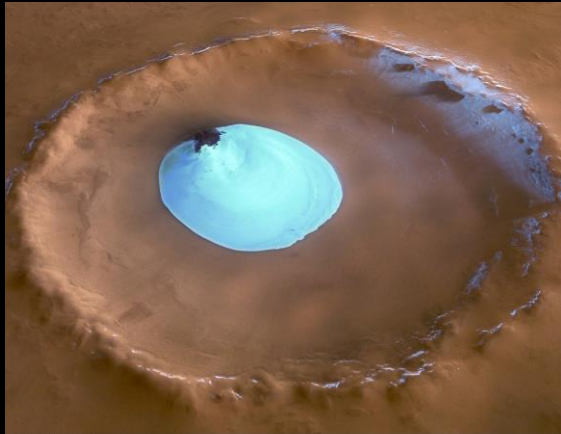




*L'eau dans le
système solaire*

La molécule d'eau est la deuxième molécule la plus abondante de l'Univers.



© ESA/DLR/FU Berlin (G. Neukum)



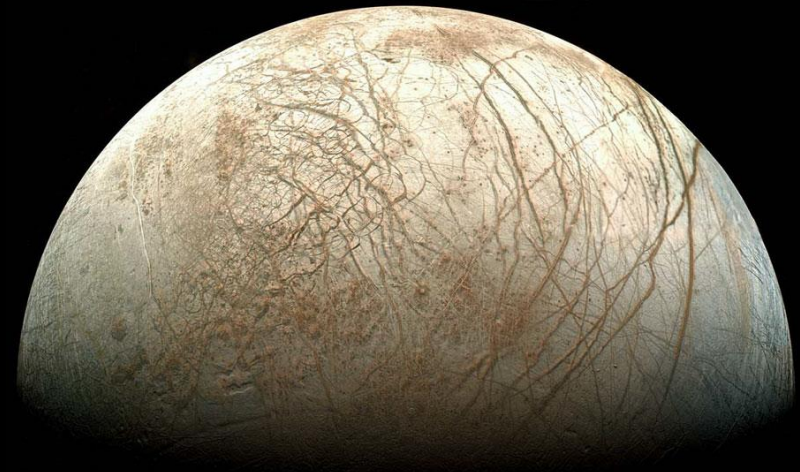
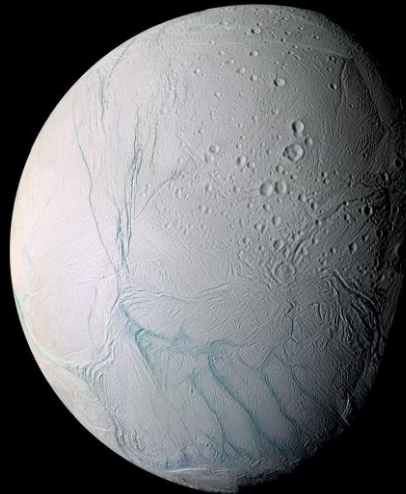
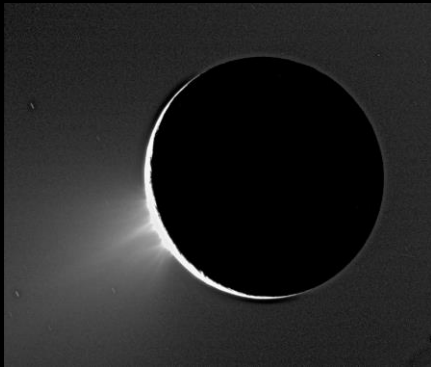
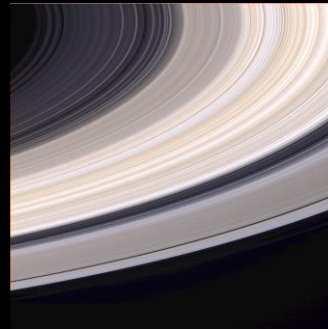
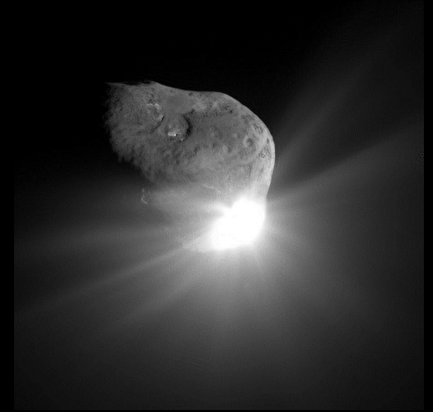
Octobre 1996

Janvier 1997

Mars 1997

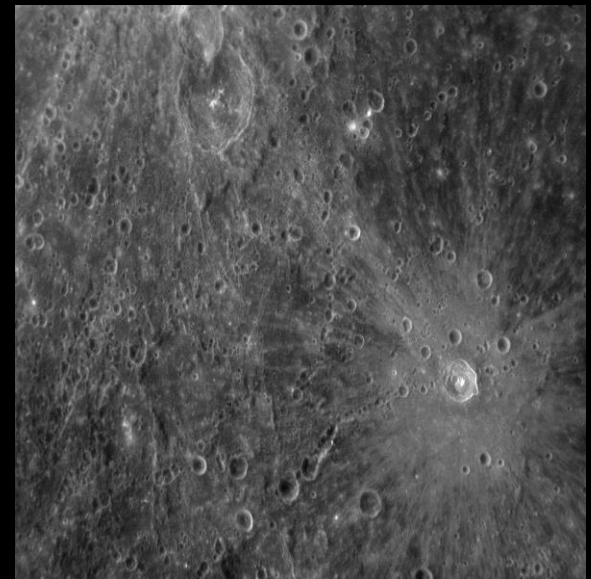
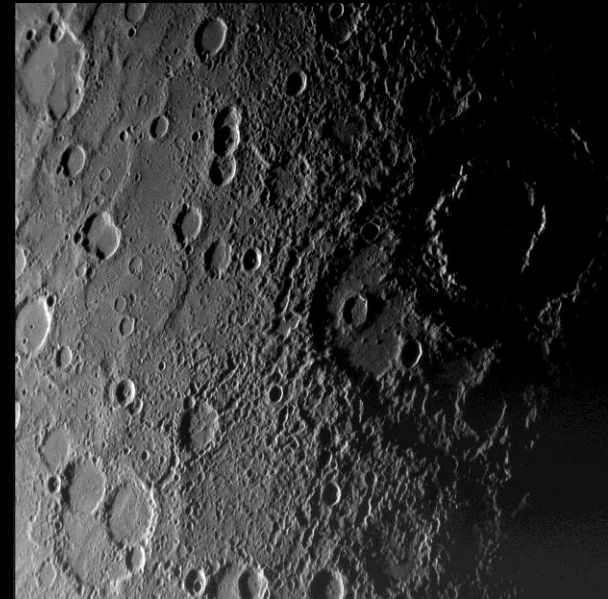
Calotte polaire Nord

HST WFPC2

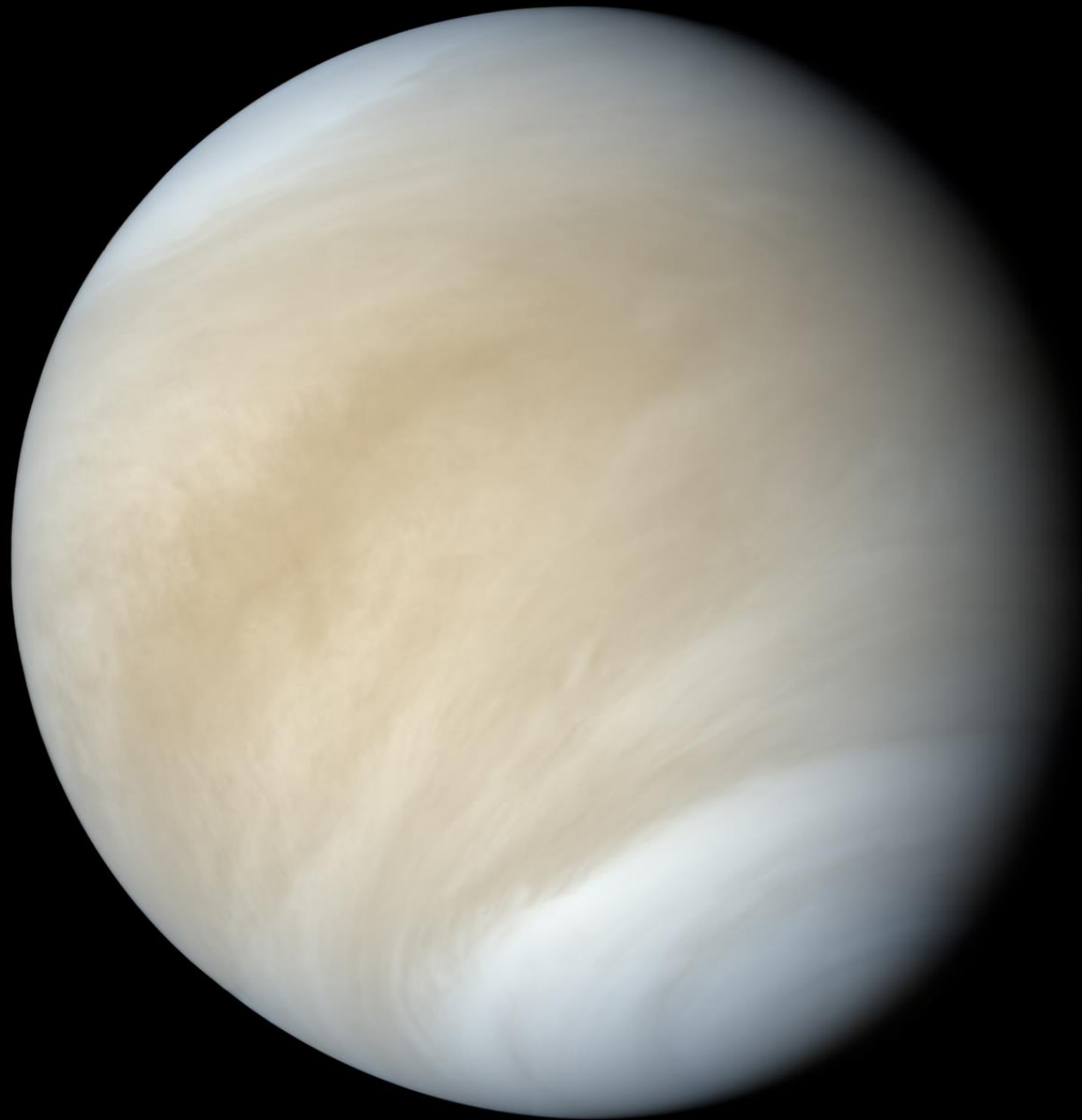




Il y a 4.6 milliards d'années, dans la nébuleuse primitive, l'eau est présente en grande quantité.

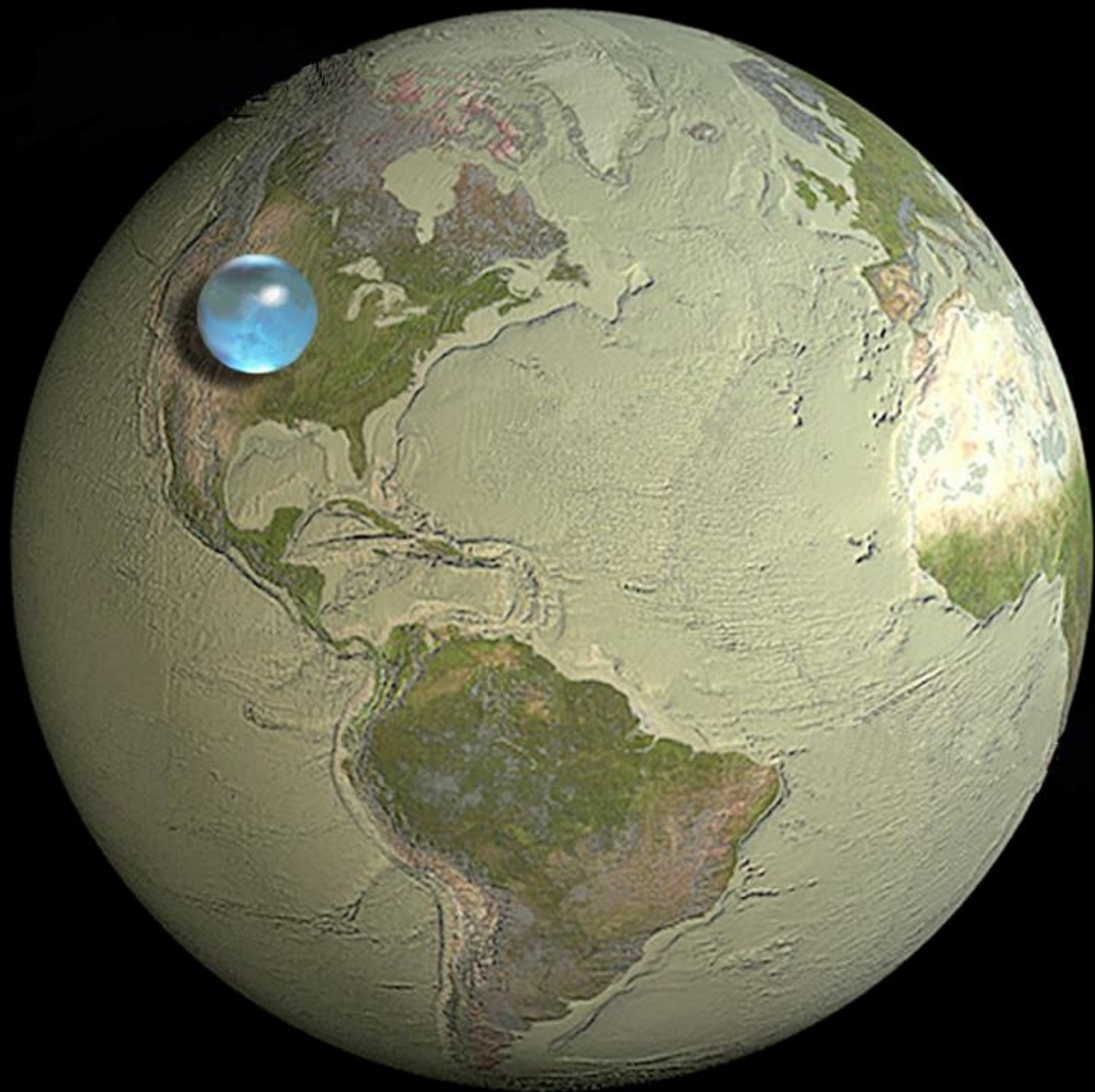
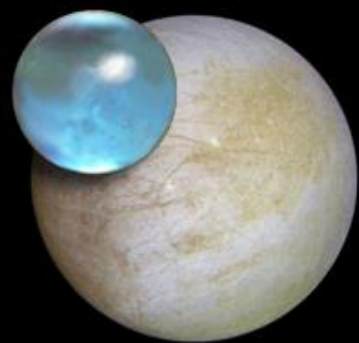


Au fond de certains cratères, près des pôles, qui ne voient jamais le Soleil, il y a peut-être de la glace d'eau.



