

NVIDIA Earth-2 Developments and Directions

Jay Chen¹

¹NVIDIA

Abstract

Weather and climate services are entering a new era in which AI and accelerated computing complement numerical weather prediction to deliver forecasts faster, at higher resolution, and with richer uncertainty information. This presentation introduces NVIDIA Earth-2, an open ecosystem of models and tools for building, training, and deploying AI-powered weather and climate applications. It will highlight the latest Earth-2 model family—from HealDA for data assimilation and Atlas for global medium-range forecasting, to StormScope for severe-weather nowcasting, FourCastNet3 for scalable ensemble prediction, and CorrDiff for generative downscaling. The talk will explore how researchers and national meteorological agencies can combine local observations, domain expertise, and sovereign computing infrastructure to accelerate forecasting workflows and translate global guidance into actionable local insights. Examples relevant to typhoons and other high-impact weather will illustrate practical pathways for integrating AI with operational forecasting systems.

Key words : NVIDIA Earth-2, HealDA, StormScope, FourCastNet3, CorrDiff