

## JunoCam images at PJ66

John Rogers (2024 Nov.16)

Perijove-66 was on 2024 Oct.22. Perijove was at 55.8°N, L3 = 354, and equator crossing was at L3 = 21, all on the dark side as usual. The track longitude was only 13° from the PJ65 track, so the same features were imaged again on the inbound leg.

The flyby began with a distant pass by Io. Images showed the same view as at PJ64, but the disk size was smaller and no changes nor plumes were readily visible. Amalthea was also captured, but it only subtended a few pixels.

Conventions, abbreviations, and acknowledgements for this report are as in our PJ65 and previous reports. The JunoCam maps were made by Gerald Eichstädt and contrast-adjusted by JHR, as usual.

Figure 1 is a ground-based map of Jupiter on Oct.19-20. Figure 2 is our JunoCam map at PJ66. Figure 3 shows anticyclonic ovals in three of the images. (A) NEBn WS-E (L3 = 192), with a smaller one; the latter is about one month old, and beginning to swing round WS-E prior to partially merging with it (see BAA 2024/25 Report no.2 & <https://alpo-j.sakura.ne.jp/kk24/j241031r.htm>). (B) The long-lived N5-AWO (L3 = 201). (C) S4-LRS-1 (L3 = 338), which had interacted and probably merged with a newer, smaller AWO a few days earlier and is still somewhat distorted (see map set by S. Mizumoto: <https://alpo-j.sakura.ne.jp/kk24/j241026r.htm>).

Figure 4 is our north polar projection map. The long-lived N5-AWO is on the left side.

Figure 5 is our map of the north polar cyclone cluster. Compared with the PJ65 map (Figure 6), it seems likely that the extra cyclone 'X' is the same feature in both, and perhaps likewise the FFR just 'above' the chaotic CPC-6 and interacting with it. If so, this FFR has drifted a short way clockwise between PJs, as we also suspected for a previous extra cyclone. This interaction may be of interest for studying the dynamical influences on the CPCs – whether the effect of the FFR is to increase or decrease the cyclonic vorticity of CPC-6. In CPC-5, we still see features resembling the cyclonic centre and the off-centre anticyclonic vortex as seen at PJ65, but they do not show obvious spirals and the latter is now in the opposite side of the CPC.

Figure 7 is the south polar projection map from the outbound images.