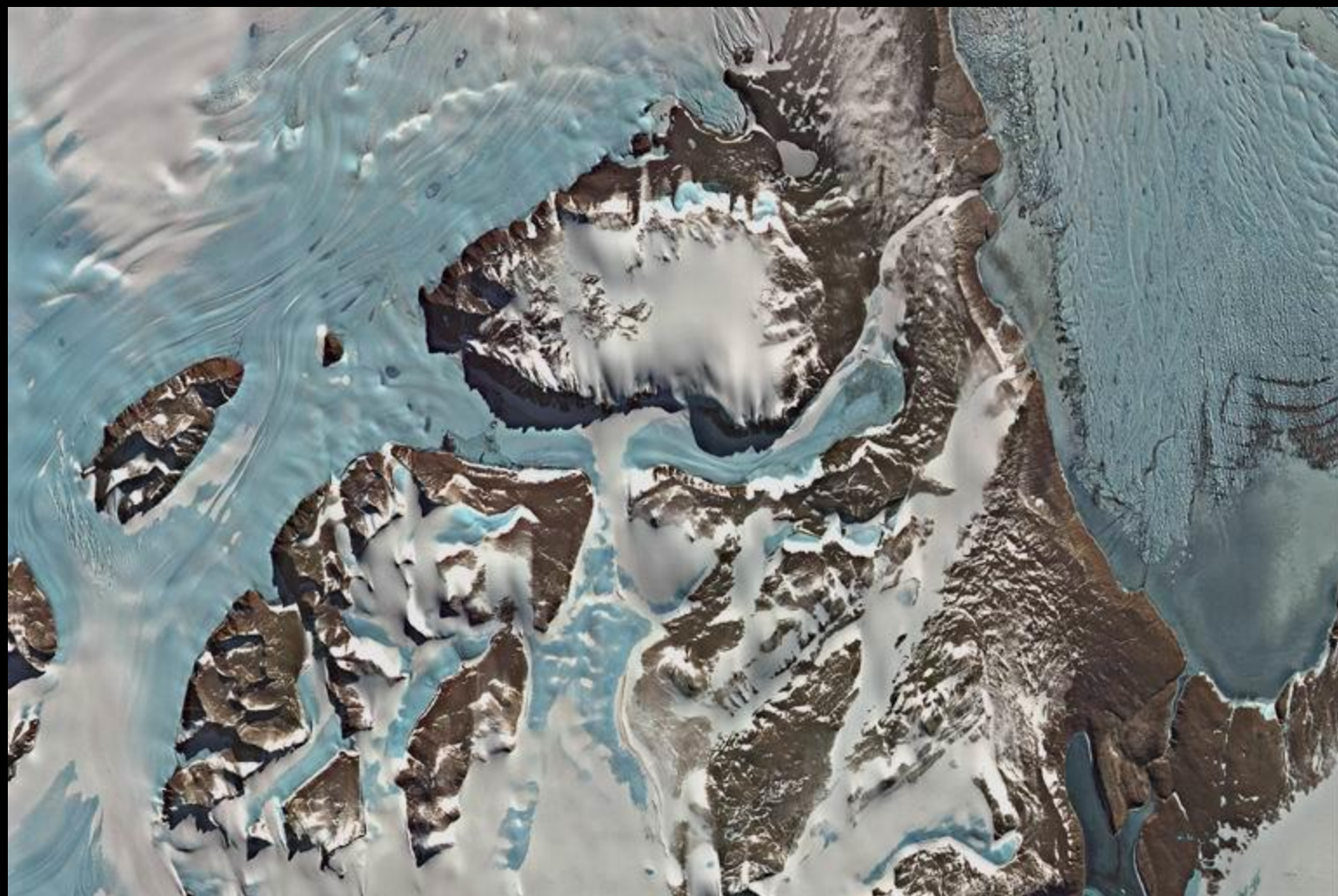
Présence de vapeur d'eau dans l'atmosphère : 0.0020 % !



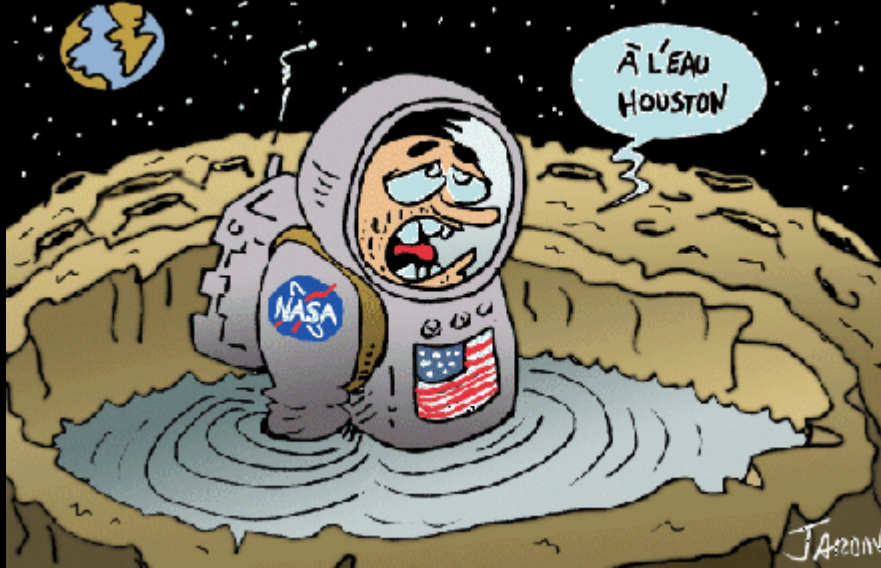






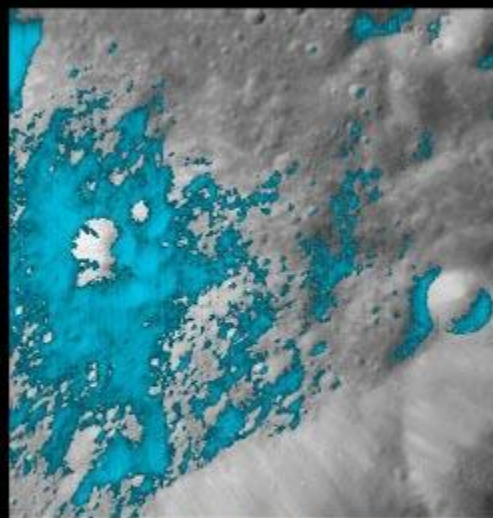


La NASA a trouvé de l'eau sur la Lune !!!



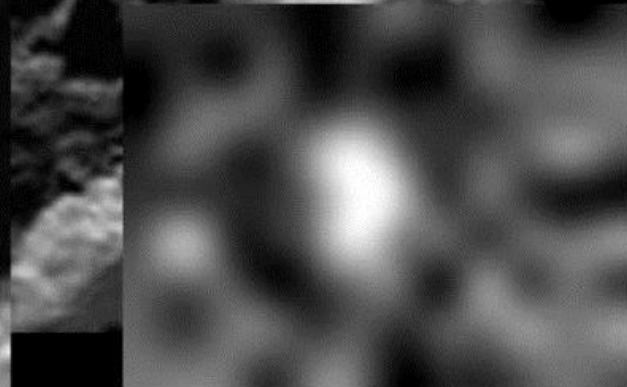
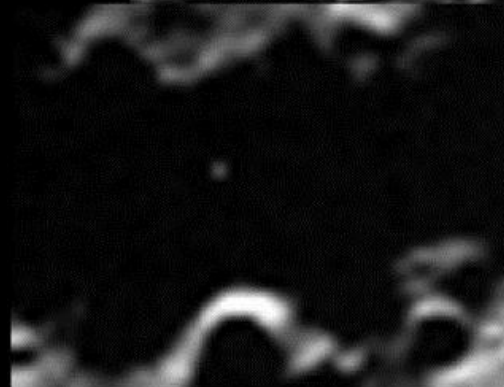
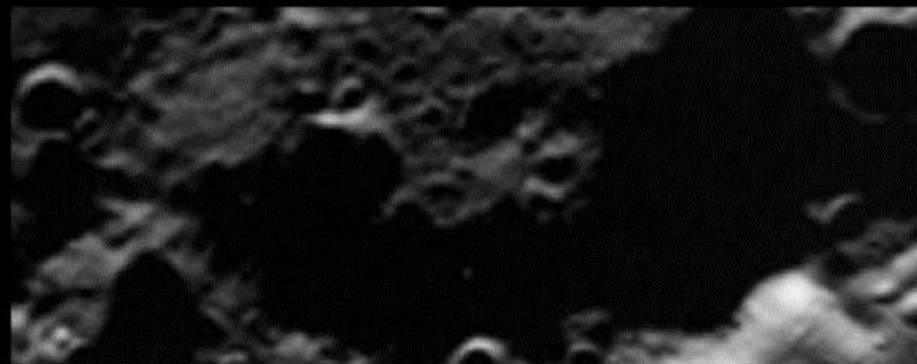
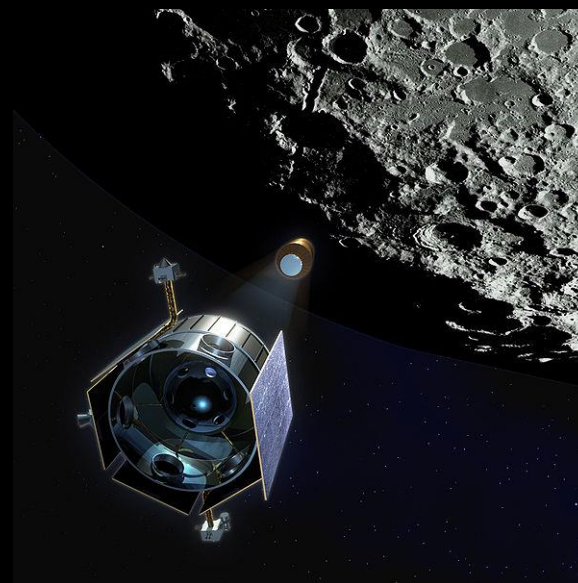


Infrared Reflectance



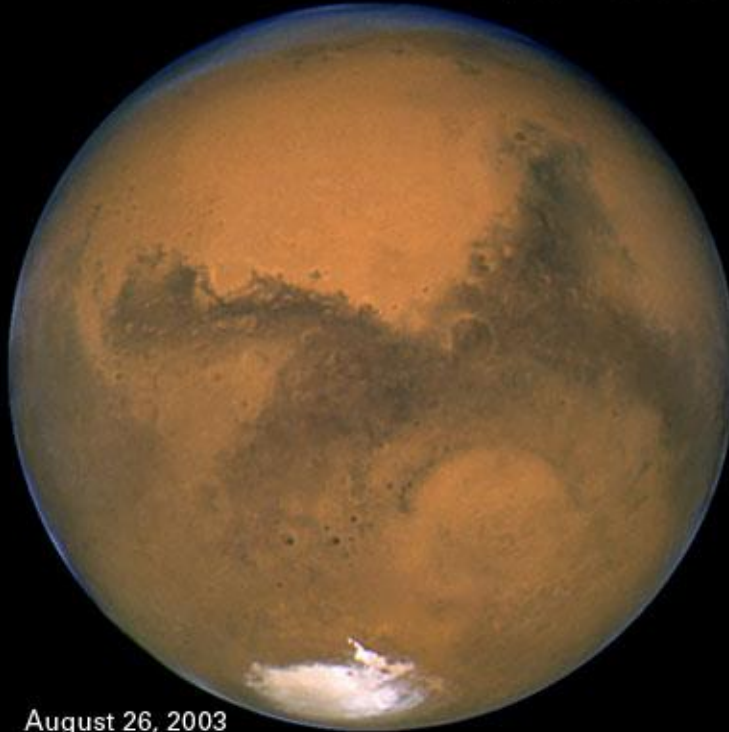
Blue = water absorption strength
on Infrared Reflectance

Chandrayaan-1 Moon Mineralogy Mapper



Le 9 octobre 2009, la sonde
LCROSS, observe l'impact
d'un étage de fusée
Centaur. Résultat, dégazage
d'un nuage de vapeur d'eau,
équivalent à 70 à 100 l
d'eau.

2003 Mars Closest Approach



August 26, 2003
23:00 UT



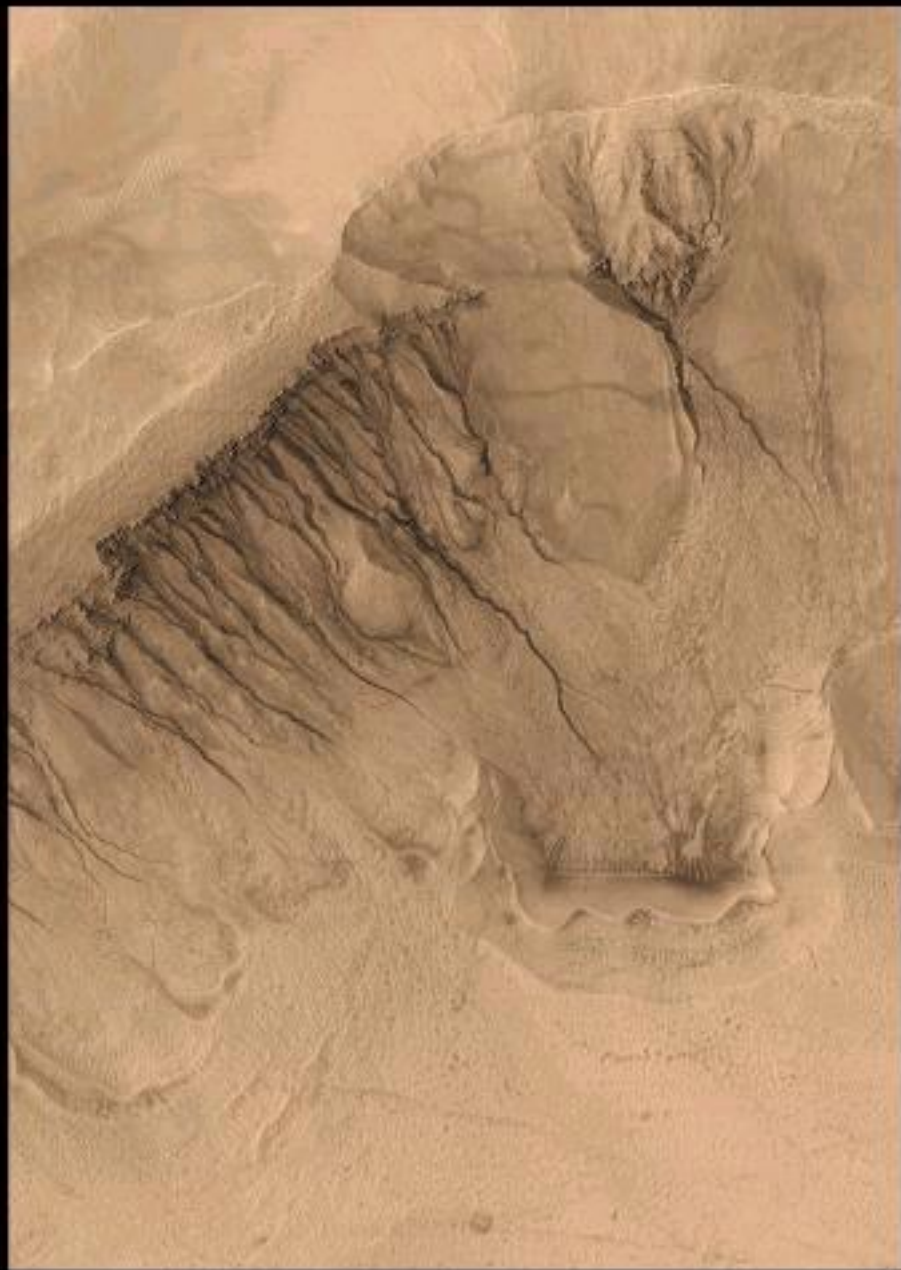
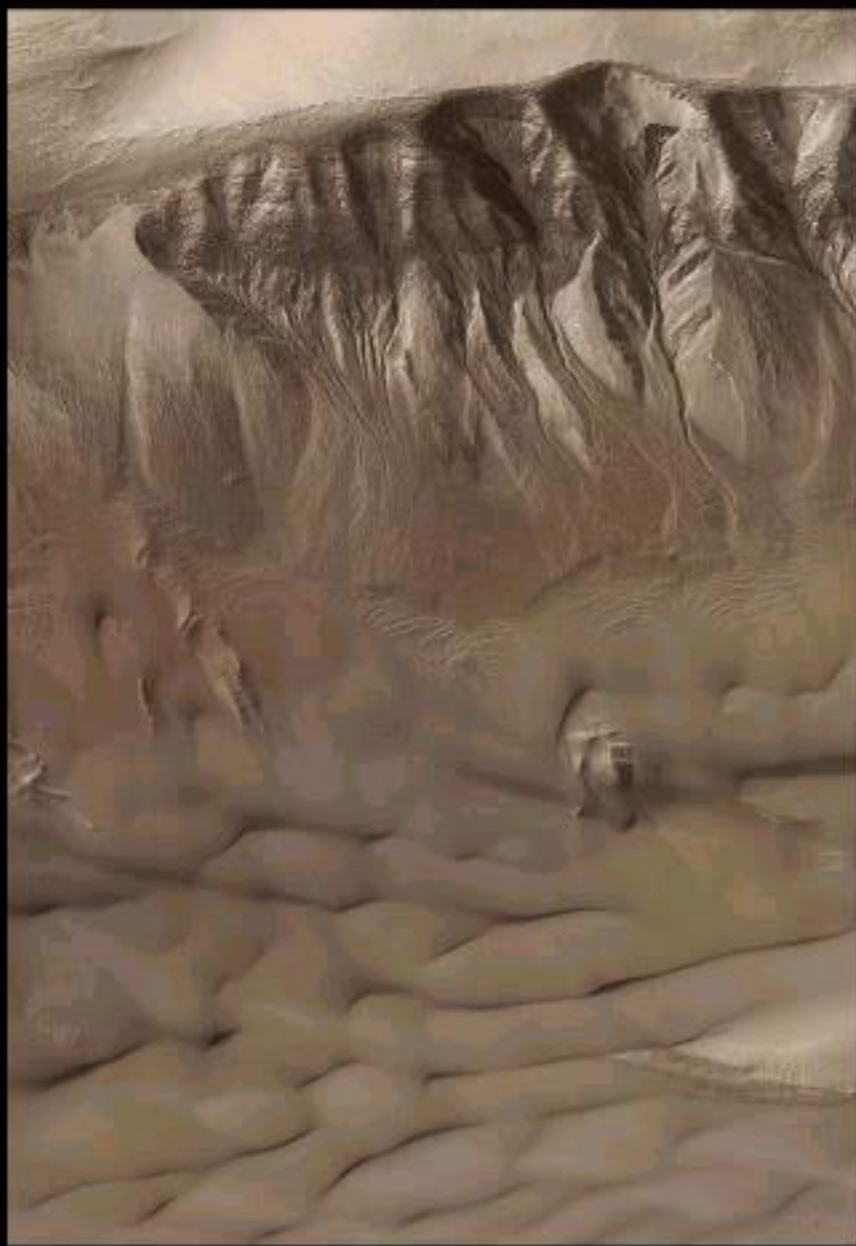
August 27, 2003
10:00 UT

