



# WAS NEWS

Monthly Newsletter of the Worthing Astronomical Society

Official website: [www.was.org.uk](http://www.was.org.uk)

Affiliated websites: [www.observatory99.freeserve.co.uk](http://www.observatory99.freeserve.co.uk)



Number 163

April 2003

## ALMANAC

All times U.T. add one hour for B.S.T.

### March./April.

#### LUNAR

Month	Date	Time	rise	set
April	New moon	1st	19.19	05.58
	First Quarter	9th	23.40	09.09
	Full Moon	16th	19.36	18.41
	Last Quarter	23rd	12.18	02.27
May	New moon	1st	12.15	04.44
	First Quarter	9th	11.53	10.27
	Full Moon	16th	03.36	20.43
	Last Quarter	23rd	00.31	01.48
	New moon	31st	04.20	03.47

#### EARTH

Month	Date	Sunrise	Sunset
April	1st	05.37	18.33
	9th	05.19	18.46
	16th	05.04	18.58
	23rd	04.49	19.10
May	1st	04.33	19.23
	9th	04.19	19.36
	16th	04.08	19.47
	23rd	03.58	19.56
	31st	03.50	20.06

#### PLANETS

(as at April 23rd.)

Planet	Constellation	Rises	Sets	Mag.
<b>Mercury</b>	Aries	05.12	20.57	+1.5
Western horizon after sunset				
<b>Venus</b>	Pisces	04.08	16.09	-3.9
Magnificent morning object visible just before dawn				
<b>Mars</b>	Capricornus	02.01	10.22	+0.1
Morning object visible low in the south east				
<b>Jupiter</b>	Cancer	10.59	02.28	-2.2
Visible in the south				
<b>Saturn</b>	Taurus	07.32	23.41	+0.1
Visible in the west				
<b>Uranus</b>	Aquarius	03.10	13.21	+5.9
Unfavourable				
<b>Neptune</b>	Capricornus	02.24	11.36	+7.9
Unfavourable				
<b>Pluto</b>	Serpens cauda	22.18	08.11	+13.8
Difficult				

#### PHENOMENA

##### April

Day	Hour	Phenomenon
11th	10	Jupiter 4° S. of moon
16th	15	Mercury at greatest elongation E. 20°
23rd	08	Mars 3° N. of moon
26th	12	Mercury at stationary point
28th	19	Venus 2° N. of moon

##### May

2nd	05	Mercury 2° N. of moon
5th	09	Saturn 3° S. of moon
7th	07	Mercury in inferior conjunction (transit)
8th	20	Jupiter 4° S. of moon
16th	01	Neptune at stationary point
16th	04	Total eclipse of moon
20th	08	Mercury at stationary point

#### Minima of Algol

April 20th 02.24 22nd 23.12 25th 20.06

May Unfavourable

#### Lunar Occultations

Times as at W.A.S. Observatory

Date	U.T.	S.A.O.No	Mag	Phase	
April	10th	22.27.17	80105	8.0	diss
	11th	20.29.48	80693	8.1	diss
	11th	20.46.34	80697	9.2	diss
	11th	22.35.48	80735	8.4	diss
	12th	19.33.30	98955	3.5	diss
	12th	20.26.27	98961	8.6	diss
	12th	20.33.27	98955	3.5	reapp
	13th	23.04.18	99455	7.2	diss
	18th	00.08.35	158840	2.9	diss
	18th	01.06.15	158840	2.9	reapp
May	5th	20.19.06	78029	7.6	diss
	5th	20.36.33	78035	8.1	diss
	6th	21.24.41	79051	8.3	diss
	6th	21.40.47	79052	8.6	diss
	6th	22.58.58	79121	7.0	diss
	8th	21.16.17	80514	8.3	diss
	8th	21.35.11	80516	8.8	diss
	8th	21.37.49	80529	7.0	diss
9th	21.38.49	98802	8.7	diss	
10th	22.47.19	99280	6.8	diss	

This is only about 19% of the predictions for the WAS. observatory.

Dave Wells

## Editors Note

What a day, what a week, the trusty computer died last Tuesday, so this month's WAS News is bought to you courtesy of my employers (God bless 'em). Let me apologise in advance for typing, spelling, punctuation, layout and grammatical errors!!!!

