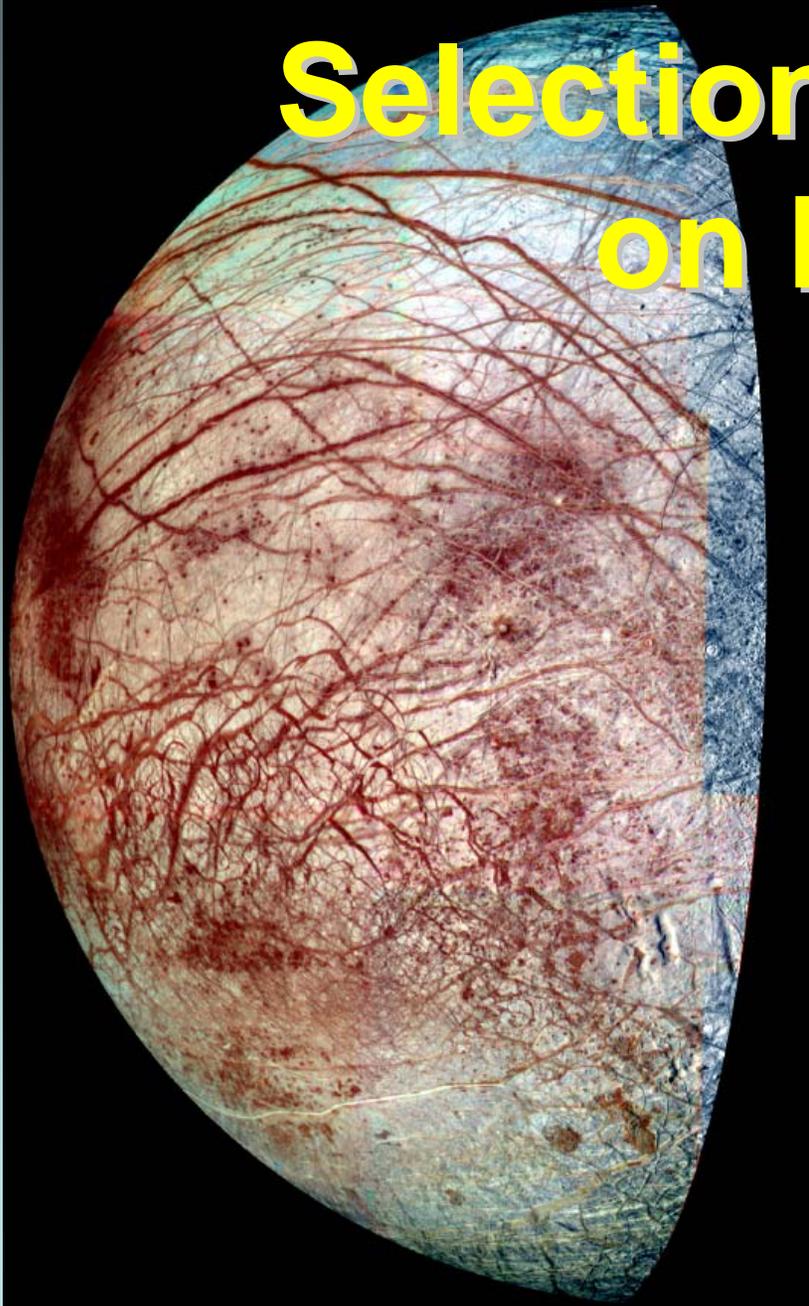


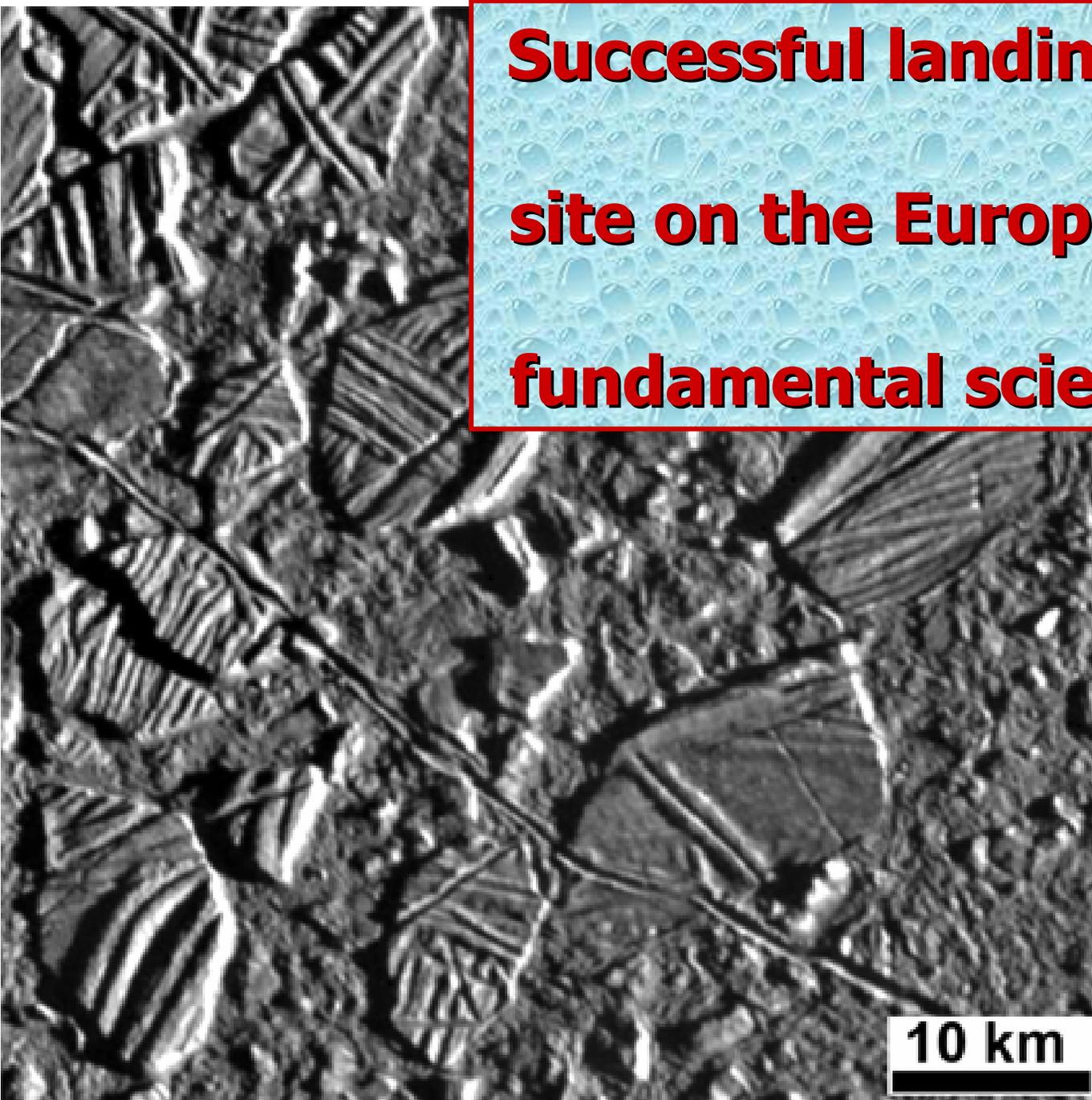
Selection of landing sites on Europa



M.A. Ivanov,
GEOKHI RAS

International Workshop
EUROPA LANDER:
SCIENCE GOALS AND EXPERIMENTS
9-13 February, 2009
Moscow, Russia

Successful landing in any site on the Europa will bring fundamental scientific data.

