Volume 8, Issue 9
SOLAR ECLIPSE NEWSLETTER

September 2003

SOLAR ECLIPSE NEWSLETTER

The sole Newsletter dedicated to Solar Eclipses

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Dear all,

The Newsletter for September 2003 is ready as you noticed. The lay out is slightly changed. Eli Maor gave us the advise to avoid as much as possible duplication so the SENL files will be smaller to download. And that is what we did. The front page for an intro and the index and the back page for info about SEML subscription. We also made some page layouts bigger. I hope you are fine with this change. If you have suggestions and remarks, send them to us.

As you noticed, the SEML traffic is still quite. It means that the next solar eclipses are not of that interest and that most topics have been discussed before. If you have contributions please send them to the mailing list of send them in for SENL. We had a small off SEML-track about small eclipses. There are some interesting messages about the transit of Venus and of course the coming total solar eclipse of 23 November 2003 in the Antarctic. Jay Anderson, our world famous eclipse weather predictor, released his WebPages.

Below a souvenir of the Transit of Mercury Jo, Laura and I observed from Gibraltar. The equipment Jo used for eclipse and transit chasing is shown: C90 and Sony 25x.

Cheers, Joanne and Patrick

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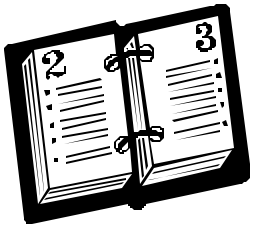

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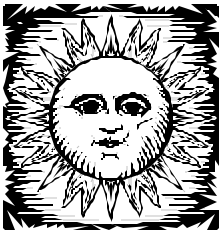

Dear All,

Please find herewith the solar eclipse calendar (SECalendar) for September. If you have any additional information, queries or remarks, please drop us a mail.

For the whole Solar Eclipse Calendar, see our Solar Eclipse WebPages at

http://solareclipsewebpages.users.btopenworld.com

September 01, 1859 In 1859, the first solar flare ever to be recorded by humankind. An intense aurora followed the next day. Two independent observers, Richard C. Carrington and R. Hodson (UK), described their experiences in volume twenty of the Monthly Notices of the Royal Astronomical Society. They are the first to observe a flare on the Sun and they both note that a magnetic storm in progress on earth intensifies soon afterwards, but they refrain from connecting the two events.

September 02, 2817 Next total solar eclipse in Amsterdam at sun altitude of 14 degrees. Annular eclipses in Amsterdam will be on October 2, 2350, March 26, 2639 and May 23, 2878 (the same century as the total solar eclipse).

September 03, 0118 "... about this time while he was pursuing his studies in Greece, such an omen was observable in the heavens. A crown resembling Iris surrounded the disc of the Sun and darkened its rays." Refers to solar eclipse of 3 September AD 118, or possibly AD 96. From: Philostratus, Greek (died between AD 224 and 229). Quoted in UK Solar Eclipses from Year 1 by Sheridan Williams.

September 03, 1885 Bettina 250: Minor planet discovered 1885 September 3 by Jojann Palisa at Vienna. Named for Baroness Bettina von Rothschild of the Austrian plutocratic family. In Observator, Vol 8 p 63 (1885) the following info was published: "Herr Palisa, being desirous to raise funds for his intended expedition to observe the Total Solar Eclipse of August 29, 1886 will sell the right naming the minor planet N°244 for 50 £"..(Ref. VK)

September 03, 1998 SOHO recharged his batteries after months of inactivity. (Ref DD 09/99)

September 03, 2081 Next large partial solar eclipse in the Netherlands. It is not that large as the one of 1999. Magnitude in Utrecht is 0.902 and 0.939 in Maastricht.

September 03, 2081 Next Total Solar Eclipse in France, Germany, etc. Next Total Solar Eclipses in Europe: August 12, 2026 total in North of Spain shortly after sunset. The year after, August 2, 2027 total in extreme South of Spain and September 12, 2053 total in extreme South of Spain, September 3, 2081 total in France, South in Germany, Switzerland, Austria, etc., September 23, 2090 total in northern France and the southwestern Belgium at sunset.

September 04, 0501 <The sun was red and dim; within it there was a single black spot.> Ref BAA 6/00

September 05, 1923 Minor planet (1005) Arago Discovered 1923 September 5 by S. I. Belyavskij at Simeis. Named in honor of François Arago (1786-1853), since 1843 director of the Paris Observatory, life-secretary of the Academy of Sciences, politician and author of the four volume Astronomie Populaire (1854-1857). (H 96) Arago is also honored by craters on Mars and the Moon. Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

September 05, 1984 Landing of STS-41D Discovery: 6 astronauts, of whom 1 paid passenger. 3 satellites launched. Big solar panel folded open and shots made with IMAX-camera. 1rst flight for Discovery, 12 for all shuttles together (Ref DD 9/99)

September 06, 1892 Birth of E. V. Appleton, British physicist. Studied relation between solar and earth atmosphere. Got Nobel price in 1947 for physics. (ref. DD 9/98)

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September 07, -0246 (247 BC) "[D]iary for year 65 (SE), king Antiochus . . . [month V]. The 28th, 74 deg after sunrise, solar eclipse (at) 5 months' distance; when I watched I did not see it." Refers to a solar eclipse of 7 September 247 BC, predicted to take place in Babylon, but which was actually far north of Babylon. Babylonian tablet in the British Museum. Quoted in Historical Eclipses and Earth's Rotation, by F Richard Stephenson, Cambridge University Press, 1997, page 122.

September 07, 1820 Partial eclipse in England but annular over the Isles of Shetland. The trial of Queen Caroline was going on in the House of Lords, and the House suspended its sitting for a short time for the sake of the eclipse. (ref. Chambers, The Story of Eclipses, 1899)

September 07, 1858 Neither at Olmos nor Piura, did any enceinte woman leave her room during the eclipse, whilst some from curiosity, but more through fear, were in the streets, yet not daring to look upon the sun, lest malady befall them. The somber green light gave them the appearance of corpses, and they apprehended that a plague might be visited upon them. Afterwards, the muleteers told us that their animals stopped eating, and huddled together in evident alarm." Lieut. J M Gillis An Account of the Total Eclipse of the Sun on September 7, 1858, as Observed Near Olmos, Peru in Smithsonian Contributions to Knowledge, vol. 11, April 1859, Smithsonian Institution.

September 07, 1956 Minor Planet (2165) Young 1956 RJ. Discovered 1956 September 7 at the Goethe Link Observatory at Brooklyn, Indiana. Named in memory of Charles Augustus Young (1834-1908), known affectionately as "Twinkle" Young by the Princeton students. He accepted the professorship of astronomy at Princeton in 1877, the year that his most famous student, Henry Norris Russell {see planet (1762)}, was born. Earlier he was a professor at Dartmouth, as his father and grandfather had been. He discovered the green line ($lambda$5304) in the solar corona in 1869, and the following year he was the first both to observe the "flash spectrum" and to photograph a prominence. In 1876 he made the first use of the grating spectroscope in astronomy for the determination of the Sun's rotation period. The last of his three successful textbooks, Manual of astronomy, was updated by Russell, Dugan {see planet (2772)} and Stewart in 1926. (M 8798) Name proposed by F. K. Edmondson. Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

September 07, 1962 (2624) Samitchell 1962 RE. Discovered 1962 September 7 at the Goethe Link Observatory at Brooklyn, Indiana. Named in memory of Samuel Alfred Mitchell (1874-1960), a faculty member of Columbia University from 1899 to 1913 and then director of the Leander McCormick Observatory until 1945, known for his work on solar eclipses and stellar parallaxes. His measurements of the flash spectrum at the eclipses in 1900, 1901 and 1905 referred to nearly 3,000 lines. His book Eclipses of the Sun went through five editions. His photographic parallax work with the McCormick refractor resulted in the publication of 2,001 parallaxes by 1950. Subsequent work by van de Kamp {see planet (1965)} and Vyssotsky {see planet (1600)}, encouraged and supported by Mitchell, yielded absolute proper motions of 29,000 stars between magnitudes 8 and 12. (M 10844) Name proposed by F. K. Edmondson. Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

September 09, 1934 Minor Planet (1670) Minnaert 1934 RZ. Discovered 1934 September 9 by H. van Gent at Johannesburg. Named in honor of the late Prof. Marcel G. J. Minnaert {1893-1970}, who was Director of the Utrecht Observatory from 1937 until 1963. He made major contributions to solar research and prepared (with Mulders and Houtgast) the Photometric Atlas of the Solar Spectrum. He was an extraordinarily effective lecturer and writer in the popularization of astronomy. (M 3185) Minnaert is also honored by a lunar crater. Obituaries published in Astron. Nachr., Vol. 292, p. 192 (1970); Orion, 28. Jahrg., p. 195 (1970); Hemel en Dampkring, Vol. 68, p. 289-292 (1970); l'Astronomie, Vol. 84, p. 525 (1970); Observatory, Vol. 90, p. 272 (1970); Sky Telesc., Vol. 40, p. 344 (1970); Nature, Vol. 229, p. 214 (1971); Astrophys. Space Sci., Vol. 10, p. 183-185 (1971); Solar Phys., Vol. 17, p. 3-5 (1971); Astron. Tidsskr., Vol. 3, p. 199-200 (1970); Icarus, Vol. 15, p. 147-148 (1971); Q.J.R. Astron. Soc., Vol. 12, p. 338-341 (1971); Irish Astron. J., Vol. 11, p. 161 (1973). Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

September 09, 1991 Minor planet (7127) Stifter 1991 RD3. Discovered 1991 September 9 by F. Börngen and L. D. Schmadel at Tautenburg. Named for the most famous Austrian narrator Adalbert Stifter (1805-1868). After formative years spent in the Bohemian Forest, he studied near the Benedictine Abbey in Kremsmünster, later living in Vienna and Linz {see planets (397) and (1469)}. In his brillant novels and epics (The Timber Forest, Rock Crystal, Indian Summer and Witiko) landscapes were described in a superb manner. Stifter described the correlation of man and nature in a subtle manner, full of feeling. He dealt with questions of

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education, love and piety, and he was also engaged in painting and science. He gave full details of the total solar eclipse of 1842 July 8 as observed in Vienna. (M 29149) Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

September 09, 1994 Launch of STS-64 Discovery with 6 astronauts for nearly 11 days. Experiments with Spartan (solar wind and corona) and atmosphere research with Lite. (ref. DD 9/98)

September 10, 1919 Robert B. Leighton, was born on 10 Sep 1919. OK, during the only total eclipse he tried to observe (Hawaii 1991), he was clouded out. But, using the 60-ft. solar tower at Mt. Wilson (California) more than 30 years earlier, he had discovered the 5-min. and 15-min. oscillations of the Sun, thereby creating the field of helioseismology, which occupies several dozen scientists around the world today. (GONG, etc.) (Ref. AL 9/99)

September 10, 1923 Hildago 944:Minor planet discovered October 31, 1920 by W. Baade at Bergedorf. German astronomers observed the Total Solar Eclipse 1923 September 10 in Mexico. After the Eclipse they had an audience with the president of Mexico and asked permission to call this planet after Miguel Hidalgo y Costilla (1753-1811) who proclaimed the Mexican independence in 1810. AN 221, 159 (1924). Ref VK 6/97

September 10, 1967 Surveyor 5 (US) makes a soft landing on the moon. Made more then 19.000 pictures and landed 25 km from the later landing place of Apollo 11. (ref. DD 9/98)

September 10, 1978 Minor Planet (2100) Ra-Shalom 1978 RA. Discovered 1978 September 10 by E. F. Helin at Palomar. Named by the discoverer for the Egyptian sun-god Ra, who symbolizes enlightenment and life, and for Shalom, the traditional Hebrew greeting meaning peace. This name is chosen to commemorate the Camp David mid-east peace conference, at which time this unusual body was found. May it stand as a symbol for the universal hope for peace. (M 4548) Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

September 11, 1972 Minor planet 2238) Steshenko 1972 RQ1. Discovered 1972 September 11 by N. S. Chernykh at Nauchnyj. Named in honor of Nikolaj Vladimirovich Steshenko {1927- }, deputy director of the Crimean Astrophysical Observatory, whose comprehensive support has contributed to the success of the program for the discovery and observation of minor planets. Well-known for his work in solar physics, he is in charge of the program of solar observations from space, and he is the author of the design for the Soviet 25-m-diameter mosaic optical telescope. (M 5850) Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

September 12, 1838 Birth of Arthur J. G. F. von Auwers, German astronomer. He reviewed the distance of the sun several times, using transits of Venus and a close encounter of a minor planet. Ref DD 9/99.

September 12, 1851 Birth of Sir Arthur Schuster (1851-1934). A comet is discovered and photographed by Sir Arthur Schuster (1851-1934), Germany/UK, during an eclipse in Egypt: first time a comet discovered in this way has been photographed. The Total Solar Eclipse had been observed by Sir Joseph Norman Lockyer (1836-1920), Ranard and Schuster from England, Tacchini from Italy, Trépied, Thollon and Puiseux from France. Observation from Sohag at the Nile. (Ref. Rc 1999)

September 13, 1178 Vigeois, France .., on a clear day, about the 5th hour, the Sun suffered an eclipse,... (Ex Chronico Gaufredi Vosiensis, Bouquet, 1781, p447) Ref PG 9/99.

