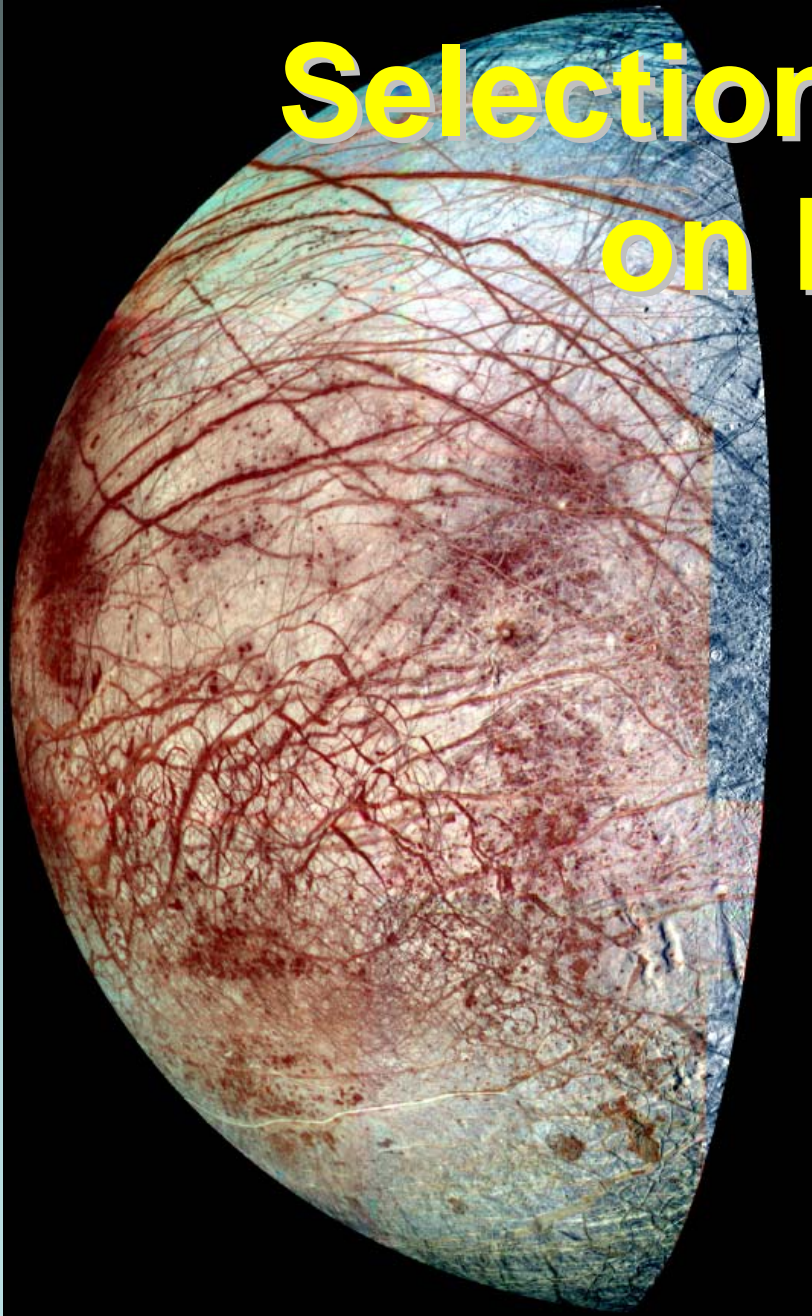


# Selection of landing sites on Europa



**M.A. Ivanov,**  
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***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.**

