

Tonight's Feature...

Three Stories about Saturn



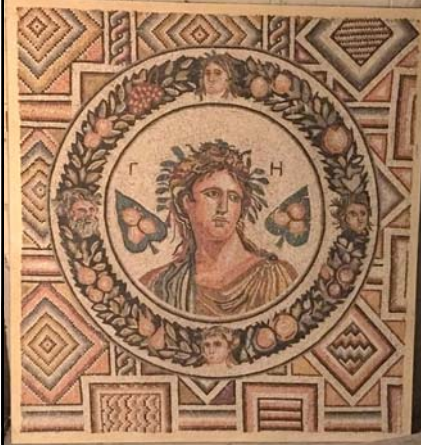
SATURN – the mythology

CHAOS (Χάος) – NOX (Νύξ)



URANUS (Οὐρανός) - TERRA (Γαῖα)

Uranus and Terra



URANUS – TERRA | SATURN (Χρόνος)

Hesiod's Story

Uranus had cast his children down into Tartarus...

Terra implored each of her sons to rise up against him.

All refused except the youngest, Saturn.

Terra gave him a blade and.... guess what happened!

The 'harpe', sickle or scythe became a symbol of Saturn's power.



Saturn
God of agriculture and time



SATURN's GOLDEN AGE

His marriage
with OPS



But **Terra's**
prophecy....
...is history
repeating itself !



Saturn and his children

- Saturn swallowed the children when they were born - Neptune, Pluto and Juno.
- Finally when Ops gave birth to Jupiter, she had the baby secretly hidden in a cave in Crete
- Ops gave Saturn a stone wrapped in baby clothes for him to eat..... And he was fooled!



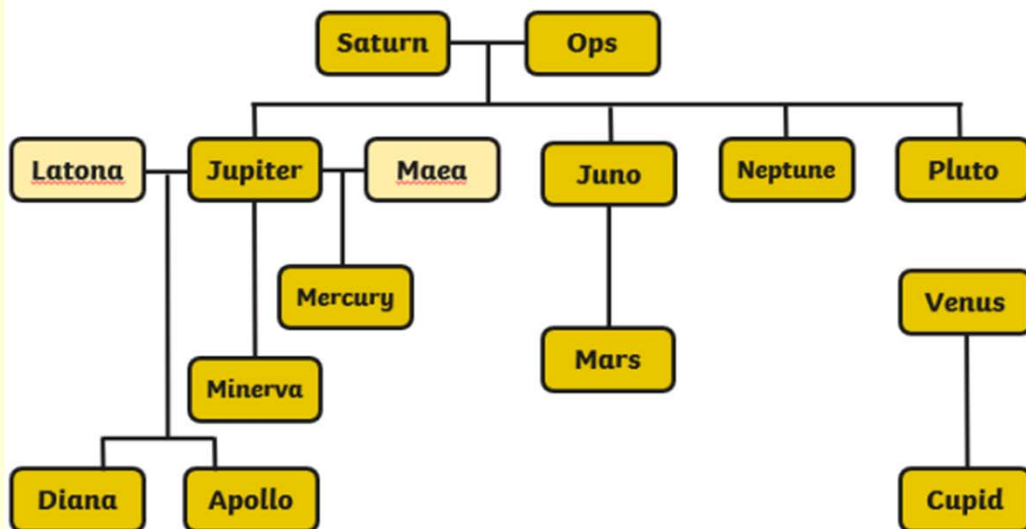
Dikteon cave in central Crete OR in Ideon Cave on Mount Ida

Saturn Devouring His Son, a mural Francisco Goya painted inside of his home in Spain.



When Jupiter grew up, he made Saturn vomit up the three children he had swallowed. They joined forces to banish Saturn... and **Jupiter** (the youngest) ruled the Olympian family!

Family Tree of the Gods





Despite the myths,
Saturn was still respected...

Temples
Roman Coinage
Saturnalia Festival
... and Astronomy

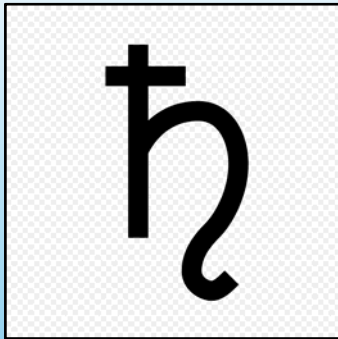


The Ancient seven stars.....



