

# OpenLuna Landing Sites



Suggested by

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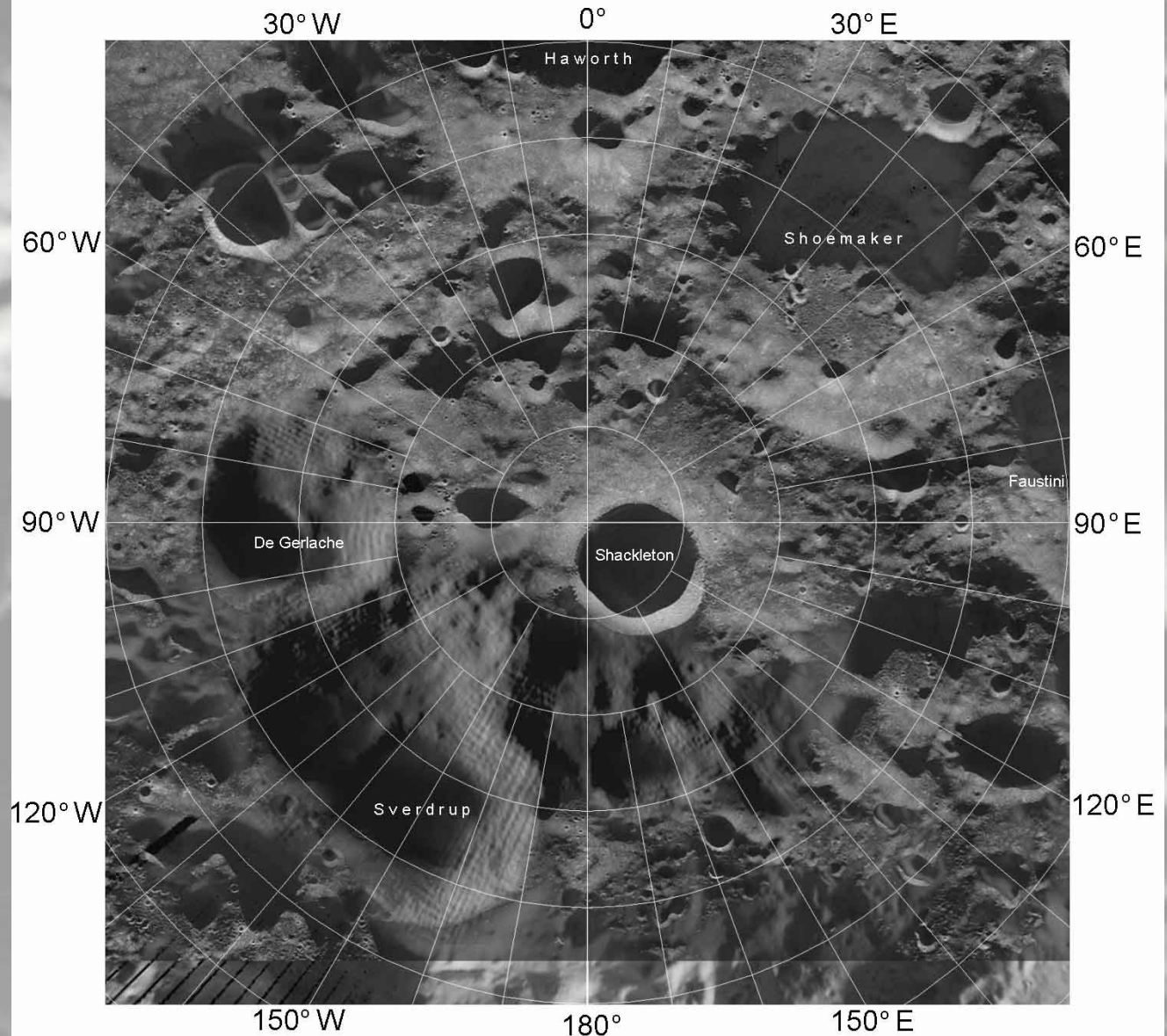
CPSX-UWO

November 2009

# South Pole Map

This map is a composite of LRO Diviner data, Earth-based radar and Kaguya topography

using Diviner control  
Grid circle spacing –  
0.5° (15 km)





