

Jupiter in 2021/22, Report no.10: Final report (Appendix 1)

John Rogers & Gianluigi Adamoli (2022 August 2)

Figures (miniature copies)

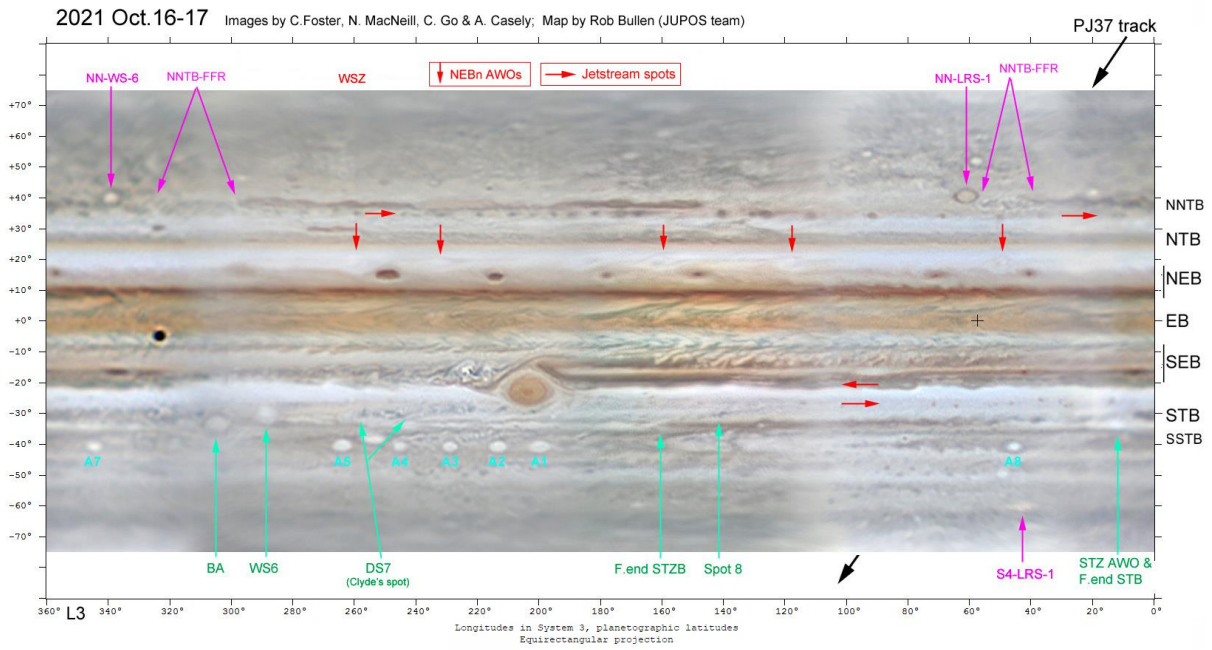


Figure 1. Global map from 2021 Oct.16-17 (previously posted in our PJ37 report).

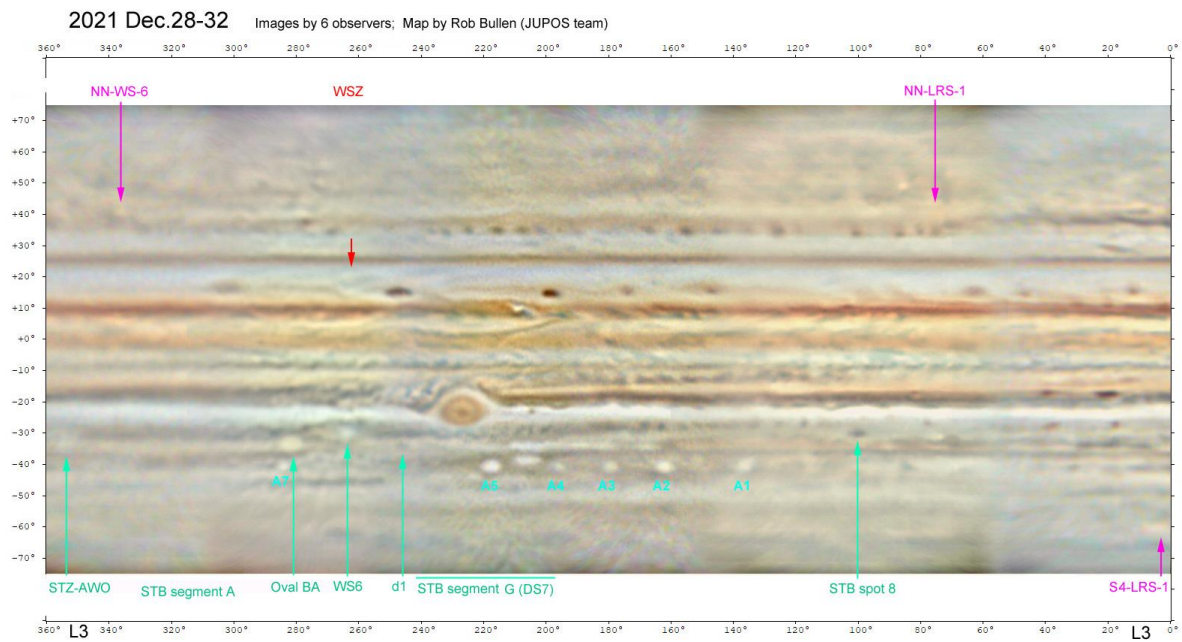


Figure 2. Global map from Dec28—Jan.1.

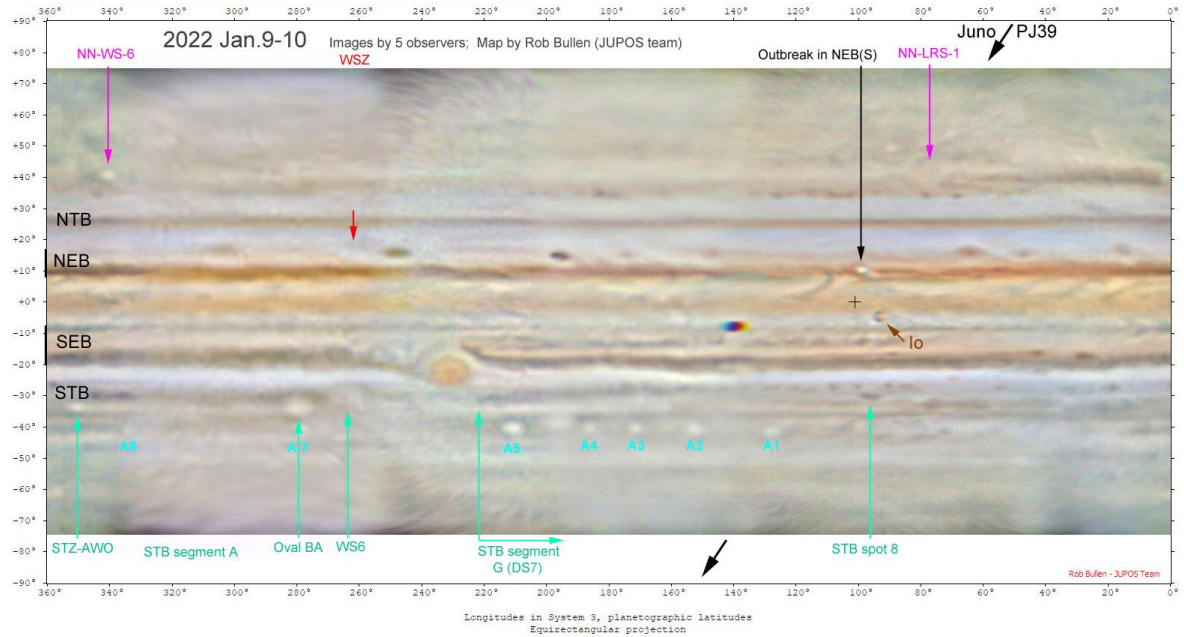


Figure 3. Global map from 2022 Jan.9-10 (previously posted in our PJ39 report).

