

JunoCam at Perijove-31: What the pictures show

John Rogers (BAA) (2021 Jan.29)

Figures (small copies)

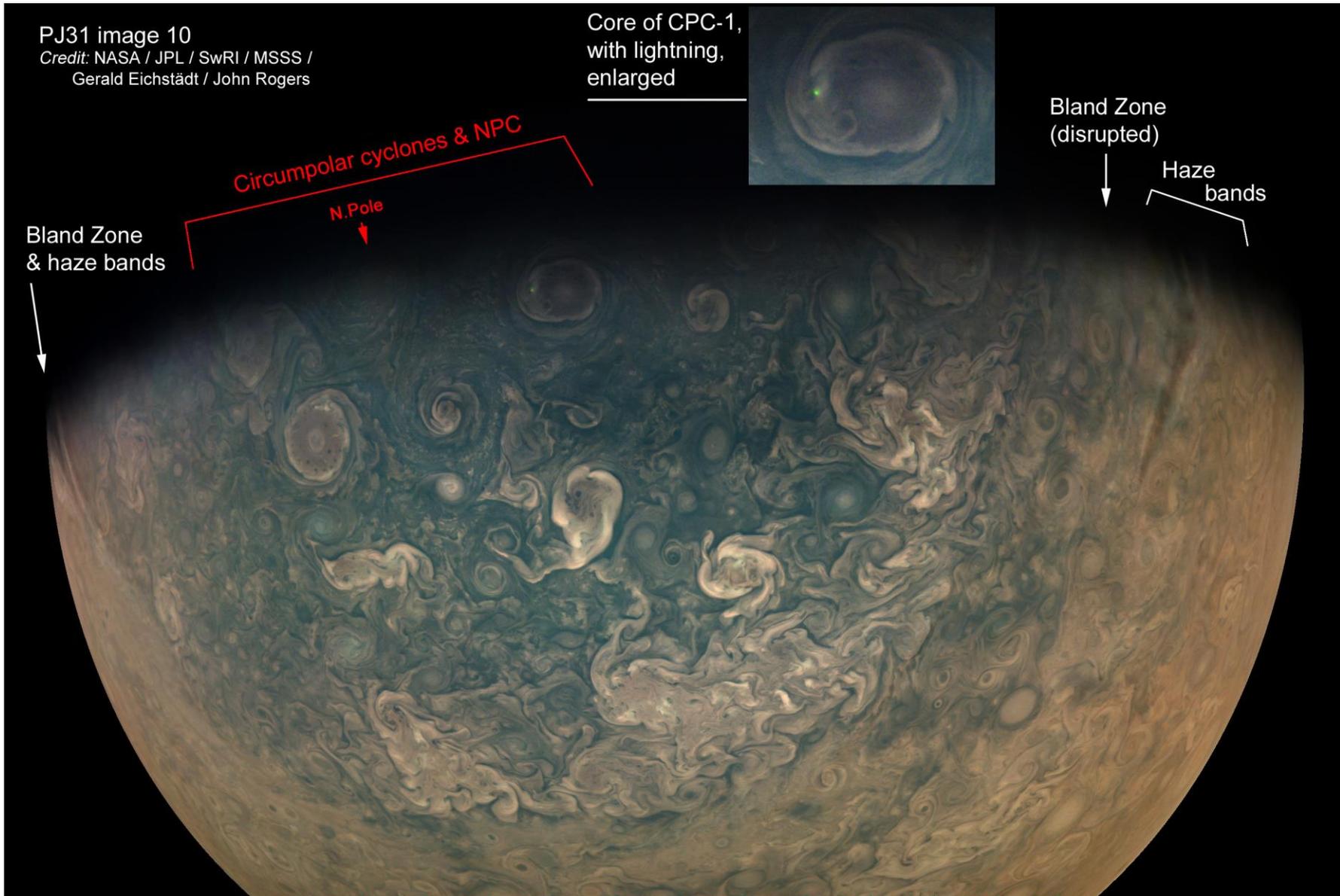


Figure 1

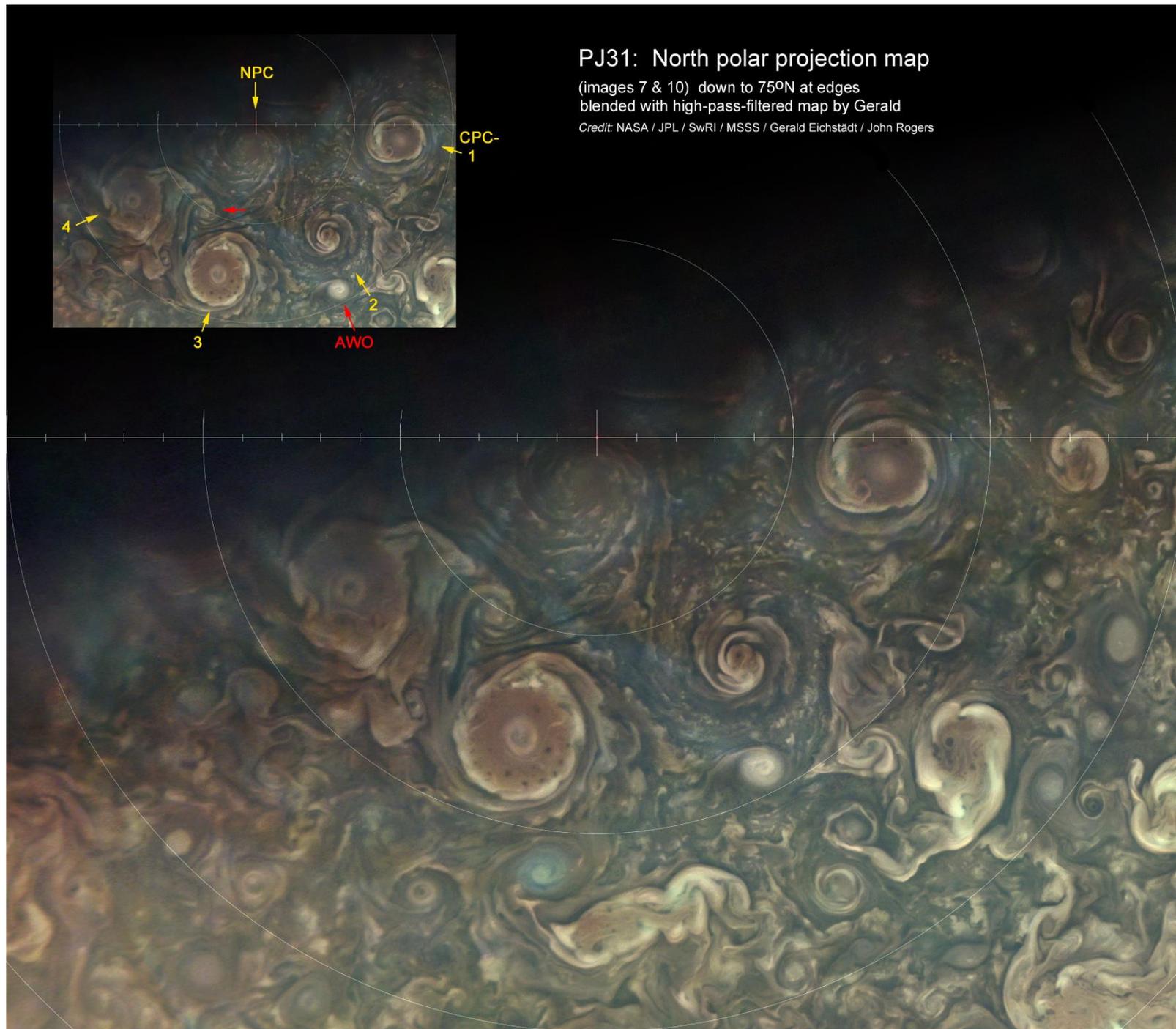
