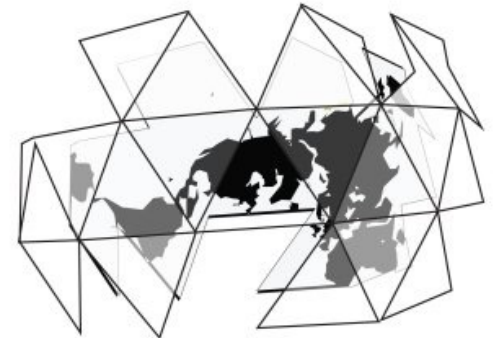


Virtual Globes and Environmental Storytelling History and Challenges

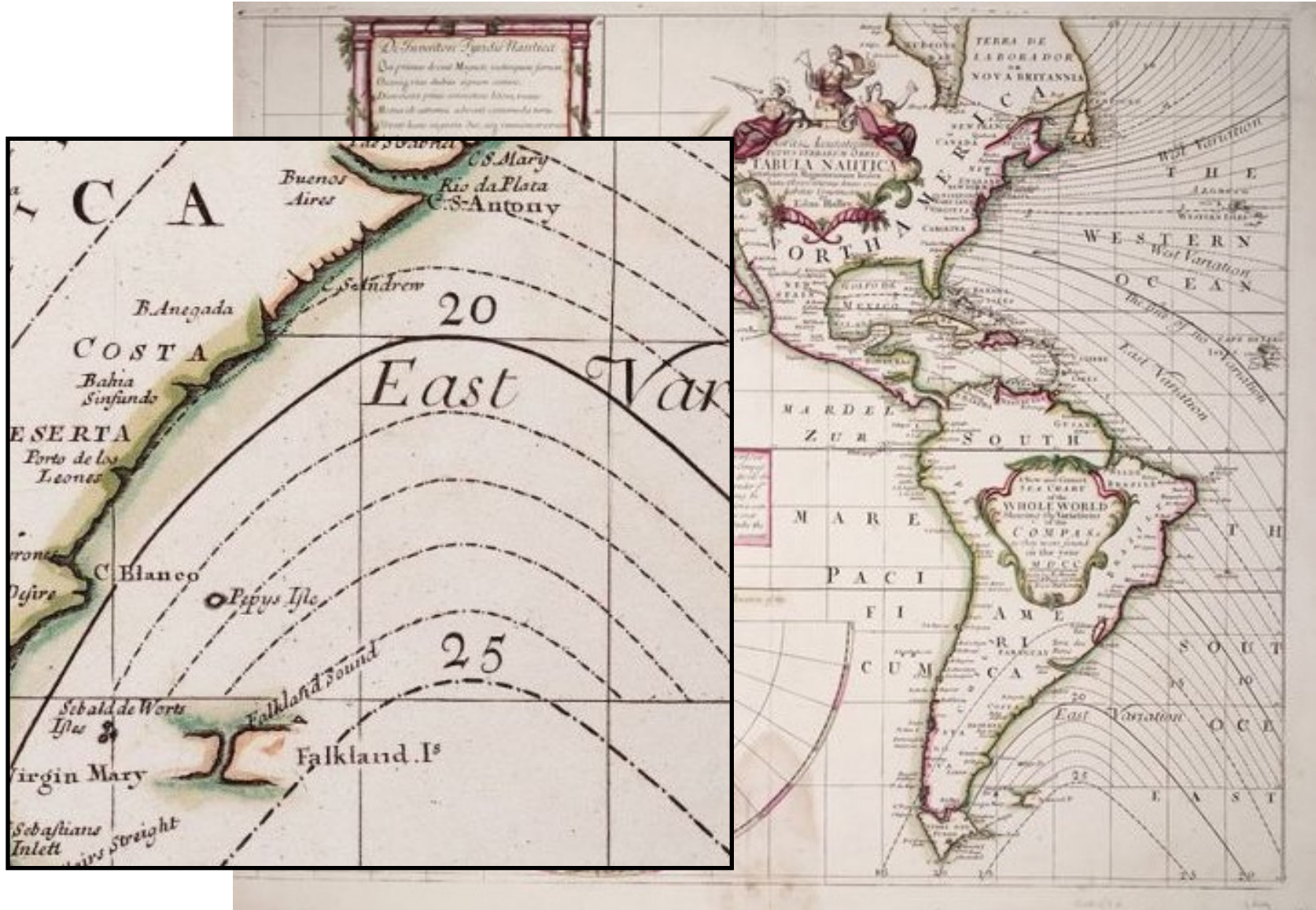
Sebastian Grevsmühl (CNRS), Centre de recherches historiques, EHESS, Paris
Matthieu Noucher (CNRS), Passages, Bordeaux

SPHEROGRAPHIA : Des globes virtuels aux blancs des cartes.
Une immersion (carto-)graphique dans la mise en récit des changements globaux



