

# Satellites

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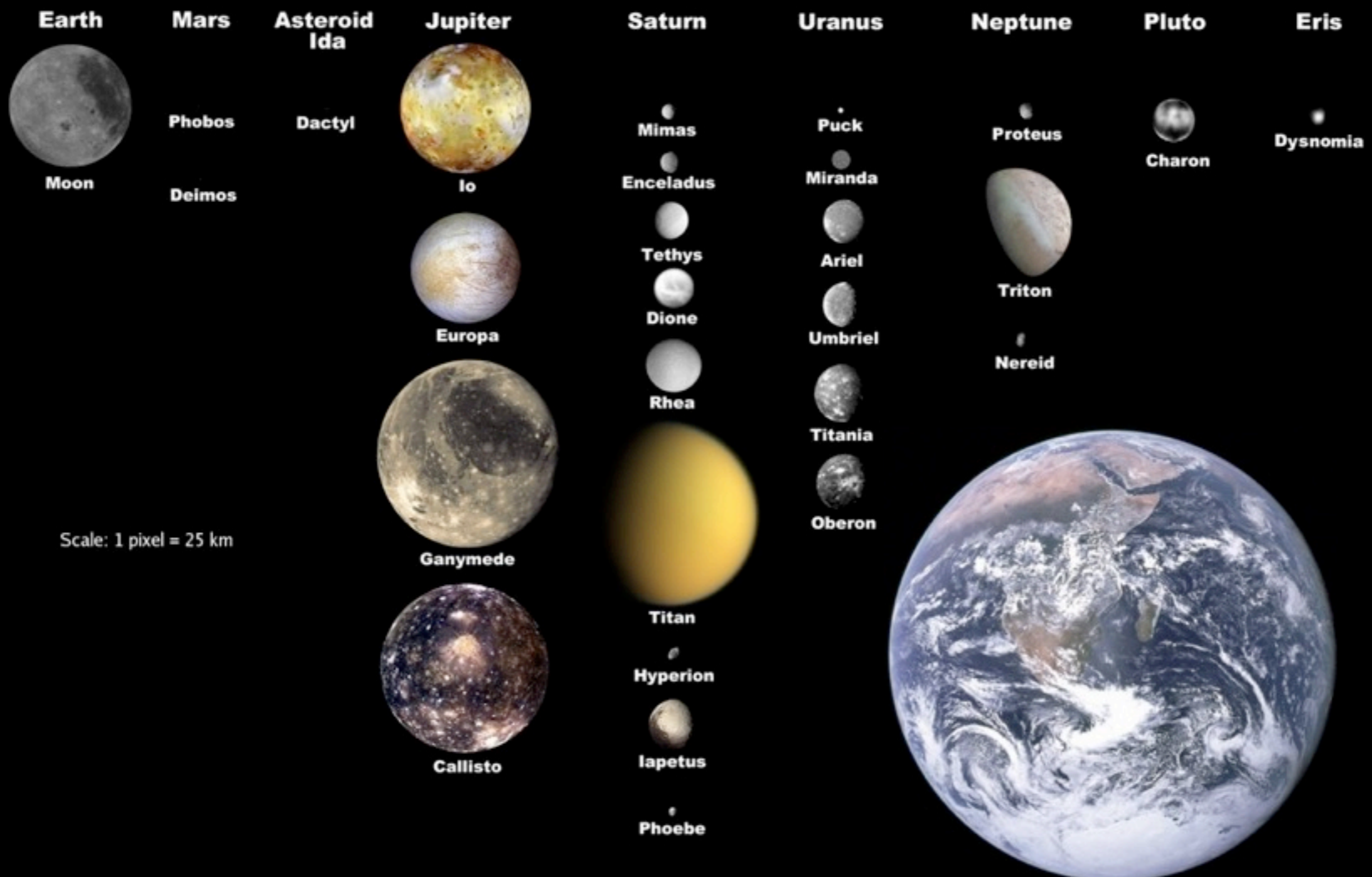
# What is a Satellite?