September 13, 1912 Birth of H. W. Babcock, American astronomer. Studied magnetic fields of the sun. (ref. DD 9/98)

September 13, 1955 Minor Planet (3167) Babcock 1955 RS. Discovered 1955 September 13 at the Goethe Link Observatory at Brooklyn, Indiana. Named in memory of Harold D. Babcock (1882-1968) and in honor of his son Horace W. Babcock, astronomers at Mount Wilson Observatory, the latter also serving as director of Palomar Observatory. The elder Babcock's precise laboratory studies of atomic spectra allowed others to identify the first "forbidden" lines in the laboratory and to discover the rare isotopes of oxygen. With C. E. St. John and others, he extended Rowland's tables of the solar spectrum into the ultraviolet and infrared. The Babcocks ruled excellent large gratings, including those used in the coudé spectrographs of the 2.5-m and 5-m telescopes, and they measured the distribution of magnetic fields over the solar surface to unprecedented precision. The younger Babcock invented and built many astronomical instruments, including the solar magnetograph, microphotometers and automatic guiders. By combining his

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polarization analyzer with the spectrograph he discovered magnetic fields in other stars, and he developed important models of sunspots and their magnetism. (M 15089) Name proposed by F. K. Edmondson. Citation prepared by J. Tenn. Obituary published in Q.J.R. Astron. Soc., Vol. 10, p. 68-72 (1969). Harold Babcock is also honored by a lunar crater. Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

September 14, 1923 Minor planet (1073) Gellivara Discovered 1923 September 14 by J. Palisa at Vienna. Named for the small town Gällivare in Swedish Lapland where in the year 1927 astronomers from several countries observed the total solar eclipse of 1927 June 29. (H 101) Named by the Austrian astronomer J. Rheden and endorsed by Anna Palisa. Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

September 14, 1994 Ulysses (ESA) reached the south pole of the sun (-80,22 degrees). (ref. DD 9/98)

September 16, 1950 Minor planet (1613) Smiley 1950 SD. Discovered 1950 September 16 by S. Arend at Uccle. Named in honor of Charles Hugh Smiley {1903-1977}, interested mainly in orbit computations by Leuschner's method, director of the Ladd Observatory and professor at Brown University, Providence, R.I. (M 3931) Smiley not only worked on the field of minor planet dynamics. He led 14 solar eclipse expeditions, in Peru, Canada, Brazil, Thailand, Pakistan, and the U.S.A., and did much work on the study of the Mayan calendar. Obituaries are published in J.R. Astron. Soc. Canada, Vol. 72, p. 46-47 (1978); Q.J.R. Astron. Soc., Vol. 19, p. 510-511 (1978). Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

September 17, 1354 " In this year on 17 September that novelty appeared. The Sun became dark on a Wednesday at about the third hour and it lasted for the space of two hours. Above the Sun and Moon, which were joined together - that is, the Moon was covering the Sun - there appeared a very large star with fiery rays like a torch . . . Many people viewed the rays of the small Sun by reflection in a mirror or in clear water. And the rays of the Sun were so small and so dark, on account of the Moon covering the Sun, that there did not remain un-obscured as much as 3 fingers of the Sun. . . Everyone appeared deathly pale." Refers to a total solar eclipse in Perugia, Italy, of 17 September 1354. From: Memorie di Perugia dall'anno 1351 al 1438 Quoted in Historical Eclipses and Earth's Rotation, by F Richard Stephenson, Cambridge University Press, 1997, page 421.

September 17, 1354 Perugia, Italy In this year on 17 september that novelty appeared. The Sun became dark on a Wednesday at about the third hour and it lasted for the space of two hours... (Memorie di Perugia dall'anno 1351 al 1438) Ref PG 9/99

September 17, 1982 Minor planet (4567) Becvár 1982 SO1. Discovered 1982 September 17 by M. Mahrová at Klet. Named in memory of the Czech astronomer Antonín Becvár (1901-1965), founder and first director of the Skalnaté Pleso {see planet (2619)} Observatory in Slovakia. Becvár made observations of comets, meteors and the solar photosphere, but he is best known as the author of Atlas Coeli and the more detailed Atlases Eclipticalis, Borealis and Australis. (M 21956) Becvár is also honored by a lunar crater. Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

September 18, 1783 Death of Leonhard Euler (1707-1783), Swiss mathematician and astronomer. Observed transit of Venus in 1769 and determent herewith the distance to the sun being 151.225.000 km. (ref. DD 9/98, Rc 1999)

September 18, 1819 Birth of Jean Bernard Leon Foucault (1819-1868), French physicist. Photographed the sun and measured the speed of light together with (Armand) Hippolyte Louis Fizeau (1819-1896). The Royal Society gives 18 or 19 September 1819. (ref. DD 9/98, Rc 1999)

September 18, 1896 Death of (Armand) Hippolyte Louis Fizeau (1819-1896), French physicist. Known for his measurements of the speed of light and he made a daguerreotype (picture) of the sun together with Jean Bernard Leon Foucault (1819-1868). (ref. DD 9/98, Rc 1999)

September 18, 1919 Minor planet (922) Schlutia Discovered 1919 September 18 by K. Reinmuth at Heidelberg. Named in honor of the important businessmen Edgar Schlubach (Hamburg) and Mr. Tiarks (London) who together supported the Dutch-German solar eclipse expedition to Christmas Island in 1922. (H 89) Named (AN 218, 253 (1923)) by Schlubach and Tiarks. Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

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September 18, 1959 Launch of Vanguard 3 (US). Studied the sun in roentgen. Weight only 50 kg and is still in orbit around the earth. (ref. DD 9/98)

September 18, 2620 Next total solar eclipse on the Portuguese island Madeira. It is since 4 May 292 (23 centuries) that there was a total solar eclipse on that island. Though, in 292 the sun's altitude at maximum was only 1 degree. But before that, on 15 May 291, only 12 months from the previous, there is another total solar eclipse. There was a near-miss in 540 with a magnitude of more than 99%, and in 1781 a total solar eclipse just before sunrise. (ref. JM 7/99)

September 19, 1710 Death of Ole Romer, Danish astronomer, in Copenhagen. From his observations of the moons of Jupiter in 1676, he determined the speed of light.

September 19, 1950 Minor planet 2513 Baetsle 1950SH. Minor planet discovered September 19, 1950 by S. Arend at Uccle. Named in memory of Paul-Louis Baetsle (1909-1983). See Ciel et Terre Vol 100, No 1, p11-12 (1984). Baetslé was a professional eclipse chaser.

September 20, -0600 (0601 BC) "Duke Hsuan, 8th year, 7th month, day chia-tzu. The Sun was eclipsed and it was total." Refers to a total solar eclipse of 20 September 601 BC. From: Ch'un-ch'iu, book VII (Chinese). Quoted in Historical Eclipses and Earth's Rotation, by F Richard Stephenson, Cambridge University Press, 1997, page 226.

September 20, 1984 Minor planet (3490) Solc 1984 SV. Discovered 1984 September 20 by A. Mrkos at Klet. Named in honor of Ivan Solc, well-known Czech inventor of birefringent polarizing filters for research on solar prominences and surface activity. (M 25976) Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

September 20, 1995 Minor planet (7442) Inouehideo 1995 SC5. Discovered 1995 September 20 by K. Endate and K. Watanabe at Kitami. Named in honor of Hideo Inoue (1917-), Japanese astronomer. An astronomy enthusiast while still a child, he studied at the Tokyo College of Physics and at the Institute of Cosmical Physics in Kyoto. While participating in Kyoto University's expedition to the solar eclipse on 1941 Sept. 21 he obtained color photographs of the solar corona, the first in Japan. He later worked at the Peking Observatory, where he calculated the national ephemeris. After the war he taught at technical high schools in Japan. For the International Geophysical Year he led the Higasimatuyama Moonwatch Team. He is also an enthusiastic ham radio operator. (M 34343) Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

September 21, 1941 Last trio of total solar eclipses at one place on earth and occurring within a span less then 20 years. The total solar eclipses of 21 September 1941, 9 July 1945 and 25 February 1952 were visible in Kazachstan east of Aral Sea in a span of 10.4 years. The next trio will be in 2045, where there will be total solar eclipses on 12 August 2045, 2 August 2046 and 30 April 2060 visible from the Atlantic Ocean off the coast of brasil in 14.7 years. Ref. More Mathematical Astronomical Morsels by Jean Meeus; Willmann-Bell, 2002.

September 21, 1922 Chant 3315 (1984 CZ): Minor planet discovered February 08, 1984 by E. Bowell at Anderson Mesa. Named in memory of Clarence Augustus Chant (1865-1956), generally referred to as the "father of Canadian astronomy". He participated in five Solar Eclipse expedition, the most important being the one he led to Australia in 1922 to test Einstein's prediction of the deflection of starlight by a massive body. MPC 12210.

September 21, 1922 Malabar 754 : Minor planet discovered 1906 August 22 by A. Kopff at Heidelberg. Named in remembrance of the Dutch-German Solar Eclipse expedition to Christmas Island in 1922. Malabar is a city on Java. (I. van Houten-Groeneveld) AN 218, 253 (1923) - Ref VK 6/97

September 21, 1922 Schlutia 922: Minor planet discovered September 18, 1919 by Karl Reinmuth at Heidelberg. Named in honor of the important businessmen Edgar Schlubag (Hamburg) and Mr. Tiarks (London) who together supported the Dutch-German Solar Eclipse expedition to Christmas Island in 1922. Named by Schlubach and Tiarks AN 218, 253 (1923). - Ref. VK 6/97

September 21, 1922 William Wallace Campbell (1862-1938) and Robert J. Trumler (US) reconfirm Einstein's relativistic bending of starlight during an eclipse in Wallal, Australia.

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September 22, 1968 This Eclipse has been successfully observed in Western Siberia. A number of outstanding Eclipse observers have attended the site of observation (Yurgamysh, Siberia): M.Waldmeier, J.Houtgast, M.Laffineur, G.M.Nikolsky, M.N. Gnevyshev, S.K.Vsekhsvjatsky. Younger scientists also made observations there in; among those Serge Koutchmy and Rudolf Gulyaev. (ref. personal mail RG-9/97)

September 22, 1973 Minor Planet (2721) Vsekhsvyatskij 1973 SP2. Discovered 1973 September 22 by N. S. Chernykh at Nauchnyj. Named in honor of Sergej Konstantinovich Vsekhsvyatskij {1905-1984}, professor at Kiev University, a prominent researcher on comets, the Sun and solar activity. (M 7785) Obituaries published in Ríse hvezd, Vol. 66, No. 5, p. 88 (1985); Zemlya Vselennaya, No. 2, p. 60-63 (1985); Vesmír, Vol. 64, No. 9, p. 538 (1985). - This planet and the following ones are named on the occasion of the fiftieth anniversary of the All-Union Astronomical Geodetical Organization. The initial letters of the four names spell out the Russian abbreviation VAGO (Vsesoyuznoe Astronomo-Geodezicheskoe Obshchestvo) for this body. Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

September 22, 1977 Launch Prognoz 6 (USSR), for study the effect of sunshine on magnetosphere. (ref. DD 9/98)

September 22, 1982 2816 Pien 1982 SO. Minor Planet discovered 1982, September 22 by E. Bowell at Anderson Mesa. Named in honor of Armand Pien, of the Royal Meteorological Institute, Uccle. Well known for his popularization of meteorology and astronomy. He has presented the livised weather forecast in Belgium for more than 30 years. He also popularized solar eclipse pictures on TV.

September 22, 1982 Minor Planet (3077) Henderson 1982 SK. Discovered 1982 September 22 by E. Bowell at Anderson Mesa. Named for Thomas Henderson (1798-1844), Scottish astronomer and noted computer. He was appointed Royal Astronomer at the Cape of Good Hope and later Astronomer Royal for Scotland. Henderson computed an improved value for the solar parallax and was the first to measure the distance to a star, Alpha Centauri, in 1839. (M 10846) Name proposed by the discoverer following a suggestion by B. Hetherington. Henderson is also honored by a lunar crater. Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

September 23, 1791 Birth of Johann Franz Encke (1791-1865), German astronomer. Studied comet which has the same name (predicted return in 1822). Determined an accurate value of the sun parallax. (ref. DD 9/98, Rc 1999)

September 23, 1819 Birth of (Armand) Hippolyte Louis Fizeau (1819-1896)., French physicist. Known for his measurements on light velocity and made daguerreotype (photo) of the sun both together with Jean Bernard Leon Foucault (1819-1868). The Royal Society mentioned 23 or 24 September 1819. (ref. DD 9/98, Rc 1999)

September 23, 1877 Death of Urbain Jean Joseph Le Verrier (1811-1877), French astronomer. Believer of the existence of planet Vulcan. (ref. Rc 1999)

September 23, 1950 In the paper, Monthly Notices of the Royal Astronomical Society, vol 111, p 477, published in 1951, R. Wilson reported a <blue sun> which was observed over Edinburgh on the afternoon of 26 September 1950. The sun <was observed to be a deep blue indigo blue> from 3 pm, when it was first noticed, until sunset. The following day, the sun's colour had returned to normal. Wilson, who worked on the Royal Observatory, had the presence of mind to take a spectrogram of the blue sun. This shows a marked extinction of the red part of the solar spectrum when compared to a spectrogram of the <normal sun>, so the effect was not a product of the observer's imagination. Wilson noted that extensive forest fires had been burning in Alberta, Canada, on 23 September. The smoke clouds had reached eastern Canada on 24 September, when they were thick enough to blot out the sun. When the sun did become visible again, it was purple or blue. Ref. New Scientist 11/3/00

September 23, 1981 Brian Marsden did send an IAU circular of the discovery with the coronograph Solwind (Satellite P78-1). A comet collision on the sun was detected. The comet was already photographed in August 1979 but due to the change of the magnet band pictures, it was discovered one year later. The comet is called Howard-Koomen-Michiels. Many other sungrazers have been detected and reported later (also SOHO)

September 23, 2090 Next total solar eclipse in Paris, France.

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September 24, 1898 Birth of Charlotte E.M. Sitterly, American astronomer. End 20s she worked at Mount Wilson Observatory with Charles E. St. John and Harold Babcock on a study of the solar spectrum. They analyzed lines in the spectra of sunspots. She published books about solar spectra and multiple spectra lines. Ref DD 9/99.

September 24, 1935 Minor Planet 2213 Meeus 1935 SO. Minor Planet discovered 1935 September 24 by Eugène J. Delporte at Uccle. Named in honor of the Belgian amateur astronomer and professional meteorologist Jean Meeus. ... and improved and updated versions op Oppolzer's canon of eclipses. Meeus also attended eclipse expeditions.

September 24, 1960 Minor Planet (2471) Ultrajectum 6545 P-L. Discovered 1960 September 24 by C. J. van Houten and I. van Houten-Groeneveld at Palomar. Named in honor of the University Observatory at Utrecht, best known for its work on solar physics. Ultrajectum was the Roman name for Utrecht. (M 8799) Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

September 24, 1960 Minor planet (4180) Anaxagoras 6092 P-L. Discovered 1960 September 24 by C. J. van Houten and I. van Houten-Groeneveld at Palomar. Named after the Greek philosopher Anaxagoras (c. 500-428 B.C.). He lived in Asia minor and in Athens, where he became friend of Pericles. He taught that solar and lunar eclipses originated in a scientific way and not as an act of the gods. This was an asebie (outrage against the gods) and Anaxagoras had to flee; he died in exile. (M 22501) Anaxagoras is also honored by a lunar crater. Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

September 24, 1960 Minor planet (7147) Feijth 4015 P-L. Discovered 1960 September 24 by C. J. van Houten and I. van Houten-Groeneveld at Palomar. Named in honor of Hendrik (Henk) Feijth (1944-1997), a devoted and true amateur astronomer: making variable star observations is his passion. Since the early 1960s he has been an observer in the variable star observing group Nederlandse Vereniging voor Weer en Sterrenkunde, Werkgroep Veranderlijke Sterren. Since 1981 he has been this group's representative to the American Association of Variable Star Observers. Feijth has made nearly 100,000 observations of variable stars and has lectured and written articles for journals and books. (M 29672) Name proposed and citation prepared by T. Jurriens. Obituaries published in Radiant, Jaarg. 19, Nr. 3, p. 49-50 (1997); Zenit, Jaarg. 24, Nr. 7/8 (1997); Int. Comet Q., Vol. 20, No. 2, p. 53 (1993). Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg. Henk also observed several solar eclipses.