Projet ANR-22-CE55-0005-01

Virtual Globes and Scientific Storytelling: History and Challenges



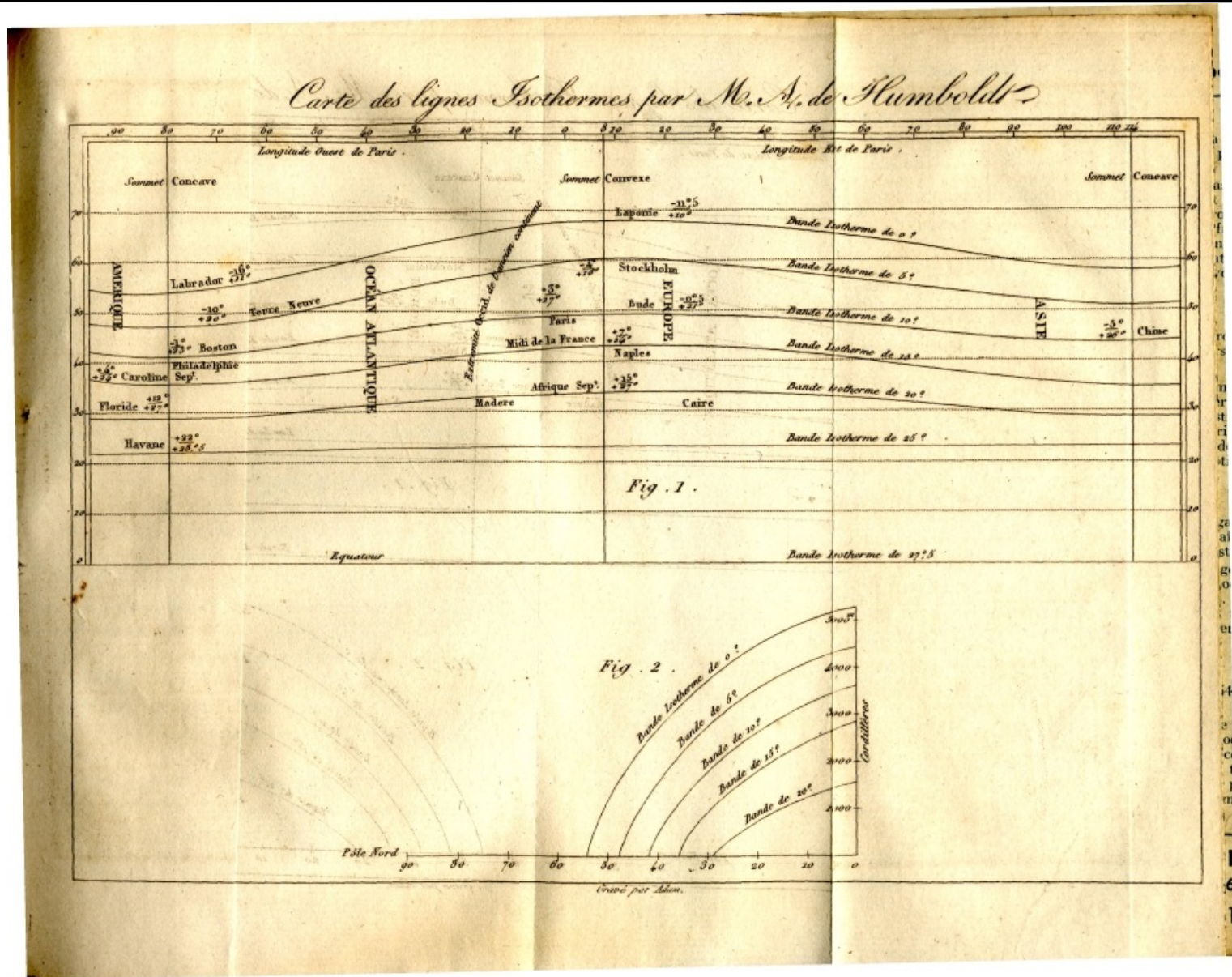
Edmond Halley, isogonic map of 1701, believed to be the first data-based contour map (Collection of Naval College, Greenwich)