In Astronomy the Planet named after SATURN:

- Jupiter more important than Saturn
(Neo-Babylonian - 8th-7th centuries BC)
- Embracing the whole cosmos
(Dionysius of Halicarnassus - 1st century BC)
- Chained far out in exile
(Cicero- 1st century BC)
- Highest orbit, greatest potency
(Tacitus, *Histories* - 2nd century AD)



Away from Mythology and into something more Scientific...

Saturn: as seen from Earth...



Saturn: 6th planet from Sun



Saturn

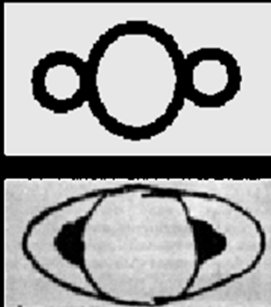
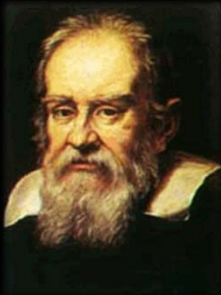
10th August 2022 22:58



Galileo was the first to observe Saturn with a telescope in 1610. He could not see the rings clearly, seeing it as 'triple-bodied', and later thinking they were 'ears' or 'handles'.

By 1612, the "ears" seemed to vanish. Baffled, Galileo wrote, "Has Saturn swallowed his children?", referencing the myth of the Titan Saturn.

The "ears" reappeared by 1616.



Saturn

10th August 2022 22:58



In 1858, James Clerk **Maxwell** (27) published a mathematical analysis of the ring structure proving it to be made up of a low density of disconnected particles.



In 1659, Christiaan **Huygens** deduced that Saturn was surrounded by a thin flat ring.



Parton, Galloway



Auld Kirk, Parton

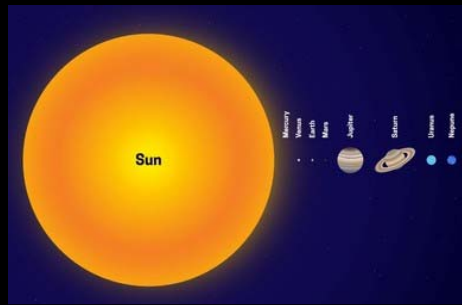
Saturn
10th August 2022 22:58



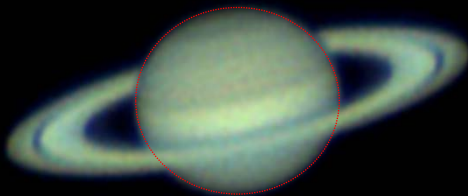
Diameter: 120,536 km (equator)
108,728 km (polar)
(9.4 x Earth: 12,742 km)

Distance from Sun: 1,353-1,515 Mkm (70-90 Lm)
Orbital period: 29.448 yr (sidereal)
378 days (synodic)
– as seen from Earth)

Mass: 0.6×10^{24} tonnes (95 x Earth)
Av. density: 0.68 g/cm^3 (Earth: 5.5 g/cm^3)



Saturn
10th August 2022 22:58



A gas planet, second largest planet in the solar system.

Day length: 10h 33m
1 solar yr = 24,225 sd
- second shortest day in solar system

Equatorial rotation velocity: 9.87 km/s
(22,208 mph)

Flattened at the poles by 9.8%

Saturn

10th August 2022 22:58
203mm reflector telescope



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Saturn

10th August 2022 22:58



'Surface' shows some banding (less obvious than Jupiter) with winds up to 1,100 mph at the equator.

Atmosphere is 96% H, 3% He, 0.5% CH₄ (by volume) + traces of ammonia, acetylene, ethane, propane, phosphine.