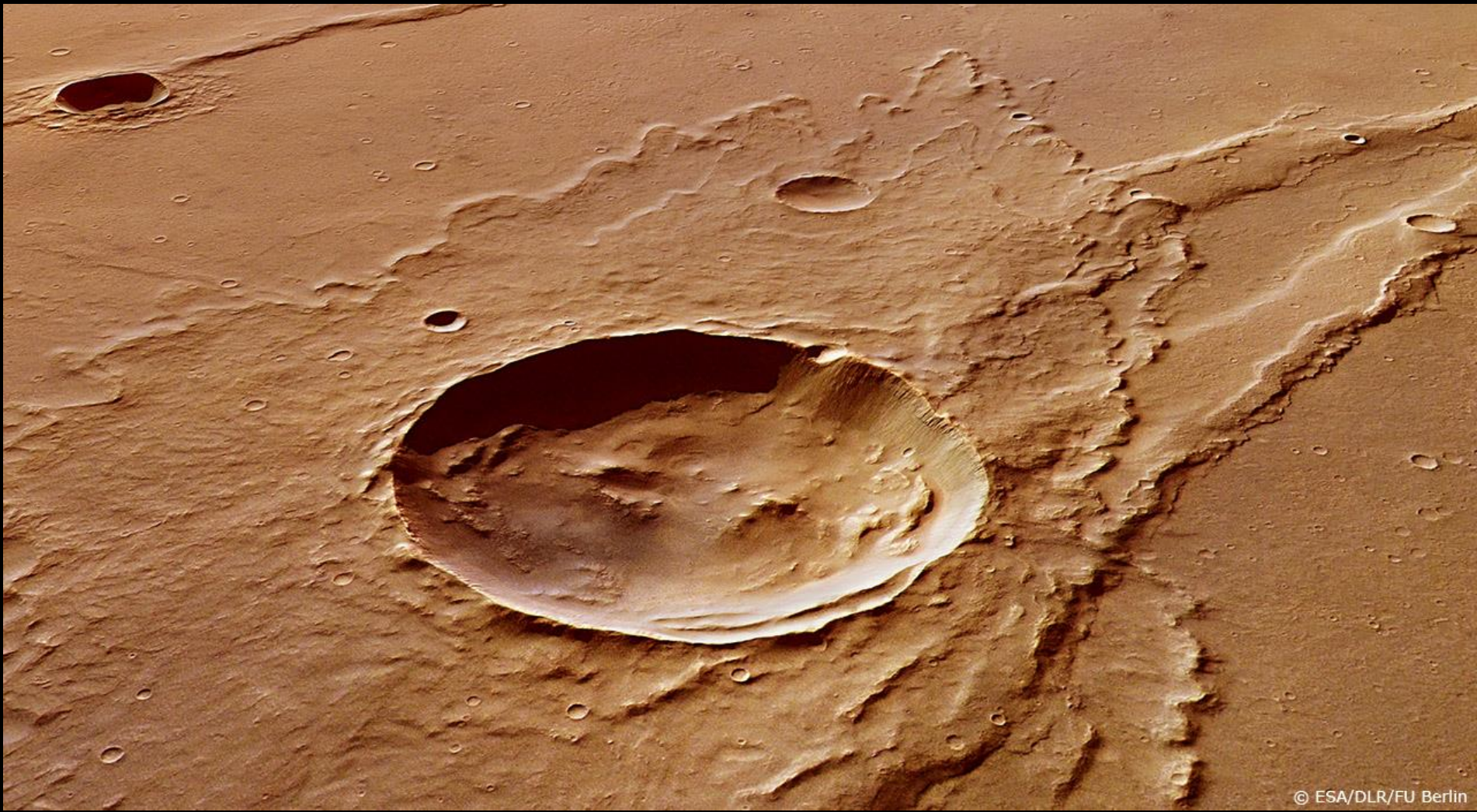
Hubble Space Telescope • WFPC2

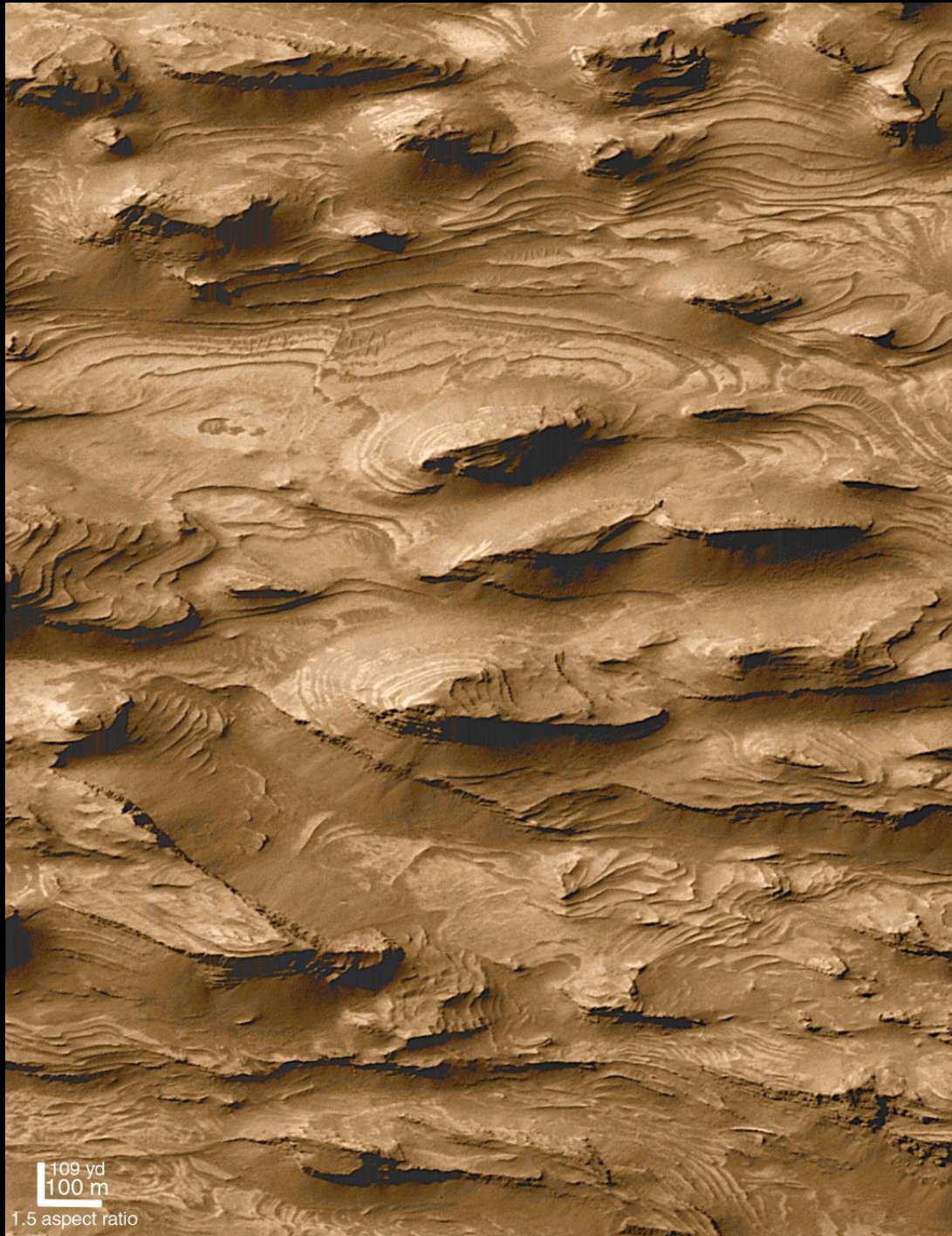
NASA, J. Bell (Cornell University) and M. Wolff (Space Science Institute)
STScI-PRC03-22a

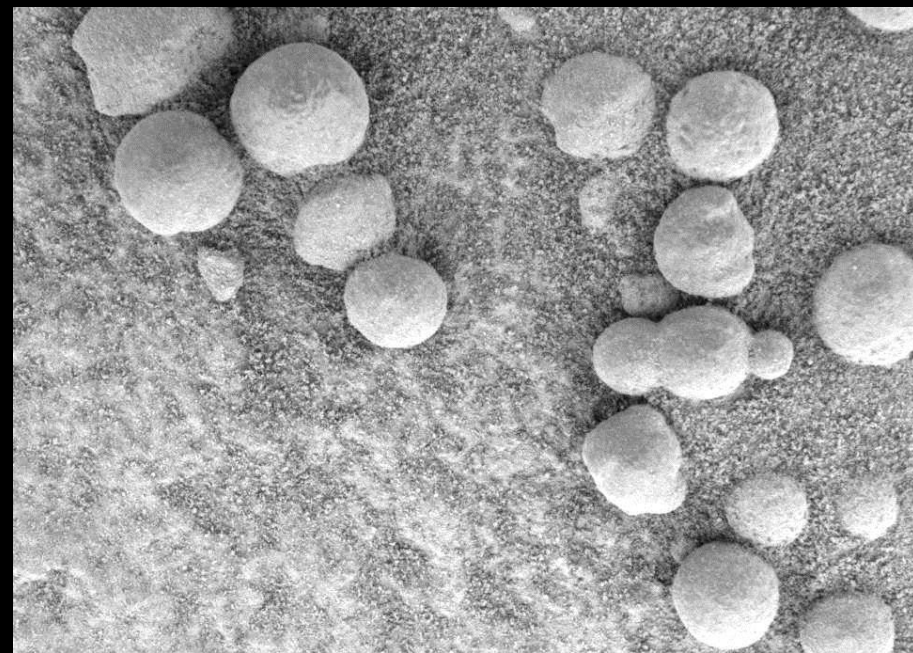
La teneur en vapeur d'eau dans l'atmosphère martienne est de 0.021%.

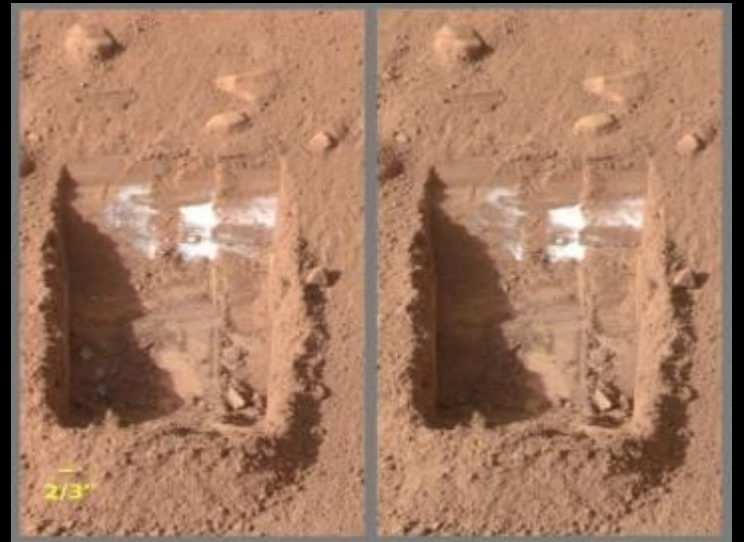
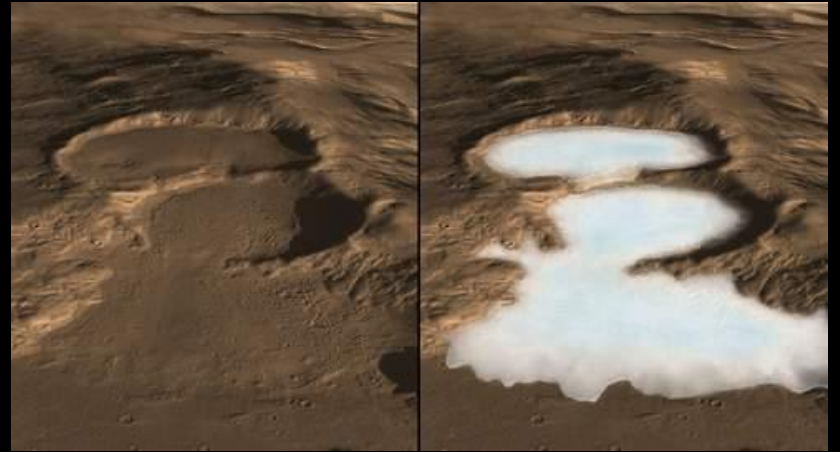
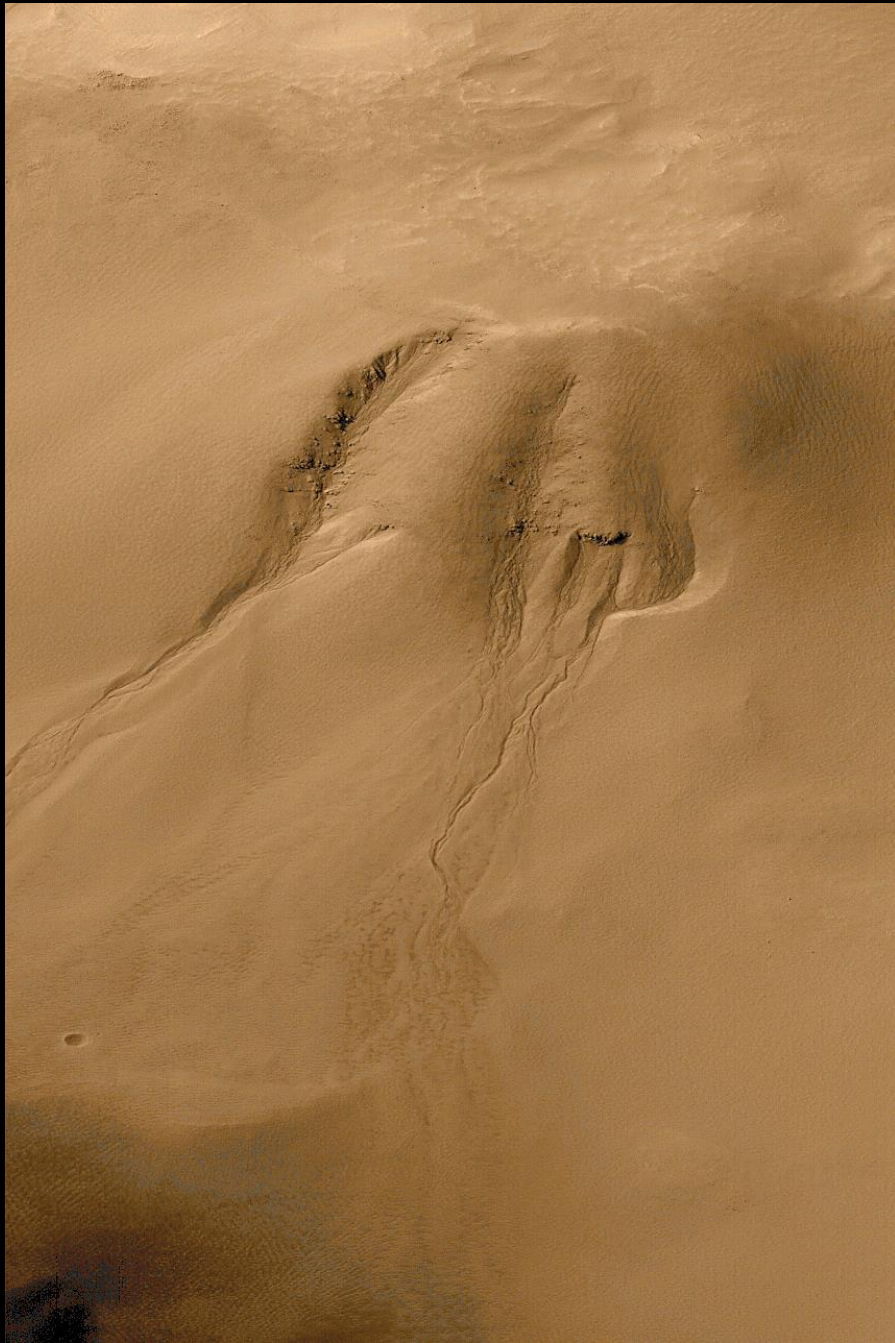




