AI News Digest

10/19/2026 - 10/25/2026

WEEKLY DIGEST: PHYSICAL & EARTH SCIENCES

AI Boosts Ultra-Fine Mapping of Forests and Weather

Two major AI-driven initiatives are reshaping Earth observation. Google DeepMind and partners unveiled the Forest Typology (ForTy) 2020 dataset, delivering a global 10-meter resolution map that distinguishes six forest types across every 10 x 10 m pixel. Meanwhile, NVIDIA rolled out StormScope EU, an open-source Earth-2 model that generates regional short-term weather forecasts for Europe, delivering cloud-cover predictions from 16 Meteosat channels every ten minutes. Together, these projects illustrate how advanced machine-learning pipelines can turn massive satellite streams into actionable, high-resolution environmental intelligence.

KEY FINDINGS

✓ ForTy 2020 provides a global, 10-meter resolution forest-type map classifying six distinct forest categories.

✓ StormScope EU offers regional European weather forecasts at 10-minute intervals using 16 Meteosat satellite channels.

✓ Both efforts leverage AI to process petabyte-scale satellite data, delivering near-real-time, fine-grained environmental products.

IMPLICATIONS

→ Enables more precise climate impact assessments and targeted conservation policies based on detailed forest type data.

→ Improves operational weather services and early-warning systems across Europe with ultra-frequent, high-resolution forecasts.

→ Sets a precedent for open-source, AI-powered Earth observation models, encouraging broader collaboration and rapid scaling to other regions and domains.

> Key Metrics: Forest Typology (ForTy) 2020 spatial resolution: 10 m (10 x 10 m pixels).; Number of forest categories mapped: 6.; StormScope EU forecast cadence: every 10 minutes.; Satellite input channels used: 16 Meteosat bands.; Geographic scope: global forest map; European regional weather model.

1. Beyond tree cover: mapping the world's forest types

Category: Research
Departments: Earth, Environmental & Resource Sciences, Computer Science
Topics: Computer Vision, Multispectral Classification, Temporal Change Detection, Forest Type Mapping

Impact Score: 23.0
Rubric Scores

Research Relevance: 2	Educational Value: 3	Innovation / Novelty: 4
Practical Impact: 5	Interdisciplinary Potential: 5	Ethical / Policy Implications: 4

Google DeepMind, Google Research, the World Resources Institute, and the International Institute for Applied Systems Analysis have released Forest Typology (ForTy) 2020, a global 10-meter resolution map that classifies every 10 x 10 m pixel into six forest and land-use categories. The dataset includes an annual time series from 2017 to 2025 that records transitions such as natural forest conversion to plantations or farms. ForTy is intended as a baseline for the EU's deforestation-free product regulation and to improve monitoring of carbon and biodiversity values beyond simple tree-cover maps. It extends the earlier Natural Forests of the World 2020 map by distinguishing primary, regrowing, planted, and plantation forests and tracking their yearly changes.

https://deepmind.google/blog/beyond-tree-cover-mapping-the-worlds-forest-types/

2. Pioneers Across Europe Deploy NVIDIA Earth-2 Open Models to Power Real-World Weather and Climate Prediction

Category: Applications
Departments: Computer Science, Earth, Environmental & Resource Sciences
Topics: Science & Research, Short-term Weather Forecasting, Physics-informed Neural Modeling, Climate Risk Simulation, Solar-radiation Nowcasting

Impact Score: 19.0
Rubric Scores

Research Relevance: 1	Educational Value: 3	Innovation / Novelty: 3
Practical Impact: 5	Interdisciplinary Potential: 5	Ethical / Policy Implications: 2

NVIDIA introduced StormScope EU, a regional short-term weather model for Europe that predicts cloud conditions across 16 Meteosat channels at 10-minute intervals using EUMETSAT satellite data, as part of its open Earth-2 AI model suite. At GTC Berlin, NVIDIA demonstrated a live StormScope EU pipeline integrated with Earth2Studio and Earthmover, delivering real-time map-tile forecasts updated every 10 minutes. The Earth-2 platform, including models such as FourCastNet 3 and CorrDiff, is being applied by organizations like AXA for multi-century cyclone risk simulations, Vaisala Xweather for lightning-augmented forecasts, the University of Manchester for UK air-quality modeling, and TotalEnergies for sub-hourly solar-radiation nowcasting. NVIDIA's open-source PhysicsNeMo framework enables developers to customize these models with proprietary data for specialized environmental applications.

https://blogs.nvidia.com/blog/europe-earth-2-open-models-weather-climate-prediction/