

Current state of Jupiter's atmosphere from amateur observations

John Rogers

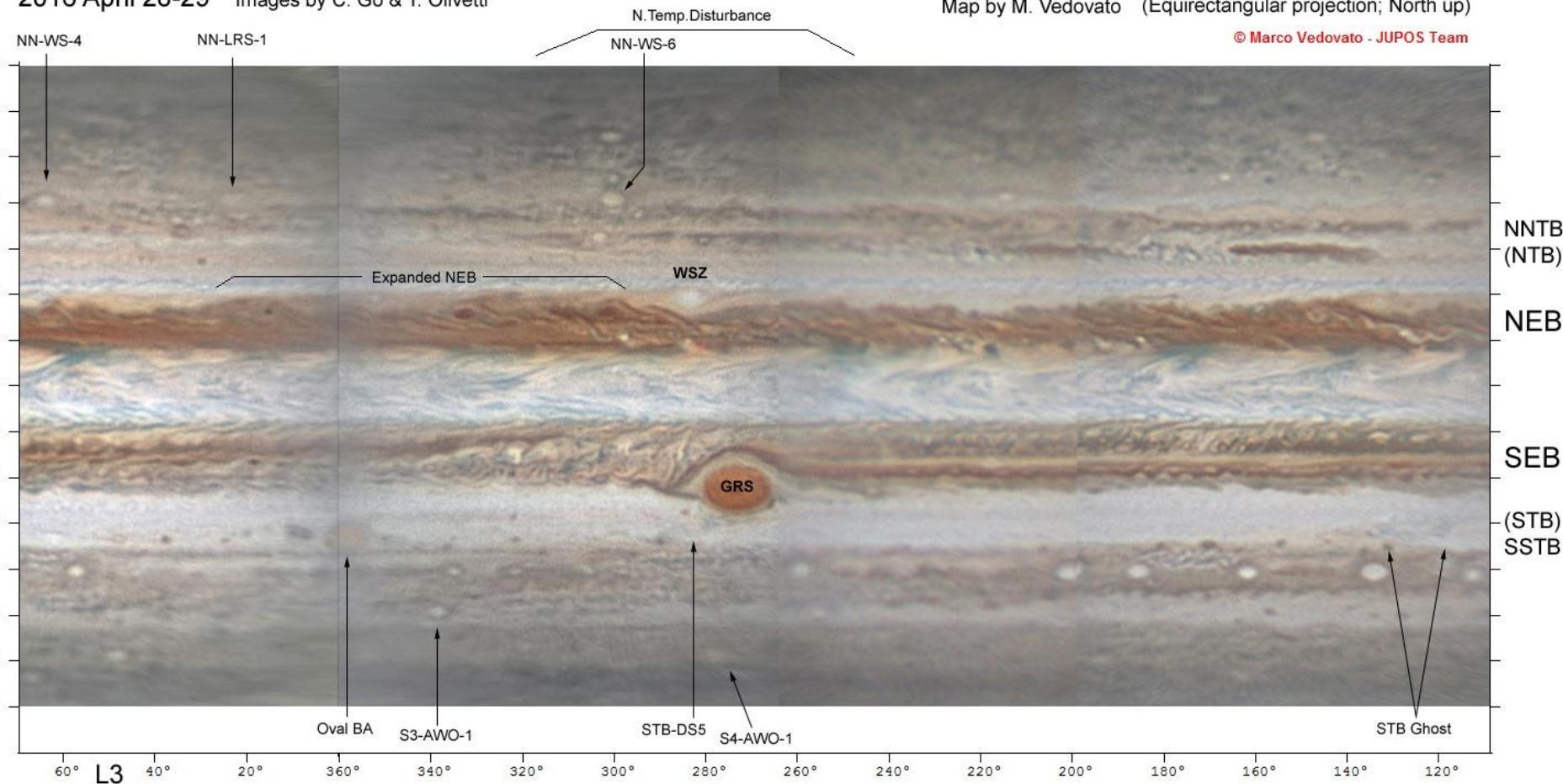
<jrogers11@btinternet.com>

Europlanet Workshop, Nice, 2016 May

2016 April 28-29 Images by C. Go & T. Olivetti

