

CASMAAG

THE OFFICIAL MAGAZINE OF THE CANTERBURY ASTRONOMICAL SOCIETY, INC.

Meetings are held on the 3rd Tuesday of the Month at 7:30pm

Starting in the

School of Forestry Staff Room, University of Canterbury

Vol. 56 - No. 3

June 2005

Issue Number 623

21 June

MOA Research and 1.8m Telescope

Prof. John Hearnshaw



New/Beginner Astronomers Group

West Melton Observatory

12th July, 7:30 pm

2nd Tuesday of the Month



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Advertising in CasMag

Small personal advertisements in this magazine are free to financial members. Members ads exceeding 8 lines in a column will be charged the small advertisement rate. All others, rates are as follows:

Full page, \$40	Half page, \$25
Quarter page, \$15	Small advertisements, \$5.

Submission Guidelines

The Editor welcomes contributions of original articles, items of Astronomical News, letters to the Editor, or reports of observations. Articles and letters may be edited if space is at a premium. Whenever possible you should provide your contributions via email or on computer diskette (DOS only). Save your files in simple ASCII format without any special typesetting characters. Deadlines for submission are the 3rd Tuesdays of each month, unless prior arrangements have been made with the editor. Give your articles to the Editor at the monthly meetings or send them to:

Editor CASMAG

(please print clearly)

P.O. Box 3712 or
Christchurch
email: david@hynlar.co.nz

P.O. Box 25-137
Victoria St P.O.
Christchurch

Front Cover Image:

NGC 3327

Photo Courtesy:

Phil Barker



CAS Calendar of Events

Jun 7	CASMAG sent to printers.
Jun 13	Member's CASMAGs posted.
Jun 14	New Astronomers Meeting. Observing Session at West Melton.
Jun 18	Mid Winter Star Party at West Melton
Jun 21	June's Member's Meeting.
Jun 24 – 26	RASNZ Conference Nelson.
Jun 28	CAS Committee Meeting.
Jun 30	Deadline for article submission for the July CasMag.
Jul 4	CASMAG sent to printers.
Jul 11	Member's CASMAGs posted.
Jul 12	New Astronomers Meeting.
Jul 19	July's Members Meeting.
Jul 26	CAS Committee Meeting.
Jul 29	Deadline for August CasMag.



Bino Power

This night I was looking in Scorpius. I often like to take a look in the Scorpion at some of my favourite objects and look for any detail I have overlooked before, or any new objects. Anyway, I did come across some new stuff for me; First in the claws of the Scorpion, I found to the bottom the fainter star of ν Scor. and through binos I see a nice double, and I read through high magnification, a double double can be seen. Using the third star of the claw down δ , delta, and going to the right of this, I found the glob of M80 looking like a fuzzy star and definitely using slightly averted vision to see this. Then putting Antares to the bottom right in the Field of View (F.O.V), I find the much easier to see glob M4 at top left F.O.V.

Going to the sting end of Scorpius and going from the third star up in the sting and putting this to the bottom F.O.V and slightly right of this is NGC6388 which is a glob needing slightly averted vision and appears to be somewhere between M4 and M80 to look at. I discovered another faint glob, not mentioned in my book by looking at the bottom star of the sting. This is a bit of a challenge and is smaller and fainter than M80, and by using slightly averted vision, looks like a "pin-prick" of a fuzzy star.

To the top, pointy bit of the Scorpion, and there are the stunning clusters of H12, the large scattered cluster and (looking like a bunch of grapes) NGC6231. These

clusters are lovely through binos, and the chain of stars that link these clusters outlines one of the spiral arms in our Galaxy, can any one tell me which spiral arm? Above and a little left of H12 another nice open cluster NGC6124 which is found more to the left depending on the angle of Scorpius at the time.

Then to finish the really stunning huge open cluster of M7 and to the left of M7, M6, the butterfly cluster. I was very pleased to see some of my favourites as well as a few new objects.