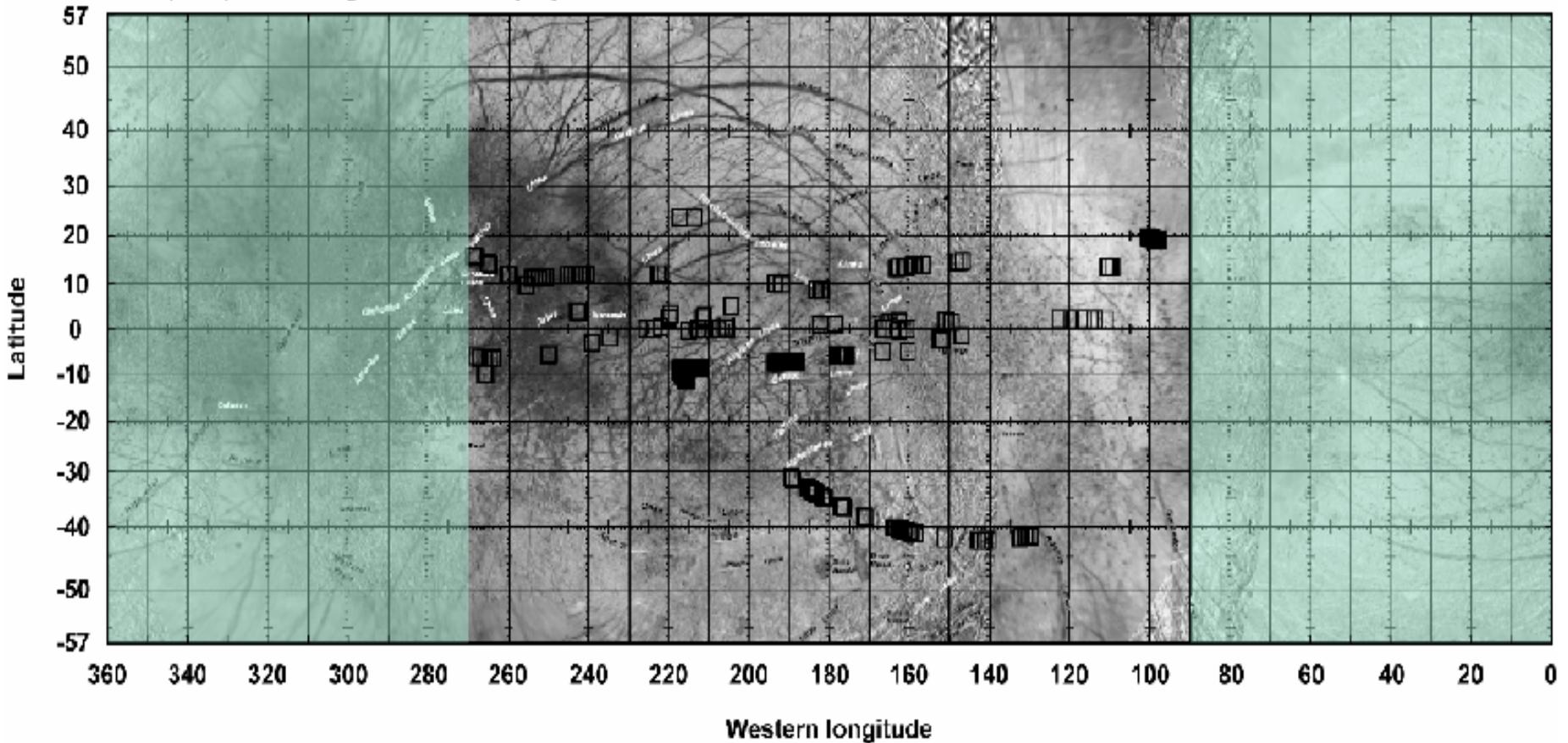


10 km

Anti-Jovian hemisphere of Europa

All images by Galileo

Europa equatorial region, Mercator projection