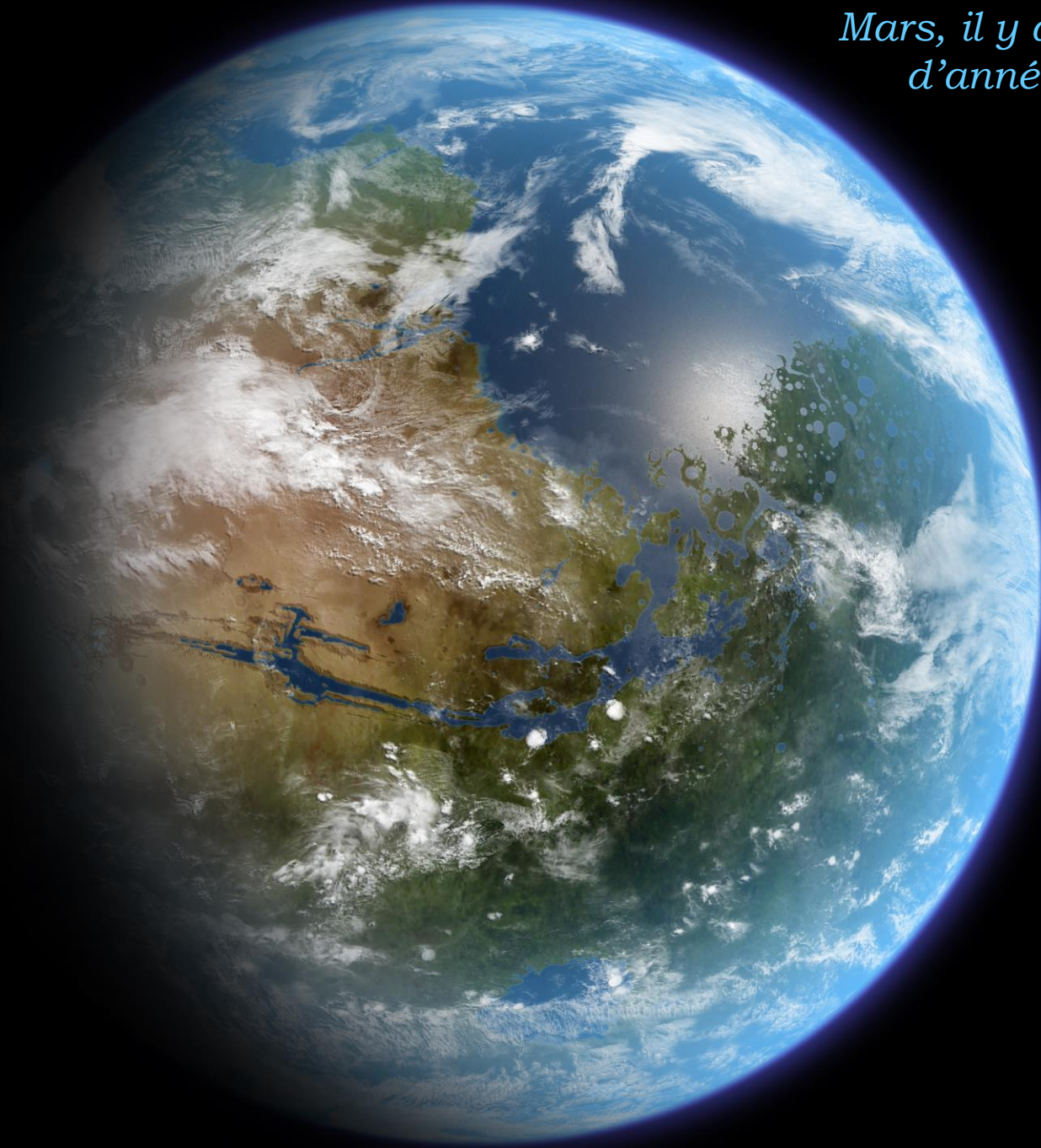


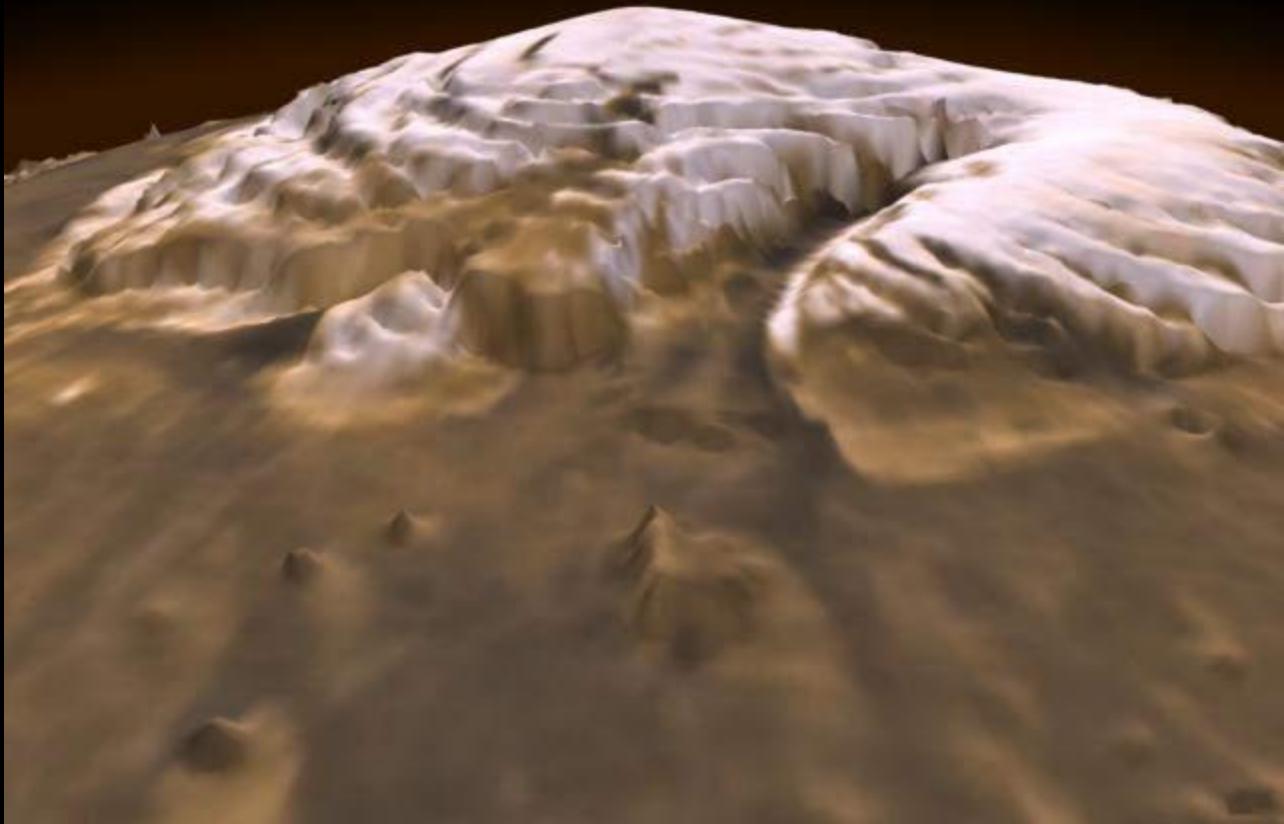


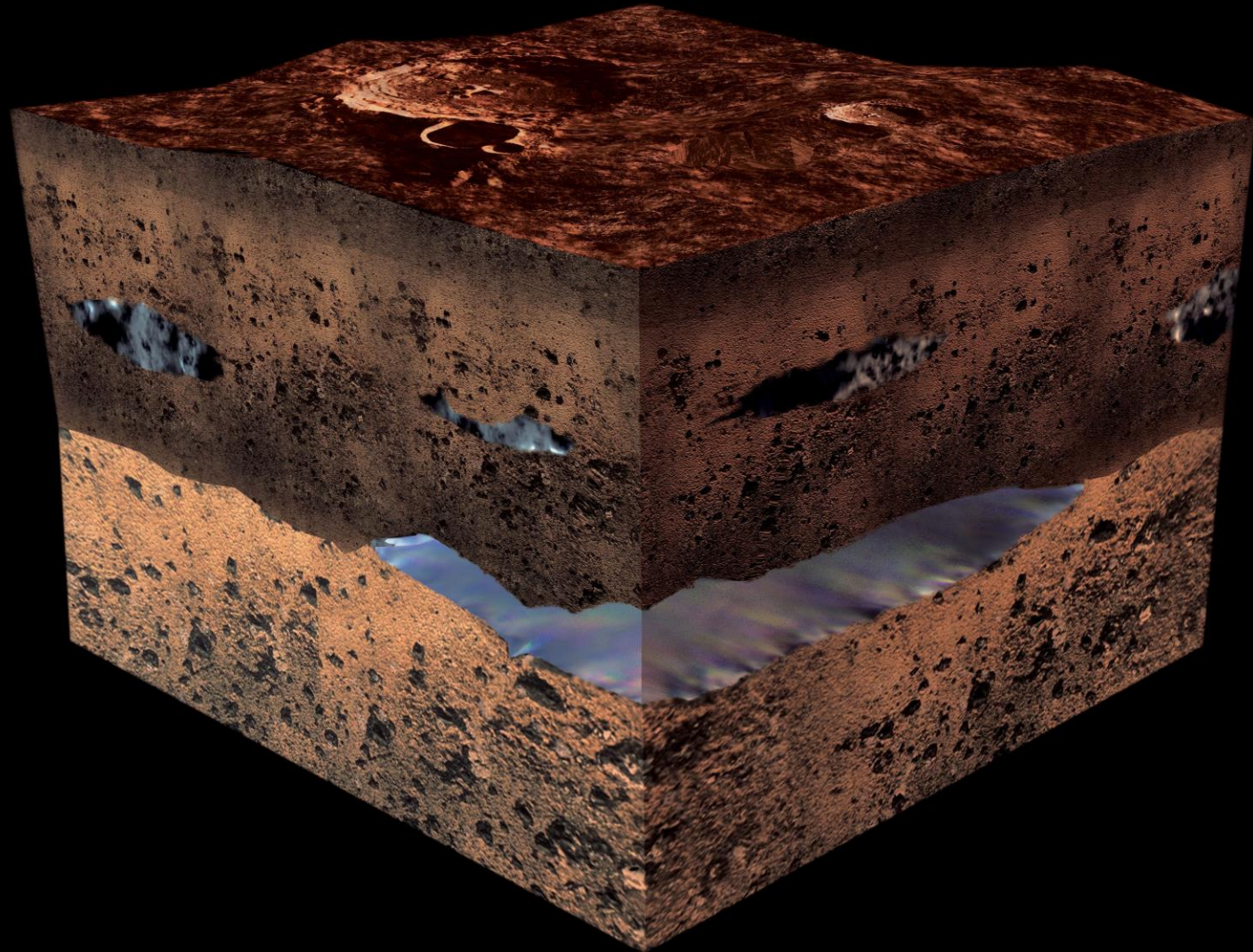


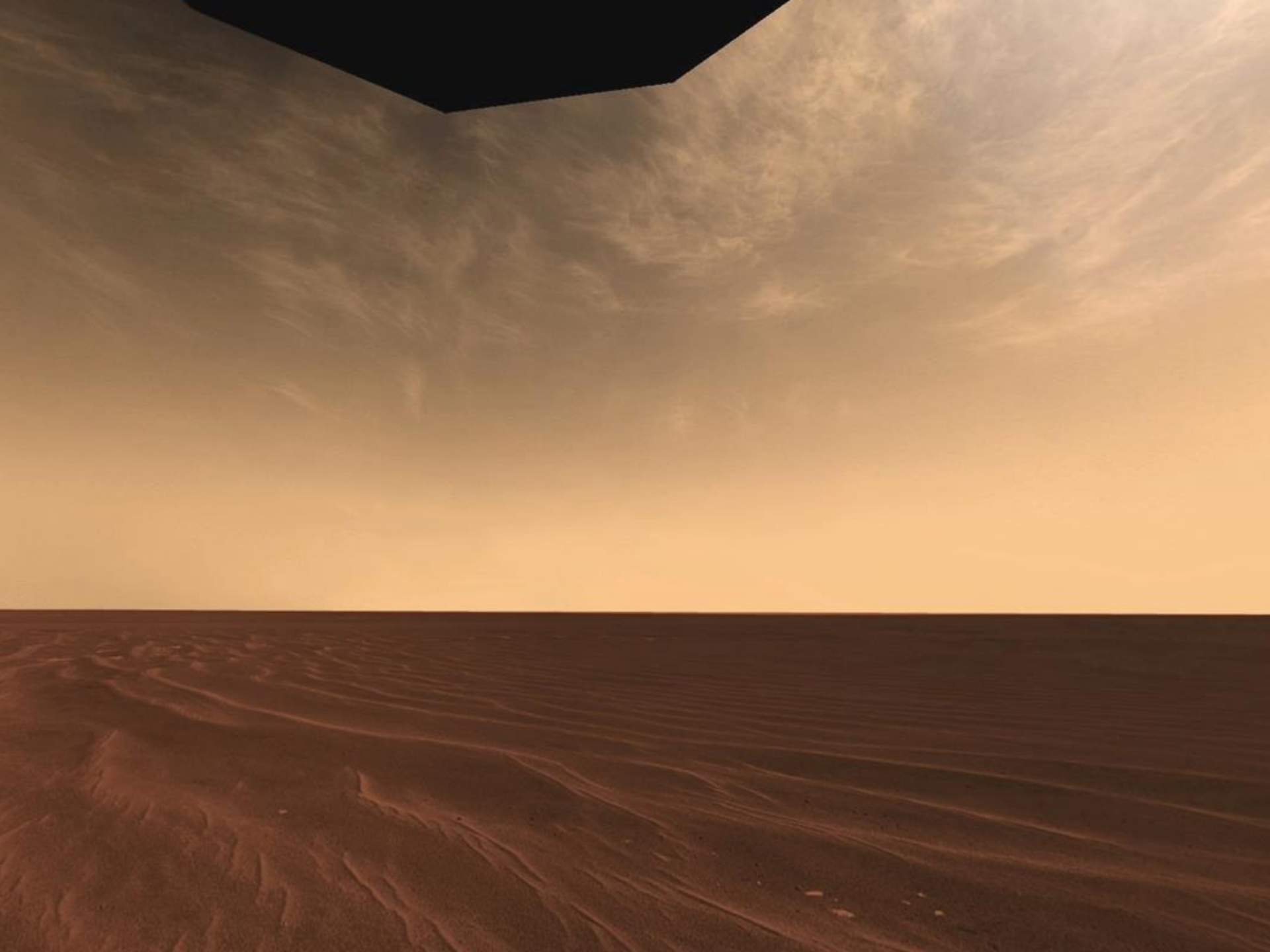


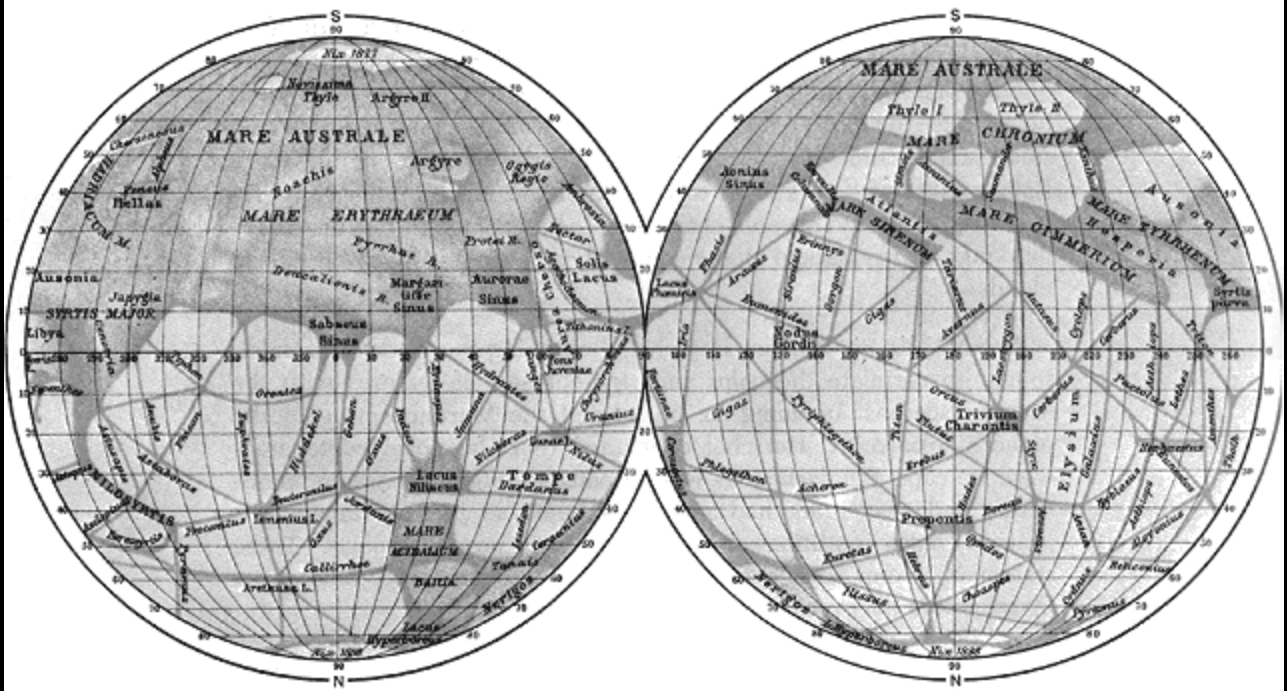
*Mars, il y a 4 milliards
d'années ?????*