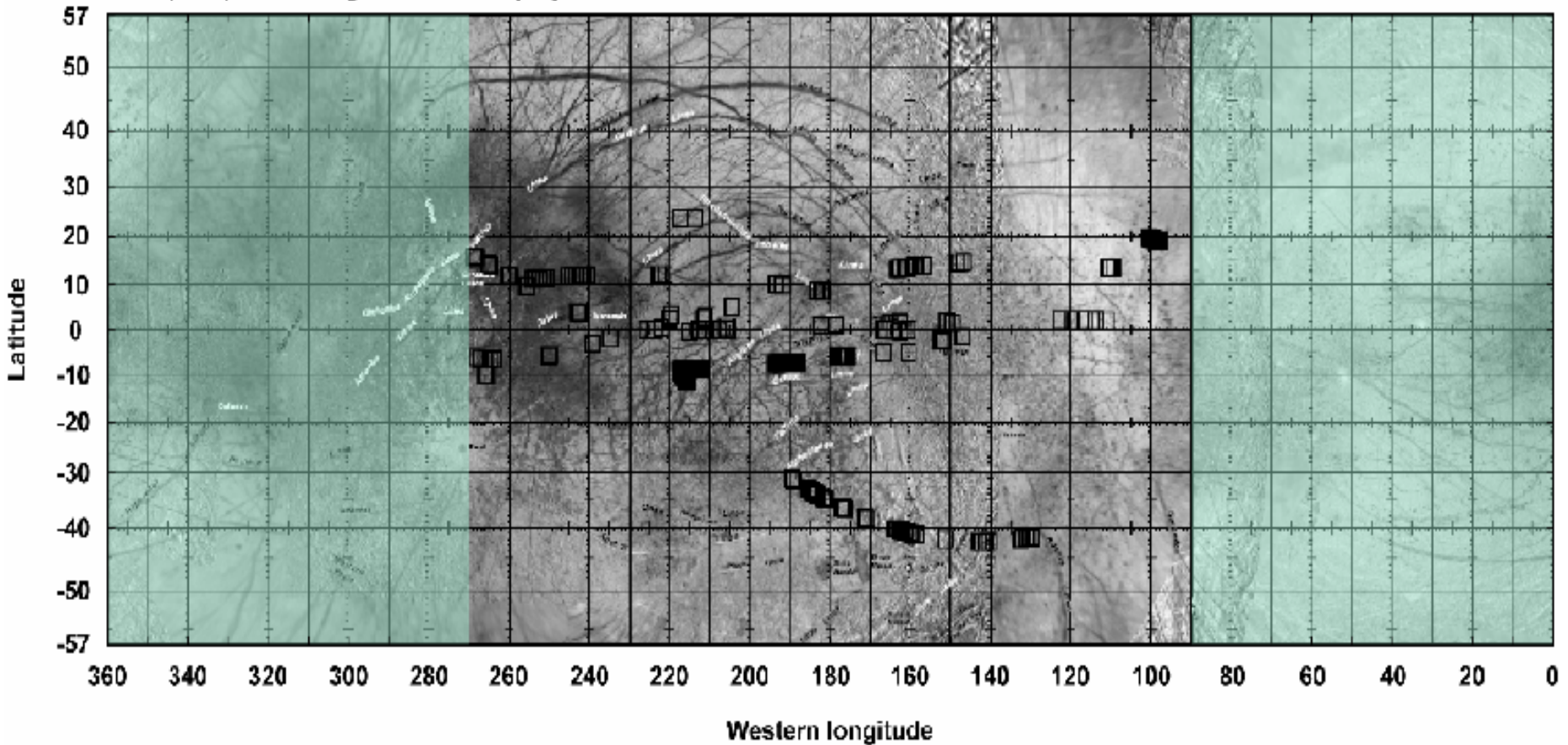


10 km

# Anti-Jovian hemisphere of Europa

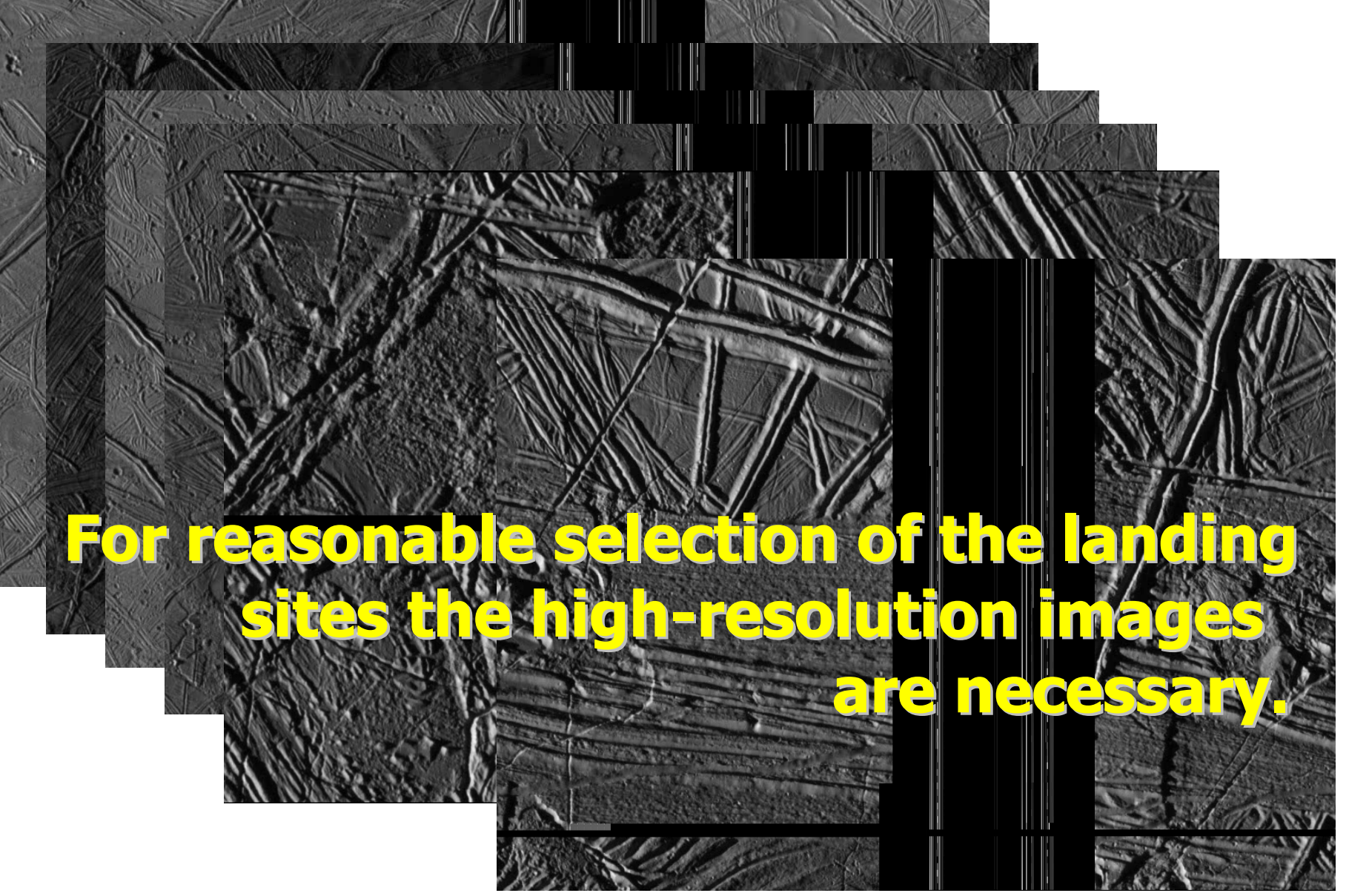
## All images by Galileo

Europa equatorial region, Mercator projection