# Illumination Map

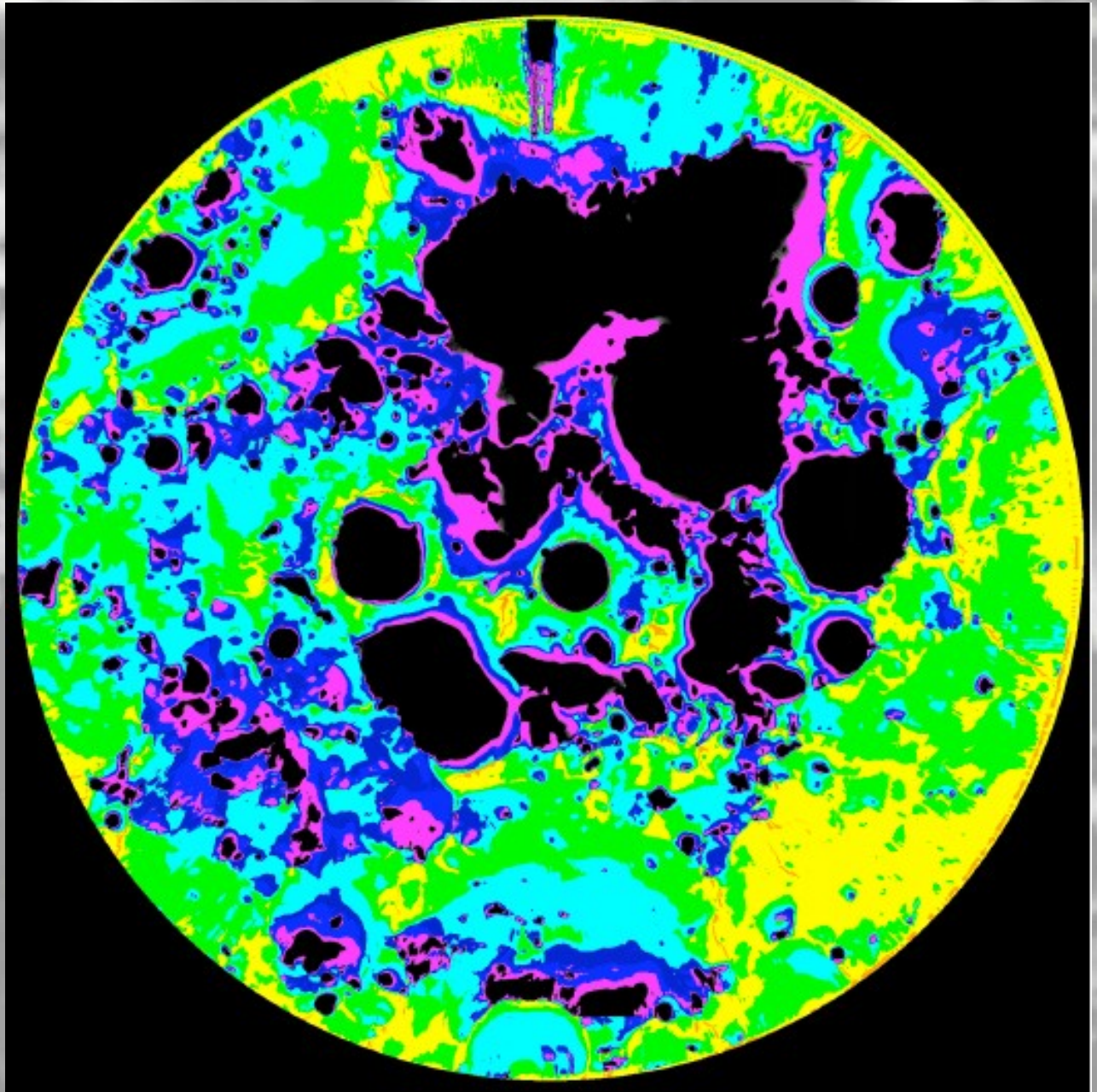
derived from  
Kaguya  
topography

Black – permanent  
darkness

