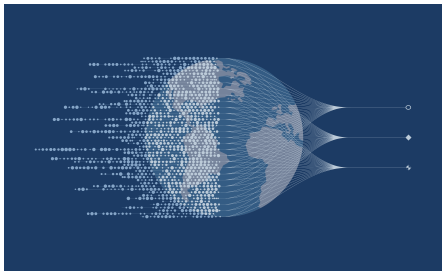

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Monitoring in Extreme Conditions: Sustaining the Warramunga Seismic Array

PS02/WRA, the Warramunga Seismic Array in Australia's Northern Territory, operates in one of the most challenging environments within the International Monitoring System (IMS). Certified since December 2000, the station has been critical to the IMS global monitoring network. Recent engineering activities have focused on enhancing its resilience to environmental hazards, including flooding, bushfires, lightning strikes, and extreme temperatures. Key upgrades include improved grounding and lightning protection, enhanced intra-site communications, and power infrastructure improvements at both the central recording facility and remote elements. Planned projects involve upgrading flooding postholes for all 24 remote elements and fully modernizing both sensors and digitizers. These engineering activities highlight the IMS' commitment to station sustainment and resilience in harsh environments while adopting cost-effective and sustainable practices to ensure long term reliability and performance of the IMS network.

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