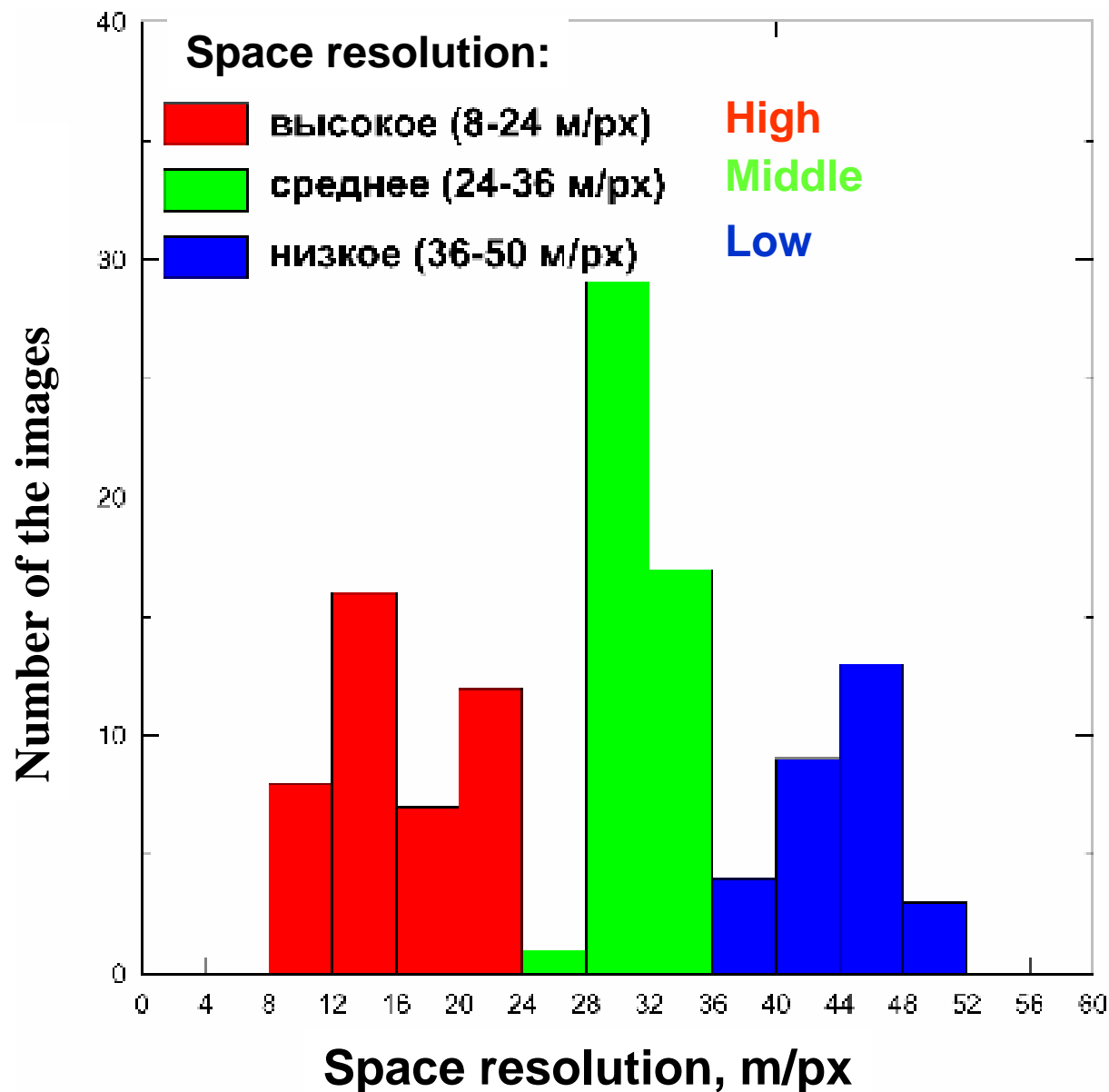


# Typical surfaces of Europa



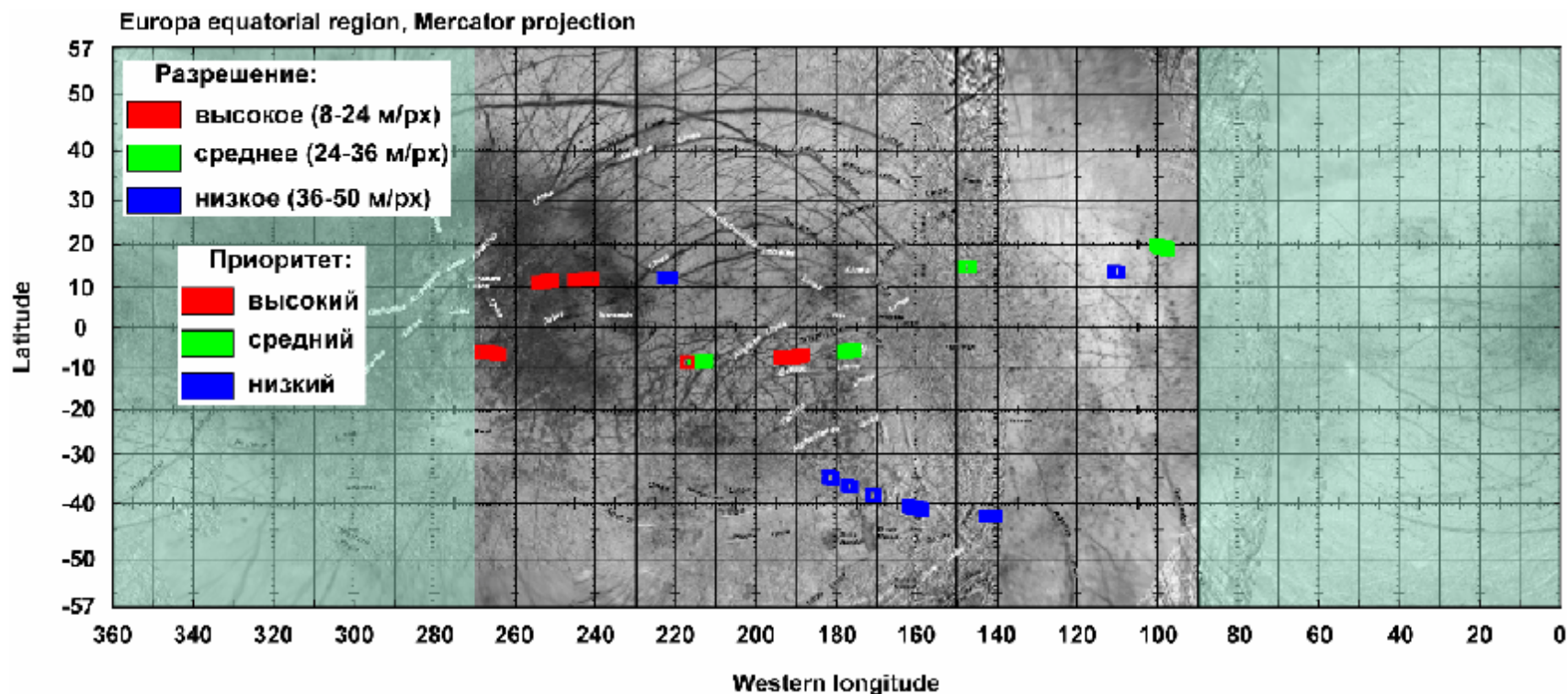
**For reasonable selection of the landing sites the high-resolution images are necessary.**