Virtual Globes and Scientific Storytelling: History and Challenges



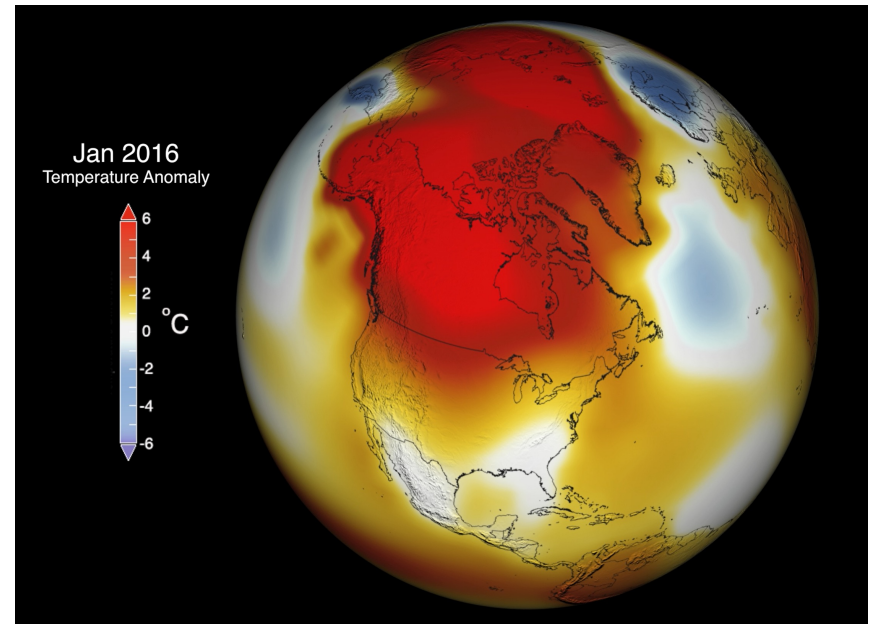
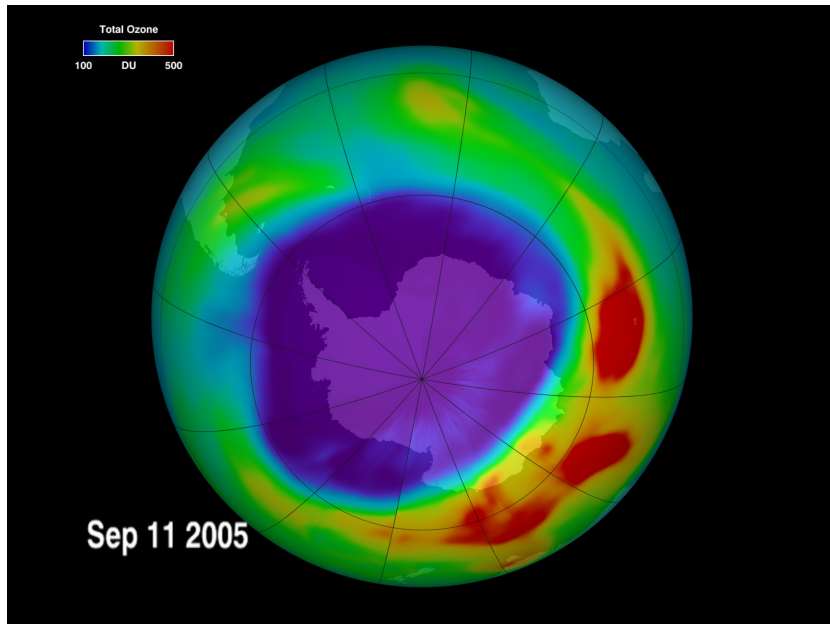
Early topographical map with contour lines (from Marcellin Du Carla-Boniface, *Expression des nivellements*, Paris, 1782)

