



# Global Geodetic Observation Systems – Global Challenges to a Shared Resource

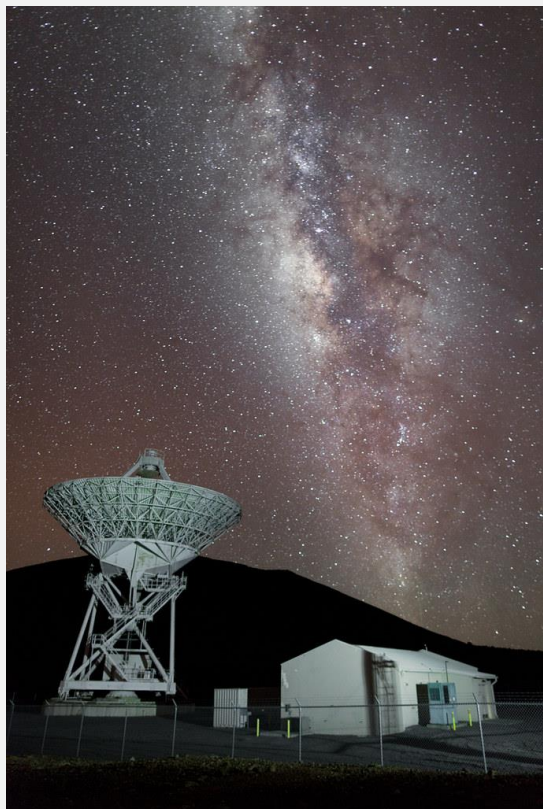
Dr. Nikki Markiel

5 April 2024

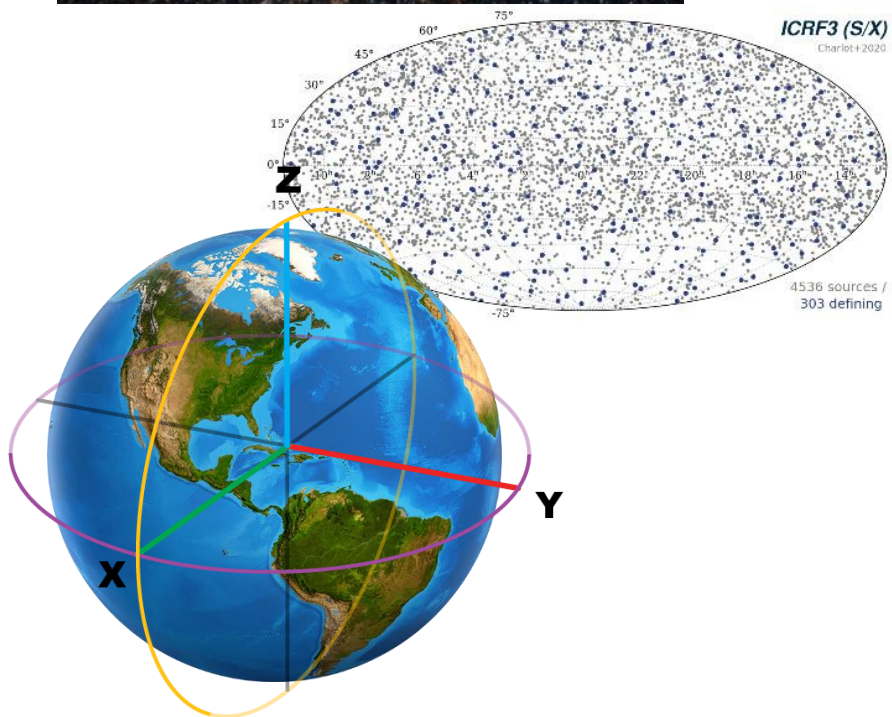
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# Radio Astronomy: Enabling Foundational Geodesy

