

... from earth to space...

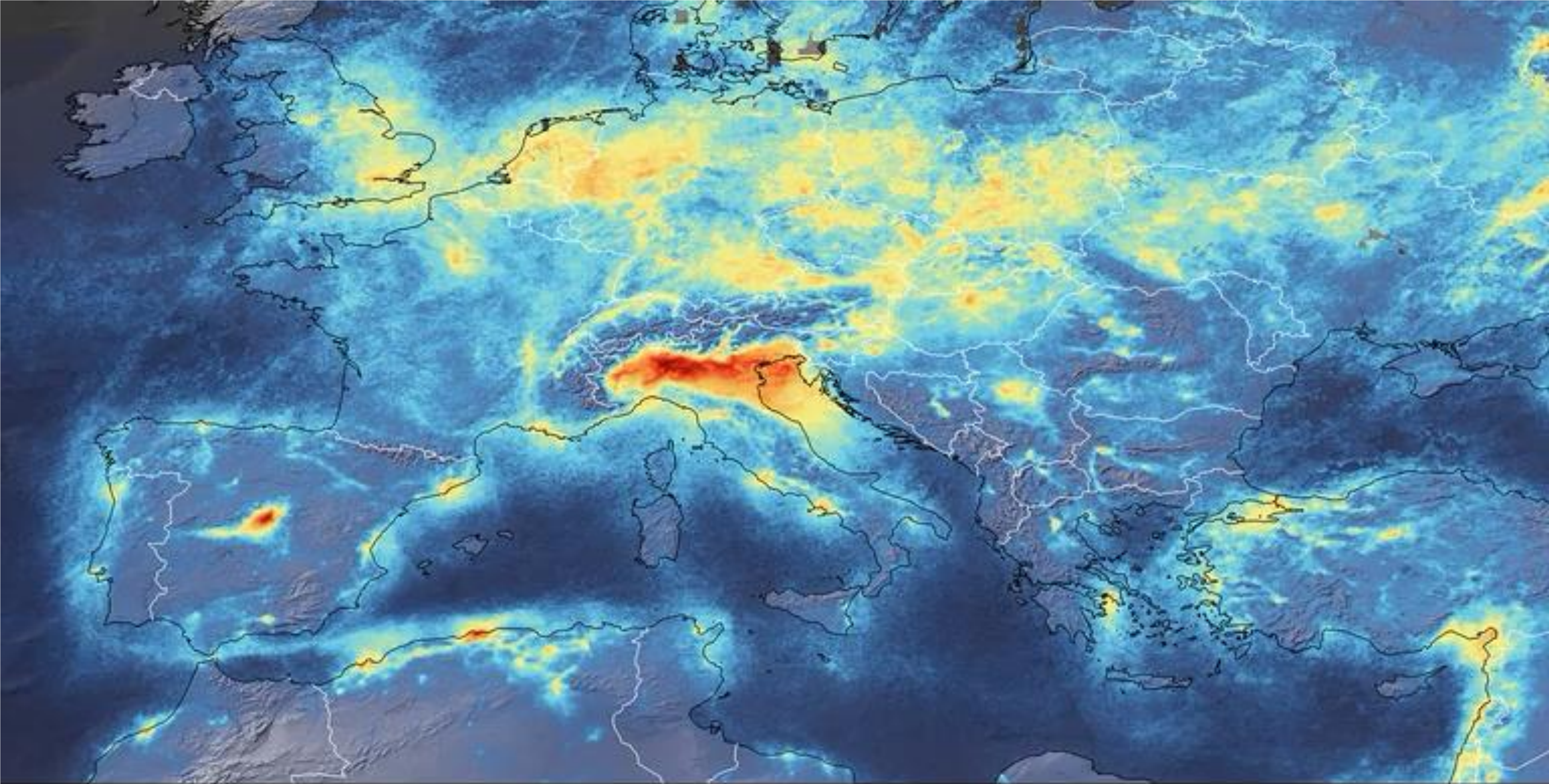
Space Economy and the Consciousness for sustainability