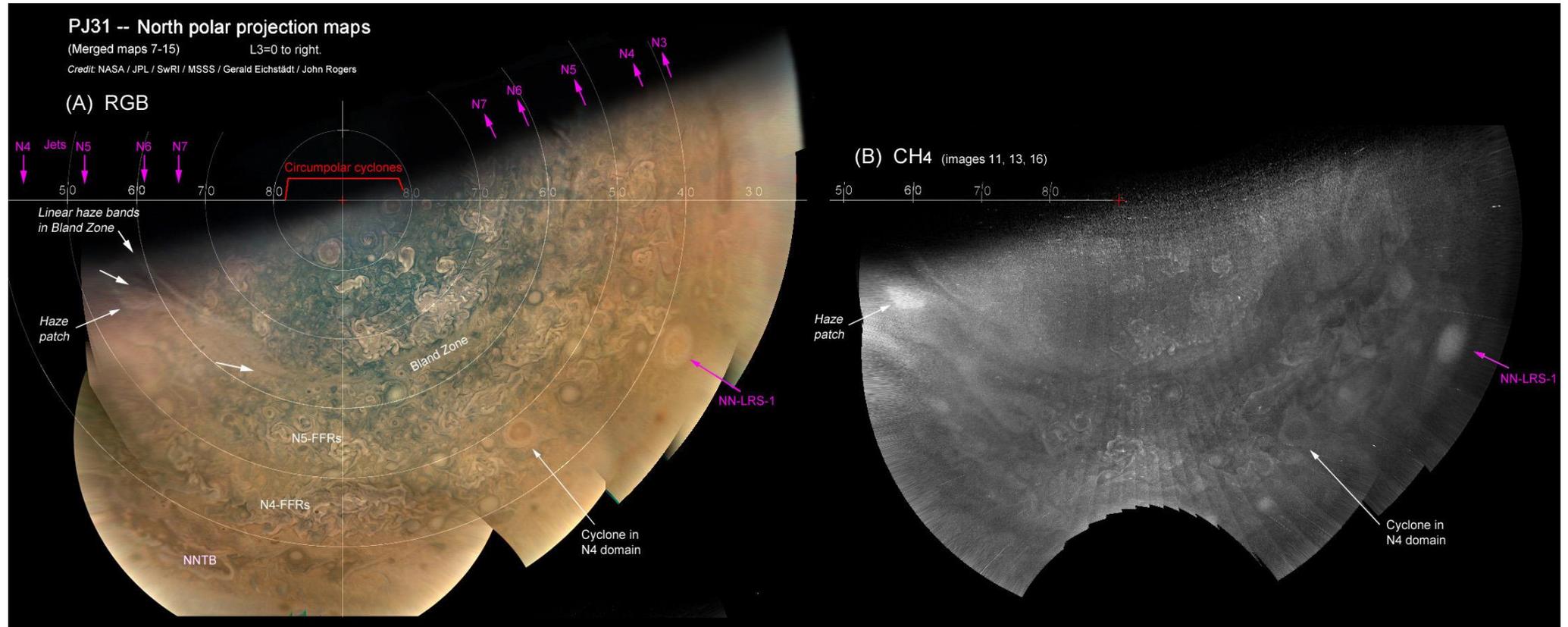
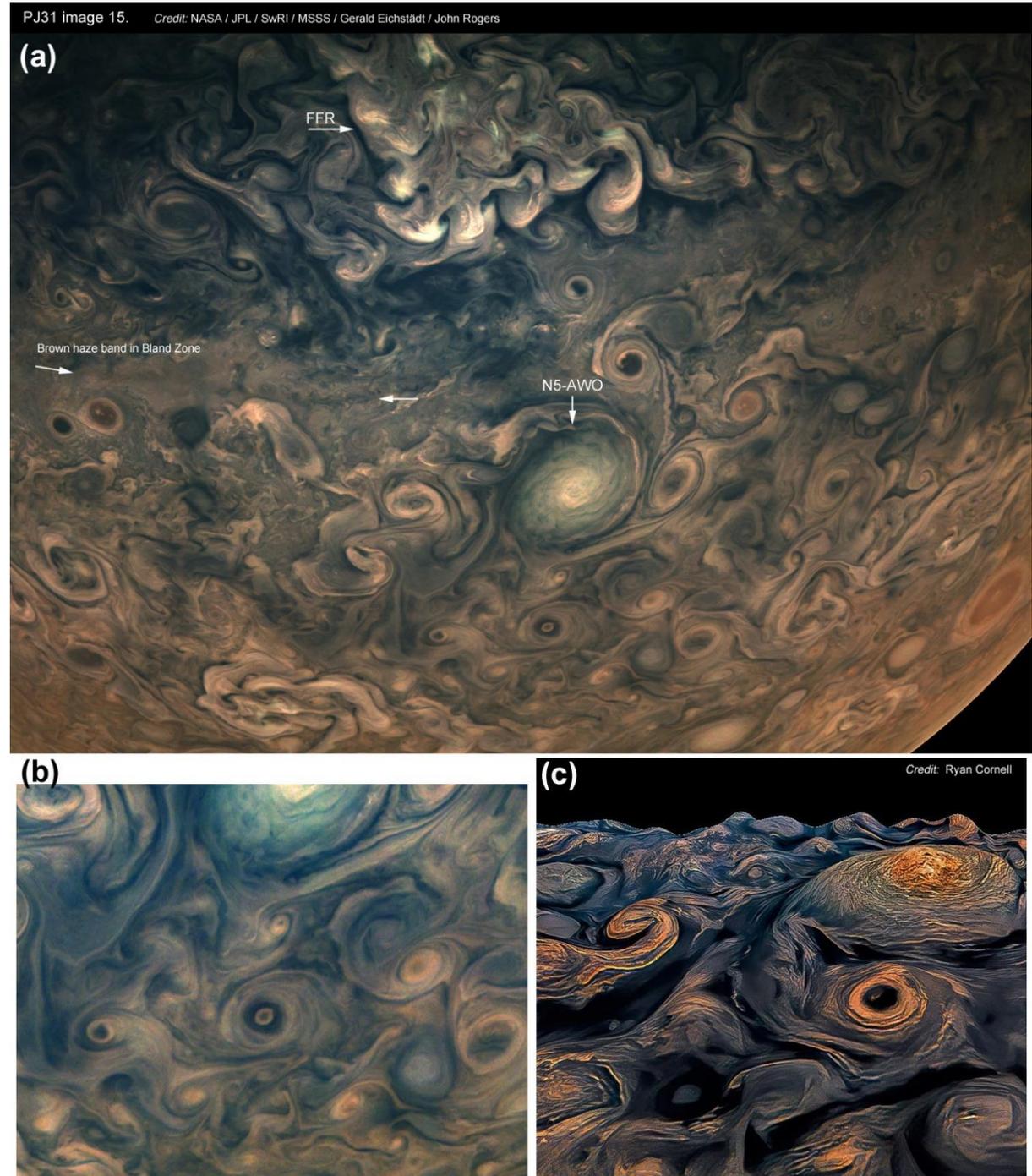