Virtual Globes and Scientific Storytelling: History and Challenges

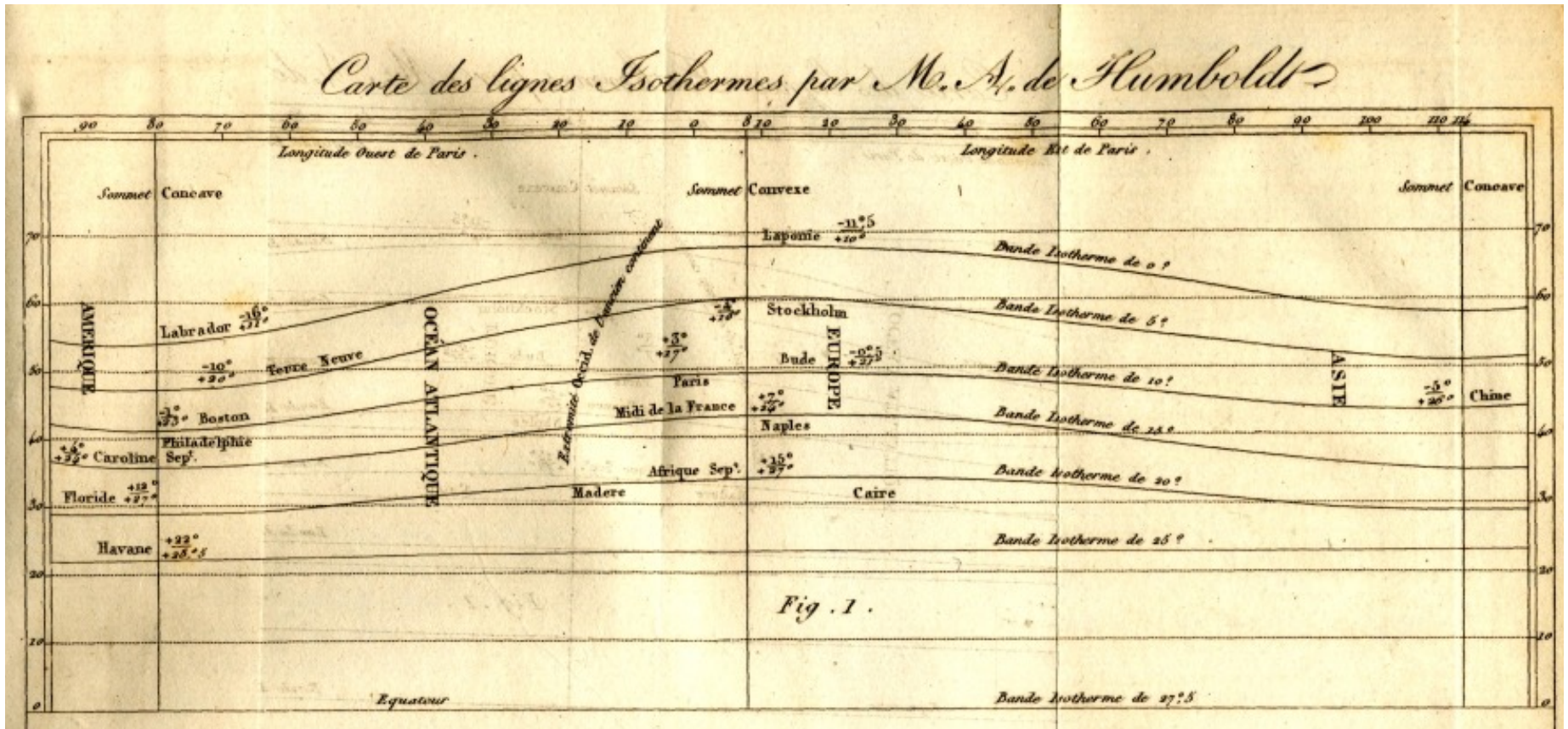


Alexander von Humboldt, „Carte des lignes Isothermes“ (In: Sur les lignes isothermes, *Annales