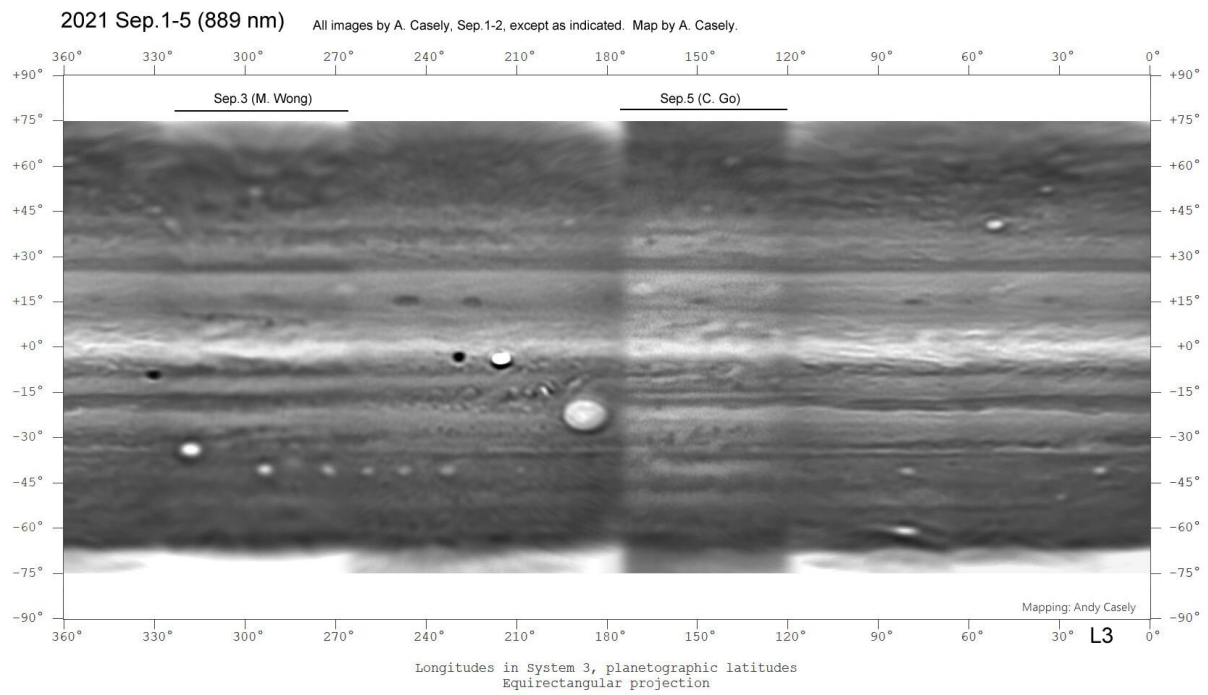


Figure 4. Global map in the methane absorption band at 889 nm, by Andy Casely.

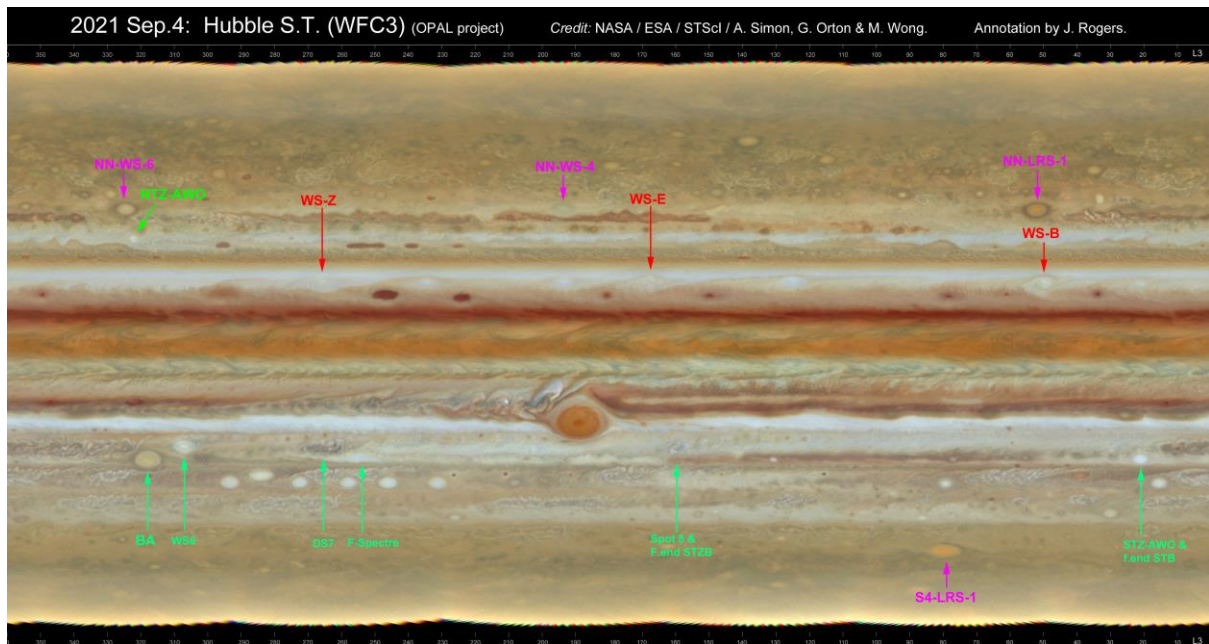


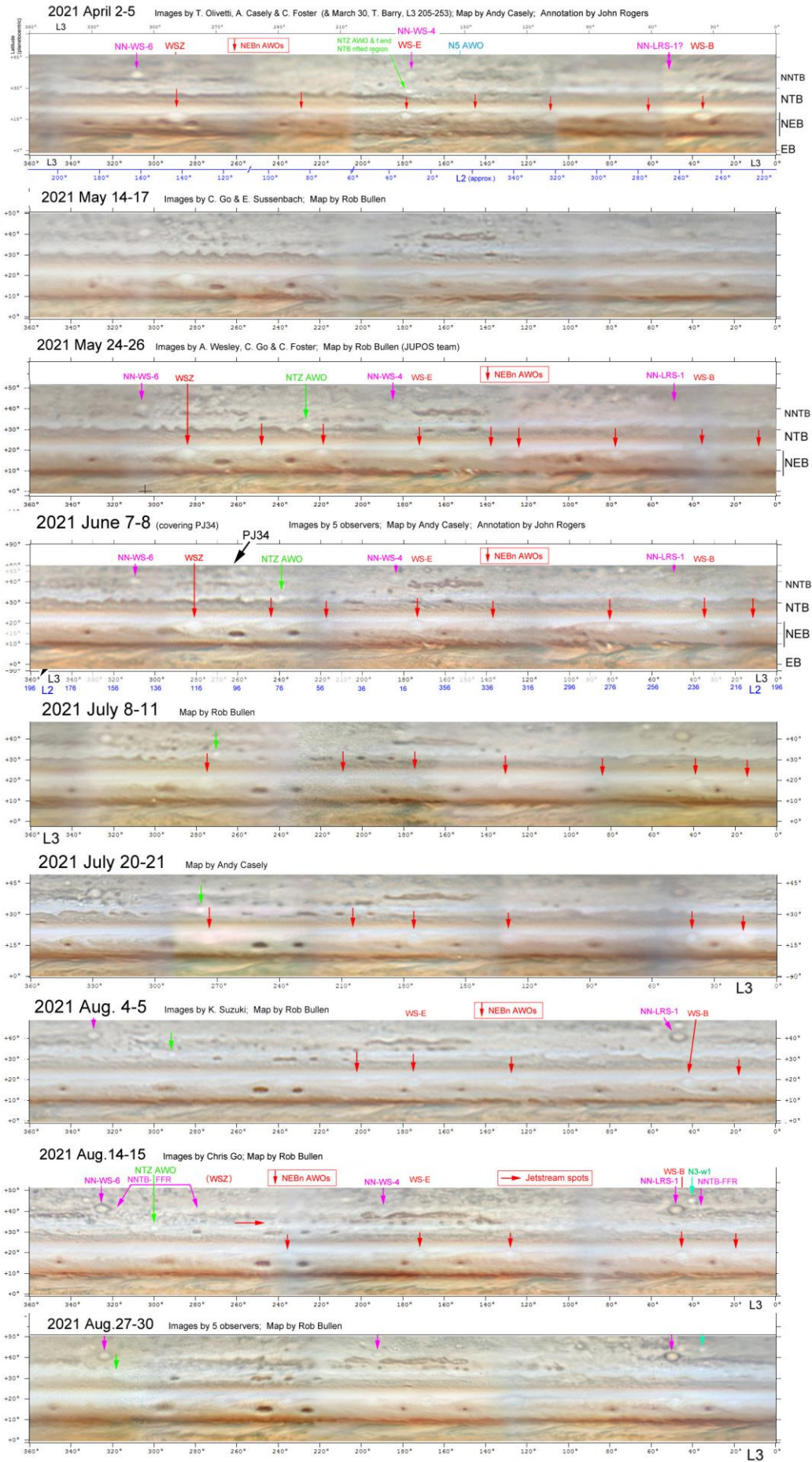
Figure 5. Global map from Hubble OPAL RGB images, 2021 Sep.4.