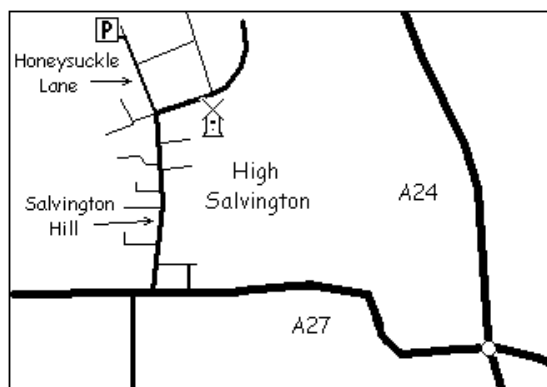
Rob

## Dates for your Diary

### Young Moon Club Observation - May 2nd

Glen Thomas - Lunar Section Director

Meet at the Honeysuckle Lane car park, High Salvington at 20:15 BST on Friday May 2nd.



This month gives us the best chance of the year so far to see a very thin crescent Moon, with a phase of just 1.5% (area of the visible face illuminated - see picture)!



The Sun sets at 20:23, with the Moon 31.2 hours old and itself setting at 21:38. I will be at the site from 20:15.

The only other attempt this year will be the slightly more favourable June 30th crescent Moon (1.3%, 24.7 h old).

## Reports

### Astronautics Section Report, April 2003

Nick Quinn

On March 20th, the European Space Agency (ESA) issued a status report regarding the postponed Rosetta Comet mission. Three revised missions are now being studied with a final decision to be made in May. Two missions (with launches in February 2004 and 2005 respectively) would take Rosetta to a new target, Comet Churyumov-Gerasimenko, while another (in January 2004) would take it to its original target, Comet Wirtanen. A campaign of observations using both the Hubble Space Telescope and the instruments of the European Southern Observatory is under way to study Comet Churyumov-Gerasimenko. This will allow astronomers to characterise the comet, perform a mission analysis and assess whether any hardware modifications would be necessary. ESA is also looking at alternative back-up launchers to Ariane, such as the Russian Proton rocket.

Following the forced revision of the International Space Station programme due to the Space Shuttle Columbia disaster, it now seems that the Expedition 6 crew will return to Earth aboard Soyuz TMA-1 in May. Ken Bowersox, Nikolai Budarin and Donald Petit were due to return to Earth aboard Atlantis in March. A replacement 'caretaker' crew consisting of two veterans of space flight, Russian cosmonaut Yuri Malenchenko and US astronaut Ed Lu, will be sent to the Space Station on April 26th aboard Soyuz TMA-2. Having two people on board will help reduce the consumption of water and food. They will remain on ISS until October when another crew will replace them. Once the Space Shuttle fleet has been cleared for flight, normal operations and crew rotations will resume.

According to the Hong Kong newspaper Sing Tao Daily, the first Chinese manned spaceflight, planned for October 2003, will carry Chen Long into space aboard Shen Zhou 5 (the name translates as 'divine ship'). Officials say that the flight will take place during the daytime to aid the tracking of the capsule. Previous Shen Zhou flights have taken place at night. It may also be carried live on Chinese TV. Following the flight of the unmanned Shen Zhou 4 in January 2003, Chinese media said the capsule, based on Russia's Soyuz, carried all the equipment necessary for manned flight and life-support equipment had been tested. It added: "Completion of the successful voyage starts a countdown for China to realize its ambitions of becoming the third country to put people in orbit."

## The Planets in April 2003

Glen Thomas - Planetary Section Director

**M**ercury spends the month visible in the West after sunset. Look for it from the **3rd** to the **27th** as it grows from a 5" gibbous phase to a 10" thin crescent. See table.

Date	Time	Alt °	Az °
5	20:13	7.6	281.0
6	20:15	8.3	281.3
8	20:18	9.6	282.1
11	20:24	11.1	283.3
14	20:29	11.9	284.8
16	20:32	12.0	285.9
18	20:36	11.8	287.2
21	20:41	10.7	289.3
24	20:47	8.9	291.8
26	20:50	7.2	293.7
27	20:52	6.3	294.7

**Venus** can still be seen but is now close to the horizon just before dawn. It is approaching superior conjunction and will disappear from view around the **26th**.

**Mars** brightens as Earth continues to catch it up on a smaller orbit. It increases in diameter to 9" by the end of the month, appearing gibbous with high magnifications (Southern pole on view), although the low altitude achieved by dawn makes steady views difficult. It is less than 30' north of the magnitude 8.6 globular cluster **M75** in Sagittarius on the **20th**.

**Jupiter** is at its highest around sunset but still at an altitude of over 30° at midnight. It spends half the month within a degree of the centre of **M44 (Beehive)** in Cancer, a rich open cluster faintly visible to the naked eye but with over 200 stars within reach of a 20 cm telescope.

**Saturn** is already descending towards the SW horizon as the sky darkens, setting around 1 am. It is, however, still a startling target for an evening, with its rings spread as wide as they go.