Yellow – 50% sunlit

Red – over 50% sunlit

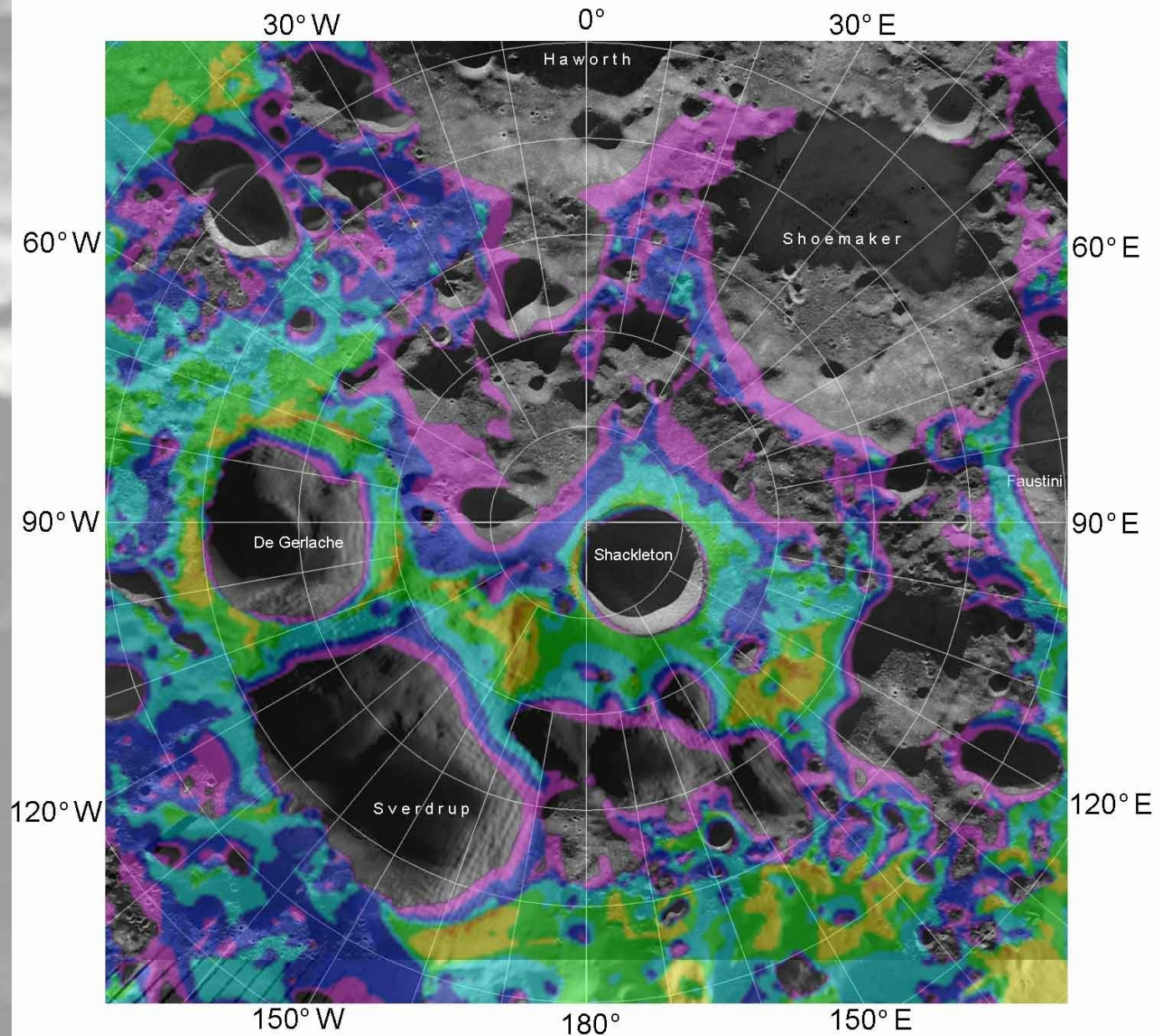
(from Bussey *et al.*,  
NLSF 2009)