[Two maps were made ~10 hours apart. Part of the map from the NNTB northwards was Fig.6 of Report no.9, and a blink of part of the southern hemisphere was Animation-2 in Report no.5.]

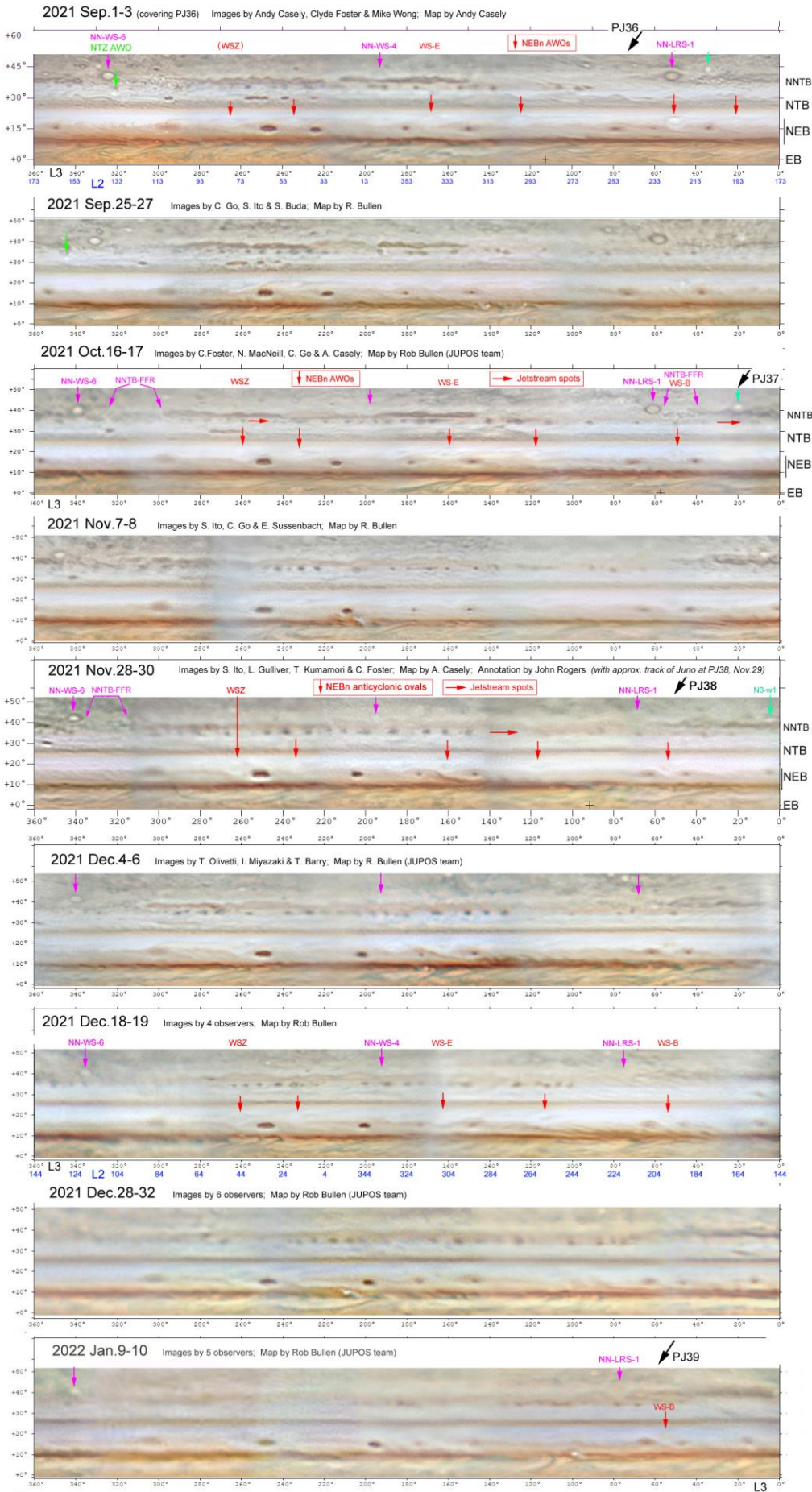
The Hubble Space Telescope (HST) takes comprehensive sets of images once a year in the OPAL project [NASA / ESA / STScI / A. Simon, G. Orton & M. Wong]. "This work used data acquired from the NASA/ESA HST Space Telescope, associated with OPAL program (PI: Simon, GO13937), and archived by the Space Telescope Science Institute, which is operated by the Association of Universities for Research in Astronomy, Inc., under NASA contract NAS 5-26555. All maps are available at <http://dx.doi.org/10.17909/T9G593>." The maps are also posted here: <https://archive.stsci.edu/prepds/opal/>.

Figure 6 [next two pages]. Set of maps covering the main domains of the northern hemisphere.

Maps of northern hemisphere, 2021 April-August



Maps of northern hemisphere, 2021 Sep.--2022 Jan.