Saturn

10th August 2022 22:58
203mm reflector telescope

Axis of rotation is tilted 26.73 degrees to its orbital plane



21st October 2025 22:07

Saturn

10th August 2022 22:58

Moons of Saturn

- First discovery of a moon of Saturn – Titan – was by Christiaan **Huygens** in 1655
 - Giovanni Domenico **Cassini**: Rhea, Iapetus, Dione and Tethys (1671-1684)
 - William **Herschel**: Mimas and Enceladus (1789)
 - WC **Bond**, GP **Bond** and W **Lassell**: Hyperion in 1848
 - WHH Pickering: Phoebe (1899) – using photographic plates
- all by telescope



Moons of Saturn
8th November 2025 20:17
8" Reflector



Moons of Saturn
8th November 2025 20:18
8" Reflector

Titan

Tethys

Rhea
Dione



Saturn and Titan

21st - 22nd October 2025



Saturn Moons

The Saturn system teems with natural satellites, from planet-sized Titan to small oddballs, shaped like potatoes or ravioli.

Titan: **96%** of total lunar mass; Rhea, Iapetus, Dione, Tethys, Enceladus, Mimas: **4%**; rest: **0.04%**

<https://science.nasa.gov/saturn/moons/>

Saturn has 274 confirmed moons in its orbit, far more than any other planet in our solar system. In March 2025, astronomers confirmed the discovery of 128 small moons around Saturn — adding to the already large moon count.

Saturn's moons range in size from larger than the planet Mercury — the giant moon Titan — to as small as a sports arena. The small moon Enceladus has a global ocean under a thick, icy shell. Scientists have identified both moons as high-priority science destinations for future deep space missions.

Saturn: as seen from Space...