# Combined illumination and base map

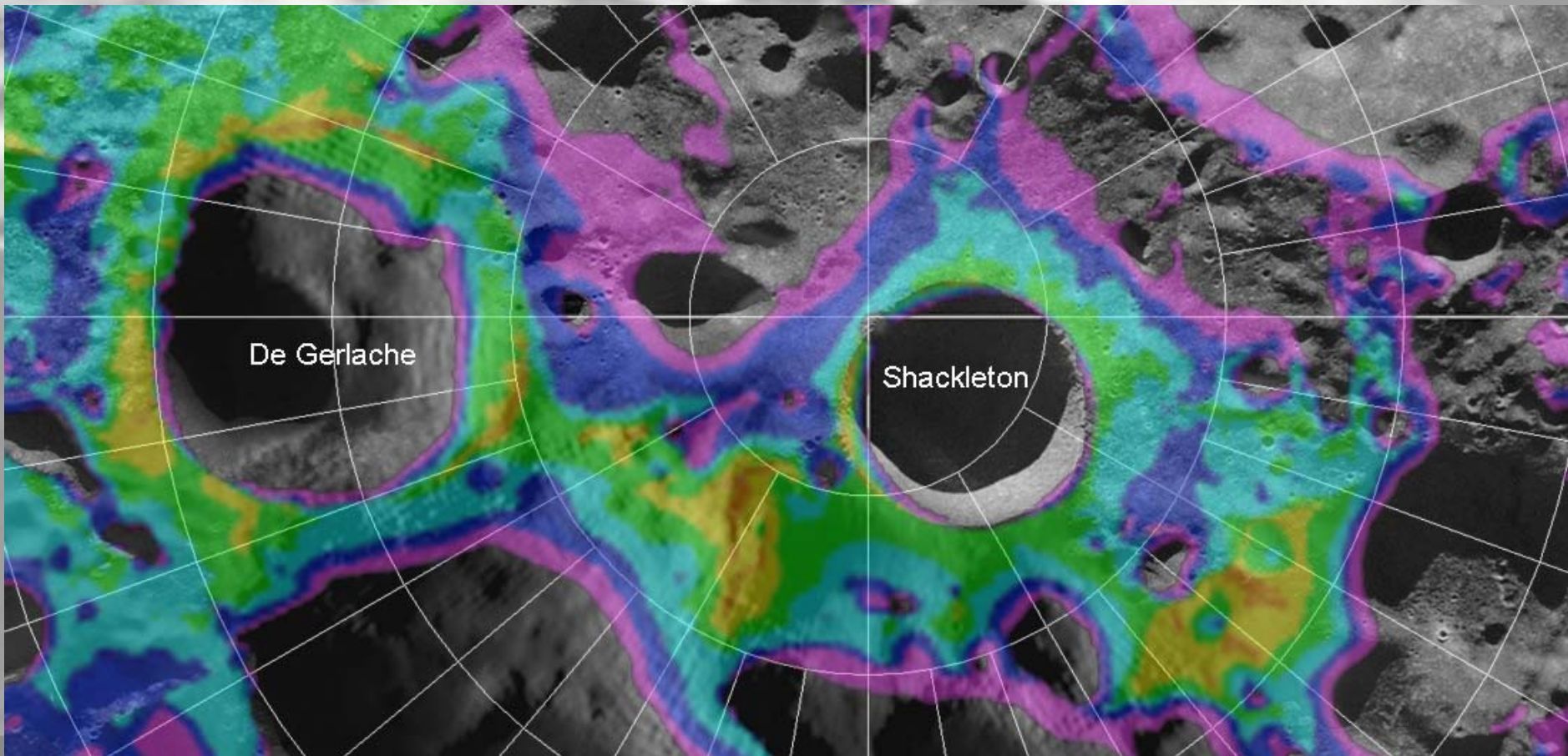
Yellow areas  
near the pole  
are preferred





# OpenLuna landing site region

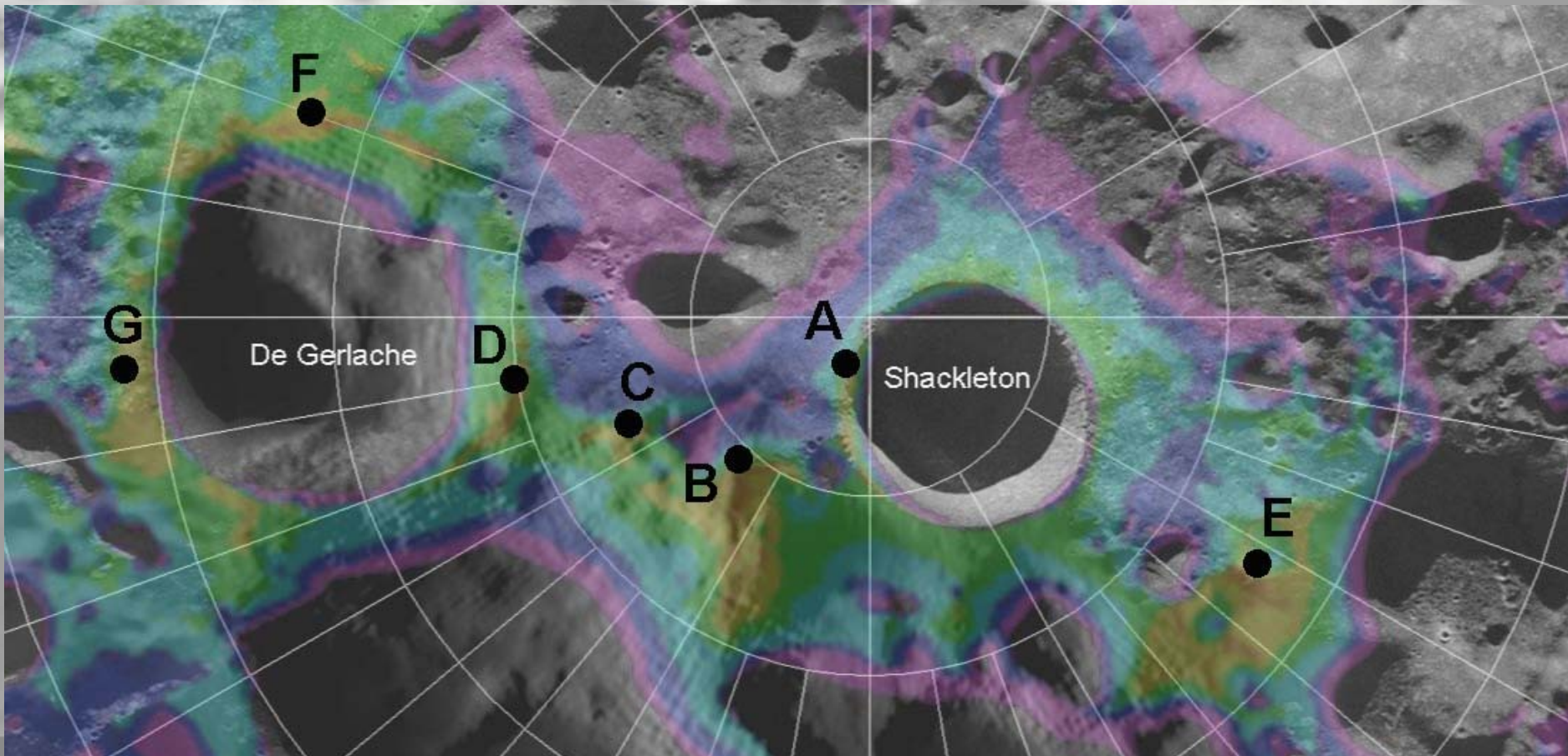
Yellow areas have the best illumination  
Uncoloured areas have permanent darkness