Sentinel-5P Nitrogen Dioxide tropospheric column



Quelle: Nasa

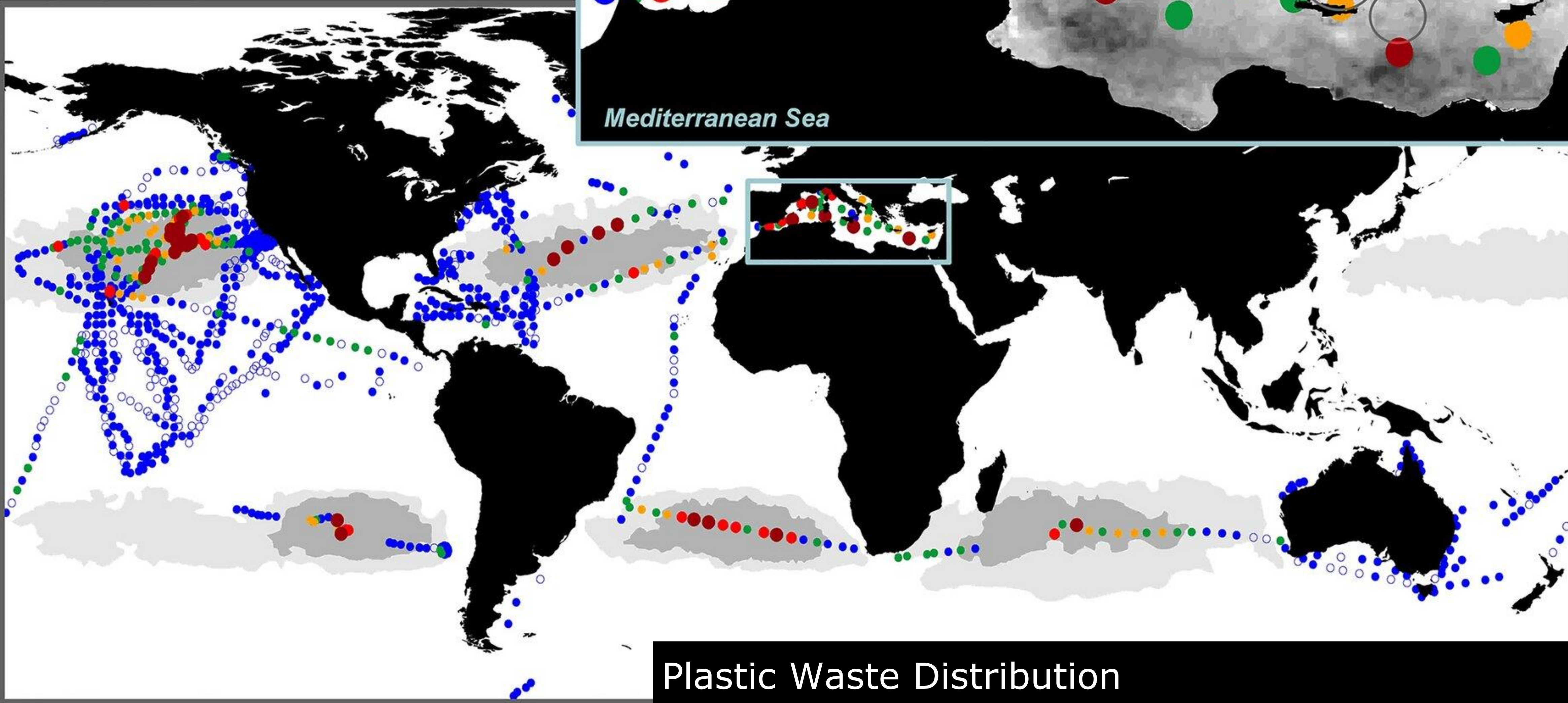
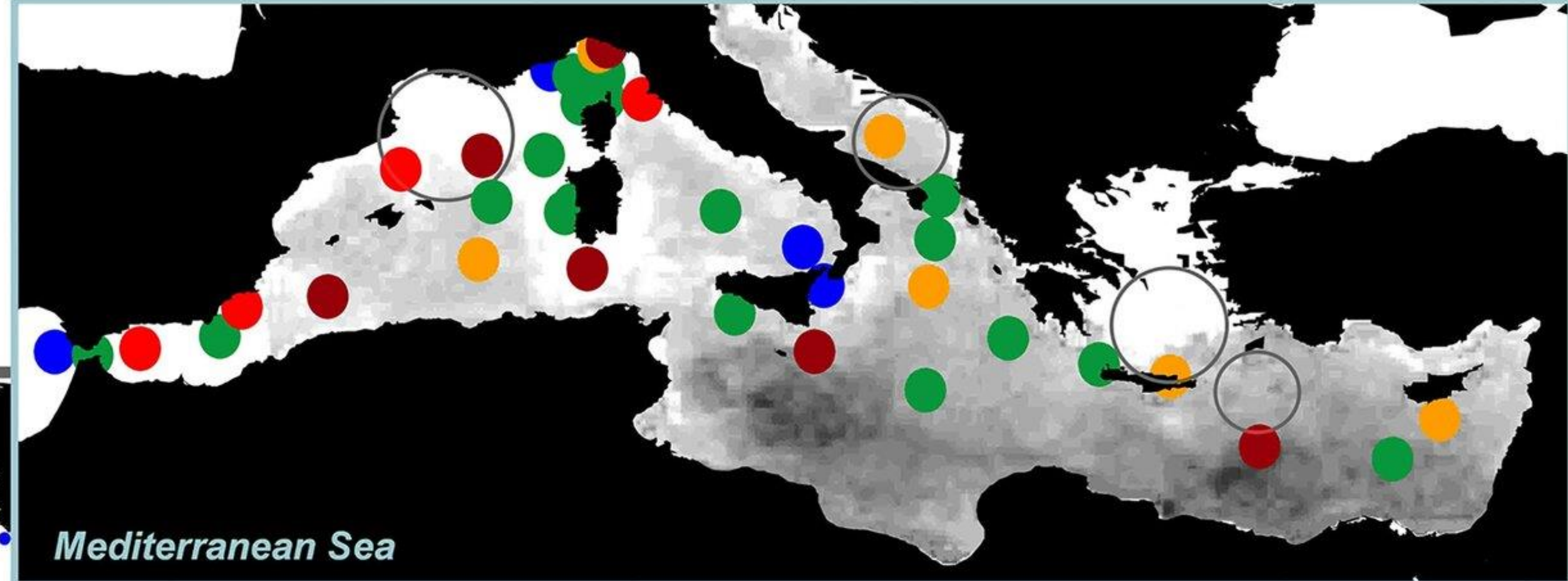
Plastic routes



