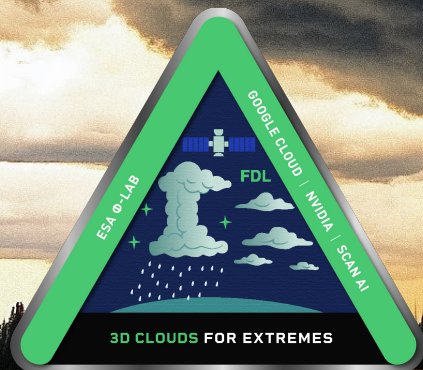


GLOBAL 3D RECONSTRUCTIONS OF CLOUDS & TROPICAL CYCLONES

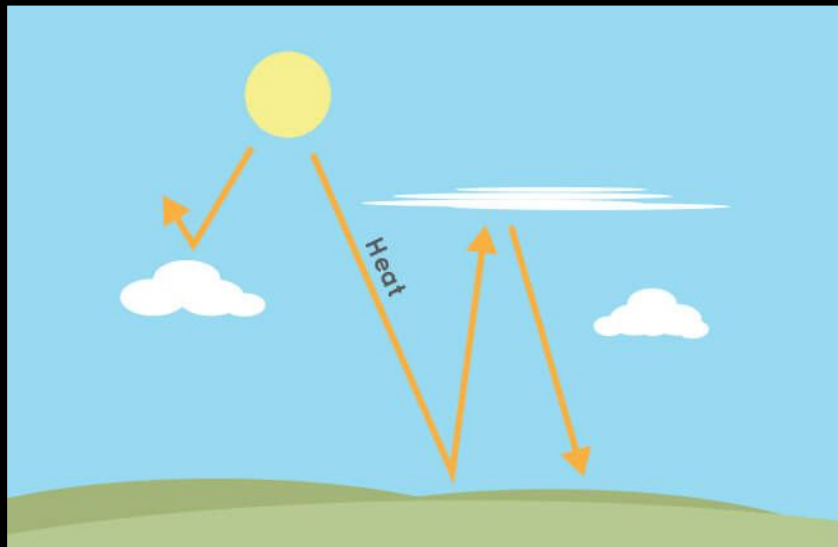
Shirin Ermis¹, Cesar Aybar², Lilli Freischem¹, Stella Girtsou^{3,4}, Kyriaki-Margarita Bintsi^{5,6}, Emiliano Diaz Salas-Porras², Michael Eisinger⁷, William Jones¹, Anna Jungbluth⁷, Benoît Tremblay⁸

¹ University of Oxford, ² Universitat de València, ³ National Observatory of Athens, ⁴ National Technical University of Athens, ⁵ Harvard Medical School, ⁶ Massachusetts General Hospital, ⁷ European Space Agency, ⁸ Environment & Climate Change Canada

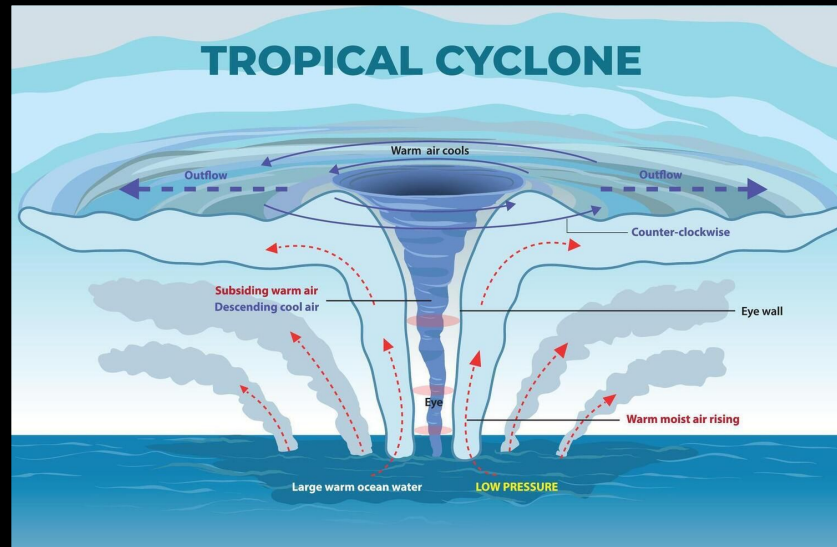


	
Google Cloud	 
	
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Impact of Clouds on Global Weather & Climate