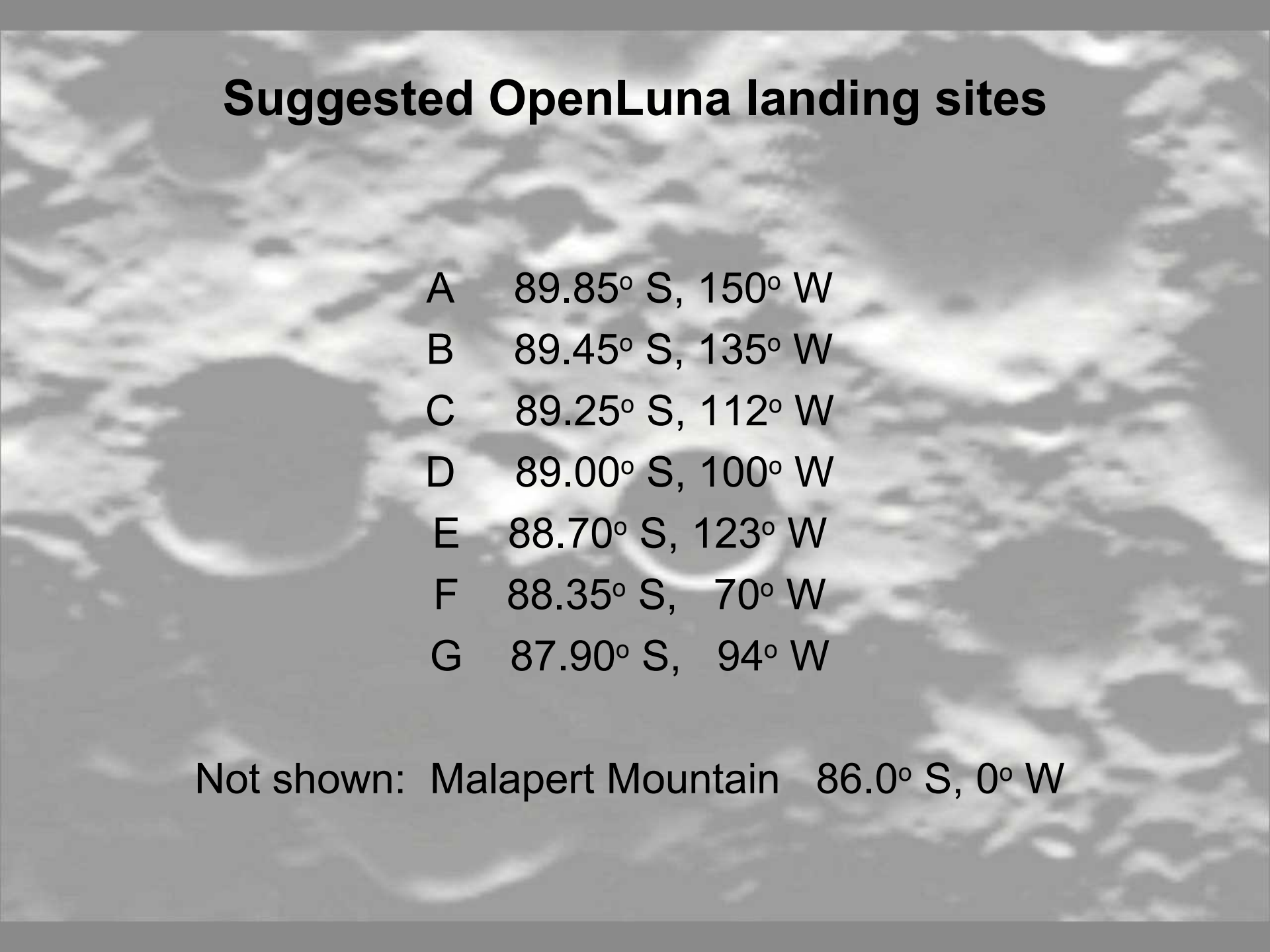


# Suggested OpenLuna landing sites

Order of preference is alphabetical



# Suggested OpenLuna landing sites



A	89.85° S, 150° W
B	89.45° S, 135° W