Figure 2.

Figure 3. North polar projection maps, down to low latitudes: (A) RGB, (B) CH4.



**Figure 4.** Image 15; north up. (a) Most of the image (Gerald's version, reduced), showing the Bland Zone with a brown haze band within it, a very bright FFR north of it, and a N5-AWO south of it. (b) Excerpt, enhanced, showing a cluster of small cyclonic vortices. (c) The same region in an artistic 3D representation by Ryan Cornell (from the JunoCam web site).



**Figure 5.** Image 19. The left half includes a large FFR, with beautiful multi-level cloud features among its writhing filaments. (Processed by Gerald Eichstädt. A beautiful rendition of the same image was also posted by Kevin Gill.)



**Figure 6.** Ground-based maps around the date of PJ31 including Clyde Foster's best image of the track three days before.

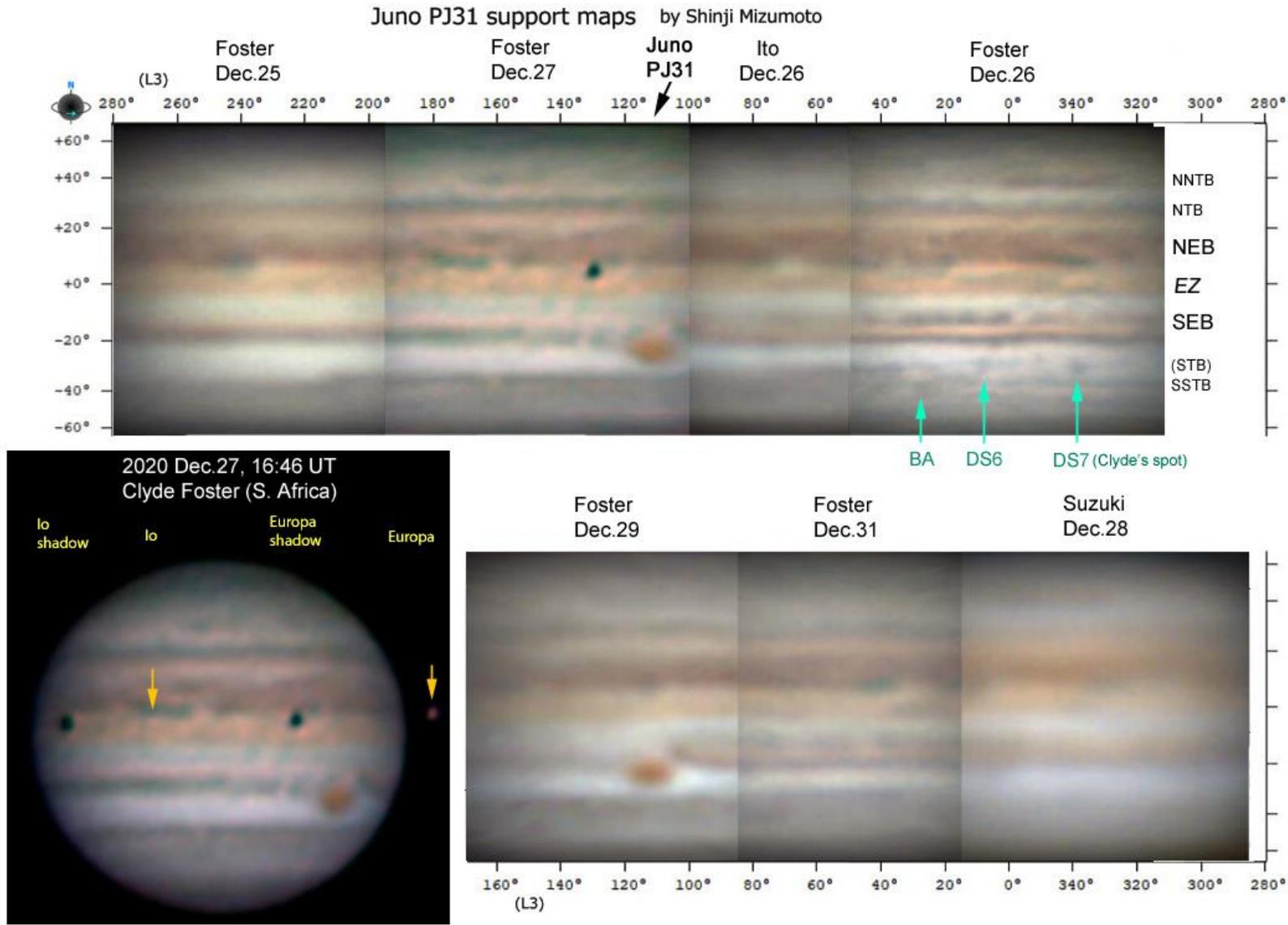
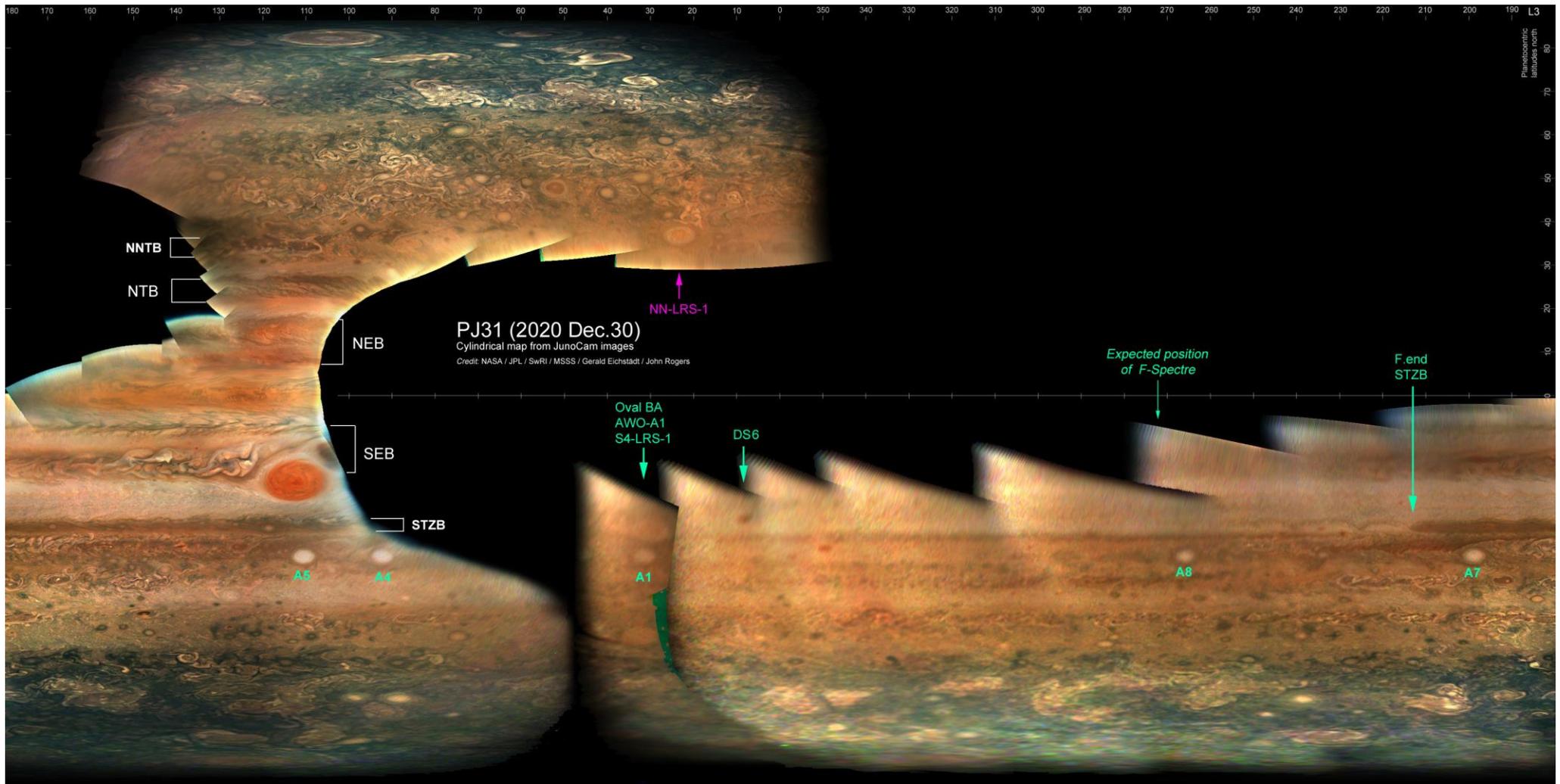
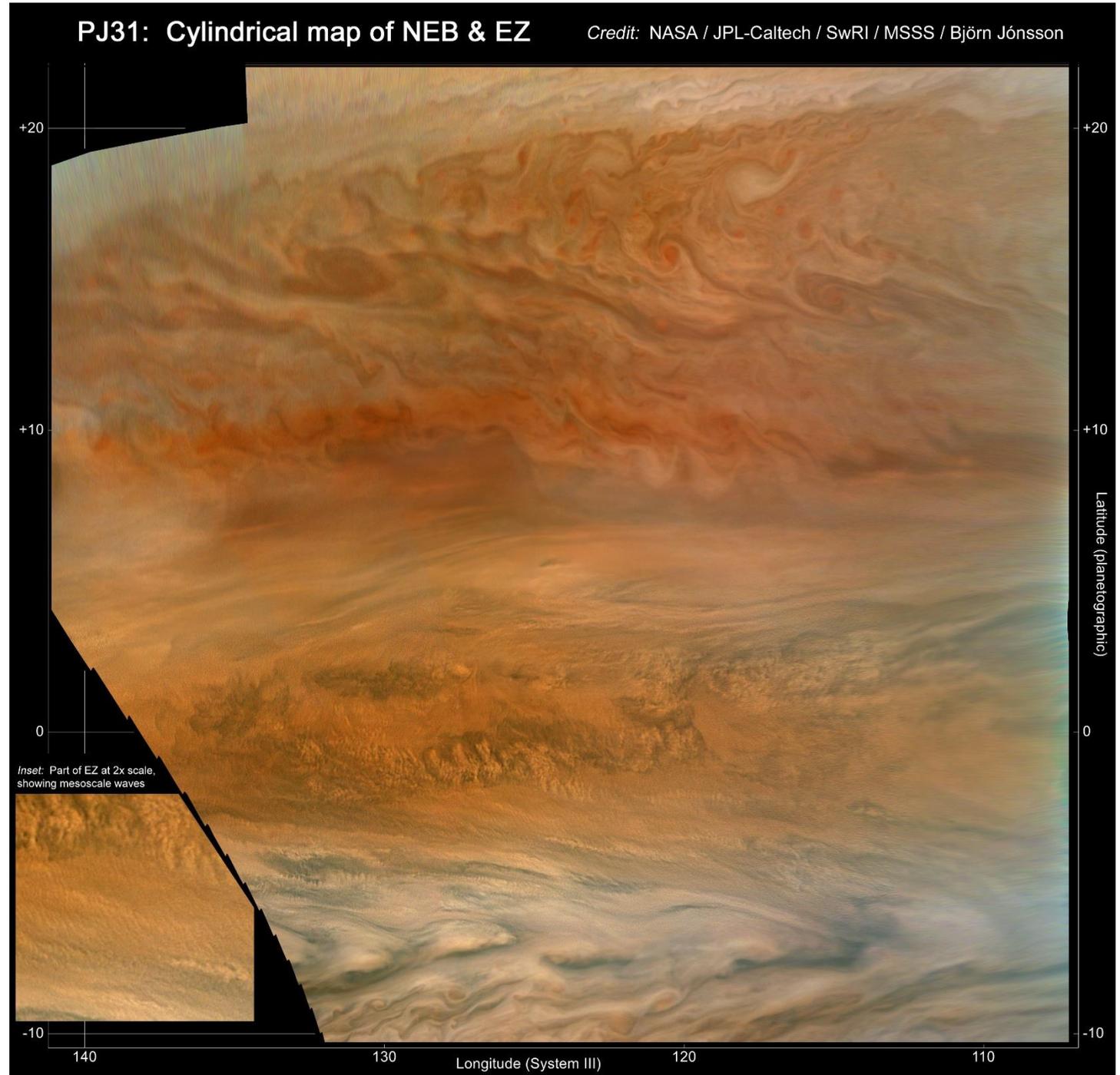