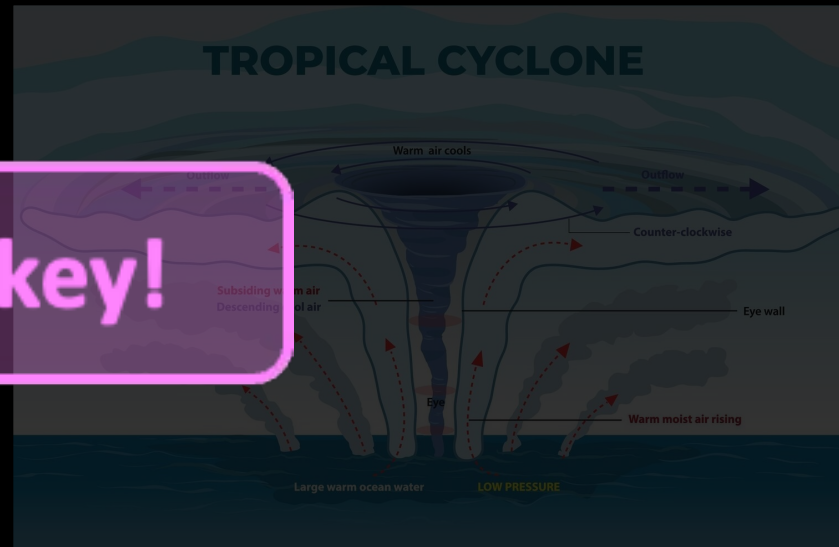
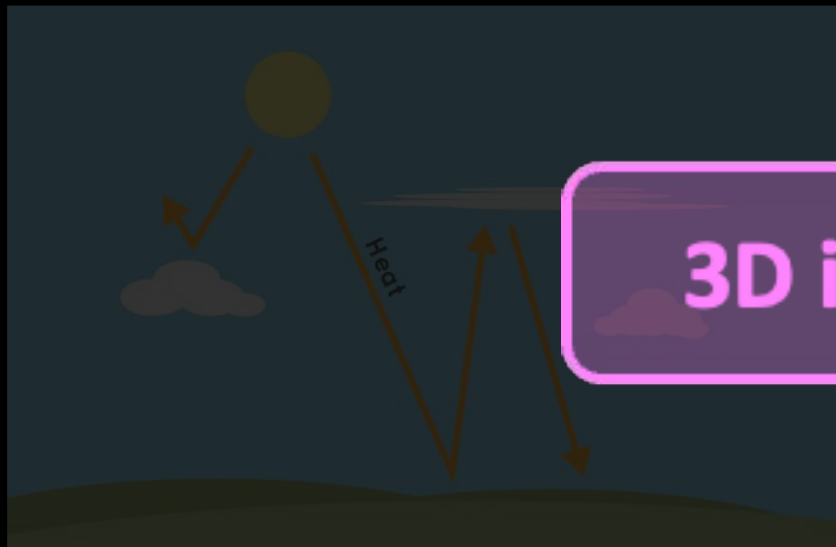


Large uncertainty in climate sensitivity...