de Chimie et de Physique*, 1817)

Virtual Globes and Scientific Storytelling: History and Challenges

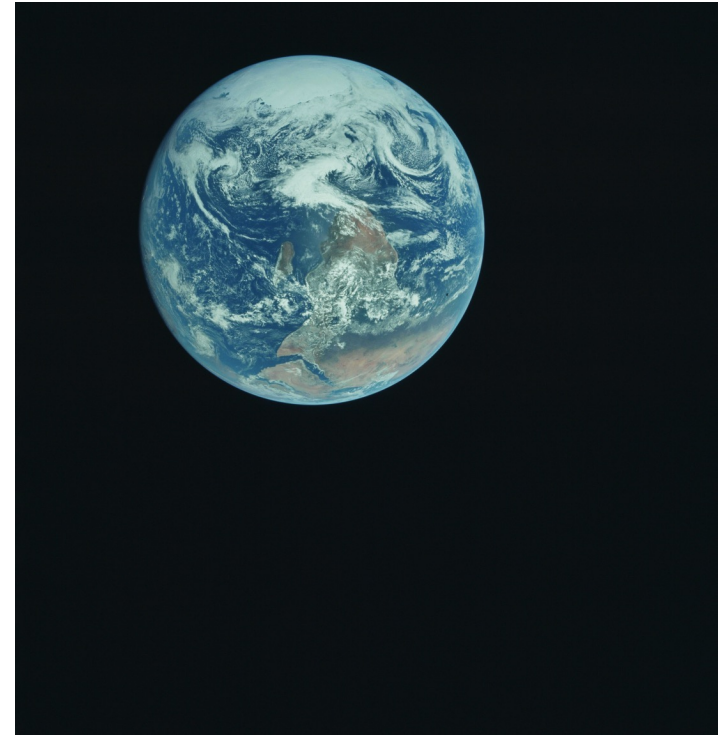
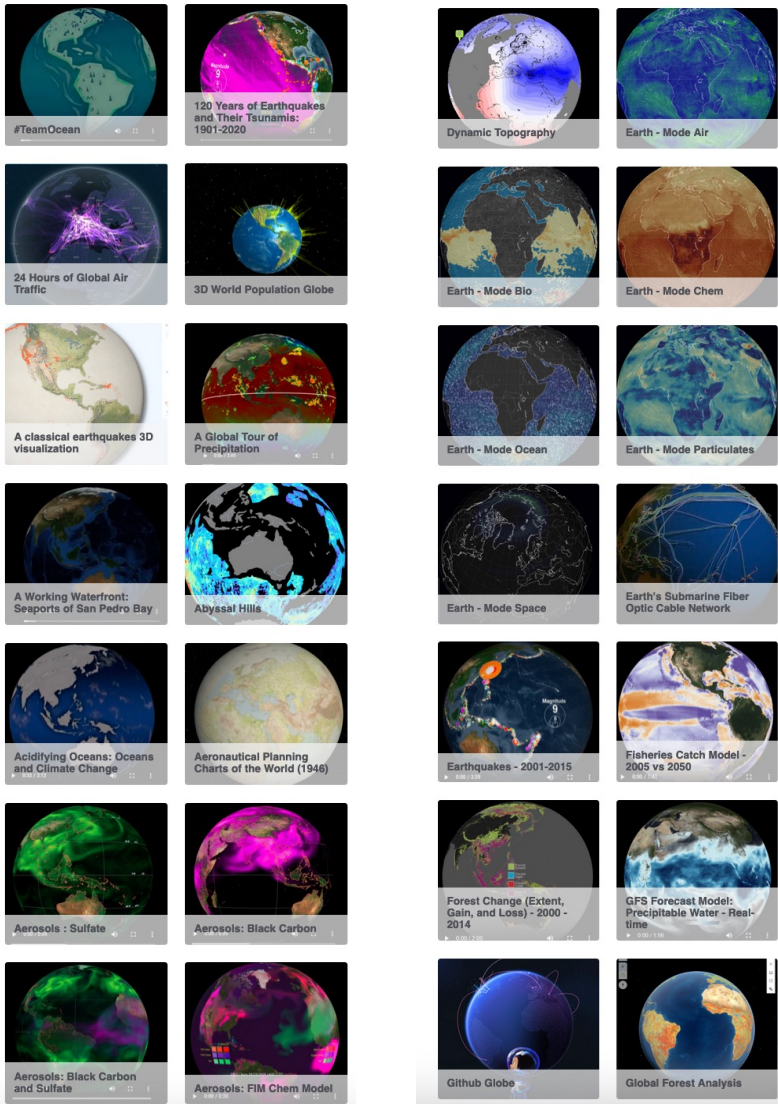