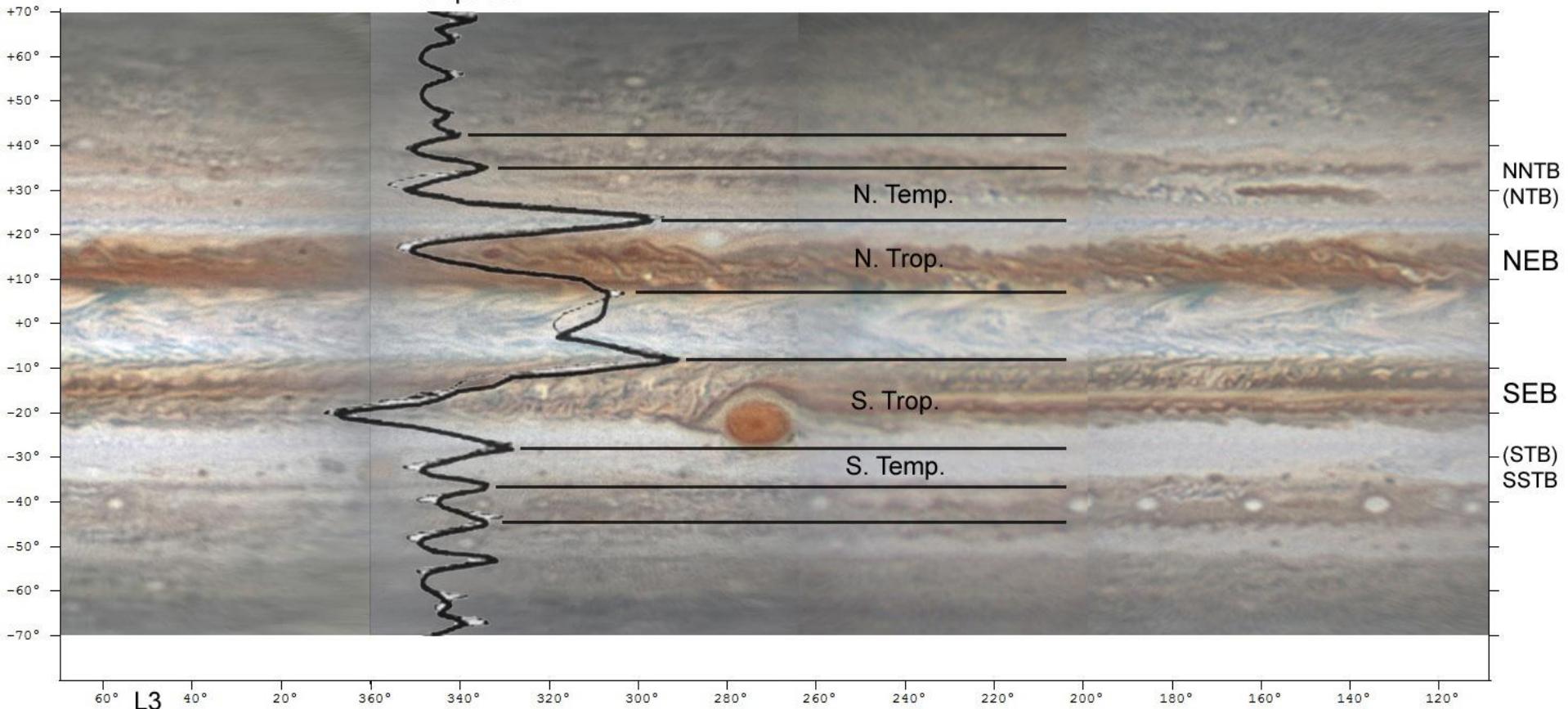
Map by M. Vedovato (Equirectangular projection; North up)

© Marco Vedovato - JUPOS Team

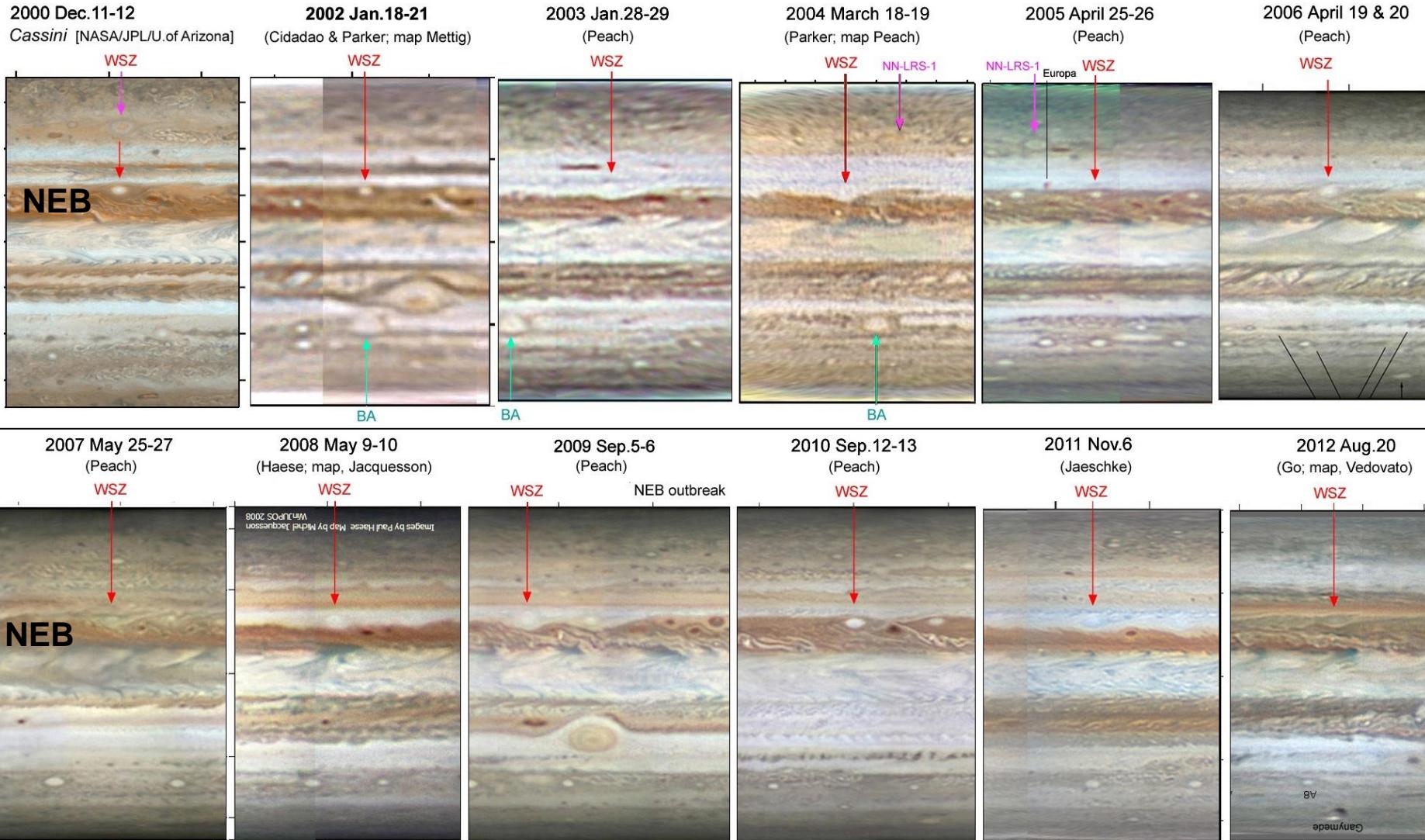


2016 April 28-29

Cassini
wind speeds:



North Tropical Domain: NEB expansion events



North Tropical Domain, 2014-2016

Images by multiple observers per map; Maps by Marco Vedovato (JUPOS team)

2014

NTropZ

WSZ

Nov.14-15

NEB

EZ

2015

NRS-1

Expanded sector

WSZ

Nov.19-20

NRS-1

NRS-2

WSZ

ADS

Dec.28-30

NRS-1

NRS-2

WSZ

ADS

2016

Jan.29-31

L3

160° 140° 120° 100° 80° 60° 40° 20° 0° 340° 320° 300° 280° 260° 240° 220°

bulge/barge

barge

Mar.17-19

NRS-2

WSZ



North Tropical Domain, 2014-2016

Images by multiple observers per map; Maps by Marco Vedovato (JUPOS team)

2014

NTropZ

WSZ

Nov.14-15

NEB

EZ

2015

NRS-1

Expanded sector

WSZ

Nov.19-20

NRS-1

NRS-2

WSZ

ADS

Dec.28-30

NRS-1

NRS-2

WSZ

ADS

2016

Jan.29-31

NRS-2

WSZ

ADS

Mar.17-19

NRS-2

WSZ

L3

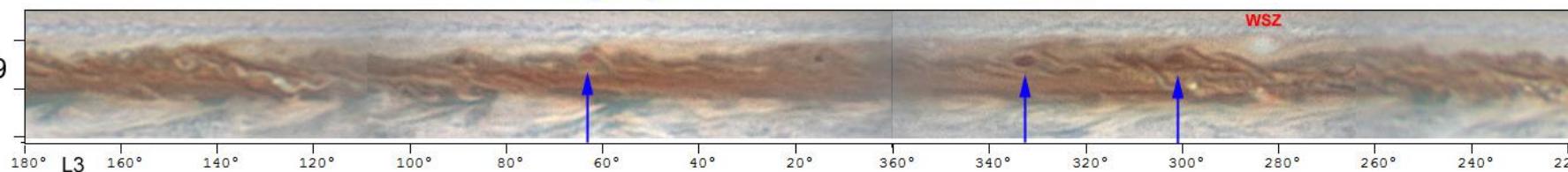
160° 140° 120° 100° 80° 60° 40° 20° 0° 340° 320° 300° 280° 260° 240° 220°

bulge/barge

barge

Apr.28-29

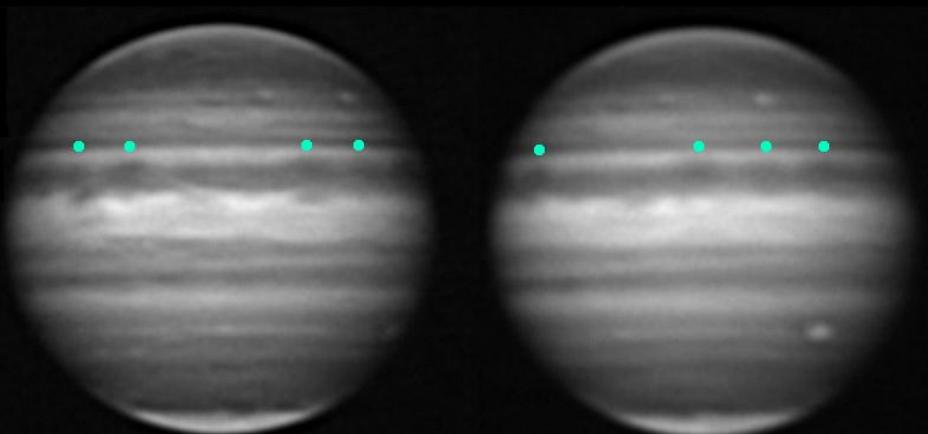
WSZ



The NEB only expanded for ~140 deg & is now regressing

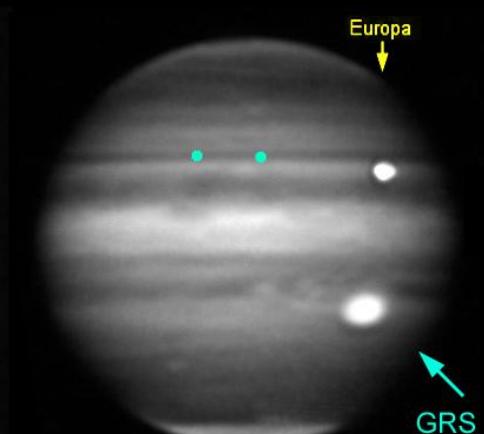
Methane-band images in 2016 Feb., showing the NEB wave pattern