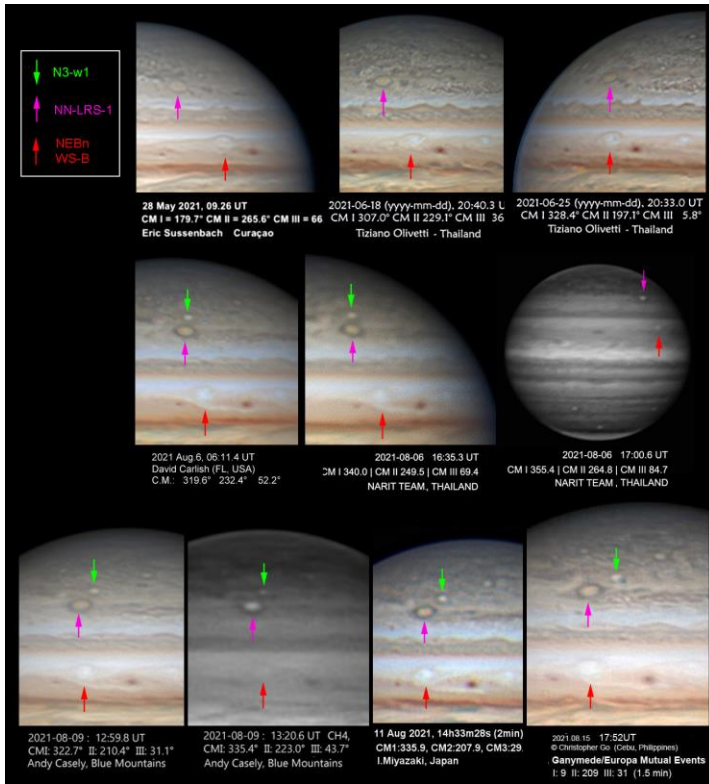
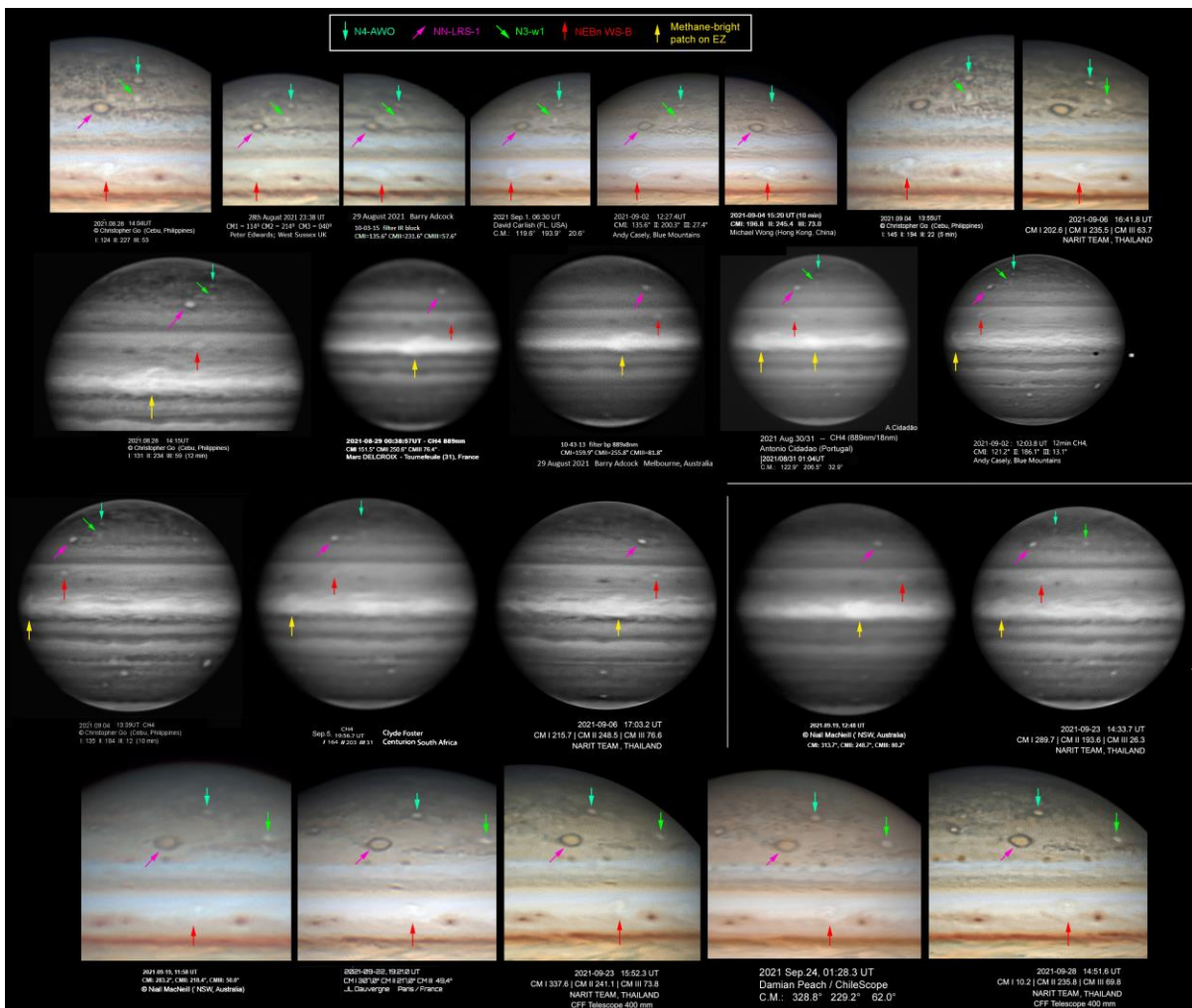


Figure 7. Sets of RGB & CH4 images showing NN-LRS-1 and NEBn WS-B. (A) In May & June (top row) & August (remainder). (B) In late August & Sep. NN-LRS1 is a prominent red oval with very dark rim. This also shows N3-w1 passing NN-LRS-1 (A) and subsequently moving S (B) [see Report no.9], and a very methane-bright patch on the EZ (B) [see Report no.7]. In NEBn WS-B, the white streaky spiral pattern changes from night to night, but not in an obviously circulatory way; the appearance could be due to bands of bright clouds, esp. in the northern part of the oval, which form and circulate and dissipate quite rapidly. See our PJ37 report for further images of WS-B in Oct. and JunoCam's closeups, which are consistent with this view, although taken after the oval had lost much of its brightness.



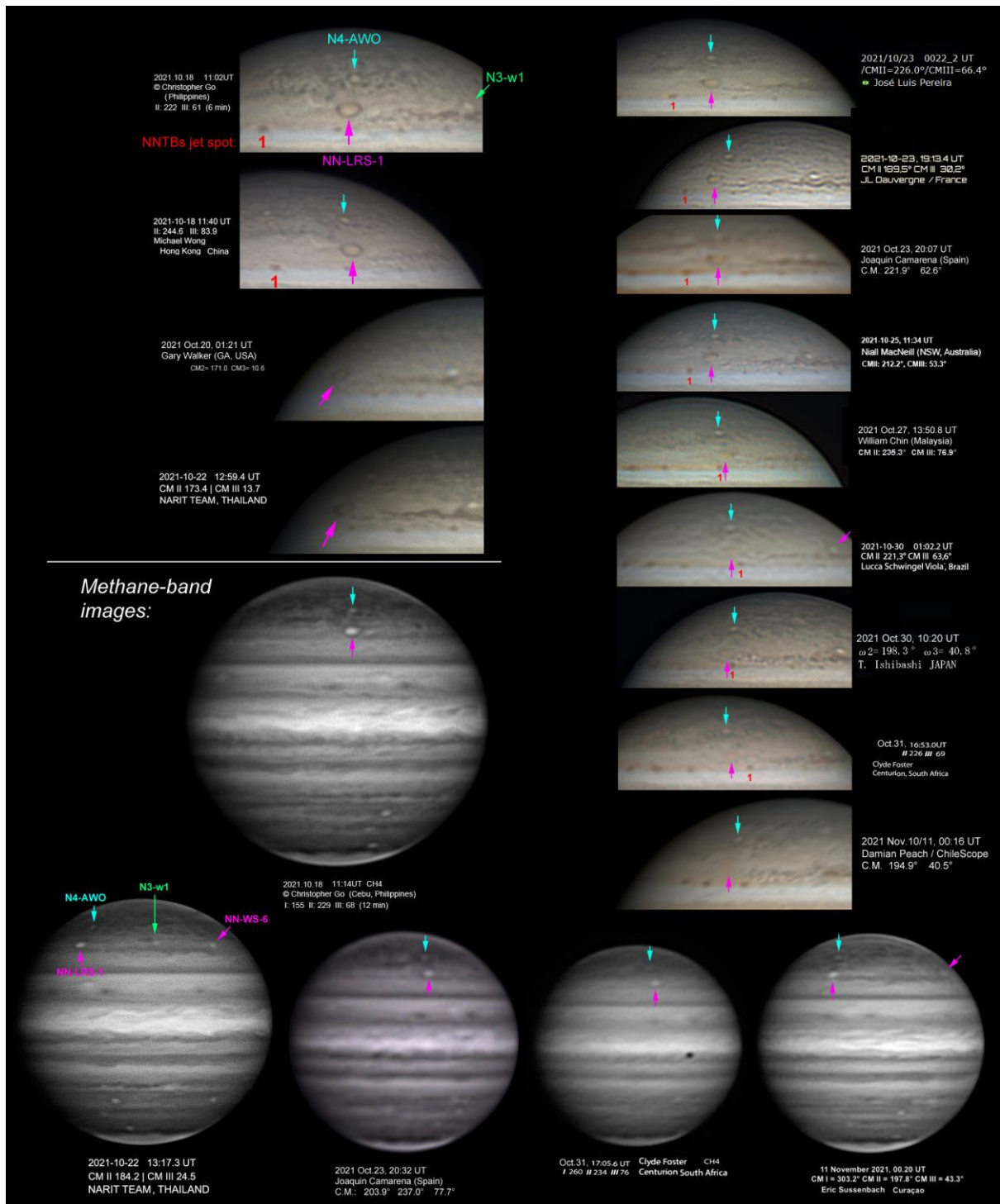


Figure 8. NN-LRS-1 in late Oct., with its dark rim rapidly breaking up; the fragmenting dark rim moves clockwise (anticyclonically). This also shows N3-w1 after translocation into the NNTZ.