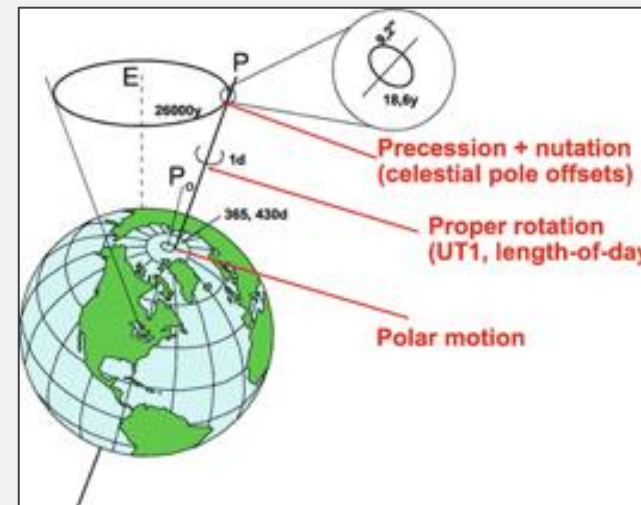
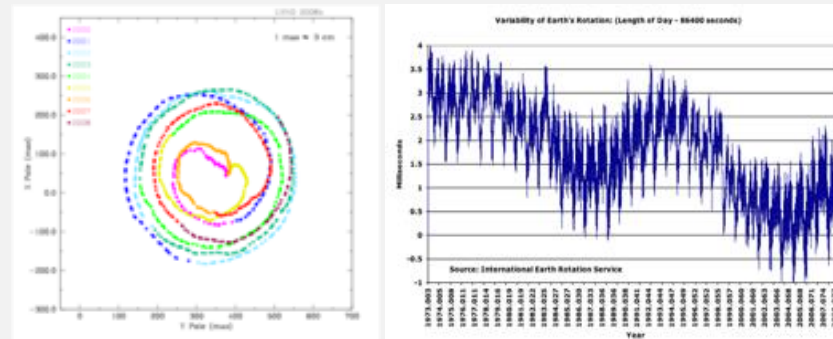
## Science



## Reference Frames



## Earth Orientation



“Geodesy is the lifeblood of the global economy”

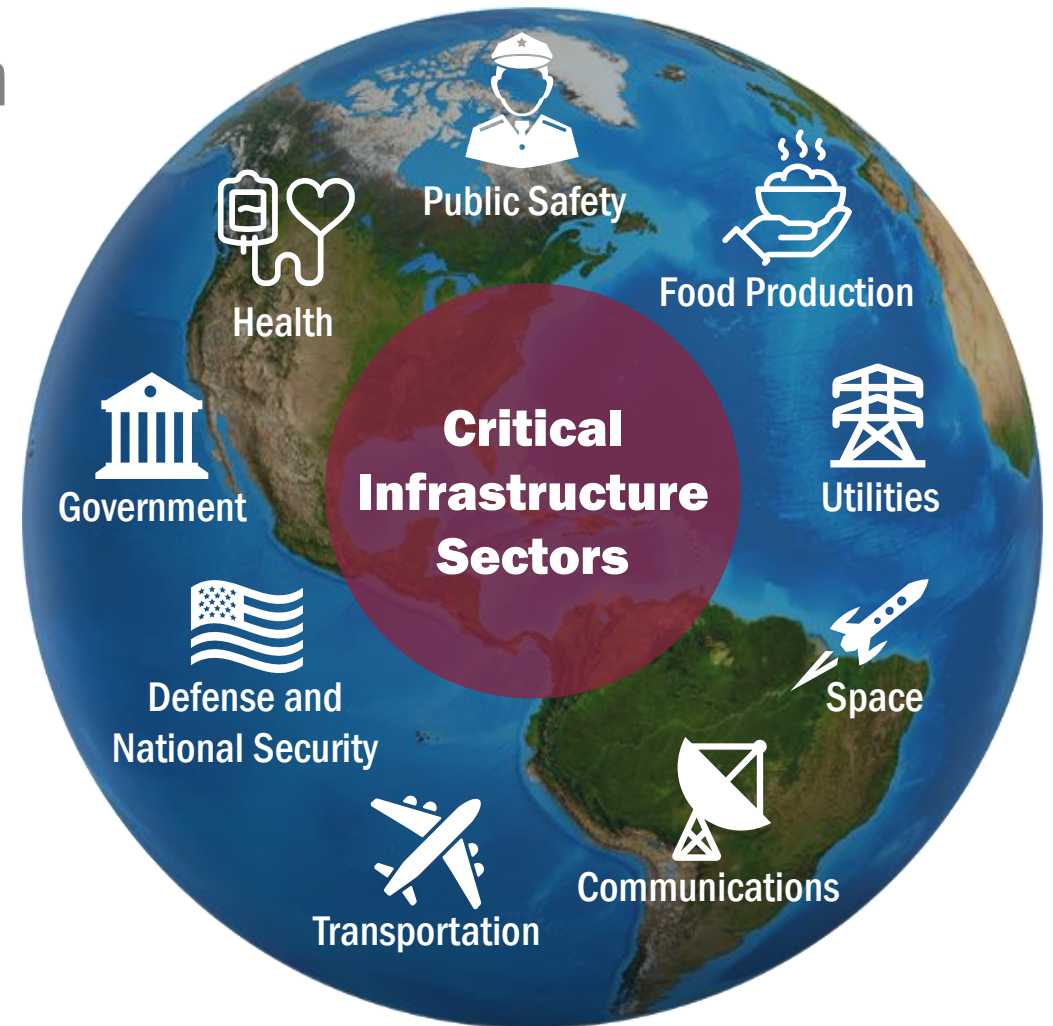
# Geodesy: Enabling Satellite Geolocation

- Global Navigation Satellite Systems
- Telecommunications
- Weather
- ...and many more...