Virtual Globes and Scientific Storytelling: History and Challenges

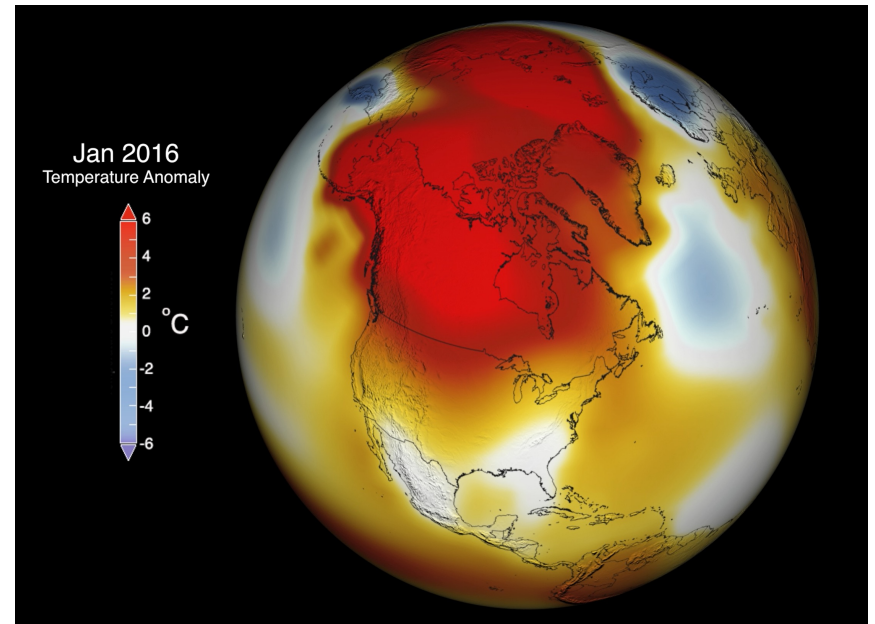
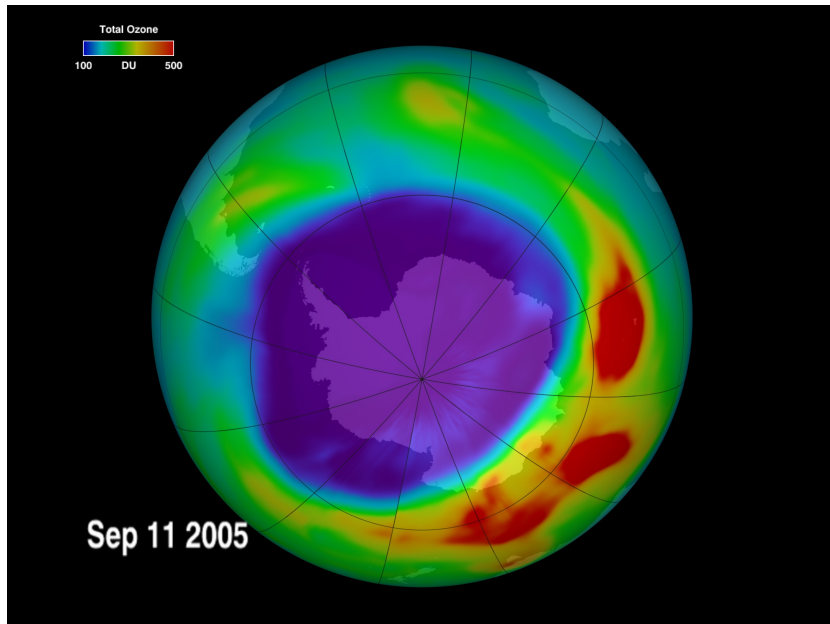