ESA - NASA/JPL-Caltech/Space Science Institute

Space missions to Saturn and its Moons

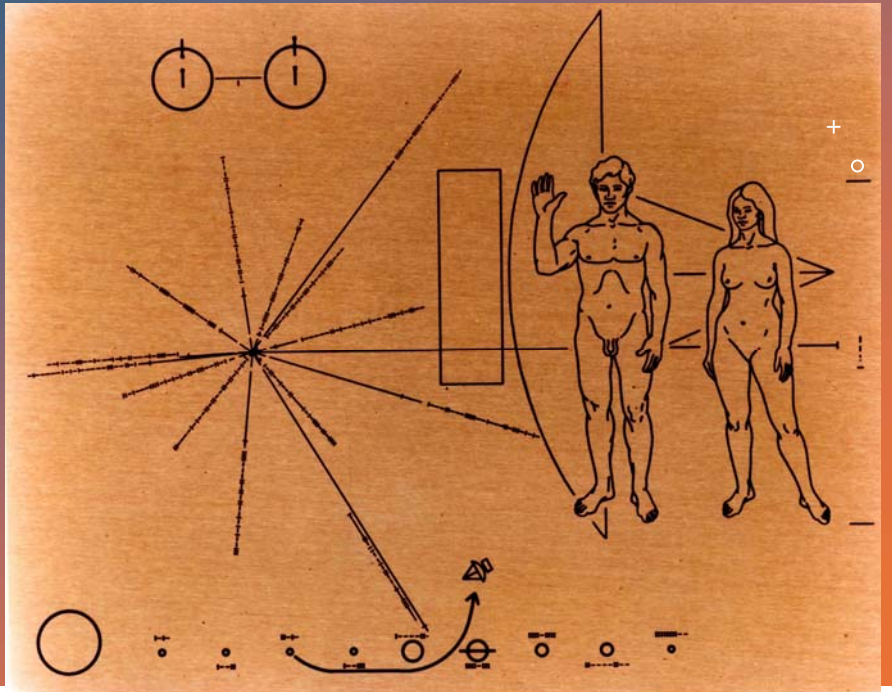
18th February 2026

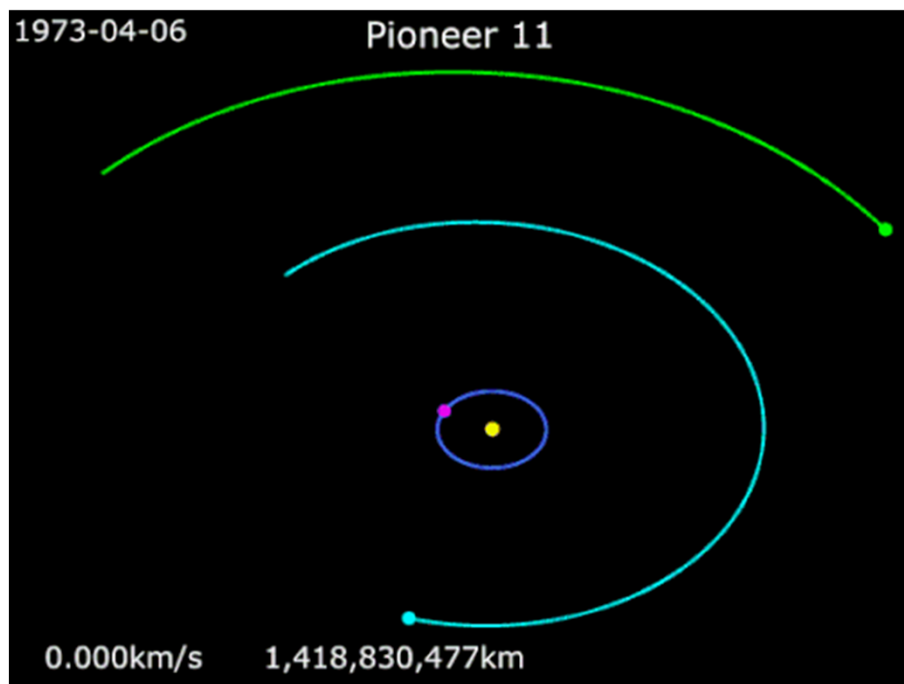
Fly-by
Missions

Pioneer
11(1979)

Voyagers 1 & 2
(1980 & 1981)