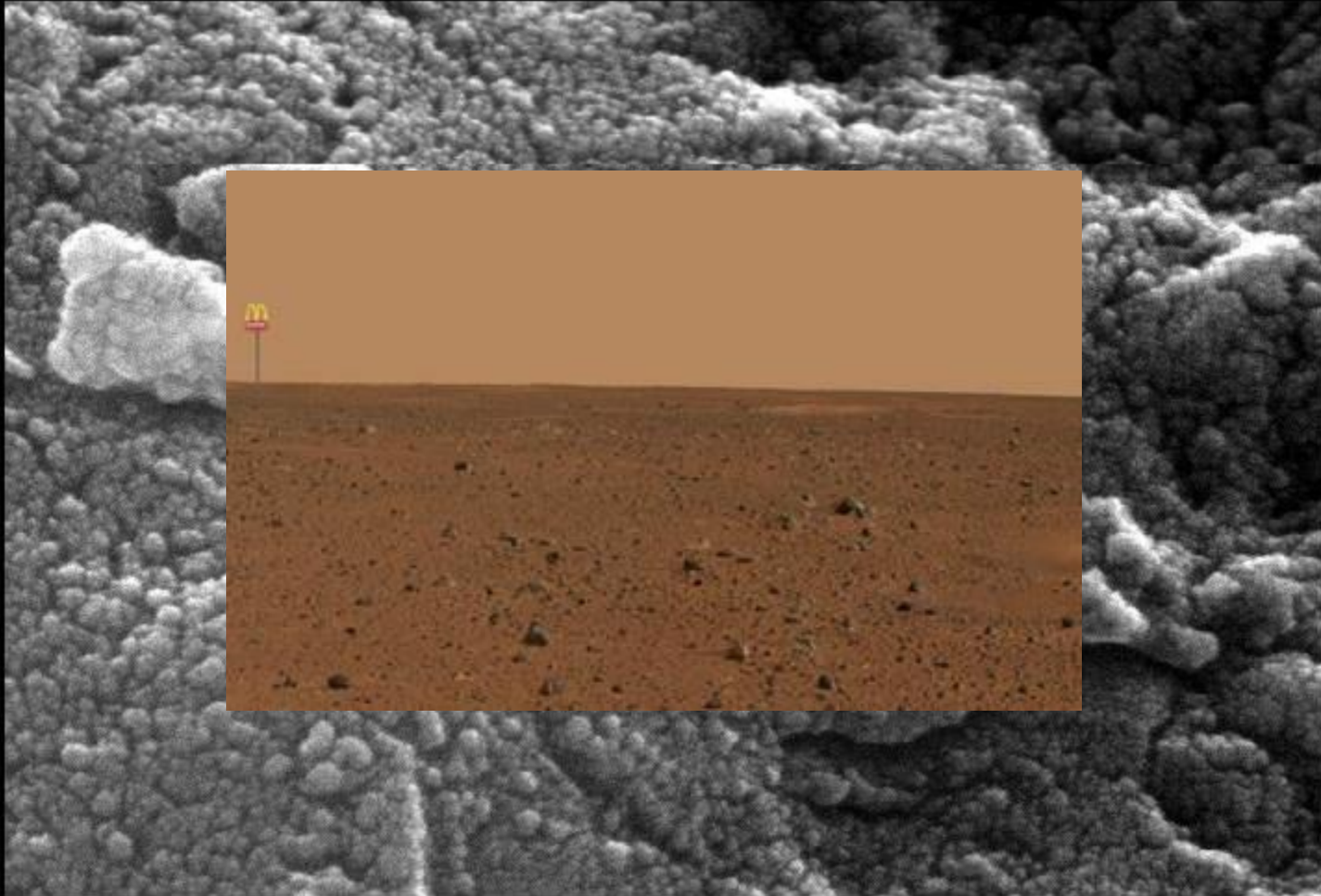


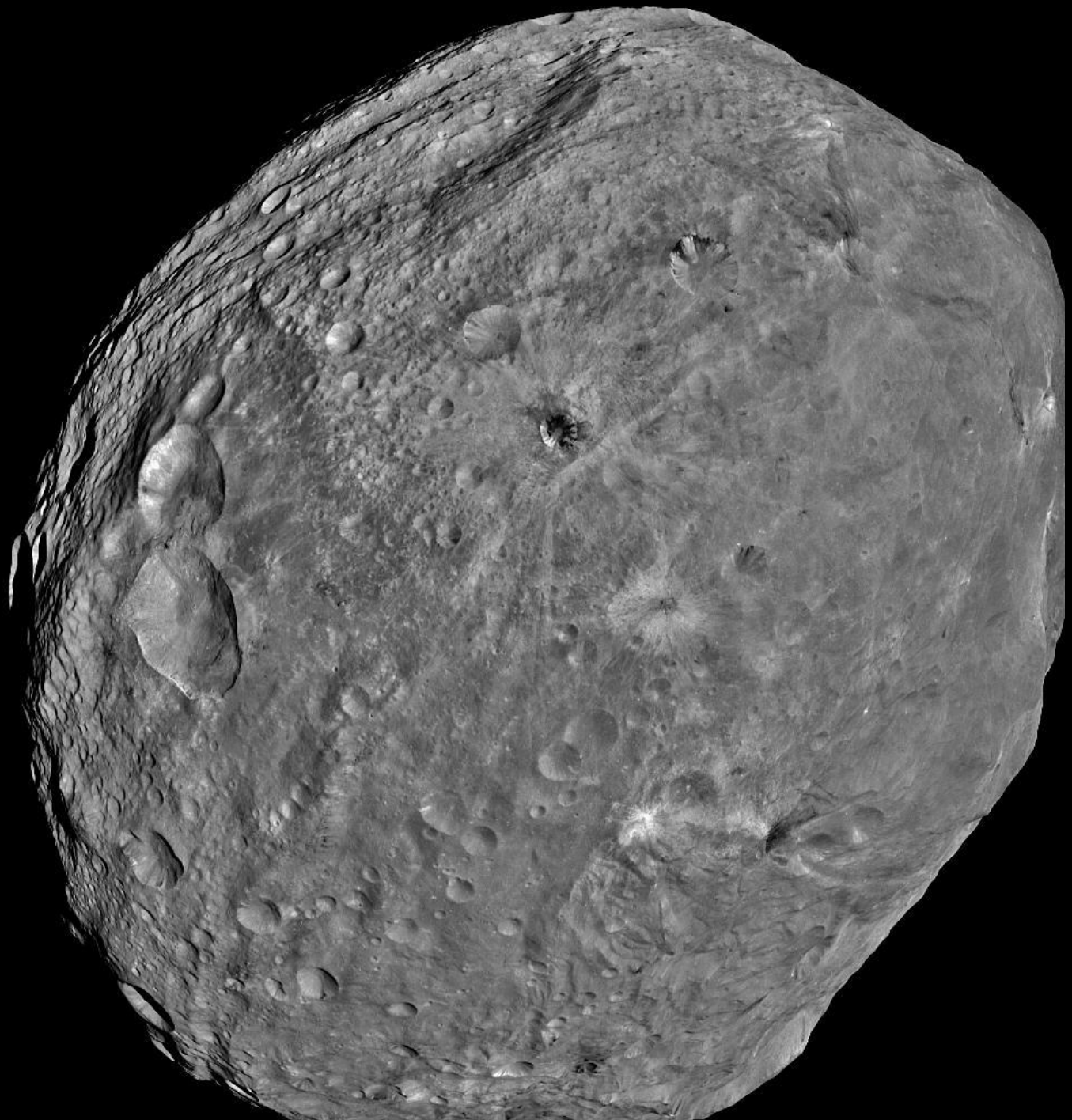


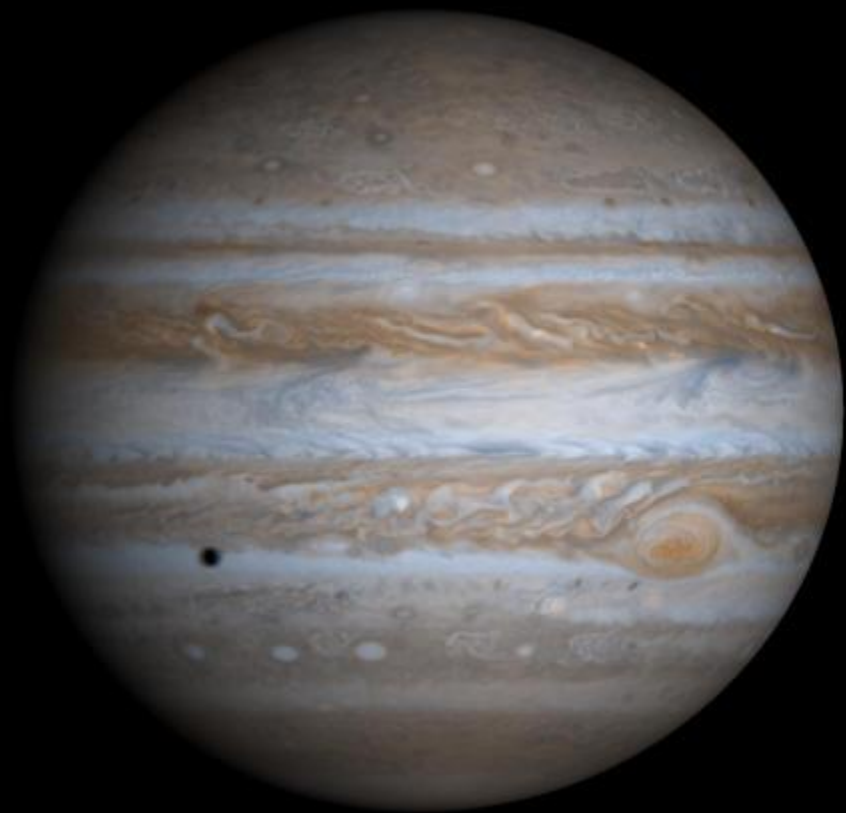




météorite ALH84001 - inclusions fossiles







les satellites galiléens de Jupiter

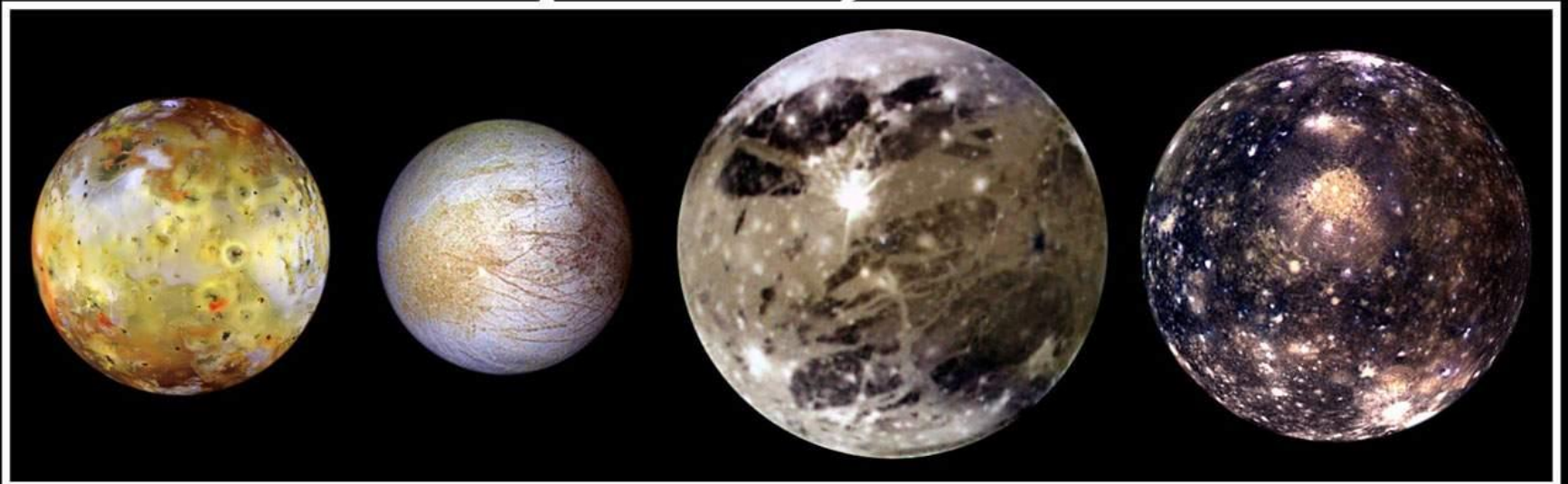


Io

Europe

Ganymède

Callisto

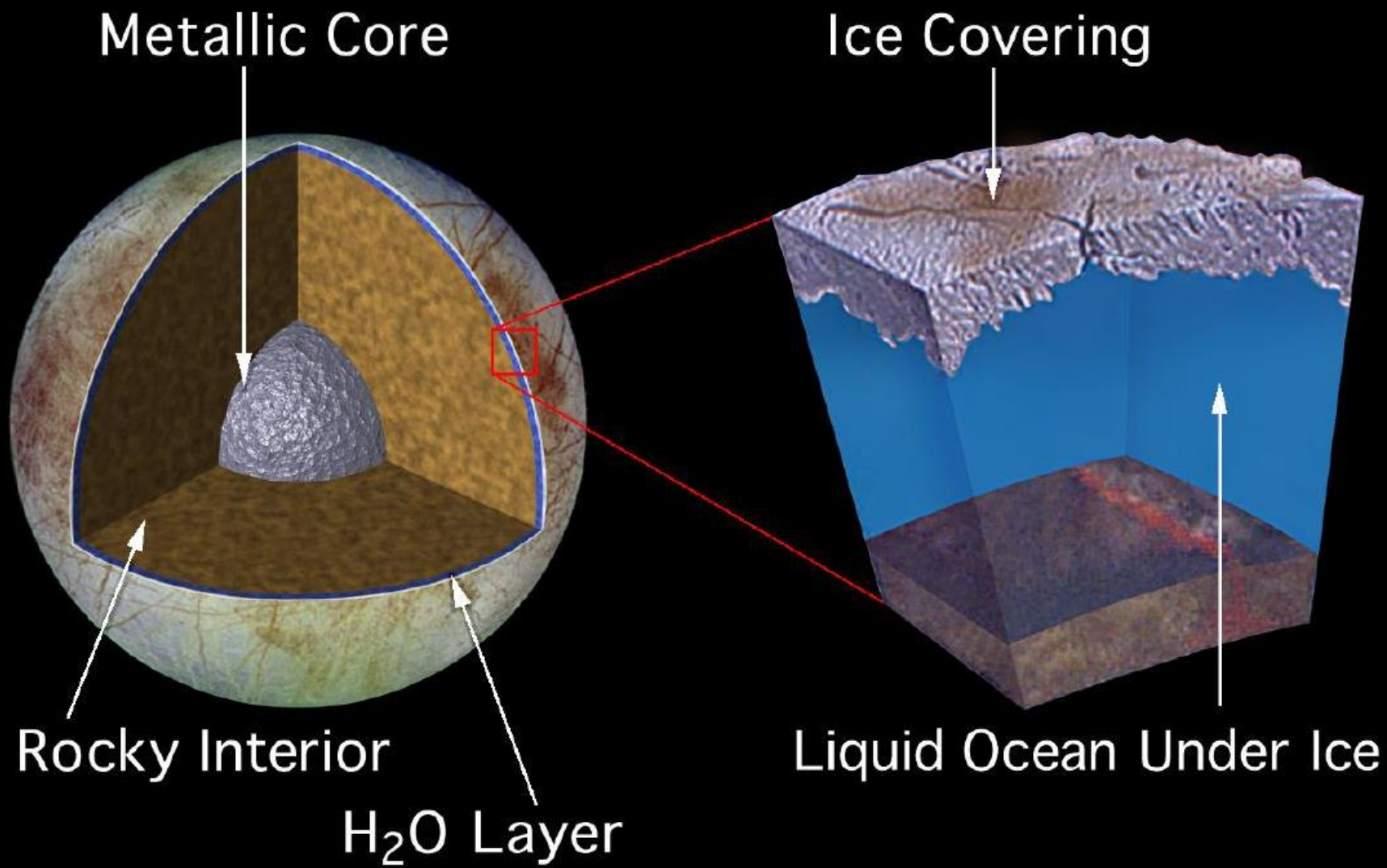


3630 km

3138 km

5262 km

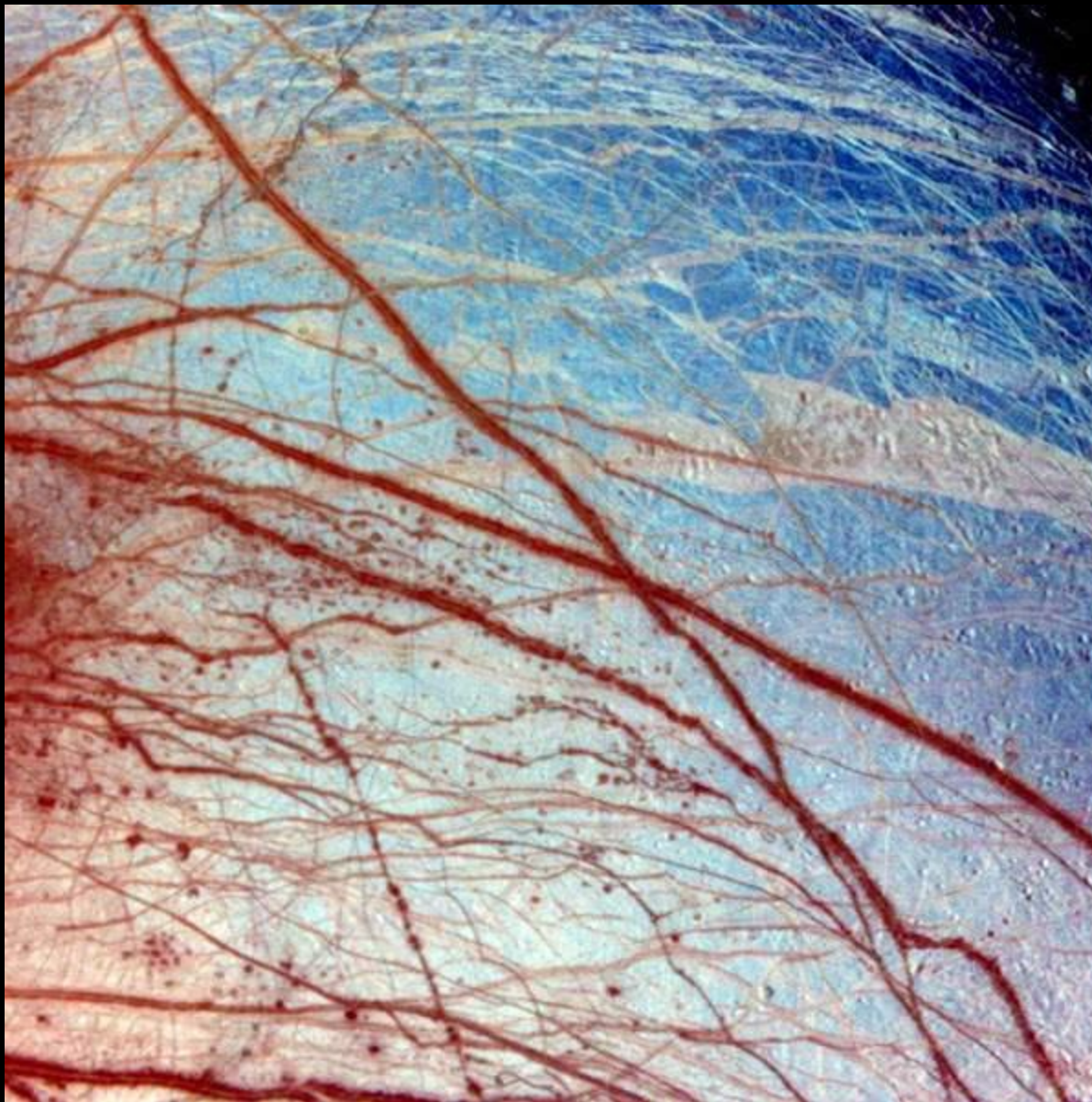