# Images $\leq 50$ m / px



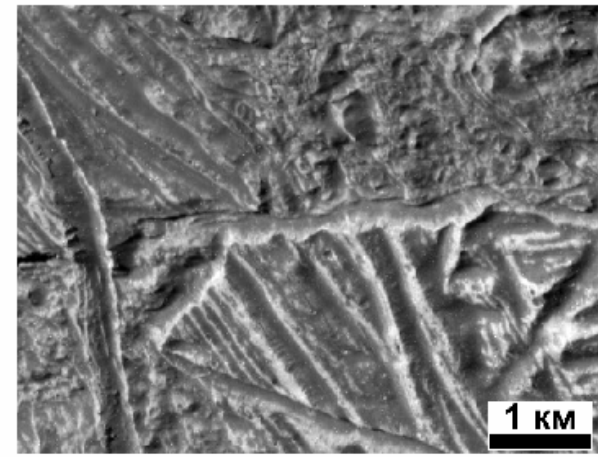
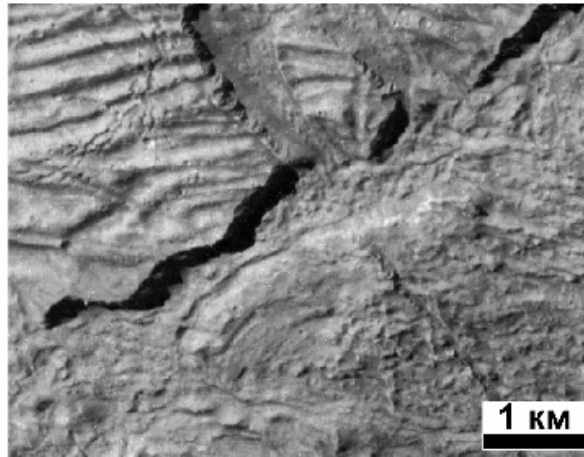
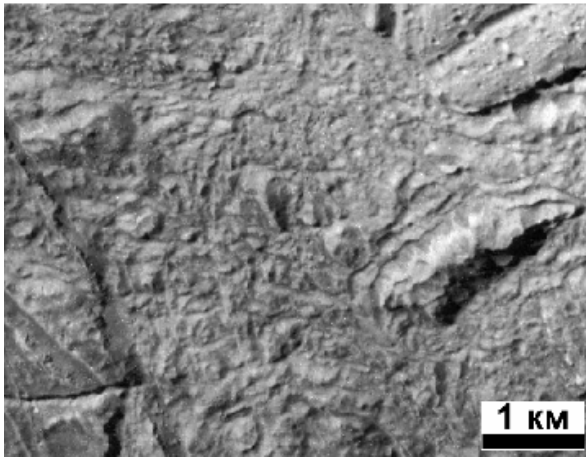
# Images $\leq 50$ m / px

