SDG 13

13.1 Research on climate action

Parameter	Data
Scholarly Output	255
Field-Weighted Citation Impact	2.32
Citation Count	2,377

Between 2022 and 2024, Amrita Vishwa Vidyapeetham made significant contributions toward advancing United Nations Sustainable Development Goal 13 — Climate Action, through impactful research addressing climate change mitigation, adaptation, and sustainability transitions. With 255 scholarly outputs and a Field-Weighted Citation Impact of 2.32, Amrita's research performance surpasses global standards, reflecting its excellence in climate-focused innovation and policy-relevant scholarship. The university's research spans key areas such as Carbon Footprint Reduction, Greenhouse Gas Emissions, Alternative Agriculture, and Precision Agriculture, emphasizing data-driven and sustainable solutions to environmental challenges. By leveraging Machine Learning, Vehicle-to-Grid systems, and renewable energy integration, Amrita advances technological strategies to curb fossil fuel dependency and support low-carbon development. Supported by 80 international collaborations, 13,548 views, and 2,377 citations, Amrita's SDG 13 research exemplifies its global leadership and enduring commitment to combating climate change and fostering a sustainable, resilient planet.

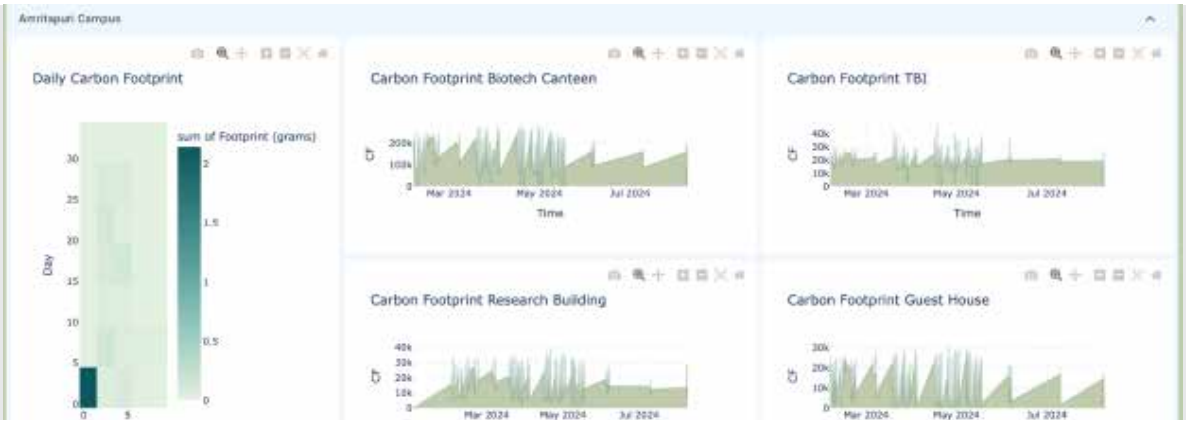
13.2 Low-carbon energy use

Smarter Buildings, Lower Bills: Amrita's Energy Efficiency Leap

Amrita has rolled out a comprehensive Energy Efficiency Plan across campus infrastructure—adding building insulation, replacing legacy fixtures with high-efficiency LEDs, and deploying motion sensors for automated lighting control. Together, these upgrades have cut wasted power, improved comfort, and streamlined maintenance, delivering substantial savings, with some zones recording up to an 85% reduction in energy use.

Carbon Monitoring System

The real-time CO2 from energy monitoring system provides a comprehensive overview of the campus's carbon footprint associated with energy consumption. The dashboard displays real-time data on CO2 emissions generated from various energy sources, including electricity, heating, and cooling. By analyzing historical data and comparing it to real-time emissions, users can identify trends, assess the impact of energy-saving measures, and make informed decisions to reduce the campus's carbon footprint. The dashboard also provides insights into the carbon intensity of different energy sources, helping to optimize energy procurement strategies and prioritize low-carbon options. Additionally, the system can generate detailed reports on carbon emissions, enabling compliance with environmental regulations and sustainability reporting.



Solar Auto Rickshaw

The Solar Auto Rickshaw is a groundbreaking innovation in sustainable urban mobility. This lightweight, efficient, and 100% solar-powered vehicle offers a clean and affordable transportation solution for cities worldwide. Equipped with advanced solar panels, the auto rickshaw harnesses the power of the sun to charge its batteries, eliminating the need for fossil fuels.

By reducing reliance on traditional energy sources and minimizing carbon emissions, this eco-friendly vehicle contributes to a more sustainable future. Additionally, its low operating costs and minimal maintenance requirements make it an attractive option for both drivers and passengers. As technology continues to advance, the Solar Auto Rickshaw is poised to revolutionize urban transportation and set new standards for sustainable mobility.

IGBC Platinum Campus: Amrita's Clean-Energy Milestone

Amrita Vishwa Vidyapeetham earned the Indian Green Building Council (IGBC) Green Campus Platinum certification on

November 7, 2023, setting a benchmark for university sustainability. The recognition reflects campus-wide energy optimization,

integration of renewable power, and eco-friendly infrastructure—measures that cut carbon footprints while improving operational efficiency and resilience.