4800 km



zone de fractures sur Europe
région Conamara - proche du cratère Pwyll
(1000 km au sud)



bande de 70 x 30 km

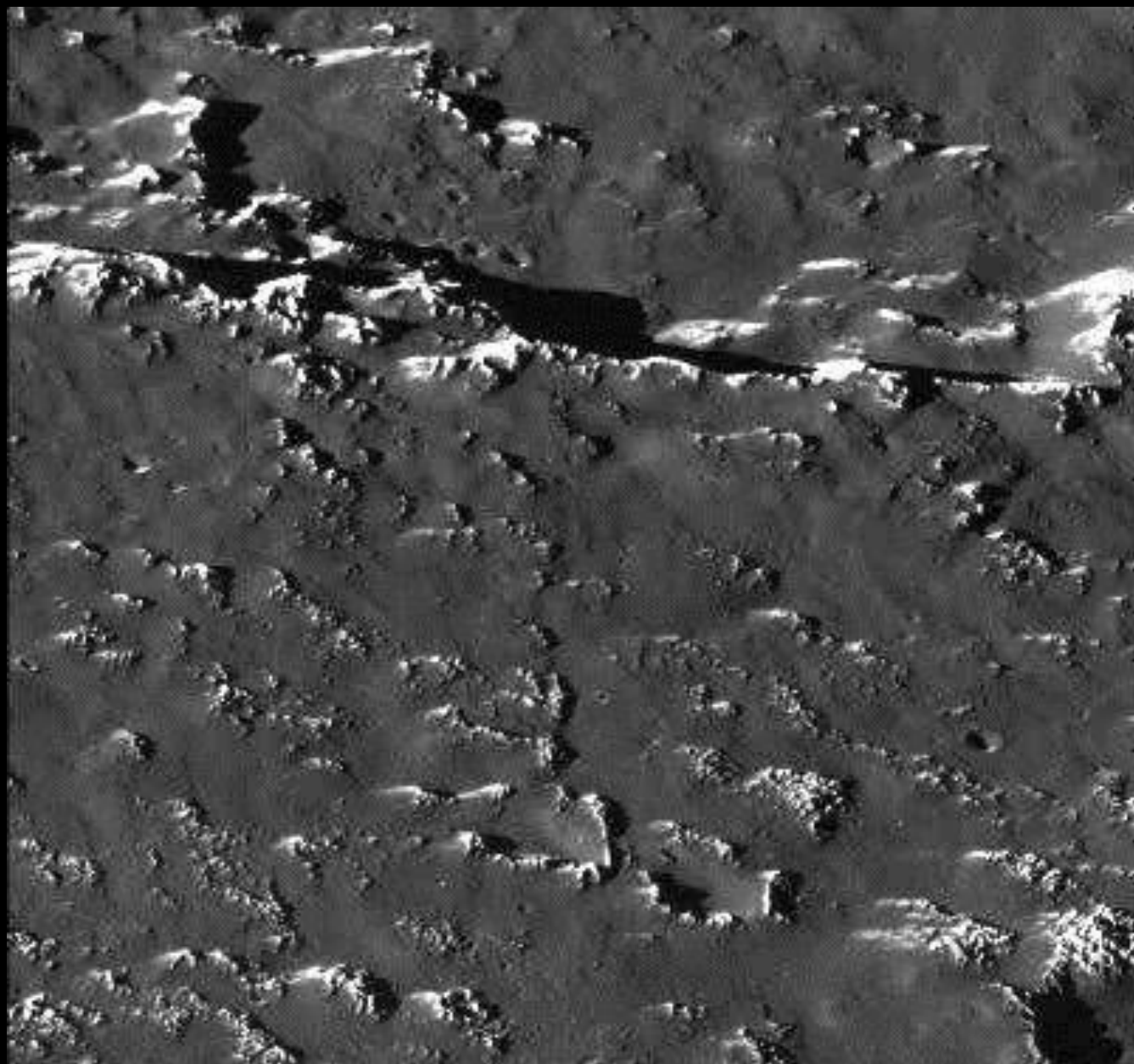


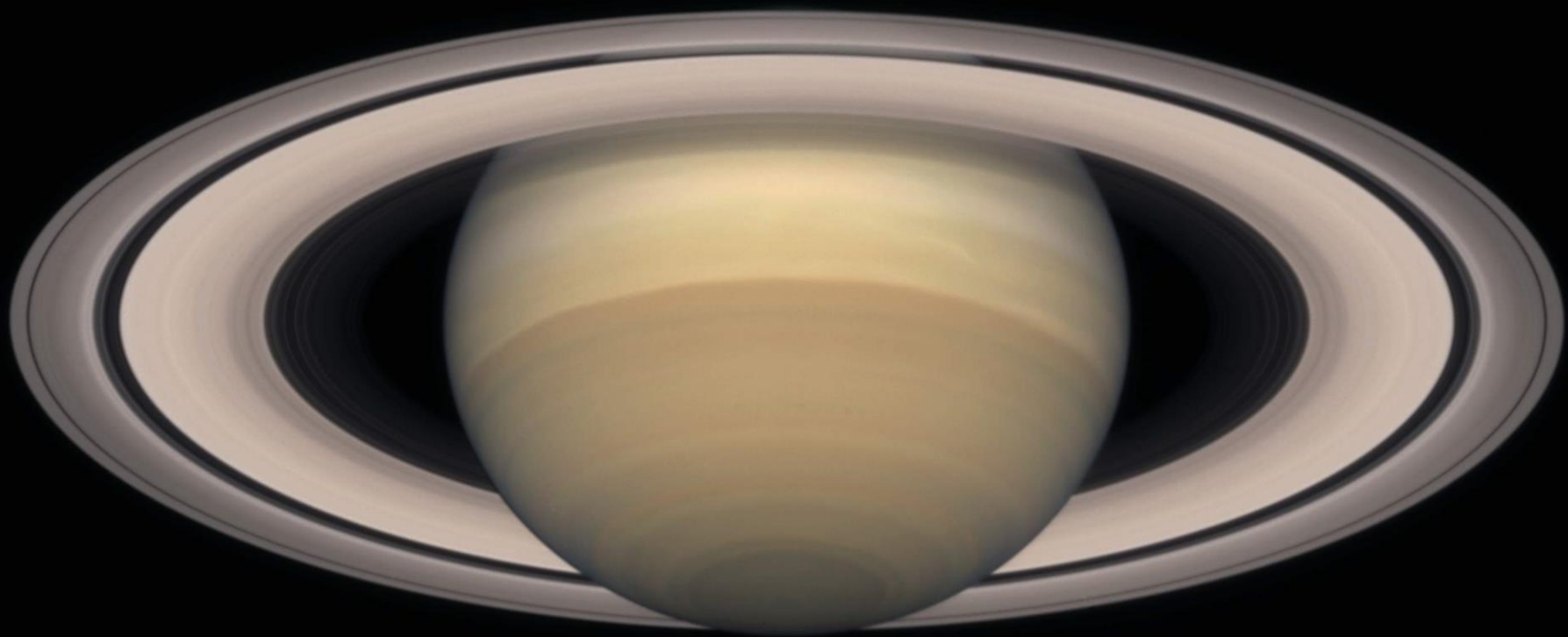
Europe
28/06/1996

région
MINOS
LINEA

1260x1260 km

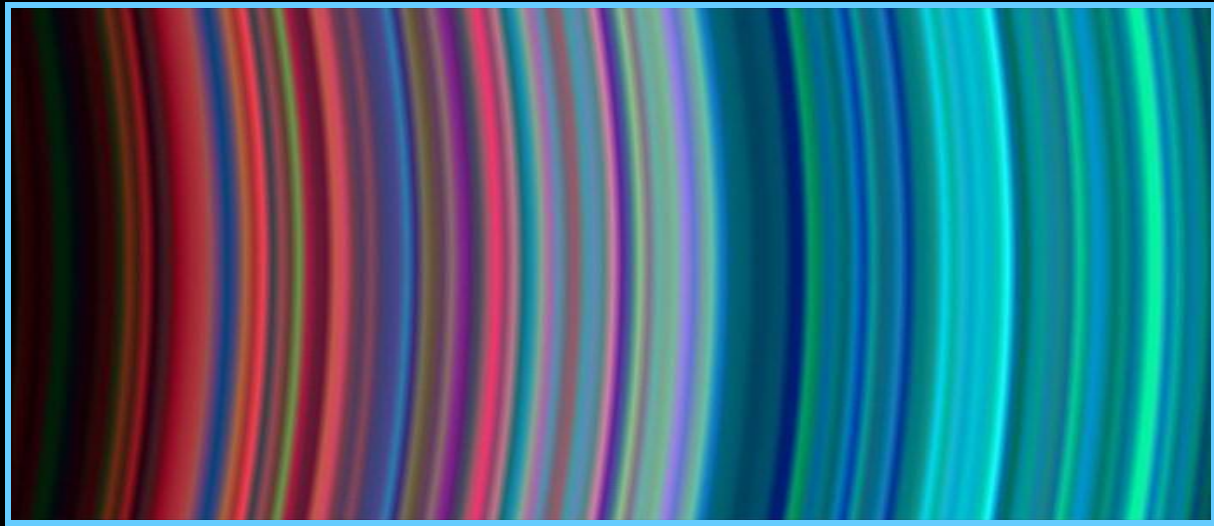
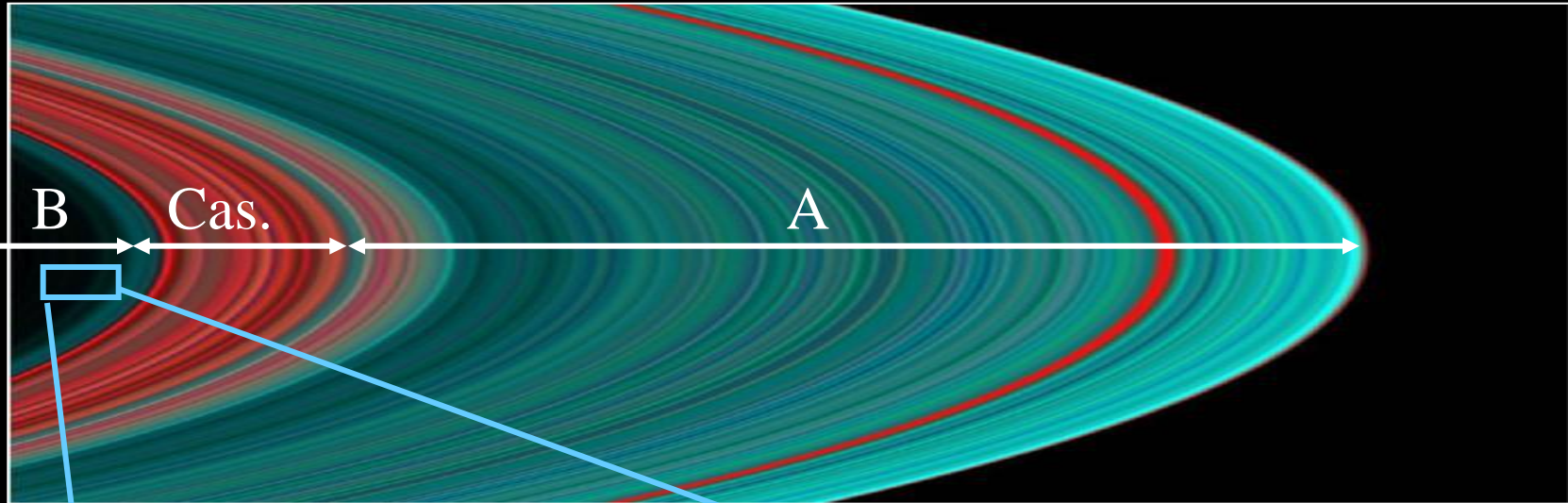
45 °N, 221 °W







