

SOLAR ECLIPSE NEWSLETTER

SUBSCRIBING TO THE SOLAR ECLIPSE MAILING LIST

**THE SOLAR ECLIPSE
MAILING LIST IS MAINTAINED BY THE LIST OWNER PATRICK POITEVIN AND WITH THE SUPPORT OF JAN VAN GESTEL**

HOW TO SUBSCRIBE:

**IN THE BODY OF THE
MESSAGE TO
listserv@Aula.com SUB-
SCRIBE SOLARECLIPSES
name, country.**

The Solar Eclipse Mailing List

The Solar Eclipse Mailing List (SEML) is an electronic newsgroup dedicated to Solar Eclipses. Published by eclipse chaser Patrick Poitevin (patrick_poitevin@hotmail.com), it is a forum for discussing anything and everything about eclipses.

Thanks to the voluntary efforts of Jan Van Gestel of Geel, Belgium, the Solar Eclipse Mailing List (listserv) has been in operation since 10 December 1997. This is the first mailing list devoted solely to topic of solar eclipses on the internet.

You can send an e-mail message to the list server solareclipses@Aula.com, which will then forward your e-mail to all the subscribers on the list. Likewise, you'll receive email messages that other subscribers send to the listserv. Only subscribers can send messages.

Solar Eclipse Mailing List

Dear All

Well, by now we must all be home and rejoicing to what must be one of the clearest eclipses, (I wait to be corrected) for some time. Looking at the eclipse path from the satellite picture the path was fantastically clear, with the exception of a few light clouds over Madagascar. Both Patrick and myself were so pleased for everyone that took the time and certainly the expense to travel to Africa and be rewarded with such a spectacular sight.

We ourselves travelled with Noongallas expeditions, camping just south of Lusaka, the trip was packed with action for the children. Helicopter ride over the falls, canoeing on the upper Zambezi, walking out on Knife edge, and an elephant ride in Zimbabwe, on which we met Eric Brown and some of his group. On the falls we met Chris and Katherine Delcourt, and Juan Calos and his wife. It was so good to meet all old friends.

Travelling in a good was a change for us, in a

country of unknowns it provided safety in numbers, with the added bonus of being able to observe the reactions of people that were disappointed after 1999, but inspired enough to make the trip.

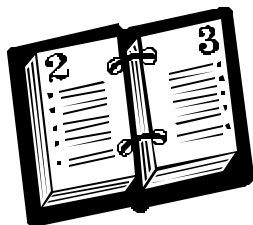
Laura followed the partial phase with the sunspotter, which turned out to be an excellent way of showing the group what was happening, the image being a good size made first contact easy to see. Michael followed most of the eclipse through my telescope with me.

It didn't seem to get as dark as 1999, and shadow bands were so late that we missed them. But the children enjoyed totality and spotting the prominences, and even continued to follow the eclipse until its conclusion. I hope that we have started a passion in them too, that they will follow in their adult life.

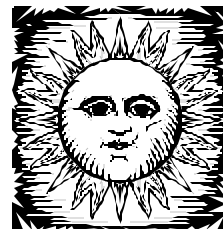
We rounded off the trip with a safari to South Laguna National park.



ECLIPSE CALENDAR



JULY 2001



Dear All, Sorry for the delay... Please find herewith the solar eclipse calendar for July. If you have any additional information, queries or remarks, please drop me a mail.

July 01, 1916 Iosif S. Shklovskii, Russian astronomer was born. He researched the corona and proved the temperature of million degrees. (ref. DD 6/99).

July 01, 1943 Birthday of Professor Jay Pasachoff. Asteroid 5100 Pasachoff was named after him. "Pasachoff's broad range of astronomical work has centered on the sun, and especially on studies of solar eclipses."

July 02, 1963 Death of Seth B. Nicholson, American astronomer. Besides the discovery of some Jupiter moons and Minor Planets, his main task was observing the sun. He published for many years the annual reports of sunspots and magnetism of the sun. (ref. DD 6/99).

July 07, 1339 This was an annular-total eclipse, with the total part of the track finding its way between the Orkney and Shetland Islands without touching either. At this location the track of totality was only 1 km wide, with a duration of 1 second! Presuming that you could position a boat to an accuracy of 1 km, totality must have been a ring of Baily's Beads. (SW-UK Eclipse's)

July 08, 1842 First attempt to photograph a total eclipse was made by the Austrian astronomer Majocchi. He failed to record totality, though he did succeed in photographing the partial phase.

July 08, 1842 Francis Baily (1774-1844) UK, at an eclipse in Italy, focuses attention on the corona and prominences and identifies them as part of the Sun's atmosphere.

July 08, 1842 Dominique Francois Jean Arago (1786-1853) observed this solar eclipse and attempts that the sun does exist of gas.

July 08, 1842 Following anecdote appeared according Dominique Francois Jean Arago (1786-1853) in the Journal of the Lower Alps, July 9, 1842: A poor child of the commune of Sieyes was watching her flock when the eclipse commenced. Entirely ignorant of the event which was approaching, she saw with anxiety the sun darken by degrees, for there was no cloud or vapour visible which might account for the phenomenon. When the light disappeared all at once, the poor child, in the height of her terror, began to weep, and call out for help. Her tears were still flowing when the sun sent forth his first ray. Reassured by the aspect, the child crossed her hands, exclaiming in the patois of the province, "O beou Souleou !" (O beautiful Sun !). ref. History of Physical Astronomy

July 09, 1945 Canadian astronomers, J. F. Heard and P. M. Millman, while in the RCAF, got moderately good photographs of the corona and flash spectrum during this solar eclipse. They were high above the clouds in Bredenbury, Saskatchewan where ground-based astronomers saw nothing of the eclipse. (HASTRO 24/6/97-Peter Broughton)

July 09, 1974 American Satellite OSO 7, Orbiting Solar Observatories, falls back. (ref. DD 7/98)

July 09, 1996 With the satellite SOHO, they discover that solar flares causes sun quakes. (ref. DD 7/98)

July 10, 0028 This two and a half minute eclipse crossed south western Ireland and Cornwall before the Sun set in France shortly afterwards. (SW-UK Eclipse's)

(Continued on page 3)

ECLIPSE CALENDAR

July 10, 1910 Death of German astronomer Johann Gottfried Galle. Besides the discovery of Neptun, he calculated the parallax of the sun from measurements of Minor Planets. (ref. DD 7/99)

July 10, 1972 Chukotka 2509 (1977 NG): Minor planet discovered July 14, 1977 by Nikolaj S. Chernykh at Nauchnyj. Named for a National Area of the R.S.F.S.R., situated in the northeastern part of the USSR. The discoverer participated in an expedition there to observe the 1972 Total Solar Eclipse (MPC 7472). Ref. VK 6/97

July 10, 1983 Liller 3222 (1983 NJ): Minor planet discovered July 10, 1983 by E. Bowell at Anderson Mesa. Named in honor of William Liller, formerly Robert Wheeler Wilson Professor of Applied Astronomy at Harvard University. A premier observer, he has made substantial contributions through observations of a broad range of which solar eclipses. MPC 12015. - VK6/97

July 11, 1732 Birth of French astronomer Joseph Jerome le Francois de Lalande (1732-1807). Calculated the distance to the sun in 1771 and being 154,198 million km. (ref. DD 7/98, Rc 1999)

July 11, 1909 Death of Simon Newcomb (1835-1909), American mathematician and astronomer. He used carefully analyzed measurements of stellar and planetary positions to compute motions of the sun, moon, planets, and their satellites. Studied the velocity of light and calculated the distance to the sun.

July 11, 1991 The so called Great Eclipse visible in Mexico and Hawaii.

July 13, 0158 This was the first total eclipse to have passed over London since 1 AD. It provided for them 1 minute of glory. (SW-UK Eclipse's)

July 13, 2018 Next solar eclipse on a Friday the 13 th. The last solar eclipse on a Friday 13 th was in December 1974. Both are partial solar eclipses. There are 24 solar eclipses on a Friday the 13 th between 0 and 3000. Of which 13 partial, 9 annular and 2 total solar eclipses. The most odd is the one of 13.03.313 which was an annular eclipse.

July 14, 1977 Chukotka 2509 (1977 NG): Minor planet discovered July 14, 1977 by Nikolaj S. Chernykh at Nauchnyj. Named for a National Area of the R.S.F.S.R., situated in the northeastern part of the USSR. The discoverer participated in an expedition there to observe the 1972 Total Solar Eclipse (MPC 7472). Ref. VK 6/97

July 15, 1975 During the nine-day mission launched July 15, 1975, astronauts Thomas P. Stafford, Vance D. Brand and Donald K. Slayton rendezvoused and docked their Apollo spacecraft with the Soyuz 19 spacecraft with cosmonauts Aleksey Leonov and Valeriy Kubasov onboard.

July 16, 1330 A short Eclipse at under 1 minute, but yet another for northern Scotland. The Orkney and Shetland Islands are blessed with more Total Eclipses than anywhere else in the UK. Although this Eclipse did not cross these islands, it came pretty close. The Eclipse track traveled into Holland, Germany, Czechoslovakia, Austria, Hungary, Romania, Bulgaria and sets in Turkey. (SW-UK Eclipse's)

July 17, 0334 Firmicus (Sicily) is first to report solar prominences, seen during an annular eclipse.

July 17, 1905 Birth of Roderick Oliver Redman. On August 31, 1932 G.G. Cillie (UK) and Donald H. Menzel (US) uses eclipse spectra to show that the Sun's corona has a higher temperature (faster atomic motion) than the photosphere. Confirmed, with much higher temperature, by Roderick Oliver Redman (1905-1975) during an eclipse in South Africa on October 1, 1940. (ref Rc 1999)

July 18, 1860 First wet plate photographs of an eclipse; they require 1/30 of the exposure time of a daguerreotype.

July 18, 1860 Warren de la Rue (1815-1889), UK and Angelo Secchi (1818-1878), Italy, use photography during a solar eclipse in Spain to demonstrate that prominences (and hence at least that region of the corona) are part of the Sun, not light scattered by the Earth's atmosphere or the edge of the Moon, because the corona looks the same from sides 250 miles apart.



(Continued on page 4)

ECLIPSE CALENDAR

July 18, 1898 The authors, Meeus-Grosjean-Vanderleen, started as close as possible with the 20th century for their Canon of Solar Eclipses 1898-2510 in 1966. They started with eclipse number 7401 of von Oppolzer's Canon der Finsternisse, which was the solar eclipse of 18 July 1898 and so 600 eclipses could be compared from both Canons.

July 19, 0418 First report of a comet discovered during a solar eclipse, seen by the historian Philostorgius in Asia Minor. Many chronicles do mention this observation (12 western, 3 Byzantine). Philostorgius mentions that the sun was eclipsed at the 8th hour of the day. In his sketch there is a comet. This Total Solar Eclipse was from the Caribbean, Bay of Bengal, north Spain, central Italy, little Asia and ends in the north of India.

July 19, 1975 The Apollo and Soyuz spacecraft undocked at 8:02 am EDT. While the spacecraft were in station-keeping mode, the crews photographed them. The Apollo spacecraft served as an occulting disk, blocking the sun from the Soyuz and simulating a Solar Eclipse, the first man-made Eclipse. Leonov and Kubasov photographed the solar corona as the Apollo backed away from the Soyuz and toward the sun.

July 21, 1990 Meteorologist Joe Rao was able to coerce American Trans-Air Airlines to alter the course of one of their regularly-scheduled flights in order to be in the right position to experience the total phase of the July 22-21, 1990 total solar eclipse. The eclipse began on Sunday, July 22, with the path of totality passing over Helsinki, Finland. The shadow path then moved across northernmost sections of Russia, then crossed the International Date Line, causing the eclipse date to change to Saturday, July 21. The totality track swept southeast over Alaska's Aleutian Island chain, before reaching its end at a point midway between Honolulu, Hawaii and San Francisco, California. American Trans-Air Flight 403 normally flies from Hawaii to San Francisco on Saturday afternoons. A few weeks in advance of the eclipse, Rao informed the airline that by delaying the flight by 41 minutes out of Honolulu, that Flight 403 would likely be in position to catch the total phase. The airline agreed to make the attempt, allowing most of the 360 persons on board their Boeing L-1011 jet the opportunity to witness totality. Rao, his wife Renate, and two friends, flew out of New York's JFK airport late on Friday night, July 20 . . . arrived in San Francisco early on Saturday morning for a few hours of sleep, before boarding ATA Flight 402 to Hawaii. They were in Honolulu for 45 minutes before turning around and heading back for San Francisco (encountering the eclipse along the way). After spending the night in San Francisco, they returned to New York the next day, having traveled over 11,000 miles in 46 hours just to see 73 seconds of a total eclipse! Ref. Pers. Corr. Joe Rao.

July 22, 1784 Astronomer Friedrich Wilhelm Bessel (1784-1846) was born. Friedrich W. Bessel, German astronomer and mathematician determined precession, nutation, aberration and inclination of the ecliptic. Famous for his Bessel elements for the calculation of Solar Eclipses. (ref. DD 7/98, Rc 1999)

July 22, 1990 The Finland-Russia eclipse, which was clouded out for many eclipse chasers.

July 22, 2028 Christmas Island will get a total solar eclipse on 22 July 2028 with almost 4 minutes of totality. There will be a Partial Solar Eclipse on Christmas Day, December 25, 2038 (mag. of 0.845). On December 26, 2019 there is a partial eclipse of magnitude 0.658 on the same island.



July 22, 2381 The maximum theoretical length for a British total eclipse is 5.5 minutes. The eclipse of June 16, 885 lasted for almost 5 minutes and the same will be true for the Scottish total eclipse of 22 July 2381.

July 23, 0594 The Sun was well up (17°) at 6:11 am when totality occurred. On a warm summer's morning it must have got surprisingly cold as totality approached, giving a clue that something unusual was about to happen. At 258 km wide this was an Eclipse with a very wide track and a good duration of over 3 minutes. The Eclipse track traveled into Denmark, Norway, Sweden, Finland, Estonia and Russia. (SW-UK Eclipse's)

July 24, 1853 Birth of Henri Alexandre Deslandres (1853-1948), French physicist and astronomer did spectroscopic research. Designed, independent from Hale but at the same time, the spectra helio graph. (ref. DD 7/98, Rc 1999)

July 25, 6337 Is in Santiago de Compostela, a religion place in Spain, the day July 25 on a Sunday, then the year is called Ano Santo Compostelano. The next central eclipse visible in Santiago de Compostela will be the annular eclipse of 3 October 2005. For a total solar eclipse the pilgrims have to wait till 4 October 2480. Because this is a total eclipse at sunrise, the next

(Continued on page 5)

ECLIPSE CALENDAR

(Continued from page 4)

favorite will be 30 October 2665. The last total solar eclipse was 16 March 1485. But an eclipse in Santiago de Compostela and in an Ano Santa Compostelano? On 16 februari 2743 there is an annular eclipse. The same year 25 July is on a Sunday which is Ano Santo Compostelano. Maximum is 4 degrees under the horizon. The total solar eclipse of 16 June 1406 was in an Ano Santo Compostelano as well. Between -1000 and 8000 there is only one solar eclipse on a Sunday July 25 and visible in Santiago de Compostela: The partial solar eclipse of Sunday 25 July 6337 with maximum magnitude of 0.328 at 15h23.

July 27, 1801 Birth of Sir George Biddell Airy (1801-1892), British Astronomer and Astronomer Royal from 1835 till 1881, president of the Royal Society from 1871 till 1873. Calculated distance to the sun and observed transit of Venus, etc. (ref. DD 7/98, Rc 1999)

July 28, 1851 First American eclipse expedition to Europe when G. P. Bond led a team to Scandinavia.

July 28, 1851 Sir George Biddell Airy (1801-1892) (UK) is the first to describe the Sun's chromosphere: he calls it the sierra, thinking that he is seeing mountains on the Sun, but he is actually seeing small prominences (spicules) that give the chromosphere a jagged appearance. Because of its reddish color, Sir Joseph Norman Lockyer (1836-1920), in 1868, names this layer of the Sun's atmosphere the chromosphere.

July 28, 1851 Robert Grant and William Swan (UK) and Karl Ludwig von Lottrow (Austria) determine that prominences are part of the Sun because the Moon is seen to cover and uncover them as it moves in front of the Sun.

July 28, 1851 The first photograph of a total eclipse was taken in 1851 by Berkowski in Königsberg, East Prussia using the 6.25 in Königsberg heliometer and giving an exposure of 24s.



July 29, 1878 Height of search for intra-Mercurial planet Vulcan using eclipses to block the Sun. Several observers claim sightings, but they are never confirmed. The problem is finally resolved by Albert Einstein (1879-1955) in his general theory of relativity in 1916.

July 29, 1878 Possible observation of comet Encke (Johann Franz Encke (1791-1865)) during the eclipse of 29 July 1878 by J.B.Rutherford from Colorado Springs. Besides the comet he also observed Procyon, Regulus, Mercury and Mars with the naked eye and "... feels sure he saw ..." But no other observer did notice the comet. Even not F. Hess, whom specially searched for the comet during this eclipse.

July 29, 1878 Samuel Pierpont Langley (1834-1906), and Cleveland Abbe (US), observing from Pike's Peak in Colorado, and Simon Newcomb (1835-1909) (US) observing from Wyoming, notice coronal streamers extending more than 6 degrees from the Sun along the ecliptic and suggest that this glow is the origin of the zodiacal light.

July 31, 1995 European spacecraft Ulysses passes the northern pole of the Sun at 9,78. (ref. DD 7/98)

and ... keep those solar eclipse related messages coming ... Best regards, Patrick



ECLIPSE CALENDAR



REACTIONS FROM THE READERS

From: Evan Zucker <ez@MrTotality.com> To: <SOLARECLIPSES@AULA.COM> Sent: Tuesday, June 05, 2001 12:23 AM Subject: Re: [SE] Solar Eclipse Calendar for June

>June 20, 1955 In a used bookfair Eli Maor found a slim book entitled, "Has the Earth a Ring Around It?" The author, one Frank G. Back, was a friend of Einstein and once raised with him the question, why does the moon look so dark during a TSE - or conversely, why does the background sky look so bright? Einstein encouraged him to do some spectroscopic measurements at a future eclipse, which the author did at the June 20, 1955 eclipse over the Philippines, the longest in many years. He did his experiments from within >the canopy of a T-33 training jet that chased the Moon's shadow at 600 mph, thus prolonging the duration from 7 min. 8.6 sec. to 12 min. 15 sec.

For the record, I don't believe the T-33 can fly as fast as 600 mph. I flew one a few times when I was in the U.S. Air Force, and it's definitely not a high-speed aircraft. We used it as a target for F-4E Phantom IIs running practice intercepts off the coast of Iceland. One reason we used it is because its relatively low speed simulated the Soviet Tu-95 Bear bombers that we routinely intercepted there.

I looked at a few web sites, such as <http://www.grissomairmuseum.com/t-33.htm>, and found maximum speeds ranging from 525 to 543 mph and another listing it as Mach 0.787. Evan H. Zucker

From: Gerard M Foley <gfoley@columbus.rr.com>

For the record, I don't believe the T-33 can fly as fast as 600 mph.

From: Olivier "Klipsi" Staiger <olivier.staiger@span.ch>

> If they were lucky maybe the eclipse chasers found an altitude with a 75-100 mph tailwind?

I had the same thought - the jetstream. Recently I flew in a B-747 at cruise speed around 920km/h or so but when we were over Pennsylvania we got the jetstream and had a speed of 1026 km/h , getting close to MACH 1 . Klipsi

From: Evan Zucker <ez@MrTotality.com>

You're quite correct that a tail wind can result in a high ground speed, perhaps even exceeding the speed of sound. However, it wouldn't be technically accurate to refer to that in reference to Mach 1 because Mach numbers typically refer to an airplane's airspeed, not ground speed. Also, Mach number is based upon the temperature of the air at the airplane's altitude, which is typically related to atmospheric pressure, and so it would have no meaning with respect to ground speed.

Until relatively recently, airplanes had no way to accurately determine their ground speed because the primary instrumentation is based upon the airplane's movement through the air. For similar reasons, I've never heard the speed of the moon's shadow crossing the Earth referred to as a Mach number. It's purely a question of ground speed as the shadow crosses the ground.

GENERAL TOPICS**TOTALITY DAY**

From: Nello Soldà <n.solda@eclipse2001.it> To: <SOLARECLIPSES@AULA.COM> Sent: Friday, June 29, 2001 6:28 PM
Subject: [SE] meeting

Hi, when exactly will there be the meeting of the next 11 of August in England? Is this place near Birmingham? Thanks

From: Patrick Poitevin <patrick_poitevin@hotmail.com>

Dear All, Totality Day 2001 will be on 11 August in the Berill Theatre of the Open University of Milton Keynes, England. Airports nearby are indeed London Luton, Birmingham, East Midlands, or there is local transport from Heathrow, Gatwick or anywhere. Milton Keynes is very central and is easy to access. See detailed map in the latest SENL issue.

More details about the program later this week, but confirmed speakers are Prof. Richard Stephenson, Prof. Ken Phillips, Assoc. Prof. Jim Huddle, Dr. Francisco Diego, Sheridan Williams, Dr. Edward Hanna, David Hardy, Henrik Glinborg. Entrance is free of charge. Start 08h00, end 18h00.

Accommodation can be arranged for Friday or Saturday, as well as an evening dinner. More details later. Best regards, Patrick

From: Patrick Poitevin <patrick_poitevin@hotmail.com>

Hi, If you have flyers, vouchers, information or whatever about the next solar eclipses and you want to share with other eclipse chasers? You can have it at Totality Day on 11 August in the Open University of Milton Keynes, England.

They can be send straight to the Open University and I will expose them on tables for those interested.

The address:

Department of Physics and Astronomy
Attn. Dr. Barrie Jones / TOTALITY DAY 2001
The Open University
Walton Hall
Milton Keynes
MK7 6AA
England

Thank you in advance and best regards, Patrick

ACCOMMODATION

TD2001 has a special rate at the hotel directly across the road of the Open University: Hilton National, Timbold Drive, Kents Hill Park. Phone +44 (0)1908 69 44 33 or fax +44 (0)1908 69 55 33. OU rate £45 a night incl. breakfast (normally £63). We will be there from Friday night to Sunday morning. See also www.mkweb.co.uk for more info about Milton Keynes (accommodation, transport, leisure, etc.).