Pioneer
Plaque



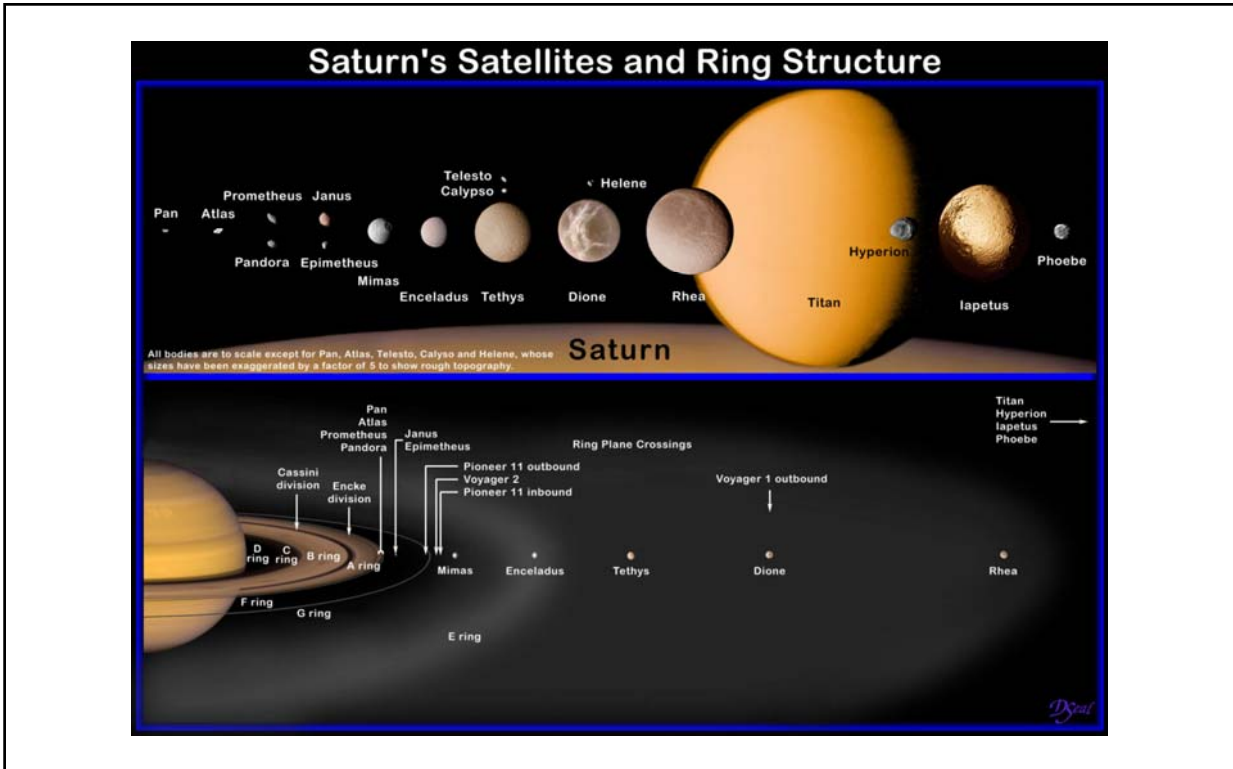


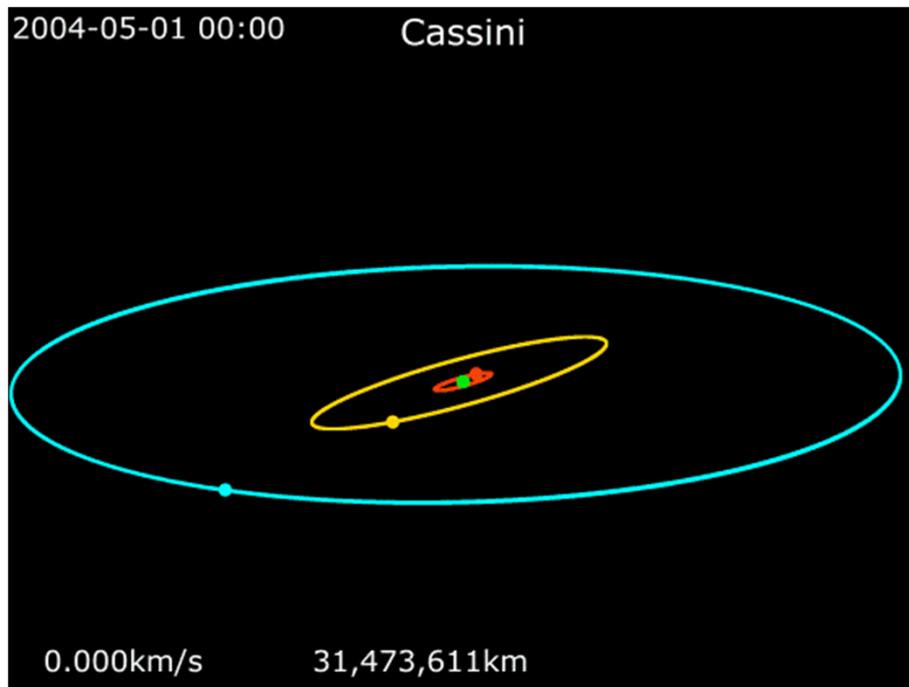


**Saturn
Orbiters**

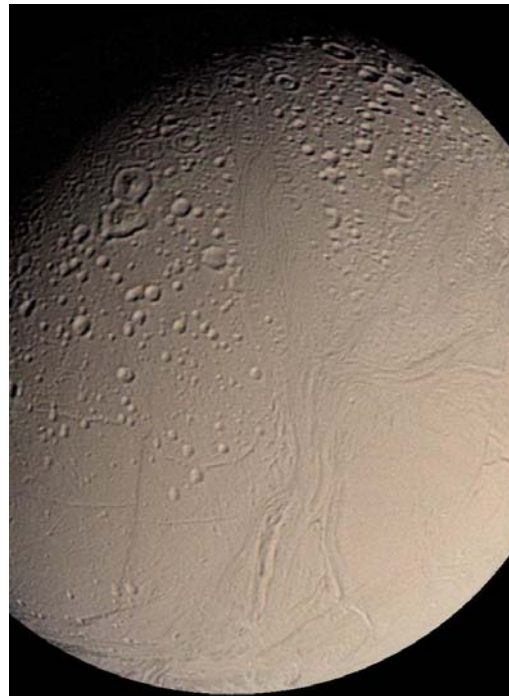
Cassini-
Huygens (2004-
2017)

Dragonfly
(2028) ??????