## Prioritizing by resolution





## 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



Latitude

**9939R**

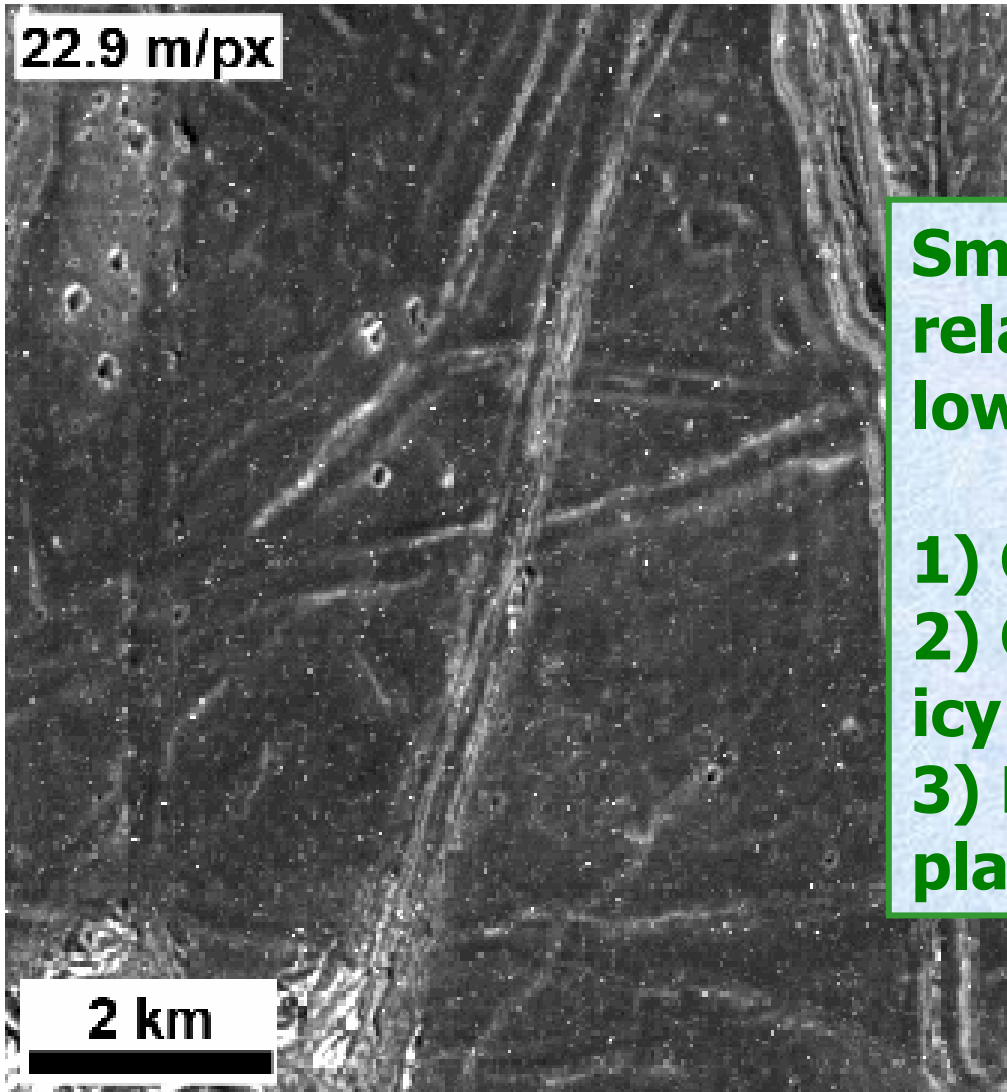
0113R

### Western longitude



# High resolution

E14 C044094 image: 8814R



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

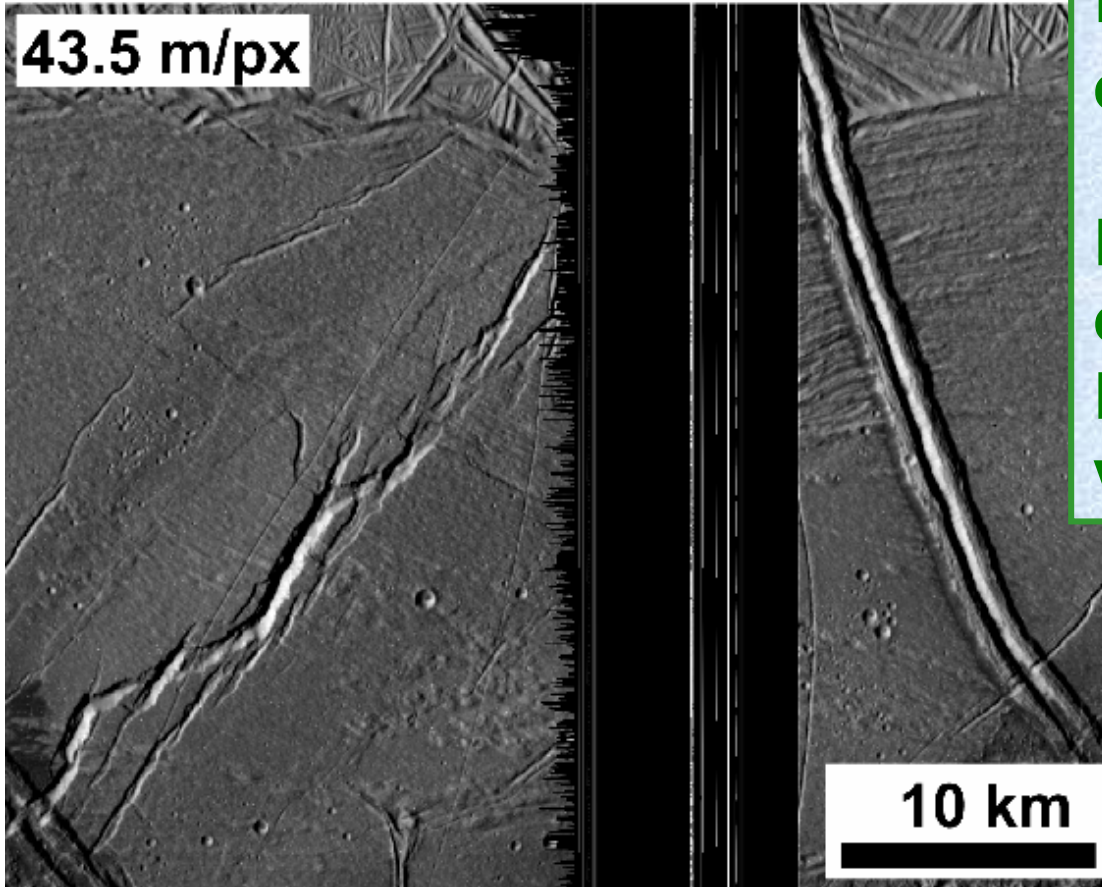
- 1) Cryovolcanic region.**
- 2) Contaminated by non-icy material.**
- 3) Higher roughness in places.**