Warm regards, Patrick and Joanne

joanne_edmonds@hotmail.com or patrick_poitevin@hotmail.com

Tel Joanne +44 7968 194 088 or Patrick +44 7901 514 097

TOTALITY DAY

LOCATION

The Open University has its headquarters at Walton Hall, in Milton Keynes which is midway between London and Birmingham, and Oxford and Cambridge. The OU is sited on the South East side of Milton Keynes. It is close to Junctions 13 and 14 of the M1.

By Car

From M1, Junction 14: Follow signs for Milton Keynes, taking A509 to first roundabout (Northfield roundabout). Take first left A5130 signposted to Woburn Sands for two miles. At next roundabout (Kingston roundabout) with BP garage on left, take third exit signposted A5/Aylesbury/Dunstable/Walnut Tree/Universities to next roundabout (Walnut Tree). Turn right, then first left for the East entrance to the campus. Main reception is located in the Berrill Building.

From M1, Junction 13: Follow signs for Milton Keynes, taking A421 for 3 1/2 miles to the Kingston roundabout. Take second exit onto Groveway (H9), signposted A5/Aylesbury/Dunstable/Walnut Tree/Universities. At next roundabout (Walnut Tree), turn right, then first left for the East entrance to the campus. Main reception is located in the Berrill Building.

By Train

The University is about four miles from Milton Keynes Central station, on the London (Euston) to Birmingham line. MK Central is an Intercity stop. Trains are frequent and the journey time from Euston varies between 35-60 minutes.

Useful telephone numbers

OU Main Switchboard +44 (0)1908 274066

OU Visitor's Reception +44 (0)1908 653000



TOTALITY DAY 2001 - (PRELIMINARY) PROGRAM (VERSION 11JULY)

08h00 Doors open. Entrance Main Reception of Berrill Building (see map below or <http://www.open.ac.uk/maps>)

10h00 Opening TD2001 by Dr. Barrie W. Jones (England)

10h15 Low altitude central eclipses and the 2003 Scottish annular eclipse by Sheridan Williams (England)

10h35 Eclipse video's from Zambia by Joanne Edmonds (England)

10h45 Break

11h15 Historical Eclipses by Prof. F. Richard Stephenson (England)

12h00 Lunch (Berrill Café is open for sandwiches, drinks or pack-lunch)

14h00 Zimbabwe and eclipse glasses by Dr. Francis Podmore (Zimbabwe)

14h30 Experiments for students during a Total Solar Eclipse by Assoc. Prof. Jim Huddle (USA)

14h50 Meteorology during solar eclipses by Edward Hanna (England)

15h20 Video: Eclipse from the Southern edge by Richard Bareford (USA)

15h30 Break

16h00 Eclipse Chasing by Dr. Francisco Diego (England)

16h45 Eclipses; The artist's perspective by David A. Hardy (England)

17h05 Looking for the coronal heating mechanism with the SECIS instrument by Prof. Ken Phillips (England)

17h50 Closing TD2001 by Joanne Edmonds (England)

20h00 Doors closed

GENERAL TOPICS

from: Jean Meeus <JMeeus@compuserve.com> Sent: Friday, June 29, 2001 1:39 PM Subject:

A-A-A eclipses...!

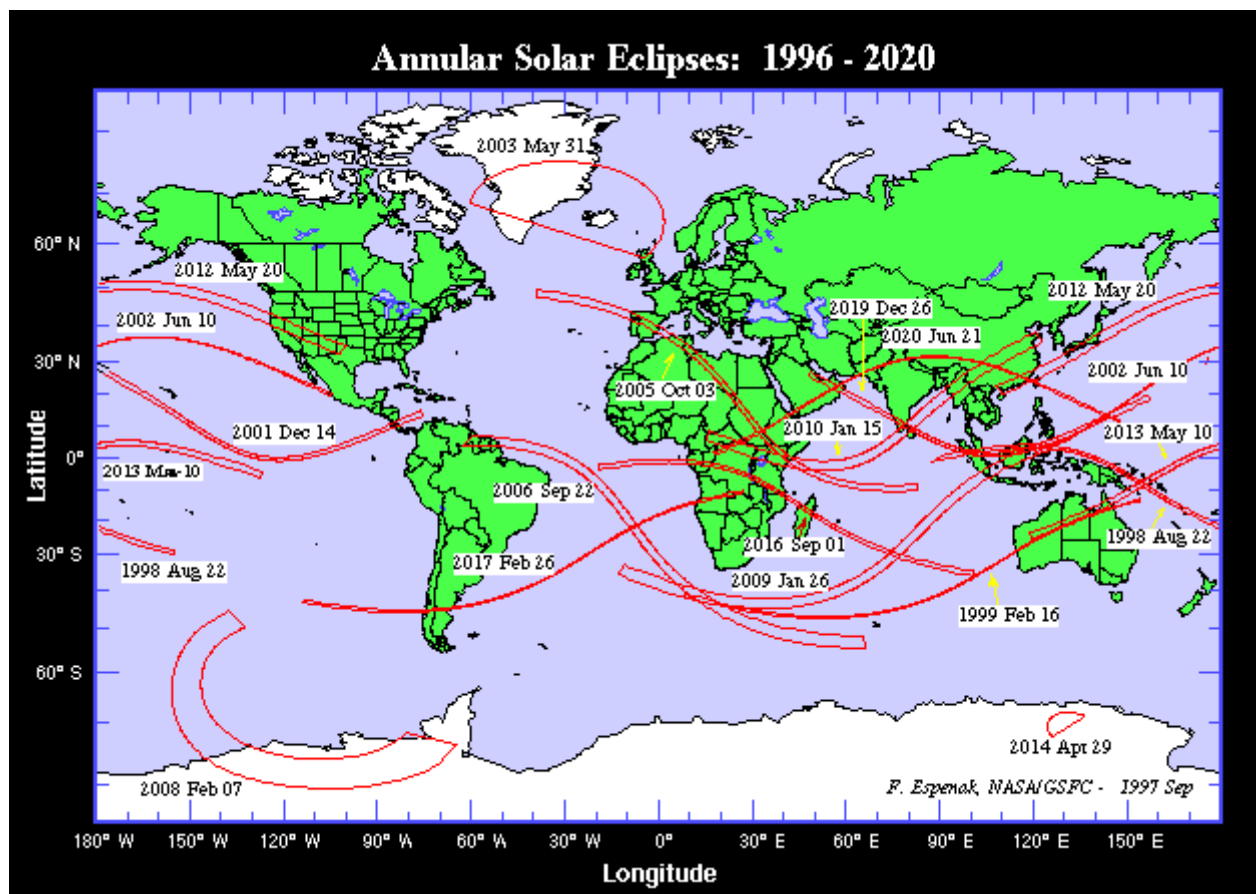
I received a letter from an American who draws my attention on the "A-A-A" event : the three first total solar eclipses of the new millennium affect continents whose name begins with the letter A :

2001 June 21 : Africa
 2002 Dec. 4 : Australia
 2003 Nov. 23 : Antarctica

Stupid man! The names of all the continents, except one, begin with an "A":

Africa
 Australia
 Antarctica
 Asia
 America
 (only Europe does not)

so it is no surprise that three successive total eclipses are "A" events...! Jean



GENERAL TOPICS

SHADOW BANDS

From: Tom Earnist <tomj@loop.com> To: <eclipse@hydra.carleton.ca> Sent: Wednesday, June 13, 2001 9:08 AM Subject: Re: [eclipse] shadow bands

Saw shadow bands on Aruba, but not in Romania. On Aruba looked like rapidly moving towards me across the desert floor ragged angled bands of black and white, only 6 to 12 inches apart it seemed. Was transfixed for the few seconds the phenom lasted. (ragged I guess because of rock & rubble shadows etc.) Too stunned to get pictures. It just was before totality. The whole experience was stunning. Aruba was first time to see. Going to be in vicinity of Mana Pools, Zimbabwe on the 21st, hope to see them again. Tom Earnist

From: <Skywayinc@aol.com>

The only time I have ever seen shadow bands (out of eight central eclipses) was at the May 30, 1984 annular eclipse at Greenville, North Carolina. The bands appeared about 90 seconds before and 90 seconds after maximum phase (which lasted only about 10 seconds). They were faint and displayed little movement, yet they were distinct, almost smoky in nature . . . they reminded me of the rippling heat waves that one would see projected by sunlight over a radiator and onto the adjacent floor.

Three of my eclipses (1991, 1998, 1999) have been out at sea, however, I wasn't expecting to see shadow bands at these events (even though I looked for them). This is because the bands tend to be seen most often in warm, dry areas and not from a location surrounded by water. This probably can be traced to thermal variations in the atmosphere becoming greatly reduced when a water surface serves as a stabilizer. The result would be the eclipse's effect in cooling and moistening the air being diminished as well as changing its index of refraction, which might account for the lack of prominent bands at viewing locations near or on large bodies of water.

Not to say that the bands have never been seen from a ship or near water, but the number of such reports relative to land (or inland) observations is probably extremely small. -- joe rao

GPS TIME

From: Joseph Cali <joe_cali@hotmail.com> To: <SOLARECLIPSES@AULA.COM> Sent: Friday, June 01, 2001 2:57 PM Subject: [SE] GPS time

I work in a earth sciences research school. One of the research groups use GPS to synchronise their seismometer array measurements. Used for monitoring & locating underground nuclear testing. They need very accurate time bases.

I asked their GPS expert about this problem. He told me that "accurate time is available by using a specialised GPS time engine. A normal handheld GPS will display the time at the beginning of the positioning integration period not real time. At times it will seem to agree with UT but depending on the satellites in the sky the time difference between UT and the GPS reading will vary. From reading to reading "

If the place you are staying has internet access, he suggests using one of the internet chronometers. They send signals back and forth from the time generators to calculate propagation errors then correct to give you time accurate to about 20 milliseconds.

There are a number of chronometers available on tu cows

<http://tu cows.mirror.aarnet.edu.au/> Good luck & clear skies. Joe Cali, Australia

From: Jean Meeus
<JMeeus@compuserve.com>

On 2001 May 1, Delta T (the difference between Dynamical Time and Universal Time) was 64.18 seconds.
Jean Meeus

GENERAL TOPICS

From: FRED ESPENAK <u32fe@lepvax.gsfc.nasa.gov>
To: <SOLARECLIPSES@AULA.COM>; <eclipse@hydra.carleton.ca> Sent: Tuesday, June 12, 2001 7:19 PM Subject:

[SE] SENL June 2001 NOW ONLINE!

I'm almost out the door on my way to Africa, but I wanted to let everyone know that Joanne Edmonds has prepared another great issue of the SENL (Solar Eclipse Newsletter). The June 2001 issue (Parts A & B) contains lots of recent messages about the upcoming June eclipse in Africa so check it out. The issue is online in pdf format and can be accessed via the SENL index page of MrEclipse.com:

<http://www.mreclipse.com/SENL/SENLinde.htm>

Other recent issues currently linked from the above page include:

SENL - August 2000 (Old Format, 65 Kb pdf file*)
SENL - September 2000 (Old Format, 93 Kb pdf file*)
SENL - October 2000 (Old Format, 62 Kb pdf file*)

SENL - November 2000 (1.4 Mb pdf file*)
SENL - December 2000 (995 Kb pdf file*)
SENL - January 2001 Special A (1.2 Mb pdf file*)
SENL - January 2001 Special B (0.9 Mb pdf file*)
SENL - January 2001 Special C (1.1 Mb pdf file*)
SENL - February 2001 Part A (1.0 Mb pdf file*)
SENL - February 2001 Part B (1.1 Mb pdf file*)
SENL - March 2001 (1.1 Mb pdf file*)
SENL - April 2001 Part A (1.3 Mb pdf file*)
SENL - April 2001 Part B (0.9 Mb pdf file*)
SENL - May 2001 Part A (1.0 Mb pdf file*)
SENL - May 2001 Part B (1.3 Mb pdf file*)
SENL - June 2001 Part A (0.7 Mb pdf file*)
SENL - June 2001 Part B (1.0 Mb pdf file*)

Note that all these files are in Adobe pdf format and can only be read with Adobe Acrobat Reader. This software is free and can be downloaded from Adobe's web site (<http://www.adobe.com/>).

The old format issues have no color, no figures or photos while the newer issues contain graphics, photos and illustrations.

Thanks for the hard work Joanne! Clear skies in Africa! - Fred Espenak

From: Sheridan Williams <sheridan@clock-tower.com>
To: <SOLARECLIPSES@AULA.COM> Sent: Friday, June 01, 2001 3:15 PM Subject: [SE]

2003 Annular eclipse & 2001 total

Everyone seems to have forgotten the 2003 annular eclipse, which takes place 2 years minus one day from now.

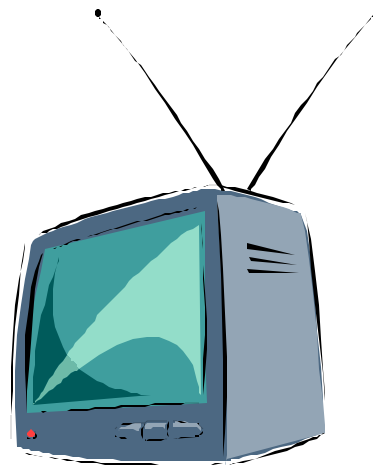
I know it is not a very good annular, but it should still be extremely pretty at sunrise on the north east coast of Scotland where I will be. Unfortunately it was cloudy at sunrise yesterday around Durness.

TOTAL eclipse: I hope to see some of you at Morombe on June 21. BBC TV/radio will have a reporter there, and I was taking him through the salient points last week. He's travelling by himself and has no plans how to get there from Antananarivo, let's hope he makes it. Sheridan Williams

From: J.P. van de Giessen <jpvdgiessen@gelrevision.nl>
To: <SOLARECLIPSES@AULA.COM> Sent: Tuesday, June 12, 2001 11:53 PM Subject: [SE]

NGC eclipse

Hi all, On the NGC channel (Europe/Netherlands) next friday at 22.00 hour is the film Eclipse Chasers. Jan Pieter van de Giessen



TOTAL 2002

AUSTRALIA

Rob Hill
7 Holborn Hill Road
ALDGATE S.A. 5154
AUSTRALIA
Phone +61 8 8339 2773
Email: robert.hill @ ace.net.au

DRAFT ITINERARY FOR 2002 SOLAR ECLIPSE TOUR AT ARKAROOA

This 5 day package for eclipse watchers is based on the out-back tourist resort of Arkaroola which is about 600 km. north of Adelaide. Details about the resort are on <http://www.arkaroola.on.net>.

Details of the draft itinerary are:

Sunday 1.12.02

Depart Adelaide by modern air conditioned toilet equipped coach for Arkaroola, arrive late afternoon. See kangaroos, emus and other native wildlife during the trip.

Monday 2.12.02

AM

Seminar with Professor Vic Gostin on the History and Geology of the Flinders Ranges.

PM

Optional activities or Ridgetop Tour (spectacular half day open top drive to mountain peaks along some rough tracks in the heart of the Ranges).

Evening

Aboriginal Heritage and Culture evening including a seminar with Olga Gostin, reader in Aboriginal Anthropology, and meeting members of the Nepabunna Aboriginal people.

Tuesday 3.12.02

AM

Ridgetop Tour or optional activities

PM

Ridgetop Tour or optional activities.

Evening

Seminar with Professor Gostin on the significance of Lake Acraman. Nearby Lake Acraman is the site of the world's second largest known meteor strike. Vic Gostin is the discoverer of the site and has a fascinating story to tell.

Wednesday 4.12.02

AM

Free time

PM

Prepare for eclipse, travel to viewing site, champagne BBQ and view eclipse. Totality occurs about 7.45 pm local summer time.

Thursday 5.12.02

Return to Adelaide.

Optional activities will be at extra cost to group members. They include scenic flights in a light plane over the Ranges, and a 'bush tucker' walk led by Aboriginal elders who impart their knowledge of traditional foods and medicines found in the bush.

The on site observatory will be available for all night viewing as will the three binocular chairs. I have booked all of the resort, so everyone there will be an eclipse viewer so it should make for a great 'atmosphere'. This will be a wonderful event for everyone. Due to a desert climate, elevation and a favorable latitude the night star viewing at Arkaroola is as good as it gets. Light pollution is absent as there are no nearby towns of any kind - the nearest town of any size is Broken Hill about 2 hours flying time away. Early December is the start of summer - average daily maximum temperature at Arkaroola is 28C, and the chance of cloud (yes, that's cloud not rain) is less than 25%. Doug Sprigg who owns the resort is a keen astronomer, while the Gostin's are great speakers and very knowledgeable.

We will have an absolutely superb viewing site. It is located on a clifftop only 1.7km. off the eclipse centre line, and has a totally clear view to the distant horizon in every direction. To the south west you can see to infinity. At totality, the eclipsed sun will be framed by two distant mountain ranges on the horizon. The site itself has prominent cliffs of varied colour ochres which will add special colour effects as the eclipse progresses. Arkaroola Resort is being exceptionally helpful in all this - they will send some staff members to occupy our viewing area one or two days in advance to ensure we have use of it. They will also erect a marquee on site so we have shelter from the hot sun until the eclipse has progressed a bit. The exact coordinates of the site are 30 deg. 14.452 mins. south and 138 deg. 20.542 mins. east.

Depending on your choice of accommodation, and on whether you use the buses or supply your own transport, the cost will range from \$350 AUS per person to \$700 AUS per person ex Adelaide. There are several standards of accommodation as follows:

MAWSON LODGE

High standard large motel type room with queen size bed,

(Continued on page 13)

GENERAL TOPICS

ensuite shower and toilet, TV, fridge, air conditioning, table and chairs and third single bed. All rooms have recently been refurbished.

CALLITRIS

Not quite as high a standard as Mawson but still very comfortable. They have a double bed and two single beds, ensuite shower and toilet, and airconditioning.

GREENWOOD

Some have a double bed while others have single beds. There is basic room furniture, an ensuite shower and toilet, and air conditioning.

THOMAS

Definitely for the budget conscious. A very small room containing only two single beds and a wardrobe. It is air conditioned. You would share an external ablution block of low standard with four other couples.

GILLII

Available only for those supplying their own transport to Arkaroola. A small room in a converted transportable hut. Two single beds sharing ablutions with the caravan park, and some distance from the resort complex. No air conditioning. Nice mountain views from the site, and good nearby BBQ area.

QUONDONG

Also only for those with their own vehicle. Eight bunk beds in one room with an attached well equipped kitchen. Some distance from the resort complex. No wardrobe or anything else, and definitely no privacy. No air conditioning. Suitable for younger people who get along very well. Ablutions shared with the caravan park. Views and BBQ area as for Gillii.

The per person prices for 4 night's accommodation, one ridgetop tour, attendance at all three seminars, BBQ at the viewing site, use of the swimming pool and other resort facilities including the observatory and the three binocular viewing chairs are:

Mawson	\$600	18 rooms available
Callitris	\$550	10 rooms available
Greenwood	\$450	20 rooms available
Thomas	\$400	4 rooms available
Gillii	\$370	4 rooms available
Quondong	\$350	1 room only sleeping 8 people

These prices in Australian dollars are all on a twin share basis. Add \$100 per person for all bus travel (to and from Adelaide and to/from the viewing site). If you are a single and would like to be put in touch with other singles please let me know.



I'm doing all this on a non profit basis (strictly just for fun and because I love meeting people from other places and showing them around parts of Aus.). I'm hopeful of not having to advertise the tour which is why I'm emailing people on eclipse chat lines etc. Although I am a member of the Astronomical Association of South Australia, I'm doing this as a private venture and not on behalf of the Association.

If you're interested, you can contact me by return email for any further details. Perhaps your friends and colleagues might be interested as well.

Rob Hill

The poor news is that both the resort and the bus companies are receiving many enquiries for the eclipse, and all other buses and accommodation are now fully booked. As a result, they have recently required a deposit from me when initially they were prepared to wait until next year for same. I have paid up with my cash but now I can't afford to wait until next year for your deposit. With regret I must ask for your 20% deposit by the end of July.

(Continued on page 14)

GENERAL TOPICS

Could you please send your cheque in Australian dollars to:

Rob Hill
7 Holborn Hill Road
Aldgate, South Australia, 5154
AUSTRALIA

If sending a cheque from outside Australia, please add \$10 to the amount to cover my banking costs. Please indicate your choice of accommodation and whether or not you will travel on the bus. If all rooms of your preferred accommodation are taken by the time I receive your cheque I will place you in the next cheapest



From: Dave Balch <Dave@DaveBalch.com> To: Solar Eclipse Listserv <SOLARECLIPSES@aula.com>
Sent: Thursday, June 28, 2001 12:36 PM Subject: [SE]

2002 Sunset eclipse in Australia

I'm pondering the situation in 2002 and I wonder if a sunset eclipse would be worth going to see. If there is so much light reduction at sunset that you can look directly at the uneclipsed sun with the naked eye, what chances do we have to see any corona?

From: Patrick Poitevin <patrick_poitevin@hotmail.com>

I observed the total solar eclipse of 1992 at sunrise on the coast of Uruguay. The sun was near full eclipsed at sunrise. When the Bealy's beads (faint, though visible) changed over into a weak diamond ring, the sun was gone. Complete darkness for several seconds. It was very spectacular. Slowly, but nicely, the corona appeared though the atmosphere. It was so spectacular and amazing that I only observed visually and forgot all about the camera.

Sunrise eclipse? I would strongly recommend. Though, not that much have seen totality at the Uruguayan coast. Clouds covered the horizon here and there...

Luck is for the pigs... (Flemish saying) Best regards, Patrick

From: Massimiliano Lattanzi <m.lattanzi@unesco.org>

South Africa sounds more interesting.
TSE lasts for 1'30" and the sun is at 45°...

I'm pondering the situation in 2002 and I wonder if a sunset eclipse would be worth going to see. If there is so much light reduction at sunset that you can look directly at the uneclipsed sun with the naked eye, what chances do we have to see any corona?

From: Peter Tiedt <Peter.Tiedt@npc-eagle.co.za>

(Continued on page 15)

GENERAL TOPICS

(Continued from page 14)

The weather is the most worrying part of this eclipse. It seems the best prospects are in the Caprivi region of Namibia or the Chobe Game Reserve in Botswana, where totality is less, but where Baily's Beads should be phenomenal!

