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## Obiettivo del Decreto:

Superamento della frammentazione normativa in materia di:

- **Ricerca**
- Coltivazione ed estrazione mineraria

# REE – rare earth element



Generally, REE do not exist individually in nature, but they are present together with numerous ore/accessory minerals as either minor or major constituents.

The principal sources of rare-earth metals are igneous intrusions. Geophysical methods (gravity, magnetic and radiometric) play a pivotal role in exploration.

## Norway discovers huge trove of metals, minerals and rare earths on its seabed

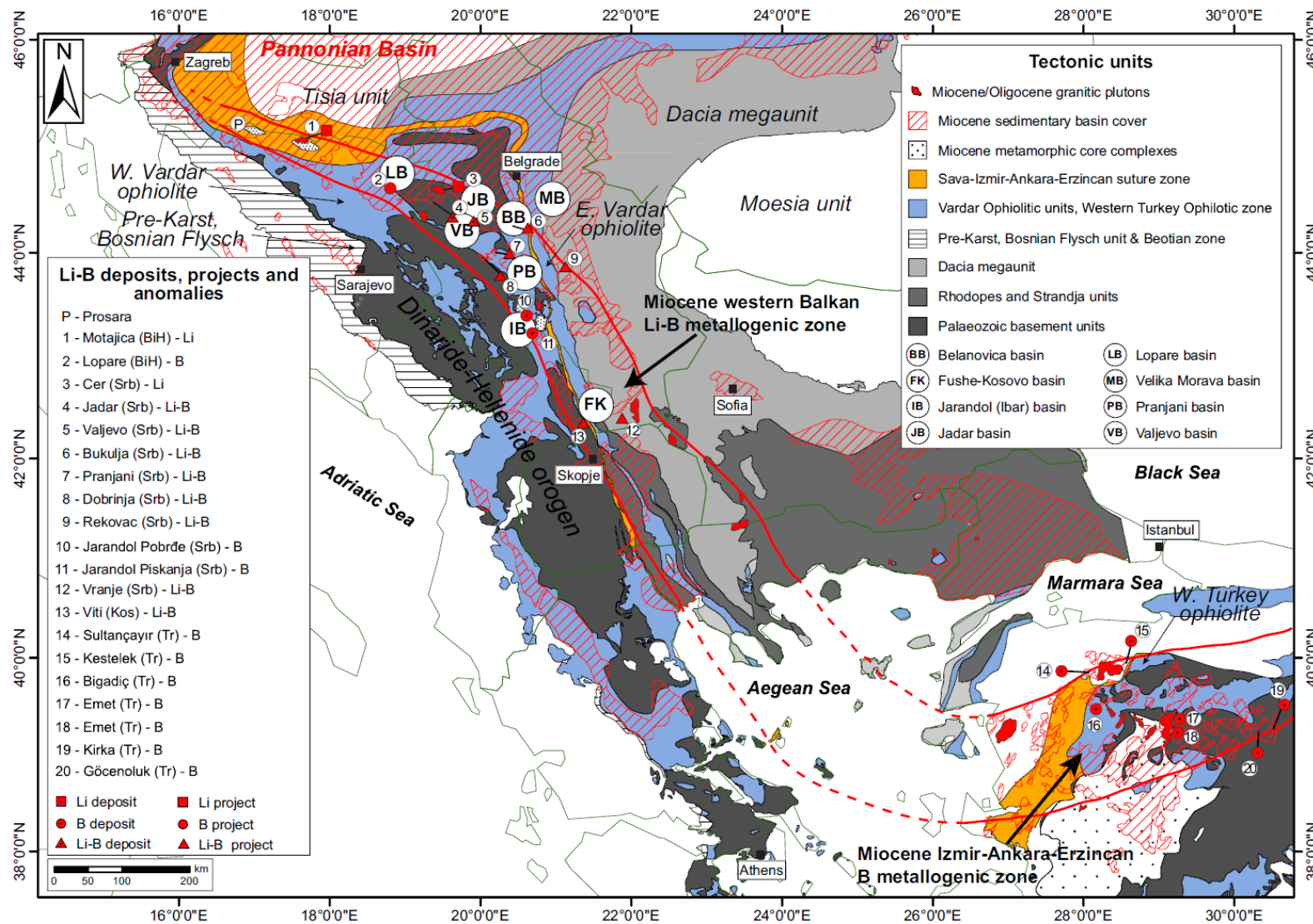
By Reuters and Laura Paddison, CNN  
© 3 minute read · Published 6:42 AM EST, Mon January 30, 2023