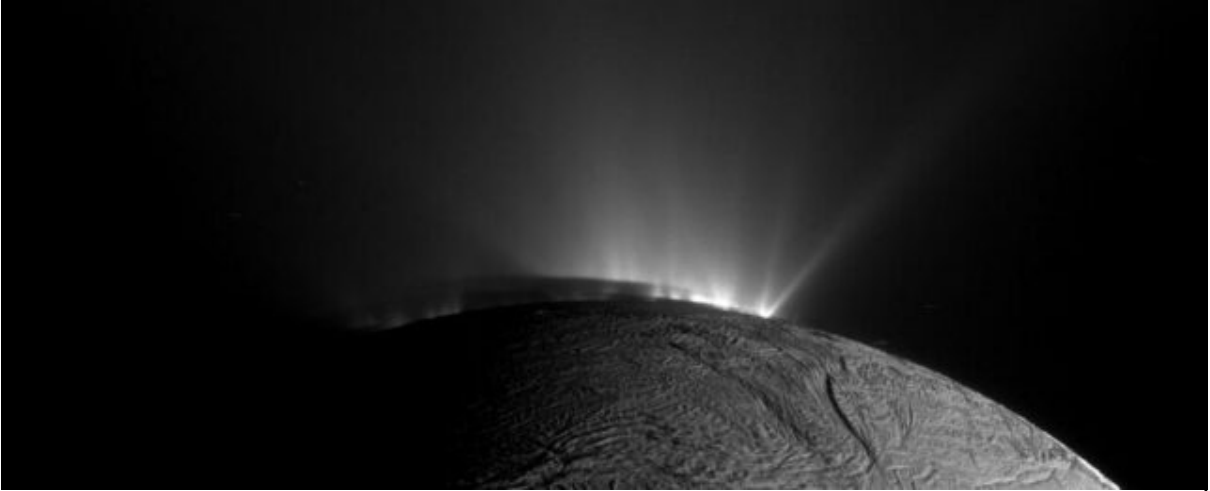




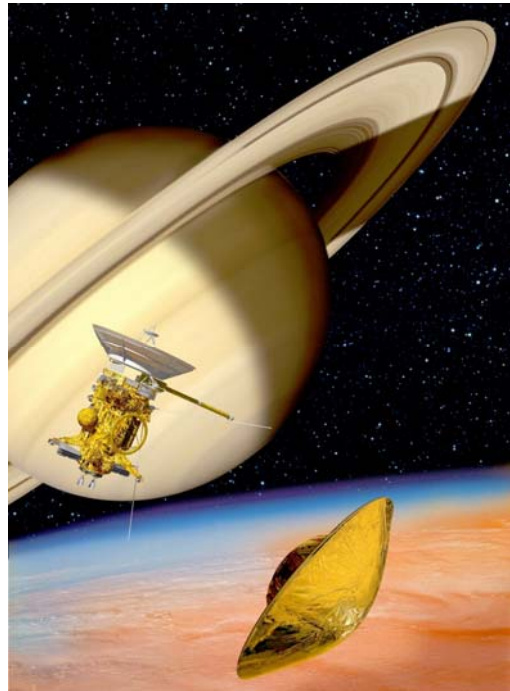
Cassini's encounter