September 24, 1979 Minor Planet (4687) Brunsandrej 1979 SJ11. Discovered 1979 September 24 by N. S. Chernykh at Nauchnyj. Named in honor of Andrej Vladimirovich Bruns (1931-), staff member of the Crimean Astrophysical Observatory, an authority on space astrophysics who has originated several unique instruments for ultraviolet observations of the sun, stars and galaxies from satellites and spacecraft. He designed the large Orbiting Solar Telescope controlled by cosmonauts on Salyut 4 in 1975. A relative of Ernst Heinrich Bruns {see planet (901)}, director of the Leipzig Observatory at the beginning of this century, he is related on his mother's side to Euler {see planet (2002)}. (M 26762; M 27749) Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

September 25, 1644 Birth of Ole Romer in Aarhus. From his observations of the moons of Jupiter in 1676, he determined the speed of light.

September 26, 0702 Ch'ang-an reign period, 2nd year, 9th month, day i-ch'ou. The sun was eclipsed, it was almost completes. It was in Chueh (Hsin-t'ang-shu, chap 32) Ref PG 9/99.

September 28, 1791 Captain George Vancouver observed this Wednesday morning a partial solar eclipse. He went on the name the barren rocky cluster of isles, by the name of Eclipse Islands. The actual date was September 27, 1791 at 22h39m (local time Sep. 28, 6h39m) with a mag. of 0.936. Patrick Poitevin observed at about the same place the partial eclipse of September 2, 1997 (mag. 0.551) between the clouds.

September 28, 1971 Launch of Luna 19 (USSR). Studied magnetic field of the moon and prominences. (ref. DD 9/98)

September 29, 1956 Minor planet (3447) Burckhalter 1956 SC. Discovered 1956 September 29 at the Goethe Link Observatory at Brooklyn, Indiana. Named in memory of Charles Burckhalter (1849-1923), well known for his research in solar-eclipse photogra-

(Continued on page 9)

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phy, a founder of the Astronomical Society of the Pacific and its first vice president. He became the first full-time director of the two-year-old Chabot Observatory in downtown Oakland, California, in 1885 and built it into an important popular-science institution. Under his direction it was moved to a new building at a darker hill site in 1913 and featured a 50-cm refractor. (M 17028) Name proposed by N. Sperling with the concurrence of F. K. Edmondson. Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

September 29, 1971 Launch of Orbiting Solar Observatory 7 (VS). Got in a wrong orbit. Observed sun in UV, XUV and roentgen. (ref. DD 9/98)

September 29, 1973 Minor planet (5791) Comello 4053 T-2. Discovered 1973 September 29 by C. J. van Houten and I. van Houten-Groeneveld at Palomar. Named in honor of Georg Comello (1942-), Dutch amateur astronomer. His interests in astronomy include variable stars, comets and traveling around the world to observe solar eclipses. Since 1960 he has been employed at the Kapteyn Institute of the University of Groningen, currently as a librarian. He assisted L. Plaut {see planet (1986)} in measuring and analyzing his plates of variable stars and is still on the board of the Working Group for Variable Star Observers. For several years he has been the draftsman of the Sterrengids (the Dutch yearbook on astronomical events), for which he prepares in particular finding charts for minor planets. He has written articles for Hemel en Dampkring and Zenit and contributes to newspapers, radio and television. (M 24918) Name proposed and citation prepared by T. Jurriens. Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

September 30, 1995 Ulysses (ESA) finished its first phase of Solar research. (ref. DD 9/98)

and ... keep those solar eclipse related messages coming ...

Best regards,

Patrick and Joanne

solareclipsewebpagesSENL200309btopenworld.com
http://solareclipsewebpages.users.btopenworld.com

SEDates

SEC2004 one year to go

Dear All, One year to go!!!!

The international Solar Eclipse Conference will start Friday evening 20 August 2004. The conference will be on Saturday 21 and Sunday 22 August 2004 in the Open University of Milton Keynes, UK.

See our WebPages at http://solareclipsewebpages.users.btopenworld.com\SEC_files\SEC2004.html

Registration will start from next month on when final costs are established. Of course, donations and gifts are more then welcome.

Speakers lined up for SEC2004 (Alphabetical) with title of lecture:

Jay Anderson (Canada): "2005 and beyond - a look at eclipse weather prospects for the next five years"
Ralph Chou (Canada): "Eye Safety: Transmittance data, reports of eye injuries, law suits and more"
Friedhelm Dorst (Germany): "Three Exciting Black Moons"
Leo Dubal (France): "Questionning Ancient Eclipse Records"
Fred Espenak (USA): "Eclipse Predictions for 2006 and Beyond"
Nigel Evans (UK): "Flash"
Mike Foulkes and Derek Hatch (UK): "Eclipse Imaging - 20 years of trying to improve"
Owen Gingerich (USA): Eclipse Tales - tbc
Jean Paul Godard and Martine Tlouzeau (France): "Eclipses through Philately"
Pierre Guillermier (France): "Eclipse Paintings in the XVIe and XVIIe century : The Pieter Paul Ruben's Christ on the Cross and the Antoine Caron's Dionysius the Areopagite"
Peter Hingley (UK): Historical Eclipse Images
Barrie Jones (UK): "Shadow Bands"
Serge Koutchmy (France): "Towards a higher spatial resolution in coronal total eclipse imaging"
Jean Marc Lariviere (Canada): "Moving Eclipses - Eclipses in Films"
Eli Maor (USA): "Jeremiah Horrocks and the 1639 Transit of Venus"
Jean Meeus (Belgium): "Fictitious eclipses"
Chris O'Byrne (Ireland): "A calculator and timer for eclipse day"
John Parkinson (UK): "A Sideways Look Back at the 1999 Eclipse in the UK"
Jay Pasachoff (USA): "Solar Eclipse Science"
Vojtech Rusin (Slovakia) and Miloslav Druckmuller (Czech Republic): "Image Processing"
Eckehard Schmidt (Germany): "Nuremberg - it´s history of solar eclipses"
Glenn Schneider (USA): "EFLIGHT 2003 - The Umbra on Ice from 38,000 ft"
F. Richard Stephenson (UK): "Historical eclipses: then and now"
Peter Tiedt (South Africa): "Automated Eclipse Photography with Electronic Cable Release and Intel-based Computers"
Tom Van Flandern (USA): "View from the edge: The special phenomena that make totality so spectacular"
Robert van Gent (The Netherlands): "Eclipse Cycles"

Those within < " > are final titles.

If any comments or questions, please drop us a line. Best regards,

SEScannings

SENL August on line

Dear all, The August 2003 issue of the Solar Eclipse Newsletter (SENL) is on line. See

http://solareclipsewebpages.users.btopenworld.com/SENL_files/Senl200308.PDF

The SENL can be downloaded free of charge. You only need Adobe Acrobat Reader on your computer. For Adobe see

http://www.adobe.com/products/acrobat/readstep2.html

See the latest SENL and also the complete SENL Index since November 1996 at our Solar Eclipse WebPages at

http://solareclipsewebpages.users.btopenworld.com

The SENL will be soon on the WebPages of Fred Espenak/NASA. See

http://sunearth.gsfc.nasa.gov/eclipse/SENL/ and the indexat

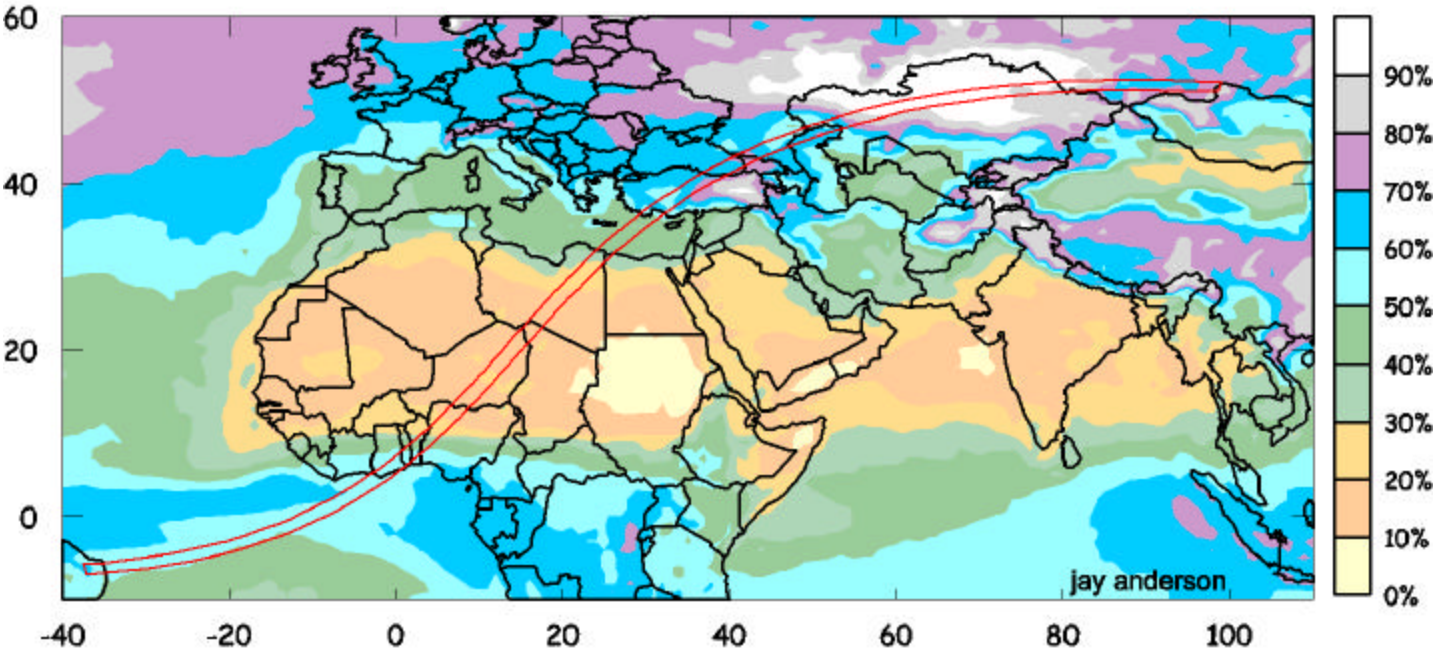
http://www.mreclipse.com/SENL/SENLinde.htm with example: SENL0011.pdf

http://sunearth.gsfc.nasa.gov/eclipse/SENL/SENL0011.pdf

Comments and contributions are welcome at solareclipsewebpagesSENL200309btopenworld.com

And ... keep those solar eclipse related messages coming ... Best Regards,

Jay Anderson's weather prediction for the 2006 TSE



Mean March Daytime Cloud Cover
(based on satellite data 1982 - 2000)

SETalk

Smallest Eclipse

Best Patrick. I have read in one of your Solar Eclipse News Letters that when there are TWO solar-eclipses after ONE lunation that there are limits of their occurrences. There is a GREATEST limit/sum and a SMALLEST limit/sum. There was written in your SENL that the SMALLEST eclipse is a P-eclipse of 15,6% when there is only ONE solar-eclipse in a eclipse-season. Jean Meeus had calculated this. But after reading this in your SENL, I have researched it on the web-site of Fred Espenak http://sunearth.gsfc.nasa.gov/eclipse/SEcat/SEcatalog.html and my results are this: if there are TWO solar-eclipses after ONE lunation it is possible that the sum of their "partials" are smaller than the above calculated 15,6%. I found in the tables of Fred Espenak at the changing of the saros number 33 to number 71 that these SMALLEST sum of TWO eclipses after one lunation, if he had right calculated it, is a mere 12,9% in the year 594 BC. His tables are from 2000 BC till 4000 AD. See the table below, the amounts are in permillages:

from Sep.8, 702 BC, saros number 33, and Oct. 8, 702 BC, saros number 71. saros 33: 261 204 161 129 106 091 083 075 070 060 049 028 001 X saros 71: 001 021 033 039 042 044 046 055 068 091 122 168 224 X TOTAL: 262 225 194 168 148 135 129 130 138 151 171 196 225 X

The amounts marks with "X" have as total the SMALLEST sum: namely 8,3% saros number 33, and 4,6% saros number 71, total is only 12,9%, this is the SMALLEST total in the whole period 2000 BC till 4000 AD, and had been reached in the year 594 BC. Then I did a research at the GREATEST sum of two solar-eclipses after ONE lunation. I got the following results: The GREATEST sum in these same period (2000 BC till 4000 AD) is 113,1 % and was reached in the year 654 AD. Namely: saros number 68 on Apr. 22, 654 AD with a solar-eclipse of 7,1%, a "Pe"-eclipse, and saros number 106 on May 21, 654 AD with a total, but NON-central, solar-eclipse with a maximum of 106,0%. These sum is more than the 100%, so the eclipse is total. By comparison: in July 2000 the sum of the both "P"-solar-eclipses were 47,7% and 60,3%, the sum is 108,0% Then I decided to e-mail to Jean Meeus to see if my investigations are correct. I received the following answer of Jean Meeus. " I have recalculated all this with my own computer and all what your wrote is right,... but ONLY when the earth's orbit have an eccentricity of 0,017, the value about 2000 AD, nowadays, but in a million year these value was/will be between about 0,0023, nearly circular, and about 0,060, rather eccentric, so he has calculated it. If e=0,0023, the SMALLEST sum is about 32%, and the GREATEST sum is then about 92%. Because this is below the 100% it is in this case NEVER possible that ONE of the two solar-eclipses after ONE lunation is a (non-central) total/annular one, such as in the year 1928. If e=0,033 the SMALLEST sum is about ZERO %, so had Jean Meeus calculated it, and than it is possible that there are NO solar-eclipses, instead of one or two, in a single solar-eclipse season! And the GREATEST sum is than about 125%, so there are more cases that one of the two eclipses after ONE lunation is a total one than nowadays. And if "e" is about 0,060, so calculated Jean Meeus further on, than the GREATEST sum will be in that case about 150%. It is possible that you got the following series: "Pb" and T (or A!) -eclipses after ONE lunation, next (after 18 year!): "P" and T/A-eclipses, next: "P" and a another "P"-eclipses, next: T/A and and "P"-eclipses, and in closing a T- or an A-eclipse(!) and a "Pe"- eclipse after one month. And the SMALLEST sum is than in that case about MINUS 20%, thus there will be much eclipse-seasons WITHOUT a solar-eclipse." This was the answer of Jean Meeus, that I received of him. In conclusion I self had made a table, with the eccentricity of the earth's orbit and the SMALLEST sum and the GREATEST sum of TWO solar-eclipses after ONE lunation. SMALLEST sum GREATEST sum after ONE lination eccentricity "e"= 0,0023 about 32 % about 092 % 0,017 about 13 % about 113 % 0,033 about ZERO % about 125 % 0,050 about MINUS 13 % about 140 % (Jean Meeus had not calculated this) 0,060 about MINUS 22 % about 150 % Jean Meeus answers me by e-mail that the value of "e" is between 0,0023 and about 0,058 to 0,062 in a MILLION years. Nico, Gouda (Netherlands)

Occult Software is free

From: Jen Winter - ICSTARS Astronomy To: SOLARECLIPSES-SENL200309AULA.COM Date: Mon, 04 Aug 2003 00:38:56

Yes, I forgot that you are Macintosh based. Occult is a PC based software that has older DOS versions. If you have win-mac applications or dos applications, you can run the program on your mac though.