Otherwise a cruise out of Durban to south of Madagascar where totality should be in the region of 1m44s. My 2c worth, Peter

From: Henrik Glintborg <Henrik@tycho.dk>

Oh no! It is right in the middle of the rainy season in South Africa at this time. I am going to Ceduna in South Australia with my group. I would rather go for a 32 second long total eclipse under clear skies than go to Africa and get clouded out! Henrik Glintborg

From: Govert Schilling <mail@govertschilling.nl>

Henrik: It is right in the middle of the rainy season in South Africa at this time.

People in Zimbabwe told me that there can be clear skies also in the rain season, especially in the early morning, when the 4 December 2002 eclipse takes place. Of course the chances of being clouded out are much larger than last week, but it's certainly possible to have a good eclipse in southern Africa. --Govert

From: Abebe Kebede <gutaye@ncat.edu>

Can somebody tell the weather forecast for the possible eclipse sites ? thanks, Kebede

From: Massimiliano Lattanzi <m.lattanzi@unesco.org>

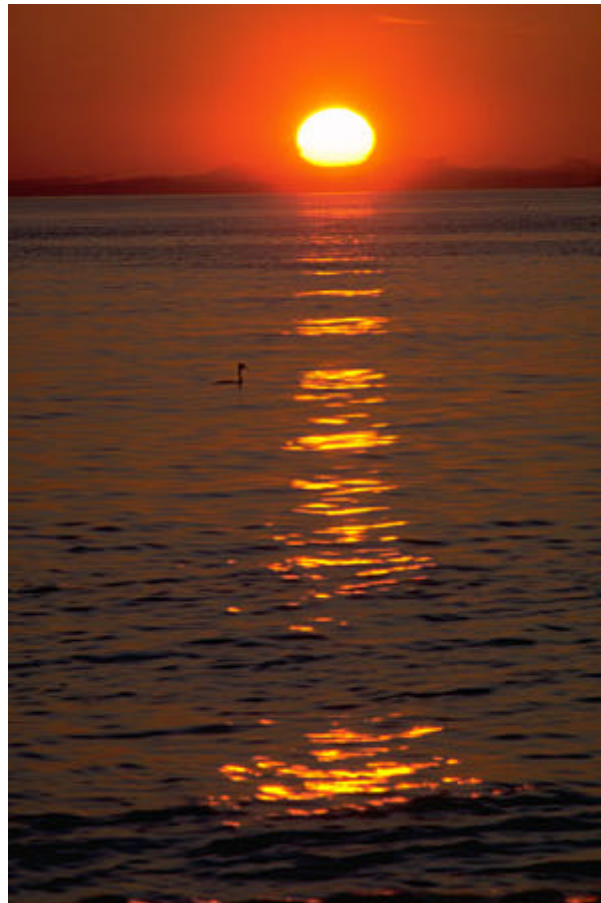
Mmmm, I can just feel coming up the proposal for a relaxed cruise in the Indian Ocean... ; ->

From: Dave Balch <Dave@DaveBalch.com>

I realize that there are several options... but I am still curious as to what, exactly, we will be able to see during a total eclipse at sunset. If you can look directly at the sun at sunset, there is obviously a lot of light reduction... will any of the corona or even diamond ring or bailey's beads be visible?

From: Chris Malicki <kmalicki@idirect.com>

At Ceduna the eclipsed sun will be about 8 degrees above the horizon. That is not sunset. It's a fairly bright sun



(weather permitting). Chris Malicki

From: Odille Esmonde-Morgan <analog6@ozemail.com.au>

Also, as I understand it from the diagrams, the eclipse will be coming in over the sea, so perhaps the heat distortion may not be as great as from the land. You can be almost 100% sure of fine weather, December in this region does not often see rain! Odille Esmonde-Morgan

From: Michael Gill <eclipsechaser@yahoo.com>

Dave, As Chris Malicki points out during totality the Sun will not be right on the horizon as seen from Ceduna, Australia.

If there should be clear weather in the Ceduna vicinity on December 4th 2002 then I would expect the corona to be visible.

Some interesting pictures of a total solar eclipse close to the horizon were taken from the 'Regal Empress' cruise

(Continued on page 16)

GENERAL TOPICS

(Continued from page 15)

ship on August 11th 1999 (for those on board, the Sun during totality was lower than it will be from Ceduna in 2002).

One picture is reproduced on page 91 of the January 2000 edition of Sky and Telescope. Others are included in David H. Levy's 'Eclipse: Voyage to Darkness and Light' (ISBN 0-7434-0727-x). On page 102 of this book Levy writes: 'Despite his poor eyesight Len Wallach had no trouble discerning the details of the corona'. On page 92 of the January 2000 S&T, Levy reports that the corona 'also looked quite red'. Michael Gill.

From: Eric Pauer <pauer@bit-net.com>

The most popular question after a total solar eclipse is "when and where is the next one?" Most everyone on the SE list knows that will be 4 December 2002, in southern Africa or Australia. But where exactly to go and how? As I did for the 2001 TSE, I have created a page listing tours, trips, expeditions, and cruises which have been organized to view the 2002 TSE:

<http://www.bit-net.com/~pauer/eclipse02/2002eclipsetrips.htm>

There appears to be a few more trips to Australia than Africa planned, so many must believe that the ~30 seconds of totality for this eclipse near sunset will be spectacular. I'll be periodically updating this page, so if you know of any other 2002 eclipse trips, please let me know. Regards, Eric

From: Evan Zucker <ez@AbacusTotality.com>

>As I did for the 2001 TSE, I have created a page listing tours, trips, expeditions, and cruises which have been organized to view the 2002 TSE

Thanks a lot, Eric! That's very helpful.

>There appears to be a few more trips to Australia than Africa planned, so many must believe that the ~30 seconds of totality for this eclipse near sunset will be spectacular.

I think it may be more likely that many people are more comfortable traveling to Australia than to relatively remote areas of Africa. Speaking for myself, although I've always been interested in seeing a sunset total solar eclipse (having already seen the sunset annular eclipse here in San Diego on 4 Jan 92), I would be more interested in seeing a long eclipse with the sun higher in the sky. The only reason I didn't go to Africa was the cost. -- EVAN

From: Peter Tiedt <rigel@stars.co.za>

I have also opened a 2002 tours page. The requests for listings are coming in quite fast, and I will be doing regular updates. There are a few listed already - see

http://www.eclipse.za.net/html/2002_tours.html

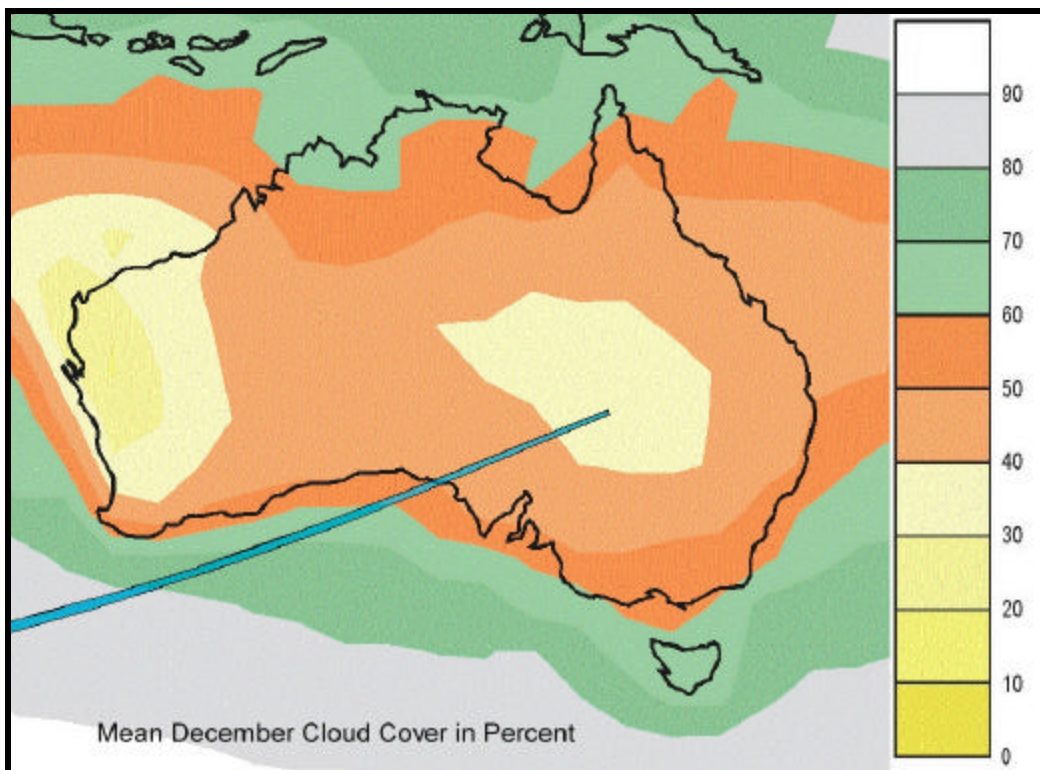
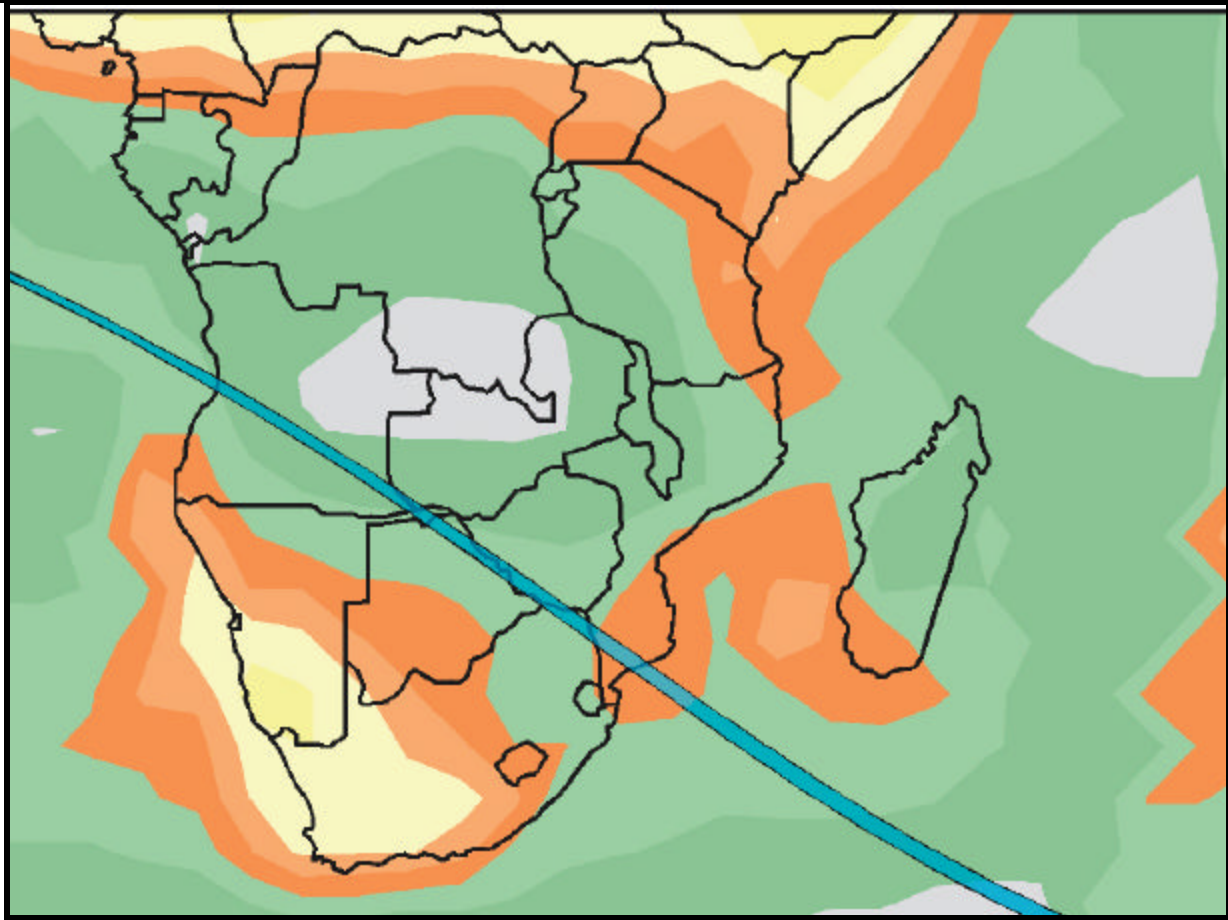
If there are any that the list members know about that aren't listed, let me know Peter Tiedt

From: Joel M. Moskowitz, M.D. <moskowi@attglobal.net>

There already is. See: <http://www.nauticom.net/www/planet/files/jun21ROC.html> Joel M. Moskowitz, M.D.



GENERAL TOPICS—MAPS TOTAL 2002



From: Hal Couzens <hal@dneg.com> To: <SOLARECLIPSES@AULA.COM> Sent: Tuesday, June 05, 2001 7:49 PM
Subject: [SE]

A
F
R
I
C
A

Ambient Light Levels

Ok, next filmy question.

What are the ambient light levels going to be at the various stages of the eclipse?

I would like to know what to expect a light meter to read on a person approximately 6meters away from me during all phases of partial through to totality?

I really did not pay much attention to light meter readings during the last TES I saw (99) but just remember it being very dark... and the film I left to expose itself did not do very well at all (way too dark). Out of interest how would this compare to a fullmoon night - like tonight?

I leave in 2 days time and things and getting nervous all the time.

Thank you for all the help... see you there and at Totality Day. Hal Couzens

From: Joel M. Moskowitz, M.D. <moskowi@attglobal.net>

2
0
0
1

It will never get as dark as a full moon lit night during totality. It is more like deep twilight. And the deepness of the twilight varies from eclipse to eclipse. However, it is still too dark to take pictures without a flash, which is a NO-NO during an eclipse. During partials, you really won't notice much of a change in light level probably till over 90% of the sun is covered, so your exposures should be about the same. As far as a video camera goes, you can get a decent video image of the surroundings during totality if you let the camera ride the auto-gain levels. There are people who like to turn the auto-gain off because they feel that is more realistic in showing the darkness during totality, but the picture is too dark to give a decent video image. I like to let the auto-gain ride, which gives a good impression of the darkness, and can still give a decent video image. Note that this only applies to the surroundings, NOT on the eclipse itself.

From: Gerard M Foley <gfoley@columbus.rr.com>

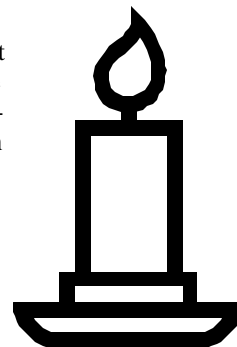
The illumination at ground level during totality will vary greatly depending on the circumstances. If there is cloud or dust in the sky things will be brighter than if the sky is very clear. In clear skies, I assume the extent of the corona will vary during the solar cycle. The time interval between my clear sky eclipses has been too great for me to compare them. Gerry K8EF

From: Eric Pauer <pauer@bit-net.com>

I measured the light level at the 1999 eclipse using two commercial light intensity loggers; these devices logged the ambient light level every 8 seconds. One was pointed at the zenith and the other directly at the sun (eclipse). You can find the graphs and details of the setup on-line at:

<http://www.bit-net.com/~pauer/eclipse99/envres/envres.htm>

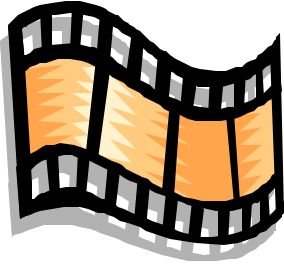
>From first to second contact, the light level dropped by a factor of 52,000 (15 1/2 f/stops). During the last nine minutes before totality, it dropped by a factor of 6300 (12 1/2 f/stops). In the last two minutes before second contact, the light level dropped by a factor of 1000 (10 f/stops). Light changes very quickly as totality approaches! As others have mentioned, each eclipse will be different, but I hope that this provides an idea of what to expect. Eric



From: B Yen <byen00@earthlink.net> To: <SOLARECLIPSES@AULA.COM> Sent: Saturday, June 09, 2001 5:46 AM Subject: [SE]

A
F
R
I
C
A

Baader solar filter on slide-film?



Has anyone used the Baader filter on slide film? I shot it on Fuji 100 slide film, & the correct exposure is purplish! One stop more, the disk is yellowish-white (kinda washed out, sunspots not that apparent), the but the limb is purple (limb darkening is the cause). I used a Meade ETX90, a fluorite refractor with 3x tele-converter, 200mm lens. All purple images.

I thought the Baader gave a yellowish-white image. I've seen images, but maybe they're on negative film where you can be 1 stop under & get a decent image. Visually, it looks yellowish-white in the camera viewfinder.

It looks like for photography, I will not use them for partial phase photography. B Yen

From: Cees Bassa <c.g.bassa@phys.uu.nl>

A friend of my used a telelens 560 F/8 and Fuji Sensia II 100 and a filter of Baader AstroSolar. His images were white, though I don't know which exposure times he used and if he used the lens on widest aperture. I just shot some images on Fuji Provia 100F, but I haven't got these developed yet. Which Fuji 100 slide film did you use? Regards, Cees

From: B Yen <byen00@earthlink.net>

I used ASTIA 100, which was sitting in the camera for 6 months. There were some terrestrial images which looked OK (whites were not color shifted). The ETX90 was f13.8, the 70mm fluorite was ?? (it's got some hacked up teleconverter on it, probably around f14), the 200mm lens was set at f4,f5.6,f8 (I did a bracket at all those f-ratios).

Too late for me to mess with. I will just not do any partial phase exposures (narrow angle), which is good anyway. Totality is what counts. B Yen

2
0
0
1

From: Peter Tiedt <Peter.Tiedt@npc-eagle.co.za>

I have done some test shots using Fuji Superia C/N film 200 ASA. Equipment was a Vivitar 500mm F/6.3 in front of a Pentax K1000. Also with a 2x converter. I took several shots of the sun at an altitude of 30deg (about the same as it will be in Zambia)

Results: At some (slower) exposures I got a yellow/white image, but with poor definition of sunspots. At faster exposures, there was a definite purplish tint, but sunspot definition was better Purple tint was more evident on the shots with the 2x converter.

I am hoping to scan some of these images today.

From: Assoc Prof J R Huddle <huddle@usna.edu>

Are you using the Baader VISUAL film or the PHOTOGRAPHIC film? The visual product is Neutral Density 5.0, while the photographic product is ND 3.8. The photo should NOT be used for direct solar viewing. Jim Huddle

From: Glenn Schneider <gschneider@mac.com> To: <SOLARECLIPSES@AULA.COM> Sent: Friday, June 01, 2001 4:47 PM Subject: [SE]

BROADCAST UTC vs. (or adjunct) to corrected GPS

There have been a number of threads here on the problems (and solutions) for UTC extraction from GPS receivers, and on broadcast time services which might be "receivable" (enough signal strength) in Zambia/Zimbabwe.

For every eclipse I have been to I have brought a small short-wave receiver to pick up WWV/WWVH or equivalent. Since sometime in the mid-1970's I used a small commercially built unit which was (is?) marketed by Radio Shack in the U.S. called the "Time Cube". I don't know if they still make it, or equivalent. It was pretty inexpensive when I bought it. It is just a compact S/W receiver with PRESET buttons to tune to 5, 10, 15, and 20 MHz (WWV/WWVH broadcast frequencies, unfortunately not CHU at 7.335). It works WONDERFULLY, and of course gives that monotonous droning, but welcome. UTC audio count as background "music" to an eclipse. The "Time Cube" or other S/W receivers usually come with "built-in" antennas. I have found stringing a simple dipole, or even a "long-wire" antenna from a wire-spool (precut to $[2N+1]$ *wavelength) and oriented (broadside) toward Ft. Collins, Co., or Hawaii has been able to pull in an audible signal from almost anywhere. Sometimes it fades, comes and goes, but even if you cannot get it during the eclipse, you very well might the night before - and use it to do a near-eclipse setting of clocks, etc.

People sometimes think it is pretty odd when I go stringing up a 60-meter long wire at my eclipse observing site - but when I attach the end of it to my built-in antenna with an alligator clip and the voice comes booming out of the static: "at the time well be XX:XX Coordinated Universal Time... BEEP, tick, tick, tic...k) the reason becomes obvious.

One thing: When (if) you do this - I string bright red ribbons every meter or so along the wire - so no-one walks into it accidentally, particularly DURING totality. Why red? It helps with visibility when you are dark adapted (as you will be, if you wear an eye patch before totality, but I've bent-ears (or eyes) about that before here). For safety (and courtesy) do this. I'm sure you would have to extricate yourself from being wound up in 60 meters of wire IF during totality someone got tangled up in your antenna. {No, never actually happened to me, but I still literally bear the scar I got from a nasty RF-burn as a teenager when I walked into a 20-meter dipole at night, as I was going to re-fill a gasoline generator during an "amateur radio field-day" just as someone keyed-down on a transmitter with a 1Kw linear amplifier. OUCH!}

Finally: I should say I have successfully pulled in time signals in this way from Kenya (maybe most germane for this eclipse), Siberia, Indonesia, Australia, Bolivia, and other places closer to "home". In a few cases I CLEARLY was receiving ON WWV'S ASSIGNED FREQUENCY(IES) some other service - but I never could figure out what. (Does anyone know?).

With the above, what I want to ask, since there has been a lot of speculation: Can someone IN Zambia/Zimbabwe try to tune in WWV @ 5, 10, 15, or 20 MHz with a shortwave with a long-wire antenna, and report if it can be heard? Glenn Schneider

From: Peter Tiedt <rigel@stars.co.za>

Glenn (and others), I have heard both WWV and WWVH here in SA, on 10, 15 and 20 MHZ

Being at sunspot maximum should help. de ZS5DX Peter Tiedt

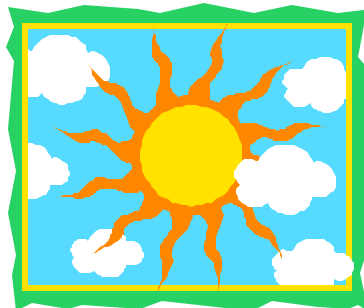
From: Gerard M Foley <gfoley@columbus.rr.com>

But with what antenna? Gerry K8EF

From: Peter Tiedt <rigel@stars.co.za>

antenna

I have used a long wire
TH5DX 5 el yagi



(Continued on page 21)

(Continued from page 20)

and inv Vee (40/80) Peter Tiedt

From: Glenn Schneider @ Home <gschneider@mac.com>

eter, Thanks very much for the reply re WWV reception. That is promising, and I'll be brnging the old Time Cube along.