Also I am very pleased with myself by having a nice bino shelter. What is a bino shelter you may ask? Well the neighbour next door built a double storage garage complete with an upstairs window, which he considerably blocked off for me, and one of those nasty outside sensor lights which he kindly faced away from me, however despite the help and being considerate, there was still light leakage. Well, I made a lot of grumbly noises about that to "Mr Bino Power" and made even louder noises about buying a shed and leaving the roof off and within a couple of weeks I had a nice two sided wooden shelter that blocks off the light perfectly. Just what I needed.

Just between you and me and the fish tank, I think he likes me clearing off outside now and then and he gets the remote control to the telly all to himself!!

Bye for now and happy hunting.

Heather Skinner



THE SOLAR SYSTEM

mid June to July 2005

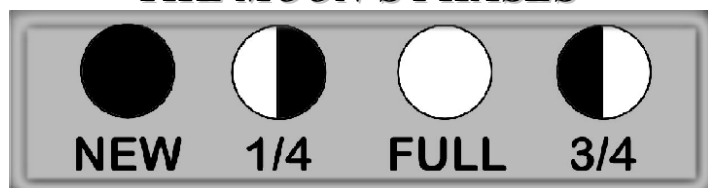
SUN

TIMES OF SUNRISE and SUNSET for Christchurch

Date	Jun 11	Jun 18	Jun 25	2005
Rise	7.58 am	8.01 am	8.02 am	NZST
Set	4.59 pm	4.59 pm	5.00 pm	NZST

Date	Jul 2	Jul 9	Jul 16	2005
Rise	8.02 am	8.00 am	7.56 am	NZST
Set	5.04 pm	5.08 pm	5.14 pm	NZST

THE MOON'S PHASES



New	1st QTR	FULL	Last Qtr
Jun 7	Jun 15	Jun 22	Jun 29
Jul 7	Jul 15	Jul 21	Jul 28

Events

As well as a rare chance to see an occultation of Jupiter by the Moon on June 16, Solar System observers will have the opportunity of seeing a triple conjunction of the planets Mercury, Venus and Saturn about 10 days later. The 3 are closest on the evening of June 26, although all 3 will be within a binocular field for a few nights either side of that date. Venus and Mercury will be less than 10' apart, a distance less than one-third of the diameter of the full Moon, on the two following evenings.

June also brings the winter solstice when the length of daylight hours reaches a minimum. The Sun reaches its furthest north on the evening of June 21 at about 7 pm. The date of earliest sunset is a week beforehand, while that of latest sunrise a week later.

If you haven't already registered for the RASNZ conference at Nelson, weekend of June 24 to 26, you need to do so very quickly, the time is getting short. If you can't find the registration form which was sent you last month, you can get one on the web at <http://www.rasnz.org.nz>. Click on the link there to get a down loadable form.

MERCURY VENUS and SATURN *The Triple Conjunction.*

At their closest on June 26, the three planets will be setting about 6.45pm, so the best time to look for them will be shortly before 6 pm when the sky to the northwest should be reasonably dark. Brilliant Venus, magnitude -3.9, will show up by easily by the time the Sun sets. Mercury and Saturn, magnitudes 0.0 and 0.2 respectively, will not show up until some time after sunset. Mercury and Venus will remain a close pair until mid July.

Mercury will be making its best evening appearance of the year during late June and July. By mid June it will be become visible as it moves up in the evening twilight towards Venus, which it will catch up on the evening of June 27. On that evening, Mercury will be below and to the left of Venus, the separation between the two closing to 8 minutes of angle (barely more than one-quarter of the full Moon's diameter).

By the following evening, Mercury will have moved past Venus and be 10 minutes directly above the brighter planet.

At the same time that Mercury is catching up with Venus, Saturn will be getting lower evening by evening and approaching Venus from above and to its right.

As Mercury draws up towards Venus, so the two will close in on Saturn. Saturn will be about 5.5 degrees above and to the right of Venus on June 21, so that the two will be within the field of view of most

binoculars. The distance between Saturn and Venus will shrink quite rapidly each evening, so that by June 23 the two will be three and a third degrees apart. Mercury will be about half this distance from Venus on it opposite side and so 5 degrees from Saturn. The three will then closely form a straight line. Now all three will be within a binocular field.