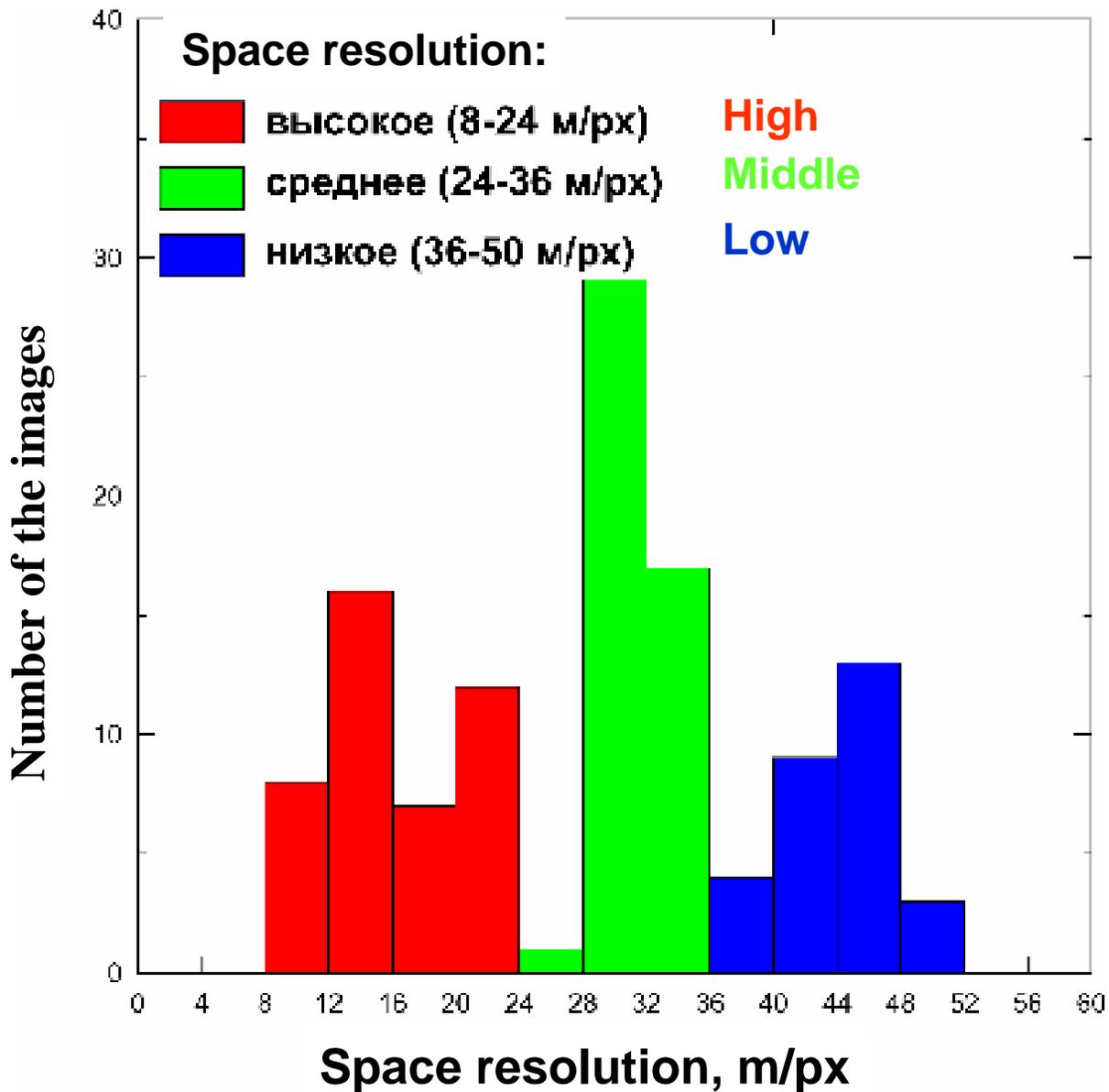


Typical surfaces of Europa

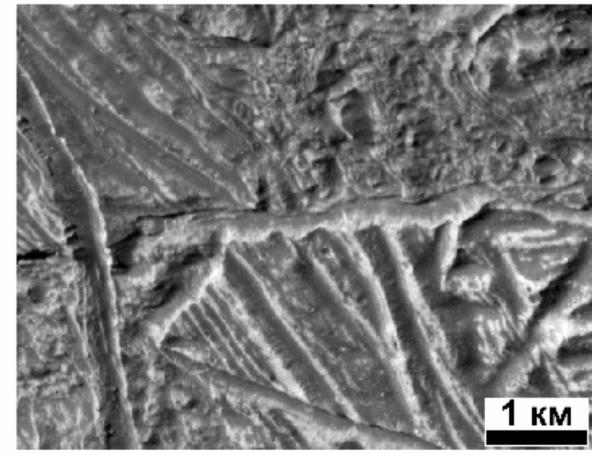
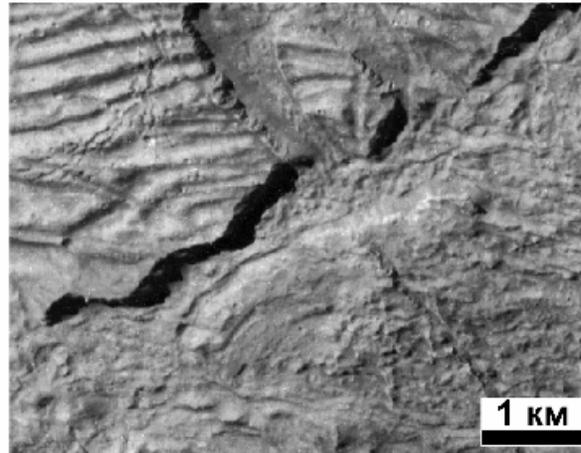
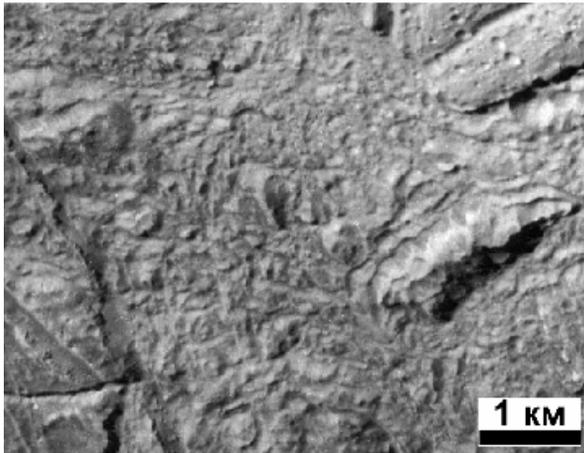