(8 nm width) Phil Miles



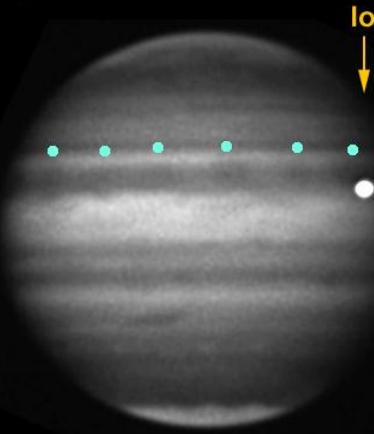
2016 Feb.14, 15:25.6 UT CH4 (8 nm)
Phil Miles (QLD, Australia)
C.M.: 12.9° 62.8° 70.7° [*& Feb.9*]

2016 Feb.11, 17:12 UT CH4 (8 nm)
Phil Miles (QLD, Australia)
C.M.: 323.7° 35.9° 43.0°



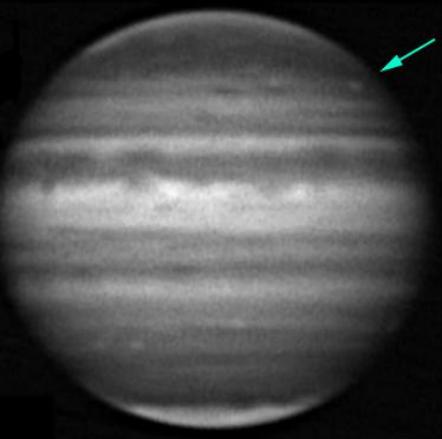
2016 Feb.8, 16:20 UT CH4 (8 nm)
Phil Miles (QLD, Australia) [*& Feb.15*]
CMI=180.0° CMII=275.3° CMIII=284.1°

(Dots mark NEB waves)

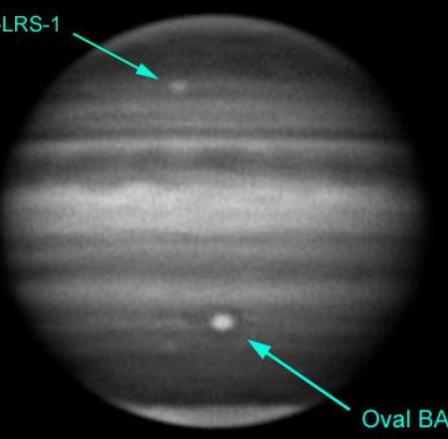


09 Jan 2016 175535UT
CH4 889nm +/- 4nm 46db 10fps 4mins
CMI=177.4° CMII=141.2° CMIII=142.1°

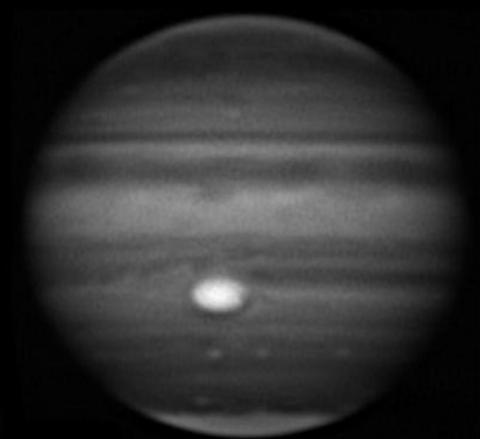
(18 nm width) Chris Go



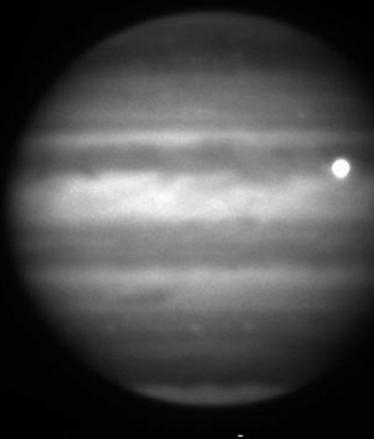
February 11, 2016 S: 7/10 T: 4/5
© Christopher Go (Cebu, Philippines)
18:09UT CH4 I: 358 II: 70 III: 78 (14 min)



February 6, 2016 [*& Feb.8*]
© Christopher Go (Cebu, Philippines)
17:11UT CH4 I: 253 II: 3 III: 9 (12 min)



February 20, 2016 S: 7-8/10 T: 2-4/5
© Christopher Go (Cebu, Philippines)
15:05UT CH4 I: 228 II: 233 III: 242 (16 min)



09 Jan 2016 174606UT
CH4 889nm +/- 9nm 42db 14fps 3mins
CMI=171.7° CMII=135.5° CMIII=136.4°
(Phil Miles: 18 nm)

South Tropical Domain, 2015-2016

Images by C. Go, T. Olivetti, & others;
maps by Marco Vedovato (WinJUPOS)

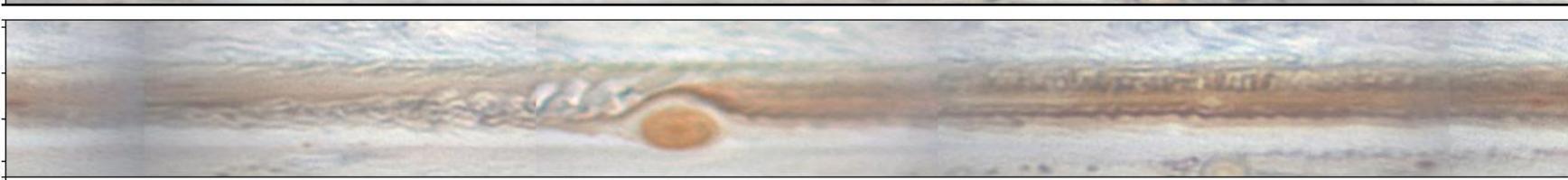
2015
Mar.5-6



Apr.8-10



May 11-13



2016
Jan.29-21



Mar.4-5



Mar.29-30



New white spot extending the SEB rifted region f. the GRS, 2016 March

[Also see v-hi-res images by Chris Go]