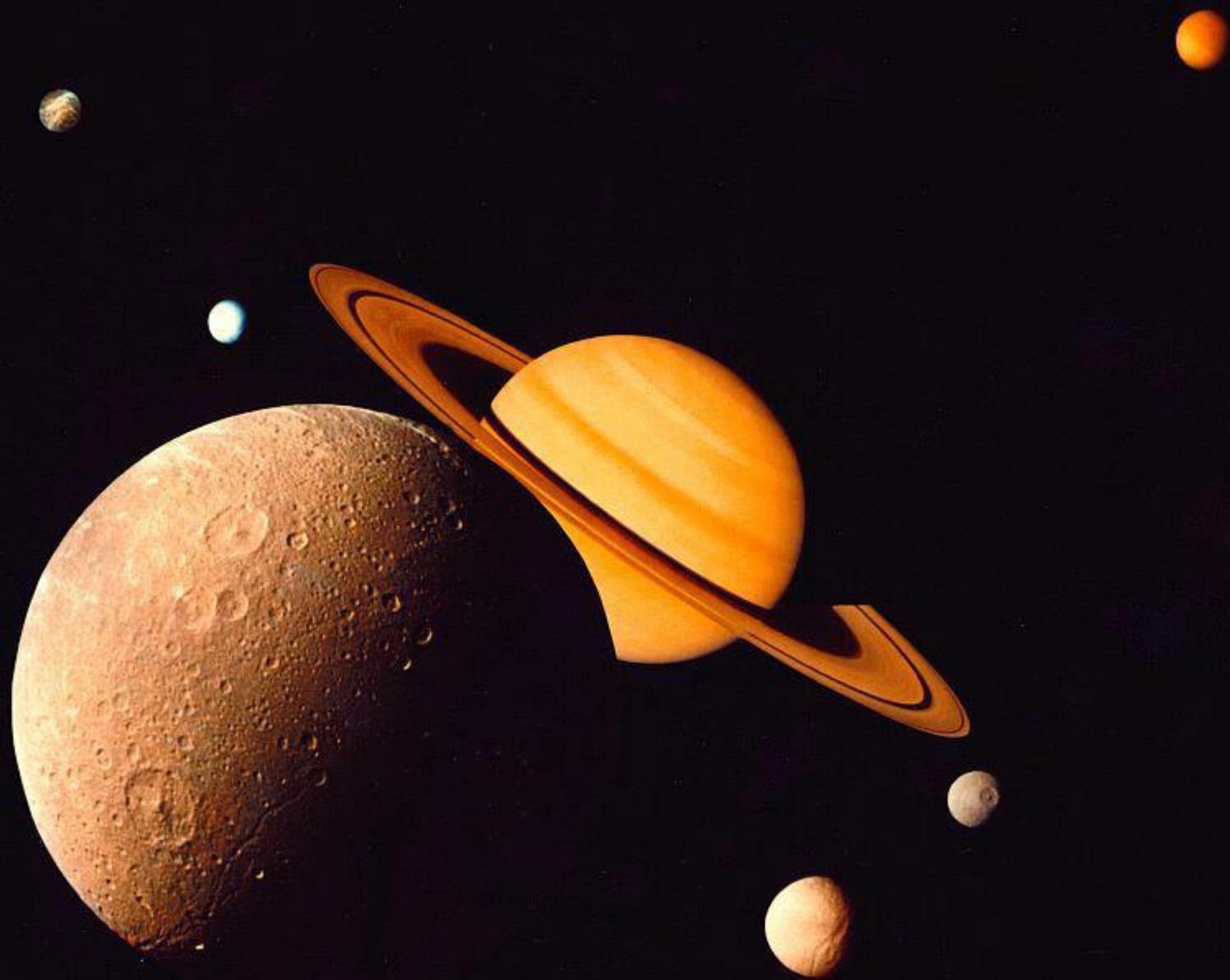


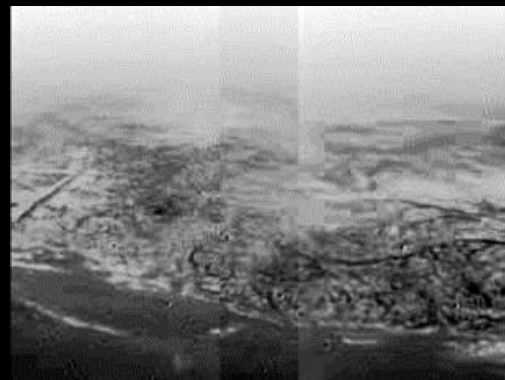
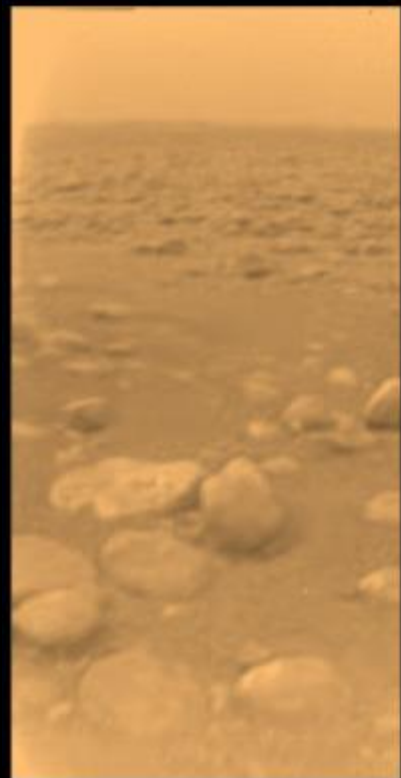
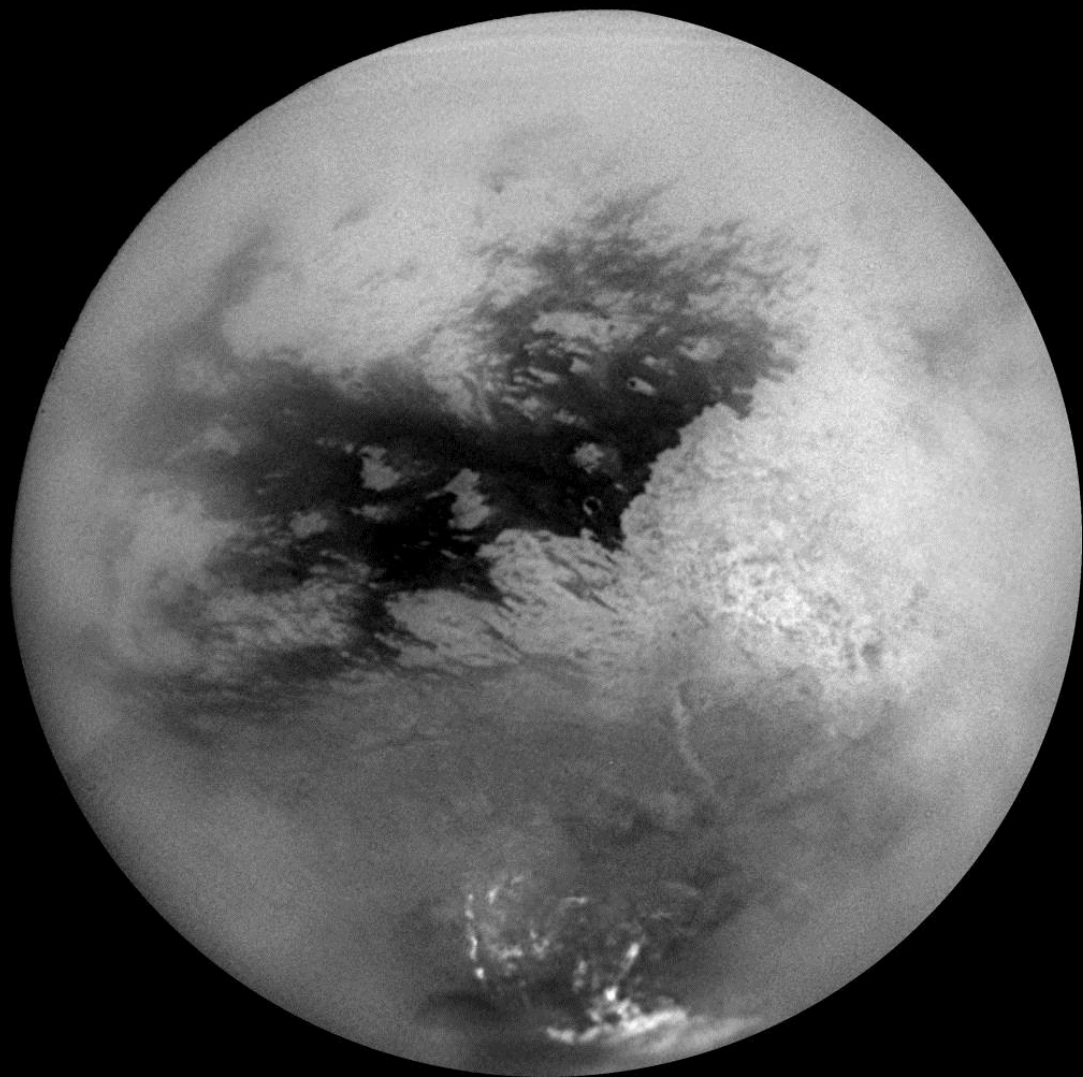


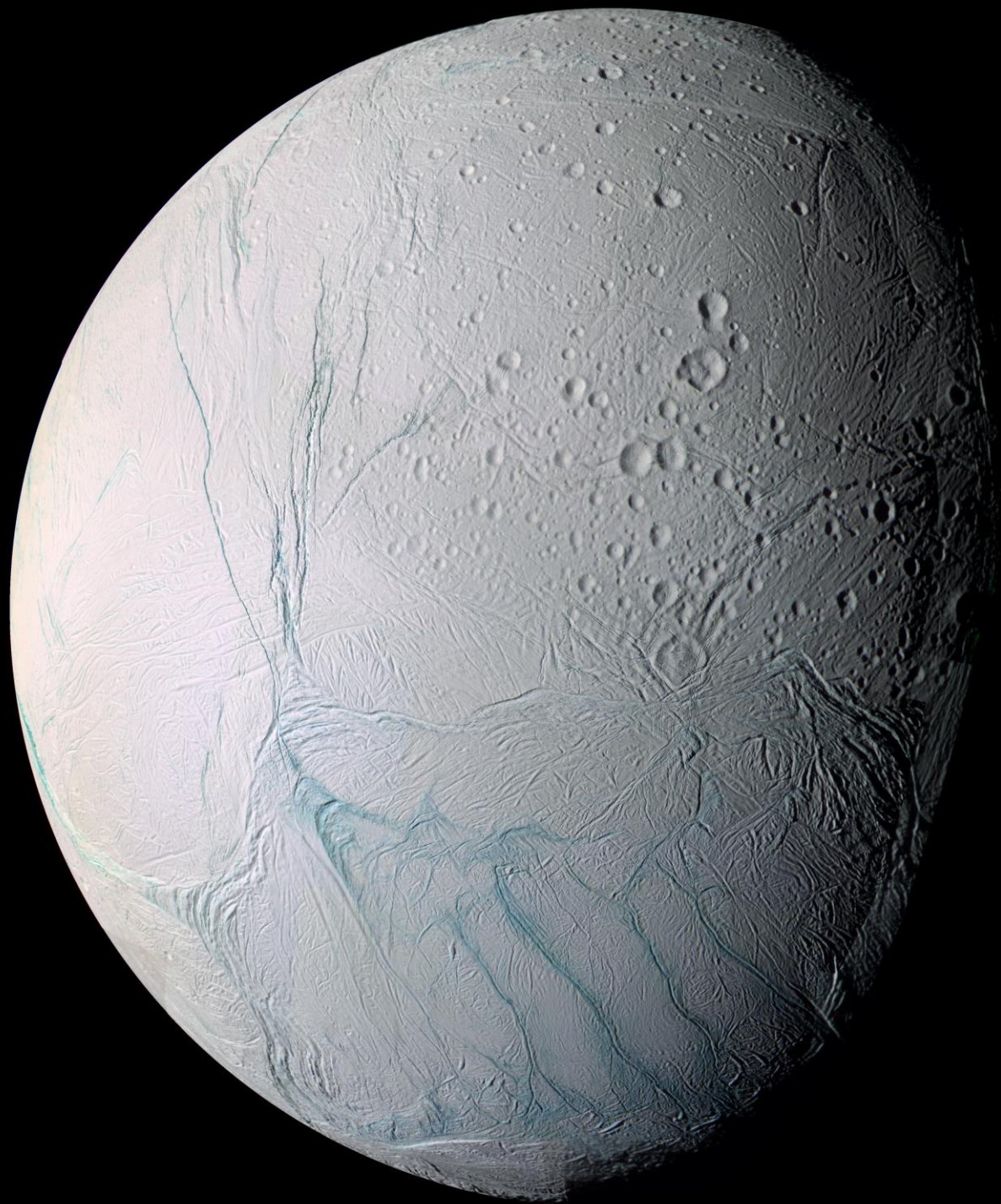
 Glace d'eau
« pure »

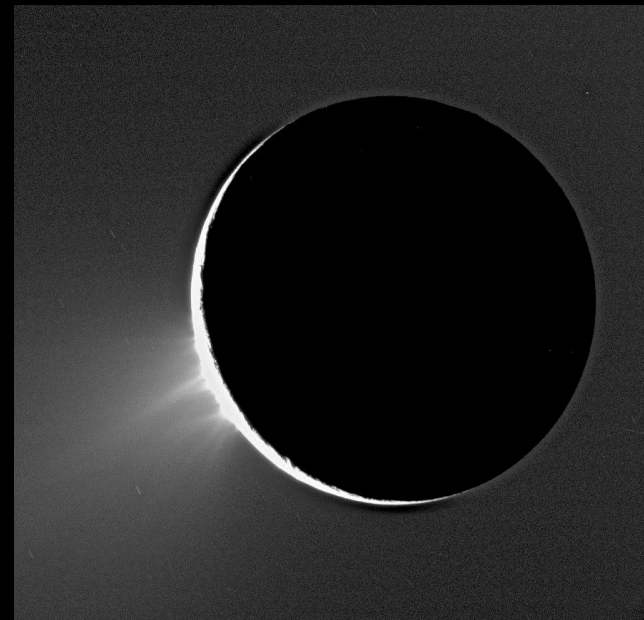
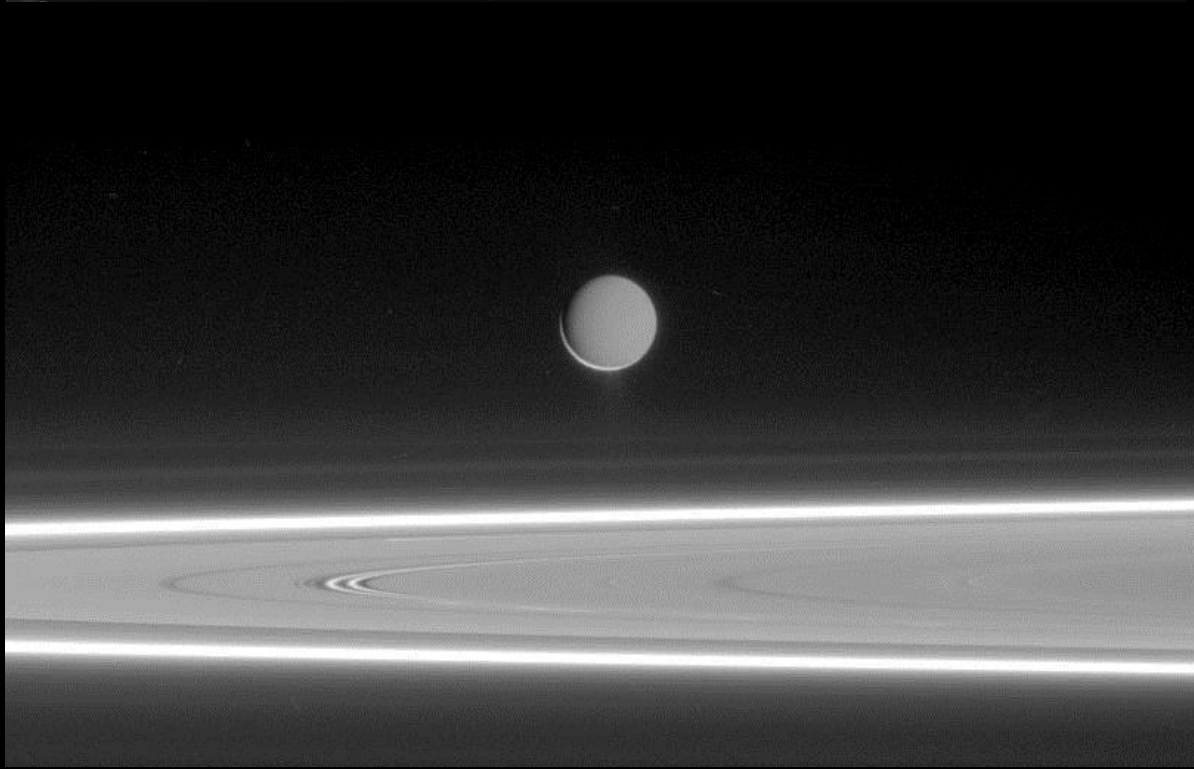
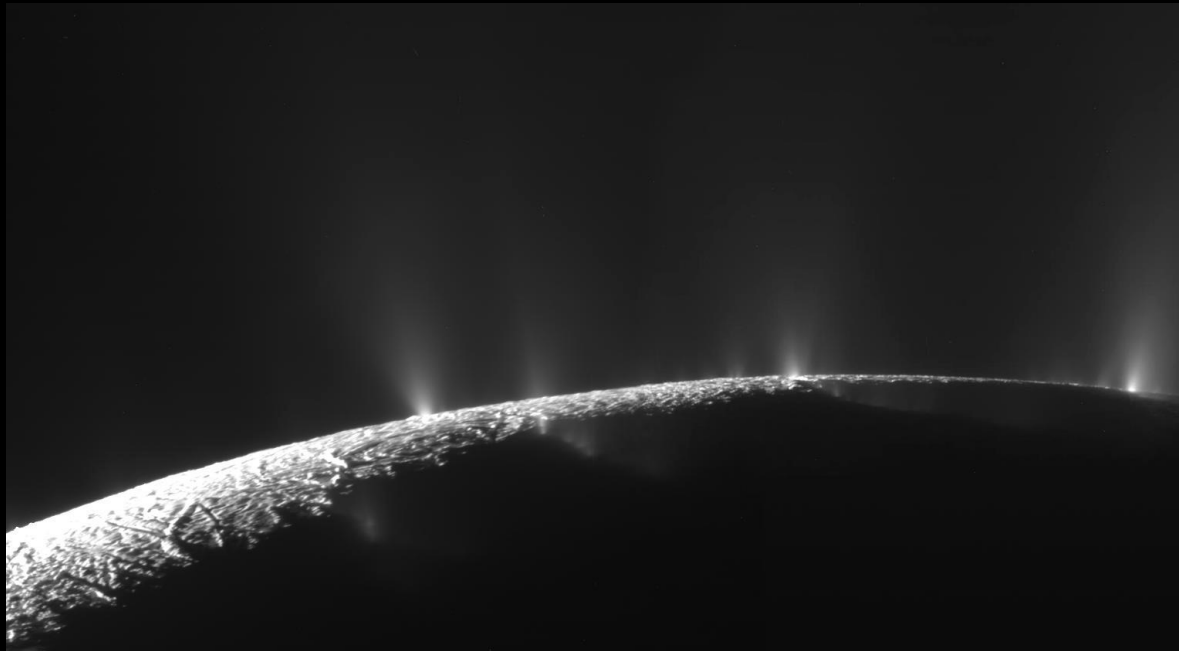
 Glace « sale »
(matière
organique
probable)