For reasonable selection of the landing sites the high-resolution images are necessary.

Images ≤ 50 m / px



Images with high resolution (8-24 m / px)

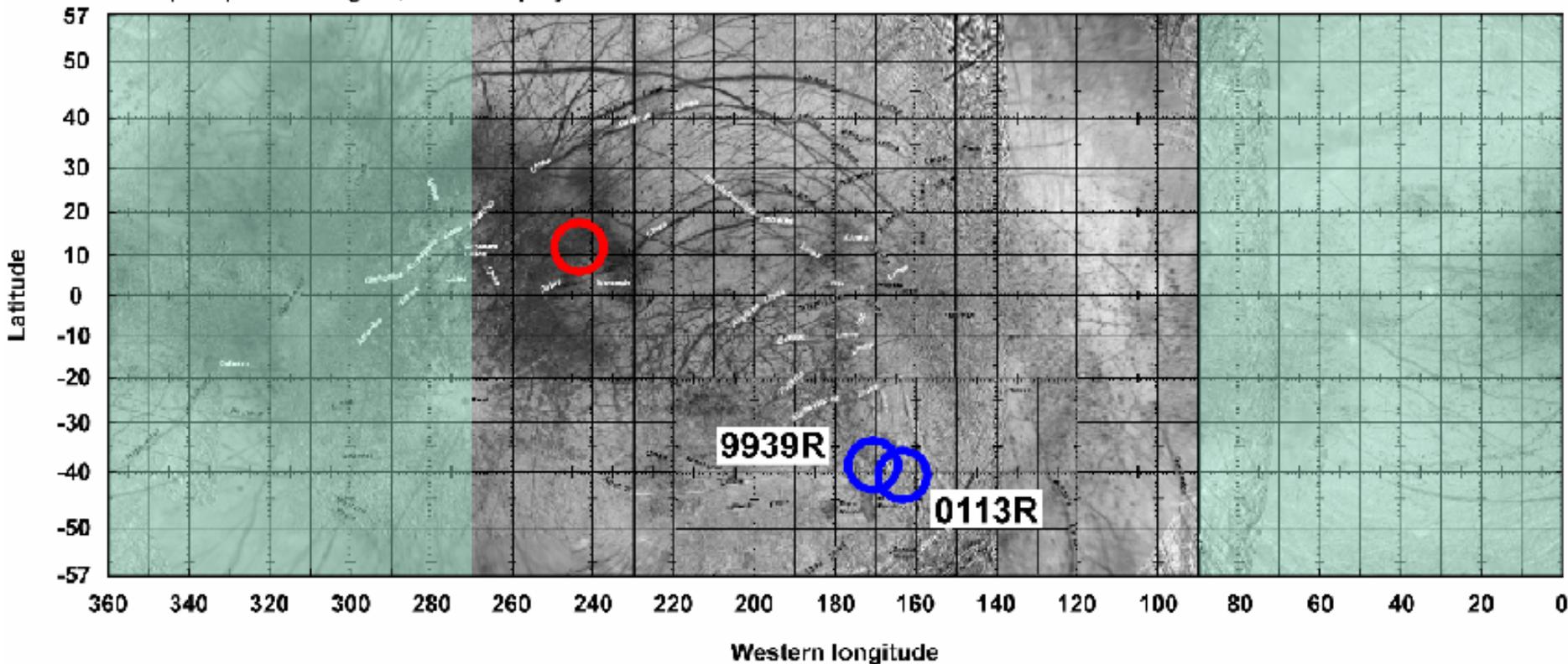


Images with highest resolution were preferentially taken for areas with very rough relief