The Norwegian Petroleum Directorate building in Stavanger, Norway. A study by the organization has identified "substantial" amounts of seabed minerals and metals. Stine Jacobsen/REUTERS



# Li tium deposits





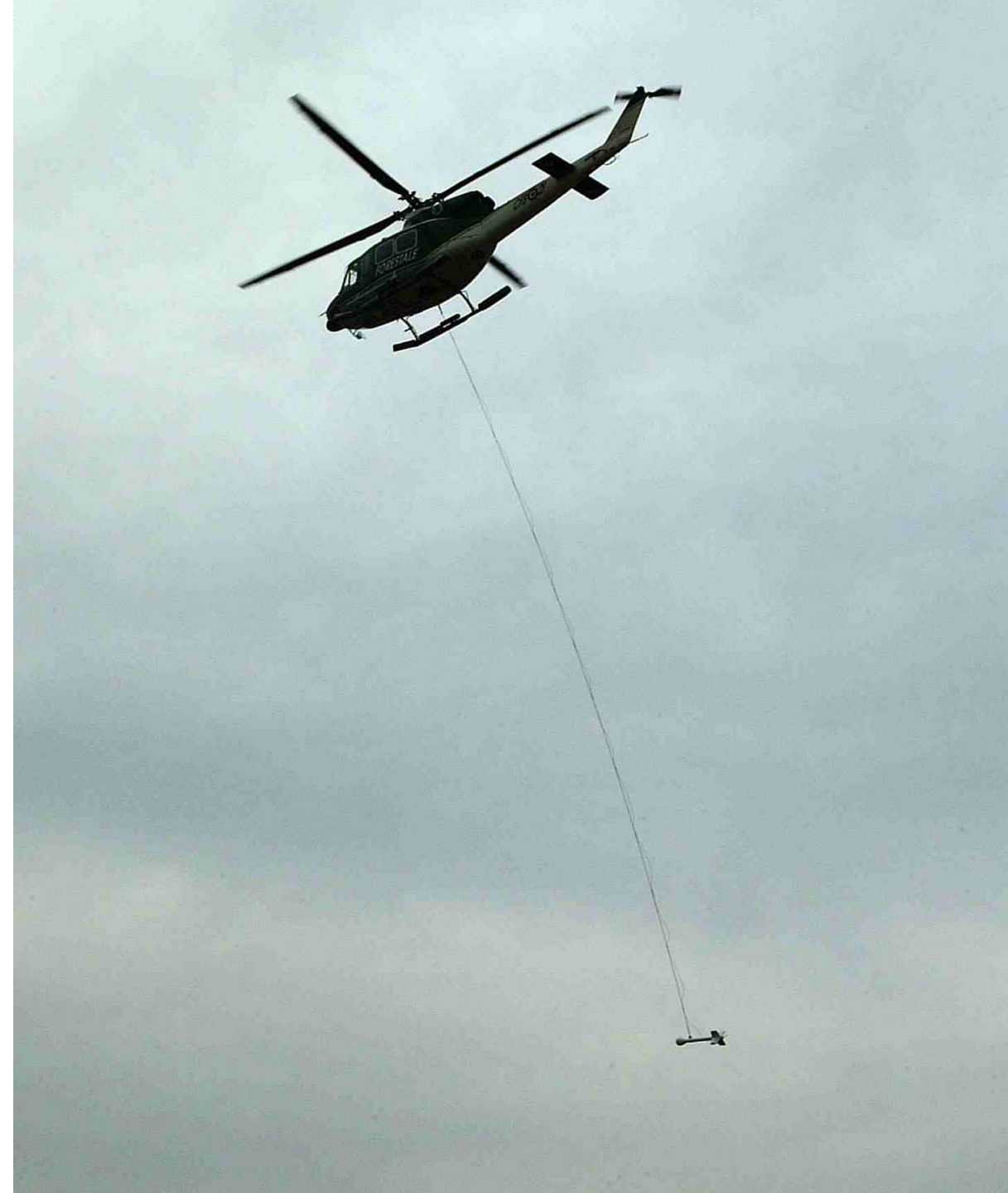
# Hydrogen

H<sub>2</sub> is naturally produced by different reaction processes occurring in the Earth's crust:

1. **Hydrothermal alteration of mafic and ultramafic rocks** at mid-ocean ridges and within land-based ophiolite-peridotite massifs (serpentinization process).
2. **Oxidation of Fe-bearing minerals** in Fe-rich cratonic areas.
3. **Radiolysis**, decomposition of water into H<sub>2</sub> and O<sub>2</sub> due to U-Th radioactive decay for example in U-rich rocks as Precambrian crystalline shields.

# Geophysical exploration for H<sub>2</sub>

Potential field methods could be fundamental to identify the source rocks of H<sub>2</sub> production, i.e. predominantly igneous and metamorphic rocks (high magnetic content).

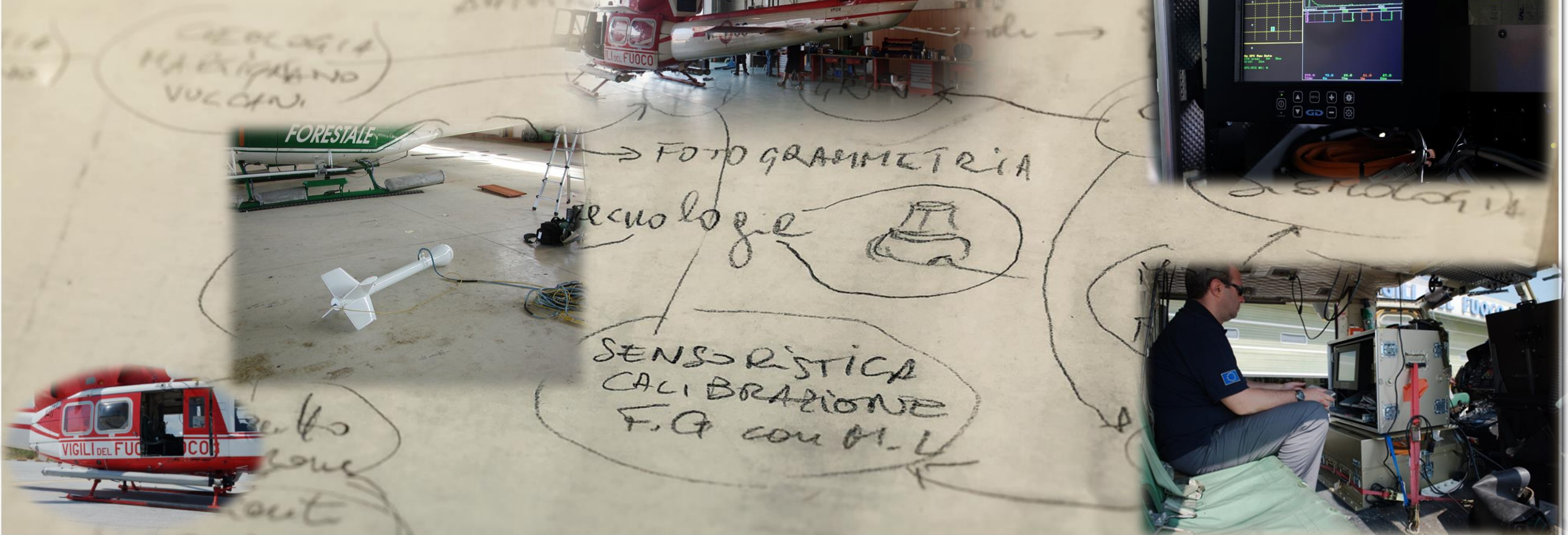
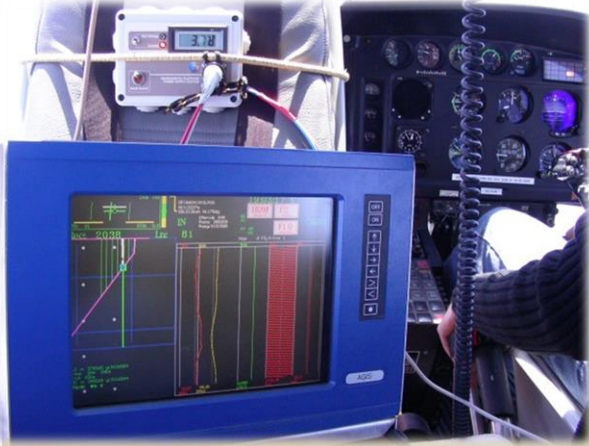