with Enceladus

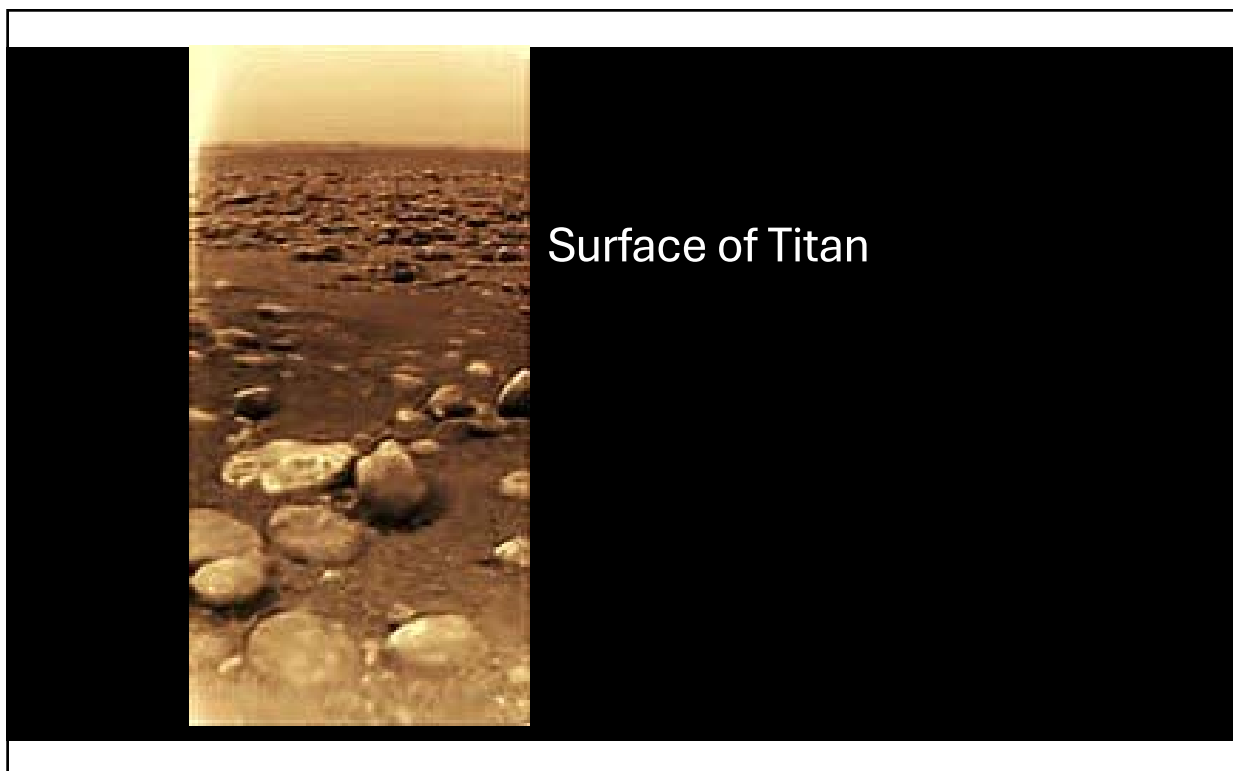
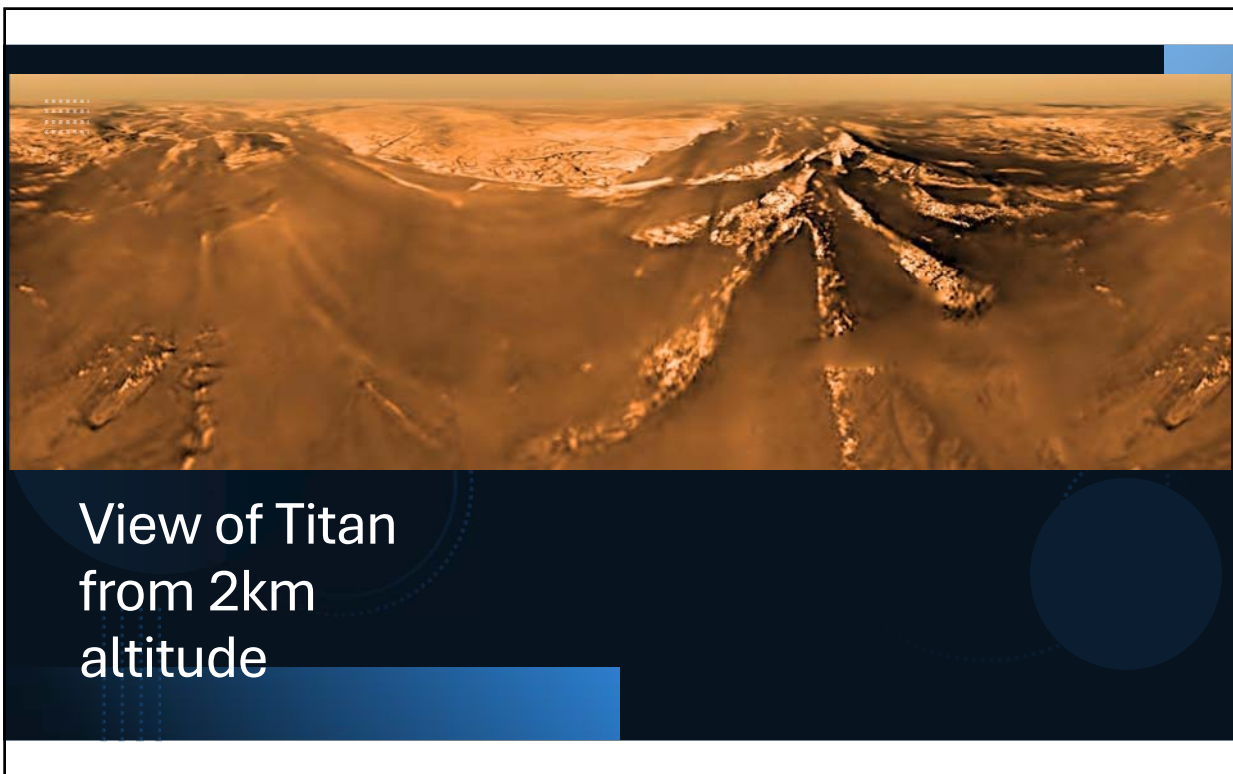