On the evening of June 26, the three planets will form their closest grouping. Mercury will be less than half a degree below and to the left of Venus. Saturn will be about one and a quarter degrees above and to the left of Venus and only slightly further from Mercury.

The following evening, when Mercury and Venus are at their closest, Saturn will directly to their left, one and three-quarters of a degree away.

After that date Saturn will drop further to the left of Venus and Mercury, but will be within 5 degrees up to the end of June.

Meanwhile Mercury and Venus will get a little higher in the evening sky, with Mercury almost directly above Venus until early July. Up to July 2 the two planets will remain less than a degree apart.

As they move up in the sky, the two will cross the edges of Praesepe (or the Beehive, M44) star cluster, Mercury on July 3 and Venus on July 4. You would need to wait until the north-west sky was almost dark to be able to see the cluster, binoculars will obviously be a great help. With the planets not setting until shortly after 7, two hours after the Sun, this should not be a problem, although they will be getting low. Venus will make their position obvious.

By July 14, Venus will have caught up again with Mercury in altitude as the latter starts on its return to the Sun, quite slowly at first. On July 14 Venus will be 3.6 degrees to the left of Mercury, with the two setting about 7.30 pm. By then Mercury will have faded a little to be at magnitude 0.8.

After mid July, Venus will begin to pull away more rapidly from Mercury, the distance between the two first exceeds 5 degrees on July 17. After mid July Mercury will quite rapidly lose brightness and drop back into the evening twilight. Venus will slowly climb further into the evening sky, passing 1 degree from the star Regulus on the evening of June 22 and 23 as it does so.

Meanwhile, Saturn having passed the two inner planets on June 26 will get lower and lower each evening to soon get lost in the evening twilight. Saturn is at conjunction with the sun on July 23, so will be too close to the Sun to observe by early July.

More notes and diagrams, including an animated one, can be found on the RASNZ web site, <http://www.rasnz.org.nz>. Click on the link to triple planetary conjunction.

JUPITER will be still be well placed for evening viewing during June and July after the three planets

have set. At the end of June the planet will be due north and highest at about 6.30 pm and two hours earlier by the end of July. So the best time for viewing Jupiter will be early evening as soon as the other planets have gone. By the end of July, Jupiter will be setting at 11 pm, so will get low by mid evening.

MARS still remains in the morning sky. Even by the end of July, it will not rise until 12.30 am, it is being very reluctant to move into the evening sky. So still the best time to look for Mars will be before sunrise, especially with the late time of the sun appears. During July Mars will brighten by half a magnitude from 0.0 to -0.5, so will be becoming a prominent object. An hour or so before sunrise it will be an obvious object to the north.

Brian Loader

Reminder

The Annual Mid Winter Star Party at West Melton will be Saturday 18th June, Wet or Fine. **This is the weekend before the Main Meeting.**

CasMag

Via email

For those interested in getting their Monthly CasMag by email, a mailing list has been setup to send out the latest CasMag to members in Adobe Acrobat format (PDF file).

As an indication of the file size involved, the March 2005 CasMag was a larger than average (16 pages instead of 12) edition, and the PDF file being emailed was just over 700 Kilo-Bytes in size.