2016 March 1, 04:39 UT
Efrain Morales Rivera (Puerto Rico)

2016 March 2, 20:17.5 UT
Manos Kardasis (Greece)

2016 March 2, 20:56 UT CH4
Manos Kardasis (Greece)



2016 March 4, 01:34 UT
Paulo Casquinha (Portugal)

2016 March 6, 14:03 UT
Trevor Barry (Australia)

March 6, 2016 14:40UT CH4
© Christopher Go (Philippines)

BA

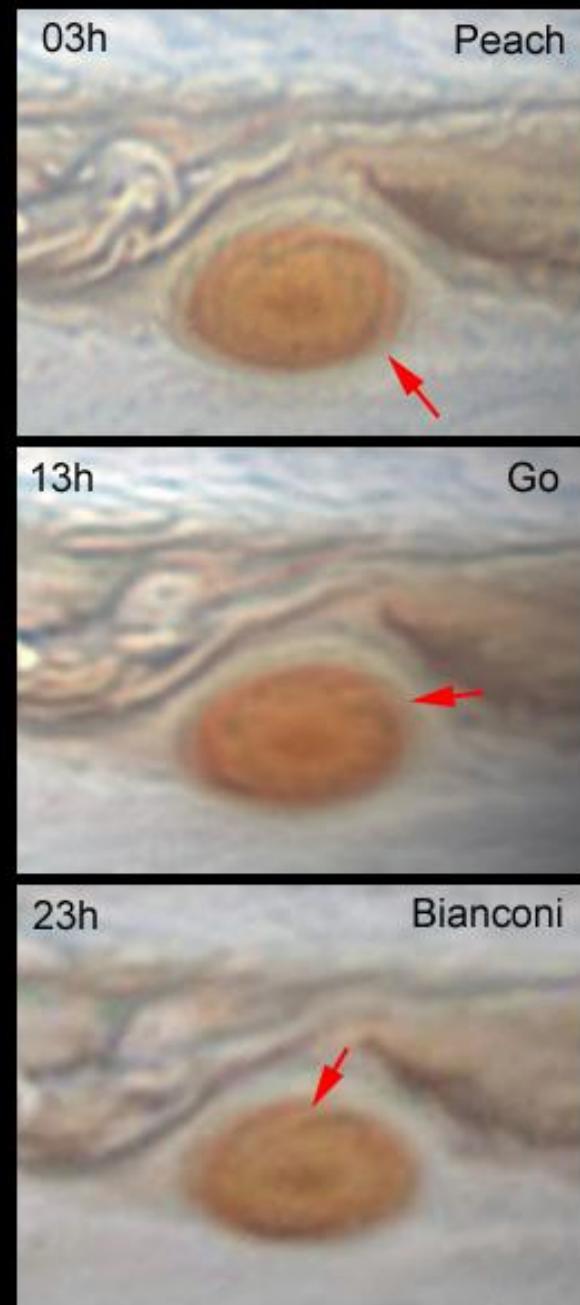


2016 March 26, 21:09 UT
Antonio Lasala (Spain)

2016 March 28, 21:33 UT
Pete Edwards (UK)

2016 March 29, 18:43 UT
Manos Kardasis (Greece) CH4

GRS, 2016 March 18 (north up)



Jupiter's Great Red Spot

March 25, 2016 13:34UT

© Christopher Go (Cebu, Philippines)