...and linked to extreme weather events

Impact of Clouds on Global Weather & Climate



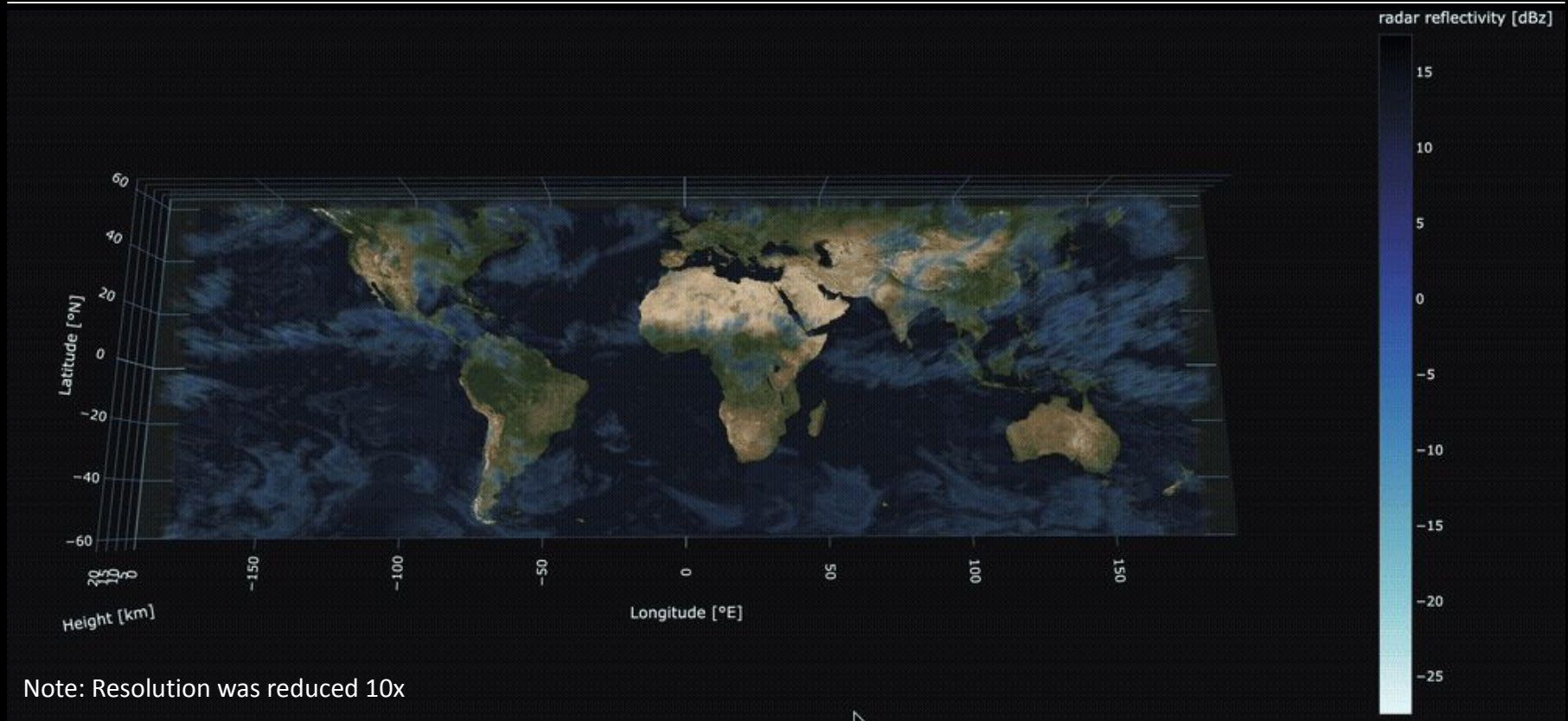
3D is key!

Large uncertainty in climate sensitivity...

