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South African ecologists win UN data science award

Scientists at the South African Environmental Observation Network (SAEON) have won an award at the United Nations Data for Climate Action Challenge contest for a prototype near-real time monitoring tool that reports on the state and changes in vegetation based on satellite observations.

SAEON's submission, the Ecosystem Monitoring for Management Application (EMMA), won the Thematic award for Climate Mitigation for addressing UN Sustainable Development Goals 12 (Climate Action) and 15 (Life on Land), among others.

The application uses MODIS NDVI data to detect abnormal changes in the greenness of Fynbos vegetation in near-real time. By detecting potential threats to the ecosystem in near-real time, the tool can inform the responses of conservation authorities, citizen scientists and policymakers while simultaneously collecting data for long-term ecological research.

Near-real time vegetation change detection tools are largely limited to forests, with few tools for non-forest ecosystems such as the shrublands,



The change detection tool has been developed for Fynbos vegetation, but has potential to be adapted to other ecosystems. (Credit: Jasper Slingsby)

woodlands and grasslands that dominate South Africa and much of the rest of the globe.

The team also developed a prototype smartphone application to aid field inspections by navigating users to

locations highlighted by EMMA to investigate impacts, and allowing them to map other locations where they spot threats to ecosystems.

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