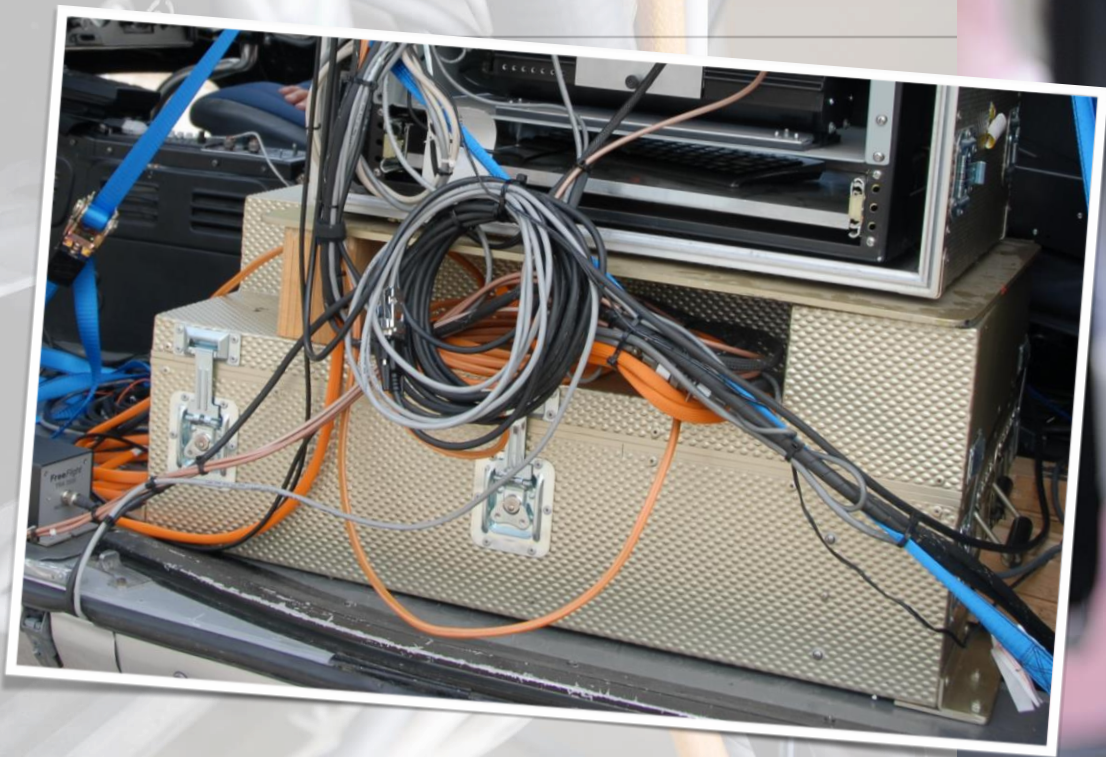
# Multidisciplinary approach towards solution of complex problems





# Gamma spectrometry

- ❖ airborne gamma spec by means of sodium iodide (NaI) detector.