Potential Landing Sites

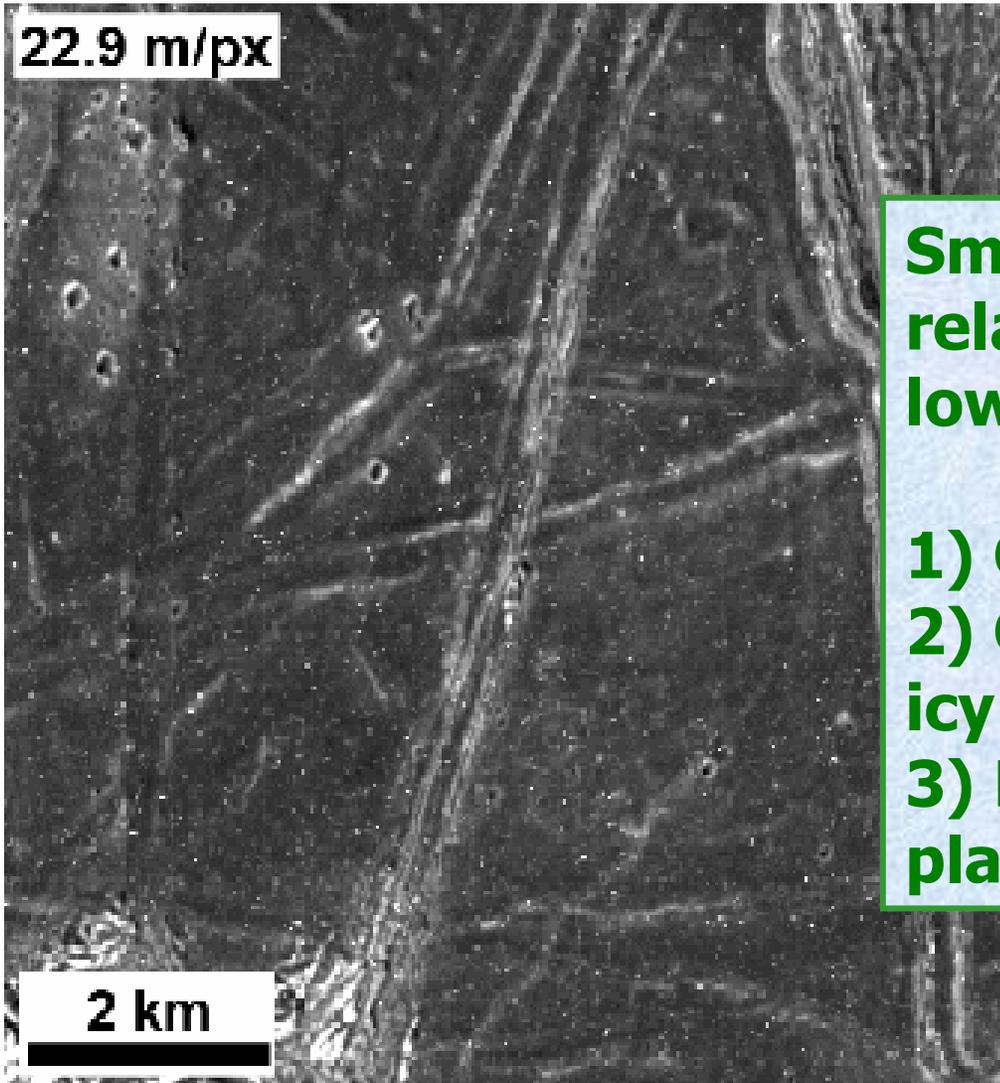
Location of the images 8814R and 9939R, 0113R

Europa equatorial region, Mercator projection



High resolution

E14 C044094 image: 8814R



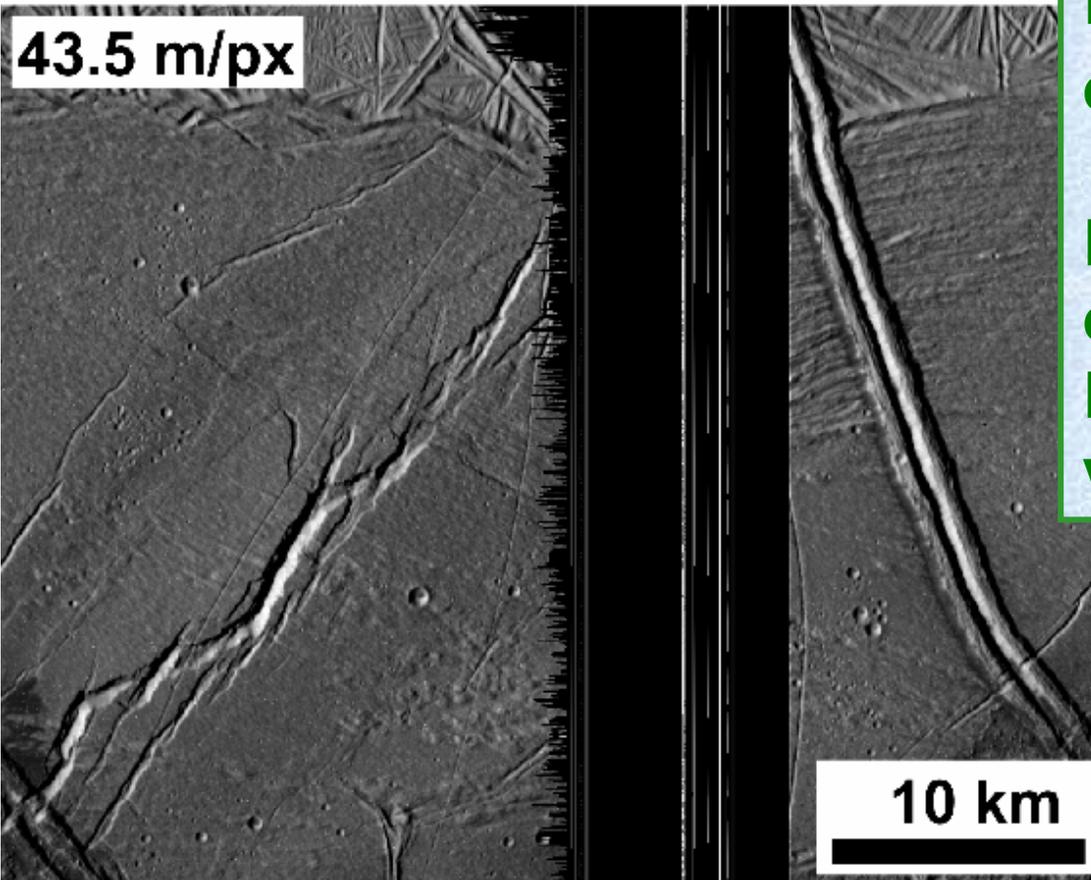
**Smooth plains,
relatively young,
low albedo:**

- 1) Cryovolcanic region.**
- 2) Contaminated by non-icy material.**
- 3) Higher roughness in places.**