By the way, I'm bringing my laptop, and have synchronized to UTC via the network time servers: time.apple.com (US), time.asia.apple.com, and time.euro.apple.com. Do you know if there such a time server I can use in Africa? -GS-

From: B Yen <byen00@earthlink.net>

I just bought a "atomic time clock" from Radio Shack for \$15 (50% off). It has an external antenna to pickup WWV & relay it to the clock (2.5" x 3" square), runs off 2 AAA batteries. Very compact. You can set it to the 4 time zones of USA, & it will display the correct time to within xxx.

I guess it won't work for Africa. But, I think you can get the min/sec right.

I have a real compact SW radio (Radio Shack) I've been bringing along to eclipses since '95. (I can usually pickup the WWV broadcasts). I will bring that, just to listen to local broadcasts.

I usually bring a hand-held scanner to the local deserts for astro-observing. There are local weather forecasts, which I can pickup. Is there such a thing in Africa, in which case I should bring it along? B Yen

From: OCM NS <ocmns@hotmail.com> To: <solareclipses@aula.com> Sent: Sunday, June 03, 2001 6:03 PM Subject: [SE]

Bringing meds to African countries

Is anyone bringing personal medications with them for the 2001 Africa Eclipse and if so what rules apply and what carry-with packing must be done? I am thinking of those who would have to carry prescription medications that are taken on a regular basis and also such as for diabetics (who in addition if necessary may have to carry needles). --Thanks, EG--ocmns@hotmail.com

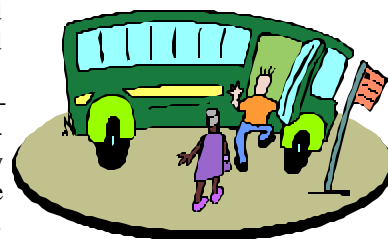
From: Madden.G <iluvex@netacc.net>

I am carrying both the documents provided by the pharmacy when the prescriptions were filled AND a letter from my physician detailing the prescriptions issued and the doctors Name, Address, Telephone Number and New York State Department of Health License Number.

I also keep a second set of these documents with a friend here in case the set I carry is lost. What else can I do? madden/rochester

From: Bharat Adur To: SOLARECLIPSES@AULA.COM Cc: aadildesai@hotmail.com Sent: Saturday, June 16, 2001 9:47 AM Subject: [SE] Centre line Trips in Zambia

Hi eclipse chasers, We should be in Lusaka by June 19, and is there any arrangement to take eclipse chasers to the centre line in Zambia like Kurubwe, Kamilonga, or any other. Please communicate also at aadildesai@hotmail.com Regards, Bharat Adur



From: Joseph Cali <joe_cali@hotmail.com> To: <SOLARECLIPSES@AULA.COM> Sent: Monday, June 04, 2001 10:57 AM Subject: Re: [SE]

Network time server

By the way, I'm bringing my laptop, and have synchronized to UTC via the network time servers: time.apple.com (US), time.asia.apple.com, and time.euro.apple.com. Do you know if there such a time server I can use in Africa? -GS-

Southern African Network time server ntp.cs.unp.ac.za Joe Cali

A
F
R
I
C
A

2
0
0
1

From: Madden.G <iluvex@netacc.net> To: Solar Eclipses <SOLARECLIPSES@AULA.COM>
Sent: Tuesday, June 05, 2001 1:21 AM Subject: [SE]

Cash

We were advised before going to Turkey that we would not need Travelers Checks. Not only were there ATM's everywhere, but the locals were happier getting US dollars. I'm now wondering if the same can be said for Zam/Zim?

Suggestions (especially from those who have been there recently)? madden/rochester

From: Kidinvs@aol.com

From my trip to Zimbabwe, I can tell you that in the area around Harare, and in Victoria Falls, there was almost no need for local currency, if you were in possession of US\$\$\$\$. I dont know if Brit Pounds were as widely accepted. The official rate for Zim\$/US\$ is about 55 to 1. However the Black Market rate is about 95/1 as I have heard recently. There will be many locals anxiously trying to get US\$ for their Zim\$ at the "Unofficial" rate. Keep in mind, that this is highly illegal, as in most countries, and scams will probably surface from this. For instance, you may find a guy offering 100 Zim\$\$\$ for a US\$, and while you are making the transaction, you are approached by an "officer" who will gladly accept a bribe to accept all your cash in return for looking the other way. But the better part of this is that US\$ will be accepted almost everywhere. A storekeeper will want to deal at the official rate. When you begin to leave the store, he will quickly see the light and will deal at a more competitive rate. I do suggest that you bring an ample supply of 1\$ bills for tips, and inexpensive purchases. US coins will be worth nothing. If you do exchange currency, you need to be assured that the Zim bills you are given are not phony. Their \$\$\$ really looks like play \$\$\$.

Be prepared for "high" prices, as the locals try to take advantage of the "eclipse" visitors, which will be more tourism then the country has seen for many years. Bargain for stuff, dont get taken advantage of, but be mindful that these are poor people who desperately need our \$\$\$.

Surly, if we spent a bit more than the real price, we would not miss it in the long run, and they will be very happy. And please... the local people are wonderfully kind, and oppressed people. It is not their fault that things are as they are. Be kind to them. Help them...with a bit of extra money and PLEASE LEAVE OLD CLOTHING BEHIND FOR THEM...ESPECIALLY SHOES AND SNEAKERS. I do not know the deal in Zambia with money... sorry. Eric Brown

From: Olivier "Klipsi" Staiger

I read in lonely planet travel guide that tipping is ILLEGAL in Zambia??? is that law inforced ? are people refusing a tip ? Am I in trouble if I still do give a tip ? Can somebody comment who has been in Zambia ? Fred, Jay ? Klipsi

From: Peter Tiedt <Peter.Tiedt@npc-eagle.co.za>

Bring the greenbax You will have difficulty changing t/c in anyplace but the major centres. Peter

From: <Jay.M.Pasachoff@williams.edu>

I don't remember this specific point, and my general recollection is that one left the small change instead of taking up every coin. I do specifically remember that my colleague there had me tip the porter at the airport the equivalent of a dollar (3500 kwacha).

I leave for Lusaka on Sunday (and the first members of our group leave today), so I can check this impression next week. Jay

From: Peter Tiedt

Don't believe it - you can be 100% sure that all and any tips will be very gratefully accepted, and it is unlikely you will be thrown into gaol for it - and if you are, just tip the jailer ;-)

From: Odille Esmonde-Morgan

In my YHA newsletter I saw a good idea - if you want to do something nice for the country you've visited, especially in cash -strapped societies like Africa, give a cash donation to the local hospital. A small amount to you will be enormous to them This fellow gave \$200 (Australian - about \$100 US) to a Zimbabwean hospital that nursed him through a malaria attack and he said they thought all their Christmases had come at once.

But I couldn't imagine anyone knocking back a tip! Odille Esmonde-Morgan

From: Kidinvs@aol.com

As I stated in an earlier posting, I have no idea what the tipping procedures would be in Zambia, but in all my travels through countries that are poor, I think a general rule applies... that is, leave the people with more than when you got there. The people of these areas are very poor, and oppressed. Amounts of money that any of us would consider petty can very well feed a poor family for many days. Certainly, if you are reading this post from a lovely home on your computer as you begin to pack and prepare to board a

(Continued on page 23)

A F R I C A 2 0 0 1

jet plane, it means that are better off than almost all of the people you will meet while on your trip. This eclipse will be a windfall for these people, and they know it. They will be relying on this eclipse to put food on their tables for many weeks. Of course there will be some unscrupulous crooks out there trying to pry you from your \$\$\$, just as there are in your hometown. Dont hold the good locals responsible for others whose bad deed will reflect on everyone. I am not campaigning for the local people of these countries... I am simply saying that if you can afford it, bring 100 one dollar bills with you, and leave with none. Give them to the children who try to practice English on you. Give them a buck if you should take a picture with their smiling faces. If the porter wants to carry your small bag, do not carry it yourself.. Allow him to earn a dollar. Trust me... a dollar is a tidy sum of money to a child there, and a five spot to an adult is sometimes more than a full days wages!!! Need I say more???? This is not an issue that needs to be discussed at length any longer. You will not be arrested for tipping. Let your conscience be your guide here. Dont be stingy... you will not miss the extra 100 buck when you get home... but you will forever remember the smiles you put on peoples faces that you have helped along your way. Have a safe, exciting, and successful trip. Put the eclipse aside in your minds for a bit.... you will have a wonderful experience even without the eclipse. Take the memories home with you, and leave them a few greenbacks as thanks. Eric Brown

From: OwDLRU@aol.com

Dear Eric Brown... I had really not given a lot of thought to the topic of this tipping, but you certainly make me think of it now. I now intend on leaving almost all of my clothing behind, which will make it a delight to have less of a load to carry home, and will actually help me make room in this closet I have been meaning to clean. I will also deliberately bring a few extra buck to leave behind, as well. Thank you for giving me the notion of helping these "less fortunates."... I feel good about it all ready!!! Dave



From: Olivier "Klipsi" Staiger

with a small window to look at totality from jail, I'll be fine. (anybody ever tried that tiny jail window as pinhole camera for the partial ??? :-)

From: Assoc Prof J R Huddle <huddle@usna.edu>

This is off topic, but perhaps it shouldn't be, because traveling is part of chasing, and chasers are visible ambassadors of

their countries, whether they intend to be or not. Doctors Without Borders (<http://www.doctorswithoutborders.org/>) does lots of good work in Africa. They also helped during the earthquake I avoided through no plan or effort of my own in Turkey two years ago. The doctors volunteer their time, but their equipment, supplies and medicines must be paid for. Jim Huddle

From: Harvey Wasserman <onsite@gate.net>

Likewise, if you bring extra meds with you, you may want to donate them at the end of your trip, as well. Harvey

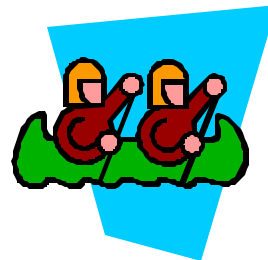
From: Steve Schonberger <steve.schonberger@lycos.com>
To: <eclipse@hydra.carleton.ca> Sent: Saturday, June 02, 2001 8:28 AM Subject: [eclipse]

Africa cruise

My wife and I are planning on viewing the eclipse on the Royal Star cruise. Will anyone else on this list be on that ship? If so, let me know, and maybe we can get together on the ship. (To save traffic on the list, reply to me directly, rather than just using "reply.")

From: Steve Schonberger <steve.schonberger@lycos.com>
To: <eclipse@hydra.carleton.ca> Sent: Monday, June 18, 2001 11:59 AM Subject: Re: [eclipse] Africa cruise - reply summary

It seems no one else on this list is on the Royal Star cruise. I got only one reply to my mail, from Dr. Eric Flescher, who was on the Galaxy in 1998 (the same cruise we took to see that eclipse).



We made it to the ship, and are on our way to the eclipse site, with a stop today in Zanzibar, where I am writing from an amazingly inexpensive Internet shop (400 Tanzanian Shillings per half hour, 700 per hour, and 800 is one U.S. dollar).

For those who are going, good luck. For those back home, you may be able to receive the live broadcast from our ship, via Adler Planetarium, although I don't know how to receive it. I suppose Adler's web site, whatever it is, explains though. --Steve

A
F
R
I
C
A

2
0
0
1

From: F.Podmore <podmore@science.uz.ac.zw> To:
<solareclipses@aula.com> Sent: Thursday, June 14, 2001 5:32 PM
Subject: [SE]

Clouds over Zimbabwe - forecast. And quick update.

Hello eclipse friends - I have just received the email copied below, and will post all weather forecasts for the eclipse area when I get them.

So far most days recently have had scattered to moderate clouds in the afternoons, but that's in Harare and the valley could well be different - i.e. better or worse!! We'll all keep HOPING.

Eclipse visitors are starting to arrive in Harare. Lusaka airport is expecting over 20 Jumbo jets next Thursday!

I am just completing a project with the Ministry of Education to distribute sufficient solar filter foil (most generously donated from Canada and of excellent quality) to all 6000 schools in Zimbabwe so that they can make over 250 000 low cost viewers = a 23 x 25 mm rectangle of foil stuck over a 16 x 20 mm hole in a piece (10 x 20 cm) of cardboard. IF they get it in time - 6 days (incl one weekend) to go!!

I have also been giving eclipse lectures (about 20 so far) as have several other members of the society.

We have been promised fuel will be available 'for the eclipse' and I filled two cars today, BUT the price went up 70% (yes - seventy!!!!) two days ago, to Z\$76 per litre - and I expect diesel went up similarly. Bye for now.... Francis

From: <Kidinvs@aol.com>

Hi, all ... this is Eric Brown.. I arrived in Harare on Tues AM, and transferred to Vic Falls. So far, the weather is being called very strange by the locals up here. it is 75 day, 45 night. Tues was clear all day, and night in Vic Falls, Wed was clear till 1pm, totally overcast from 3pm until 10am Thurs. It cleared nicely, and the rest of Thurs into Thurs. night is crystal clear, but quite cool. There is a serious fuel shortage in Harare, but no sign of one here in Vic Falls. The Vic Falls Safari Lodge is full, the first time in months. The official US\$/Zim\$ rate is still 58/1, but the black market is paying over 150!!!! IF YOU ARE ON YOUR WAY HERE... BRING HARD CURRENCY... PREFERABLY \$\$\$\$. PLATIC WILL COST YOU dearly!!!!!!!!!!!!, as you will be charged by the bank the official rate, where the real rate will cost you one third the price. Thats it for now. It is wonderful here!

From: F.Podmore <podmore@science.uz.ac.zw> Sent: Saturday, June 16, 2001 4:55 PM

Folowing Eric's comments, the situation (in Harare at least) yesterday and today (who knows about tomorrow) was that there was much more fuel around - I filled both my cars after only a short queue, and friends have reported the same - short (5 cars) or no queues at all. I HOPE it stays that way. WEATHER - today (Saturday) perfectly cloudless all day - in Harare. HOO-RAY! We keep hoping... Francis

From: Eric Pauer <pauer@bit-net.com> To:
Solar Eclipse Mailing List
<solareclipses@aula.com> Sent: Monday,
June 18, 2001 6:16 PM Subject: [SE]
**CNN - Eclipse offers hope for Zimbabwe's
damaged tourist sector**

June 17, 2001 Posted: 11:54 AM EDT (1554 GMT) Eclipse offers hope for Zimbabwe's damaged tourist sector

HARARE, Zimbabwe (Reuters) -- Zimbabwe hopes a solar eclipse this week will help revive an ailing tourism industry hit in the past year by

the country's political crisis.

Complete article: <http://www.cnn.com/2001/WORLD/africa/06/17/zimbabwe.eclipse.reut/index.html>

Eric Pauer - pauer@bit-net.com - <http://www.bit-net.com/~pauer>

From: Olivier "Klipsi" Staiger <olivier.staiger@span.ch> To:
<SOLARECLIPSES@AULA.COM> Sent:
Tuesday, June 05, 2001 9:10 PM Subject:
[SE]

countdown to totality



I leave for Lusaka on Sunday, Jay

isn't this magical ? there we are, all disseminated around the Globe, just like a diaspora, running our lives, but once every year or so we all start moving to the same destination, just like lemmings in Scandinavia, or like the wild geese in autumn, to aim for the place to be, where totality will occur. This is our pilgrimage, this is our horizon. We are being sucked in by the Black Hole.

Tonight is full Moon, the countdown has started. Klipsi

From: Pierre Arpin

My turn will follow on June 13 th from Montreal. Those going to Lusaka will have no difficulty to spot me because I always carry my Quebec flag on eclipse site.

A
F
R
I
C
A

2
0
0
1

From: Nello Soldà <n.solda@eclipse2001.it> To: <SOLARECLIPSES@AULA.COM> Sent: Tuesday, June 12, 2001 8:59 PM Subject: [SE] **Eclipse2001**

Hi, is there anyone who wants reporting daily what happens in Africa so that to create a sort of diary? Regards

From: Olivier "Klipsi" Staiger <olivier.staiger@span.ch>
I will have a report daily starting at <http://eclipse.span.ch/140601.htm> with lots of photos. enjoy !

From: F.Podmore <podmore@science.uz.ac.zw>
As regards 'reporting daily what happens' I think most of us who live/work in Zambia and Zimbabwe, are too busy to compile daily reports - there's just too much going on. If the visitors have email access and the time to report their experiences, that would be very interesting. Francis

From: Olivier "Klipsi" Staiger <olivier.staiger@span.ch>
for daily news from Lusaka you can now follow my daily reports, with lots of images of the sky and more starting at <http://eclipse.span.ch/2001tse.htm> , then click on the dates 14, 15, 16, etc. <http://eclipse.span.ch/140601.htm> and links to following days.

today was perfect skies in Lusaka at 15:10, would have seen it. Had clear dawn,cloudy morning, clearing noon, perfect afternoon., gorgeous sunset. klipsi

From: Eric Pauer <pauer@bit-net.com>
Here's an update on weather prospects for 21 June 2001 for 31 points near in the path of totality, with about 2 days to go:

<http://www.bit-net.com/~pauer/2001summary/>

Angola and the Atlantic Islands (Ascension and St. Helena) will have sunny skies. The weather forecast in Zambia continues to be very promising, with sunny to mostly sunny conditions expected throughout the country. Similarly for Zimbabwe, the forecast continues to be for mostly sunny skies, at worst with only scattered cumulus cloud. In Mozambique they are expecting party sunny skies, a slight improvement. The forecast in Madagascar has improved as well with all locations expecting at least some sun and less windy; best prospects are still along the west coast. Regards, Eric

From: Eric Pauer <pauer@bit-net.com>

Here's an update on weather prospects for 20 June 2001 for 31 points in/near the path of totality, with less than 24 hours to go:

<http://www.bit-net.com/~pauer/2001summary/>

Angola and the Atlantic Islands (Ascension and St. Helena) will have sunny to mostly sunny skies. The weather forecast in Zambia continues to be promising, although the forecasts are now for a mix of sun and clouds throughout the country. Zimbabwe forecasts are better than in Zambia, with sunny skies expected for the path of totality. In Mozambique, the forecast is calling for sunny to mostly sunny skies, with a few clouds in the coastal locations. The forecast for the west coast of Madagascar is looking somewhat promising, with periods of cloud and sun, although the eclipse will be at a low angle, highly vulnerable to cloud problems. Farafangana is calling for rain. The Indian Ocean islands will have partly sunny skies for the partial eclipse.

I wish all eclipse chasers the best of luck in finding clear skies! Regards, Eric

From: <jmp@williams.edu>

Lusaka, Zambia, Wednesday Bob Yen contacted the chief weather person in Zambia a few days ago, and this person, Lt. Col. Davies Ngambi, came to see me today with the report. His forecast is for perfect weather all across Zambia tomorrow. He says that any deviation from that would be caused by the eclipse.

My own group is set up with part at the InterContinental Hotel and part at the University of Zambia, and everything is working for our set of experiments. www.williams.edu/astronomy/eclipse01.

Many groups came into the hotel today, including Virginia Roth's and Sky & Telescope's. Jay Pasachoff

A
F
R
I
C
A

2
0
0
1

From: John Leppert <johnleppert@peoplepc.com> To: <SOLARECLIPSES@AULA.COM> Sent: Saturday, June 02, 2001 8:48 PM Subject: [SE]

Eclipse film preferences?

Friends, Although the subject of "my favorite film for an eclipse" (or variations thereof) has been dealt with over the past year, I for one would like to get some response on the subject before I head out and make some film purchases. I'm interested in 35 mm choices, and I'd be curious to hear about both print and slide color film (I've had some experience filming them --- '79, '94, and '98 were successes, while '91 was clouded out and '99 was a dark drenching loss). John Leppert Bismarck ND

From: Cees Bassa <c.g.bassa@phys.uu.nl>

Hoi John, I had the same problem with the 1999 total eclipse. I just picked one and the results were much better than I could ever have hoped for. I used Fujichrome Velvia 50 just once for th eclipse and I was extremely pleased with it. I probably will use it this eclipse too. I cannot give you any comparisons because I only have used this film, but there can of course be better films.

You can see my eclipse and other images at: <http://www.astro.uu.nl/~bassa/> Regards and Success on June 21, Cees Bassa

From: Pierre Arpin

A Fujichrome Provia (iso 100) is my choice. The corona colors match closely the natural apparence contrary of the Kodak Ektachrome that give a greenish apparence to the corona.

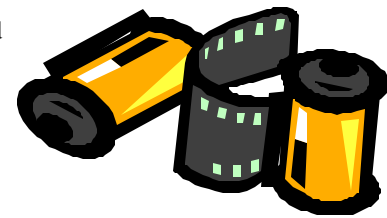
I've found an empiric rule for exposures during partial phases, diamond ring and inner corona.

$$\text{Exposure ime} = \frac{1}{2.5 \times \text{ISO speed}}$$

Then for an ISO 100 film a 1/250 sec exposure will give good results for partial stages, diamond ring and inner corona.

From: Assoc Prof J R Huddle <huddle@usna.edu>

But please "bracket" your exposures, that is, take shots both longer in exposure and shorter, just to make sure. Compared to the cost of a trip to Africa, film is cheap.
Jim Huddle



From: Olivier "Klipsi" Staiger

> A Fujichrome Provia (iso 100) is my choice.

excellent film. try to find the new Provia 100f (f for finegrain) , this 100 ASA slide film is as fine grain as a competitor's 25 ASA slide film . It is said to be the finest grain slide film on the planet now, even beating the Fuji Velvia.

From: <JohnLX200@aol.com>

John, In 1998, I used Kodak Ektar/Royal Gold (same thing) ISO 25 print film for the contacts, and Royal Gold 100 for totality. In hindsight, the added resolution of the 25 versus the already super-sharp 100 (over 100 line pairs/mm resolution) was a waste, even with a high-end camera lens.

So for starters, don't use anything slower than ISO 100. (Ouch, I can feel the arrows already hitting me for saying that!) Maybe if you're using something like a TV101 or A-P Traveler without a Barlow, and are on a seriously stable, driven equatorial mount, then go with slower film.

(Continued on page 27)

A
F
R
I
C
A

2
0
0
1

(Continued from page 26)

This year I'll be using (a camcorder) and two film cameras. First, Kodak Supra 400 with either a TV85 or Traveler, with 2x Barlow. So around 1200mm at either f/14 or f/11.6 on Supra 400 color negative. The second camera will have Kodak TMZ 3200 black and white with a 300mm f/2.8 lens, or possibly a slower b&w film if I change my mind.