Celestron C14 and S

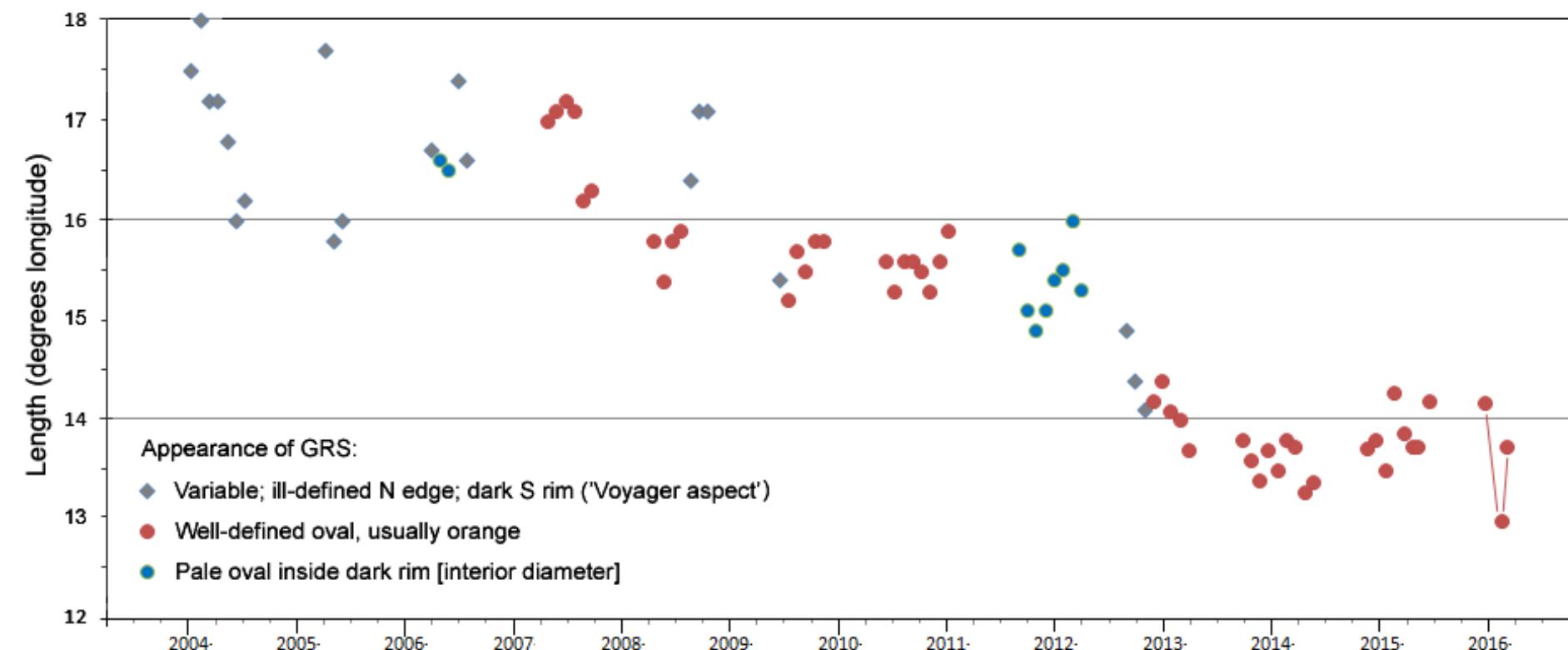
Circulation in the GRS over 2 hours 2016 March 5

Images by Christopher Go & Tiziano Olivetti
Map projections by Michel Jacquesson in WinJUPOS
Animation by John Rogers (BAA)

North up

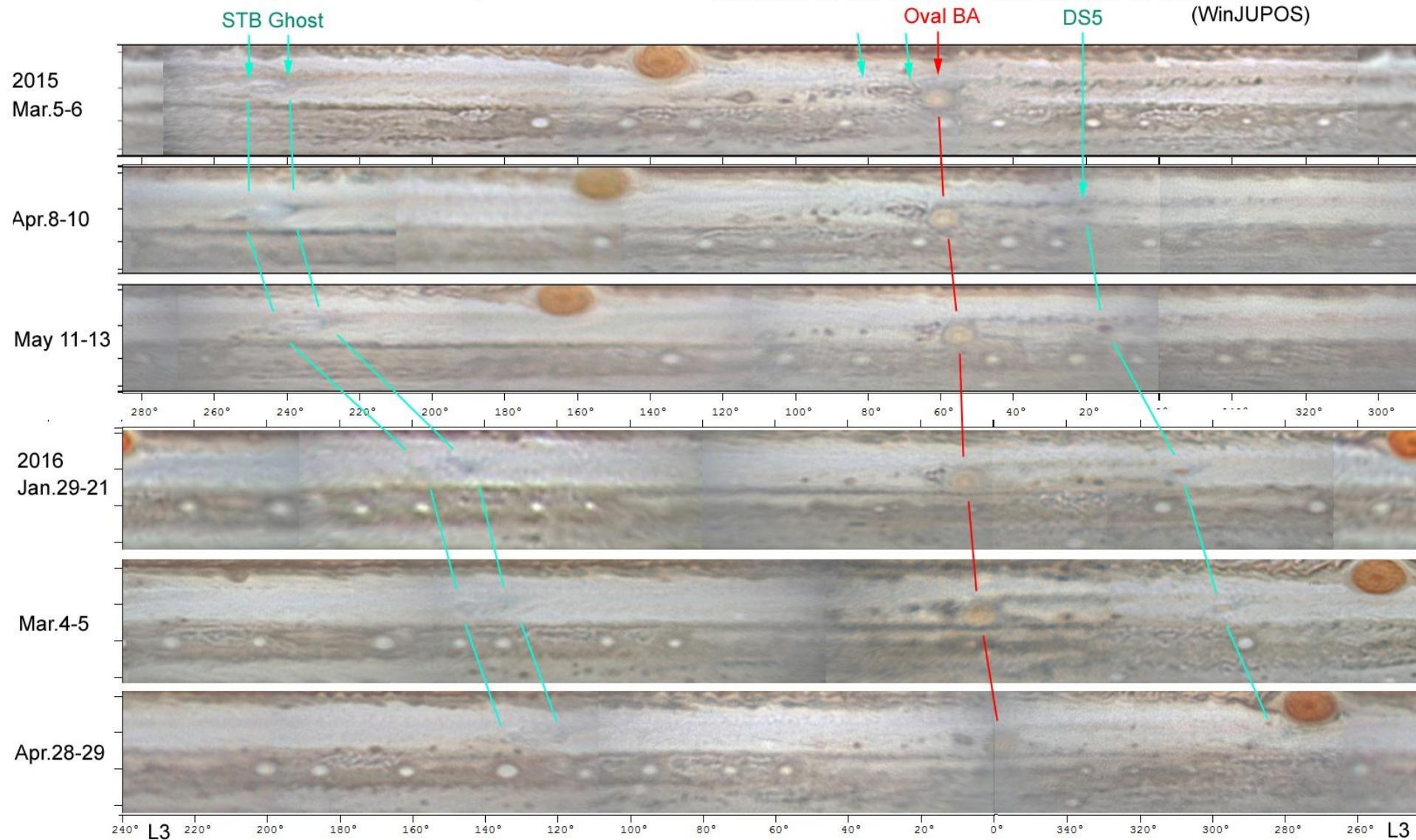
Length of Great Red Spot, 2003-2016

Monthly means of JUPOS data, plotted by Michel Jacquesson



South Temperate Domain, 2015-2016

Images by C. Go, T. Olivetti, & others; maps by Marco Vedovato
(WinJUPOS)