A good friend of ours, Rob Robinson distributes the Occult program for IOTA (the International Occultatation Timing Association) free for download from his website, www.lunar-occultations.com/

To download WinOccult 2.0 by FTP, there are explicit instructions and details at: http://www.lunar-occultations.com/iota/occultv2.htm

To download Occult 4.20 for dos, visit: http://www.lunar-occultations.com/iota/occult4.htm

There are also details on how to attain a copy on disk if you are unable to access the .ftp site.

Rob knows much more than we do about using it for calculations, but we like it for uses such as this, where the boundary lines are in question. Clear Skies, jen

At 07:32 PM 8/2/03 -0700, you wrote: Jen's description of Oeno is quite correct, and it IS visit by the "locals" from Pitcairn (~ 100km away) a couple of times a year for festive "holiday" weekends. I un-

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derstand something like 1/3 of the whole Pitcairn population will go to Oeno at once for that. There are links of the official Pitcairn Islands web site to photos by the "locals" on Oeno.

My posting, though was *NOT* saying Oeno would make a good site for those (like me) who want to bask in the Umbra. But for a VERY near grazing totality and long duration diamond ring (i.e. for those interested in limb events) this might be an attractive possibility.

Jen: I am unfamiliar with OCCULT. I would like to compare it with my own S/W, and with Fred's predictions. Can you say a bit more about it (and where it may be obtained)? -GS-

Image Stabilized Binoculars

From: Jay Friedland To: "SOLARECLIPSESSENL200309AULA.COM" <SOLARECLIPSESSENL200309aula.com> Date: Mon, 04 Aug 2003 09:38:14

Hello all, All of this talk of plane and shipboard eclipse observing leads me to ask what people on this list think of the various image stabilized binoculars - particularly the Canon 15x45 IS (or 15x50 IS) vs the Zeiss 20x60 (and knock-offs such as New-Con Optik SIB 16x50M) vs the Nikon StabilEyes 14x40. Any and all opinions and experiences with motion cancellation on planes, trains, automobiles and boats (or just shaky hands) would be greatly appreciated! Thanks, - Jay

p.s. Has anyone tried eyepiece projection to a digital camera or video camera with one of these binoculars?

From: Sheridan Williams

I have the Canon 15x45IS binoculars and find they live up to all that is claimed of them, in a word - superb. They do work well on planes if you ignore the poor optical quality of the windows. I used them for whale watching on a small boat and they were brilliant. They render totality even more breathtaking than it is already.

From: Gerard M Foley

The Canon 10x30IS I have work very well against shaky hands. Haven't used them much in vehicles.

A large ship, or even a 10,000 tonner in calm seas, is pretty stable. If there is a sea, keeping the ship running until time of totality, occultation or whatever, and then shutting down the engines to reduce the vibration can be effective with stabilizers. A stopped ship in much sea will roll a lot (QE2 looking for Comet Kohoutek (:-)).

From: Evan Zucker

I received the 15x50 IS for Father's Day and find them very effective for nighttime sky observing. I like to select an object and then press the IS button because the difference is so dramatic. I can split the two stars in Albireo and can see the two different colors, and I can easily observe Jupiter's Galiean moons. On Earth's moon I can see the sunlit crater rim on the otherwise unilluminated portion of the crescent moon. Evan H. Zucker San Diego, California

From Joel Moskowitz

Hi Jay, If you remember, I used the Canon 15X50 IS in Australia. They are really excellent, both in their ability to cancel vibrations and optically. They won't cancel out the kind of high frequency vibrations you get from the airplane itself, but will cancel out hand-holding type vibrations. Placing the video camera at the eyepiece should be unnecessary, as it should have its own vibration reduction. As a matter of fact, for the eclipse flight, I am planning on making a bracket to hold the Canon binos in optical alignment with my video camera so I can record and look at the same time. Joel M. Moskowitz, M.D. 8 (total)solar eclipses and counting

Saros questions

From: Raymond Badgerow To: solareclipsesSENL200309Aula.com Date: Sun, 03 Aug 2003 02:08:17

This was a question sent to me by Matt Ventimiglia, who was travelling with me on our latest excursion to Iceland with Fred's group. I can answer most of this myself,but wanted to get some expert opinion on the matter.

Matt wrote: A few other question about eclipse saros cycles. I understand that as many as 80 may be "active" at any historical time. Is there a fixed number number of these cycles,or are new ones being formed continually?. What is the total number now?. Are there separately numbered cycles for lunar and solar eclipses?. Ottowell mentions in his book "The Understanding of Eclipses" that some guy made his own system of assigning the number "one" to a lunation in 1923 and used negative numbers for earlier years. Again,what is the total number(not just the "active" number) currently.

From: Jean Meeus

This numbering has nothing to do with Saroses nor with eclipses. It is a numbering of *lunations* and was introduced in the work on reduction of observations of occultations of stars by the Moon.

In this system, lunation No. 998 is the lunation which begins with

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the New Moon of 2003 August 27. Jean Meeus

From: Felix Verbelen

Not all, but at least some answers can be found in a short article I wrote some time ago. It is available at http://user.online.be/felixverbelen/cycles.htm Regards. Felix Verbelen

From: Raymond Badgerow

I will pass the information along ASAP.

From: Rybrks1SENL200309cs.com

I explained this last year...and will re-send appropriate excerpt to AULA when I return to USA later this week. Raymond Brooks

From: Raymond Badgerow

Thanks Ray.

Gerald Hawkins Obituary

From: John Tilley To: SOLARECLIPSES-SENL200309aula.com Date: Tue, 05 Aug 2003 23:24:37

Gerald Hawkins died on May 26th aged 75 years and his obituary was in The Times this morning. (Thats The Times Newspaper of London, England). Next to a photo of Stonehenge at Sunrise/Sunset with a comet clearly visible they describe him in one sentence as "Astronomer who delighted the hippie movement by proposing that Stonehenge was an early computer".

His book - "Stonehenge Decoded" (1966) has been discussed on this list before. The Times says it "suggested that the Neolithic monument on Salisbury Plain was nothing less than a computer that had been used to predict eclipses of the Sun, and other celestial phenonema in those far-off times."

However The Times concludes "Subsequent studies have not confirmed the complex system of solar and lunar alignments alleged by Hawkins, suggesting that the word "computer" was a great exaggeration."

Anyway his book is worth a browse.

fwiw - An obituary in The Times is not easily achieved! I forget who said "I read The Times obituaries over breakfast in bed and if I haven't died I get up" John Tilley

Transit of Venus expedition

From: Kelly Beatty To: SOLARECLIPSESSENL200309AULA.COM Date: Wed, 06 Aug 2003 15:34:04

as you all know, the upcoming transit of Venus (TOV2004) will be observable over a wide geographical area, not all of which is politically stable. we've pondered for quite some time about how to "package" the transit to make it a worthwhile expedition experience for dedicated amateurs, and we came up with two solutions. here's the first (details of the second to come):

we have arranged for a select group to view the transit from the Vatican Observatory at Castel Gandolfo, a beautiful lakeside setting near Rome. the facility's two principal instruments are a 16-inch f/15 Zeiss refractor (for visual observing) and a double (16- and 24-inch) astrograph. we'll have access to the facility's well-secured grounds the night before, so that our guests can do some visual night-sky observing with the Vatican's instruments -- and, if they wish, polar-align their own scopes and leave them set up for the next day. while there, we'll also have an opportunity to view the Vatican's meteorite collection, one of the world's finest.

details are here: http://www.tq-international.com/Rome/RomeHome.htm clear skies, Kelly Beatty

From: David Bell

How many people, Kelly, and how soon can it be booked? Could a group from Ireland be fitted in? David

Earliest known European solar observatory

From: Gent van R.H. To: HASTRO-LSENL200309LISTSERV.WVU.EDU Date: Mon, 11 Aug 2003 13:31:30

Hi, A recent announcement from the Landesamtes für Archäologie Sachsen-Anhalt claims the discovery of a 7000-year old solar observatory near Goseck (Weißenfels, Germany), about 25 km from the site where the Sky Disk of Nebra was found a few years ago.

The site is believed to have consisted of a circular ditch with two wooden enclosures measuring about 75 meters in diameter with three entrances, facing due North and the directions of sunrise and sunset at the winter solstice.

See http://www.archlsa.de/aktuelles/index.htm or http://www.archlsa.de/aktuelles/goseck.pdf All texts are in German, but the latter weblink has many images.

SETalk

ER and its solar eclipse

From: Sheridan Williams To: SOLARECLIPSES-SENL200309aula.com Date: Thu, 07 Aug 2003 10:14:20

In Britain yesterday (Wed 6 Aug) they broadcast the episode of the TV series ER that contained a solar eclipse. Did anyone else see it?

Why is it that they pride themselves on their medical accuracy and yet for another scientific event get it so wrong? Why don't they get advice? It was remarked by someone that eclipses are rare and occur 18 years 11 days apart. At least they had heard of the Saros even if they didn't know!

I wasn't impressed by the image either.

From: David Makepeace

The solar eclipse episode of "ER" ran in North America back in April, I believe. Unlike Sheridan, I was pleased that the writing team spent some time to include some correct facts about eclipses and didn't mind the computer graphic of the solar eclipse overhead. What was it that they got so wrong?? To me it was obvious that they DID get some advice. No film or television or news producers will ever get it completely right - especially to satisfy this group. All things considered, I would call this a "win."

I taped the episode and plan to post a quick edited clip of it on my website and include the episode in the Eclipse Film Database now available at, http://www.eclipseguy.com Best, David Makepeace

From: Jean-Paul GODARD

Excuse my French... ;-)) But what is "ER" about? We surely will see a french version in a few month... Cordialement, jean-paul.godardSENL200309noos.fr

From: Yannick Blin

In France "ER" is called "Urgences". I'm sure you have already heard about this drama starring George Clooney... Titus

From: Gerard M Foley

"ER" is short for Emergency Room, and is a 1 hour program purporting to show the operation of an Hospital Emergency Room in Chicago, Illinois, USA (EUA). It has run for many years on American TV in the evening. Bonne chance

From: Bob Morris

Although I'm bilingual, "Urgences" would sound to most Anglais like a program about men who are seeking the nearest ... well you know what I mean ... those things they have in Paris streets. LRM Ottawa

World Atlas Solar Eclipse Paths: 1000 BCE to 1000 CE

From: Fred Espenak To: SOLARECLIPSESSENL200309AULA.COM Date: Mon, 11 Aug 2003 15:30:29

Greetings - This summer as in past years, I am fortunate to be mentoring a bright young student for six weeks. Lauren Williams just finished her internship with me and I am pleased to announce that we have added 2,000 years of eclipse maps to the NASA "World Atlas Solar Eclipse Paths" web pages. The original atlas went on line last summer and covered the period 1001 CE to 3000 CE (CE = Curent Era). The new contribution doubles the size and range of the atlas and covers the interval from 1000 BCE to 1000 CE. This will be of special interest to historians who are matching up historical records with possible eclipses. It is also fascinating to scan the maps to determine when the last eclipse was visible from a particular location or city.

The primary web page for the "World Atlas Solar Eclipse Paths" is at:
http://sunearth.gsfc.nasa.gov/eclipse/SEatlas/SEatlas.html

The index page for solar eclipse paths for the first millennium BCE is located at:
http://sunearth.gsfc.nasa.gov/eclipse/SEatlas/SEatlas-1.html

Similarly, the index page for solar eclipse paths for the first millennium CE is located at:
http://sunearth.gsfc.nasa.gov/eclipse/SEatlas/SEatlas1.html

The maps are all 16 color GIF files which offer the advantage of small file size for fast transmission while producing maps at relatively high resolution. Each map is approximately 140 kb and measures 1465 x 1942 pixels. Please take a look and contact me with any comments or corrections. Fred Espenak

From: Fraser Farrell

Well done, and fascinating too. Do you have plans to release it all on a CD for us bandwidth-challenged folk? cheers,

From: Fred Espenak

Actually, I'd like to eventually develop a CD-ROM containing the contents of the entire NASA Eclipse Home Page web site. I'm just not sure exactly when I'll find the time to do this but it's on my list. Fred Espenak

SETalk

August 11, 1999 Eclipse Elixir

From: KCStarguySENL200309aol.com To: SOLARECLIPSESSENL200309aula.com Date: Tue, 12 Aug 2003 18:17:27

Gosh sorry I am late about this. I just remembered . August 11 was the 4th anniversary of our grand total eclipse experience in Hungary , northwest of Lake Balaton. For those of you who saw that grand eclipse I am sure you remember.