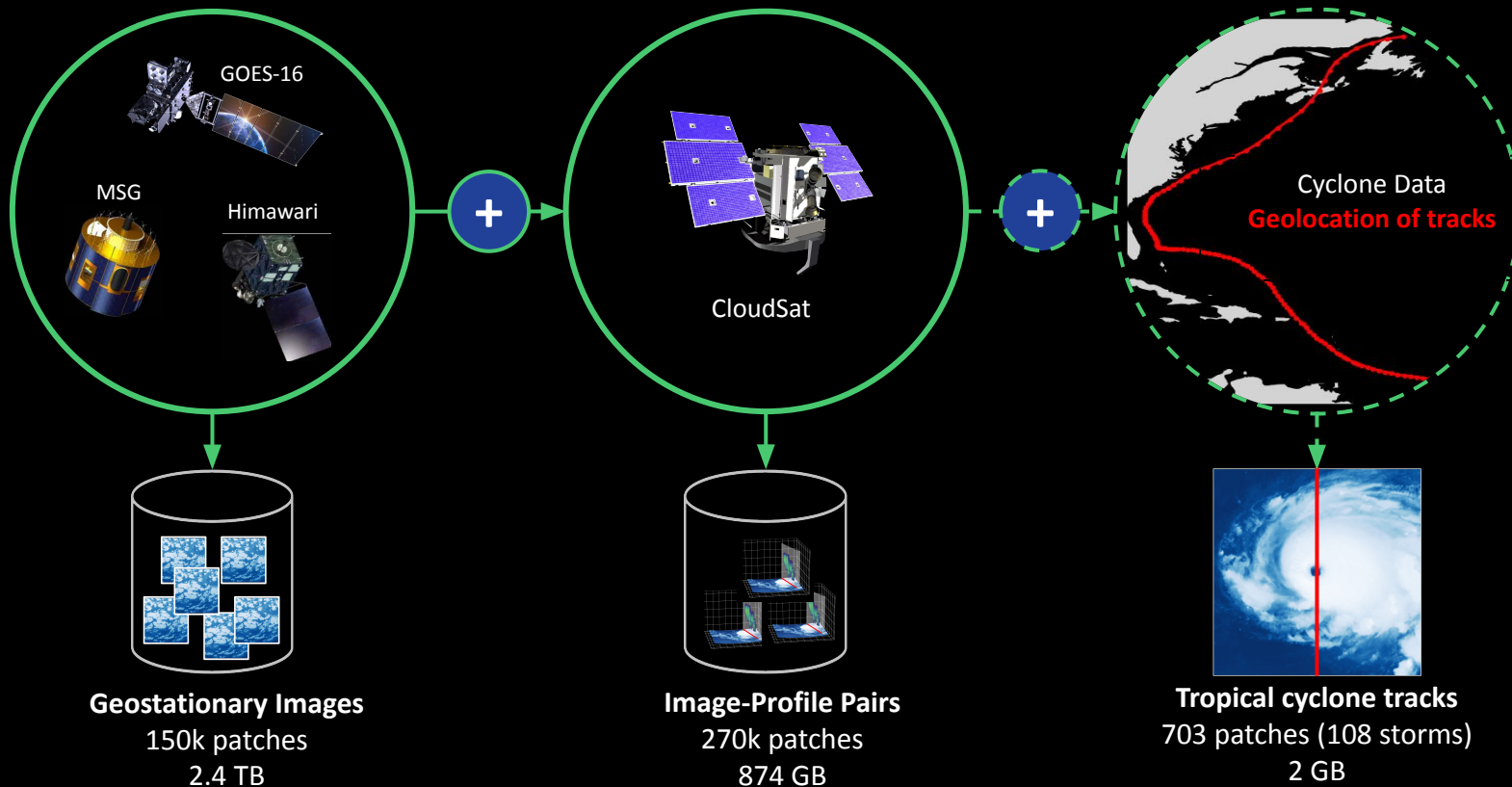
...and linked to extreme weather events

Global 3D Reconstructions of Clouds