Figure 7. JunoCam global cylindrical map.



**Figure 8.** Hi-res cylindrical map of the NEB & EZ by Björn Jónsson, shown here at half scale. The inset shows part of the field of subtle mesoscale waves, at full scale.



**Figure 9.** Hi-res cylindrical map of the SEB and surroundings from several PJ31 images, by Björn Jónsson, shown here at half scale. The panels at top are full-scale excerpts showing the two bright plumes in the SEB. (Figure 10 is one of several images used to make it.)

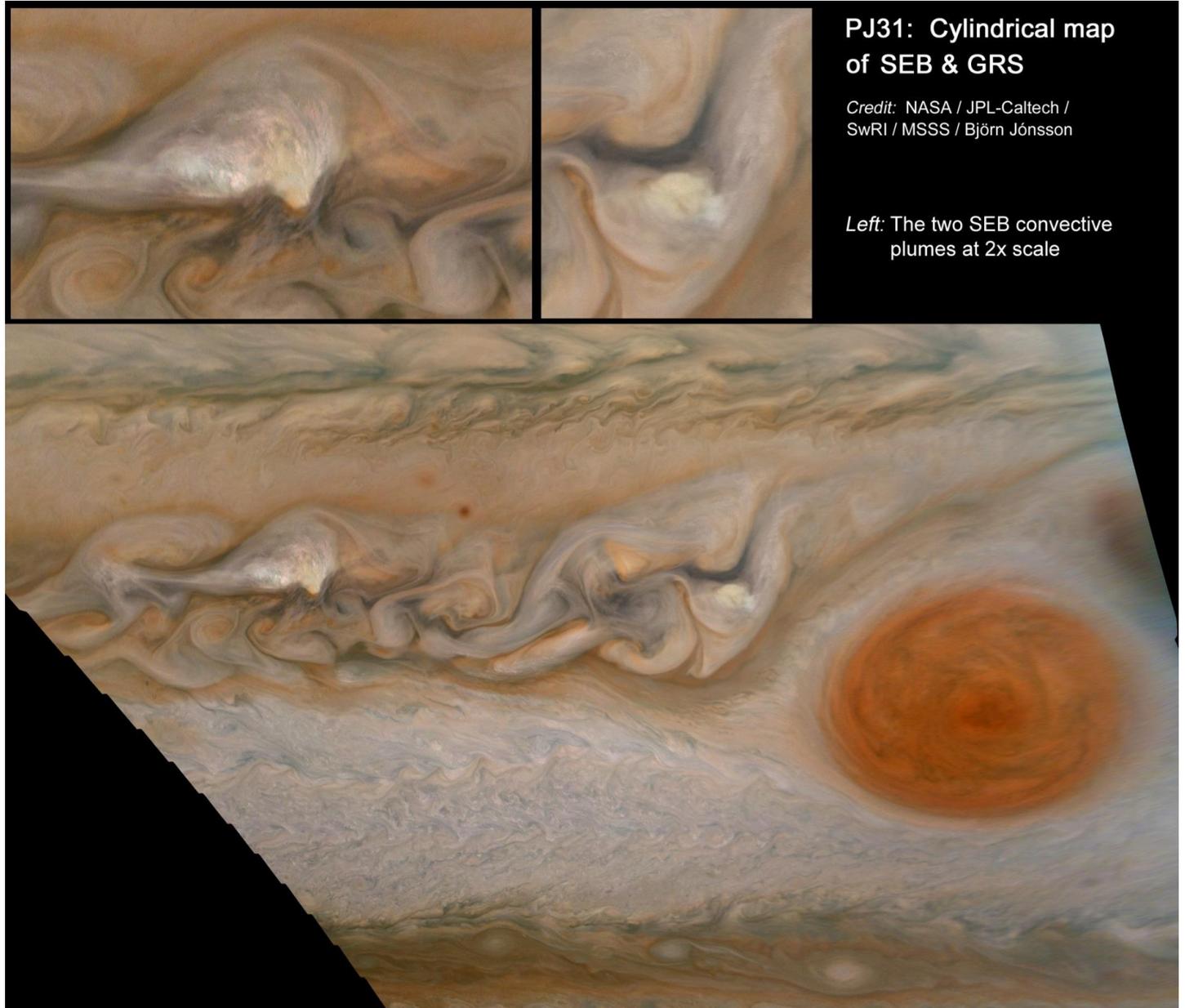


Figure 10.

PJ31 image 32

Credit: NASA / JPL / SwRI / MSSS / Gerald Eichstädt / John Rogers

Reddish band in SEBZ

\* Other cloud features crossed by white haze bands

EZ(N)/EB

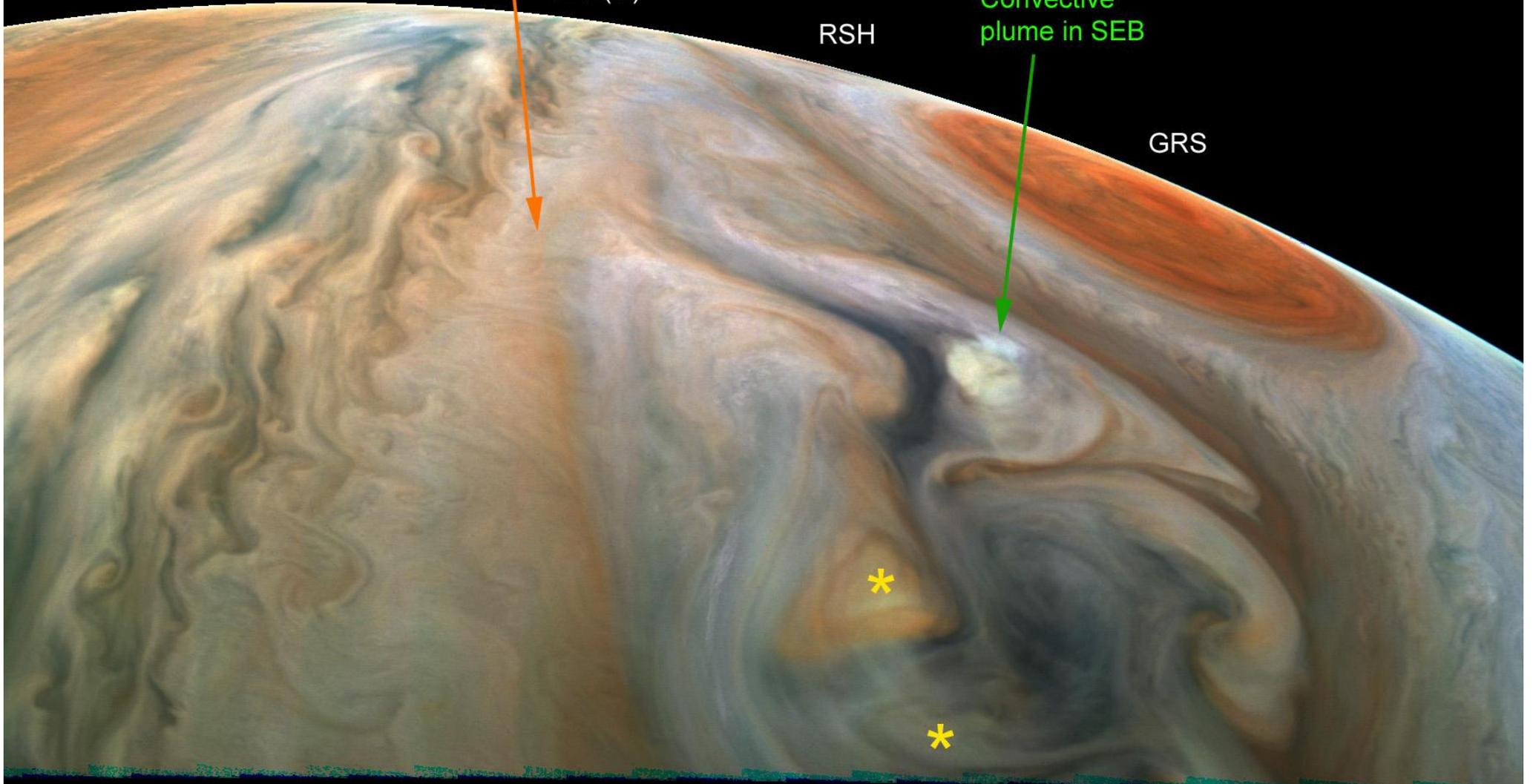
EZ(S)