Adding to the adventure were the early morning blinding thunderstorms, seeing the clouds clearing at breakfast, getting them out on the bus and leading my group to a perfect landscape 360 degree view. I captured what I had wanted to do since my first total in 1972, videotaping the incoming shadow (got pictures and tape recording aboard Canberra in 1973) and getting the accompanying sights and sounds as the shadow moved in from over 40 miles away. I then caught all of totality, the pre ring of fire 360 degrees around (I have a panorama of this and a Quicktime VR movie of this now on my site which can be compared with my Quicktime VR movie and panorama of the ring of fire during the 2001 eclipse as a contrast). Also captured on video the prominences and inner and outer corona and even a bat or bird flying across the blacksun before the end of totality. The clouds stayed away until after the end of totality and it was grand.

The only thing I could not see was shadow bands (which others saw) but I saw them in 2001 and captured them fa intly on tape.

Each eclipse is unique but for the exhiliration the highs and lows and what was accomplished, the whole trip experience and this video, this is my favorite total solar to date although the others (7) are mostly memorable in their own right.

Travelling Birds Movie (Was ER & Solar eclipse)

From: Joseph Cali To: SOLARECLIPSESSENL200309AULA.COM Date: Wed, 13 Aug 2003 06:54:53

There is a movie currently screening in Australia on arthouse release called "Travelling Birds - an Adventure in Flight." It is 90 minutes of amazing nature photography. 14 Cinematographers and 17 pilots spent 4 years following migrating birds using microlight aircraft. In the middle of the movie, there are a few seconds of footage of the 2001 TSE. The eclipse clip is OK but not stunning. The movie however is worth seeing for the spectacular nature photography alone. http://www.impactservices.net.au/movies/travellingbirds.htm Joe Cali

New Web pages

From: Jay.M.PasachoffSENL200309williams.edu To: solareclipsesSENL200309aula.com Date: Thu, 14 Aug 2003 01:19:01

I had a pair of summer interns who have just finished doing a wonderful job of mounting a set of Web pages, including stills and animations, of the Dec 4, 2002, eclipse viewed from Ceduna. They have also improved the Web pages with miscellaneous photos from my 35 eclipse trips before that.

All these pages are available at www.williams.edu/astronomy/eclipse.

I thank David Serafin and Utsav KC, both Williams College students, for their excellent work. Jay Pasachoff

A bizarre solar eclipse and Samurai Jack connection

From: KCStarguySENL200309aol.com To: SOLARECLIPSESSENL200309aula.com Date: Thu, 14 Aug 2003 06:06:41

I learned about this brilliantly conceived and well made cartoon when I happened to see it in Montana last week while vacationing in Yellowstone. Well I was reading some information about it online and lo and behold an eclipse sighting and connection. (see below from the first episode dialogue information on the site below).

(I have not see this episode yet so I can't say anything about how the eclipse looks). It's been around since 2001 but I have never

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heard of it before. Brilliantly made and superb work.

Dr. Eric Flescher (kcstarguySENL200309aol.com)Webmaster, Eric's Blacksun Eclipse website- http://ericsblacksuneclipse.com-Webmaster Satori Astronomy - http://members.aol.com/kcstarguy/blacksun/satoriastronomy.htm
****
at http://www.anre.net/samsite/about.shtml

On the tenth day of August in the year two thousand one, the Cartoon Network cable television channel in North America premiered an action-packed, innovative new animated series entitled Samurai Jack.

Long ago, an evil shapeshifting wizard named Aku spread his evil power throughout the land; however, he was eventually defeated by a strong emperor (from feudal Japan, presumably, but this is never said explictly) using a sword forged with the magic of his ancestor's spirits. The Emperor imprisons Aku in the form of a tree in the midst of a barren land Peace once again comes over the land.

However, a bizarre solar eclipse has resurrected Aku, and once again he begins to spread destruction and corruption. The Emperor rushes to again put Aku in his place, but he is captured before he can reach his powerful sword. Fortunately, the Emperor's wife and their young son escape the land before Aku can harm them.....

From: Fraser Farrell

A solar eclipse was also used in the movie "Ladyhawke", to defeat the curse that was the central theme of the story.

From: ShivapujaSENL200309aol.com

...and, a very strangly depicted* eclipse is shown to release the demon trapped in the form of a woman at the end of kevin sorbo's movie 'kull.'

* a very illuminated moon with all features clearly visable slides over an already darkening, reddish solar disk.

From: Jim Low

That would make for an interesting site: possible in a solar system with two suns. I can just see it -- a total solar eclipse of sun "A" at a full moon created by star "B."

From: David Makepeace

Thanks for this information. Samurai Jack will be added to the Eclipse Film Database! Don't forget - if you are looking for information about eclipses in film and television, visit the Eclipse Film Database at www.eclipseguy.com

Solar Eclipse Animations: 2001-2050

From: Fred Espenak To: SOLARECLIPSESSENL200309AULA.COM Date: Tue, 19 Aug 2003 15:33:19

Greetings - For several years, the NASA Eclipse Home Page has featured five pages summarizing all solar eclipses for the first five decades of the 21st century (2001 through 2050).

Each of these tables gives the calendar date, eclipse type (Total, Annular, Hybrid or Partial), the Saros series, the Eclipse Magnitude, the Central Duration (for total and Annular eclipses) and, lastly, a brief description of the geographic region of visibility.

Several of these parameters serve as links to more data (i.e. - maps, table of path coordinates, table of Saros series).

These tables (web pages) have just been revised to include links to animations showing the path of the Moon's penumbral and um-

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bral shadows across Earth for all 110 solar eclipses occurring from 2001 to 2050.

The eclipse shadow animations were generated with software written by British astronomer Andrew Sinclair (ATSinclairSENL200309aol.com). Each animated GIF file is about 125 kilobytes on average, but the individual files vary from 40 KB to 172 KB.

I gratefully acknowledge Dr. Sinclair's generosity in making this animation software available to the NASA Eclipse Home Page. Finally, I thank National Space Club summer intern Lauren Williams for generating the animation files using Dr. Sinclair's software.

You can access these animations from the five eclipse summary tables by clicking on the "Eclipse Type" field for each eclipse. The URL for the five decade tables are:

2001-2010 - http://sunearth.gsfc.nasa.gov/eclipse/SEcat/SEdecade2001.html
2011-2020 - http://sunearth.gsfc.nasa.gov/eclipse/SEcat/SEdecade2011.html
2021-2030 - http://sunearth.gsfc.nasa.gov/eclipse/SEcat/SEdecade2021.html
2031-2040 - http://sunearth.gsfc.nasa.gov/eclipse/SEcat/SEdecade2031.html
2041-2050 - http://sunearth.gsfc.nasa.gov/eclipse/SEcat/SEdecade2041.html

Please take a look at these pages/animations and contact me with any comments or corrections. Fred Espenak

Photo

From: raymond.brooks1SENL200309exeloncorp.com To: solareclipsewebpagesSENL200309btopenworld.com Date: Thu, 07 Aug 2003 13:27:48

Hi Patrick; Yesterday I came across a nice photo of Mars being occulted in July.

See http://www.meade.com/astrocommunity/exhibits/mars/index.html

Wasn't sure if this rated acceptance in SEML since it is not a transit or eclipse. Cheers. Raymond Brooks

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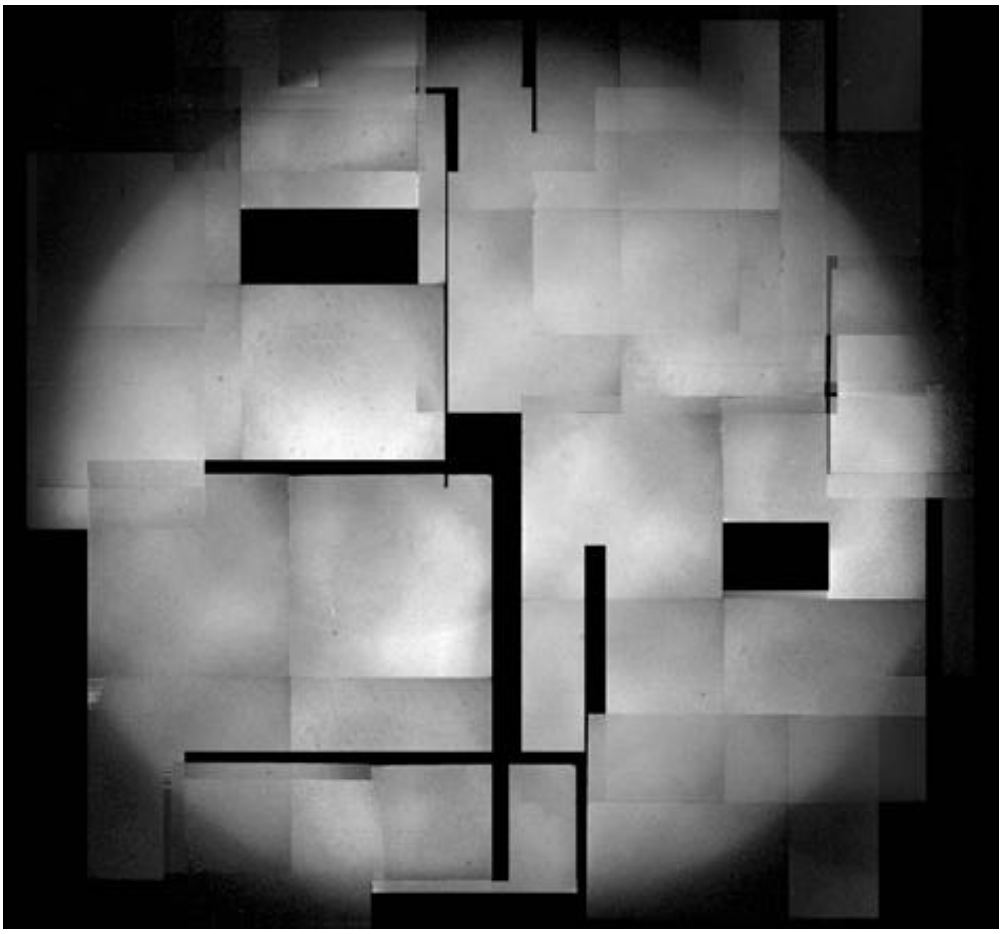
HST Image of The SUN



From: Glenn Schneider To: SOLARECLIPSESSENL200309AULA.COM Date: Sat, 23 Aug 2003 06:35:07

{I hope Pat concurs that this note on what some have found of interest vis-a-vis solar imaging, albeit not of an eclipse, is of sufficient topical interest for SEML. Not too off topic, I think}.

I recently received a somewhat sarcastic, but intended as humorous, comment from an astronomer colleague (to remain anonymous here) in response to a report I recently wrote:

(http://nicmosis.as.arizona.edu:8000/REPORTS/NICMOS_AO_WHITEPAPER.html)

in which he said (and I quote verbatim):

> "Yeah, we'll if HST is so great, how come it has never taken an image of the Sun? ...".

He did think he was being funny. When I corrected him and pointed out that his premise was wrong, and we had indeed taken an image of the Sun with HST (with WF/PC-1 in particular), I had difficulty convincing him I was not joking. So I resurrected and updated anb old web page, now on my server, which speaks to this. Since this pre-dated SEML, but is now again "out there", I though some on this list might be interested in the little-known HST imagery of the Sun:

http://nicmosis.as.arizona.edu:8000/UVFLOOD/HST_SUN_IMAGE.html Cheers, Glenn Schneider

From: Jay.M.PasachoffSENL200309williams.edu

That's great. I would surely have used the image in my new "The Complete Idiot's Guide to the Sun" book if I had known about it. Jay Pasachoff

Lunar eclipse on stamps

From: F.Podmore To: Solar Eclipses Mailing List <solareclipsesSENL200309aula.com> Date: Thu, 28 Aug 2003 15:19:00

I know that many countries have issued stamps celebrating solar eclipses, but does anyone know of any stamps which depict or commemorate a LUNAR ECLIPSE? Specific details please - thanks. Francis

From: Robert B Slobins

Francis: I suggest that you look up topical stamp collecting websites using google or a similar service.

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There is the American Topical Society. They maintain lists of stamps according to topic or general subject matter (space, sports, fish, etc.) I do not know if and even doubt that this philately group breaks down the topics to the narrow subject of eclipses.

There have been an increasing number of new stamp issues over the last twenty years. I am not sure that the ATS lists are current. But they are a start.

Then you are on your own...You need to get a Scotts stamp catalogue (7 volumes, USD 245 + shipping) for the current year, or cheaper for the previous year, and start searching through these catalogues methodically. I hope you have the time for this. cheers/rbs

From: KCStarguySENL200309aol.com

Francis Fred Espenak has a Solar Eclipse Stamps page and links at

http://www.mreclipse.com/SEstamps/SEstamps1.html

Browsing through the stamps pictured, I did not see any lunar. Howver try these.

There are also links to great eclipse stamp collectors at that page try

Martine Tlouzeau (in French though)
http://perso.cybercable.fr/eclipses/timbres/timbres.htm
Chris Malicki's Solar Eclipse site
http://webhome.idirect.com/~kmalicki/

Hope that helps. I looked through my collection but did not see any lunar eclipse stamps but I am sure some are out there someplace. Sorry I don't have more information but that is a good question to find if there is.

Eclipses on Mars

From: Rybrks1SENL200309cs.com To: SOLARECLIPSESSENL200309aula.com Date: Sat, 23 Aug 2003 10:13:06

Mars' Moons What would a solar eclipse be like on Mars?

Now that Mars is the superstar for the next few weeks, it is a ripe time for such a question. I am anticipating watching Deimos (Panic) and Phobos (Fear) circle the Red Planet through a telescope nearly the same size as the one Percival Lowell used and am wondering what they would look like from the surface of Mars.

The two moons orbit Mars basically around its equator. With the tilt of Mars' axis this means they both are in lunar and solar eclipse periods near the Mars equinox periods (roughly heliocentric longitude 260 and 80 degrees, corresponds to our June 10 and Dec 10 longitudes) and neither moon is in an eclipse period at the solstices (our March 10 and Sept 10) because they are passing above and below Mars. So, Mars' autumn compared to Earth is shifted a little bit more than a quarter of a circle clockwise as viewed from above the ecliptic. And eclipses would be occurring most often near the start of Mars Spring and Fall. (The precession of the nodes of their orbits is basically locked with the precession of Mars' spin axis.)

Looking at a typical solar eclipse around equinox, Phobos is the larger moon (17 x 14 x 11 miles) and the closer to Mars' surface so it would cover more of the Sun than Deimos. Deimos is 3 times smaller and over 4 times farther fromthe surface. One darts across the sky in less than four hours with a rather impressive eclipse and the other languishes in the sky for two and a half days with three transits.