**11.8°N, 243.5°W**

# Backup 1

E17 C046666 image: 9939R

43.5 m/px



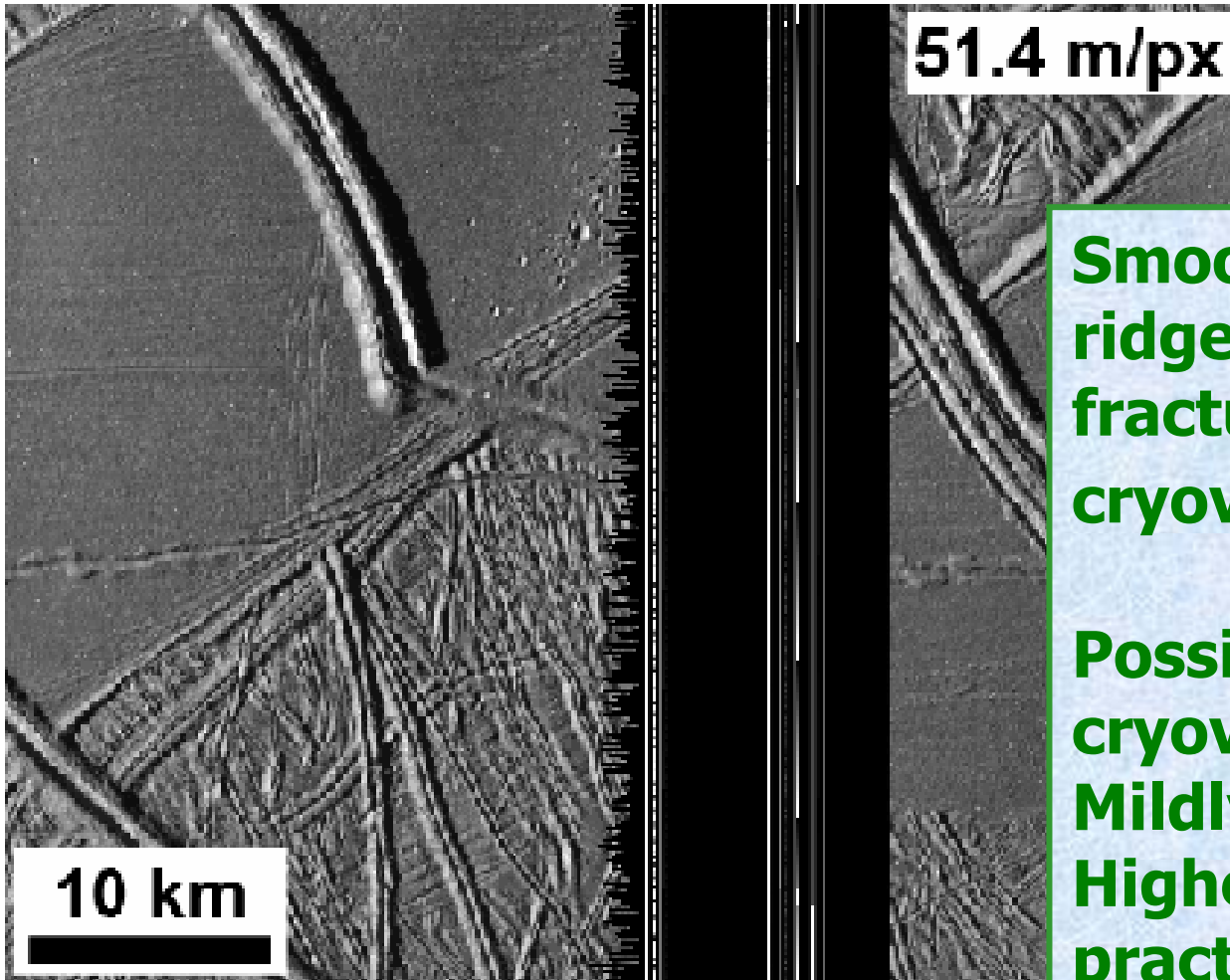
Smoothed plains,  
fractured,  
cryovolcanism: ?

Possibly -  
cryovolcanic region.  
Higher roughness is  
very probable.