SEB(N)

RSH

Convective  
plume in SEB

GRS

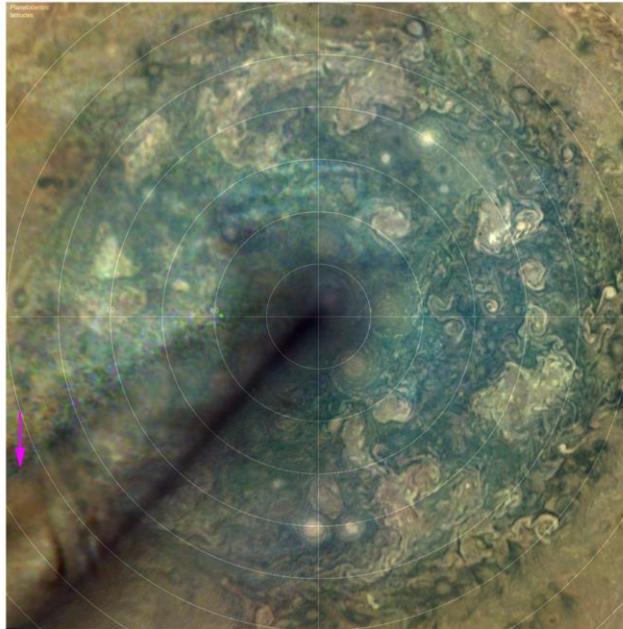


# PJ31: South polar projection maps

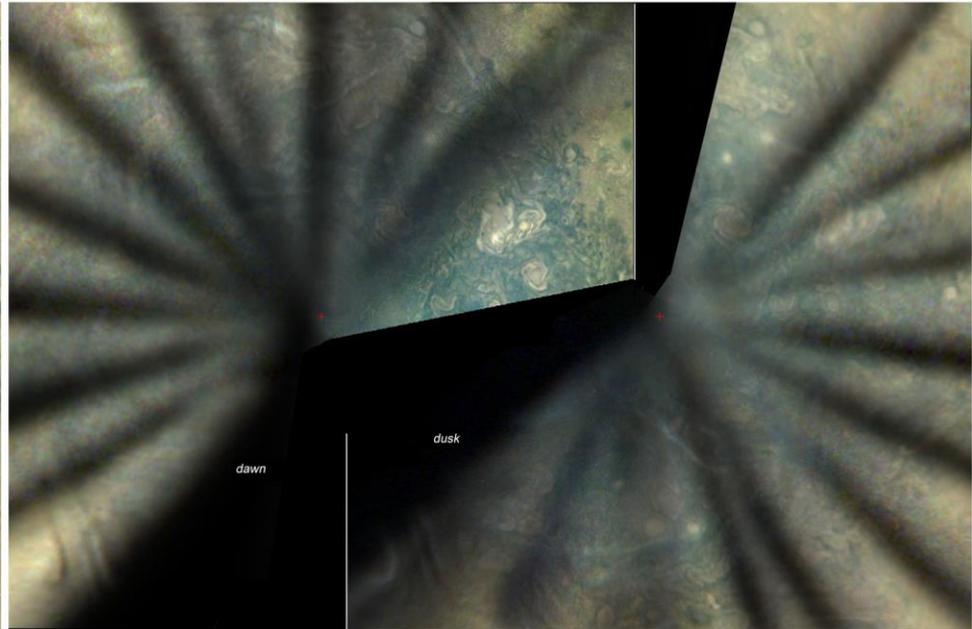
L3=0 to left. Red cross = south pole.