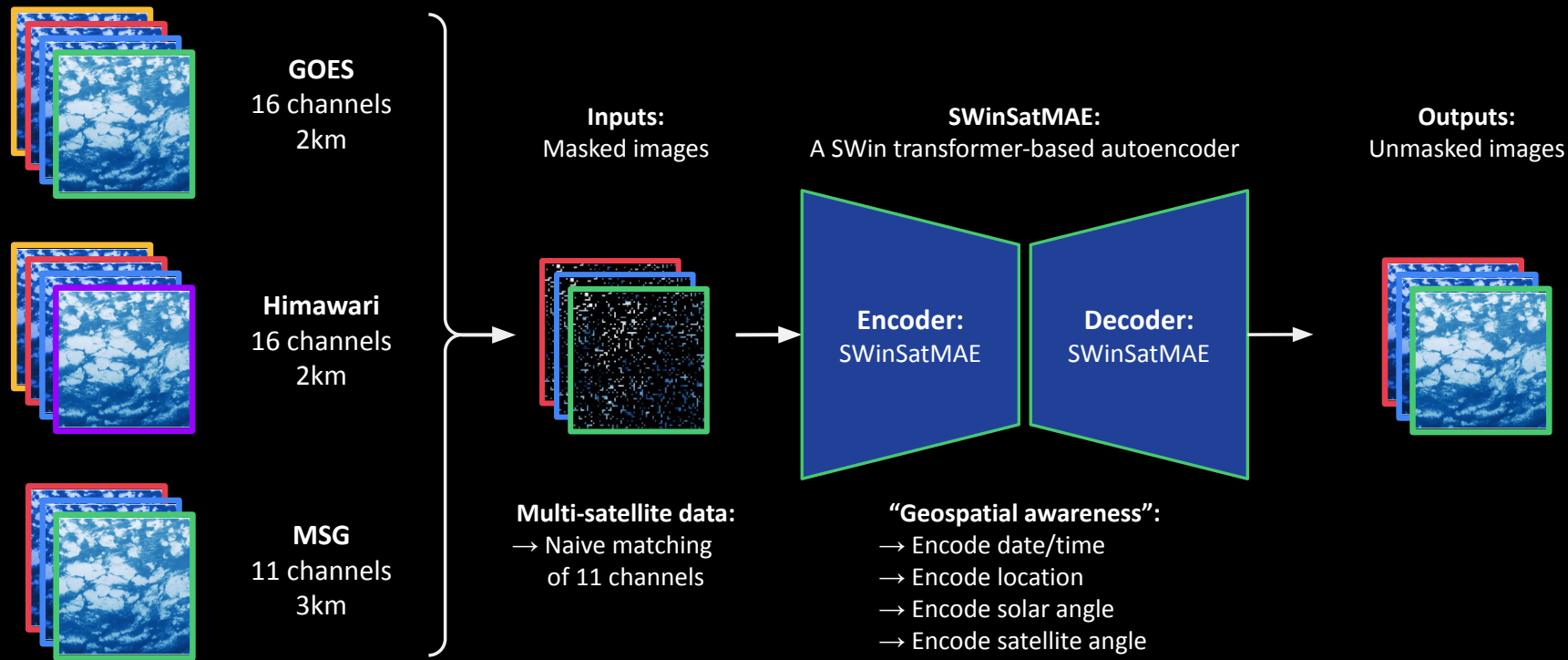
TRILLIUM EUROPE



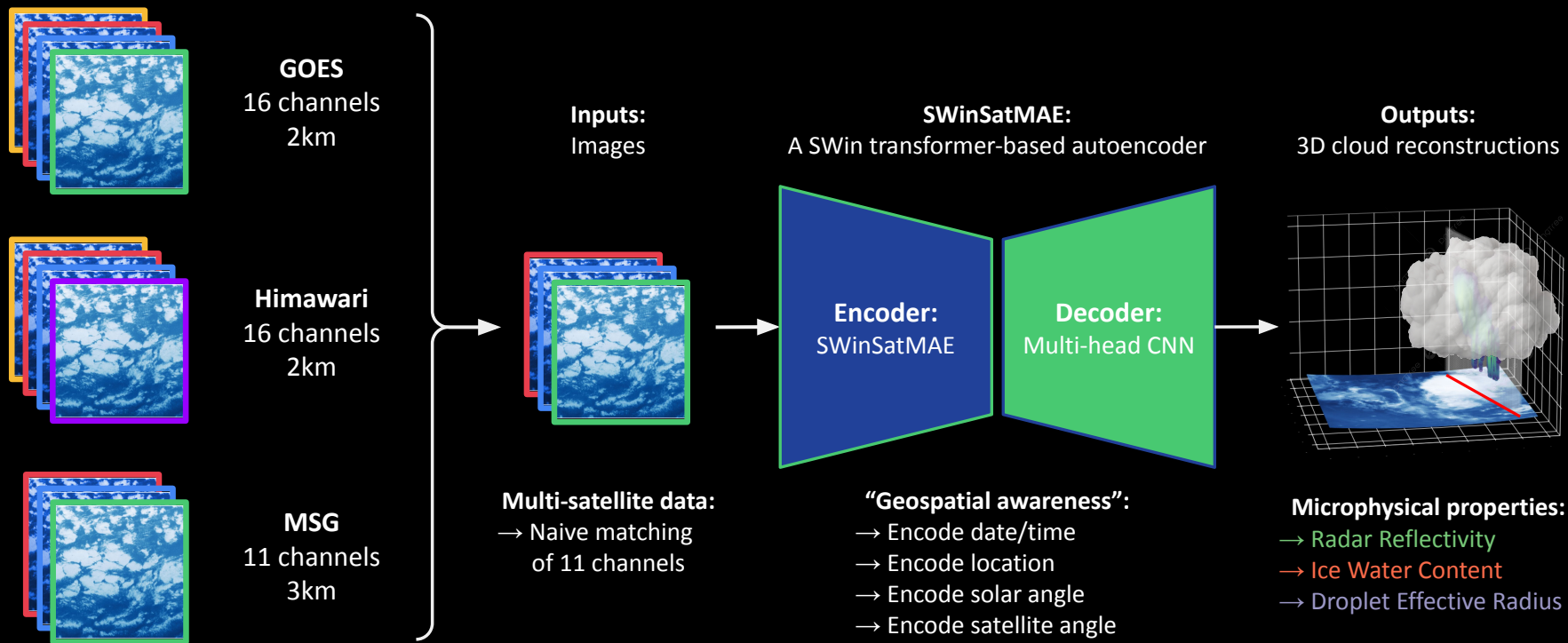
ML-Ready Dataset for Clouds & Tropical Cyclones