11.8°N, 243.5°W

Backup 1

E17 C046666 image: 9939R



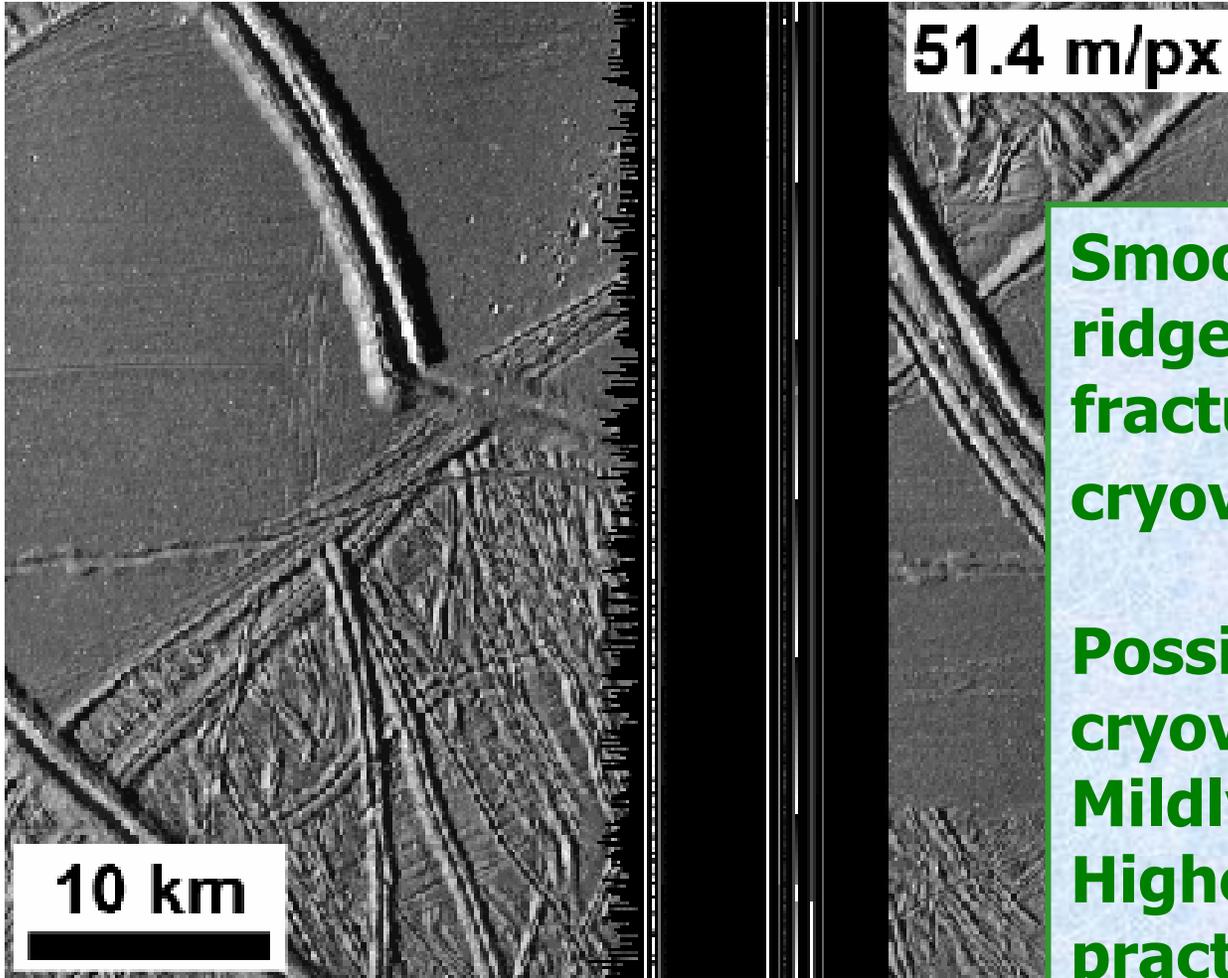
38.5°S, 170.8°W

Smoothed plains,
fractured,
cryovolcanism: ?

Possibly -
cryovolcanic region.
Higher roughness is
very probable.