C	89.25° S, 112° W
D	89.00° S, 100° W
E	88.70° S, 123° W
F	88.35° S, 70° W
G	87.90° S, 94° W

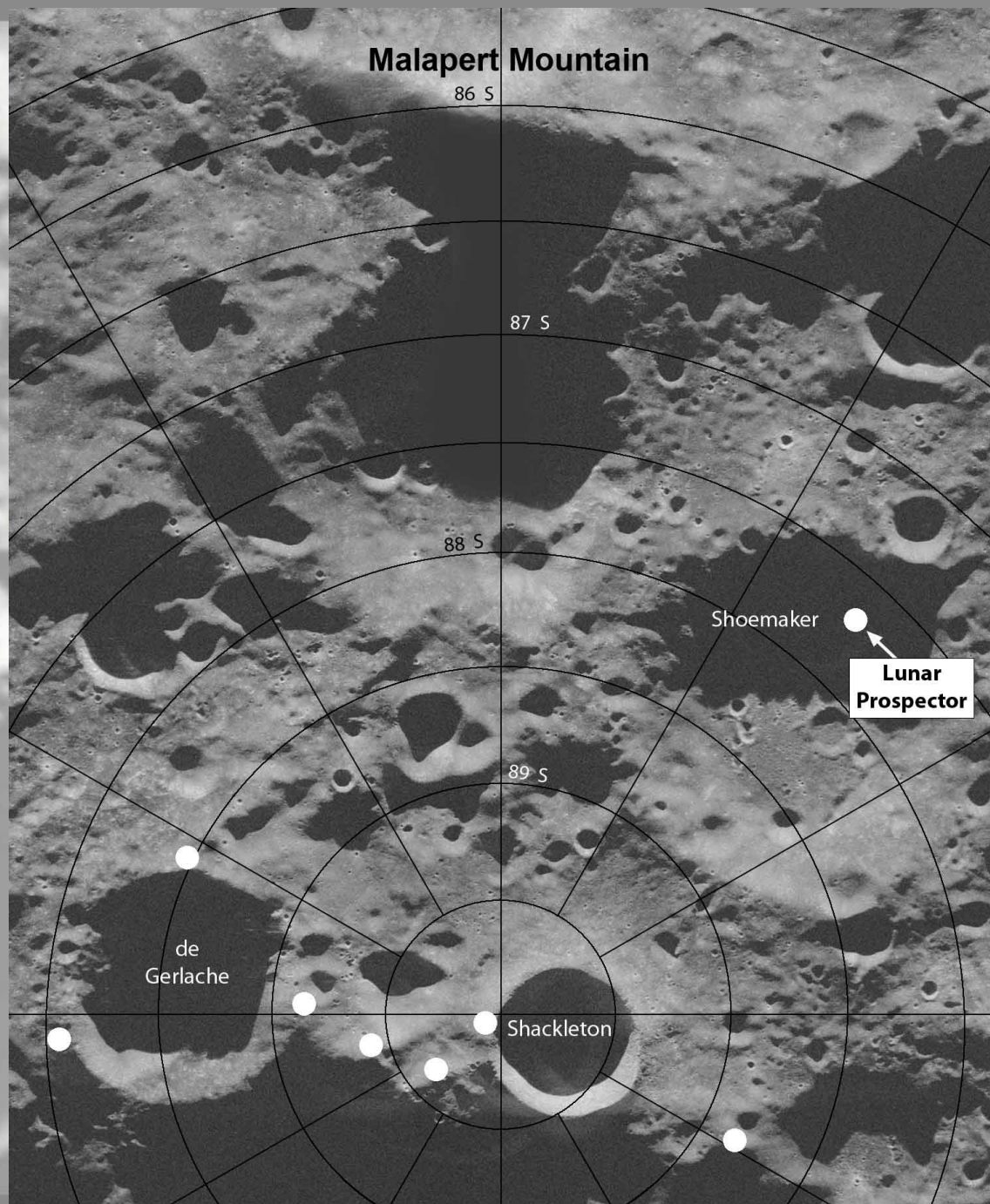
Not shown: Malapert Mountain 86.0° S, 0° W