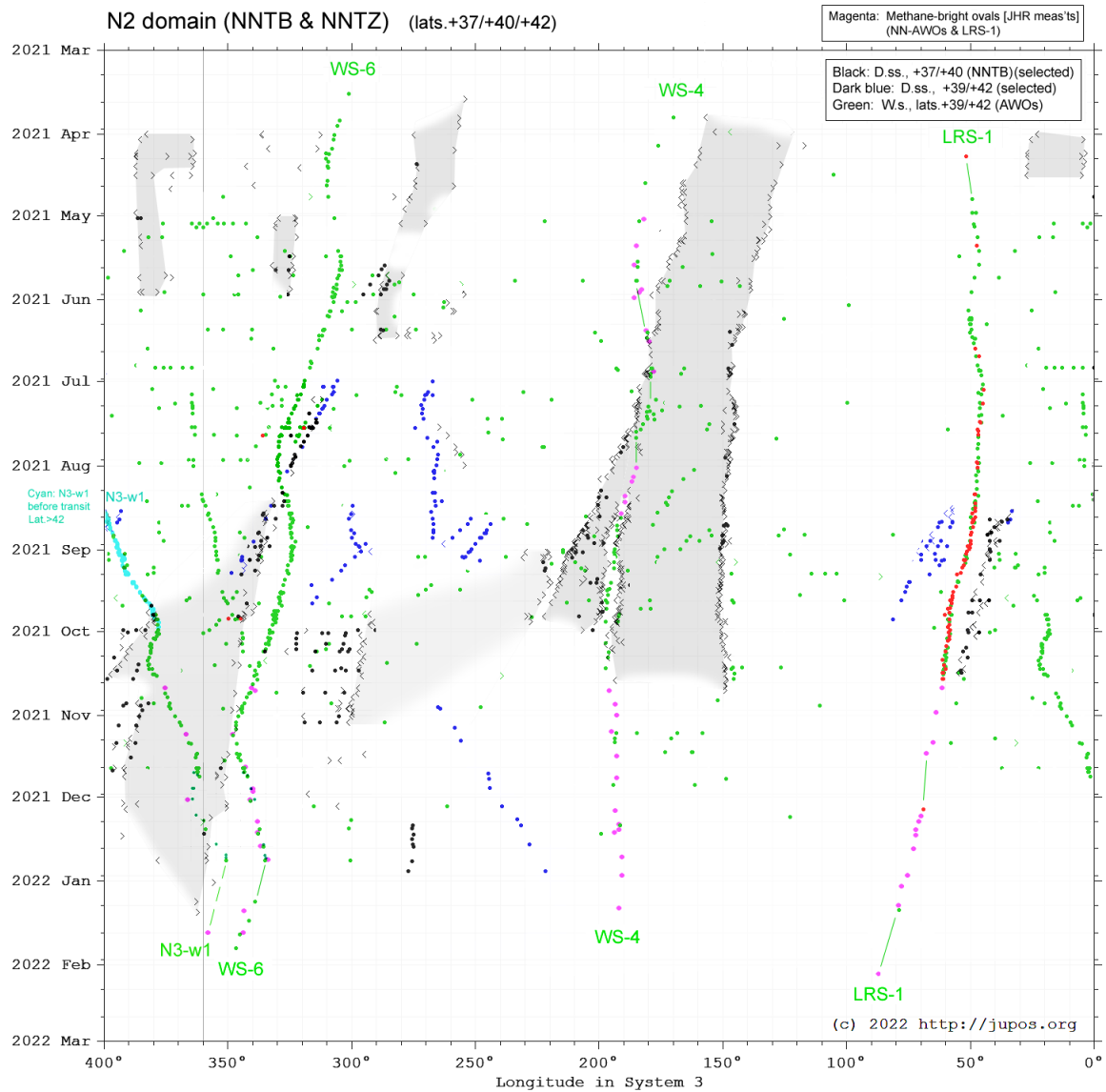


Figure 9. JUPOS chart of L3 vs time for the N2 domain, plus N3-w1 as it translocated from the N3 domain.

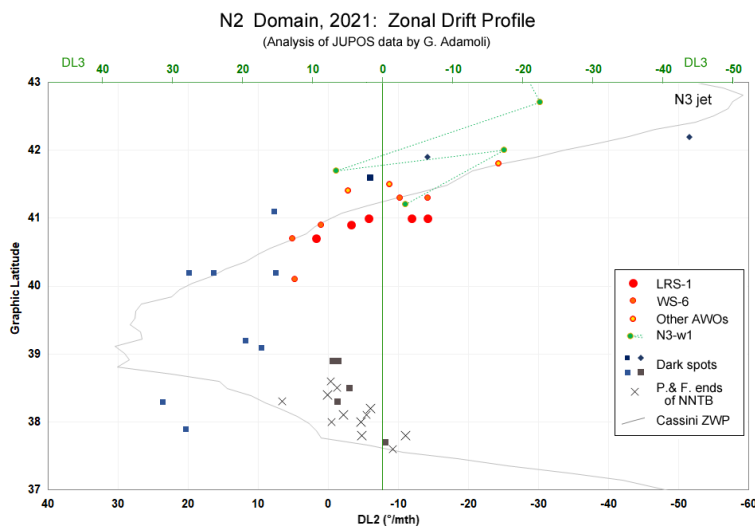


Figure 10. Zonal drift profile (ZDP) from JUPOS data for the N2 domain.

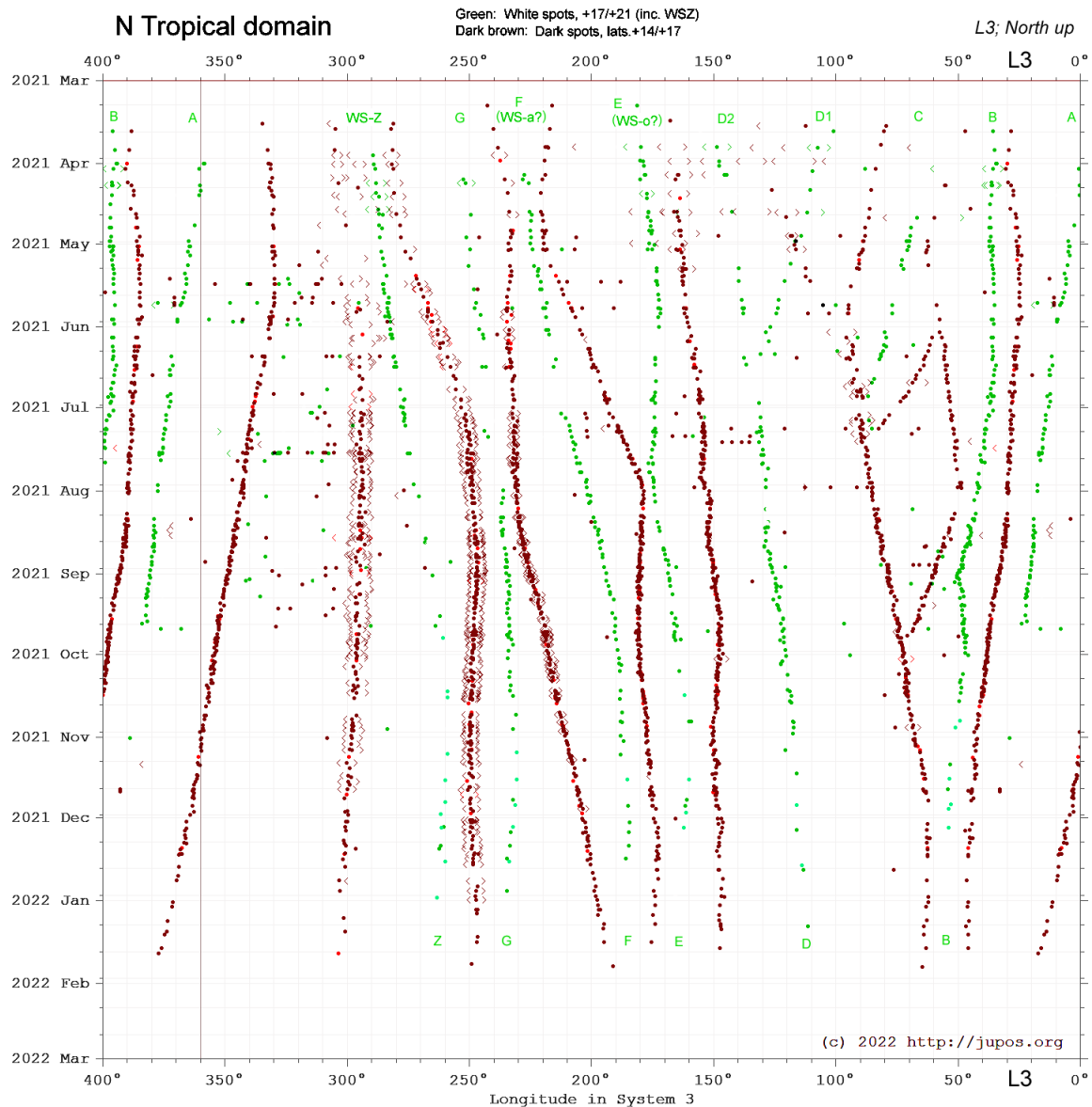


Figure 11. JUPOS chart for the N. Tropical domain.