The slide vs. negative debate is a separate issue, but I have used negative film for 99% of my color work since switching from slides around 1974, and have absolutely no regrets. John Hopper

From: Mick Wolf

Pierre, may I point out to you that your equation does not specify the F number. Mick.

From: Alessandro Pieri <a.pieri@eclipse2001.it>

Find out more info at: <http://www.zambia2001.com/index.php?tipo=A&id=14> Regards, Alessandro

From: Pierre Arpin <parpin@hotmail.com>

>may I point out to you that your equation does not specify the F number.

I assumed that the pictures are taken on your telescope prime focus. A f/10 SCT (C5+ in my case) works nicely. Pierre "IQ89" Arpin

From: Cliff Turk <cliffturk@yebo.co.za>

This also depends on the density of your solar filter. In my case I use two layers of aluminised Mylar (giving a blue image) PLUS an orange filter which makes the partial phases look more natural. I shall have to increase the rule of thumb exposure time - or the aperture to f 8. Cliff Turk

From: Scott <hdemann@yahoo.com>

Hello All, It looks like I am going to be making my own binoculars filter for the eclipse.

Does anyone have recommendations on how to do this?

From: Dale Ireland <direland@drdale.com>

get some Baader solar filter film from Astro-Physics and put it on with a rubber band and tape or they have directions on their site for construction filter holders out of cardboard and glue. http://www.astro-physics.com/products/accessories/solar_acc/make_sol.htm A pair of mylar solar filter glasses might have enough mylar for the job. Dale

From: Prem Karsan <premkar@netscape.net> To: <eclipse@hydra.carleton.ca> Sent: Tuesday, June 19, 2001 5:49 PM Subject: [eclipse]

Solar eclipse in kenya

eclipse@hydra.carleton.ca Does any one have the exact local time when the eclipse will start & end, in Nairobi Kenya (E. A)the location is 1.19 degree south 36.49degree east and are we going to see the totality or not i would appreciate a reply. Thanks, Premkar

From: Eric Pauer <pauer@bit-net.com>

Circumstances for Nairobi, Kenya

1st contact 12:15:21.5 UT

Max 13:25:23.1 UT 52.4% magnitude

4th contact 14:26:20.2 UT

You will not see totality unfortunately! Regards, Eric

From: Odille Esmonde-Morgan <analog6@ozemail.com.au> To: <SOLARECLIPSES@AULA.COM> Sent: Tuesday, June 19, 2001 2:28 PM Subject: [SE] **ECLIPSE TIME**

Dear Folk, Can one of you geniuses email me personally so I know what time to start watching the eclipse from home in Canberra on the webcam? Canberra is the same time zone as Sydney (Australian Eastern Standard Time) I think 10+ on UT. Does this mean I am watching on the 22nd of June or what? It always confuses me. Sorry to be such a dummy, but some advice would be appreciated. Thanks, Odille Esmonde-Morgan

From: Ted Saker Jr. <ted@saker-law.com>

I think totality in your time zone would be about 7:00 PM.

From: Ted Saker Jr. <ted@saker-law.com>

Whoops. I miscalculated. It would be around 11 PM AEST.

From: Eric Pauer <pauer@bit-net.com>

For webcasts starting 21 June, 2 pm Zambia time (UT + 2 hours), you need to start watching on 21 June, 10 pm (UT + 10) Sydney time. In the eastern USA (UT - 4), it will be 8 am on 21 June. Some webcasts start at noon in Zambia, so you would need to start watching at 8 pm local time in that case. FYI, a list of live eclipse webcasts can be found at:

<http://www.bit-net.com/~pauer/eclipse01/> Regards, Eric

From: Joseph Cali

Odille, Partial eclipse begins at 1339 local time add 8 hours = 2139hrs CANberra time. See you when I get back. Weather is looking great. Joe

A
F
R
I
C
A

2
0
0
1

From: Lattanzi, M. <m.lattanzi@unesco.org> To: <SOLARECLIPSES@AULA.COM> Sent: Saturday, June 02, 2001 12:56 PM Subject: [SE]

Exposure time for Videotaping

Dear All, Is anyone in a position to provide a suitable basic exposure time for a DV camera put behind a 90mm telescope with a FEQ of some 1600mm (f/16) ? I have tried my setup on the full moon, in the hypothesis it has the same brightness of the solar corona. The most suitable shutter speeds seem to range between 1/300" and 1/600" (actually 1/425"). I am interested in recording the very inner corona (and prominences). Any light from anybody? Thank you in advance! Max

From: <B0802Alex@aol.com>

Dear Max, if videotaping is your main photographing thing during the eclipse, i would prefer to use the complete bandwidth the shutter can provide.

As an example : My Sony TRV-57 is fitted only with a graphic symbol for the shutter-speed in the viewfinder. The Speed can be changed by a small wheel, just up or down. While totality, I'm not interested in exposure times; but to capture the complete range it is enough to zap trough all exposure times as easy as possible. Please tell me which is your DV modell. Best regards, Alexander

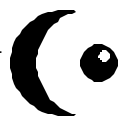
From: <Jay.M.Pasachoff@williams.edu>

My experience in videotaping at the 1999 eclipse is that the change of exposure in the middle that we did is annoying to watch, and that the longer exposure was better for the corona, since it showed more of it.

So I recommend leaving the shutter at its longest speed during the eclipse totality. And the edge of the solar disk through a solar filter is fainter than the center of the disk, so you want the longer exposure as the crescent wanes, too. The main important thing is to have the automatic focusing off, and just having the focus set for infinity. And take the solar filter off in time to get the fading of the diamond ring. Jay Pasachoff

From: Gerard M Foley <gfoley@columbus.rr.com>

The quarter moon is readily visible in a cloudless sky, so it is many times as bright as the corona. The full moon is even brighter, so it is not a suitable test object for this purpose. Gerry K8EF



From: <JohnLX200@aol.com>

Gerry, The sunlit moon wouldn't be visible in daylight if it were 0.01 degrees from the edge of the sun any more than the corona is. I think you'll be surprised how bright the inner corona is, and how long you will still be able to see it after totality is over. Part of the reason certain phases of the moon are easier to see in daylight is the polarization phase darkening the sky at certain angles from the sun. You don't get that benefit

for the corona. But anyway.....using the moon, full or otherwise, as a starting point to vary your exposure from, is a good idea, as the coronal brightness rapidly drops off with radius from the sun. Just as a wide range of exposures show you different things on the terminator of the moon, so will a wide range of exposures show you different things in the corona. Another reasonable facsimile of the corona's brightness is the filtered sun, which for most commercial filters brings it to around the level of the unfiltered moon, or maybe a bit brighter. I'll have my DCR-TRV10 camcorder in manual exposure mode, clamped to a 26mm Meade Super Plossl on a Meade ETX90 (focal length 1250mm, probably plus a Barlow) trying to go for detail at the contacts and in the inner corona and (hopefully) chromosphere and prominences. I'm hoping the sport (fast) shutter speed will work best, but will be ready to change to other shutter modes quickly if required. In whatever mode, I'll be sure to run the brightness thumb-wheel through its full range in hopes of getting a perfect frame or two captured on tape.

If you're using the afocal method through an eyepiece like me, you'll find that you'd better have the camcorder very well centered on the eyepiece. You'll also find that certain exposure settings will cause vignetting or other bad effects, including ones related to the "diamond" parallelogram shape of the iris. By choosing a fast (sport mode) shutter, you might have a better chance of a wide iris opening being optimal, and avoiding these problems. John

From: Grant Leffingwell <leffingwell.6@osu.edu>

I agree that the longer (videocamera) shutter exposures show more corona, but one thing that I did back in Augsburg ('99) was to speed up the exposures right before 3rd contact. The short exposures allowed a magnificent video capture of the diamond ring--something that would have been completely lost had I not altered the speed during filming. To me, the sudden "change" in the appearance of the corona on the video is worth the money shot afterwards. (More like the corona briefly disappears, actually...) This also allows you to keep the camera focused on the Sun a bit longer, even if just for a few seconds.

Also, I'll second the suggestion to make sure you turn the 'autofocus' off. I turned it off about 10 minutes before totality so the video would closely show the dimming effect that was apparent to the observers as totality approached. Otherwise, the camera will adjust by itself and this feature of the eclipse will not be represented very well. --Grant Leffingwell

From: Gerard M Foley <gfoley@columbus.rr.com>

For some examples of what happened with Ektachrome 64 film at f8 and exposures of 1 to 1/100 second, during a TSE, see <http://members.nbci.com/gerryf.1/eclipse.html> This may be a guide to what to do with other cameras. Good Luck and Good Skies, everyone! Gerry K8EF

A
F
R
I
C
A

2
0
0
1

From: F.Podmore <podmore@science.uz.ac.zw> To: <solareclipses@aula.com> Sent: Wednesday, June 06, 2001 5:31 PM Subject: [SE]

Making a camera filter

Before all you experts leave home base PLEASE HELP with some advice.

For photographing the eclipse, people here say "Where can I get pieces of filter material large enough to cover the camera lens?" (up to 6 inches in one case)

I say "You are trying to reduce light levels, so why not make a cardboard mask to cover your lens, cur a hole in it about the size of the filter from a normal eclipse viewer (or two side by side) and stick it (them) firmly over the hole. Then test your combination with a variety of apertures and shutter speeds now, on the normal Sun."

Am I correct that you don't need large pieces of mylar or whatever?

It would certainly help folk here take some half way decent pictures.

[If so, then what is the point of large camera objectives?]

WEATHER - After a string of Beautiful cloudfree days, today it's gone c****y :(() Bye, Francis

From: B Yen <byen00@earthlink.net>

I'm thinking of making a bunch of solar-filters for handouts. That thermal blanket they sell (looks like mylar), is it safe? Somewhere I recall, it wasn't. B Yen

From: Evan Zucker <ez@MrTotality.com>

No, it's not safe. The only Mylar that is safe to view the sun through is Mylar that is specifically for optical solar viewing. Evan H. Zucker

From: Assoc Prof J R Huddle <huddle@usna.edu>

Certainly, less-than-whole-aperture solar filters can be used, and have been used. Of course, since you are reducing the aperture of your objective, you will degrade the resolution of the optical system. But it may be that the resolution that you get with a partial aperture filter is good enough. I encourage you to do the experiment: Make a partial aperture solar filter, put it on the scope, and look and see if you can see sunspots. I doubt that you'll need much more resolution than that, unless you are going for high-resolution photographs of Baily's beads and/or prominences.

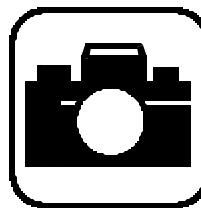
A 3.5 inch Questar telescope that has been in use in my department for more than 30 years came with an off-axis solar filter that only covers approximately 1/4 or 1/3 (I can't get to it today) of the objective lens. But even with this solar filter, the resolution is sufficient to see sunspots. We used it for visual observations of the long eclipse in 1991, and it worked just fine.

What an eclipse that was: Huge, dramatic streamers, delicate coronal brushes, that fine seahorse-shaped prominence, the pelicans settling down on the water 15 minutes before totality. What will it be like THIS time? Best wishes for cryatal-clear skies, Jim Huddle

From: Richard Bareford <bareford@yahoo.com>

You might want to review the material at,

<http://www.mreclipse.com/Totality/TotalityCh12-1.html#Index>



(Continued on page 30)

A
F
R
I
C
A

2
0
0
1

It provides solar eclipse photography information in some depth.

One point made here is that full aperture filters are advantageous because there is little focus correction necessary when you remove them for totality exposures. This is a particular problem with catadioptric scopes.

But, here's what Thousand Oaks Optical says:

<http://www.thousandoaksoptical.com/solar.html>

IS FULL APERTURE BETTER THAN OFF-AXIS (REDUCED APERTURE)? For telescopes up to 5" aperture, off-axis is not an advantage. However, larger apertures suffer more from daytime atmospheric turbulence. This turbulence is magnified by the aperture. Perfect daytime "seeing" only occurs about 1% of the time. Off-axis increases the focal length and reduces the turbulent effects. As a rule of thumb, order off-axis if your telescope has a focal ratio f/7 or lower in the 6" to 8" aperture range, or if it's larger than 8" aperture. The solar image is not darker with reduced aperture as we allow for this in the coating density. When viewing through the eyepiece, the field of view is not reduced; it looks the same as full aperture. Reduced center aperture is used for refractors. If full aperture is still preferred, it can be stopped down using a simple mask as conditions dictate.

..and of course, off axis is cheaper per given aperture. Clear skies! Richard Bareford

From: Vic & Jen Winter, ICSTARS Inc. <icstars@icstars.com>
>That thermal blanket they sell (looks like mylar), is it safe?

Altogether, now.... "NO!"

If you want a safe material to cut and use for hand-outs, there may still be time to buy some of the Baader Planetarium Solar film. It's safe and comparatively very inexpensive. It also works great over the end of your camera or camcorder or whatever. You can cut out the bottom of a paper cup or an oatmeal box - or whatever fits your lens and cover the opening with Baader film. The material is much higher quality than solar film of the past with a much better color and resolving detail. Clear Skies, jen

From: Assoc Prof J R Huddle <huddle@usna.edu>
To: <SOLARECLIPSES@AULA.COM>



Scott wrote asking how to make a solar filter for his binox. You can use similar techniques as for making filters for scopes.

The EASIEST thing to do is to cut the temples ("earpieces") off a pair of solar eclipse glasses. Then, tape the "lenses" of the eclipse glasses to your binocular objectives using black electrician's tape. Make VERY sure there is no place for light to sneak into your binox around the filter. Not the best solution, not very elegant, but a nice one to remember when someone comes up to you 15 minutes before first contact and asks for your help. I have cut the glasses in half to make a solar filters for a cameras, as well.

If you don't like my "easiest" method, you will need to buy solar filter material. As Evan Zucker has pointed out, "space blankets" are not safe, and neither are aluminized potato-chip bags. The aluminum coating is not thick enough. Get the right stuff; it is not very expensive. Try Rainbow Symphony's Black Polymer (www.rainbowsymphony.com, although I didn't see the bulk material listed on their web site, so you may have to give them a call at (818) 708-8400.) An alternative is the newer "AstroSolar" material from the Baader Planetarium. In the USA, you can get it from Astro-Physics, Inc. (<http://www.astro-physics.com/>, then click on "Products", "Accessories", and "Solar Accessories" and finally on "AstroSolar™ Filter Material from Baader Planetarium"). I like the Black Polymer because it is easy to work with, and I like the yellow- orange color of the sun you see through it. AstroSolar is thinner, and therefore little more difficult to work with, but some people prefer the color of the sun, which is a bit more of a peach color, in my opinion. There was a review of several materials in Sky & 'Scope not long ago.

Once you have the material, you can follow the instructions given on the Astro-Physics web site, or else you can make a

(Continued on page 31)

A
F
R
I
C
A

2
0
0
1

(Continued from page 30)

frame using foam-core poster board, and just tape the filter material to the frame: Cut a rectangular piece of poster board somewhat larger than your binox. Put this frame on the table and hold your binocular objectives down on the frame. Trace with a pencil, and cut a hole in the frame so that it will slip over the objectives tightly enough that it won't fall off in a breeze, but not so tight that you ruin it when you remove the filter. You may not get a perfect frame the first time. Use a good, sharp knife (X-acto or equivalent). Once you're happy with the frame, cut a piece of filter material and tape it to the frame. Again, use a sharp blade, and tape it down well enough that it won't blow off, and make sure no light can sneak in around the edges. Now, go look for sunspots.

Some things to remember:

1. If you use the Baader AstroSolar material or aluminized mylar, it does not have to be perfectly smooth. Do the best you can without stretching the material. A few small wrinkles will not hurt the image. This is hard to believe, but true.
2. The filter has to go over the OBJECTIVES, not the eyepieces. Think of it this way: Light must pass through the filter first, before it enters into your optical system. This is true of all solar filters, for binoculars, for telescopes, and for cameras. If you have a filter that screws into an eyepiece, you should not use it: Heat from the focussed rays of the sun can crack or melt the filter and send a blast of light directly onto your retina. Also, you don't want direct sunlight heating up the insides of your optical instrument because it can create currents that degrade the image. Finally, if your instrument has compound lenses (most achromatic lenses are compound) the heat can cook the glue that holds the lens elements together and ruin the lens.
3. A little dirt on a filter will not degrade the image, but a scratch can render a filter unsafe, so think twice before you clean a filter.
4. Finally, in answer to Francis Podmore's recent question about partial-aperture filters, the Astro-Physics site says:

"When covering a larger Newtonian or Schmidt-Cassegrain Telescope for solar observation, it may be that "Less is More"! Do not try to make a filter as large as the telescope aperture. The bigger aperture will be greatly affected by air turbulence, which can ruin fine detail. We suggest that you produce an off-axis filter cell, to observe the sun with a smaller (but much improved) telescope." Jim Huddle

From: <Jay.M.Pasachoff@williams.edu>

When I was in Zambia, Prof. Mweene of the Physics Department of the University and I figured out and tested that only about 5 mm square of aluminized Mylar is needed to make a solar filter, if it is mounted to cover a hole in a piece of paper. (You can make such a hole easily by folding a paper in half and then in half again, and cutting off the corner diagonally.)

Thus in the 0.5 m x 1 m piece of material from the Baader Planetarium, one can have 100 x 200 filters, = 20,000 filters. Since one piece of that material costs about \$80.00, you can make filters for less than a penny apiece. You just have to hold them up close to one of your eyes.

Even from a single pair of eclipse glasses, one could make a dozen filters. I don't like the format of glasses, anyway, since people could be tempted to wear them for a long time and I always recommend that nobody stare at the sun ever, except during totality.

In my role as Chair of the Working Group on Eclipses of the International Astronomical Union, I concluded that this cost saving could be very important for the locals in Zambia and elsewhere in Africa. Jay Pasachoff

From: Olivier "Klipsi" Staiger <olivier.staiger@span.ch>

... and also I want to repeat, that if you don't have a filter, you don't have to have one just for yourself. One filter can be handed over to a group from one person to another, to look for 5 seconds, then next person etc.

and, if no filter is available, it is not that much of a problem, because the filter is only needed for the partial eclipse and the partial eclipse is NOTHING compared to the total eclipse.

(Continued on page 32)

A
F
R
I
C
A

2
0
0
1

(Continued from page 31)

so if you are there without a filter, just be patient. Don't look at the sun, wait till it gets dark, really dark, then you can look at the sun without filter, and then and only then you realize you didn't really need a filter, cause what you want to see cannot be seen with filter.

pinhole, projection, crescents under the trees, sharpening shadows, there is lots you can do in the 1.5 hours from 1st contact to totality. And there will be lots of other folks around, some with filters, who can share.

From: Jörg Schoppmeyer <schoppy@kwsoft.de>

>Thus in the 0.5 m x 1 m piece of material from the Baader Planetarium, one can have 100 x 200 filters, = 20,000 filters. Since one piece of that material costs about \$80.00, you can make filters for less than a penny apiece. You just have to hold them up close to one of your eyes.

That's expensive, here in Germany we pay only 125 Deutschmarks, that's around \$55. Joerg

From: Manfred Rudolf <mrudolf@epo.org>

An illustrated instruction how to make a lightweight filter cell for camera lenses or telescopes using mylar or Baader film can be found at:

<http://astrovid.com/Baader%20Filter%20Cell%20Instructions.htm> only 2 weeks to go... ;-)) manfred

From: Cliff Turk <cliffturk@yebo.co.za>

That's still expensive. Here in South Africa I call on packaging people and get the end of a roll of aluminised Mylar for nothing. The roll is 700 mm wide and the scrap length has varied between 26 metres and 600 metres!!! At the price I find it very reasonable.

I know it may not be the very best quality, but I always use it double to avoid possible pinholes. I also know a blue image does not look so good, but with my cameras I use an orange filter which gives a very satisfactory result. I tried triple thickness over the object glasses of 7 x 50 binoculars and could not see the Sun at all, so I cut down to double layers held on with strong elastic bands.

After four eclipses, I am happy that this is satisfactory. Cliff Turk

From: <Jay.M.Pasachoff@williams.edu>

Francis-- The answer to people is that they shouldn't bother taking photos during the partial eclipse. During the total eclipse phase, they don't need any filter at all. In particular, an image of the ordinary solar disk for a 500 mm lens is about 1 cm across, so an ordinary 50 mm lens gives an image only about 1 mm across and isn't worth taking. If all you have is a 50 mm lens, then it is best during totality to photograph something in the foreground in addition to the eclipse in the background. Eclipse images look good when centered only for telephotos above about 300 mm. Jay Pasachoff

From: Mick Wolf <mickwolf@picknowl.com.au>

Sorry to correct you, but the image of the sun is about 1/100 of the focal length --Mick...

From: Richard Bareford <bareford@yahoo.com>

Actually, the formula for image size is:

$\tan A \times \text{focal length}$,

where "A" equals the apparent solar or lunar diameter in degrees of arc.

For 21 June the solar diameter will be .52459 degree, and the lunar diameter will be .54316 degree. This gives focal length to image size ratios of 109.2175 and 105.4828, respectively. Richard Bareford

From: Assoc Prof J R Huddle <huddle@usna.edu>

This SHOULD be OK, but I would be very reluctant to give anyone a material that has not been tested for percent transmission in the UV and IR. I believe that an experienced sun-watcher can tell pretty well if the transmission coefficient is OK

(Continued on page 33)

A
F
R
I
C
A

2
0
0
1

for visible light, but since your eyes don't respond to UV or IR, you need a machine to measure the transmission for those wavelengths. Certainly, mylar is mylar and aluminum is aluminum, and one would expect that if the aluminum is thick enough to absorb enough visible light to make it comfortable to look at the sun, then it should also be thick enough to protect your eyes from the UV and IR. But do you know for sure? You may be willing to take a chance on your own vision, but are you willing to risk the vision of someone else? I say use the right stuff. Jim Huddle

From: Assoc Prof J R Huddle <huddle@usna.edu>

This confused me, so it may confuse someone else, too. What Richard has said, if you read it more carefully than I did the first time, is that

Dia of object on 35-mm film = (focal length)/tan (A)

so that, for this eclipse:

Dia of Sun's image on film = (focal length)/(109.2)

Dia of Moon's image on film = (focal length)/(105.5)

I note further that the sun formula is correct to a good approximation for all eclipses, but may not be correct for cameras other than standard 35 mm. The moon's angular diameter changes more than that of the sun, so that for other eclipses, you need to find the moon's angular diameter from

Apparent lunar diameter in degrees = (diameter/distance)* (180/pi)

The moon's diameter is 3476 km, but you have to look up its distance for each eclipse. Jim Huddle

From: Richard Bareford <bareford@yahoo.com>

One correction:

(fl)*(tan A) does not equal (fl)/(tan A);

it does equal (fl)/(1/tan A).