- 193 °C

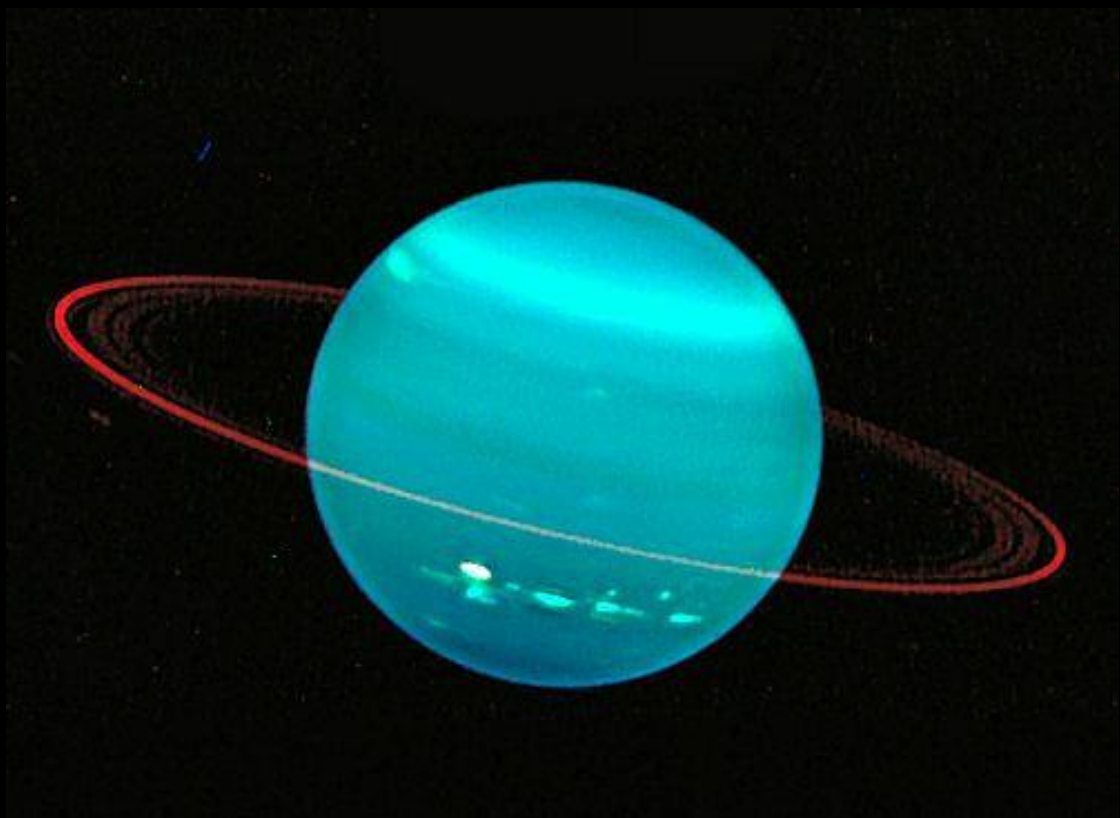
- 198 °C

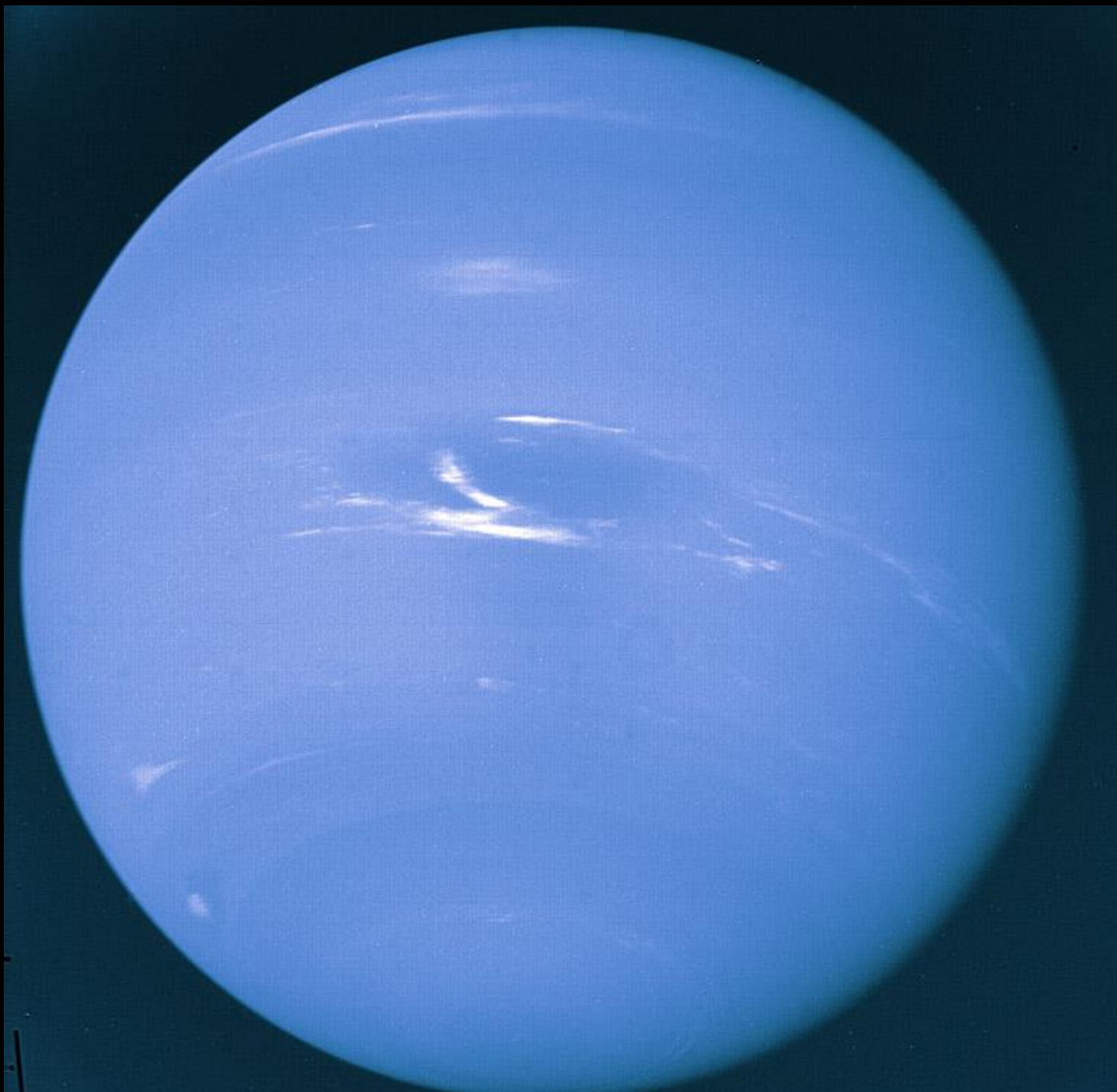
80 79 80 81 91 87 78 74 78 74



- 182 °C

- 186 °C







Au-delà de Neptune



Dysnomie

Éris

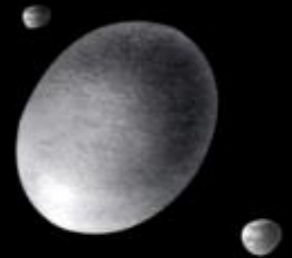


Charon

Pluton



Makemake



Haumea



Sedna



Orcus



Quaoar

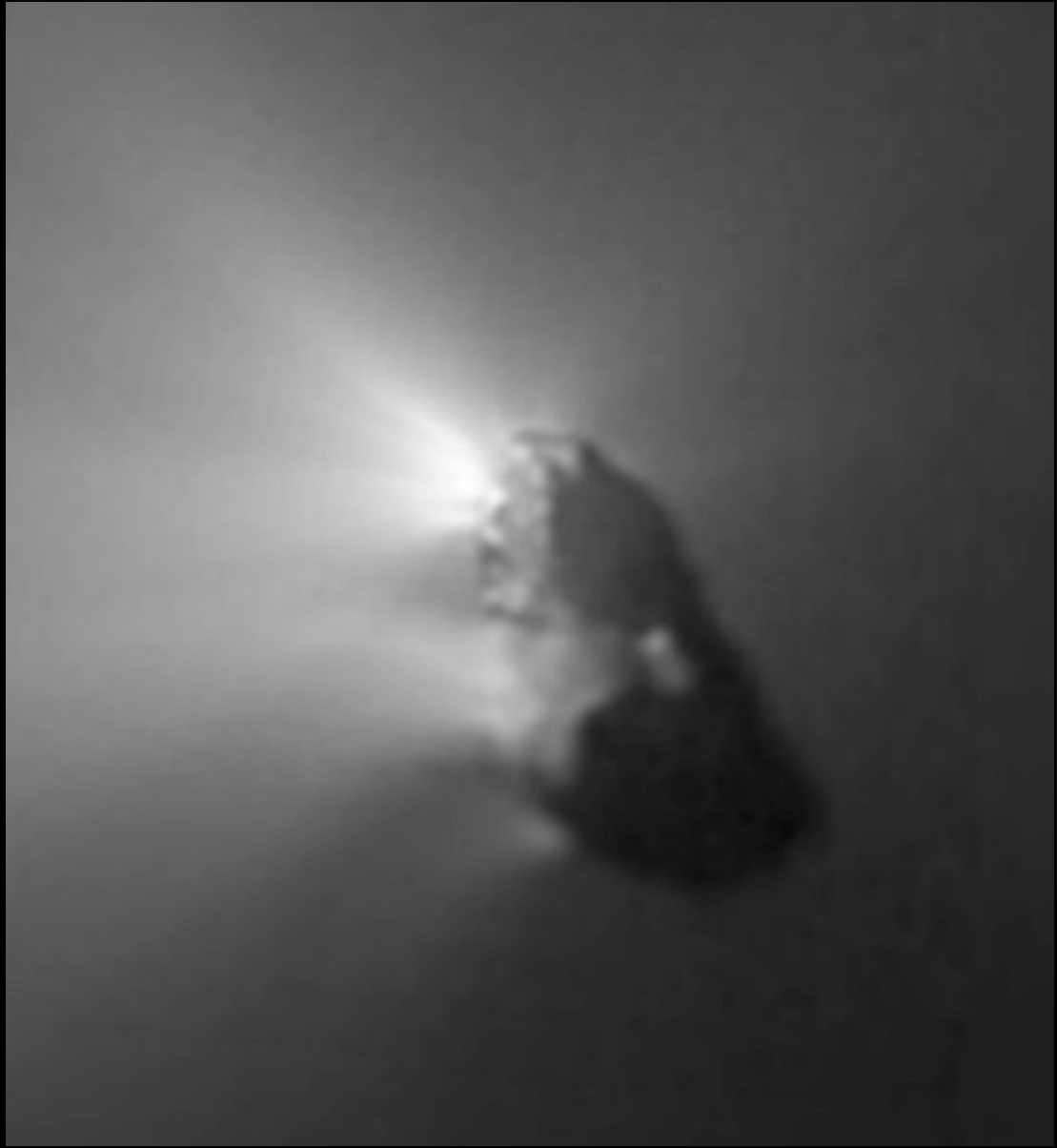


Varuna

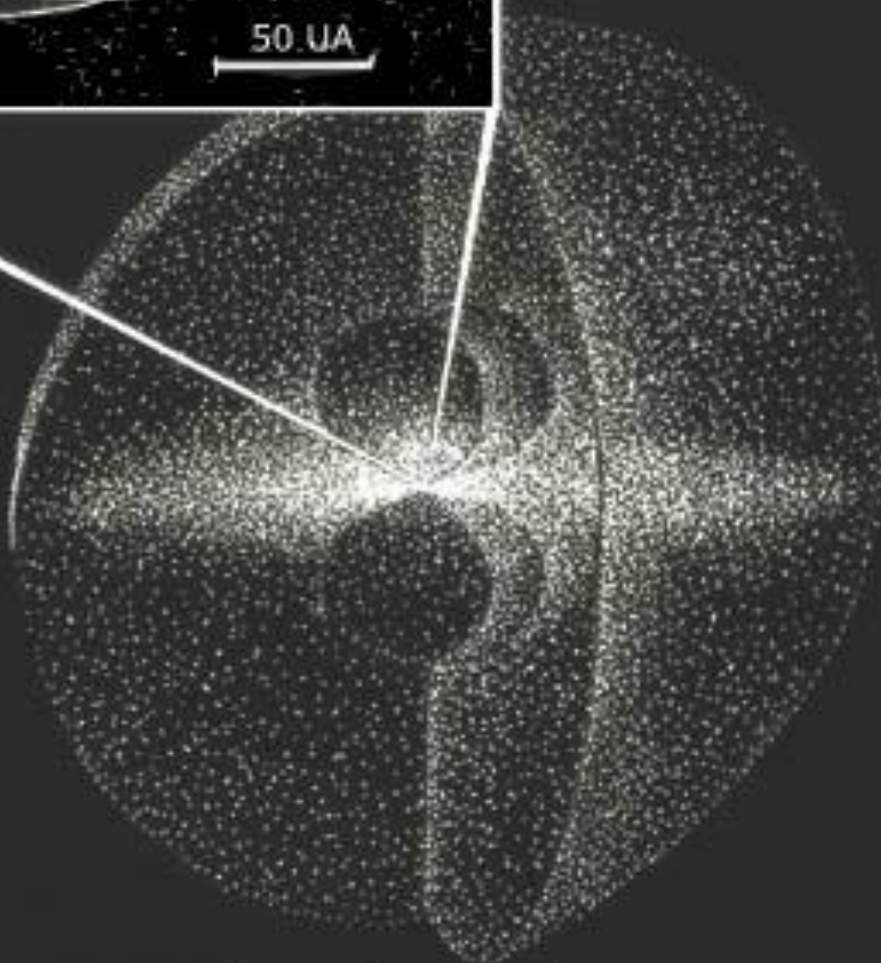
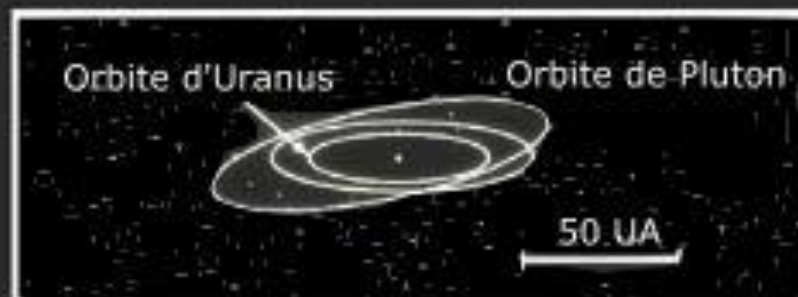












Le Nuage de Comètes de Oort