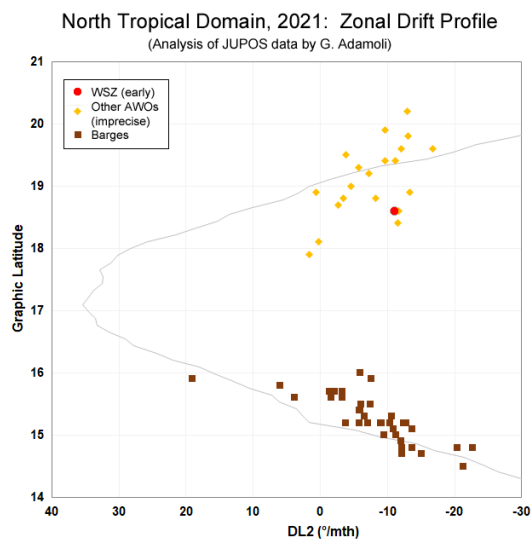


Figure 12. ZDP from JUPOS data for the N. Tropical domain. (Values for AWOs are imprecise because their outlines were ill-defined.)

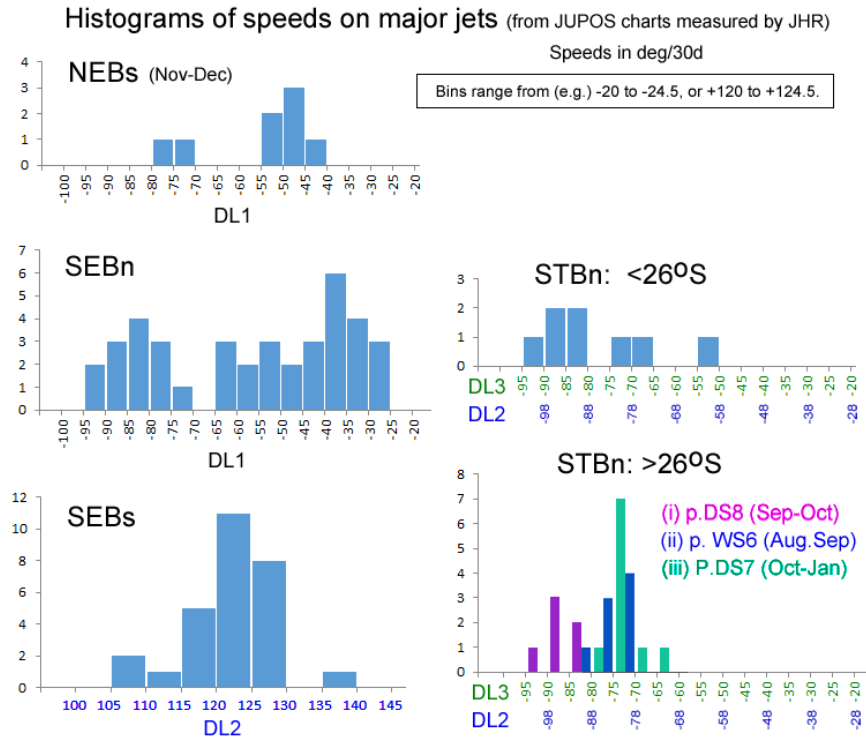


Figure 13. Histograms of speed measurements for spots in the major jets, from the 2021 JUPOS charts.

Figure 14 [on next page]. JUPOS chart for the S. Temperate domain.

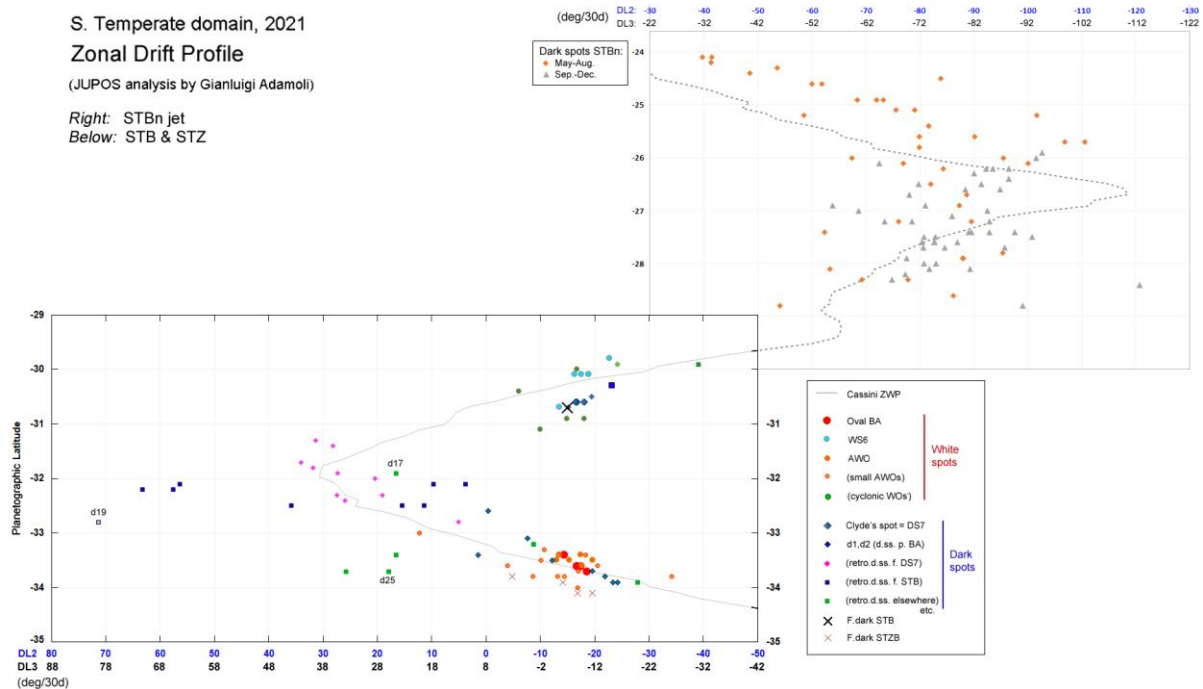


Figure 15. ZDP from JUPOS data for the S. Temperate domain including the STBn jet.