Phobos is so close to Mars (3,720 miles from the surface, about the width of North America) that it takes only 7.7 hours per orbit, and races about 4,800 mph, two and a half times the velocity of our Moon. It is the only moon in our solar system that orbits faster than its primary rotates.

So, for Eclipse Day at equinox on Mars you would fly to the equator on your favorite airline, watch the Sun rise in the east a little before 6 am (Mars daytime is almost 12.5 hours long). About 10:05 am, Phobos appearing as a gibbous moon would rise in the WEST, catch the Sun at local noon and set in the EAST before 2 pm. Phobos would be visible as it rises and sets since it would be very very bright, about magnitude minus 9 (also the Mars daytime sky is not as bright as Earth's.) Phobos would dim and wane in less than 2 hours as it approached the Sun. The Sun would appear 2/3 as large as what we normally see, about 20 minutes of arc, and Phobos (15.5 arc-minutes on the long axis, about half the apparent size of our Moon) would appear 75% of the size of the Sun. Each partial phase of the eclipse would last about 14 seconds, and annularity itself would last about 4.75 seconds. Phobos has synchronous rotation (same face toward Mars) but I do not know the orientation of its 3 axes. If the narrowest axis made first contact then annularity would last about 7 seconds. These durations account for the 540-mph site speed on Mars' equator. Don't beat me up with my numbersâ€¦. I am rushing and packing to catch the plane to our 22-inch mirror at 12,500 feet by the shore of Lake Titicaca.

Deimos would appear as a speck to the eye, only 1.5 arc-minutes in size. It would take about a minute and a half to cross the Sun at local noon; it would resemble a transit. But the approach of Deimos to the Sun would be kind of interesting for a given fixed location since it takes about two and a half days from the time it rises

(Continued on page 21)

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till the time it sets. It would rise in the east at about 4 in the morning on day 1 and transit the Sun about an hour after sunrise. It would continue to stay in the sky all day and slowly move to the west. That night it would be basically a bright dot (magnitude minus 5.5) all night. At sunrise on day 2 it would be about 16 degrees from the zenith (quarter phase, but just a bright dot) and then transit the Sun at noon. It would continue to stay in the sky (waning and waxing each quarter phase every 7.5 hours, again just a dot) On day 3 it would transit the Sun about an hour before sunset and then finally set itself at about 8 pm. Day 1 and 3 would transit above and below te Sun's centerline.

The numbers are quite different right now because Mars is not at equinox but fairly close to winter solstice (north hemisphere). Deimos has no eclipses at all now and Phobos skims Mars at about 60 degrees latitude. So Phobos is farther from eclipse sites, looking smaller, and site speed is less. For the next few weeks, annularity duration has increased roughly 50% to 7 minutes and Phobos would appear slightly less than half the size of the Sun. Cheers and clear skies, Raymond Brooks

From: Jean Meeus

I read with enthusiasm the text of Raymond Brooks about the solar eclipses as seen from Mars, until I realized that what he writes about the successive eclipses (or, rather, transits) by Deimos cannot be correct.

It is true that solar eclipses by Phobos and Deimos occur in series centered on the times of the equinoxes. But Raymond wrote: "The two moons orbit Mars basically around its equator." Yes, approximately so. In fact, the satellites' orbits don't coincide with the equatorial plane of Mars. The inclination of the orbit of Phobos is as large as 1.08 degrees, while that of Deimos varies between the extremes 0.9 and 2.7 degrees. (Source: page 101 of the 'Handbook' 2003 of the British Astronomical Association; confirmed by a publication by the Bureau des Longitudes, Paris).

Consequently, it cannot be true that, as seen from the SAME place on the surface of Mars, three transits of Deimos can be seen during the 3-day period during which the satellite is above the horizon.

As seen from the given place, those three Sun-Deimos conjunctions will occur at different points along the satellite's orbit, resulting in different latitudes. These differences will be much larger than the about 20 arcminutes of the Sun's diameter, so at least one (and often two) of the three conjunctions will result in a miss. Jean Meeus

From: KCStarguySENL200309aol.com

I have seen pictures of Mars' moon eclipses on the surface of Mars. Here is a nice related article. http://www.space.com/news/moc-moonshadow_991102.html There are 3 pictures . Enjoy

From: Evan Zucker

Don't those photos of Phobos's shadow look more like an umbra than a penumbra (or antumbra)? I understand that Phobos can never create a total solar eclipse on Mars, but the shadow looks so distinct in those photos that it looks very much like the satellite photos of the Moon's umbra on the Earth during total solar eclipses. Any idea why? Evan H. Zucker San Diego, California

From: klipsiSENL200309bluewin.ch

I haven't read all the postings , and furthermore I am not an expert in extraterrestrial eclipses (E.T.E.) , but I have also seen photos of Jupiter with shadows of its moons, so I think, logically, that the further away you are from the Sun, the smaller the Sun, and there is no shadow cone but a shadow near-cylinder, (or a looooooooong cone with the tip near infinity) thus a total eclipse is more likely. Of course the view will not be the same as on Earth, where the Sun's disk and the Moon's disk are almost same sized, which allows for a total eclipse where the corona is not eclipsed. On Mars and Jupiter the total eclipse will also hide the corona, not just the disk but also a wider area around the disk. If you stand inside the shadow on Mars, the Sun's disk is eclipsed, but probably also the inner corona . On Jupiter, the Sun's disk is eclipsed, and the inner corona and the outher corona. just my reasoning, may be wrong. Klipsi

From: Govert Schilling

It is wrong. Phobos' apparent size as seen from the surface of Mars is too small to block the sun completely, even though the sun as seen from Mars is smaller than it appears to us. The fact that the penumbral shadow of Phobos on the martian surface is so distinct in the space probe images that have been made of it, is due to strong contrast enhancement of the photos.

Deimos if course is way to small to create total eclipses. As for the major Jovian satellites, the apparent diameters of Io, Europa, Ganymede and Callisto as seen from the equatorial cloud tops of Jupiter is about 35, 18, 18 and 9 arcminutes (Ganymede is farther from Jupiter than Europa, but it's also larger, so the two end up having almost the same apparent size). Since the sun as seen from Jupiter has an apparent diameter of just under 6 arcminutes, all four Galilean satellites produce regular more-than-total solar eclipses. --Govert http://www.govertschilling.nl

From: Michael Gill

On the subject of eclipses on Mars: The Beagle 2 lander, currently heading to Mars on board the Mars Express spacecraft will use Phobos

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eclipses to try and pinpoint the exact landing location in the Isidis Basin...

http://www.beagle2.com/resources/resources2.htm

(Scroll down to the press release titled "And now for an eclipse on Mars", dated 10 January 2001. I presume this plan hasn't changed since then.) Cheers, Michael Gill

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Antarctica eclipse on TV ?

From: klipsiSENL200309bluewin.ch To: SOLARECLIPSESSENL200309AULA.COM Date: Fri, 08 Aug 2003 14:47:07

see this article about TV broadcasting from Antarctica

http://www.intelsat.com/news/releases/press/2003-15.asp

now that we know NHK is planning a broadcast from 3 locations (Dome Fuji station , Novo station , and one aircraft), this will be very interesting event. Klipsi

From: klipsiSENL200309bluewin.ch

http://www.live-eclipse.org/ looking good .... ;-) Klipsi

History of Antarctic eclipses

From: Jay.M.PasachoffSENL200309williams.edu To: solareclipsesSENL200309aula.com Date: Fri, 08 Aug 2003 12:28:08

I know that there has been a thread about the topic of the query below. Will people please respond directly to the re-searcher (with a copy to me or a posting on the list)? Jay Pasachoff

Forwarded Message Dear Jay Would you like to handle this enquiry concerning the forthcoming eclipse? Personally, I dont have any records, or know of, recordings of eclipses over Antarctica, though I am sure they have been made. Thanks Michael

Forwarded message -- Date: Thu, 7 Aug 2003 23:36:09 -0700 From: yuhong koh <hkohSENL200309earthlink.net> To: M. BurtonSENL200309unsw.edu.au Subject: NHK-TV, Japan

Dear Professor Burton, I hope this mail finds you well. My name is Hiro Koh and I am a researcher at NHK-TV, a public broadcasting system of Japan. We are currently preparing for a live coverage of the total solar eclipse over Antarctica in Nov. In its preparation, we are in search of any records or stories from a past total or annular solar eclipse over Antarctica. We are looking for field notes, diaries, letters, photos, sketches or even just stories from a past human observation of a total or an annular solar eclipse over Antarctica. We cordially request for your expertise and insight in this matter. Even if it is that there never was a human observation of a total or annular eclipse from Antarctica in the past, that in itself is valuable information, so please let us know. Or an introduction to someone who may have information would be very appreciated also. Thank you. Hiro Koh NHK, Project Antarctica

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From: klipsiSENL200309bluewin.ch

I don't know anything about previous observations of solar eclipses from Antarctica.

except for the PARTIAL solar eclipse of Feb. 2000.

here is a photo forward I received from Dale Ireland, the photo was taken from McMurdo station by Michael Bilos. http://eclipse.span.ch/5feb2000.htm Klipsi

From: yuhong koh

Dear Mr. Poitevin, I hope this mail finds you well. My name is Hiro Koh and I am a researcher at NHK-TV, a public broadcasting system of Japan. We are currently preparing for a live coverage of the total solar eclipse over Antarctica in Nov. In its preparation, we are in search of any records or stories from a past total or annular solar eclipse over Antarctica. We are looking for field notes, diaries, letters, photos, sketches or even just stories from a past human observation of a total or an annular solar eclipse over Antarctica. We cordially request for your expertise and insight in this matter. Even if it is that there never was a human observation of a total or annular eclipse from Antarctica in the past, that in itself is valuable information, so please let us know. Or an introduction to

More ships to Antarctica ?

From: klipsiSENL200309bluewin.ch To: SOLARECLIPSESSENL200309AULA.COM Date: Fri, 15 Aug 2003 15:37:57

looks like the Australian ship

Aurora Australis will be leaving Davis station Antarctica on november 23... coincidence ? anyone going to be there for the eclipse ?

see http://www-old.aad.gov.au/goingsouth/schedules/0304_ship_sked.asp

maybe more supply ships for stations Davis, Zongshan, Casey, Mirny, Novo, Maitri, etc. will just happen to be in that area ? Klipsi

From: klipsiSENL200309bluewin.ch

according to this : http://www-old.aad.gov.au/goingsouth/schedules/0304_davis_sao_info.asp

the supply ship Aurora Australis arrives at Davis station on 15 november and leaves on 23rd november. Depending on the time of departure, it could mean almost 24 hours before the eclipse (which occurs 23rd november around 22h40 UT which is 24 november early morning locally !), thus they might make it to sail into the path of totality ? Does anyone know if this is a plan or just coincidence ?

the Aurora Australis is to supply 2 helicopters to Davis station. Will they use them to fly into the path of totality from Davis ? questions, questions... Klipsi

Antarctic flights

From: Jay.M.PasachoffSENL200309williams.edu To: solareclipses-SENL200309aula.com Date: Tue, 19 Aug 2003 14:49:23

Tuesday, 19 August The decision time has come for me between the Croydon flight out of Australia and the TravelQuest (Sky and Telescope) flight out of Chile, since the deadline for the payment of the second half of the latter is due in four days. I have paid $2900 out of the $5600 total for a half-share of a double seat on the TravelQuest flight out of Punta Arenas, Chile. I wonder if anybody on this list wants to pick up this seat at a discount before I consider forfeiting my deposit. Please reply off-line to pasachoffSENL200309williams.edu..

I'd also be glad to hear from people who are on one or the other of the flights. Jay Pasachoff

QANTAS/CROYDON ECLIPSE FLIGHT - Seating Availability

From: Glenn Schneider To: SOLARECLIPSES-SENL200309AULA.COM Date: Mon, 25 Aug 2003 01:53:23

FYI, I have received information (as of 25 August) from Kerry Brain of Croydon Travel as to the current status of seats available on the QANTAS eclipse flight. With "last minute" juggling he has sent a list of what is available as of this afternoon, along with prices. Please contact Kerry (not me) if you have any questions about specific seats, or to book them.

2 First Class seats US$7425-00 per seat
1 Business Deluxe window seat A - US$6825-00
2 Business Restricted view rows, seats AB - US$7345-00 for 2 seats
3 Standard Economy window seats - US$4330-00

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3 Premium Economy Window seats - US$4950-00
PLUS.... a couple of B STandard Economy at US$1020-00 and B Premium seats at US$1485-00

This was from: Kerry Brain General Manager Croydon Travel Antarctica Sightseeing Flights, Captain's Choice Tours Ph: 61 3 9725 8555 Fx: 61 3 9723 9560 email: kerry.brainSENL200309croydontravel.com.au Cheers, -Glenn Schneider

H 2005

ONEO Island (again) [8 April 2005]

From: Glenn Schneider To: SOLARECLIPSESSENL200309AULA.COM Date: Sat, 02 Aug 2003 04:31:57

Most on SEML have at one time or another run come across Oneo Island as a potential observing site for the 8 April 2005 hybrid annular/total eclipse, then come to the realization that it misses by a gnats eyelash (well, about 2km). For those who have seen Oneo only as a dot on a map of the South Pacific, I have put on one page four very nice (selected as >90% cloud free and not to oblique) images taken from the International Space Station. Those who crave many karat diamond rings, or who like to row, might be interested.

http://nicmosis.as.arizona.edu:8000/ECLIPSE_WEB/ECLIPSE_05/ONEO_ISS.html Cheers, Glenn Schneider

From: Jean Meeus

I think the correct name is Oeno, not Oneo. The Encarta World Atlas (on CD-ROM) doesn't mention a place called Oneo. Instead, it gives the Oeno atoll in the Pitcairn Islands. And a French astronomer, too, mentions Oeno, adding that the Moon's shadow indeed will just miss that atoll on 2005 April 8. Jean Meeus

From: Klipsi

what are the coordinates of that island , so I can see what cybersky has to show as animation of the eclipse ? thanks Klipsi

From: Glenn Schneider

Jean is right of course. Word processors are wonderful, make a typographical mistake once and it propagates endlessly! I have corrected the in the text, but have left the file names for the moment, so as not to have any "stale links" occur if those changes get out of synch with SEMLers reading my last email. Thanks,

From: Jean-Paul GODARD

On cited website, you might found Latitude = -23.9333°, Longitude = -130.7333° Cordialement, Martine & Jean-Paul

From: K. Wiersema

I think the major difficulty concerning the Oeno islands is that it is very difficult (for "difficult" read "expensive") to get there. There are only a very small number of (cruise) ships going to the Pitcairn islands, see e.g. http://library.puc.edu/pitcairn/studycenter/cruiseship.shtml There is also no airstrip on Oeno (as far as I know). The Pitcairn people value their privacy...