Underpinning modern society

From transportation and communication disruptions to economic collapse and national security threats, the impact would be far-reaching and severe.

Reliance of this magnitude requires the support from a robust supply chain to ensure accurate and reliable services and products.



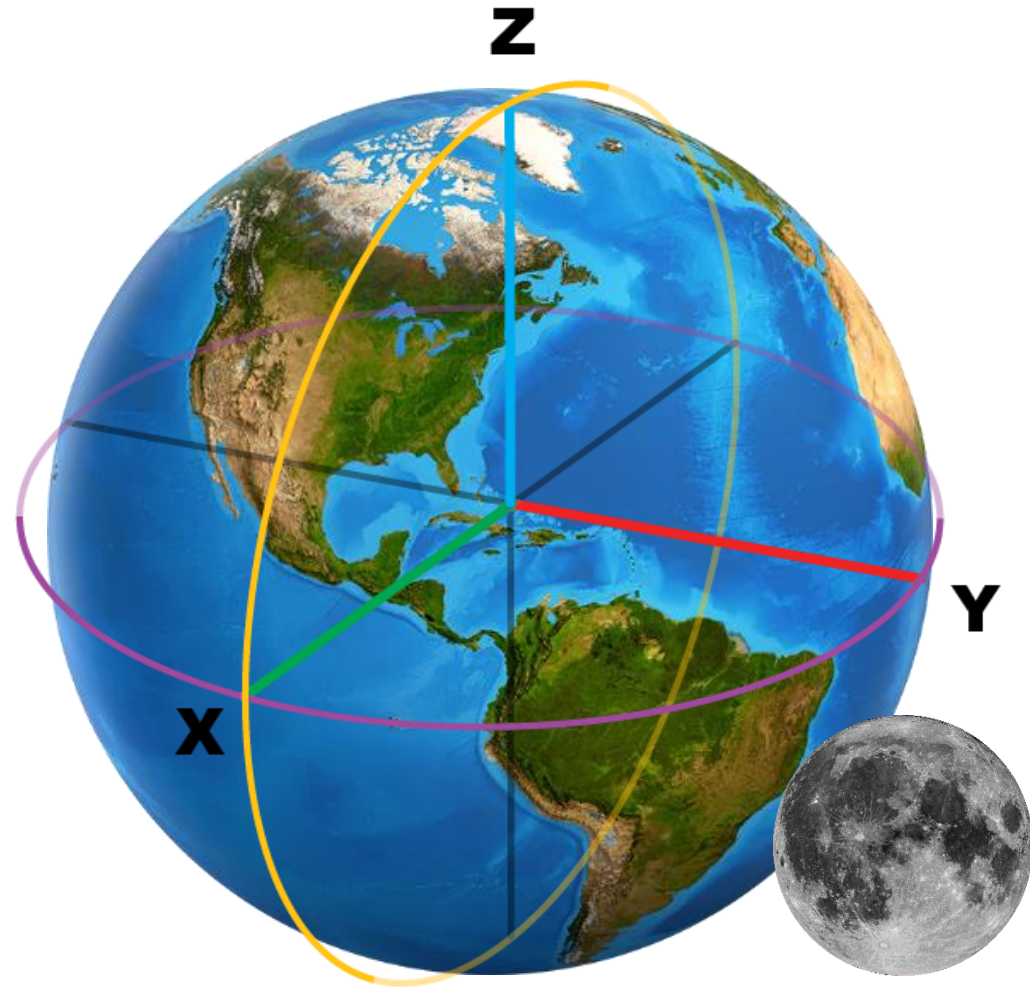
# GGOS: A system in crisis

Between 2019 ~ 2023, the global geodetic supply chain has twice narrowly avoided the loss of major elements

Globally, the overall geodesy supply chain exhibits a fragile stability, which could easily collapse due to a variety of material and non-material factors.

Our objectives for this engagement:

- Understand the risks
- Act collectively to mitigate





Know the World, Show the Way...from Seabed to Space

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