Backup 2

E17 C046667 image: 0113R

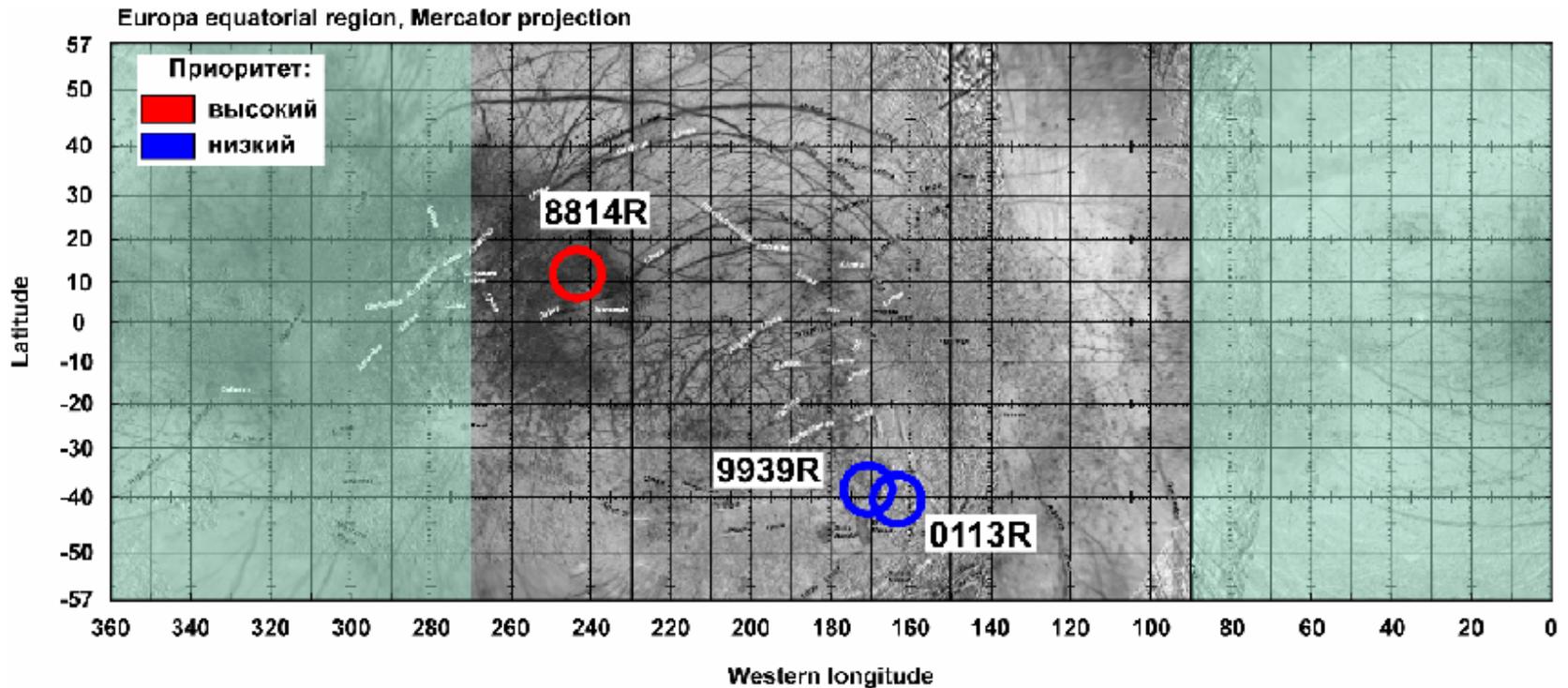


**Smoothed plains,
ridges
fractures,
cryovolcanism: ?**

**Possibly -
cryovolcanic region.
Mildly tectonized
Higher roughness is
practically
guaranteed.**

38.s°S, 170.8°W

Possible landing sites

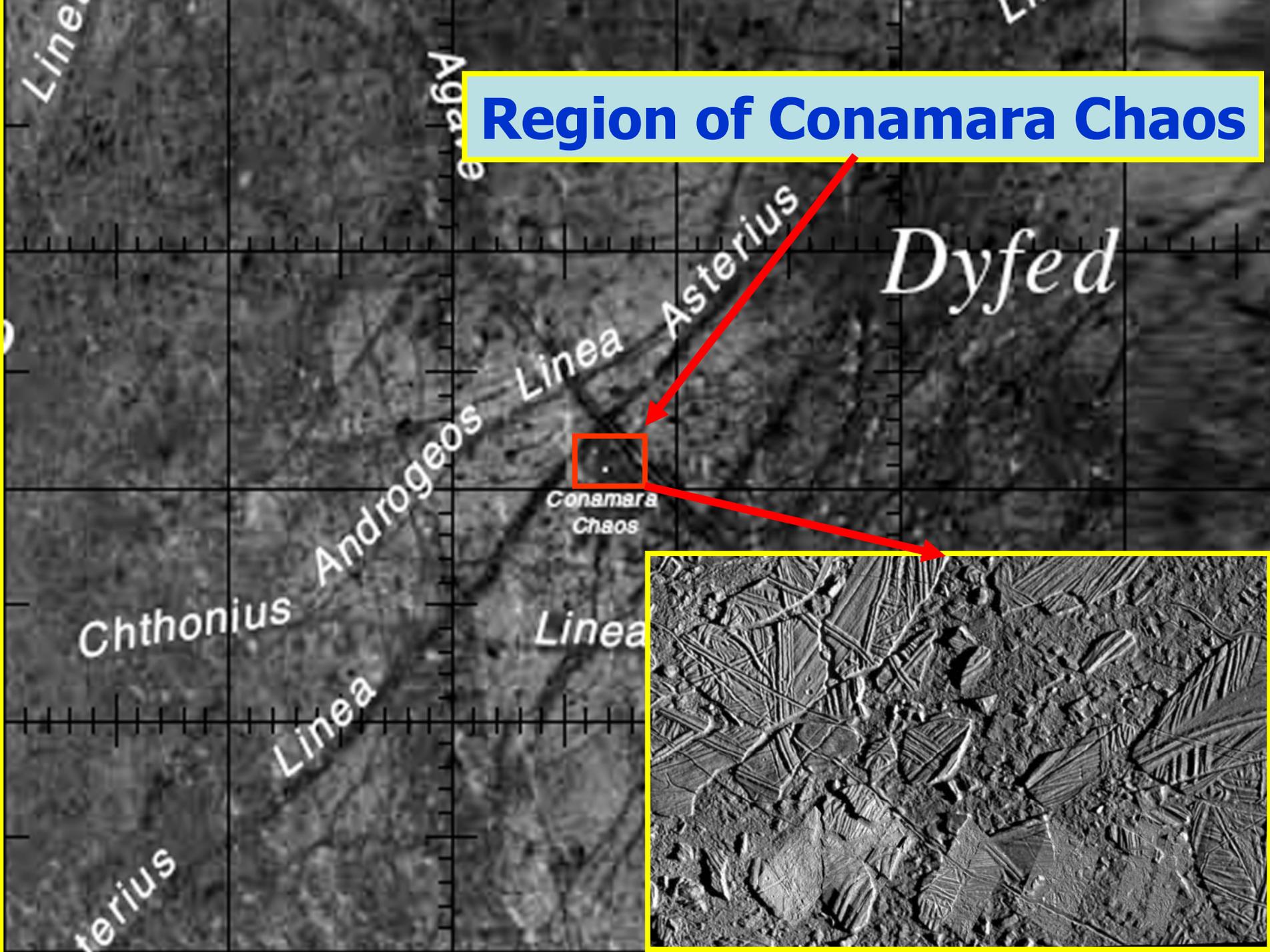


8814R: the best candidate: It is the smoothest, young cryovolcanic region with low albedo. Cryovolcanism: crustal and/or subcrustal; low albedo: contamination by non-icy material