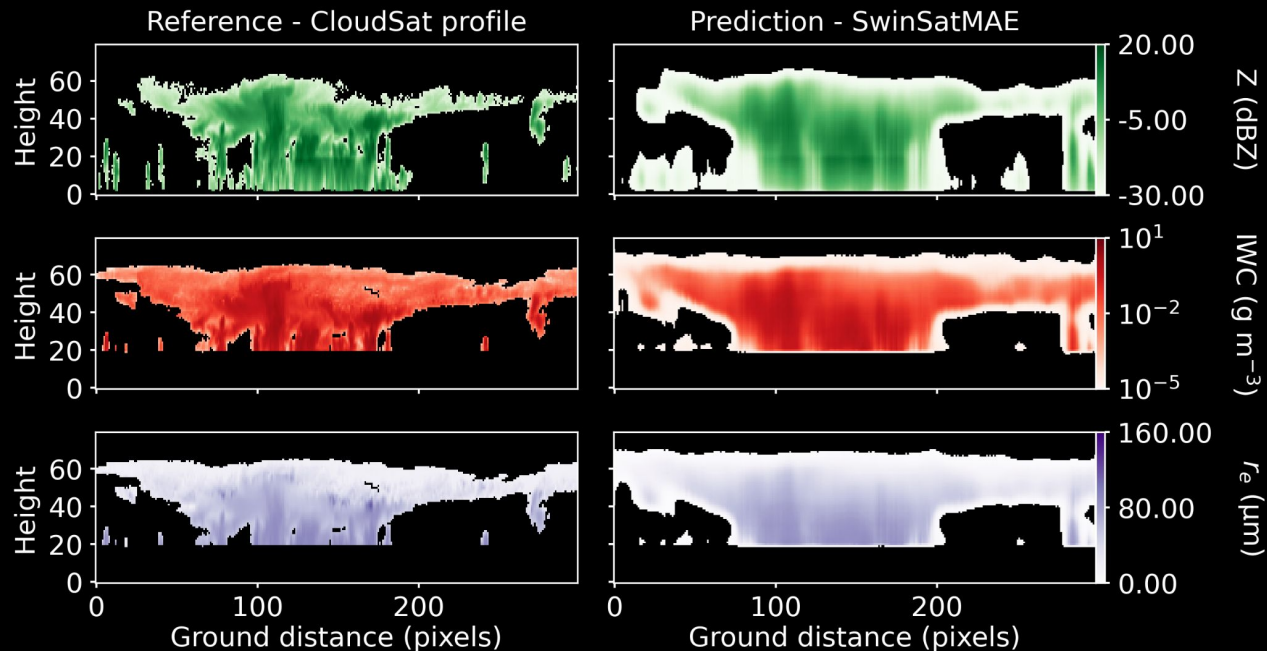
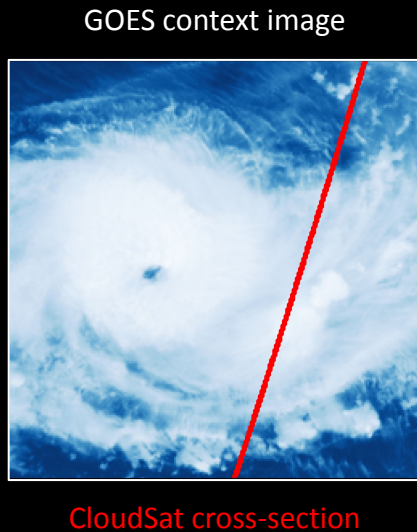
Pre-training: A Multi-Satellite Model