Credit: NASA / JPL / SwRI / MSSS / Gerald Eichstädt / John Rogers

(A) RGB, down to 60°S at edges (half scale) ➔ S4-LRS-1

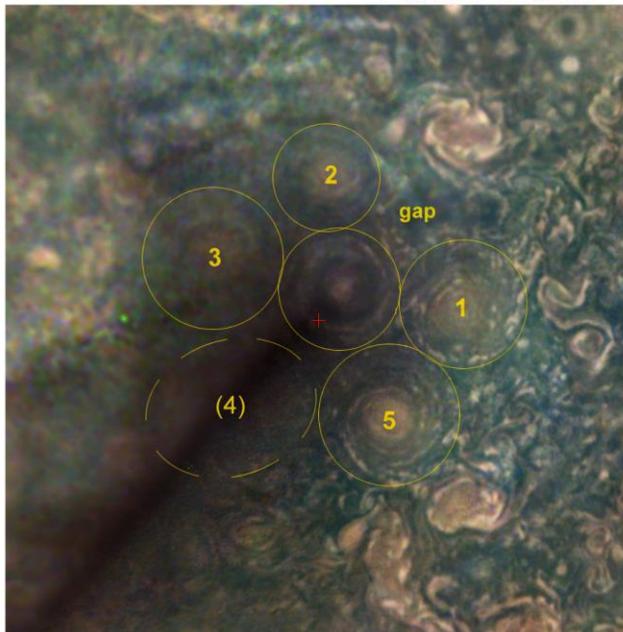


(C) RGB, down to 60°S at edges (half scale), showing near-terminator regions to highlight haze bands. Left: dawn. Right: dusk.



(B) RGB, showing the CPCs (full scale)

Composites made by JHR (all maps) & GE (high-passed, hi-res only), merged



(D) Methane band, down to ~25° at edges

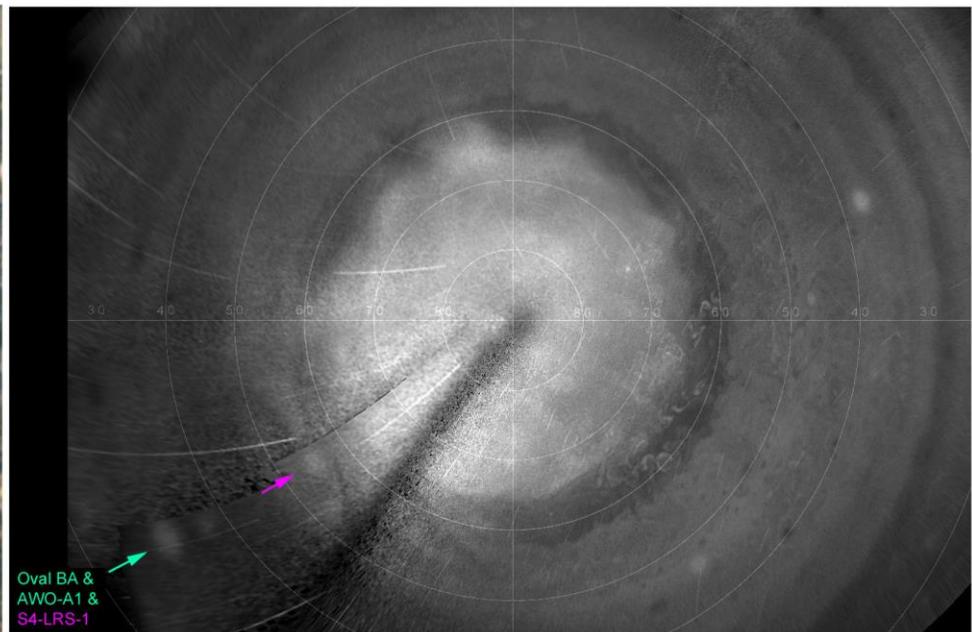
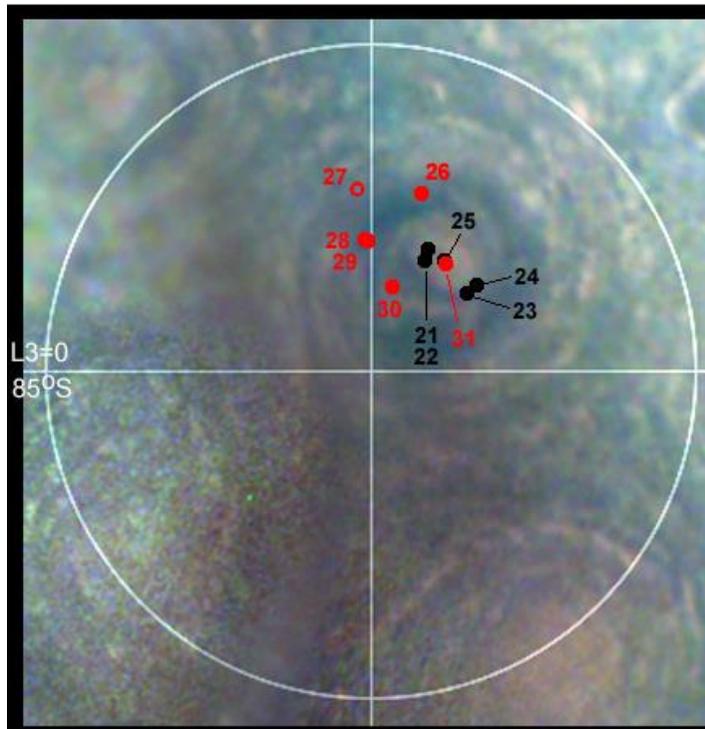


Figure 11.

**Figure 12.** Motion of the SPC throughout the Juno mission.

### Position of SPC w.r.t. South Pole

The centre of the SPC is marked at each perijove, on a background map from PJ25 (& PJ21, lower left) (Enlarged x1.33 w.r.t. standard map)



### Composite of all positions, PJ1-PJ31

*Throughout these 4 years, the SPC has been oscillating with  $P = 11.5 (\pm 1)$  months, in longitude and usually in latitude, cycling anticlockwise and progressively drifting in one direction*