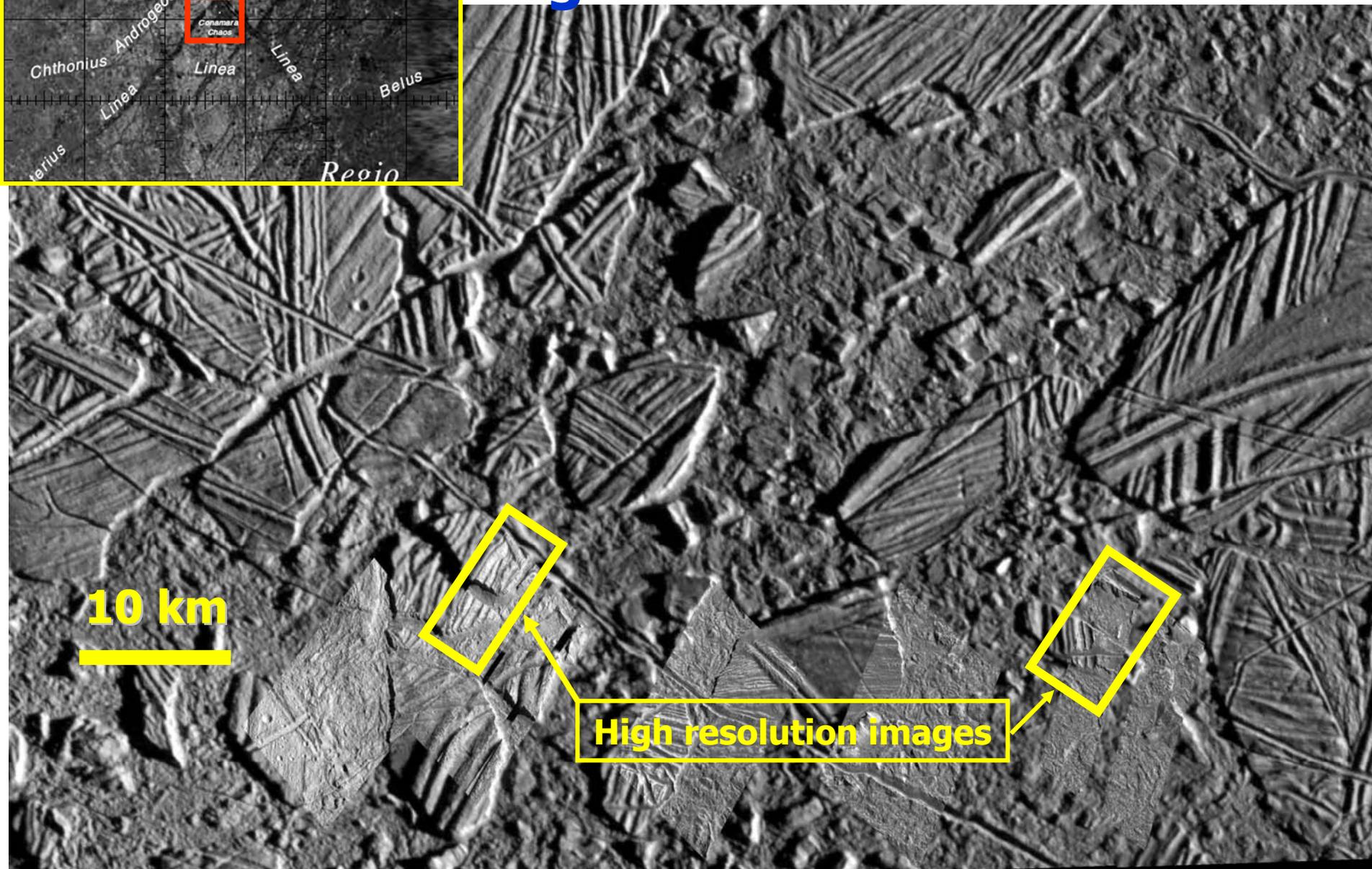
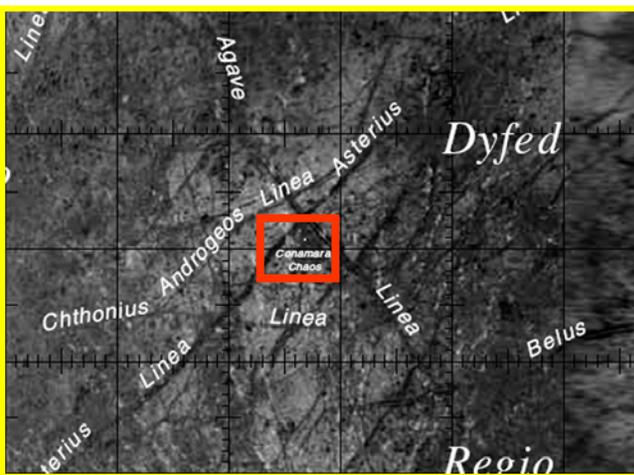
9939R и 0113R: are candidates of lower priority: They are rougher, lesser evidence for cryovolcanism, albedo appears to be same as in the surroundings.

R.Kuzmin's supplement:

Region of Conamara Chaos



Is it possible to land in the region of Conamara Chaos?



Apparently yes! - the smaller size of the landing ellipse, the more number of potential sites may be found to land the "Europa Lander"