And (1/tan A) is the focal length to image size ratio.

Incidentally, it doesn't matter what size film you have or whether or not you're even using a lens. It's just how the tangent function operates. Arguably there is no more impressive example of this relationship than on the floor of the Basilica of San Petronio in Bologna, Italy, where Cassini's great meridian line still draws a respectable crowd at local noon. As the year progresses, the varying dimensions

of the solar image projected from the gnomon high in the ceiling onto the north/south line are a vivid demonstration of this trigonometric principle. Richard Bareford

From: Jean-Paul Godard <jean-paul.godard@noos.fr>

Another correction: ;-))

> (fl)*(tan A) does not equal (fl)/(tan A);

> it does equal (fl)/(1/tan A).

Except if A = Pi/4 or A= 45°

Please don't flame...I could'nt resist

From: Richard Bareford <bareford@yahoo.com>

Now let's see, if the solar diameter were 45 degrees, there'd be flames indeed. Brûlé comme du charbon, pas vrai? ;-) Richard Bareford



From: Mick Wolf
<mickwolf@picknowl.com.au>

Over the years I used aluminium coated glass filters with very good success. During the last 3 eclipses I used 1000 Oaks filter with same result.

For visual observation of partial stages Mylar could be used, but with caution. Single layer is not dense enough (D2.5-3.0) and has too many pinholes, 2 sheets are just about right. The Mylar should not be placed too close to the eye - the pinholes can transmit a lot of radiation through.

As regard UV and IR they attenuate more or same as visual (flat response from visual to several microns in the IR. So it is quite safe to worry only about the density in the visible-D5 -D6 which would be quite comfortable even for long periods. I hope you all will have good viewing of the eclipse. Mick

A
F
R
I
C
A

2
0
0
1

From: Jörg Schoppmeyer <schoppy@kwsoft.de> To: 'Solareclipses (E-mail) <solareclipses@Aula.com> Sent: Monday, June 04, 2001 10:02 AM Subject: [SE]

Trip to Lusaka/How to go to the central Line...

I will start my journey (totally on my own) on the 17th from Amsterdam to Lusaka (via Nairobi) with KLM (Flight No KL4341). Maybe somebody here in the group is also in that plane ? In Lusaka I will stay in the Taj Pamodzi Hotel. The journey was really expensive enough, so maybe I found somebody to share a taxi to the Hotels ??

Of course it is possible to watch the eclipse from Lusaka, but I like to go to the central line and I think there will be a lot of groups in Lusaka going to the central line. So maybe I can participate in such a group ? Have a nice trip....
Joerg

From: Bengt Alfredsson <benque@telia.com>
Travelling to the central line...

I will be in Lusaka 19-26/6, staying at ZASTI near the airport, and it would be nice to hear from others.... I planning to go to the central line (Kamilonga ?) for the eclipse.

I guess there will be a lot of groups, people taking a day trip from Lusaka to the central line.

Please send me a note if I can participate in any group, bus, car ?

and please send any tips on other day(s) trip solutions, can't stay all days, near the airport :-). Clear skies to all.
Bengt Alfredsson

From: Eric Pauer <pauer@bit-net.com>
If anyone is going to Lusaka, Zambia, and is looking for a place on the centerline to watch the eclipse, you might want to contact Marc Neilson (CC'ed here and contact info below). Sounds like a good opportunity for eclipsechasers arriving in Lusaka who don't yet have definite plans for a site to watch the eclipse. Eric

From: Patrick Poitevin
<patrick_poitevin@hotmail.com> To: SE Mailing List <SOLARECLIPSES@AULA.COM>
Sent: Tuesday, June 05, 2001 10:13 PM Subject: [SE]

Just to remember

Dear All, Just to remember:

Keep the messages solar eclipse related!

and ... no goodbye messages either please.

and...

Send your reports to the SEML and if you have pictures or files, send them to joanne_edmonds@hotmail.com There will be special SENL edition for this eclipse. Best regards,
Patrick

From: Chris O'Byrne <obyrne@iol.ie>

A suggestion - how about a graph of the number of subscribers to SEML for the few weeks surrounding the eclipse? I'm guessing that it will resemble the graph of the ambient light level at the eclipse itself! :) Chris.

From: Dave Balch <Dave@DaveBalch.com> To: Solar Eclipse Listserv <SOLARECLIPSES@aula.com> Sent: Saturday, June 02, 2001 2:45 AM Subject: [SE]

New tripod advice

It's time for a new tripod to take to Africa. Any advice or suggestions? It will be for video only. It needs to be lightweight and should probably have a fluid head (or whatever the term is!)... what should I get?

From: David Makepeace

Real fluid heads are very delicate items only found on professional video tripods and they are decidedly NOT lightweight. "Fluid" refers to the smoothness with which you can complete tilt and pan combinations with this head. If your main intent is to have a steady shot for totality, go and buy one of the small, aluminum, consumer video tripods, like a Velbon, that retail for under a hundred dollars and collapse into packing size. This will easily provide for a steady shot, and with some practice, give you reasonably good tilts and pans. Good Luck on the day! David Makepeace

A
F
R
I
C
A

2
0
0
1

From: Michael Gill <eclipsechaser@yahoo.com> To: <SOLARECLIPSES@AULA.COM> Sent: Saturday, June 02, 2001 7:16 PM Subject: [SE]

Internet Connection From Africa

An appeal for assistance:

Normally, sitting at a PC with a fast Internet connection, one can quickly check the usual solar activity websites (SOHO, TRACE, Spaceweather etc.).

However, in Africa, where Internet connection may be troublesome, with slower transfer rates via expensive satellite phones, trawling round the usual websites could be a time-consuming process.

I wonder if I could ask a favour from someone who will not be going to Africa for the June 21st eclipse?

Would it be possible for somebody to post a summary of solar activity (position angle of prominences, CME activity) onto a text web page (no images or animations) that could be bookmarked and quickly referred to during the countdown to the eclipse? This might be useful for alerting eclipse-chasers without access to a H-alpha telescope to the presence of some mega-prominence on the solar limb, direction of coronal streamers or other eclipse-related phenomena in advance.

Does such a page already exist and if so, what is the URL?

Thanks in anticipation for any help provided. Michael Gill.

From: <JohnLX200@aol.com>

A great idea. I'd recommend that they include a sentence or two giving a clear definition of position angle as they are using it. For instance, whether 0 is referenced to solar north, celestial north, or the zenithal direction at a particular viewing site. Plus of course, whether the numbers increase clockwise or counterclockwise.

Due to delays in delivery from Coronado of their new 40mm h-alpha filter, pushed to late June from early June, I'll be clueless unless someone else on the safari has one.

Another worthwhile addition would be weather reports and forecasts along the track. My own last chance for web access will likely be June 15 in Cape Town, so it's unlikely that any of this will help me! Our guides will be in radio contact (with whom, they didn't say!) so hopefully they will know if there is a weather problem.

I hope to see a few of you near the centerline in Kafue Park! If anyone has found any information about reasonably-priced satellite phones, cellphones or pagers which might work there, please do share that info!

Today I got back our passports with \$65 double-entry visas for Zimbabwe. Total time: 9 days despite overnight Express Mail in both directions. No problems at all with getting them. However, not enough time left to risk sending mine to the Zambian embassy. Thirteen year olds don't need one for Zambia, but did for Zimbabwe. At least my safari operator has me listed on a passenger manifest for the border crossing at Victoria Falls, likely to be free or at least very easy.

Feverishly Preparing, John Hopper

From: Eric Pauer <pauer@bit-net.com>

If this would helpful to a number of 2001 eclipse seekers, I'd be willing to do this and make a daily updates since I will not be traveling to the eclipse and I have high speed internet access.

I could put together a page that summarizes solar activity. I would certainly consult the SOHO page: <http://sohowww.nascom.nasa.gov/data/realtime-update.html>

If I get a bit of guidance on which images to look at and what to look for, and weather sites to consult, I'd be glad to help out. Here's a "rough" prototype page of what I could do:

<http://www.bit-net.com/~pauer/2001summary>

(Continued on page 36)

A
F
R
I
C
A

2
0
0
1

It's about 2Kbytes, small enough for even the slowest connection. Eric

From: Bill Kramer <bill@autocode.com>

I've prepared a page of links for getting some information while in the field from what ever Internet connection I can get my hands on. If any one has other links to add to the list already started, please let me know! My idea was to build a page of links useful to those in the field as well as those left behind, but joining us in spirit.

Links at: <http://www.eclipse-chasers.com/e2001.htm>

The links I've included thus far include weather, live web cams, eclipse detail references, and current solar pages of interest from SOHO to the Hi-Res H-alpha network to coronagraphs.

I'd like to find better weather and satellite links if anyone knows of any good ones. -Bill Kramer

From: Alejandra León <leonale@racsa.co.cr> To: <SOLARECLIPSES@AULA.COM> Sent: Sunday, June 03, 2001 2:49 AM Subject: [SE]

Live Web Casts/ Sites in Spanish??

Hi! Here in Costa Rica, for the eclipse-non-chasers we are organizing an event to view the Live Web Cast from the Exploratorium and NASA as a major local multimedia event.

We are aware of the other live Web Cast at High Moon - by Oliver Staiger and we will include that in our list of recommendations for the event (there will be computers on line too) and in our press releases to foster general interest and individual viewing throughout the country.

But we need web sites in Spanish to recommend. If anyone knows about a Live Web Cast in Spanish we would love to know. Language can be a great barrier for general public.

Thank you in advance for any help. Alejandra León Castellá

From: Eric Pauer <pauer@bit-net.com>

I have created a webpage containing links to a half dozen or so live webcasts planned for the 21 Jun 2001 total solar eclipse. The page can be found at:

<http://www.bit-net.com/~pauer/eclipse01>

Please email me if you know of any others planned. Also, if there are any websites dedicated to the 2001 TSE that I have not included, also let me know and I'll add them to the page. I'll be updating this page right up until eclipse day.

For those journeying to Africa, I wish you a safe trip and crystal clear skies on E-day! Eric

From: Alejandra León <leonale@racsa.co.cr>

Thank you very much for the information. I guess there is not much in Spanish, but we will include these sites and Live Web Casts in English in our press releases.

An image is worth more than a thousand words- so they say. And if the image is in real time, it must be worth millions!!

I want to wish all the travelers a very safe and successful trip. We will be watching for your web casts from Costa Rica. Clear Skies! Alejandra

From: Francisco A. Rodriguez Ramirez <farr@navegalia.com>

Hello all, Alejandra you can see the eclipse Live (Spanish expedition SHELIOS 2001) in <http://www.terra.es/ciencia/expedicionafrica/cronicas/not1.htm>

I will travel to Lusaka the next friday with the Expedition SAROS 2001. You can visit our web in www.astrored.net/eclipse
Regards

A
F
R
I
C
A

2
0
0
1

From: Olivier "Klipsi" Staiger <olivier.staiger@span.ch> To: <SOLARECLIPSES@AULA.COM> Sent: Sunday, June 03, 2001 12:56 PM Subject: [SE]

preparing trip , last minute shopping

Feverishly Preparing, John Hopper

Just like John, many of us will soon fly to Africa. If you do take Malaria precautions, remember to start your Lariam (or whatever medicine you take) one week before you arrive, so that will be soon now, probably this coming week.

Another thought: you might be thinking: oops, I realize I need a pair of sandals and I don't have one. Go shopping before the trip? No. Do something for the local economy: buy your sandals in Africa. Buy T-shirts home for your trip ? No, buy them in Lusaka or Harare .

From: Kidinvs@aol.com

Let me make a suggestion, as well.... I leave this Saturday in order to beat my group there by a few days to make some final arrangements. I assume that for many of you, this is the first time that you will be taking Lariam. If so, begin 10 days rather than 7 days before you arrive in Africa. There is a very small percentage of people (VERY small) that may have ill effects from Lariam. If you happen to be one of those unluckyies, you will be able to switch to another medication, i.e.. Malarone, in time to safely arrive in Africa, and still be protected. Also, when I travel to countries such as the ones we will be in, and know I will meet people that are much less fortunate than we are, I always bring clothing that, rather than lug around for a week all dirty, I simply leave it behind as I wear it.... T-shirts, socks, even under garments will be very much appreciated.... A real treat... leave behind a pair of sneakers!!! I have never been to Lusaka, but have been to Victoria Falls on 2 occasions, and was at the Victoria Falls Safari Lodge, where I will be spending a week with my group. Trust me... none of you will need any fancy clothes. There is no need for anything but jeans, T-shirts, maybe a collared shirt at night, shorts, sneakers, sandals, a bathing suit, and a camera. You may very well have an excellent chance to bring all your old clothing to wear, and leave it all behind! Also, remember, that the daytime temps will probably be around 75-80F, but at night, it may be as cool as 40-45F. Have a GREAT trip.... I am excited... I leave in 1 week!!!!!!! Eric Brown

From: <JohnLX200@aol.com>

Different malaria medications have different instructions, so be sure to follow them. The Malarone I'm taking only needs to be started 1-2 days before reaching the malarious area, then one pill per day until 7 days after getting back to safe areas.

A major reason for traveling light and buying low-tech items locally in Africa, is that you can buy them after the "12kg weigh-in" for your safari, flights, or whatever...and effectively use a greater portion of your weight allowance for equipment, film, batteries, and items you don't want to risk (not) finding locally. For the same reason, I'm bringing relatively concentrated (Permethrin 13.3%) insecticide and diluting it for use as needed. The DEET and sunscreen are of course brought ready for use. The clock is ticking, don't be late! John

From: Marc Weihrauch <marc.weihrauch@student.uni-halle.de> To: Finsternisliste <solareclipses@aula.com> Sent: Friday, June 01, 2001 8:04 PM Subject: [SE]

Magnitude & Obscuration

Dear all, I know many of you are about to leave, but perhaps you can still answer a question:

With the algorithms from "Elements of Solar Eclipses" by Jean Meeus I can calculate the magnitude of an eclipse at a given instant. But how do I find the obscuration? Surely that depends both on magnitude and the relation of the apparent sizes of sun and moon. During annularity it's simple, one circle minus the other. But do you know a formula or algorithm to calculate it generally? Best regards, Marc

From: Peter Tiedt <rigel@stars.co.za>

Marc - The Basic Program below is from the S&T website. I have used it to create an excel spreadsheet, but you may want to port it to VB or something else. Hope you find it useful.

A
F
R
I
C
A

2
0
0
1

If you (or anyone else) want's the spreadsheet, ask off list and I will send.

Put "Mag-Obs" in the subject line and it will autosend from this side.

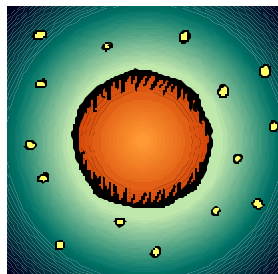
--- snip ---

Basic Program

```
0 REM  OBSCURED FRACTION
12 REM  AT A SOLAR ECLIPSE
14 REM
16 P=3.14159265
18 INPUT "SUN'S SEMIDIAMETER ";S1
20 INPUT "MOON'S SEMIDIAMETER";S2
22 S=S2/S1
24 INPUT "ECLIPSE MAGNITUDE ";M
26 IF M>(S+1)/2 OR M<0 THEN 24
28 REM
30 W=M*2
32 D=1+S-W
34 IF M<1 AND D<>0 THEN 46
36 IF S>=1 THEN F=1: REM TOTAL
38 IF S<1 THEN F=S*S: REM ANNULAR
40 F=F*P
42 GOTO 90
44 REM
46 REM  ANGLE B
48 B1=(D*D+1-S*S)/(2*D)
50 IF B1>1 THEN B1=1
52 IF B1<-1 THEN B1=-1
54 IF B1<>0 THEN 58
56 B=P/2: GOTO 64
58 B=ATN(SQR(1-B1*B1)/B1)
60 IF B1<0 THEN B=B+P
```

```
62 REM
64 REM  ANGLE C
66 C1=(S*S+1-D*D)/(2*S)
68 IF C1>1 THEN C1=1
70 IF C1<-1 THEN C1=-1
72 IF C1<>0 THEN 76
74 C=P/2: GOTO 82
76 C=ATN(SQR(1-C1*C1)/C1)
78 IF C1<0 THEN C=C+P
80 REM
82 REM  ANGLE A
84 A=P-B-C
86 REM
88 F=S*S*A+B-S*SIN(C)
90 PRINT "OBSCURATION: ";F/P
92 END
```

--- end snip --- Peter Tiedt



From: Odille Esmonde-Morgan <analog6@ozemail.com.au> To: <SOLARECLIPSES@AULA.COM>
Sent: Wednesday, June 13, 2001 8:37 AM Subject:

MARS DURING THE ECLIPSE

The piece below was in the Sydney Morning Herald newspaper today. I don't know if Mars will be visible for you all during the eclipse (if it is, it will have been on the list sometime!) but if so, it should be spectacular and maybe worth photographing in a wide angle shot if it and the moon can be fitted together in the frame,.

Just don't tell any doomsayers Mars is at it's closest when we're having an eclipse, please!

From: Carton, WHC <Wil.Carton@corusgroup.com>

Odille, Mars is nearly in opposition now, so it is in the sky only to the night side of the Earth. When you are observing the eclipse, Mars' direction is in the shadow of your head on the ground and you should watch cross through the Earth under your feet.

From: Mike Simmons <msimm@ucla.edu>

Mars is at opposition -- opposite the Sun in the sky -- so it's 180 degrees away from the Sun, and the Moon during the eclipse. It's nice viewing at night, though!

You're right about avoiding the planetary alignment loonies, though. :-) Mike Simmons

From: Govert Schilling <mail@govortschilling.nl>

Alas... Mars is close to Earth this month, which means it is 'at opposition', or just opposite the sun in the sky. So it won't be close to the eclipsed sun at all, and will only be visible at night. --Govert

From: McCann, Stephen <stephen.mccann@roke.co.uk>

Odille, Mars is just past opposition on the 21st June and hence is opposite the sun, crossing the meridian at local midnight.

Since the moon is by definition in front of the eclipsed sun (superior conjunction), Mars and the Moon will not be in the sky at the same time during the eclipse.

However, you guys in Oz, get a partial lunar eclipse on the 5th July 14:55 UT and Mars will be moderately close by, so that will be worth a photograph ! Cheers, Stephen McCann

A
F
R
I
C
A

2
0
0
1

From: Hal Couzens <hal@dneg.com> To: <SOLARECLIPSES@AULA.COM> Sent: Monday, June 04, 2001 5:33 PM Subject: [SE]

More film questions

Hello All, There has been an excellent series of postings in connection with shooting the eclipse on DV and stills film but what about on 16mm (Bolex) and super8mm.

I adore film and my plan originally was to use them to catch 'other' effects rather than the eclipse itself but i can't help wondering...

My lenses are limited, respectively, 75 and 200mm focal lengths at the moment but i am working on that...

Any tips would be greatly appreciated with respect to stock, frame rates, apertures etc... Crystal Skies, Hal

From: Joel M. Moskowitz, M.D. <moskowi@attglobal.net>

Do you have a 400 ft magazine for the Bolex? If so, you can get pro movie film from Kodak. Go for the 500T. Highly sensitive and good grain. BTW, this is neg film, you then have to find pro film developing. Any major city has them. I consider 200mm lens ideal for eclipse 16mm cinematography. I used a Canon 200mm on my Arri 16mm in 1994 in Bolivia. A word of advice. Bring a changing bag for airport security to examine your film, as they have no idea what movie film looks like, and they may want to LOOK. Let them open it in a changing bag (preferably in a dark room just in case), feel the film, and close the box again. Joel M. Moskowitz, M.D.

From: Olivier "Klipsi" Staiger <olivier.staiger@span.ch> To: <SOLARECLIPSES@AULA.COM> Sent: Friday, June 08, 2001 6:54 AM Subject: [SE]

9494

funny coincidence: if you go to www.spaceweather.com you can see the Daily Sun image with the sunspots. The sunspots are numbered in increasing numbers. The latest shown this morning are 9491, 9492, 9493. So very soon, maybe even today, if a new sunspot appears at the edge, it will be number 9494 (unless it is a returning sunspot that just went around the other side of the Sun , of course)

And why is 9494 a special figure to me ? Because in Jean-Marc Larivière's eclipse movie "shadow chasers" I drive a Mercedes with registration plate GE 9494 V :-)

so if next sunspot 9494 appears NOW it probably will leave the other side of the sun's disc just before the eclipse. But if the next sunspot 9494 appears in a few days only then it should still be visible on June 21, and have a very special meaning to me .I will think of Jean-Marc during the partial eclipse before totality, when the Moon will hide 9494 :-)

From: Mike Simmons <msimm@ucla.edu>

Sunspots are given new numbers as they appear even if they are coming around for the second time. So the next spot will be 9494 even if it's been seen before. Mike Simmons

From: Olivier "Klipsi" Staiger <olivier.staiger@span.ch>

I don't think so, Mike. just a few weeks ago there was a giant sunspot group, 9393 . it came and went. and 2 weeks later it was back , given the same number. it went again. and returned a 3rd time, still same number, but much fainter now.

true, it is very rare that the same sunspot exists for such long time.

this was the largest for many years, and it unleashed the biggest flare for 25 years.

see <http://antwrp.gsfc.nasa.gov/apod/ap010411.html>

and <http://antwrp.gsfc.nasa.gov/apod/ap010503.html>

A
F
R
I
C
A

From: Mike Simmons <msimm@ucla.edu>

Klipsi, I was in the 150-foot solar tower at Mount Wilson Observatory when 9393 was just coming around for the second time. There were two solar observers there and I was showing around two other solar observers from Kitt Peak (National Optical Astronomy Observatory) who worked on the McMath solar telescope there. I'd also wondered what the "official" line was so I brought the question up and they all told me that 9393 had a new number as it came around, following the convention that has been followed for a very long time. To *me* it was still 9393 but officially -- I am told by those that would know -- it had a new number.



>this was the largest for many years, and it unleashed the biggest flare for 25 years.