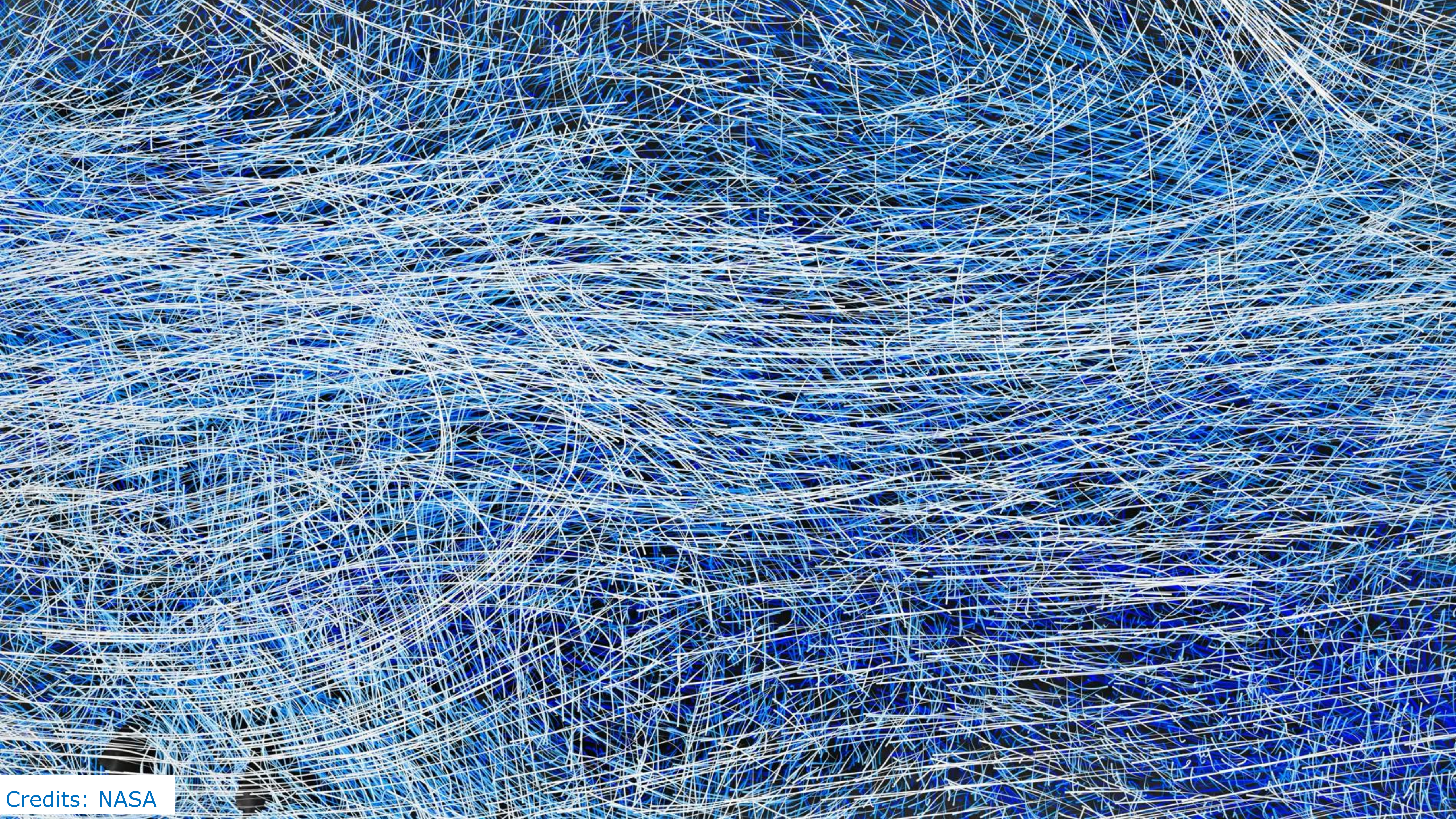
Days since release: 0246

Plastic concentration (g km⁻²)