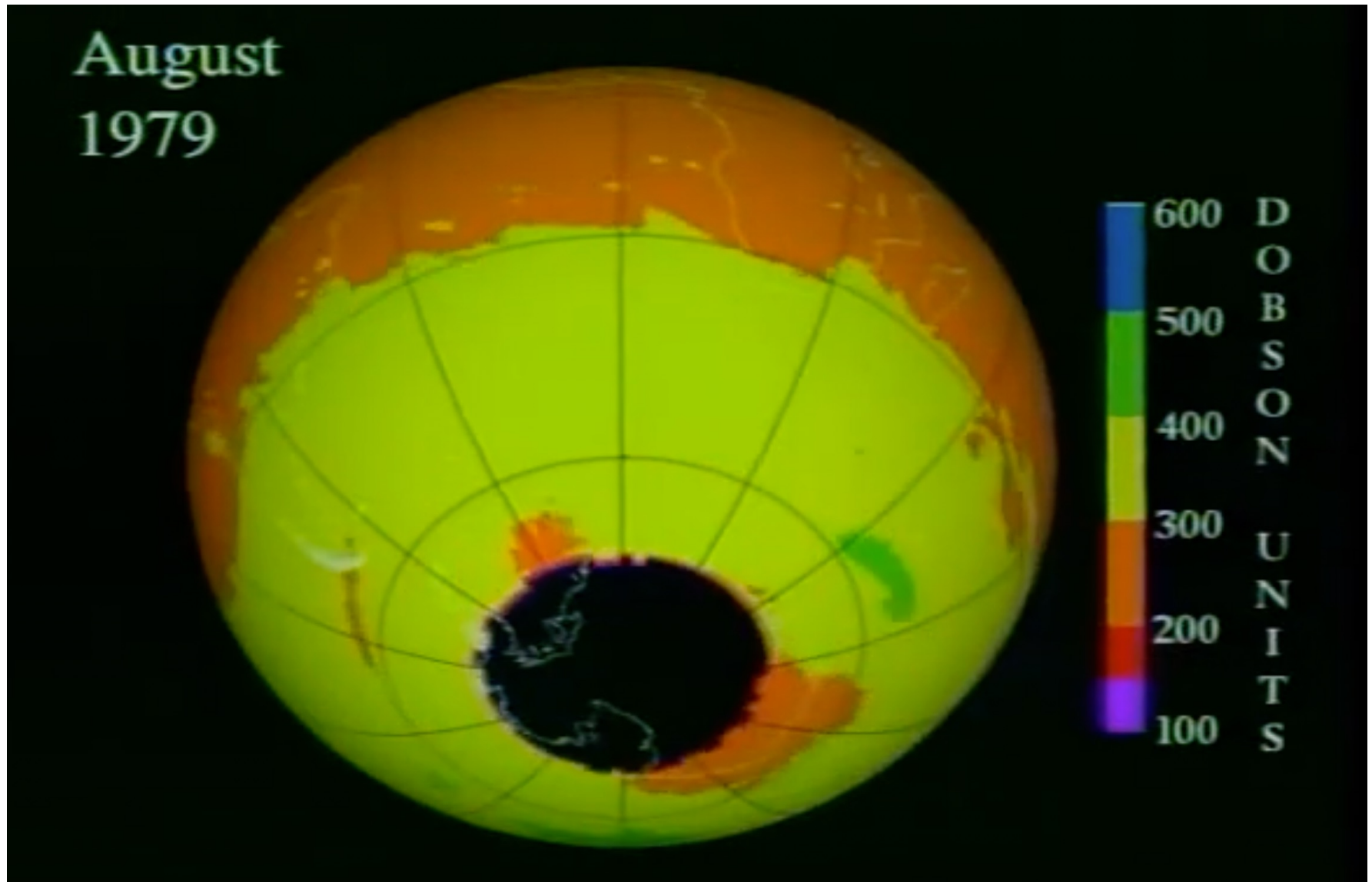
Virtual Globes and Scientific Storytelling: History and Challenges

Catalogue de globes



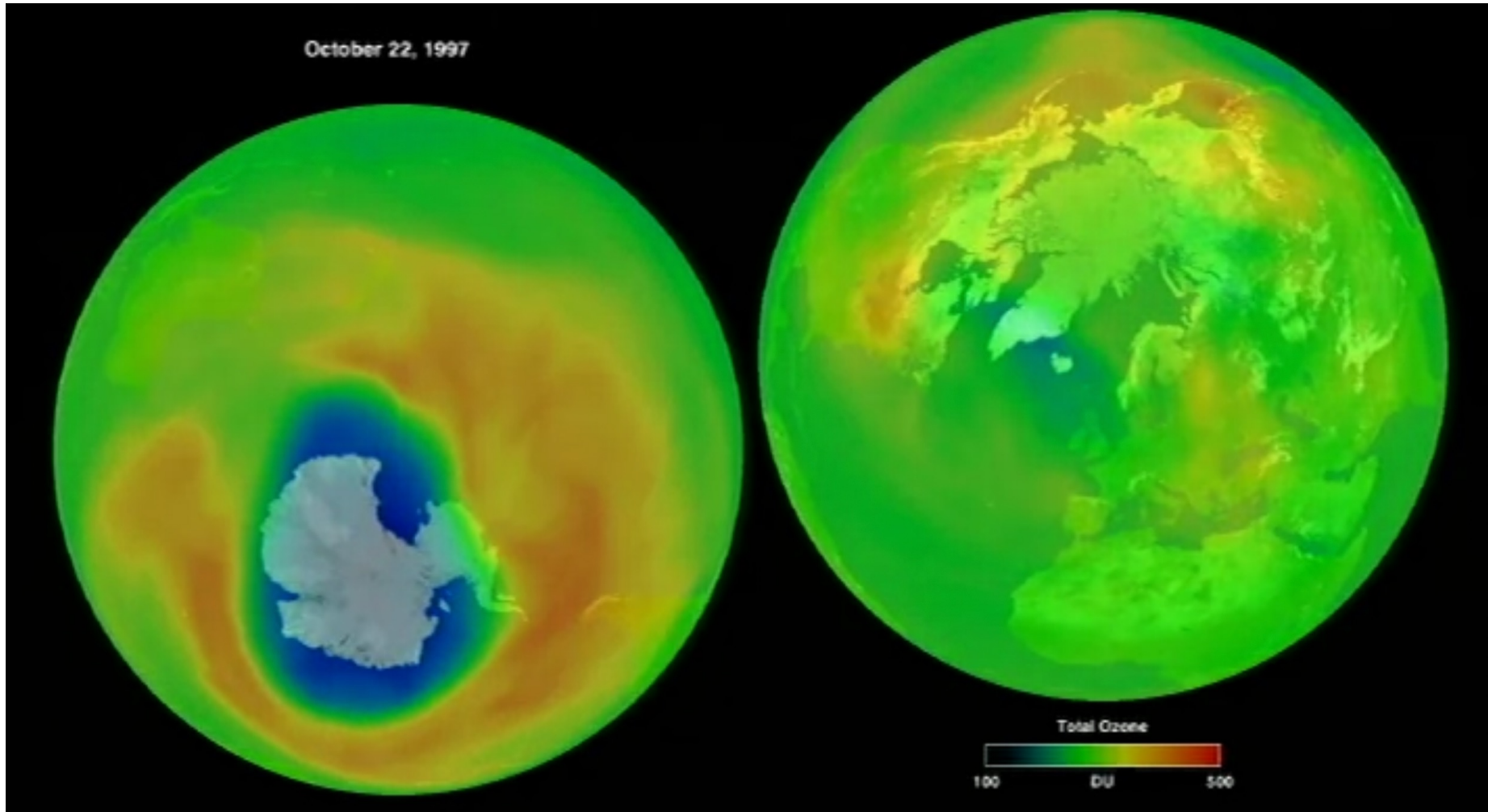
Virtual Globes and Scientific Storytelling: History and Challenges