It caused an aurora seen as far south as Mt. Wilson. The camera on the 150-foot tower captured the aurora and - I am told by those lucky enough to be there to see it -- the images are a good representation of what it looked like. <http://www.astro.ucla.edu/~obs/aurora.html> Mike

2
0
0
1

From: B Yen <byen00@earthlink.net> To: <SOLARECLIPSES@AULA.COM> Sent: Monday, June 04, 2001 5:41 PM Subject: [SE]

outback travel in Zambia

Below is some advice on travel in the bush within Zambia. Of interest, is comments by a Zambian studying/working in USA. (Univ of Arizona graduate)

I'm currently reading "Zambia: The Bradt Travel Guide" by McIntyre, here's what they say:

Bush Camping: In Zambia, bush camping is usually less about survival than comfort. You're likely to have much more than the knife: probably at least a bulging backpack, if not a loaded 4WD. Thus the challenge is not to camp & survive, it is

to camp and be as comfortable as possible.

Where You Can Camp: In frequently-visited national parks, there are designated campsites that you should use, as directed by the local game scouts. Elsewhere the rules are less obvious, though it is normal to ask the scouts, & get their permission, for any site that you have in mind. Outside of the parks, you should ask the local landowner, or village head, if they are happy for you to camp on their property. If you explain patiently & politely what you want, then you are unlikely to meet anything but warm hospitality from most rural Zambians. They will normally be as fascinated with your way of life as you are with theirs. Company by your campfire is vir-

tually assured.

> Navigator wrote: I am sure you have had a taste of a third world country. No doubt you will have a lot of fun out there. I wish I could go with you. When I took a tour of the south, I was actually in a group of five. We had arranged to stay at a school's premises as it was during the holidays in Livingstone. Elsewhere we camped at designated campgrounds. I would not encourage you to camp alone in the bush at night just to guarantee yourself safety. It does not mean something would go wrong though. It's just that it can get pitch black at night and when you can't see your own body almost all animals (especially carnivores) can you see you as in daylight? You have to stick out strange sounds of nocturnal animals by yourself. When you venture out into the true wilderness, there is no electricity and therefore no glitter of light. So, when there is no moon, it's really dark. Many areas may not allow you to go out by yourself like that. Only with some guides for whom you would have to pay. I didn't really need a map. I am a Zambian citizen and I could find my way pretty easily as I have a common language with most people there. I grew up in the cities though and so venturing out into the wilderness and meeting the real indigenous people is almost as exciting for me as it would be for you. Only I had an advantage of the common language most of the time. There are so many different languages there. Authorities are not tough if you are a Zambian but being a non-Zambian, I would encourage you to look into reservations. Some places do not require them especially during not too busy tourist seasons. But at a time when

(Continued on page 41)

A
F
R
I
C
A

2
0
0
1

there will be a solar eclipse, there may be a lot more tourists and lodges and hotels may be pretty booked up. So I encourage you to book for whatever you can in Lusaka, or another town close to the areas before you venture out. However, Zambian people will never neglect you. If you show up without a reservation, they still find you a place for which you might even pay less. You should not mind staying in shackles. If you are easy-going, you could even stay in a village with the local people. They are extremely friendly and they would give you good treatment you probably do not deserve. That's the whole African experience and those are my roots. When I lived in my grandfather village up north, it was exciting to see a tourist come through and we would give them such a warm welcome. You will see for yourself that Zambians are some of the friendliest people in the world. When I have enough money I want to go and explore more of my own country. There are places I have not been. I brought back a full color book about almost everything in Zambia just to show Americans where I come from. I hope to share with you some more. W

From: Peter Tiedt <rigel@stars.co.za> To: Solar Eclipse Mailing List <SOLARECLIPSES@AULA.COM> Sent: Thursday, June 07, 2001 7:22 PM Subject: [SE] **Photography Plan**

I have been asked to comment on the photography plan below. Can anyone help?
The journalist involved mentioned Fred's site

The film is 400 ASA, with a long tele lens on a 35mm SLR. Thanks

==snip==

Partial f/16 - 1 x 24 exp 400 ASA Filter ON

-75min 1/1000 1/500 1/250 1/250
-60 1/1000 1/500 1/250 1/250
-45 1/1000 1/500 1/250 1/250
-30 1/1000 1/500 1/250 1/250
-15 1/1000 1/500 1/250 1/250
-5 1/1000 1/500 1/250 1/250

Load 1 x 36 exp 400 ASA

Phenomena f/32 Filter OFF

B 1/1000 1/500 1/250
E 1/1000 1/500 1/250

Totality f/8

20s 1/250 1/125 1/60 1/30 1/15 1/8
70s 1/250 1/125 1/60 1/30 1/15 1/8
120s 1/250 1/125 1/60 1/30 1/15 1/8
170s 1/250 1/125 1/60 1/30 1/15 1/8

Phenomena f/32

E 1/1000 1/500 1/250
B 1/1000 1/500 1/250

Partial f/16 Load 1 x 24 exp 400 ASA Filter ON

+5min 1/1000 1/500 1/250 1/250
+15 1/1000 1/500 1/250 1/250
+30 1/1000 1/500 1/250 1/250
+45 1/1000 1/500 1/250 1/250
+60 1/1000 1/500 1/250 1/250
+75 1/1000 1/500 1/250 1/250

====snip==== Peter Tiedt



A
F
R
I
C
A

2
0
0
1

From: Olivier "Klipsi" Staiger <olivier.staiger@span.ch> To: <SOLARECLIPSES@AULA.COM> Sent: Wednesday, June 13, 2001 11:19 PM Subject: [SE] Fw: **request from NASA science journalist**

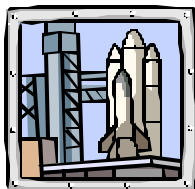
dear friends, here follows a message I received from a NASA science journalist who is looking for anecdotes involving animals and eclipses, feel free to contact him directly if you have anything funny or interesting to tell , anything you observed about animals during one of your own eclipses.

Hello-- I'm writing an article about the upcoming eclipse -- and in particular on how animals respond to eclipses and how variations in the Sun's diameter can be deduced from measurements at the edge of the path of totality -- for the website Science@NASA (<http://science.nasa.gov>). I was hoping you might be able to provide me with some information on these topics, or that you might know someone who could. Also, I would love to hear about any anecdotes you may have about observing past eclipses and animal responses during those eclipses, or any plans you have to observe/research the eclipse coming up on June 21. Thanks in advance for your help, Patrick L. Barry

Patrick L. Barry
Science Writer
Science@NASA (science.nasa.gov)
Space Science News (spacescience.com)

2195 Greencliff Dr. NE
Atlanta, GA 30345
770.621.9725
pb@patbarry.com

www.patbarry.com



From: B Yen <byen00@earthlink.net> To: <SOLARECLIPSES@AULA.COM> Sent: Tuesday, June 12, 2001 12:32 AM Subject: [SE]

satellite-phone in Zambia, networking eclipse-chasers

John Hopper alerted me to the Iridium sat-phone availability last Thu, we now both have one. (I understand there are other list members who also got Iridium sat-phone recently). There are some who have Inmarsat sat-phone. I believe this is what the Japanese live webcast people are using.

An Iridium to Iridium sat-phone call is only \$.50/min. Also, they have email capability (free, up to a quota per month). I would like to know among the sat-phone users, who is where (tentative eclipse site). I.e., a network of sat-phone connected eclipse observers. In a worst case scenario, one could determine if a site is going to be clear, & I (if my weather is "dodgy") could drive there at the last minute.

I plan on being in West Zambia, probably further west of Kafue Park. I may be joining with Daniel Fischer's group, we will meet to talk strategy in a few days (in Lusaka).

I have some contacts (within Zambia, Univ of Zambia & local Zambian friend, Olivier Staiger), who have access to Internet, who can communicate weather info to me. Either by phone to phone (I call them, or they call me). Iridium sat-phones have built-in email capability, so anyone (here in USA, UK, Australia, wherever) can email me with a weather report. Like from:

http://weather.yahoo.com/forecast/Zambezi_ZB_f.html
[weather forecast for town of Zambezi, far west Zambia]

http://weather.yahoo.com/forecast/Lusaka_ZB_f.html
[weather forecast for Lusaka]

http://weather.yahoo.com/forecast/Livingstone_ZB_f.html
[weather forecast for Livingstone]

<http://www.sat.dundee.ac.uk/pdus/AI/> [infra-red satellite imagery for Africa]

<http://www.sat.dundee.ac.uk/pdus/AV/> [visible satellite imagery for Africa]

(the above images show UT, add 2 hrs for local Zambia time. There are images at 6am UT (8am local Zambia), 12 noon UT (2pm local Zambia. note: eclipse is ~3pm local Zambia time). Infra-red images can be "read" at night. On the images, you can see Lake Kariba which is outlined with computer graphics. It looks like a "tadpole", "fat end" is on the right, with "tail" drooping down to the left. Lusaka is a bit above the "fat end". Kafue Park is to the Northwest, far west Zambia is even more Northwest. See the map of Zambia eclipse-path at:

<http://www.comet-track.com/eclipse/sec101/zambia2.jpg>

Try to impose the eclipse path on the satellite-images, to see if Kafue Park is clear. Also, if you can see if the area further NW of Kafue Park is clear. I tentatively will be there, NW of Kafue Park, kinda close to Angolan border)

What would be useful to me, is a compact email (to my sat-phone) describing to me:

- the weather in Zambia (based on the satellite images)
- forecast for Zambezi (town), forecast for Lusaka, forecast for Livingstone

(Continued on page 43)

A
F
R
I
C
A

(Continued from page 42)

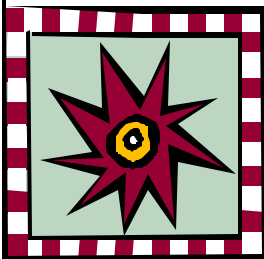
If there's anyone interested in making my eclipse expedition a success, please contact me privately. I leave tomorrow. I will acknowledge your assistance on my '01 eclipse website:

<http://www.comet-track.com/eclipse/secl01/secl01.html>

Bob Yen, <http://www.comet-track.com/eclipse/secl99/secl99.html> [if things go right, I should get similar results like above]

From: <KCStarguy@aol.com> To: <eclipse@hydra.carleton.ca> Sent: Tuesday, June 05, 2001 4:28 AM Subject: [eclipse]

totality sky 6/21



I have made a movie of totality with Starry Night software. Until I get it ready fully, I'd be happy to send a picture of the snapshot I made of the "sky during totality -how it will look during totality from near Lusaka with constellations, stars, planets and even asteroids and nearby comets." It makes nice wallpaper for my desktop . On June 21 I will see the real deal. If you want a copy email me directly and I will send in gif or jpeg-format. Clear skies for all in africa on 6/21/01.

2
0
0
1

From: Olivier "Klipsi" Staiger <olivier.staiger@span.ch> To: <SOLARECLIPSES@AULA.COM> Sent: Tuesday, June 05, 2001 5:54 AM Subject: [SE]

map to find the SCP southern celestial pole

dear friends, as far as I know Patrick (listowner) does not appreciate very much our long discussions about non-eclipse subjects, such as how to find the SCP. Thus, and since a picture tells a thousand words, I have prepared for you a page with some example on how to find it: go to <http://eclipse.span.ch/2161findSCP.htm> .

I recommend also you download www.cybersky.com , which precisely tells you how to find it, as well as the LMC and other southern hemisphere jewels. Everybody: have a great flight to Africa ! Klipsi

From: Vic & Jen Winter, ICSTARS Inc. <icstars@icstars.com>

Not everyone will have the chance to align overnight to the SCP prior to the eclipse, but while everyone is standing around looking up in these dark, interesting and southern skies on eclipse night, we hope you will not forsake the chance to log some observing time in some great skies!

A new southern hemisphere telescope certificate is also coming soon! Jot down your observations. Note the conditions and a description on the back of your travel paperwork and bring it back home. We're working with Kathy Machin to make a new AL award - and retro-active entries will be accepted.



I know many groups have made associations with local amateur and professionals in Zim/Zam and Mad. Time with these veterans at night will be a great treasure, so I hope the opportunity goes to good use for everyone! Clear Skies, Vic & Jen Winter

From: B Yen <byen00@earthlink.net>

I would like to know of any organized nighttime astronomy viewing in Zambia. (I was never able to contact any amateurs in Zambia). Then, I could setup with security/safety assured. One eclipse group was planning such a thing, but canceled it.

I am planning my own observing in the outback (along with my 4x4 driver-guide). I probably will setup near a village, & probably will have some interested company wanting to look at the stars. Is moisture going to be a problem in Zambia? I've always observed from deserts, so I never had to deal with dewing. It might get as cold as 45 deg at night there. B Yen

From: <KCStarguy@aol.com> To: <eclipse@hydra.carleton.ca> Sent: Monday, June 11, 2001 3:26 PM Subject: [eclipse]

A

saying which is relevant

F

I found this saying and hope it portrays success for all and seeing a great totality on 6/21/01

R

Day full-blown and splendid - day of the immense sun, action, ambition, laughter, The Night follows close with millions of suns, and sleep and restoring darkness. - Walt Whitman, 'A Song of the Rolling Earth'

I

Going to africa. Have fun and remember to look at the sky during totality, not just taking pictures and video. The image in your mind is something you can take wherever you go.

C

and remember to tell people around you to turn off their flashes or put a piece of tape over the attachment. NO flashes during eclipses especially totality.

A

I am also looking for reports from the eclipse in the way of poetry, emotional writings, rhymes, jingles, drawings, cartoons and anything else you want to send for me to post on my website and in my newsletter.

Clear skies for all in africa on 6/21/2001

From: <Skywayinc@aol.com>

2

Sadly, this doesn't work! I've been on three eclipse cruises and at all three this warning was stressed time after time. Unfortunately, my videos of all three events show periodic flashes on deck during totality; on the Celebrity Cruise ship "The Galaxy" in 1998 (in the Caribbean), when somebody announced that Venus was becoming visible about two minutes before totality, there was suddenly a bevy of flashes directed toward it! -- joe rao

0

From: <Orionman1@aol.com>

0

Day full-blown and splendid - day of the immense sun, action, ambition, laughter, The Night follows close with millions of suns, and sleep and restoring darkness. - Walt Whitman, 'A Song of the Rolling Earth'

1

Please post if you wish. Dr. Eric Flescher (KCStarguy@aol.com)

From: <KCStarguy@aol.com>

In my video aboard the Galaxy in 1998, there are hundreds of flashes going off before totality, which points out how people are. I don't remember if flashes were going off during totality too (as I was too busy) but I assume there were many too.

But luckily we were up above and no one around us, had flashes go off at least as far as I know.

But I think it is important to mention to people because if can keep someone near you from blinding you and running the show for a couple of those previous seconds, it is worth it.

I made sure all in my group, put tape over their flashes and turned off the function during the 1999 eclipse in Hungary. We had no problems so it can be done.

Clear skies for all in africa on 6/21/01 and no flashes during totality

From: Mark Gradwell <mark1961@cwcom.net>

> In my video aboard the Galaxy in 1998, there are hundreds of flashes going off before totality, which points out how people are. I don't remember if flashes were going off during totality too (as I was too busy) but I assume there were many too.

(Continued on page 45)

A
F
R
I
C
A

2
0
0
1

Sadly most modern compact cameras automatically turn on their flashguns in low-light and you can't override this. In selecting my own compact camera I ensured the lens had a low "f"no.and an ability to turn off the flash unit.

If I had my way I'd ensure it was illegal to sell a new camera which has no way for the user to override the flash unit. Also I'd compel stadiums and other places where large gatherings of people take place to post clearly worded instructions about the uselessness of flashguns in taking pictures where the distance between you and the subject is more than a few feet. An advertising campaign by camera and film manufacturers before big events that take place in low-light conditions would be a great help too.

It's a sad fact that it doesn't occur to most and I do mean most people that even top of the range compact camera flash units don't have a range of 240 000 miles. Mark

From: <KCStarguy@aol.com>

Mark, I read with interest your comments uponn my comments. To make electronics cheaper and to a wider market, they are striped off fancier features or cannot go to manual selection.

- (1) I think many people don't want to think about it
- (2) fail to think this is important during the eclipse eventhough it is stressed
- (3) forget to do what they are told and don't want to take the time

It will be interesting to see how many people in our party of 80 forget. I will tell the group about this and caution them about these aspects not only for their viewing but others.

I am reminded that people try to take pictures throught the aquarium windows in the seaquariums and they don't turn off their flashes either. We shall see. Dr. Eric Flescher (KCStarguy@aol.com)

From: Peter Das <Peter.Das@inter.NL.net>

Mark, Even sadder is that the little light that is reflected, comes back looong after your shutter has closed.

From: <Jay.M.Pasachoff@williams.edu>

Going around with black photo tape a half hour before totality works to some extent. Tell people they see the eclipse better if their camera is taped, which is true. Jay Pasachoff

From: Mark Gradwell <mark1961@cwcom.net>

LOL!! Nice one P.D:o) $480\ 000\ \text{miles} / 186\ 000\ \text{miles per second} = 2.58\ \text{seconds}$

From: Harvey Wasserman <onsite@gate.net> To: <SOLARECLIPSES@AULA.COM> Sent: Friday, June 01, 2001 11:32 AM
Subject: Re: [SE]

weather in Zambia

I would find it very helpful to see a loop of the weather. Does anybody know a site?

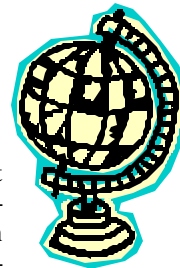
BTW - the 0600 pic looks pretty good! Harvey

A
F
R
I
C
A

2
0
0
1

From: Stig Linander <linander@worldonline.dk> To: Solar Eclipses <solareclipses@aula.com> Sent: Friday, June 01, 2001 7:11 PM Subject: [SE]

Sun's axis and the south pole



Hi, Two questions:

Is the Sun's axis exactly perpendicular to the Ecliptic on the 21st? If not, how many degrees is it tilted and to which side? I'm asking because I suppose that the "major axis" of the corona is perpendicular to the Sun's axis. If infrastructure permits, I'll watch the eclipse from the Isalo area on Madagascar and maybe I should choose portrait format instead of landscape format when photographing the corona. And I won't fiddle with that during totality.

Slightly off-topic: how do you find the celestial south pole? The celestial north pole can be found by extending a line from the two "right-most" stars in the Big Dipper "upwards" to Polaris. But the south pole? Something with Crux?

Thanks in advance.

I wish everybody that travel for the eclipse a safe and pleasant trip and clear skies the 21st. Stig.

From: Dale Ireland <direland@drdale.com>

Stig, The Sun's axis is tipped 7.2 degrees from the ecliptic pole. On June 21 the Sun's north pole appears from Earth to be tipped 6.7 degrees west of north (west of celestial true north, not west of being perpendicular to the ecliptic), and the north pole is also tipped towards earth so that the center of the solar disk is 2 degrees of solar latitude above the solar equator. Dale Ireland

From: Joseph Cali <joe_cali@hotmail.com>

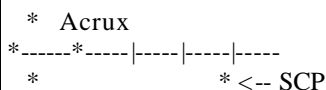
Just look for the area of sky in the south with no bright stars :-)

Seriously, I suspect that northern hemisphere observers will experience the same disorientation in the south as we do in the north and will find it difficult to find the faint asterism near the SCP. The asterism near the SCP is borderline naked eye but easy from a dark sky with a small polar finder.

Using the southern cross.

This is a very rough method. If you extend the long axis of the southern cross 4 times you will get to within a few degrees of the pole. It's probably easier to buy a southern hemisphere compass and use that. At Zambia's latitude, northern hemisphere compasses may work. I'm not sure. My northern hemisphere compass drags its needle at my latitude (35 South).

I hope this diagram reproduces - each character width represents about 1 degree



From: Glenn Schneider @ Home <gschneider@mac.com>

The "closest" star to the SCP which you might reasonably use for polar alignment is Sigma Octantus. It is V=5.4 (though a variable), so it's pretty faint, but should not be a problem on a clear night in binoculars or a finderscope, though that's only about 16 degrees above the horizon from Eastern Zambia. FK5 2000.0/2000.0 coordinates are RA = 21 08 47 DEC = -88 57 23.4

That said, using a compass and "protractor" (or some other means of measuring altitude) would work. Note that the magnetic declination (the deviation of magnetic north vector from true north is not negligible from Eastern Zambia). Indeed, at a Lat = -

(Continued on page 47)

A
F
R
I
C
A

2
0
0
1

(Continued from page 46)

15.77, Long -29.2 (in the path of totality, a bit south of centerline, near the Zambezi River) the magnetic declination is -6 degrees. I don't quote this number authoritatively, but looked it up using NOAA's Geomagnetic Field Synthesis Program - the Web based version. You can find the magnetic declination for your location at:

<http://www.ngdc.noaa.gov/cgi-bin/seg/gmag/fldsnt1.pl>

As far as "dragging", the magnetic inclination (the "dip" of the compass) at this Lat/Long is -54D, but you can always tilt your compass...

Of course, if you walk a reasonably brisk pace with a GPS receiver, many will show you which way True north is. Glenn Schneider

From: Archer Sully <archer@meer.net>

It seems to me that two people with GPS receivers and a length of rope could polar align several mounts easily. This assumes that two similar receivers would have "close enough" to the same error at a given location. Archer Sully

From: Glenn Schneider @ Home <gschneider@mac.com>

This is a VERY interesting suggestion. Since the typical GPS error (with encryption off, as it is now) is about 10 meters, you need a pretty long length of rope to beat down the "tangent" error for position uncertainties. I think I may try this using a pocket laser pointer as a "rope". At night, with binoculars, you can see the ~ 100cm diameter spot over several hundred meters. I'll try it here first, of course - but a nifty thought. Thanks.

From: Vic & Jen Winter, ICSTARS Inc. <icstars@icstars.com>

Having enjoyed some "quality time" on this subject over the course of many years, we have found that the art of locating the true southern pole accurately is a full-time job. Each year at the Southern Skies Star Party, somebody has a slightly better star chart we use to pinpoint the exact home of the SCP. Every year, we fight for at upwards of an hour trying to locate an elusive section of nothingness to point at. It is endless! An ordinary compass, level, GPS and magnetic deviation is often as close as star hopping can be.

With much chagrin, we have now officially resorted to drift alignment as the only way to be accurate.

We found this guide to be extremely helpful in making the jump to the south in drift corrections. - Thanks, Bruce Johnston! <http://members.aol.com/ccdaastro/drift-align.htm>

Clear Skies! Vic & Jen Winter *from the midwest where it has been cloudy and cold for well over a week!