- 0
- 0 to 50
- 50 to 200
- 200 to 500
- 500 to 900
- 900 to 2500

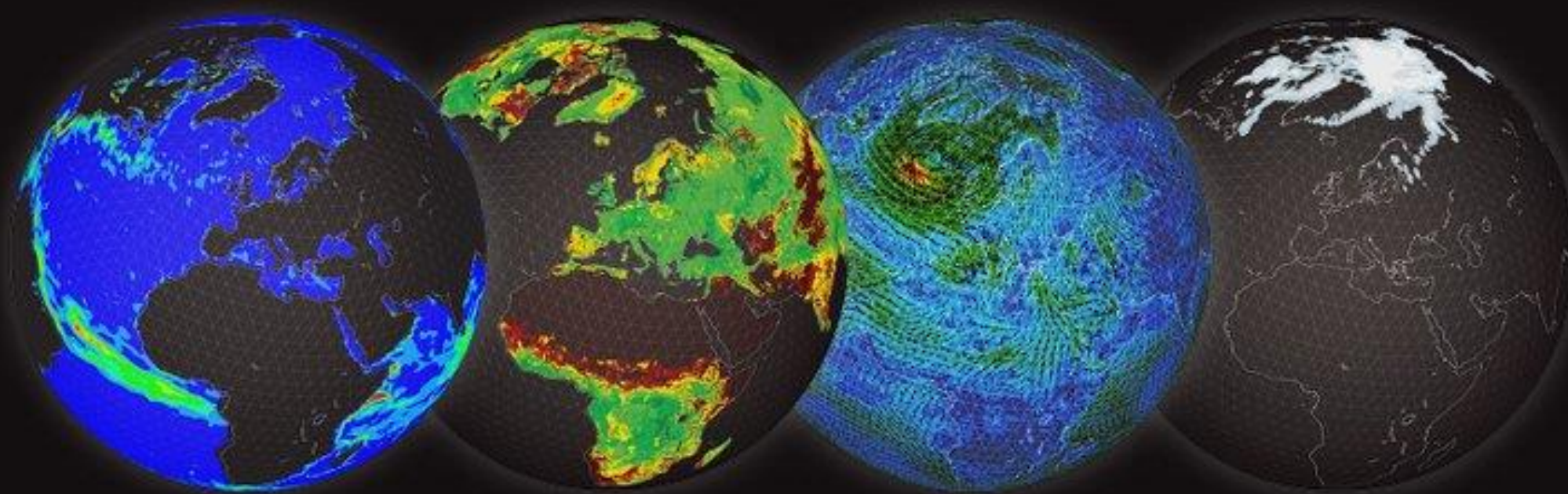


Plastic Waste Distribution




Digital Twin Earth - A comprehensive model of the earth

Simulates the Oceans, atmosphere, ice and land territory



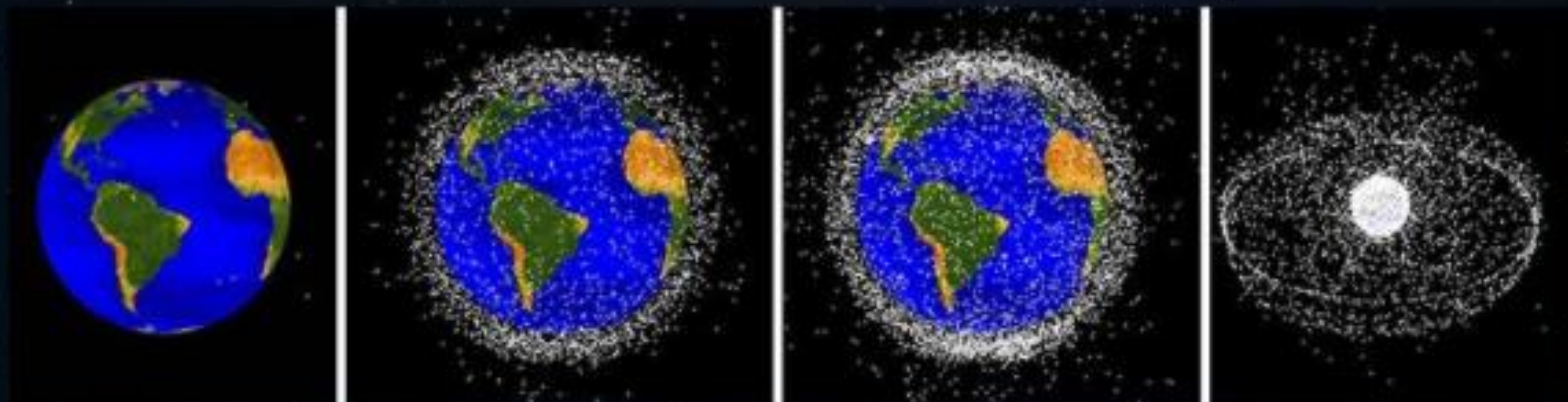
A global effort for an open data Policy for Earth Observation, is needed



What we did to our oceans,
We are doing the same to the
outer space

Space Debris: The Problem!