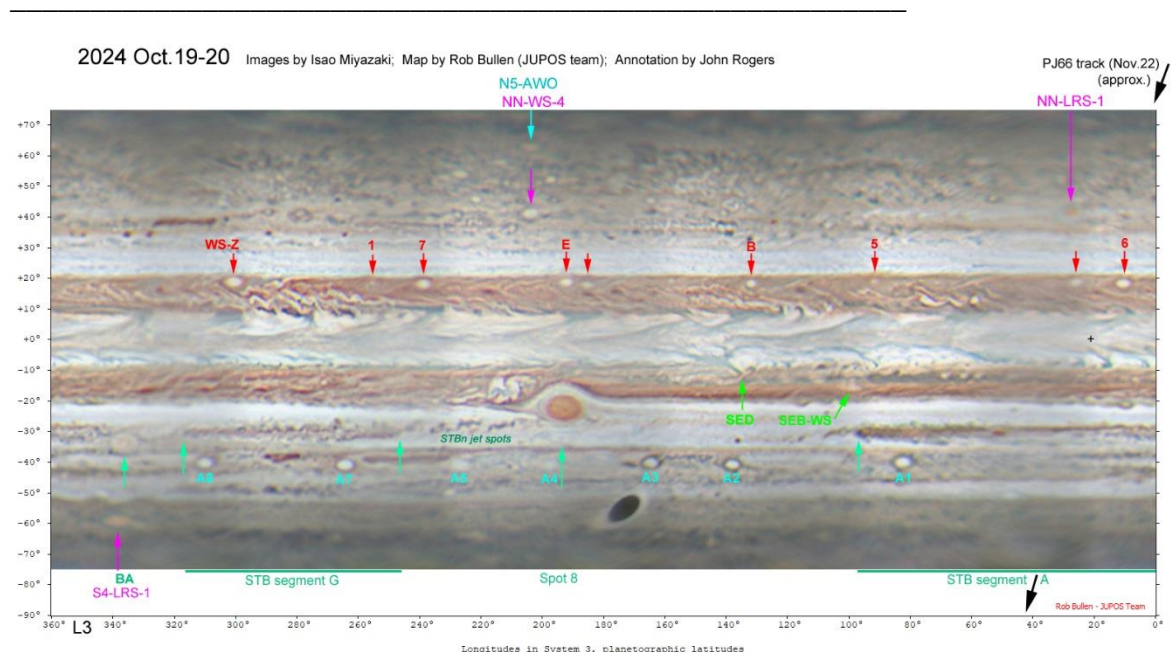
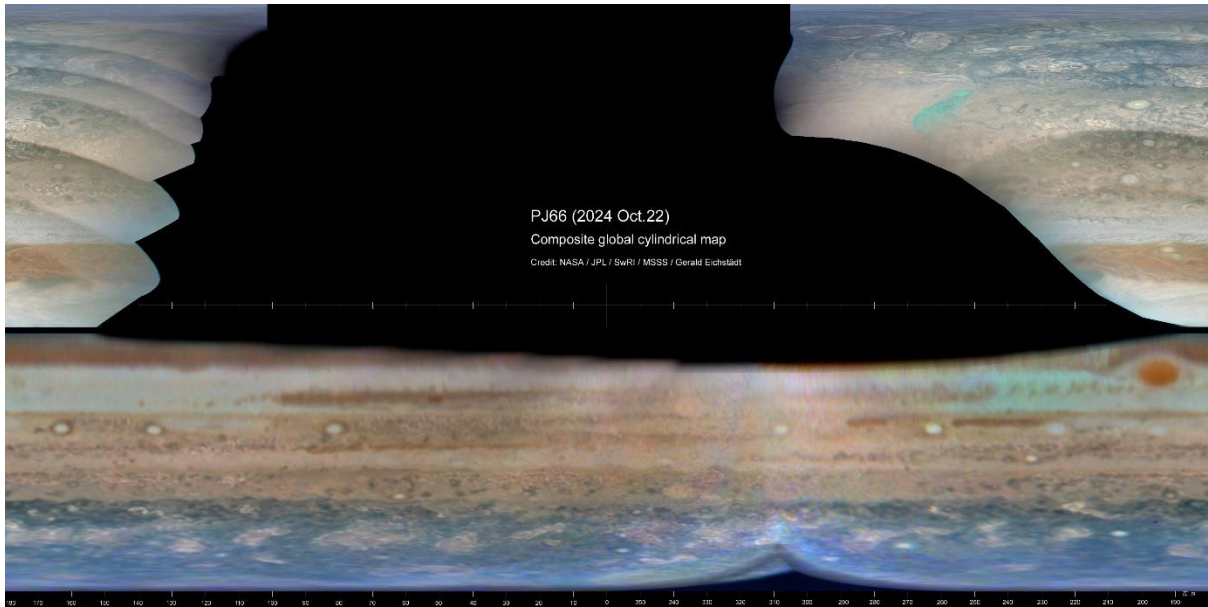
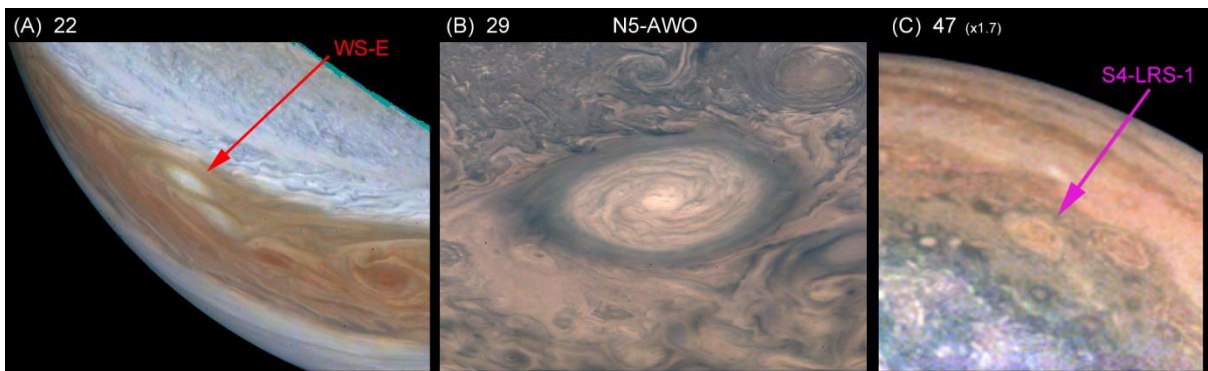


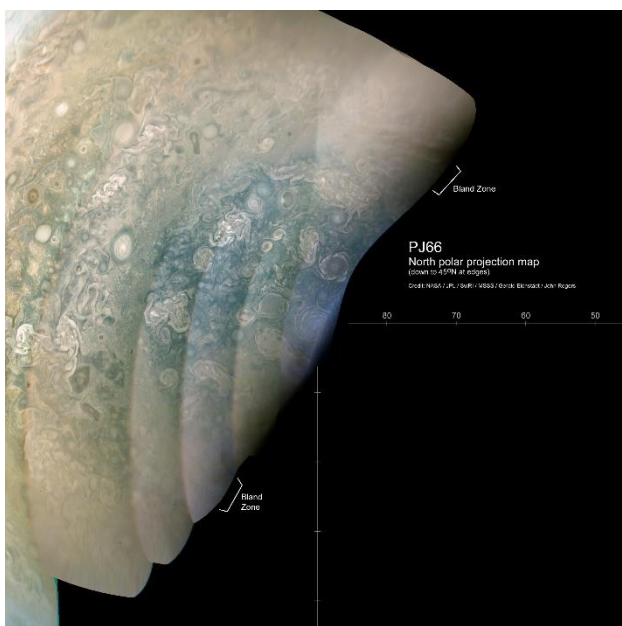
Figure 1. Ground-based map.