To subscribe, just send an email to:
casmag-subscribe@hynlar.co.nz

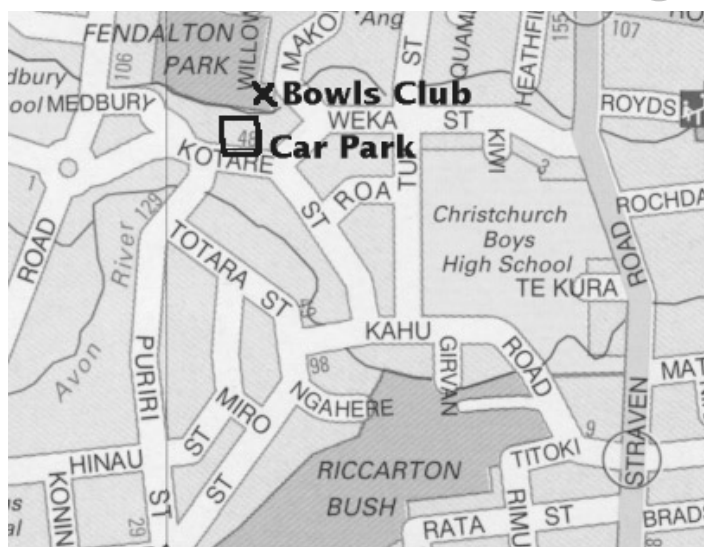
If you have any queries regarding the CasMag mailing list, please send an email to:
editor@hynlar.co.nz and I will do my best to answer your questions.

Please Note:

This service is only available to members of the Canterbury Astronomical Society (Inc.) on your request.

David Downing

New Astronomers Meeting



Fendalton Men's Bowling Club
Public car park is off Kotare Street.
2nd Tuesday of the Month

Observing Sunspots

Part Three

As I write this after nearly a week of cloud and drizzle the sky has now partly cleared. The sun is shining, so I can observe the sun today. A glance at my notes when I last saw the sun a week ago shows I then could see four groups. By now two of these groups will have rotated round the west limb. But group 0759 last seen as a Dhi group roughly to the north and slightly east of the sun's centre should still be visible near the west. Group 0763, which was a Dsi group a little way in from the east limb should have rotated to a little west and slightly south of centre. So I go out to our observatory, put the solar filter on the telescope. Then roll back the roof and align the telescope using the shadow to aim the telescope at the sun, the finder being covered for safety. What can we see today?

First and most obviously I can see group 0759 nearing the west limb as I expected. It is now just an Hhx group: a single large spot with a penumbra. It is getting near enough to the limb to be showing foreshortening and the Wilson effect (more about this below). The 'seeing' today is not as good as I hoped so I cannot be sure that there are no other spots in this group. So I watch it steadily for a few minutes waiting for the all too brief moments when the seeing is steadier. As I watch I notice a number of small brighter streaks on the sun's surface nearby. These are called faculae and are easier to see near the sun's limb where limb darkening increases the contrast. No more spots visible in this group today, it must be beginning

to fade.

So far I haven't seen the other group I expected to see. It should be a little west of centre and slightly south of the equator. It must have faded although the NOAA daily bulletin for yesterday listed it as an Eai group with 11 spots. That is a group extended 10 to 15 degrees with at least a couple of penumbra and a number of spots in between. I keep looking carefully. A few moments of better seeing and, yes, I can see a small faint spot just where I expected to see the group. This group must be fading away as I can only find this one small Axx spot where I expected to find a group of several spots. I look long enough to satisfy myself that no others in that group are visible. The seeing is not very good as the spot in this group frequently disappears with the motion due to (earthly) atmospheric disturbances.

Now look for any new spots that appeared since I last observed the sun nearly a week ago. I take some time to do this as it can be quite hard to see small new spots, especially when the seeing is not very good. No, there don't appear to be any new groups but there are also some bright streaks of faculae near the east limb. These could be heralding the return of group 0757, last seen a couple of weeks ago disappearing round the west limb.

In the above notes I mentioned several different things you can observe when looking at the sun. First 'limb darkening'. This is a very subtle lighting effect due to the fact that we are looking at a large sphere or ball, not a flat disk. Light is radiating directly out from the Sun. This means that much of light coming from the apparent edge of the Sun is not directed towards the earth, whereas all the light from the apparent centre of the sun is directed towards us. Consequently the Sun's limb does not appear to be quite as bright as the centre. This effect shows up more in photographs than in visual observation because the human eye readily adapts to variations in brightness. However the limb darkening effect does mean that contrast is improved near the Sun's limb, so that phenomena such as the bright streaks of faculae are more easily seen there.