# Malapert Mountain

Peak is at  
 $86.0^{\circ}$  S,  $0^{\circ}$  W

Continuous  
visibility from  
Earth, 80%  
illumination





# Suggested OpenLuna landing sites

B has 6 months of continuous sunlight in 'summer'

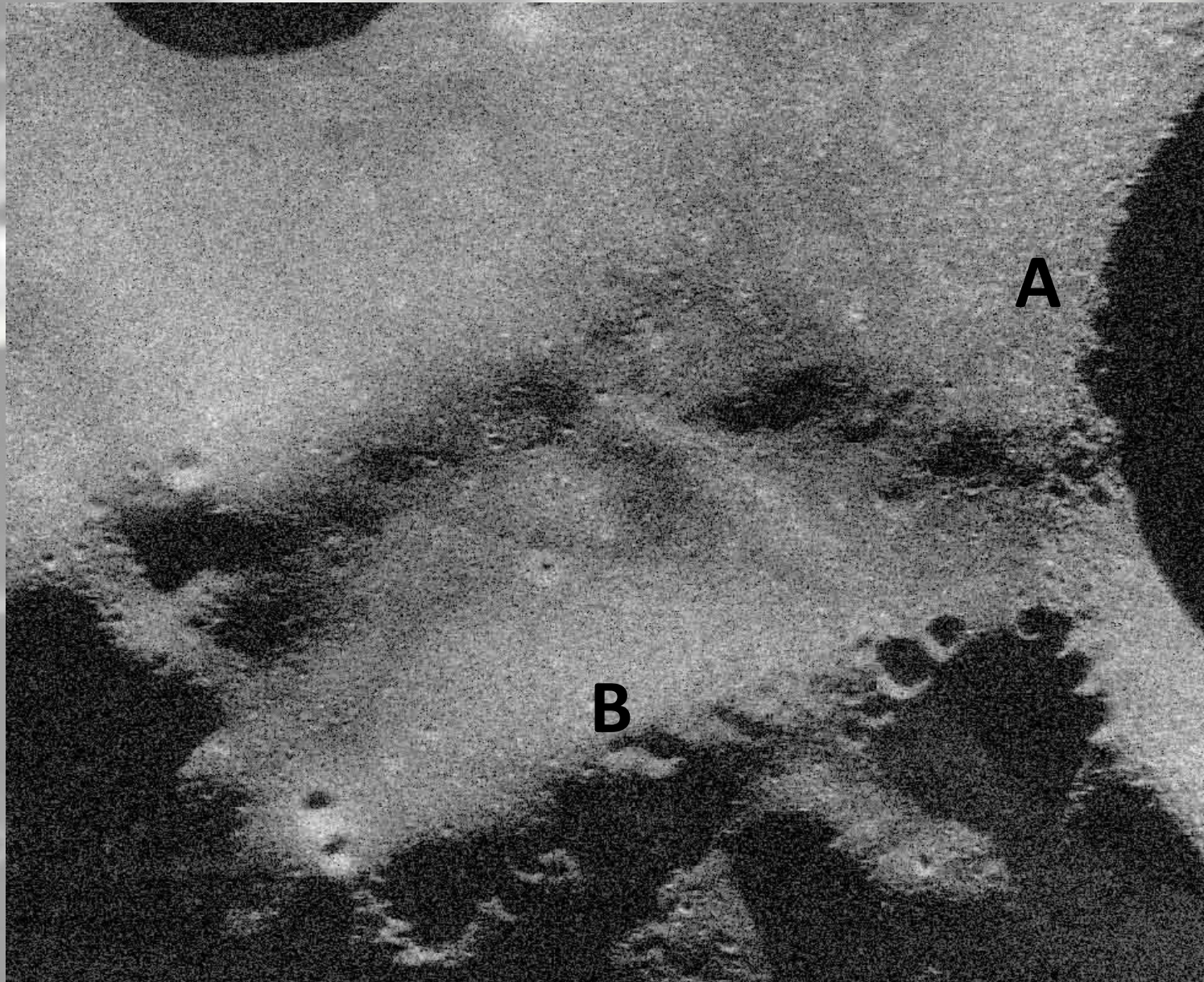
A and B together, 12 km apart, have about 97% continuous sunlight between them