**Figure 2.** JunoCam map from inbound (N) and outbound (S) legs. (See Figure 1 for names of features; note the maps are centred 180° different in longitude.)

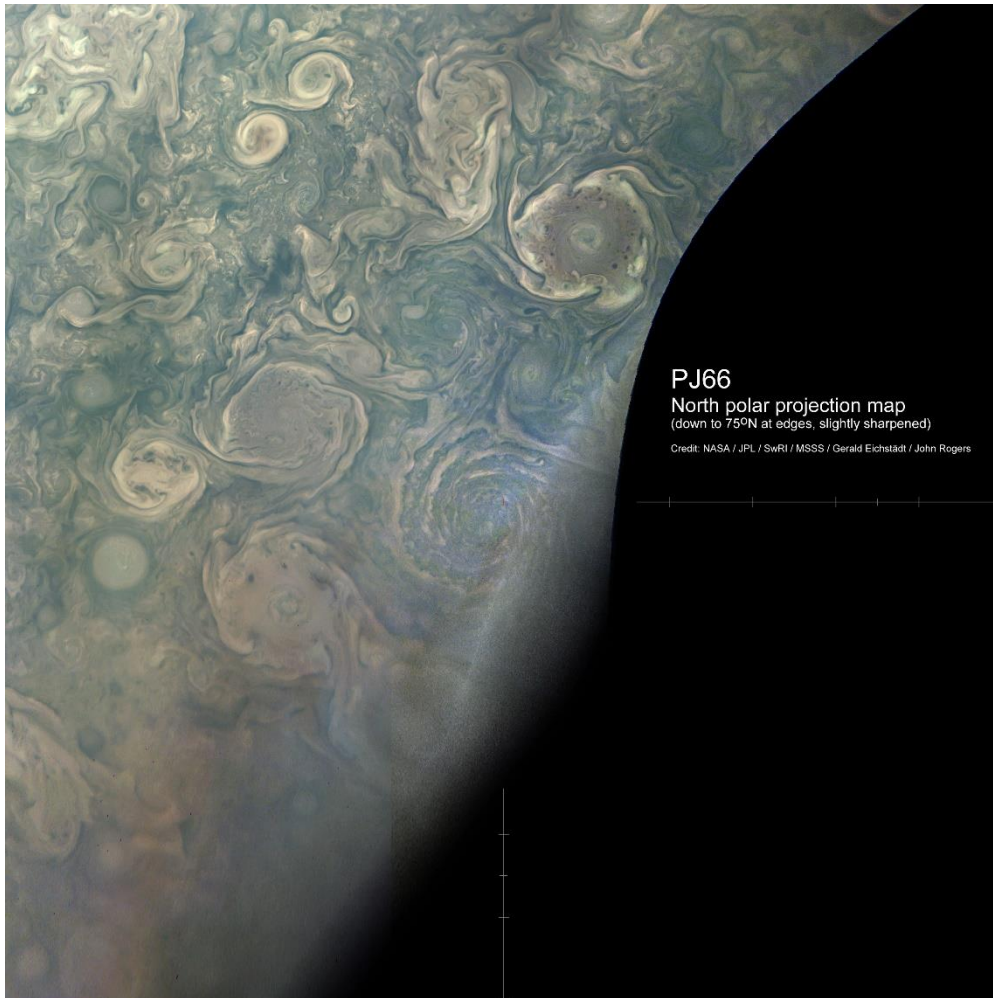


**Figure 3.** Images of anticyclonic ovals (which can be identified in Figures 1 & 2).  
 (A) Image 22, L3 = 192: NEBn WS-E. (B) Image 29, L3 = 201: the long-lived N5-AWO.  
 (C) Image 47, L3 = 338: S4-LRS-1.