South Temperate Domain, 2015-2016

Images by C. Go, T. Olivetti, & others; maps by Marco Vedovato

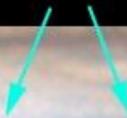
Oval BA

DS5

(WinJUPOS)

STB Ghost

STB Ghost, 2015-16



Dec.25

T. Olivetti

Oval BA, 2015-16

STB dark patch

Jan.22



C. Go

STB-DS5 ('STB Spectre')

2015-16: All images by Chris Go

Dec.31



Mar.17

R. Bosman

Mar.21

C. Go

Jan.12



Mar.19

C. Go

Mar.23

A. Wesley

Mar.18



Apr.1

P. Edwards

Apr.2

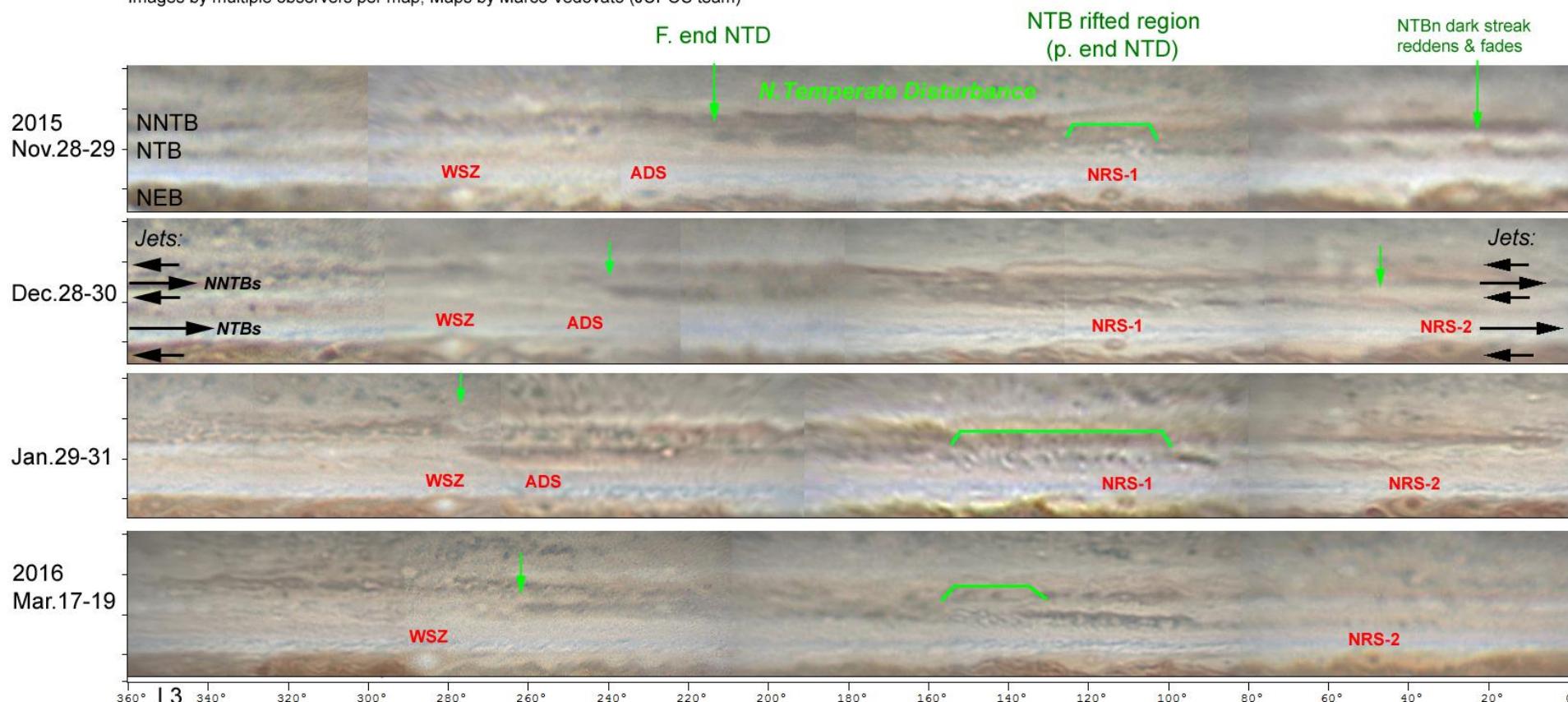
C. Go

Apr.1



North Temperate Domain, 2015-16

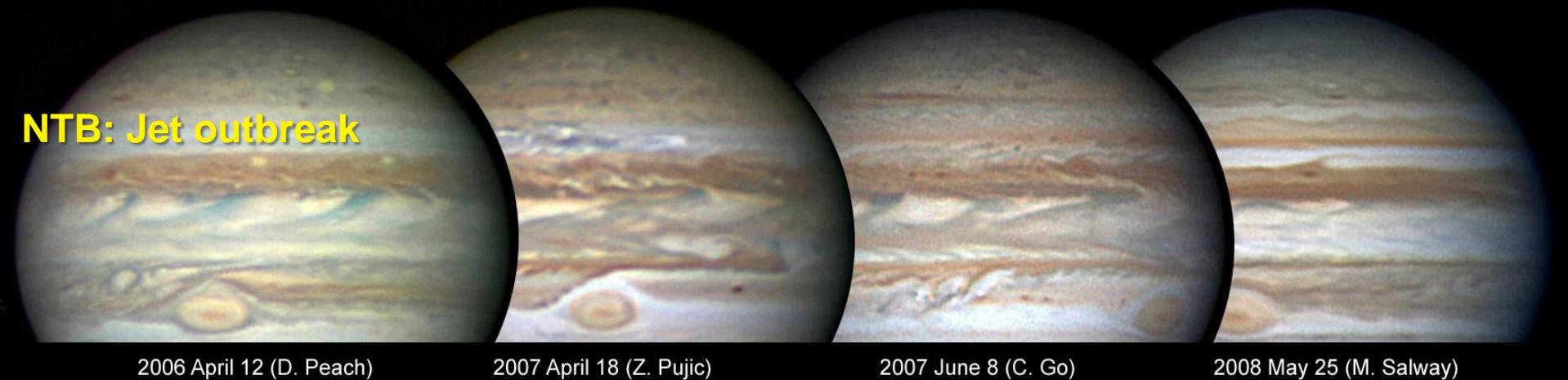
Images by multiple observers per map; Maps by Marco Vedovato (JUPOS team)



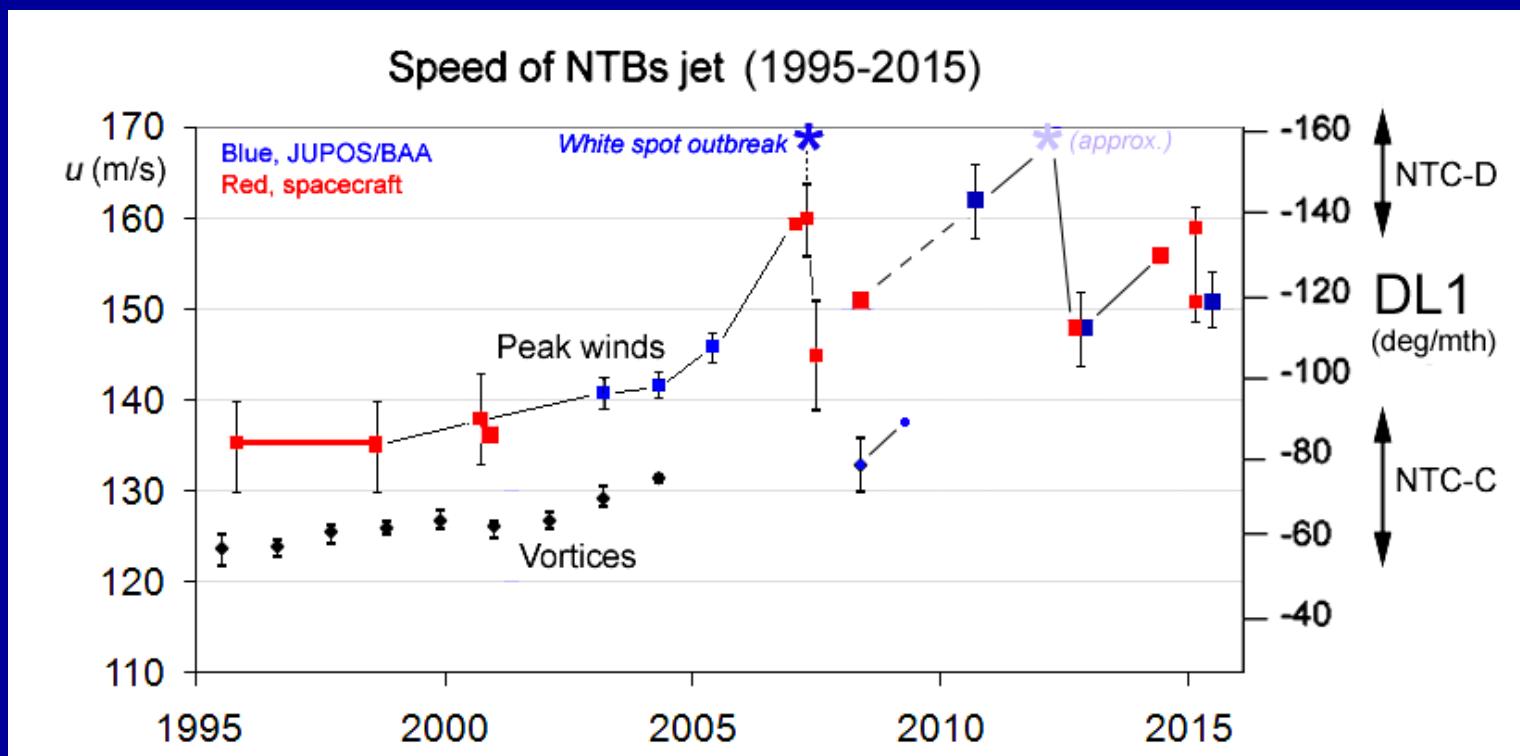
Apr.28-29

NNTB
NTB

Outbreak on NTBs jet in 2017?



2006 April 12 (D. Peach) 2007 April 18 (Z. Pujic) 2007 June 8 (C. Go) 2008 May 25 (M. Salway)



THE END