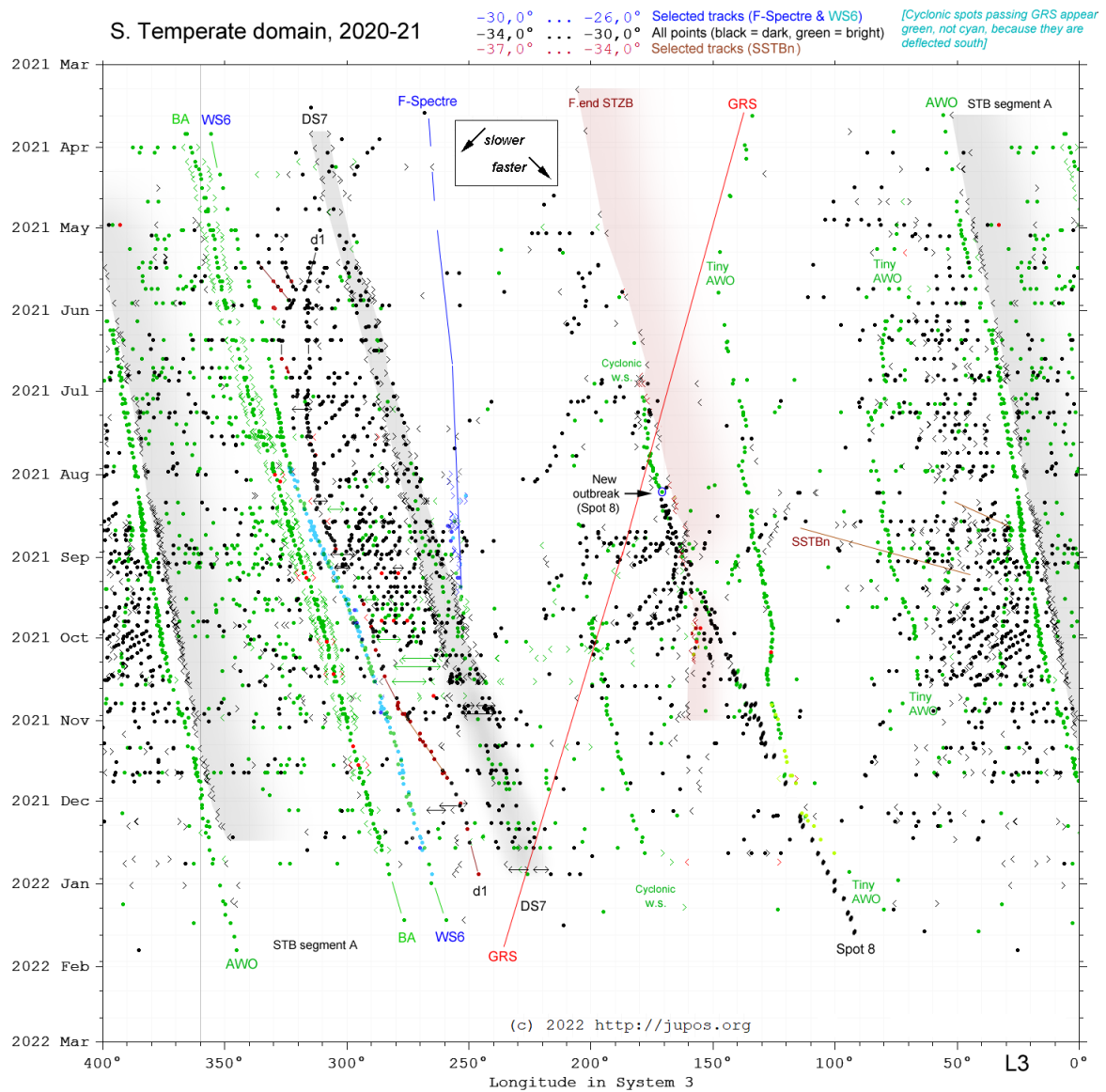


Figure 14. JUPOS chart for the S. Temperate domain.

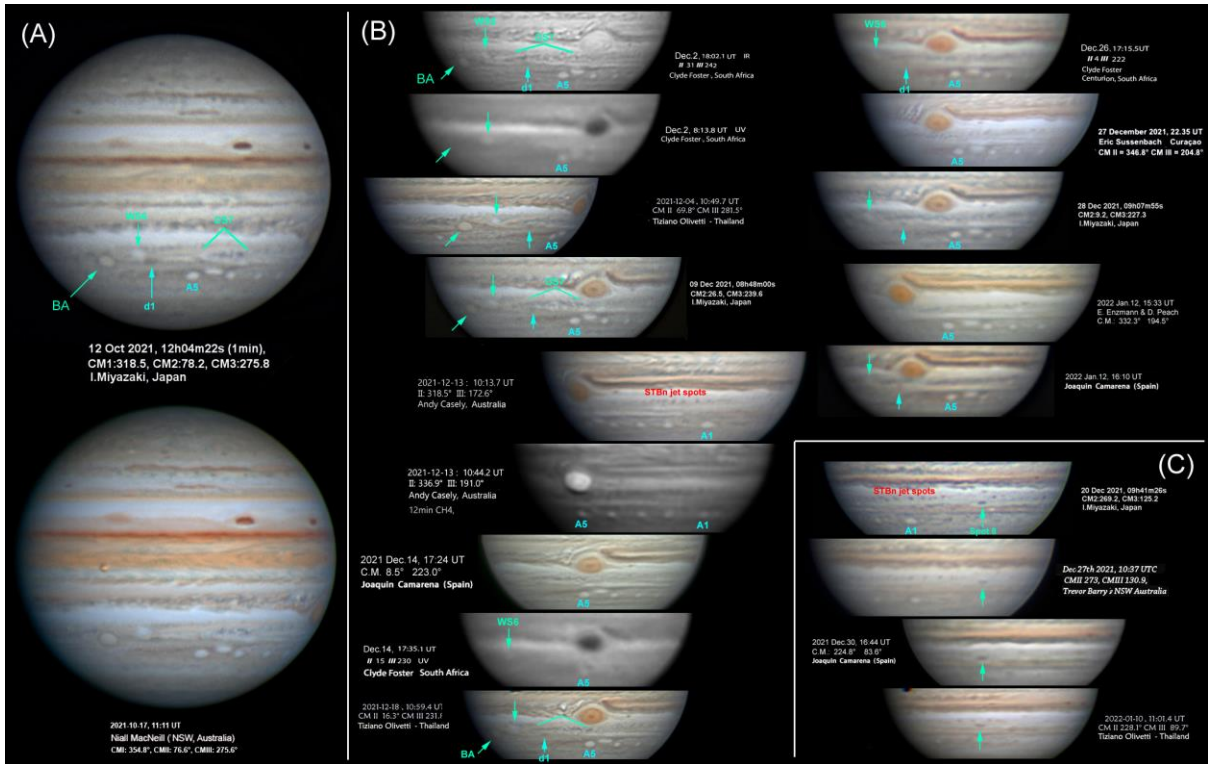


Figure 16. Images showing important features in the S. Temperate domain: (A) Oct., including the region from oval BA to DS7. (B) Dec-Jan., ditto. (C) Late Dec., showing STB spot 8 after it turned into a dark oval.

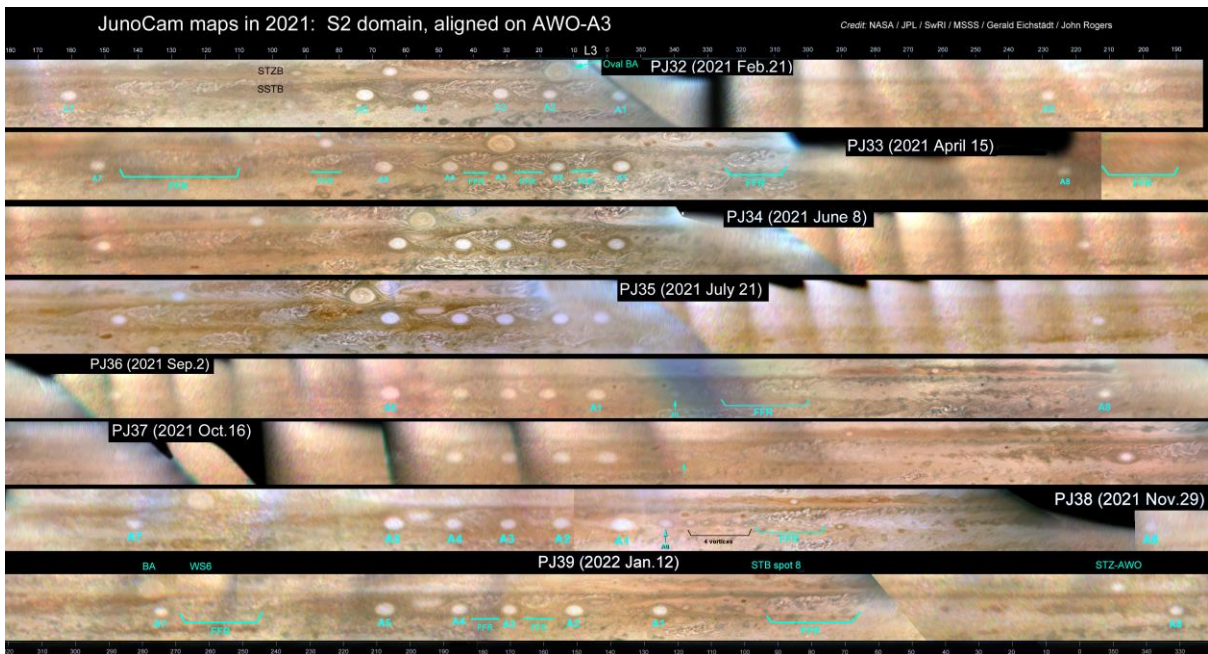


Figure 17. The JunoCam maps of the S2 domain in 2021, aligned on AWO-A3 in the centre of the chain of five.