SPACE DEBRIS



1957

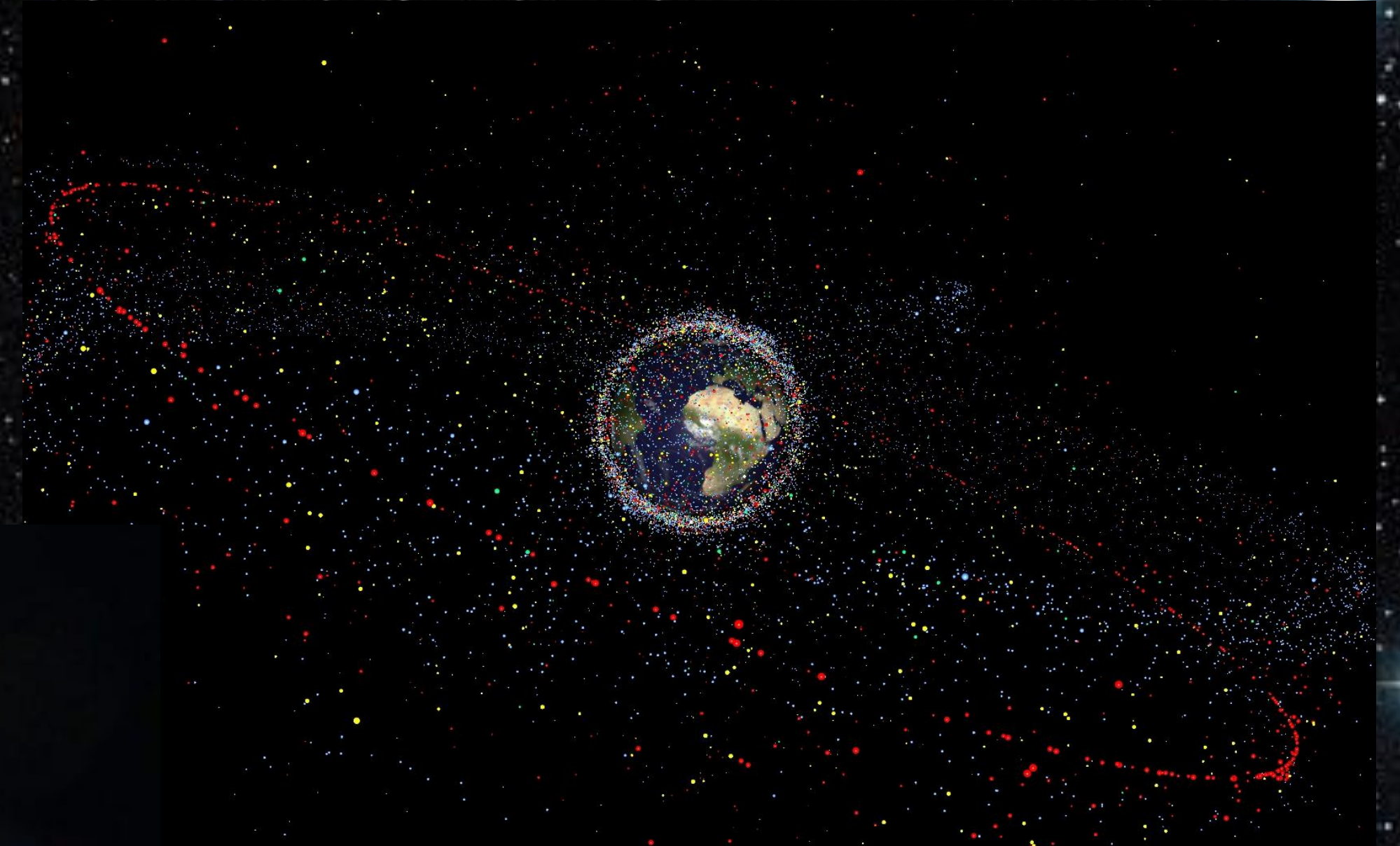
2005

2018

2030??