- \* **Satellite:** A celestial body orbiting another planet
- \* There are artificial and natural satellites



# Natural Satellites

## Selected Moons of the Solar System, with Earth for Scale



Scale: 1 pixel = 25 km

# Earth's Satellites

- \* The Earth has 1 natural satellite - the Moon
- \* 1000s of artificial satellites



# Earth's Satellites

- \* Human occupied satellite:
- \* Space shuttle
- \* International Space Station (is 350 km from Earth and takes 90 min to orbit Earth)



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# Staying in Orbit

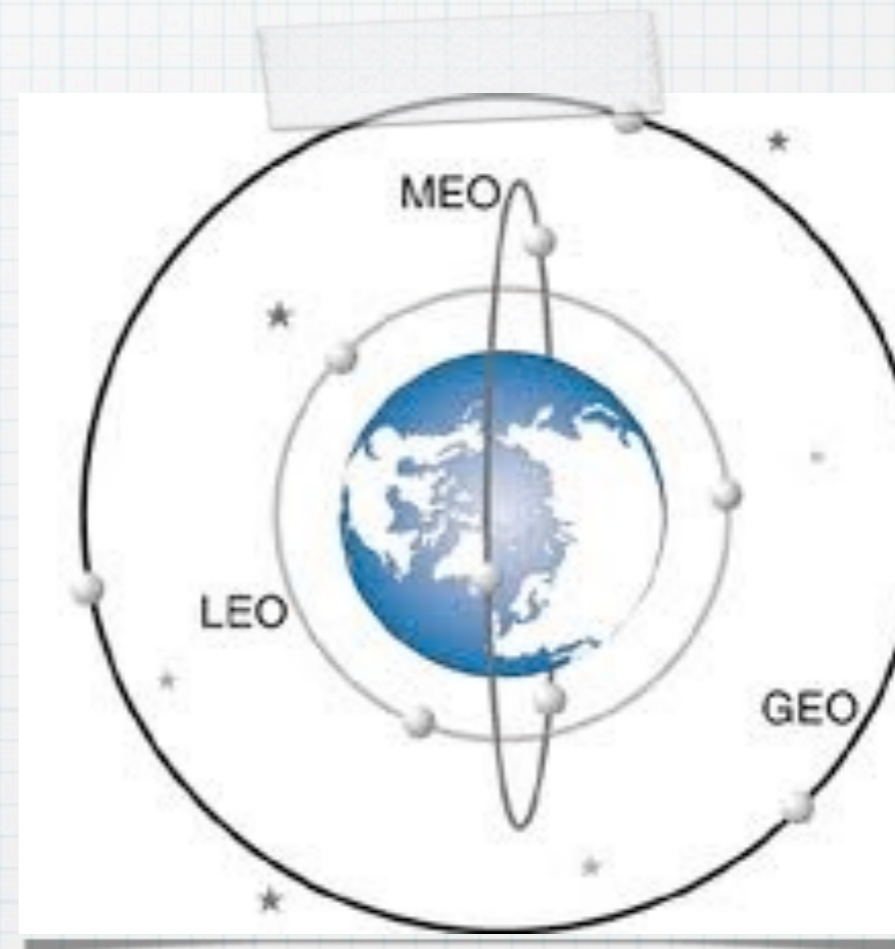
- \* The force of the Earth's gravity constantly pulls the satellite towards Earth
- \* The forward motion of the satellite and the curvature of Earth prevents it from falling into the atmosphere



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# Types of Orbits

- \* 1) Low Earth Orbit Satellites:
- \* Altitudes up to 2000 km
- \* Human occupied & Earth observation