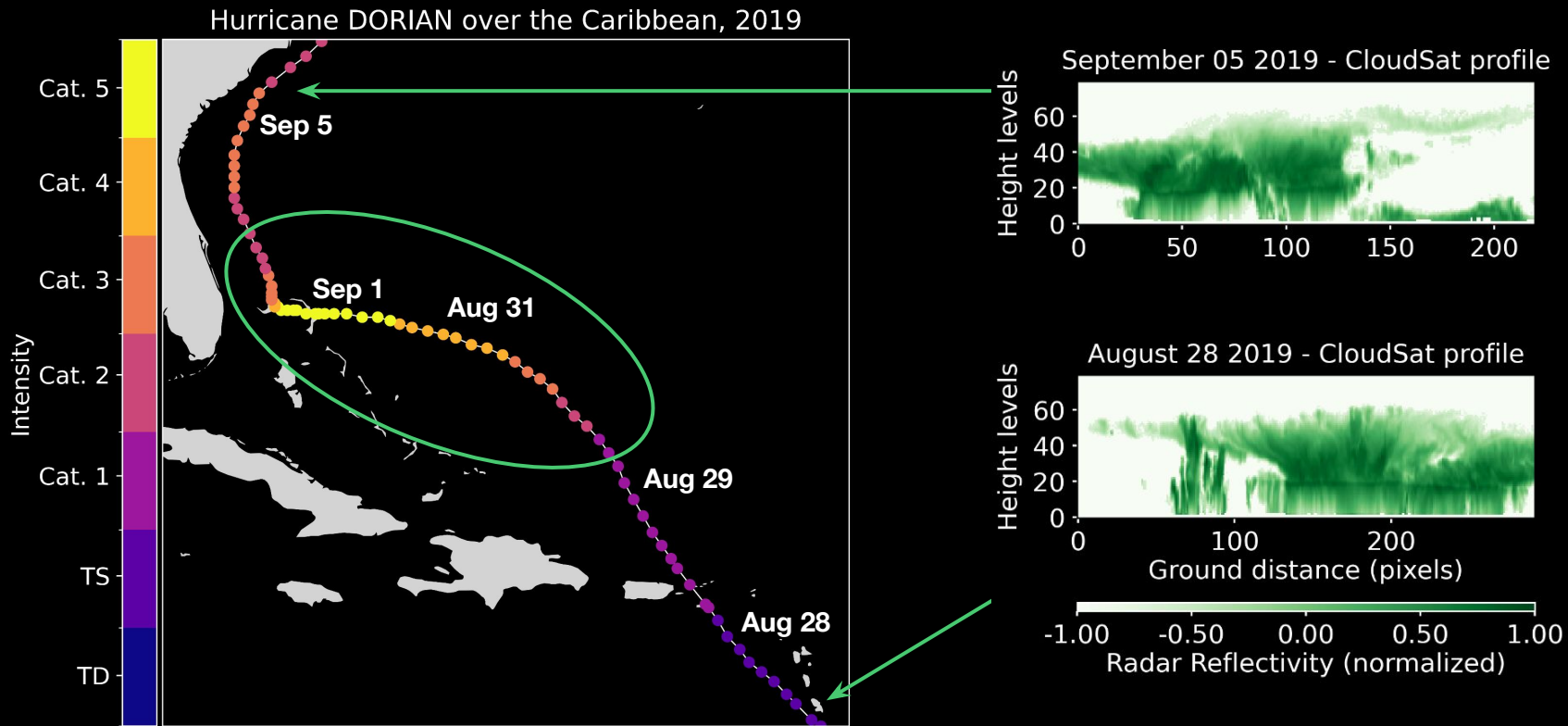
Fine-Tuning: A Multi-Variable 3D Model



Application: Retrieval of Microphysical Properties



Application: Tropical Cyclones



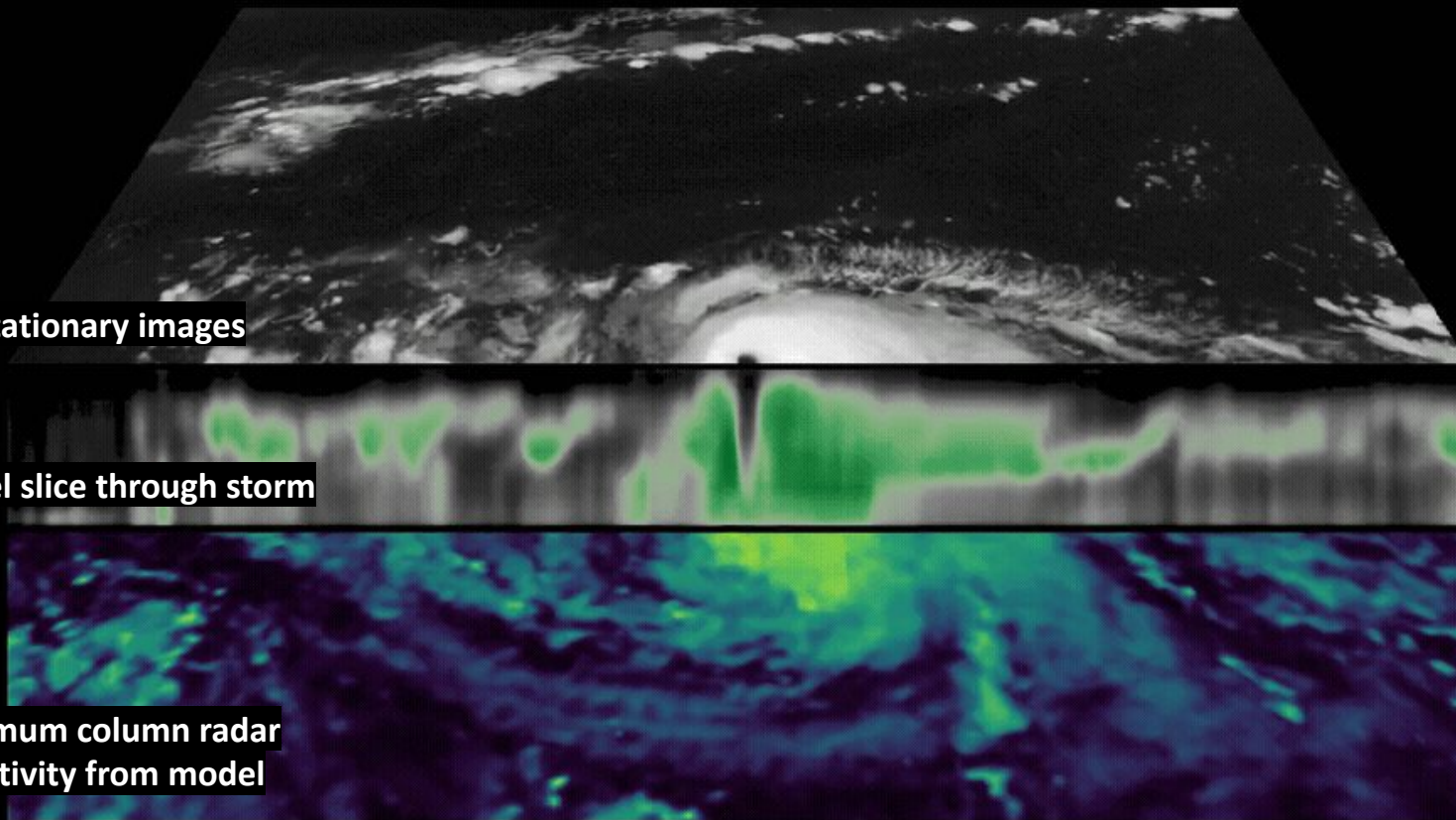
Hurricane Dorian 2019-08-31 12:05

TRILLIUM EUROPE

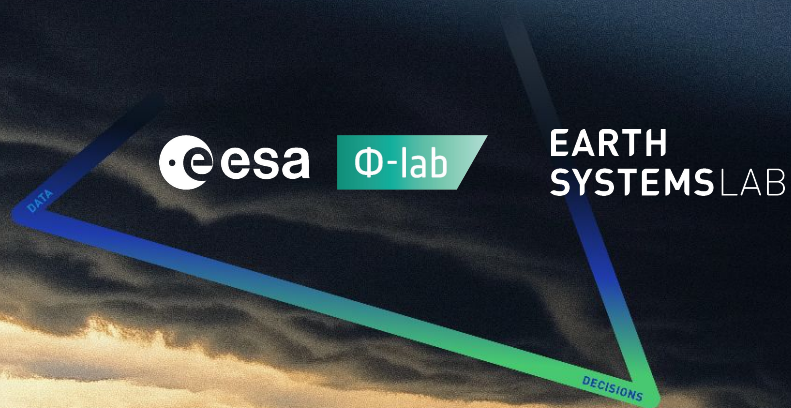
Geostationary images

Model slice through storm

Maximum column radar
reflectivity from model



Thank you



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RESEARCH
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