38.5°S, 170.8°W

# Backup 2

E17 C046667 image: 0113R



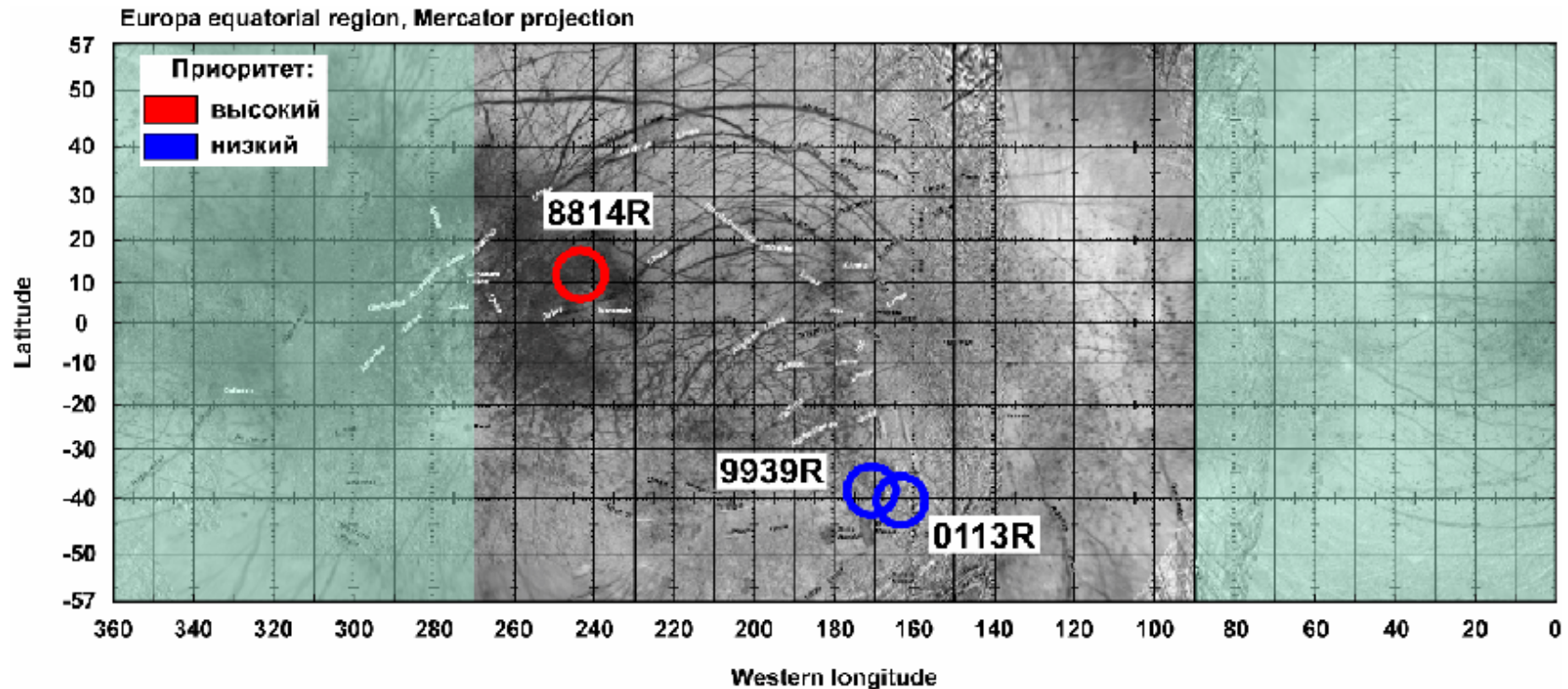
Smoothed plains,  
ridges  
fractures,  
cryovolcanism: ?

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

38.s°S, 170.8°W



# Possible landing sites

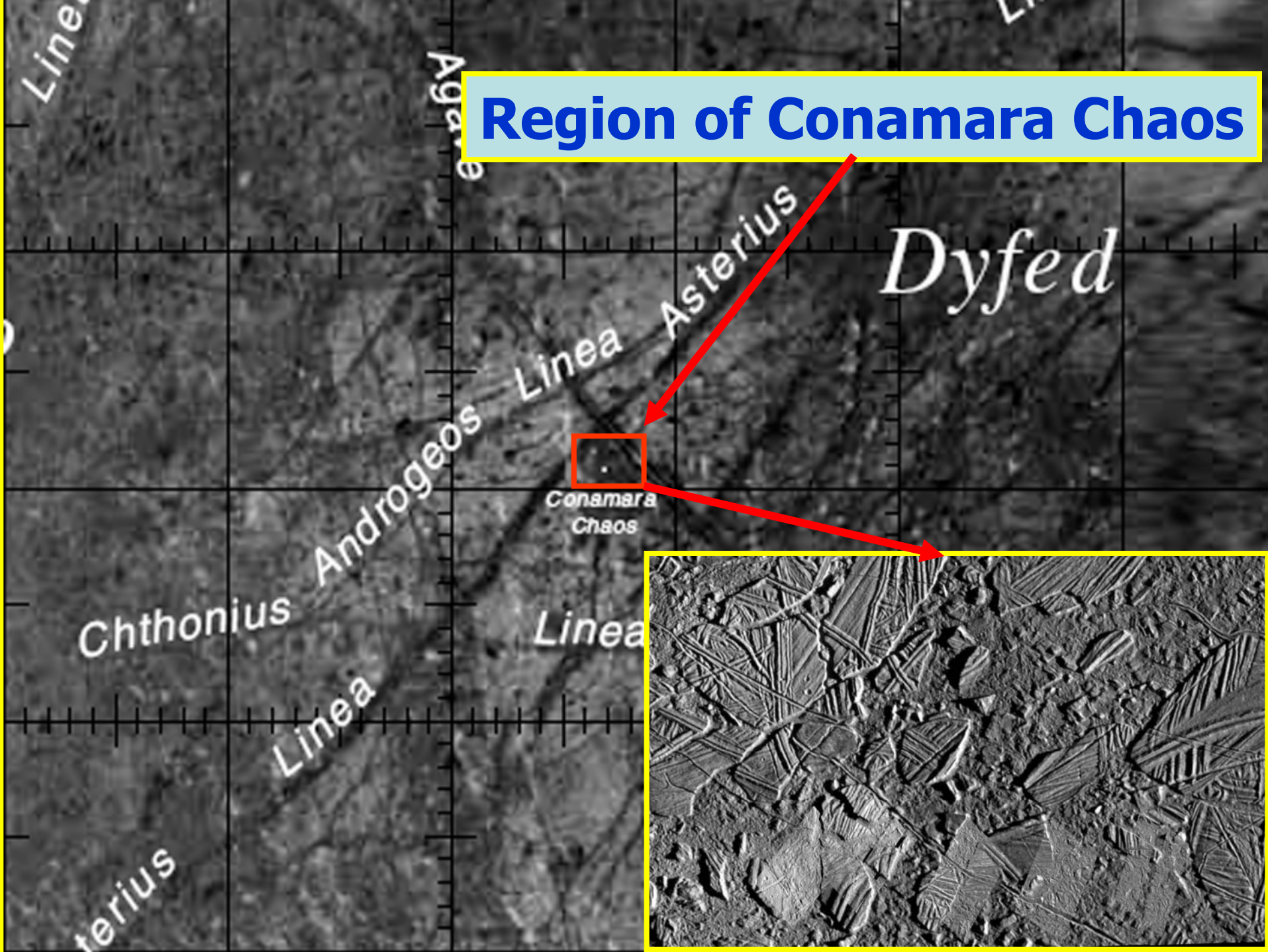


**8814R: the best candidate:** It is the smoothest, young cryovolcanic region with low albedo. Cryovolcanism: crustal and/or subcrustal; low albedo: contamination by non-icy material