**Uranus** might be visible during the early morning twilight, but it only reaches 10° altitude by the start of civil twilight (around 05:00 at the end of the month).

**Neptune** rises 45 minutes before Uranus and is subsequently 4° higher as the sky brightens, but being two magnitudes dimmer it is definitely still *unfavourable*.

**Pluto** is getting higher in the morning sky, but does not transit the meridian until nearly 04:00, well into astronomical twilight (Sun less than 18° below the horizon), making it difficult to identify yet.

**4 Vesta**, the brightest asteroid, can be spotted closing from approximately 3° E to 1° NE from the star **12 Virginis**. The star is only slightly brighter than Vesta and there is no other bright object nearby - 20 Vir is 5° due E of 12 Vir and can easily be ruled out.

## Solar Section Report - March 2003

Section Director, Brian Halls

**T**he Sun remains active, though the level of sunspot activity when compared with recent months has dropped down to more 'normal' levels.

The large group at N12° L=169° was sufficiently of naked eye visibility (if suitable eye protection was used – notably eclipse glasses or welders glass grade 14). This group was consistent in size for much of the first week though by the time it had crossed the central solar meridian and headed west, the foreshortening effect reduced the visibility of this group.

The Sun was not short of sunspots and groups of spots during the first half of the month. Interesting a large number of sunspots and groups tended to be equally distributed between the northern and southern solar hemispheres.

A second northern group also began to reach naked eye magnitude during the course of its appearance during the second week of March. Brian States recorded naked eye activity between the 6<sup>th</sup> and 15<sup>th</sup> of the month.

The number of spots and groups also began to tail off as well and sunspot numbers decreased.

By the 21<sup>st</sup> and 22<sup>nd</sup> activity decreased sufficiently for Graham Boots, Brian States and myself to record only one (and quite small) sunspot on the disk.

By the close of the month however, sunspot activity once more increased as active solar longitudes rotated onto the solar disk.

Members observed the Sun 26 days of the month and the three observers previously mentioned above reported observations, which have been passed to both the BAA solar section and the solar division of the AAVSO.

MDF (mean daily frequency of sunspot groups) = 4.03  
R (relative sunspot number) = 57.65

## *April Lecture Reviewed*

### Indoor Astronomy

Lillian Hobbs



**A** Number of years ago Lillian Hobbs decided to embark upon remote controlling her telescope from the comfort of her living room. She was able to sell some shares and commenced work on her plan. She purchased a Meade Lx300 from the United States at considerable saving and after assembling a dome in her back garden she then considered her options.

Her choice was either to have 1 computer and a very long control cable stretching from her house to the telescope or 2 computers, and link them with a cheaper more reliable Network cable. She opted for the latter. Her first choice for Network cable was a 10mb version but because of a demand for greater speed has since increased to 100mb.

The slave computer is sited with the telescope inside the dome and on that she installed all the specialised software needed for controlling it. On the master computer in the house she installed PC Anywhere, which allows accurate control of the slave computer.

Lillian is able to precisely align and focus the telescope from the comfort of her desktop. One advantage of this 'remote observing' is it allows other tasks around the home to be performed simultaneously. Lillian is able to instruct the telescope to locate a particular object, check that it's aligned properly and then simply leave it and let the CCD imager go to work, with none of the inconveniences associated with having to stand out with the telescope for hours at a time.

A further interest in Video Astronomy has been catered for by 'piggybacking' a Televue TV85S on top of the Meade, connecting it up to the slave computer in the

same fashion as the Meade, and then sitting back and enjoying spectacular Solar observing.

She also pointed out that another advantage of indoor working was that she was able to spend time processing images on evenings where adverse weather conditions made actual observing impossible.

Lillian's PowerPoint presentation was an invaluable accompaniment to her talk and her impressive set of Messieur photography's underlined her ability and perseverance.

However she was the first to admit that it had not been the easiest of roads and emphasised that a large amount of trial and error went into the results she has obtained to date.

Lillian's talk was an inspiration to all those who toy with the idea of Indoor Astronomy and it was a pleasure to see I.T. being harnessed and used so successfully in a domestic environment.

## *Articles*

### Earthquakes

Bob Turner

**G**raham Bootes has recently brought to the committees' attention a series of books that are to be added to our library. We have the first five volumes of "The Astronomical Register" published from 1864 and give an account of the meetings of the Royal Astronomical Society and publish Astronomical papers and letters submitted to the editor.