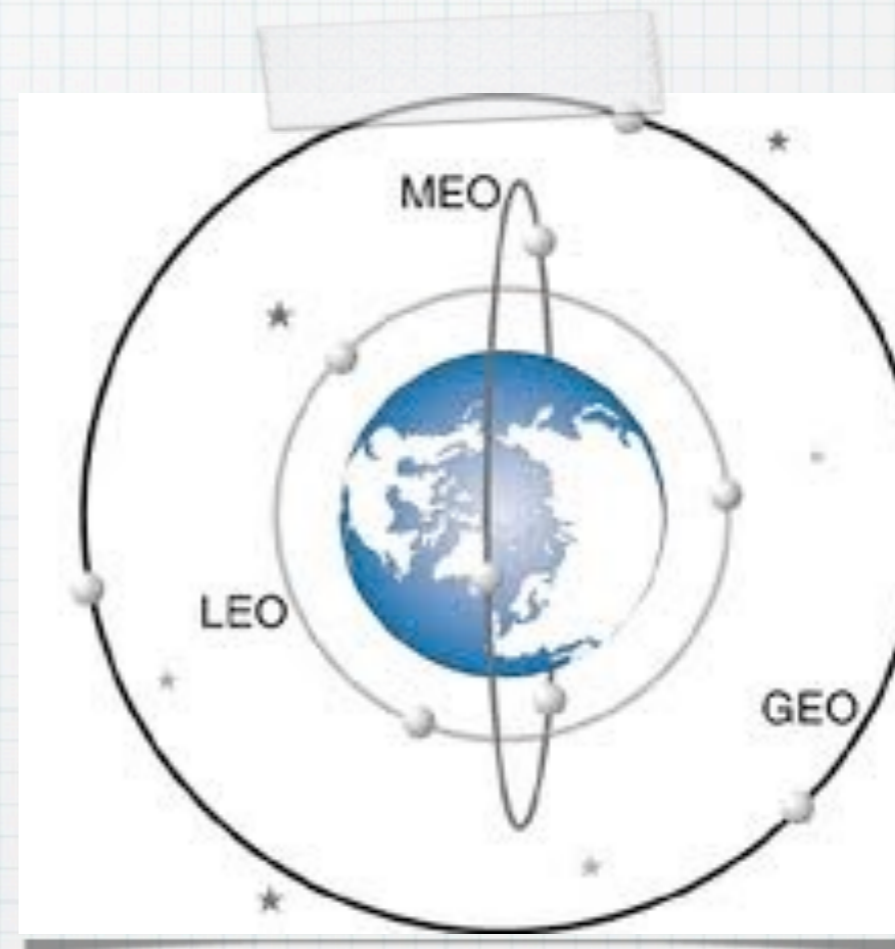
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# Types of Orbits

- \* 2) Medium Earth Orbit Satellites:

- \* Altitudes up to 35 000 km

- \* GPS satellites



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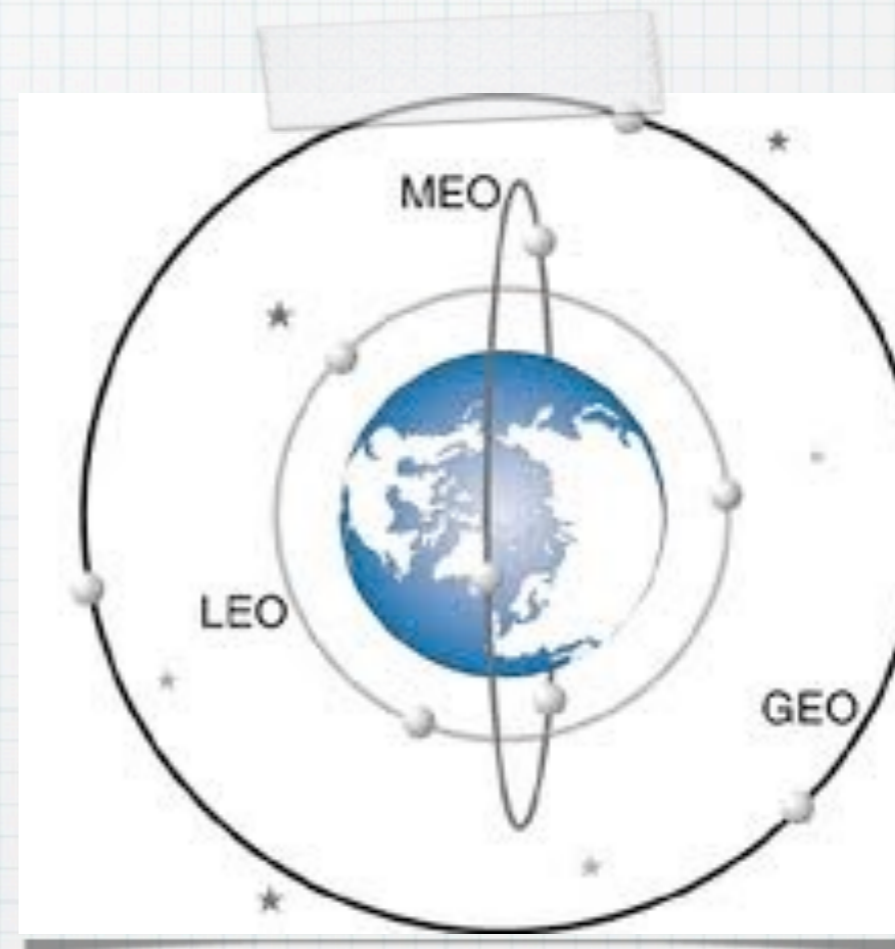


# Types of Orbits

- \* 3) Geostationary Orbit Satellites:

- \* Its path is directly over the equator with a period equal to the period of the Earth's rotation.

- \* Appear motionless in the sky



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