Active Debris Removal / On-Orbit Servicing

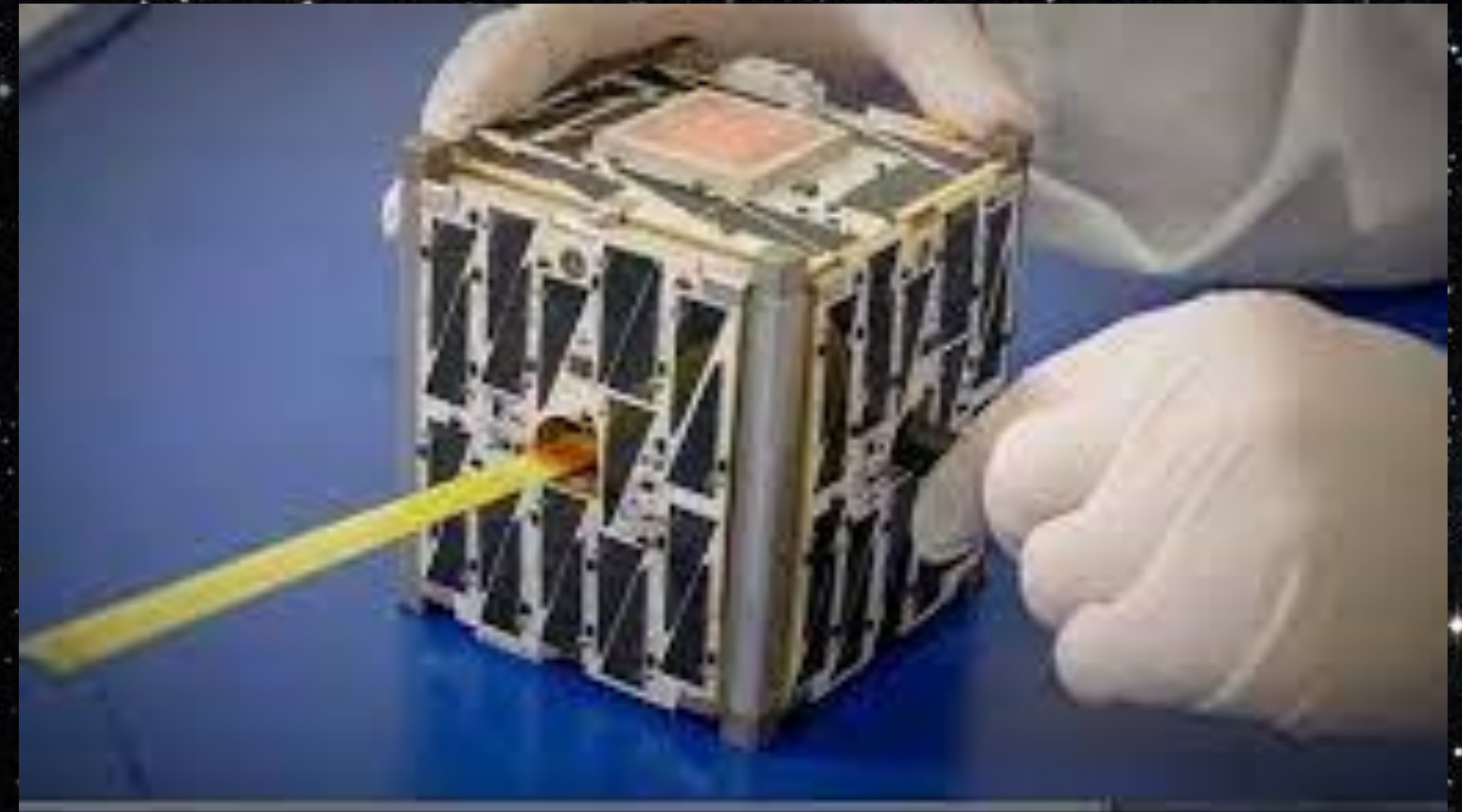




New Challenge for University Students

The CubeSat competition

- 2 years projects
- Starting September 2023
- A CubeSat Based mission
- Primary and Secondary missions (innovation)
- First Prize – To launch the Satellite



Be sure you wash your hands, and all will be well

There is no hint that help will come from elsewhere to save us from ourselves.



The thin layer that binds us to life



" It's the only earth we have, and it contains something absolutely precious:"

Our future





PORTUGUESE
SPACE AGENCY

Thank you