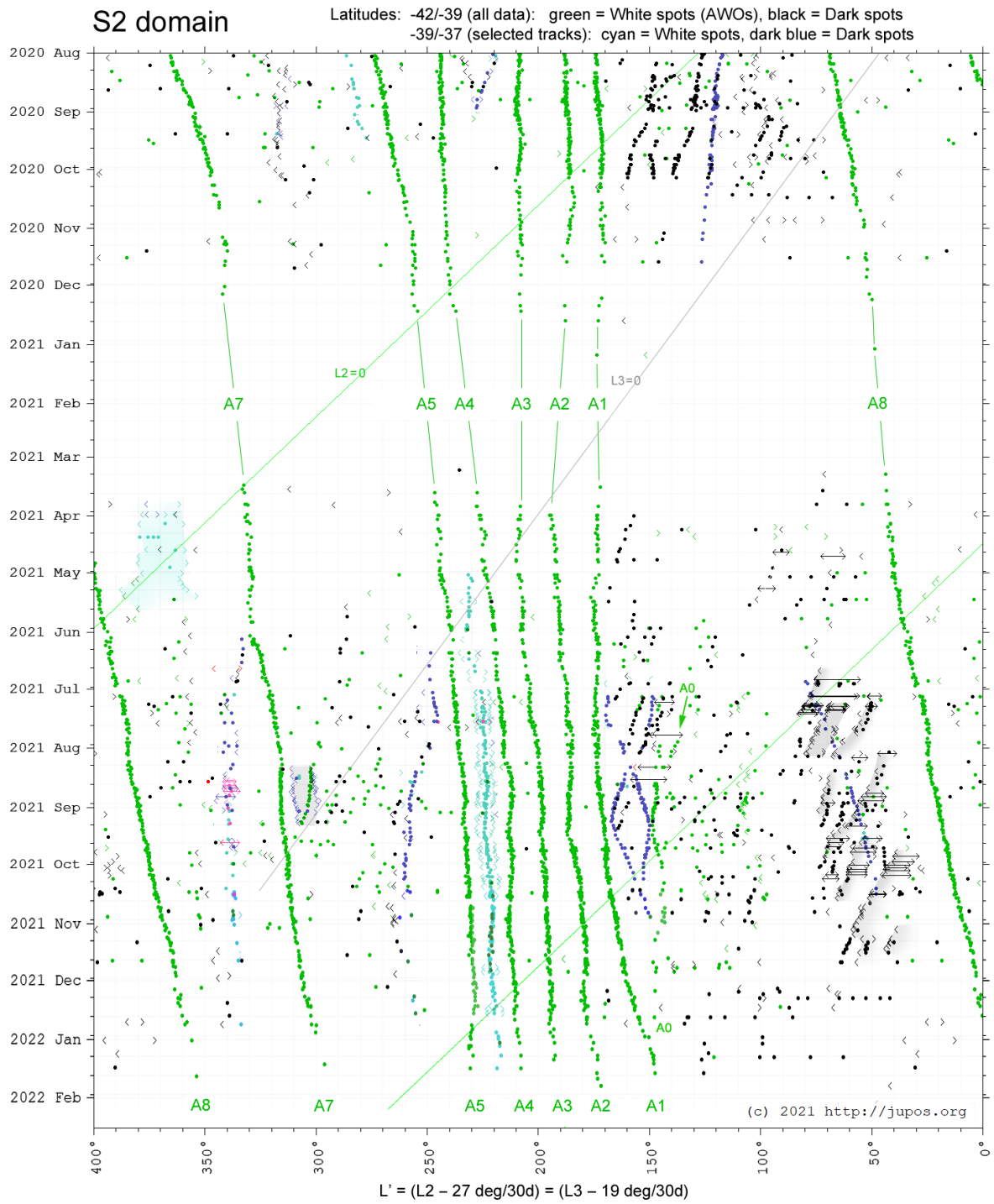


Figure 18. JUPOS chart of the S2 domain, from 2020 to 2022.

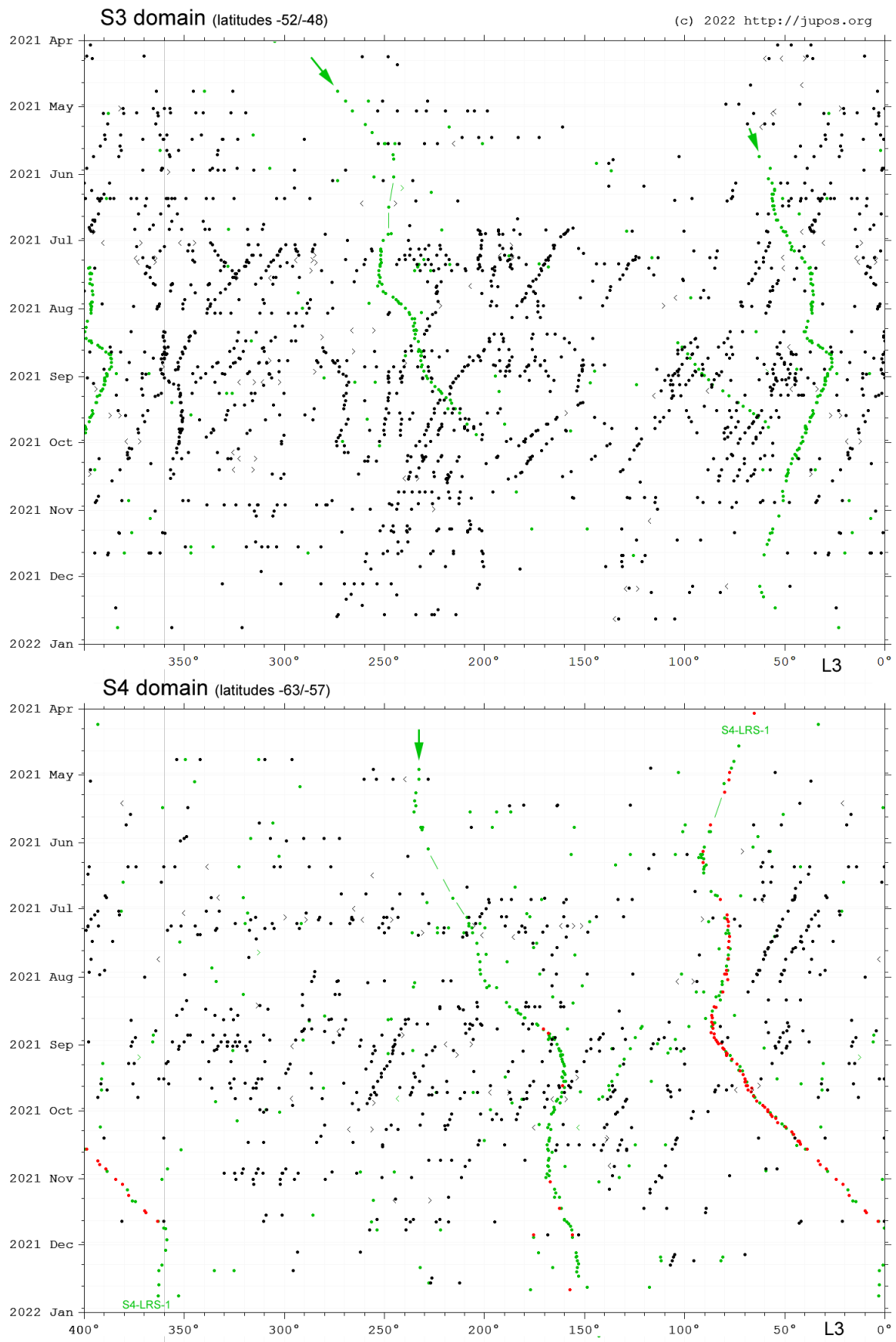


Figure 19. JUPOS charts of the southern halves of the S3 & S4 domains in 2021.