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

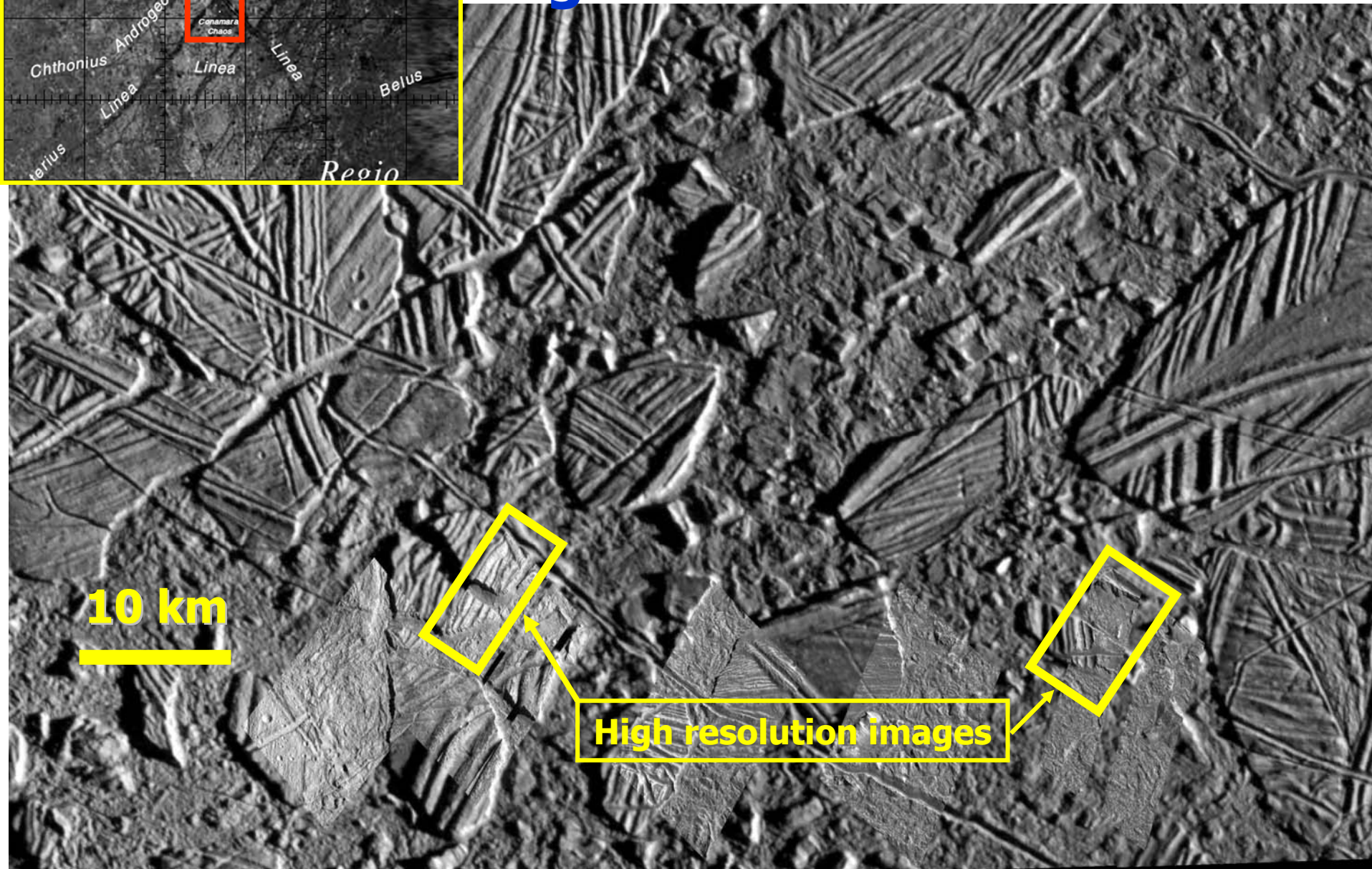
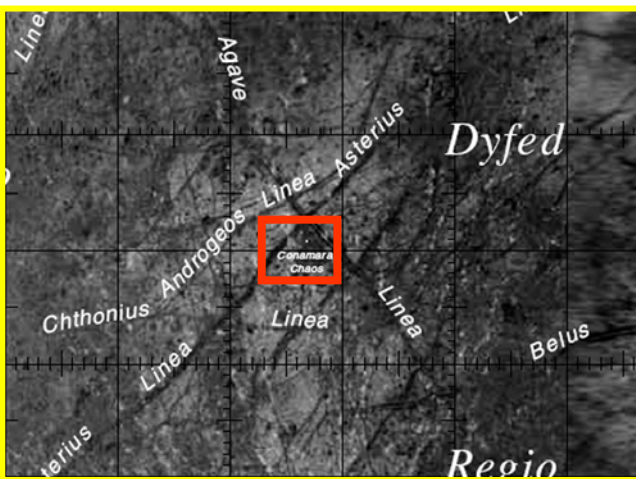
**R.Kuzmin's supplement:**

# 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"**