Volcanos of water from Enceladus

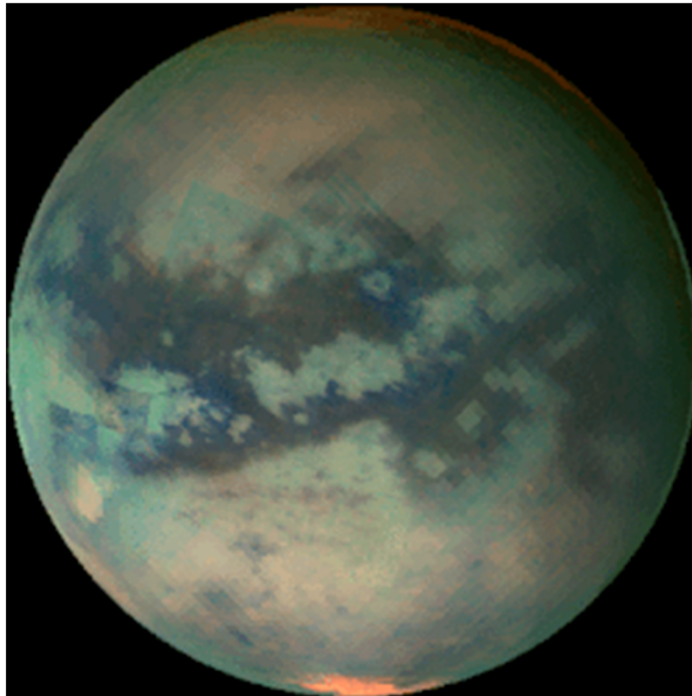
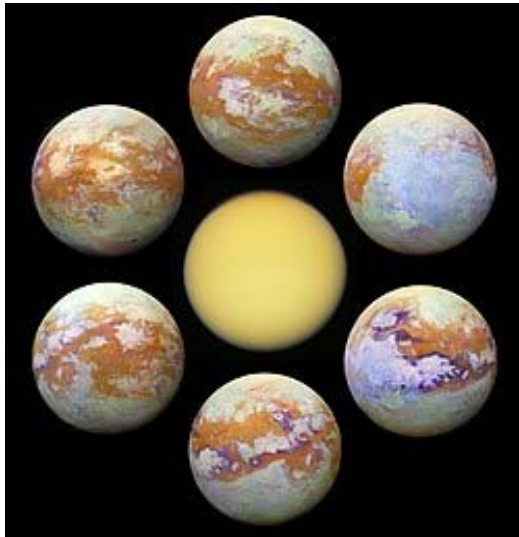


HUYGENS
descending to
TITAN





Titan viewed by Cassini
Visible light
& Infra-red



Grand Finale