From: Manfred Rudolf <mrudolf@epo.org>

Hi, the following page might be useful to find the celestial south pole:

http://www.aqua.co.za/assa_jhb/Canopus/c00bSCP.htm, regards, Manfred

From: Peter Tiedt <rigel@stars.co.za>

Another (rough) method is as follows. Take the bisector of the two pointers and project southwards to the intersection of the N/S axis of Crux. Voila! Peter

From: Richard Bareford <bareford@yahoo.com>

The method I have fun with is:

a. Adjust the RA setting circle to Local Mean Sidereal Time, using GPS and a GMST listing prepared in advance.

(Continued on page 48)

A
F
R
I
C
A
2
0
0
1

- b. Adjust the polar axis to the site's latitude, again using GPS.
- c. Level the scope.
- d. Rotate the scope in RA and dec to the coordinates of any bright visible object (e.g., Sun, Venus, Mars, Canopus, Rigel Kentaurus).
- e. Rotate the scope's mount in azimuth until the object appears centered in the finder.
- f. Refine the alignment by star or sunspot drift.



Actually, this doesn't take very long after a little practice. Richard Bareford

From: Glenn Schneider @ Home <gschneider@mac.com>

My two cents. For daytime polar alignment determine before hand at what U.T. the Sun will cross your meridian at your eclipse observing site. Then site a line from your zenith through the Sun at that instant to the horizon and mark that location as seen from your telescope. That's the direction to South (or North the other way, but not of much use). Altitude is easy, jut use a protractor... You should do this the day before the eclipse, and you can test the accuracy of your tracking. Of course with an afternoon eclipse you could do it the day before. The precision you can obtain by this "crude" method should be more than sufficient for a very small differential tracking error over the ~3.5 minutes of totality. Glenn Schneider

From: Olivier "Klipsi" Staiger <olivier.staiger@span.ch> To: <SOLARECLIPSES@AULA.COM> Sent: Thursday, June 07, 2001 8:46 PM Subject: [SE]

no telelens ?

Jay said that a 300mm telelens is minimum for good photo of totality. True.

but here is a tip for those (many) who only have 200mm lens, often a 70-210mm or 80-200 zoom: since Jupiter will be just 5° west of the eclipsed Sun (to the lower left of the Sun, as seen from Lusaka), you can get a nice view with a 200mm lens. Shoot vertical, with Sun in upper right quarter, and you'll get Jupiter in lower left quarter. With 200mm lens you can shoot up to 3 seconds unguided. So I suggest you set your lens at maximum aperture (well, maybe close just one f-stop to limit vignetting and coma), and with a 200 ASA print or 100 ASA slide film you shoot at 3, 2, 1, 1/2, 1/4, seconds. Some views will show overexposed corona, but you may see Jupiter's major moons on the photo, too.

If you have only a 135mm lens, you can still get a nice shot with eclipse plus jupiter. And maybe use 50/100 ASA film? with 135mm you can expose one or two more seconds unguided. Klipsi

From: Olivier "Klipsi" Staiger <olivier.staiger@span.ch>

.... and if you have a 400mm lens (or 200mm plus x2 teleconverter) you may just get a shot with eclipse and Jupiter, but in opposite corners. Jupiter will be 5° away, and the 400mm lens has a diagonal view of just 6° and a few arcminutes, thus you must place the eclipsed sun in the upper right corner, shooting vertically slightly tilted and you'll have Jupiter in the lower left corner. However keep in mind that with 400mm focal length you can only shoot 1 to 1.5 second unguided or the image will be blurred from Earth's rotation. Thus you may want to prefer a 200 or 400 ASA film, and shoot at 1.5, 1, 1/2, 1/4, 1/8, 1/16, 1/32 second. If you have a 200mm f/5.6 lens, with teleconverter x2 you'll have f/11. If you own a 400mm lens it may be a f/5.6 if it wasn't one of those expensive and huge f/2.8 lenses . Klipsi

From: Carton, WHC <Wil.Carton@corusgroup.com> To: <SolarEclipses@Aula.com> Sent: Wednesday, June 13, 2001 9:37 AM Subject: [SE]



Diamond ring please unfiltered!

Request to the Eclipse broadcasters/webcasters in Africa,

Please take the filter off in the last minute before totality, about thirty seconds before Totality begins. On that instant the eclipse is 99,5% and the diamond ring becomes visible. The diamond might still look very bright, but in that phase (30 seconds in advance of totality) it will not burn the camera. The broadcast will show the diamond ring shrinking and the corona "expanding" to the "nightfall" of the total eclipse. That will fascinate spectators all over the world, who receive the broadcast/webcast. Remount the filter at about twenty seconds after totality: then the last diamond ring becomes overradiated by the growing sunlight. Then you have also the best coverage of both diamond rings. I hope to admire your live report in the Artis Planetarium in Amsterdam, that projects the eclipse live onto the dome inside.

On 30 June 1973 here in Holland there was deception after the Dutch TV-report, broadcast from Loyengalani in Kenya by astronomer Chriet Titulaer and reporter Joop van Zijl, because Titulaer ordered the camera-man to take the filter off after totality began, and to remount the filter prior to the end of totality. Result: both diamond rings were lost. Only the weak nailbow of the shrinking and afterwards emerging photosphere was weakly shown. It was a pity! Wil Carton, Castricum, HOLLAND.

From: Gerard M Foley <gfoley@columbus.rr.com>

During the broadcast of the French Open Tennis Championship a camera was aimed at the sun in a cloudless blue sky, to show the viewers how good the weather was. The sun was very overexposed, and diffraction spikes from something radiated from it. Away from the sun the sky was quite blue. From the comments by the broadcasters it sounded as if the American network (USA) had their own cameras, and were not converting and relaying RTV images.

I don't know what if any mechanical iris diaphragm was in use, but the color of the picture seemed to me to indicate there was no "neutral" density filter involved.

On board M.V.Marco Polo at the August 1999 eclipse (or possibly on M.V.Monarch of the Seas in February 1998) someone told me that camcorders could be aimed at the unobscured sun without damage. I have never dared to try this with any of my own equipment. YMMV, Good luck and good weather, Gerry K8EF

From: Assoc Prof J R Huddle <huddle@usna.edu>

Gerry K8EF wrote, "On board M.V.Marco Polo at the August 1999 eclipse (or possibly on M.V.Monarch of the Seas in February 1998) someone told me that camcorders could be aimed at the unobscured sun without damage. I have never dared to try this with any of my own equipment."

The old videcon-tube videocameras would be ruined, but a CCD chip is much more tolerant than a tube. The picture might look very overexposed, but you won't ruin your (modern, CCD-based) camcorder by pointing it at the sun for a minute or so before 2nd or after 3rd contact. If you saw David Makepeace's "Hooked on the Shadow" video, he has included a shot I took at 3rd contact in 1999, and continuing after 3rd for several seconds. I think I let the camcorder run for over a minute after 3rd, but after about 30 sec, the picture started looking pretty bad. But the camcorder is fine, and will be used next week.

NEXT WEEK! Oh, Man, I'd better get on the stick! Jim Huddle

A
F
R
I
C
A

2
0
0
1

From: Daniel Fischer <skyweek@web.de> To: <SOLARECLIPSES@AULA.COM> Sent: Monday, June 11, 2001 8:51 AM Subject: [SE]

A
F
R
I
C
A

2
0
0
1

We're in Zambia - and it's GREAT!

Hello to everyone from Livingstone, Zambia!

Our German expedition of 14 is now in this country for 4 days, and EVERYTHING is working out perfectly. The organization (thanks to Dr Mweene of Lusaka University) is working like clockwork, all people are extremely friendly and helpful. All rumors about a backward or even dangerous country are simply nonsense, really!

Only the weather is a (at this point minor) worry: It's different every day - and there are no weather predictions in the newspapers! We'll work on that... :-) Daniel Fischer

From: Nello Soldà <n.solda@eclipse2001.it>

What are your feelings in Africa? Is everything as you expected? Bye...

From: Richard Bareford <bareford@yahoo.com>

Try this site for the weather:

http://weather.yahoo.com/forecast/Livingstone_ZB_c.html

They're predicting partly cloudy through Friday, highs 19-25 Centigrade, lows 9-12. Clear Skies! aAreford

From: Michael Gill <eclipsechaser@yahoo.com>

Daniel, Here are 10-day forecasts (including June 21st) for some selected locations in the path of totality:

Quelimane, Mozambique

<http://www.weather.com/weather/local/MZXX0007?y=13&x=11>

Mount Darwin, Zimbabwe

<http://www.weather.com/weather/local/ZIXX0006?y=4&x=4>

Kabwe, Zambia

<http://www.weather.com/weather/local/ZAXX0002?y=10&x=6>

Lusaka, Zambia

<http://www.weather.com/weather/local/ZAXX0004?y=10&x=6> Michael Gill.



From: <Jay.M.Pasachoff@williams.edu>

I second Daniel's comment. My group of 20 arrived today in LUSAKA, with all our people, luggage, and equipment. We had arranged for customs clearance in advance and that went smoothly. The weather was pretty cloudy at 11 am but cleared through the afternoon. There was some slight cloud near the sun at eclipse time, 3:10 pm, but we would have seen the eclipse. Jay Pasachoff

From: Daniel Fischer <skyweek@web.de>

The big German expedition to Zambia is now in the country for one week - and after a few days of pure holiday fun around the outstanding Victoria Falls we are now back in Lusaka, have taken over our four Jeeps (much bigger than expected :-), have started driving around Lusaka and buying supplies for our big trip to the West.

After a lengthy visit to the Zambian Wildlife Administration we now have reservations for four nights in the Kafue National Park but outside the existing camps: We will set up our tents in the open, protected (against the lions) by an armed scout. First we stay in the center of the park, then we'll move to the northwestern corner in the Busanga Plains.

There we will stay for the eclipse UNLESS the weather turns bad - in that case we are prepared to rush even farther to the West (and the ZAWA has even promised us a refund for unused permits). The weather ... it has been changing all the time since our arrival, but at eclipse time it was clear most of the days.

We are still planning to hold a post-eclipse party on the evening of June 22nd in Lusaka, but don't know where exactly to hold it. Our favorite restaurant so far is the big Irish one in the Manda Hills shopping complex - perhaps we'll go for this one. Given our long travel route back from the park or wherever I cannot give a precise time yet. Just drop by and look for us!

A
F
R
I
C
A

2
0
0
1

From: Eric Pauer <pauer@bit-net.com> To: Solar Eclipse Mailing List <solareclipses@aula.com> Sent: Wednesday, June 13, 2001 3:27 PM Subject: [SE]

Very Comprehensive Site/Link for Africa Weather

For those who have not yet left and/or for those tracking the Africa weather for eclipse day, you might want to check <http://www.accuweather.com>

I just discovered it while putting together some web pages. It has a few dozen cities listed in each country in the path of totality (Angola, Zambia, Zimbabwe, Malawi, Mozambique, Madagascar). For each city, the following forecasts are available:

10-day forecasts

5-day forecasts

Current conditions

Hourly forecasts (next eight hours), including cloud cover %, cloud ceiling, visibility, wind speed/direction, temperature

There is also a premium service (\$4.95/mo, \$39.95/yr) with a free 30-day trial that provides hourly forecasts for 10 days (240 hours) into the future.

The direct link for countries in Africa is:

http://www.accuweather.com/adcbn/intlocal_index?where=&wxcity2=%7E&wxcountry=%7E®=AF%3BAFRICA&Select+city=Submit+Query

I have a few pages of webcast, weather / solar links that I'll be updating as E-day approaches: 2001 Eclipse Webcasts: <http://www.bit-net.com/~pauer/eclipse01/> 2001 Weather Forecast links: <http://www.bit-net.com/~pauer/eclipse01/weather.htm> Weather/Solar conditions (text only): <http://www.bit-net.com/~pauer/2001summary> May everyone find clear African skies! Eric

From: <Jay.M.Pasachoff@williams.edu>

Wednesday, June 13, report from Lusaka: This morning dawned very clear but then clouds came in. In the late morning and early afternoon, we had puffy cumulus clouds, which I am told are unusual for this time of year. By 2 pm (an hour before eclipse time), the sky had completely cleared and we had a glorious dark blue sky, perfect for an eclipse. Jay Pasachoff

From: Eric Pauer <pauer@bit-net.com> Sent: Friday, June 15, 2001 5:35 PM

I'm tracking the weather at points in and near the path of totality at

<http://www.bit-net.com/~pauer/2001summary/>

With less than 6 days to go, here are the current weather predictions for eclipse day (21 June) based on the 10-day forecasts:

Current Weather Forecasts for Eclipse Day - 21 June 2001 Based on 10-day forecasts from Accuweather.com

Ascension Island (76.4% partial) - only 3-day forecast available

Saint Helena Island (96.4% partial) - Abundant sunshine, High - 19°C, Winds - SSE 24 kph

Luanda, Angola (96.1% partial) - Sunny; warm and sticky, High - 27°C, Winds - SSE 5 kph

Sumbe, Angola - Abundant sunshine and hot, High - 33°C, Winds - ESE 2 kph

Huabmo, Angola - Sunny and warm, High - 27°C, Winds - E 10 kph

Luso, Angola - Sunshine, High - 26°C, Winds E 13 kph

Branco, Angola - Sunshine, High - 26°C, Winds E 13 kph

Calala, Angola - Warm with a good deal of sunshine, High - 31°C, Winds ESE 23 kph

Zambezi, Zambia - Windy with sunshine, High - 28°C, Winds ESE 18 kph (gust to 55 kph)

Kabompo, Zambia - Sunshine, High - 25°C, Winds ESE 11 kph (gust to 45 kph)



(Continued on page 52)

A
F
R
I
C
A

2
0
0
1

Kasempa, Zambia - Lots of sunshine, High - 22°C, Winds ESE 11 kph (gust to 60 kph)
 Lusaka, Zambia - Sun and some clouds, High - 19°C, Winds ESE 5 kph
 Kabwe, Zambia - Partial sunshine, High - 19°C, Winds ESE 6 kph
 Livingstone, Zambia (? partial) - Sunshine, High - 22°C, Winds E 6 kph
 Kazangarare, Zimbabwe - Partly sunny, High - 22°C, Winds SE 2 kph
 Harare, Zimbabwe (97.6% partial) - Sun and some clouds, High - 18°C, Winds SSE 13 kph
 Mount Darwin, Zimbabwe - Periods of clouds and sunshine, High - 21°C, Winds SSE 13 kph
 Makaha, Zimbabwe - Times of clouds and sun, High - 19°C, Winds SSE 16 kph
 Chioco, Mozambique - A blend of sunshine and clouds, High - 25°C, Winds SSE 13 kph (gust to 40 kph)
 Tete, Mozambique (99.6% partial) - Variable clouds, High - 24°C, Winds SSE 13 kph
 Quelimane, Mozambique - A shower in a few spots; mostly cloudy and very windy, High - 24°C, Winds SSW 32 kph (gust to 76 kph)
 Beira, Mozambique (96.4% partial) - Rather cloudy and very windy, a couple of showers, High - 22°C, Winds S 27 kph (gust to 63 kph)
 Ngabu, Malawi (~98% partial) - Considerable cloudiness with widely separated showers, High - 20°C, Winds S 18 kph (gust to 42 kph)
 Thyolo, Malawi (~98% partial) - Cloudy and very windy, a shower, High -20°C, Winds S 32 kph (gust to 74 kph)

Morombe, Madagascar - Sunny, High - 26°C, Winds SE 11 kph (gust to 42 kph)
 Toliara, Madagascar (97.1% partial) - Sunny, High - 26°C, Winds SE 10 kph
 Ranohira, Madagascar - Windy with lots of sunshine, High - 21°C, Winds ESE 14 kph (gust to 61 kph)
 Fianarantsoa, Madagascar (97.4% partial) - Sunshine and some clouds, High - 20°C, Winds ESE 11 kph (gust to 43 kph)
 Farafangana, Madagascar - Partial sunshine, High - 23°C, Winds ESE 8 kph

Saint Denis, Reunion Islands (85.4% partial) - Plenty of sunshine and windy, High - 23°C, Winds SSE 27 kph (gust to 64 kph)
 Port Louis, Mauritius (80.8 % partial) - Mostly sunny, High - 21°C, Winds SE 14 kph

Eric Pauer - pauer@bit-net.com - <http://www.bit-net.com/~pauer>

From: Eric Pauer <pauer@bit-net.com> Sent: Monday, June 18, 2001 2:10 PM
 Here's an update on weather prospects for 21 June 2001 for 31 points near in the path of totality, with about 3 days to go:
<http://www.bit-net.com/~pauer/2001summary/>

Angola will have sunny skies. The weather forecast in Zambia has become very promising, with sunny to mostly sunny conditions expected. Similarly for Zimbabwe, the forecast is for mostly sunny skies. In Mozambique and Malawi, the weather forecast has also improved from before--they are now expecting party to mostly sunny skies (instead of showers!). Unfortunately, the prospects in Madagascar (and Indian Ocean islands) have deteriorated to partly sunny / mostly cloudy and windy, with the best prospect along the west coast near Morombe.

In short, right now it is looking very good for those who have traveled to Zambia and Zimbabwe for the eclipse! Regards,
 Eric

From: Olivier "Klipsi" Staiger <olivier.staiger@span.ch> Sent: Monday, June 18, 2001 7:48 PM
 news from Klipsi :) good weather these past 48 hours in Lusaka. will it last ? follow the story on <http://eclipse.span.ch/160601.htm> today again, lots of groups and tourists arrived at the Intercontinental Hotel, and tomorrow they expect to be fully booked, a rare blessing .

Chat with Klipsi ! Tuesday June 19 at 16:00 UT, 18:00 Lusaka, Paris, Berlin, Rome), 12:00 noon EDT New York, 9 AM PDT Los Angeles, Klipsi will be live chatting at www.solareclipseafrica.com .

lots of sunspots have appeared , there will be lots of them smack in the center of the Sun's disk during the eclipse, which is an additional treat during the long partial eclipse (see them disappear behind the Moon, and re-appear after totality)

for latest news of the Sun's shape I recommend www.spaceweather.com and the latest SOHO images, at <http://sohowww.nascom.nasa.gov/data/realtime-images.html> . In the LASCO C3 coronagraph images you can see bright Jupiter at right of the Sun, Jupiter will be a few degrees close to the Sun during the eclipse... in less than 3 days !!! have a FANTASTIC day, please ! Klipsi

A
F
R
I
C
A

2
0
0
1

From: Cees Bassa <c.g.bassa@phys.uu.nl> To: <SOLARECLIPSES@AULA.COM> Sent: Thursday, June 07, 2001 1:51 PM Subject: [SE]

Wide Angle Exposure Times

Hello List, I'm going to try to make a multi-exposure sequence shot of the partial phases through a filter before and after totality and one shot with a filter of the total eclipsed sun with the horizon in the foreground. The exposure without a filter will give me the total eclipsed sun and the foreground, but what exposure time should I use to get the foreground properly exposed? Can I trust my camera's meter to give a nice image or do I have to figure out myself what a good exposure time is?

Regards and Good Luck to all going to Africa this month! Cees Bassa

From: Eric Pauer <pauer@bit-net.com>

If you want to see an example of a wide angle shot from the 1999 eclipse, look towards the middle of this page:

<http://www.bit-net.com/~pauer/eclipse99/totality/totality.htm>

This photo was a 1 second exposure, taken at a 38 mm focal length at f/4 using Fuji Superia Reala ISO 100 color print film, taken by a programmable Pentax camera. Obviously, there was no solar filter used. Venus (magnitude -3.5 during this eclipse) is visible to the lower left of the eclipsed sun, but Mercury (magnitude 0.7) did not show up (it would have been to the right). Note we had very thin cirrus cloud during totality.

For the 2001 TSE, Jupiter and Sirius will both shine at magnitude -1.5, and Saturn and Capella will be at magnitude 0. These stars/planets will not be too far from the eclipsed sun. So you might chose 1 or 2 seconds for your totality shot (adjust these based on your chosen f/stop and film speed). If you have a second camera for wide angle shots during totality, I would bracket -- 0.5 sec, 1 sec, 2 sec, and 4 sec exposures (again adjust accordingly). I would not depend on the metering to give a good exposure.

Best of luck. Some of the most dramatic eclipse photos are wide angle shots! Regards, Eric

From: Odille Esmonde-Morgan <analog6@ozemail.com.au>

Eric, That's a great shot! Odille Esmonde-Morgan

From: OCM NS <ocmns@hotmail.com> To: <solareclipses@aula.com> Sent: Wednesday, June 13, 2001 2:14 PM Subject: [SE]
Will be watching web casts SE 2001



June 13 2001 Tuesday Southern California USA. To all who have arrived, on their way to, or about to depart for the Africa TSE 2001 OCMNS here will be connecting to web casts.

Anyone else connecting to webcasts? Best to all, bon voyage, God speed and clear skies. EG at OCMNS

From: Ted Saker Jr. <ted@saker-law.com>

Hi! Here in often-cloudy central Ohio, home of the TSE 4/8/24 and the Columbus Astronomical Society, we will be connecting to NASA's webcast. I've created a new category of eclipse chasing: virtual time. It'll be interesting to see what the technology can do. I second EG's benediction! Ted Saker, Jr. (5'40" RT, 0'00" VT)

From: Jeff Batten <jeff.batten@csun.edu>

Hello, Does anyone know the webcam http's. Good luck to all those in Africa, I am praying for clear skies for you guys. Wish I could have made the party. Jeff

From: Mike Simmons <msimm@ucla.edu>

There are several. See <http://www.bit-net.com/~pauer/eclipse01/>

Right now there is a live chat with Klipsi going on at www.solareclipseafrica.com. Mike Simmons



Joanne & Patrick

Solar Eclipse Mailing List



THE SOLAR ECLIPSE NEWSLETTER IS A MONTHLY NEWSLETTER ABOUT SOLAR ECLIPSES EDITED BY PATRICK POITEVIN & JOANNE EDMONDS. FINANCIAL SUPPORT FROM THE RAINBOW SYMPHONY.



THE ELECTRONIC VERSION OF THE SOLAR ECLIPSE NEWSLETTER IS AVAILABLE ON THE WEB PAGE OF FRED ESPENAK.



THE SOLAR ECLIPSE NEWSLETTER IS FREE OF CHARGE, BUT IS NOT AVAILABLE IN HARD COPY.

African greetings from Laura, Michael, Patrick and Joanne