Perhaps there will be some extra ships in the region because of the eclipse, but I have my doubts. Klaas Wiersema

From: Jen Winter - ICSTARS Astronomy

>The Pitcairn people value their privacy...

(Continued on page 25)

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Our recent research reveals that Oeno is a real-live "Gilligan's Island" where the only transportation to and fro is in occasional cargo vessels, but primarily by homemade tenders named cute things like "trash bucket". The Pitcairn population reserves Oeno as a holiday destination for backpacker-types. The majority of buildings have make-shift generator electrical and lean-to roofs. The big trouble is that access to Oeno is intended to be by permission only.

The entire conversation about transport to Oeno is mute anyway..... We're talking about transportation to the Oeno area, as the path will pass close, but not close enough to the island. Those wishing to view totality would need to be aboard a ship or have very long water stilts.

We ran calculations on the Oeno islands using the program, Occult. It would seem that with such a short duration and close proximity to the island, that calculations using the most accurate limb of the moon would be important. Occult is used in lunar limb / occultation calculations and frequently updated with more and more precise data. Sadly, it would appear that only the outer choral atoll of Oeno will experience 2-3 seconds of totality on the South-Eastern path edge. No dry land.

On the bright side... the point of maximum looks to be just 7.5 miles west of Oeno with what we calculate (I'm sure someone can correct me if I am in error) at 31.8 seconds at a position of approximately 130 ° 52' 30" west and 23° 53' 30" south.

There are a few major cruise companies which traverse these islands. They are expensive because Pitcairn is a great distance from pretty-much anything. I would, indeed expect some ship repositioning and a few last-minute surprises. Just look at the options which were generated for the November eclipse this year! Clear Skies! jen

From: Gerard M Foley

If there's a ship, who needs the island? Gerry

From: Geoff

Do we have any idea of how shallow the waters are around the outer reef at high tide? --Geoff

From: Glenn Schneider

The coordinates as I have listed them on my http://nicmosis.as.arizona.edu:8000/ECLIPSE_WEB/ECLIPSE_05/ONEO_ISS.html page as: Latitude = -23.9333°, Longitude = -130.7333° (-23° 56', 130° 44') for the Oeno Island Atoll came from the "official" Pitcarn Islands web site. And, it was listed that way in the few atlases I found which actually listed it.

HOWEVER, this is for a point within the atoll (i.e., surrounded by the bounding coral reef) which is NOT on "dry land". Do be sure to see the maps and photos on the above page. The map by Jean-Pierre Langer shows Oeno island itself (with the trees) and "sand island" to the north.

>From the ISS photos it looks like Sandy "Island" may only be so at low tide! not necessarily the best place to see TSE (though even I have never done so wearing a SCUBA mask).

The southern limit line is NW of the island itself which is centered at appx -23° 56'S, 130° 45°W. You can get a good sense from the ISS images where on the "beach" you might get to.

NOTE: On Langer's map there several tiny dots to the west (in the dark blue region), one at about lat -23 55.7 (nearly due west of the "North East" point of Oeno). *IF* this remains dry land it, I believe, is closest to centerline. However you can see the breakers crashing on the reef in the hi res ISS images all around that point. Not sure I would plan on that! -GS-

From: Glenn Schneider

Jen's description of Oeno is quite correct, and it IS visit by the "locals" from Pitcairn (~ 100km away) a couple of times a year for festive "holiday" weekends. I understand something like 1/3 of the whole Pitcairn population will go to Oeno at once for that. There are links of the official Pitcairn Islands web site to photos by the "locals" on Oeno.

My posting, though was *NOT* saying Oeno would make a good site for those (like me) who want to bask in the Umbra. But for a VERY near grazing totality and long duration diamond ring (i.e. for those interested in limb events) this might be an attractive possibility.

Jen: I am unfamiliar with OCCULT. I would like to compare it with my own S/W, and with Fred's predictions. Can you say a bit more about it (and where it may be obtained)? -GS-

From: Dale Ireland

Jen About 1/2 the "men" on the island went on trial in April in New Zealand for child molestation but I never read the verdict or what remains of the island population now. Dale

From: Geoff

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That is correct - a good website for up to date news on this event is: http://www.lareau.org/pitc.html

If you scroll down a page or so you can see that they post news stories every week or so. It appears that the population is indeed very threatened - apprently even if they lost only a couple of "able-bodied men", their population may not be able to survive. If this is to happen, I suspect the process of gaining permission etc to land on one of the islands would be a lot lot harder! Since from what I know most people who stay there arrange to stay with one of the families.

However if it is indeed possible, I think observing a couple of seconds of totality, whilst snorkelling the reef around Oeno, would be an amazing experience! I have only read of one cruise ship so far that has a dedicated eclipse cruise, and they plan to view somewhere near Oeno, but I don't know the details. They also planned to make a stop on Pitcairn island. --Geoff

From: Jean-Paul GODARD

Diving the Oeno islands

Are they dive expeditions to the pitcairns group? Should be interesting to study how fishes live a TSE. However, Oeno seems to be a nice spot, perhaps with Whale sharks and Manta rays... Let me know if an eclipse/dive/cruise is on the way... Cordialement, Martine (Padi aow) & Jean-Paul (Cmas***)

From: Geoff

There is indeed. There is a group that dived the Pitcairn islands in Janurary this year.... not just recreational diving of course - they conducted marine biological experiments too. And guess what... they plan to go back for a return trip in 2005! I am still in the process of finding out more details - I will keep you posted. --Geoff

From: Klipsi

lets keep in mind also that the Typhoon season goes december to march. our eclipse is early april, still close to that typhoon season. be ready for surprises and big surf... a ship seems best. (and we could organize a Bounty-style mutiny if the captain refuses to sail to the centerline . heeheeh... ;-) Klipsi

From: Peter Tiedt

Glenn (and other interested umbraphiles)

Occult is availalable for download on the 'net. Written by Dave Herald and mainly used for occultation work, but handles eclipses and planetary transits equally well.

See ... http://www.lunar-occultations.com/iota/occultv2.htm

Unfortunately for you (and fortunately for us) it is Windows based ;-).

It is very useful and can do Multisite predictions, but is quite fussy about the format of the input file. I like it. Peter Tiedt

From: Fraser Farrell

The majority of Pacific atolls form on the eroded stumps of old volcanoes. Consequently it's relatively shallow ~inside~ the atoll, where the sand and coral rubble (from storms) tends to accumulate. But ~outside~ the atoll the water deepens rapidly to the abyss.

The outside of an atoll also gets the full force of any waves or currents - and getting dragged helplessly over coral by surging water is NOT fun. Think of broken glass and gravel set into concrete if you want to simulate it. Don't forget to add salt, literally being rubbed into your wounds. Also note that swimming with flayed and bleeding skin is likely to attract predators.

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Swim inside the atoll. Or far outside it. Or use a boat. cheers,

From: Jen Winter - ICSTARS Astronomy

Bad pun, klipsi... 'Mutiny on the Bounty' was from Pitcairn, not Oeno.....

I would like to explore the idea of tide while we're on the subject of Oeno Island... Many people have inferred that should the tide be low or high, more or less of the dry land are available...

I do not protest to be an expert on tides... but my meager understanding of the principle was that the Moon's location dictates the position of the high tide by its gravity.... that this gravity bulges the water up on the near and far sides of the earth aligned to the moon... This would indicate that high tide is going on directly under the moon at the meridian.

This doesn't look good for experiencing totality at low tide - unless the eclipse were on the horizon. Am I right? Would the tide be lowest with the moon/eclipse on the horizon in either direction / highest with the moon/eclipse on the meridian? To have the eclipse occur more than 45 degrees off the meridian means to be lower than mid tide? To have the eclipse occur closer than 45 degrees from meridian would mean higher than mid tide? Naturally, we can all concur that whatever that tide position was during totality, that a short 6 hours ahead/later would pose the very different circumstances.

Can someone with some further nautical expertise clarify this issue? jen

From: Jen Winter - ICSTARS Astronomy

This would also offer the best description as to why the number of vessels which traverse the Pitcairn and Oeno islands is slim. We are finding that while there are many vessels which traverse the islands of Tahiti, Bora Bora and occasionally the Marquesas islands, tourism is very weak in the area of Pitcairn. The sheer distance between Pitcairn and Tahiti would compare to 5-10 times the distance between Tahiti and Bora Bora.

With that type of distance, a vessel would need to be much larger and suited for the rigors of the high seas over several days. Fraser depicts an island / reef condition in which the ocean currents at that location are very tumultuous. White, sandy beaches might indicate a docile, calm sea in shallow waters. I expect this is one factor which will reduce (but not eliminate) ready access by the smaller tourism vessels from Tahiti. We can envision a large number of catastrophic possibilities for eager umbraphiles to charter their own vessels out of Tahiti and take-out merrily towards totality.

With a descriptive tune narrating the fate of wayward passengers on a small chartered ship ringing in my head, I'm sticking to my original comparison of Oeno Island as the castaway home of "Gilligan's Island". jen

From: Glenn Schneider

Hi Jen, It actually is more complicated then this. (Yeah, many of us have been guilty for teaching "ideal cases" to install an understanding of the underlying to freshman classes. Your reasoning from "first principles" would be quite correct is the Earth had a contiguously fluid envelope, with no irregular "boundary conditions" conflating this in the hydrodynamical point of view. But the existence of these nasty continents, land masses, underwater mountains, trenches etc. muck this up.

Indeed, the size/shape/volume of a basin (or on a global scale Ocean) which which contains the water can lead to resonances due to wave mechanics, and the stratified viscosity of the water (which can depend the temperature profile, which can depend [actually mutually] on the salinity). Tides can, of course, "lag" (in phase) what you would expect give the position of the Moon at a given site due hysteresis, and be damped or amplified by "pumped resonances" induced by or interacting with the "local" topology. This is why the tides are of such large amplitude at the Bay of Fundi.

When I was diving off Morea (sp?), near Tahiti, some years ago, I was astounded by the clarity of the water and the visibility as I could see for more than 100 meters quite clearly. I then learned that this particular location is near a nodal point in the Pacific Basin

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(at least for the lunar tide component, but not the solar tide {which is if I remember correctly about 1/4 as strong}), so the lunar tides nod about Morea and do not have a strong effect (think about a standing wave on a string), so the bottom does not get stirred up.

I do NOT have the nautical expertise you seek. My third hand understanding is that when tide tables are computed for specific locations they are, in effect, calibrated empirically. That is, the periodicity is well known and follows the Moon, of course But, the phase lag (time offset) is applied from past history (as measured), as well as the amplitude of the modulation (to estimate tide heights), and neithr are not determined analytically.

A real mariner can correct me about the later - with with no arguments. Glenn Schneider

From: Matthias Graner

Checking the path of the 2005 hybrid eclipse, I am wondering if Oeno island is such a good idea. I have been looking at the area northwest of the Galapagos islands, where the center line crosses 100 deg western longitude. Totality would last for about 15 seconds.

The area is not too far away from the Galapagos islands, from Puntarenas/Costa Rica and even from Acapulco. A boat sailing due south from Acapulco with 20 knots per hour should get to the point in about 40 hrs.

If the Kaptain Khlebnikov (good luck and clear skies to everyone on board!) can be chartered for four weeks, it should be much easier to get a cruise ship from one of these ports for four days. Btw, I am thinking about a somewhat larger boat than the "MS Sarape". (On this boat, on June 10, 2002, a few miles off Banderas bay and Puerto Vallarta, I almost vowed never to set foot on a ship again!) The vessel should be large enough to sail the high seas for a few days.

However, I do not know anything about the weather in this part of the Pacific in early April. This could affect eclipse visibility as well as the quality of the boat trip. Any ideas? Matthias

From: Geoff

I think the point to note here is that Oeno island has been discussed (mainly) because of the sole fact that dry land lies within a few kilometers of the total eclipse path - and the fact that this is the closest point to land the eclipse path comes near in its entire journey. I have also seen a map depicting the eclipse path fall over the reef surrounding the tiny island.

The weather prospects and difficulty in getting there - both physically and legally is another issue altogether! --Geoff

From: Rybrks1SENL200309cs.com

Glenn is correct regarding tides. Resonance is key. This bath-tub sloshing at the natural frequency is why Fundy tides are so high. Function of n for the tub (Bay of Fundy itself) and n for the opposite end of the wave which is the depth profile of the contintental shelf. They match... so there is resonance.

Also the reason that highest tide in Fundy is normally two days after perigee (new or full) moon...i.e. pushing a kid on a swing can attain highest arc not during strongest pushes but AFTER, if those weaker (you got tired) pushes are still at the proper frequency.

(Also, there is a term for the zero-nodes around the globe...look it up when I return) Raymond Brooks

From: Glenn Schneider

Matthias Graner wrote: Checking the path of the 2005 hybrid eclipse, I am wondering if Oeno island is such a good idea. ...

I would entertain that for 99% of those on SEML Oeno Island is NOT a good idea at all, as the very significant majority of us would not willingly and knowingly locate ourselves out of the path of totality. The concept of being only a small amount" out of the path is really a non-sequitor (like " a little bit pregnant"). Those seeking totality should and would very likely dismiss the idea out of hand.

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The ISS images, re-posted maps, and my comments on http://nicmosis.as.arizona.edu:8000/ECLIPSE_WEB/ECLIPSE_05/ONEO_ISS.html ,

which seem to have prompted some discussions (as I had hoped), were primarily intended for the 1% (this "statistics" my gross estimate, and probably an overestimate) of those on SEML who are indeed interested in topocentrically dependent and transitory limb phenomenon. There certainly IS more than a passing interest in this by a dedicated minority who seek to locate themselves near the limit lines. Typically sites for this purpose are chosen inside the umbra, but very close to the northern or (as in this case) southern limit. The real aficionados of limit chasing can address this better than I, but I suspect being located outside of the umbra (even very close to the limit line) would be a matter of less preference, if not last resort.

