

Jupiter Section

Jupiter in 2009: an interim report



The Great Red Spot, and switch-off of SEB activity f. it, 2009. *Left:* 2009 April 8, 20:09 UT. CM-I 87.9°, II 154.2°, III 218.5°. *Lester Barnes, Australia.* *Middle:* 2009 July 7, 04:11 UT. CM-I 35.2°, II 139.8°, III 228.0°. *Fabio Carvalho, Brazil.* *Right:* 2009 Sept 18, 09:38 UT. CM-I 249.6, II 155.5°, III 260.8°. *Stefan Buda, Australia.*

In 2009, Jupiter's atmosphere was still recovering from the global upheaval of 2007, and many regions showed no large-scale activity. However, major changes did begin on both equatorial belts, in accord with long-term cycles of activity.

The SEB still contained much small-scale turbulence in early 2009, including bright rift activity following the GRS, but this ended rather abruptly in early June. Several observers therefore predicted that the switchoff of activity would lead to the SEB fading again. Indeed, from August onwards the SEB has been generally fading (and increasingly pale orange), while cyclonic 'barges' in it have become strikingly dark, and the GRS has become a distinct orange oval. So we can expect the fading to continue until a SEB Revival outbreak begins, possibly in 2010. This would accord with the recent tendency of SEB Revivals to come in pairs 3–4 years apart (1971,

1975, 1990, 1993, 2007).

Meanwhile the NEB has begun a new cycle of expansion northwards, which is the northerly equivalent of an SEB Revival, and has recently occurred at intervals of 3–5 years (1988, 1993, 1996, 2000, 2004). This event began on 2009 May 31 when the trailing end of a large rifted region flicked around the location of a dark barge, flinging a very dark spot northwards into the NTropZ (due north of the GRS, at L2= 136). Three very dark spots in succession appeared at this point and drifted to and fro in the NTropZ. On Aug 7, at L2= 20, a second such outbreak began in exactly the same way. In both outbreak regions, dusky yellow shading has slowly filled the spaces between the spots, and by September, dusky streaks were extending into the NTropZ at many other longitudes. So the NEB expansion event is now progressing rapidly. During the sum-

mer, the NEB was also exceptionally turbulent internally, as rifted regions expanded to fill much of the belt.

We thank all the observers who have contributed, the JUPOS team for analysis, and especially Christophe Pellier for tracking the fading of the SEB, and Michel Jacquesson for tracking the spots emanating from the NEB.

Other notable events were the conjunctions with Neptune on May 25 and July 13, the 'Bird Strike' impact on July 19, the occultation of 6th-magnitude 45 Capricorni on August 3-4, mutual phenomena of the Galilean satellites which were recorded in resolved time-lapse movies for the first time, and several multiple satellite transits. Reports and illustrations of all these are on our web site at <http://www.britastro.org/jupiter/2009report06.htm>

John H. Rogers, Director



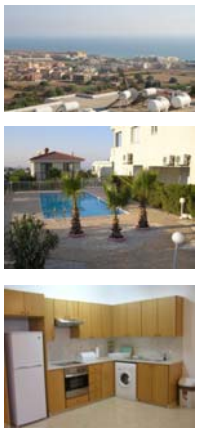
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