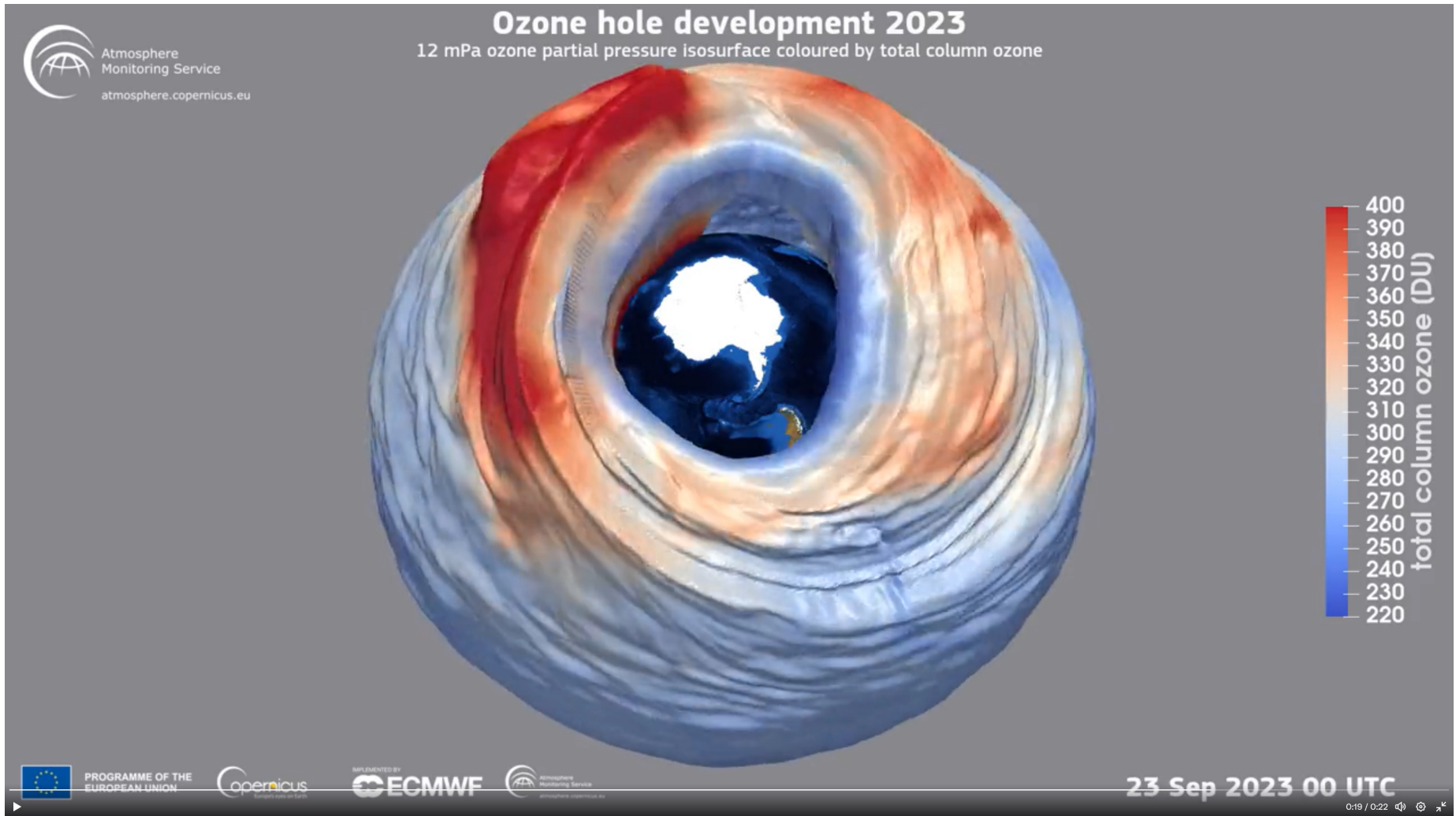


Early example of total ozone animation for TOMS data produced by NASA's Ozone Processing Team (NASA GSFC)

Virtual Globes and Scientific Storytelling: History and Challenges

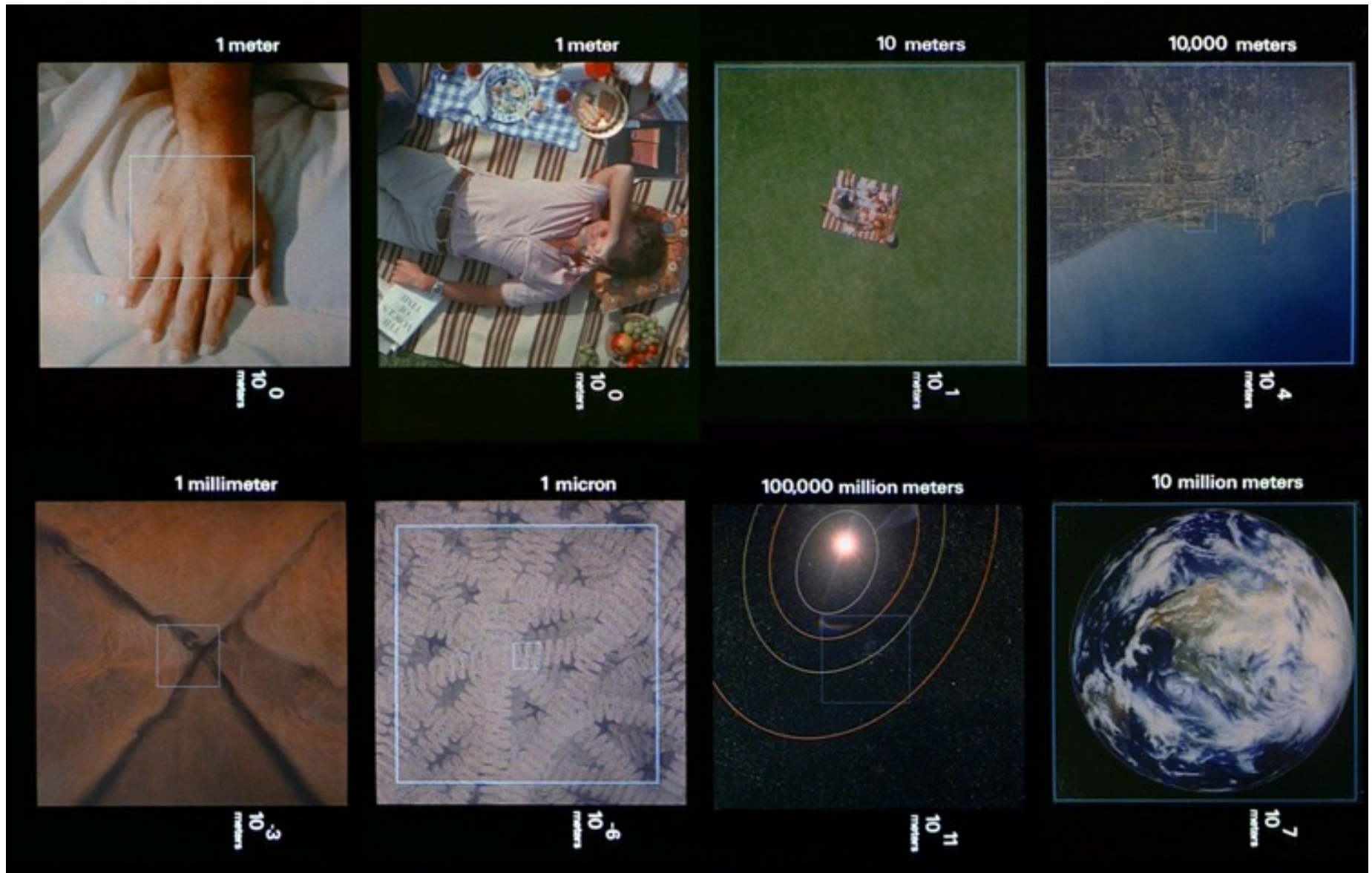


Total ozone animations for TOMS data produced by NASA's Scientific Visualization Studio (NASA GSFC SVS) in the late 1990s



Ozone hole over Antarctica as observed in 2023 (Copernicus, Atmospheric Monitoring Service, ECMWF)

Virtual Globes and Scientific Storytelling: History and Challenges



Some scenes from the film *Powers of Ten*, Ray and Charles Eames, 1977