I have spent the last few weeks reading volume 1 from cover to cover and have been delighted by this piece of history and would like to reproduce a letter dated the 15th October 1863 which I think is of general interest

*To the Editor of the Astronomical Register*

*Sir, - The earthquake felt in England on the 6th inst, is only one of many that this island has experienced, especially in those parts where the sub-stratum consists of igneous rocks. I subjoin a list of some of the most remarkable, and where they were most felt, without entering into diversified opinion as to the cause of earthquakes, which is better left for geological research to determine.*

Should you think this list worthy a place in your valuable journal, an insertion would oblige.

Your obedient servant

W Frost

3, Chatham Place, Hackney  
Oct 15th 1863

Year	Where felt	Consequences
1110	Shropshire.	
1116	Wales.	
1120	Somersetshire.	
1134	Kent	Flames issued
from the earth in several places		
1185	East of England	Destroyed the
church if Lincoln		
1249	Somersetshire.	
1250	St Albans.	
1274	Somersetshire	Threw down
the church of Glastonbury		
1328	All England	The most
severe ever felt in England		
1382	Southern Counties	Many churches
thrown down		
1426	Midland Counties	Accompanied
by thunder and lightning		
1428	All England	Very severe
1571	Herefordshire	Marcy Hill
was removed; it contained 26 acres		
1665	Oxford.	
1683	Many parts of England.	
1693	England, France.	60,000 persons
perished in Sicily and Germany, Spanish town in		
Jamaica was destroyed		
1703	England and Rome	Aquila in
Naples destroyed and 7,000 persons		
1734	Ireland	Destroyed 100
houses and 5 churches		
1755	London	Lisbon destroyed
1790	Perthshire	Many violent
concussions and great variations in the barometer		
1850	North Wales.	
1863	Many parts of England.	

Editors note

The Astronomer Royal states that Mr Ellis, who was observing the collimation of wires of the Altazimuth at Greenwich, at the time of the earthquake, perceived the mark to move in so extraordinary a manner that he thought the wall to which it was attached was in

motion. Lord Wrottesley's assistant Mr Hough, also, while observing at Wolverhampton at the time in question, felt a rocking motion in his chair.

I am fascinated by flames in Kent, the association with a thunderstorm and linking towns separated by many thousands of miles.

The bit about a twenty-six acre field disappearing is wonderful and the "great variation in the barometer" will raise much speculation. These bits from history will delight all who read them.

## What's on the Box

Friday 11<sup>th</sup> April 2003



12.30 – 13.00 ~ **Escape to the Sun**

Documentary series about expats, presented by Nicki Chapman. In an episode from Florida's space coast, a look at one of the last manned space shuttle launches before the Columbia disaster.

Saturday 12<sup>th</sup> April 2003



06.10 – 06.35 ~ **WideWorld**

(Big Ideas) Documentary series about ideas that have changed the world. Maggie Philbin looks at the life and work of Copernicus, who revolutionized astronomy and contemporary beliefs with his theory that the planets orbited the sun.



12.45 – 13.05 ~ **The Sky at Night**

(Life on Mars) The world of astronomy. Patrick Moore talks to Colin Pillinger about the British lander craft Beagle 2, which will be sent to Mars in May in search of signs of life.

Tuesday 15<sup>th</sup> April 2003



12.30 – 13.00 ~ **Escape to the Sun**

Documentary series about expats, presented by Nicki Chapman. In an episode from Florida's space coast, a look at one of the last manned space shuttle launches before the Columbia disaster.

## *Diary*

**April 9** *Members night*  
April 25 – 27 BAA Winchester Weekend, King Alfred's College, Winchester  
**May 14** *Woman Astronomers - Martin Lunn M.B.E., F.R.A.S., Curator of Astronomy, Yorkshire Museum, York*  
**June 11** *The Planet Mars - Jerry Workman Bsc., F.R.A.S.*  
**July 9** *White Dwarf Stars - Konrad Maylin-Smith Croydan AS*  
July 12 SAGAS annual convention  
**September** *TBA*  
**October** *TBA*  
**November 12** *Space Weather - Dr. Andrew Coates of Mullard Space Sciences Laboratory University College London*

All Meetings (**bold**) are held on the second Wednesday of every month unless otherwise stated, at Heene Church Rooms, Worthing at 7.30 p.m. Meetings include the latest astronomical work, reports and, photographs by members. For further information please call 01903 521205, on the Internet at [www.was.org.uk](http://www.was.org.uk) or Email: [worthing\\_astronomical\\_society@hotmail.com](mailto:worthing_astronomical_society@hotmail.com)

### *Executive Committee*

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### *Note to Contributors*

Contributions & Correspondence for the **May** issue of WAS NEWS should be with the Editor by **May 1st**. All material for inclusion should be sent to the Editor.

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