Malapert Mountain has about 80% continuous sunlight

# Sites A and B

Chandrayaan 1  
Moon Impact  
Probe debris  
lies near A

Earth-based  
radar map

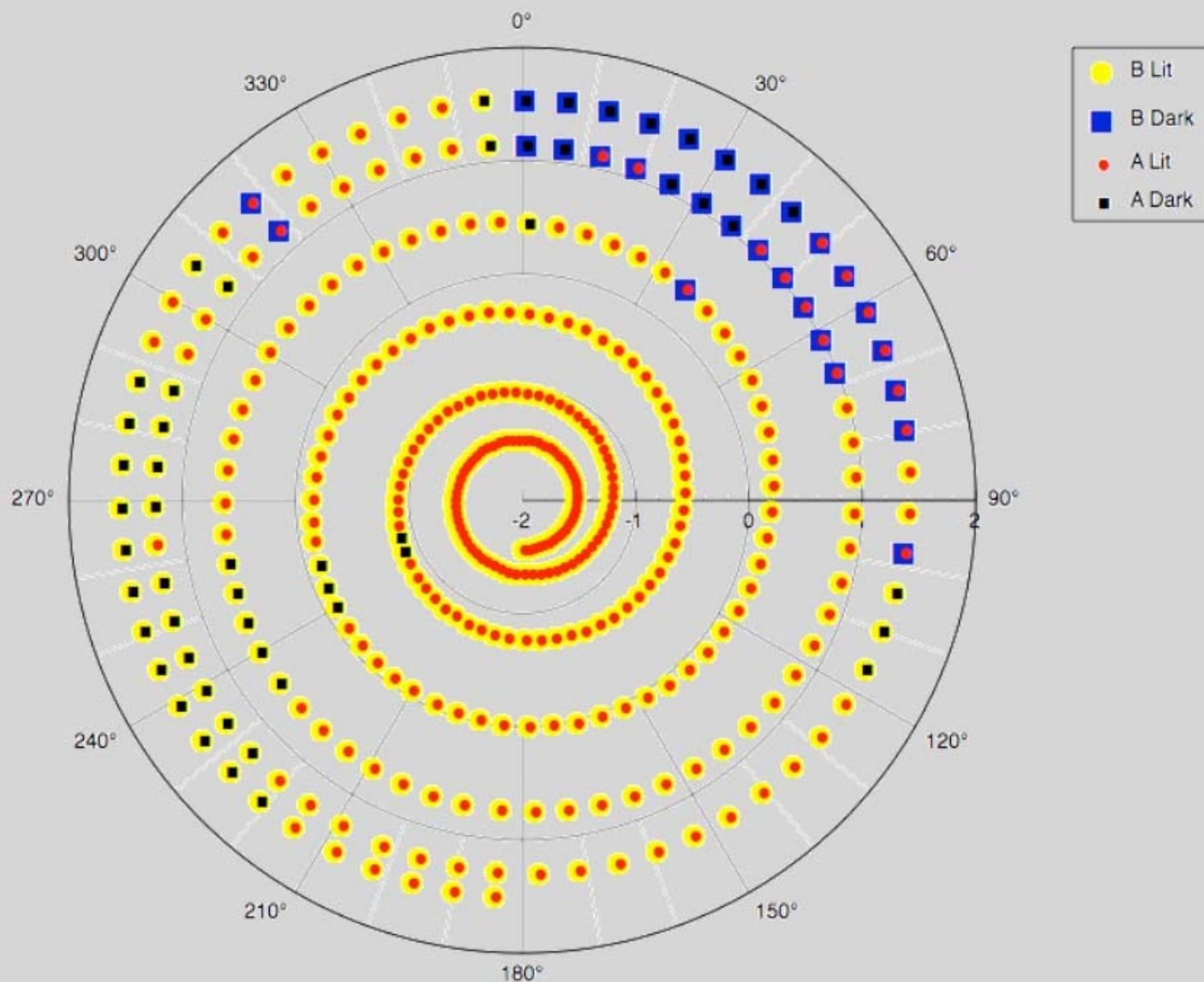




# Sites A and B

## lighting analysis

## A & B in 2020



(from Bussey *et al.*,  
NLSF 2009)

# Malapert Mountain

## lighting analysis

(from Bussey *et al.*,  
NLSF 2009)

# Malapert