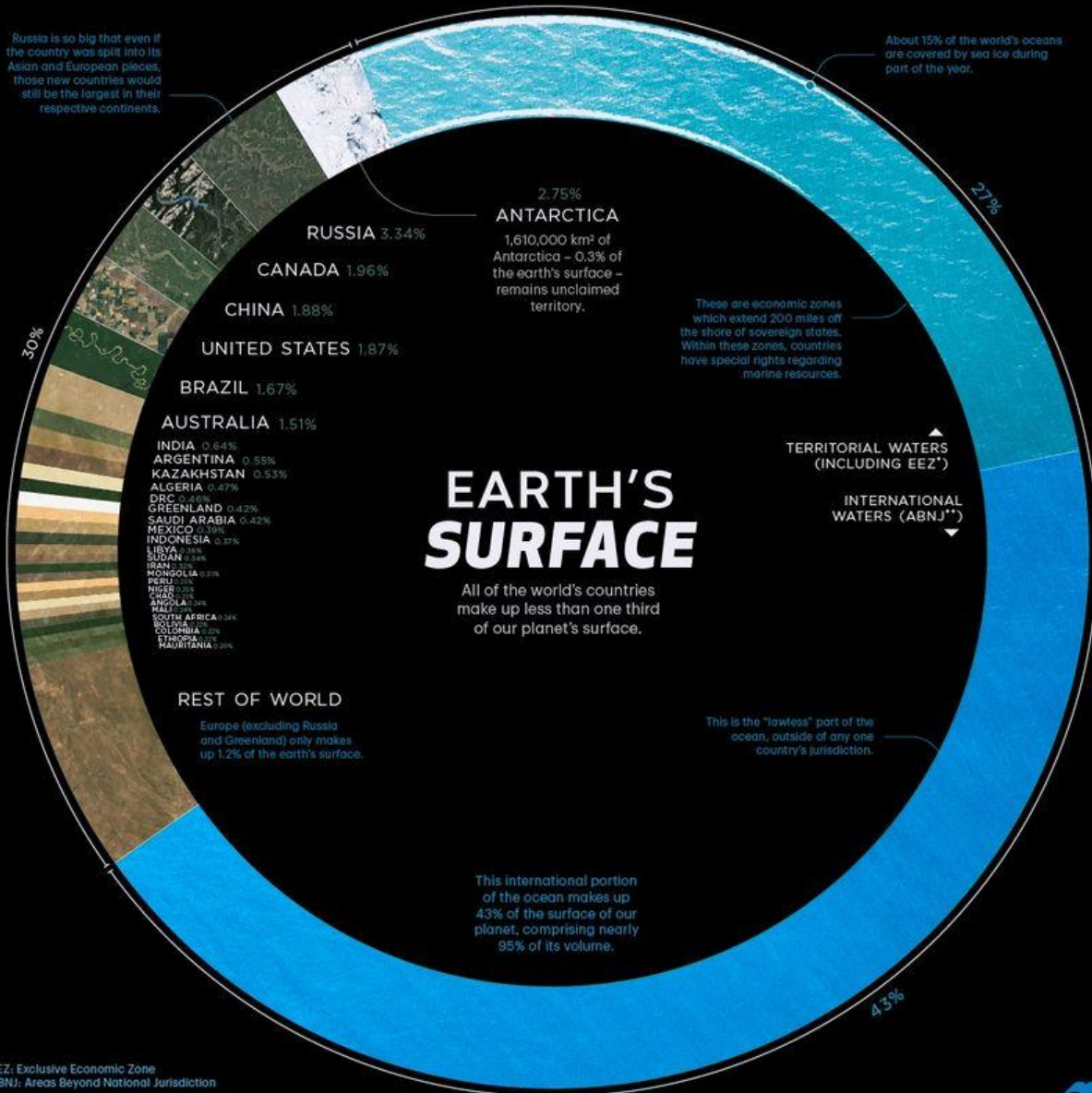




# CHALLENGES & WEALTH OF MARINE ENVIRONMENT

Russia is so big that even if the country was split into the Asian and European pieces, those new countries would still be the largest in their respective continents.

About 15% of the world's oceans are covered by sea ice during part of the year.



FOOD



OIL & GAS



TOURISM  
AGRICULTURE



MINERALS/ENERGY



RENEWABLE ENERGY

\*EEZ: Exclusive Economic Zone  
\*\*ABNJ: Areas Beyond National Jurisdiction

Sources: UN Statistics Division, Protected Planet





An underwater scene with sunlight rays filtering through the water. The water is a deep blue color, and the light rays create a shimmering effect. The word "Grazie" is written in white, serif font in the center of the image.

**Grazie**