Yet, limb profiles exhibit irregularities on the order of several kilometers. From Oeno the photosphere will not be completely exitincted. Near the just-missed internal contact point, however, the slice of photosphere will be broken into a very thin arc, punctuated by Baily's beads and a larger enclosing chromospheric arc also broken by beads). The reason I say "just-midded nternal contact" rather than, discrete events of 2nd and 3rd contact is that (depending upon the actual site) they would be merged into one phenomenological event. I say phenomenological, rather than geometrical. I am sure Fred E., Ray B., Jean M. and others would be quick to point out that despite all our discussion here, from Oeno, the 2005 eclipse is geometrically meerly a partial eclipse. (I won't compute a magnitude or percentage of cover here as it really depends upon WHERE on Oeno you one be, but significantly >> 99%). Geometrically, instants of internal tangential contacts (think of the "smooth moon" approximation) do not actually exist.

For descriptions of such such near-grazing events, I defer to those who have observed from very close to a limit line, which I myself have not, and will not risk a second hand retelling.

Knowing the diversity of interests (and opinions) among eclipse-chasers, I would not at all be surprised to find an edge expedition, just over the "outside" edge" on Oeno in 2005.

For Umbraphiles with a capital U, the old phrase "a miss is as good as a mile", in inverted form "a mile is as good as a miss" is an apt, description of Oeno (well, not exactly a mile, but conveys the right meaning).

An additional consideration, of course, is the weather. Mobility may (I venture to say will) be the key to this eclipse. On Oeno, even if your interest is in a near-grazing event, all the eggs will be put in one very small basket. Developing an effective near real-time alternate with a probability of implementation is, as they say "vanishingly small". With Oeno, is I can risk another well worn phrase "you pays your money and you takes your chances".

> ... I am thinking about a somewhat larger boat than the "MS Sarape". (On this boat, on June 10, 2002, a few miles off Banderas bay and Puerto Vallarta, I almost vowed never to set foot on a ship again!) The vessel should be large enough to sail the high seas for a few days.

Matthais is indeed thinking along the right lines here, at least for us Umbraphiles who are not seeking the southern limit Line. At this juncture I will say that I have raised several variants of a detailed scenario for a dedicated shipboard excursion to view the 2005 TSE, with what I believe is an appropriate vessel, with the owner/management of that ship. This is being given consideration and an avenue for discussion and refinement of such a plan has been established. My hope is that this will mature into a relatively cost and mission effective implementation to everyone's mutual satisfaction. I know others will be interested, but it is too premature (as was an airborne 2003 option as that was in the early evolutionary state) to discuss specifics at this state in even a semi-public (i.e., subscribed) forum as SEML. I will, of course inform through SEML if/when (hopefully in the not too far future) should this move further off the starting block. Cheers, Glenn Schneider

From: David Bell

I had an interesting conversation with Jack Newton (Splendours of the Universe, etc) when I recently stayed with him for a couple of weeks. He told me that for all the eclipses he has photographed (I can't remember whether it was 5 or 7) he deliberately stationed himself about 10 miles from the path of totality. He said that this minimizes the risk of the notorious last minute cloud, and this strategy has never failed him yet. David Bell

From: Joseph Cali

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Our research group at the Australian National University mounted a field trip to this area last February sampling corals mainly on nearby Henderson island. The sea is very rough in this area. Two researchers were injured in RHIB's one broke her leg(bad compound fracture of the femur) the other badly sprained her ankle when the RHIB's were tossed in swell throwing said researchers 8-10 ft in the air before they crash landed in the hard hulls of the landing boats. Admittedly they were working there in February not April. I wouldn't bother unless it's on a big boat. Landings in small boats are extremely hazardous due to the swell generated by the atolls and as Glenn correctly points out, totality misses Oeno Atoll by 2 km. medical evacuation of the badly injured researcher took several days. Joe Cali

From: Eric Lowe

I am new to SEML and more of a sailor than amateur astronomer. I arrived here via my interest in preparing for the "big one".... the July 22, 2009 TSE between the northern Mariana Islands of Micronesia and Iwo Jima.

Therefore, I follow these threads seeking similar information as do you about Oeno...and perhaps to offer a mariners point of view because it does appear to me that a "waterborne view" may be the only one available for most of the track of totality in both cases. (Interesting also that they closely follow the two Tropics)

I sell boats, sometimes large yachts and have owned a few of my own. I have done some ocean racing and have chartered quite a few boats around the world. Having witnessed the June 30, 1973 TSE aboard the rather small French car ferry, "MSS Massalia" off the coast of Mauritania, I cannot recommend too large a vessel for serious observers. A cursory inspection of the area around Oeno and Pitcairn suggests (to me at least) that many small cruising yachts will find this eclipse an event worth traveling to. I may be mistaken, but as I recall, Chile has relaxed the restrictions on visiting Easter Island. This in itself is enough of a magnet for visiting yachties to wander great distances from the trade wind routes. Modern yacht design also yields faster, more comfortable and more efficient (read less work and cost) cruising than ever before. This often translates into longer itineraries for the bold sailor who wants to break with tradition and get away from the usual tourist traps in French Polynesia.

Indeed, I plan to use eclipse "mania" in my marketing strategy to sell more large luxury sailing craft over the next few years. What's the name of that song...by Carly Simon and Mick Jagger "You're So Vain"? It makes a whole lot of sense to me. The problem is... small boats, even 60 footers, are not stable enough platforms. Perhaps you can correct me on this, but taking any kind of decent photos of the diamond ring without gryos or some type of CCDdamping gear is pretty much out of the question. I was extremely fortunate in 1973 to have succeeded with an old hand held, focal plane shutter Leica to catch the diamond ring at all. No telephoto lens would have worked there!....BTW, I had to sell that camera to one of the other passengers so that I could get home and would sure like to get it back. Any help greatly appreciated cuz it belonged to my grandfather and being that it was quite old (1929?), I had to do some repairs on it myself (still a teenager at the time)

Back to the topic. The most common "Milk Run" (from the western US) is for several hundred cruisers to follow the predominant current and winds south to Mexico in November. Many of these elect to stay somewhere along the central coast of Mexico the entire winter because "it is safer than expected" and the weather is very mild. Some small percentage (largely indicative of the size of the cruising kitty) continue south to Costa Rica. History shows a larger percentage heading straight for French Polynesia. This is the shortest "Puddle Jump" and results in less exposure to bad weather. The few brave (and often deeper pocketed) souls who traditionally make it to Costa Rica either head east thru the Panama Canal or southwest, stopping at the Galapagos and sometimes Easter Island before ending up in French Polynesia. If they aren't thinking about divorce by then or ling the boat, they will go any number of ways from there. Many hundreds of European-based boats coming west thru the Canal take the Easter Island route on their way to the South Pacific.

There are quite a few accounts of folks stopping at Pitcairn, if only to replenish their water supply. Each wave of technology brings with it an ever-increasing demand and a concomitant drop in price...with the advent of relatively cheap and reliable watermakers on board most yachts, there is less tendency for sailors to plan their voyages based solely on the "pit stops". See www.haveblue.com for a magnificent example of what is already possible with existing hardware. Hopefully this news will begin to set a precedent. I see no reason why a hundred or so would not make a serious attempt to chase these eclipses. Of course, the weather window is everything so consulting the Pilot Charts for the area would give a better indication of how many boats might be available for an eclipse charter in the region. I will see what I can find out. My old friend Richard Spindler is the editor of Latitude 38, a local sailing magazine

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based on San Francisco Bay. He will surely have the inside scoop, though even his best guess about visiting boats will remain somewhat sketchy until a few months before the event. My instinct tells me that eclipse chasing is on the increase. Is this true? Is membership in SEML accelerating?

I am seriously considering hosting or promoting an around the world yacht race to begin with the TSE in 2009 celebrating "Spaceship Earth"s energy independence from fossil fuels. I can offer several links to pertinent websites for anyone who is interested in contacting me offline. Though July officially marks the beginning of the rainy season in the northern Marianas, I'm sure there will be several cruise ships and dozens (or possibly hundreds) of high tech solar and wind powered sailing yachts in this venue trying to get a glimpse of the "big one". Regards, Eric Lowe

From: Gerard M Foley

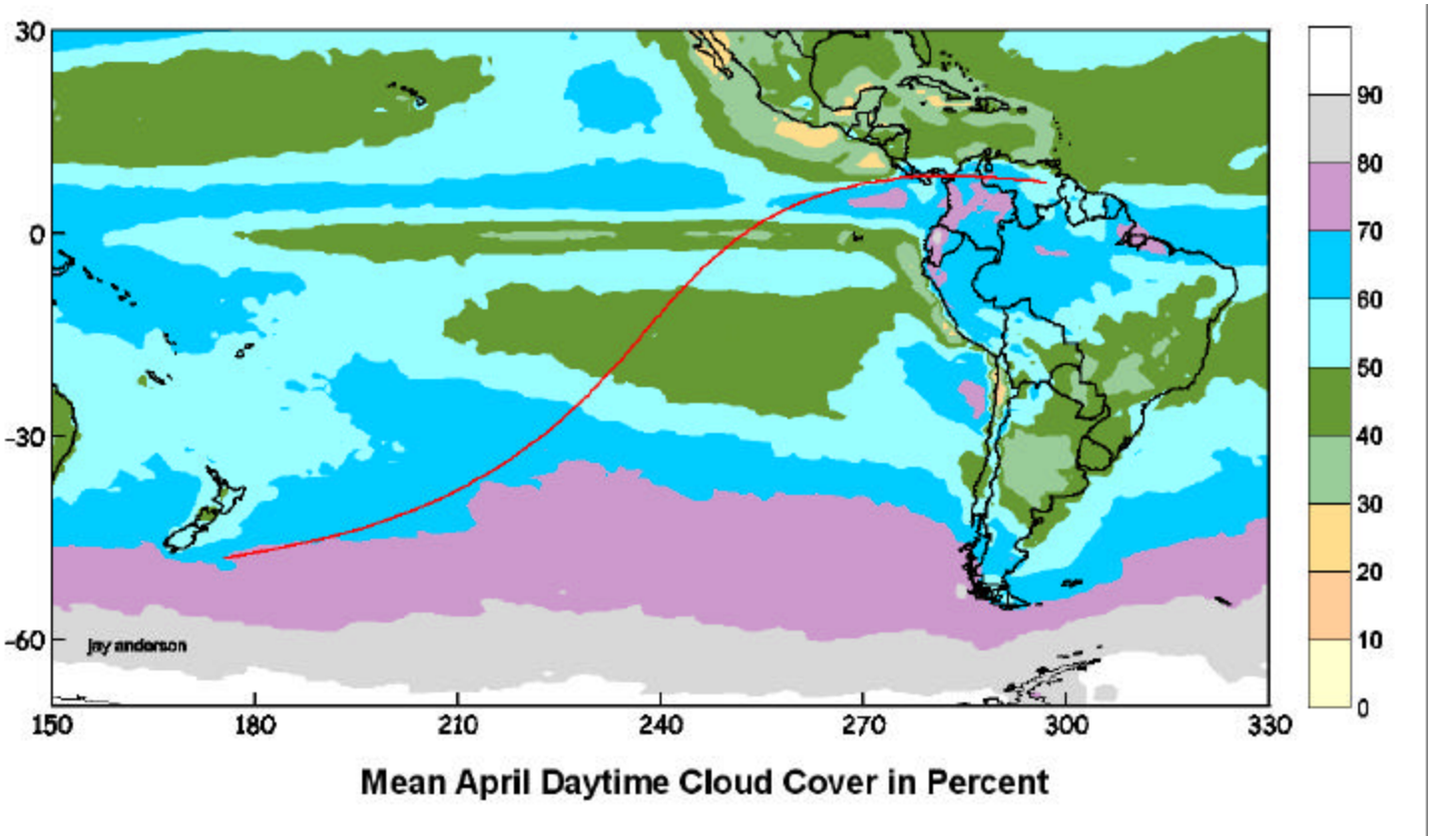
Since I cannot find an e-mail address for Eric, I hope the list will pardon the following personal to him:

I was there too. See http://home.columbus.rr.com/gfoley/eclipse.html

Eclipse weather for 2005 and 2006

From: Jay To: solareclipsewebpagesSENL200309btopenworld.com Date: Wed, 27 Aug 2003 04:35:40

Hi Patrick, Joanne: I've loaded maps and preliminary weather data for the 2005 and 2006 total eclpses on my web page at http://home.cc.umanitoba.ca/~jander. Looking forward to seeing you again in a year. Jay Anderson



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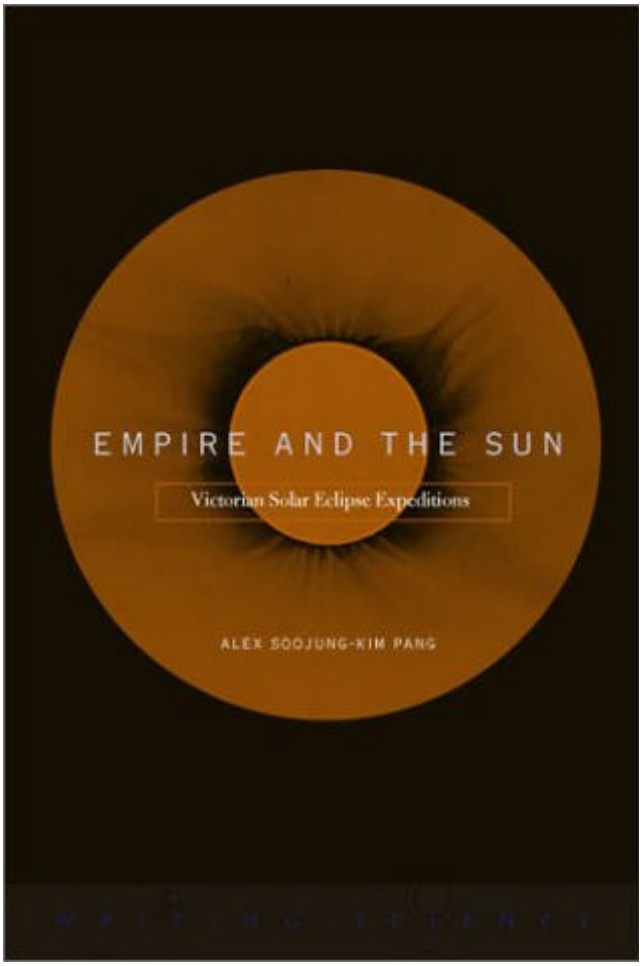

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