Faculae usually appear before a sunspot forms and generally persist for sometime after a sunspot or group has faded away. Faculae appear to the visual observer as bright streaks or bright networks of veins. These form in the upper photosphere and mark areas where the photosphere has been heated several hundred degrees higher than the surrounding undisturbed photosphere. This heating is due to areas of increased magnetic activity. Each streak may be 5,000 to 10,000 km wide and be made up of segments up to 50,000 km in length. Longer streaks usually consist of a number of segments end to end. The areas of faculae are normally considerably larger than the area of corresponding sunspot groups. Many areas of

faculae do not give rise to visible sunspots, however sunspot groups always have areas of faculae around them.

I also mentioned the foreshortening and Wilson effect on spot 0759 as it nears the West limb. The foreshortening effect is simply the result of perspective. When a sunspot is in the centre of the sun we are seeing it 'full on' - a symmetric spot will appear roughly circular. When the same spot is near the sun's limb we are seeing it 'from the side' so it appears to be narrowed. This narrowing is known as foreshortening.

The Wilson effect was first described by Alexander Wilson in 1769 and is related to foreshortening in that it is apparent only when a spot is seen near the limb. However the Wilson effect is very different. A round symmetrical spot when viewed near the sun's limb no longer looks symmetrical. The penumbra facing the centre is narrowed more than the narrowing due to foreshortening. The penumbra nearest the limb is widened. As a result the umbra appears displaced and the entire spot may appear to form a crater. This effect is the result of the penumbra being slightly more transparent than the surrounding photosphere and the umbra being even more transparent so that we are able to 'see' to greater 'depth'. Diagram 1 illustrates how the

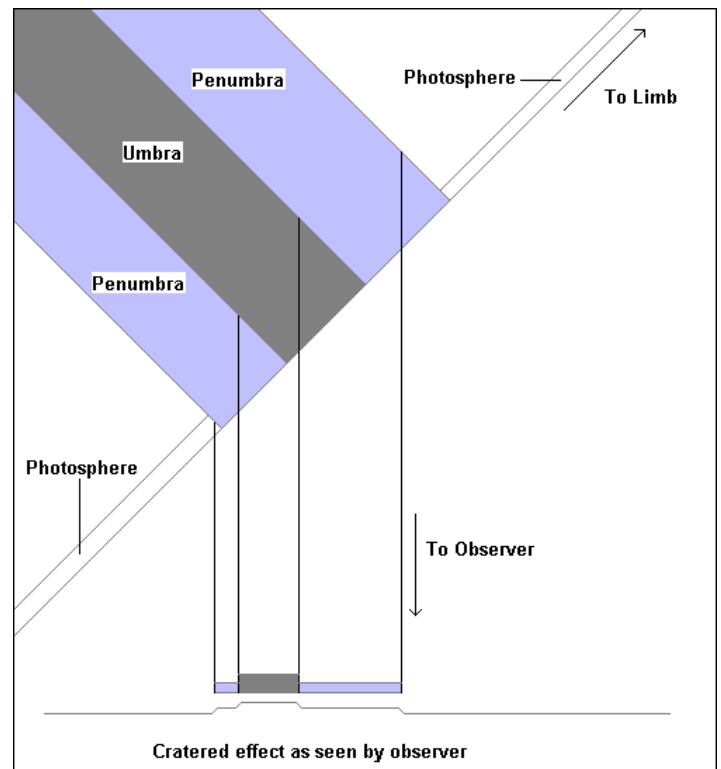


Diagram 1 Wilson effect

greater transparency of the spot enables the observer to 'see' into the spot further and why this distorts the view. In diagram 2, spot 'a' illustrates a large symmetric spot as it appears near the centre of the sun. Spot 'b' shows the narrowing due to limb foreshortening and spot 'c' shows the distortion due to the Wilson effect. The Sun's limb being on the right

in this case.