Environmental education measures

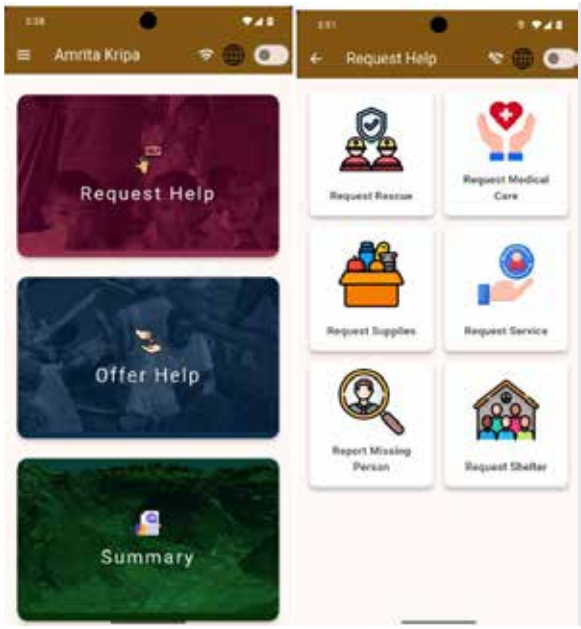
Disaster Management and Risk Resilience Initiatives

Saving Lives with AI-IoT Landslide Alerts

Amrita has designed and deployed an AI-enabled IoT early-warning system in landslide-prone regions like Wayanad, integrating remote sensing, wireless in-ground probes, and advanced models for regional multi-hazard risk assessment. The system has already helped save lives during events across the Western Ghats and the north-eastern Himalayas, demonstrating how community-centric technology can strengthen disaster preparedness and rapid response. G.O-RT-208-2025-Permission-granted-to-Amrita-Visha.pdf

One Platform, Many Hazards: Amrita's Real-Time Readiness Suite

Amrita has built an integrated Disaster Tech stack that brings detection, decision support, and community action into one flow. The Dynamic Regional Multi-Hazard Risk Management Platform aggregates sensor, remote-sensing, and crowdsourced feeds into live maps and decision dashboards; an advanced social-media mining engine flags emerging floods, landslides, storms, and quakes in near real time; and mobile apps—Landslide Tracker and Amrita Kripa—push location-aware alerts, enable quick incident reporting, and



guide first responders and residents with simple, actionable checklists. Together, these tools shorten the time from signal to response and strengthen community preparedness across hazard-prone regions.

SREE: Data to Decisions for Resilient Communities

Amrita University's **SREE (Sustainability & Resilience for Community Engagement & Empowerment)** is a geo-enabled platform that turns local data into action. It supports community-scale sustainability assessments, real-time monitoring and risk analysis via mapped dashboards,

and participatory, bottom-up decision-making for climate resilience and resource management. Deployed across multiple countries, SREE integrates surveys, sensors, and satellite layers to guide targeted interventions, track outcomes, and empower communities to act quickly and effectively.

UNESCO–IOC Honors Amrita Vishwa Vidyapeetham for Landmark Tsunami Relief at 20th-Anniversary Aceh Symposium

Amrita Vishwa Vidyapeetham received international recognition for its exemplary tsunami relief and rehabilitation efforts at the second International Tsunami Symposium, organized by the United Nations Educational, Scientific and Cultural Organization's Intergovernmental Oceanographic Commission (UNESCO–IOC). Held in Banda Aceh under the theme "Aceh Thanks the World," the symposium marked 20 years since the 2004 Indian Ocean tsunami and convened global experts, researchers, and humanitarian organizations.

Representing both the university and Mata Amritanandamayi Math, Dr. Maneesha Ramesh, Provost of Amrita Vishwa Vidyapeetham, spotlighted the institution's extensive disaster response initiatives undertaken during the 2004 catastrophe. "The initiatives led by our Chancellor, Mata Amritanandamayi Devi, have been recognized as global models of effective disaster response, drawing attention and commendation from various countries and research bodies. These efforts continue to be studied and discussed even after two decades, showcasing the lasting impact and significance of our work," she noted.

The symposium featured dedicated exhibits with photographs and video presentations documenting the university's and the Math's rescue operations, community rehabilitation, and long-term recovery programs. The recognition underscores Amrita Vishwa Vidyapeetham's sustained commitment to humanitarian action, community resilience, and knowledge sharing in disaster risk reduction.

International Conference on Tsunami Risk Reduction & Resilience

Hosted by Amrita Vishwa Vidyapeetham with national and international partners, the International Conference on Tsunami Risk Reduction & Resilience convened scientists, disaster-management agencies, humanitarian organizations, and coastal community leaders to translate evidence into action. Over focused keynotes, technical tracks, and hands-on workshops, the conference aligned hazard science

with end-to-end early warning, resilient infrastructure planning, and community-based preparedness.

The meeting produced a clear 12-month roadmap for pilot implementation in selected coastal districts, agreement on shared data and alerting standards, and practical, drill-ready toolkits for local authorities and schools. It also advanced policy uptake through a draft brief on risk-sensitive coastal zoning and resilient building codes, and formalized new partnerships (MoUs/LoIs) for data sharing, training, and technology pilots—strengthening coordination between government, academia, and communities.

Amrita Delegates Spotlight SDG Leadership at THE Global Sustainable Development Congress 2024

Amrita Vishwa Vidyapeetham showcased its SDG-driven education, research, and community impact at Times Higher Education's Global Sustainable Development Congress in Bangkok (June 13–15, 2024). In a panel focused on excellence in achieving the Sustainable Development Goals in India, the university presented an integrated SDG framework that embeds sustainability across curriculum design, research translation, and field implementation. Examples included course modules aligned to SDG targets and indicators; transdisciplinary labs that co-develop solutions with communities; and mechanisms for scaling pilots through partnerships with government agencies, NGOs, and industry. The presentation emphasized

measurable outcomes—learning gains, technology adoption, community livelihood improvements, and policy uptake—supported by dashboards that track outputs (training hours, prototypes, field deployments) and outcomes (health, education, environment, and income proxies) mapped to SDG indicators.