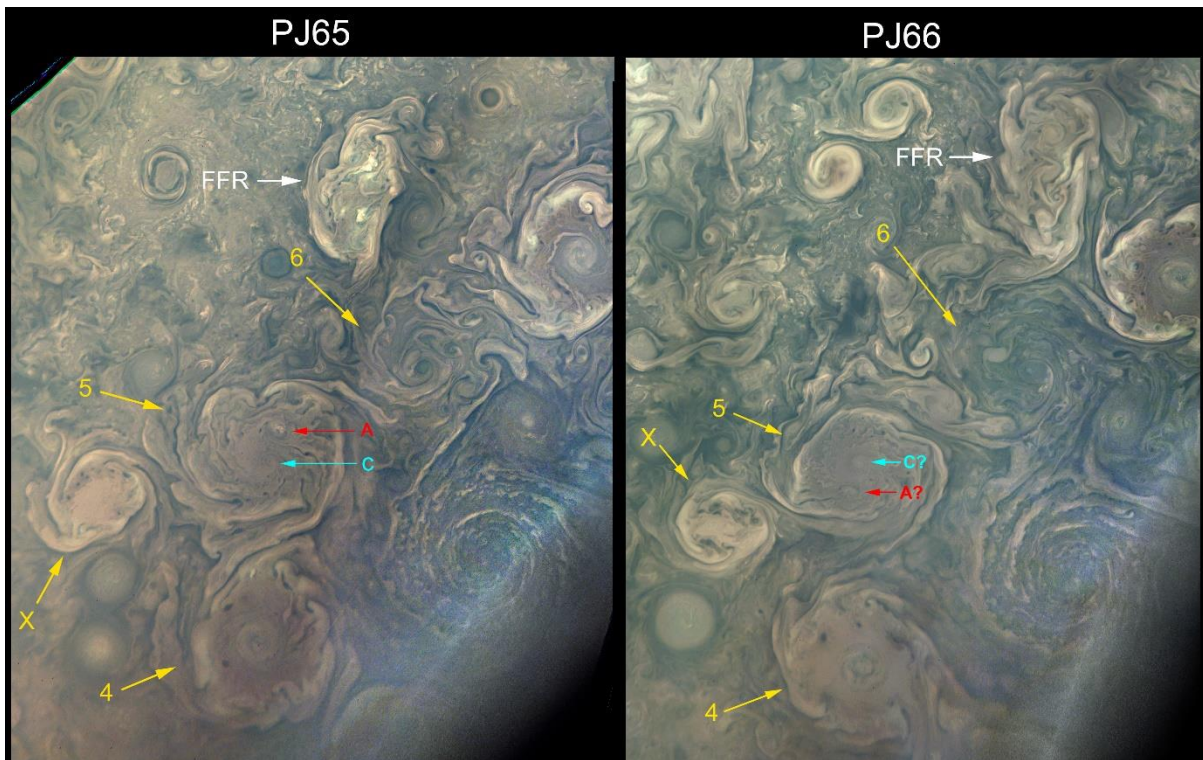


**Figure 4.** North polar projection map (with L3=0 to the right, as usual).



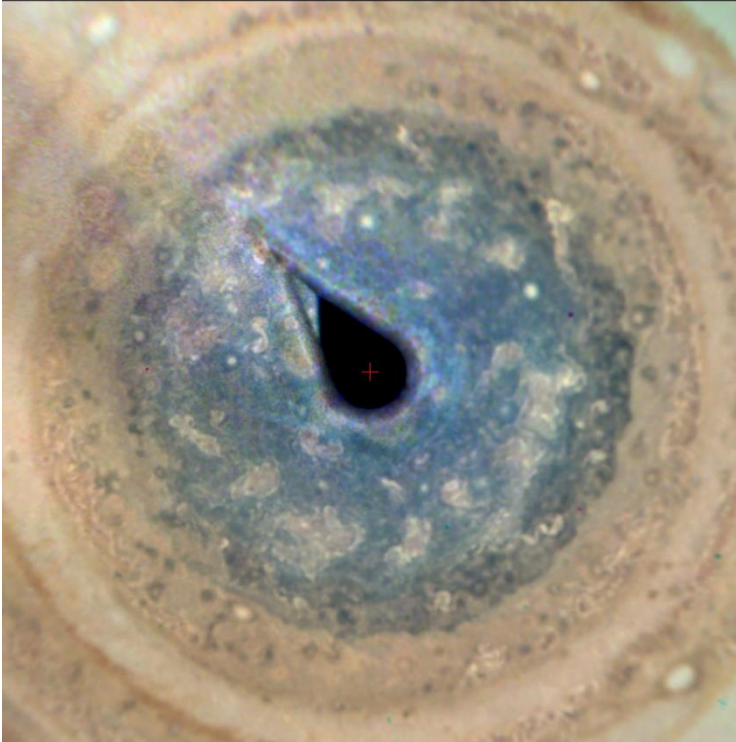


**Figure 5.** North polar projection map showing the north polar cyclone cluster.



**Figure 6.** Comparison of some CPCs in the polar projection maps at PJ65 & PJ66.

PJ66 South polar projection map down to 45°S at edges  
Credit: NASA / JPL / SwRI / MSSS / Gerald Eichstädt / John Rogers



**Figure 7.** South polar projection map from the outbound images.