The first diagram is copied from a book published

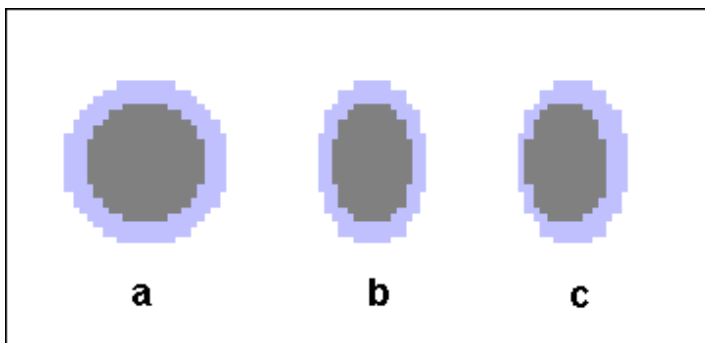


Diagram 2

by Loughhead and Bray in 1964. The second diagram has been adapted from the Solar Astronomy Handbook by Beck, Hilbrecht, Reinsch and Völker published in 1995.

This month I have described three features you can observe near the Sun's limb. In future articles I hope to look at some of the other features that can be observed when looking at the Sun. In the meantime if you wish to observe the sun for yourself sure you do so safely. Either use an approved solar filter or, if your telescope is suitable, use a projection of the sun's image. NEVER look directly at the sun through a telescope as permanent damage to your eyesight will result. Please refer to my earlier articles in Casmag or for more information on Safe Solar Observing go to the website

http://skyandtelescope.com/observing/objects/sun/article_162_1.asp

Pauline Loader, 19 May 2005

References:

1. "Sunspots" by R. J. Bray and R. E. Loughhead, originally published in 1964 by Chapman and Hall (London) and John Wiley and Sons (New York). The edition I have was published by Dover Classics in 1979.
2. "Solar Astronomy Handbook" by R. Beck, H. Hilbrecht, K. Reinsch and P. Völker. English edition published by Willmann-Bell, Inc (Virginia, USA) in 1995.
3. The NOAA solar region summary website <http://www.sel.noaa.gov/ftpmenu/forecasts/SRS.html>
4. Safe Solar Observing website http://skyandtelescope.com/observing/objects/sun/article_162_1.asp

Baikonur Cosmodrome Turns 50

BAIKONUR, Kazakhstan (AP) _ Born in Cold War secrecy and the scene of Soviet space triumph

and tragedy, the Baikonur cosmodrome marked its 50th anniversary Thursday, hailed by the presidents of Russia and Kazakhstan as a technological workhorse on the wind-swept steppes of Central Asia.

Baikonur launched the first satellite and the first man into space, and is now home to the Soyuz rockets that service the international space station, shuttling crucial deliveries, along with Russian cosmonauts and American and European astronauts.

At a ceremony celebrating the cosmodrome's construction in 1955, a decade after the end of World War II, Russian President Vladimir Putin hailed it as "a heroic feat ... of the people who had just gone through a devastating war."

"Today, Baikonur is rightly considered the world's leading cosmodrome, and it's good that its unique potential is being actively engaged and is developing consistently," Putin said, accompanied by Kazakhstan President Nursultan Nazarbayev. "It makes a key contribution to the international space station."

Initially designed as a testing ground for a top-secret Soviet ballistic missile program, Baikonur was a key site in Moscow's space race with the United States in the 1950s and 1960s, and saw many historic firsts in exploration.

Sputnik, the first satellite to orbit the Earth, blasted off from here in 1957, and cosmonaut Yuri Gagarin, the first man in space, was launched from Baikonur in 1961 _ 23 days before the United States sent aloft its first astronaut, Alan Shepard.

Baikonur also sent the first woman into space, Valentina Tereshkova, in 1963, and was used for missions that built and maintained the space station Mir in the 1980s and 1990s.

For all the success at Baikonur, there was also disaster: A missile exploded on a launchpad on Oct. 24, 1960, killing 165 workers. The accident was shrouded in secrecy for 30 years.

After the 1991 Soviet collapse, Kazakhstan inherited the cosmodrome and now leases it to Russia, which uses it as its sole launch site for manned space missions.

In the past two years, Baikonur has been the only gateway to the international space station since the U.S. space shuttle fleet was grounded after Columbia disintegrated during its return to Earth, killing all seven astronauts aboard.

The cosmodrome extends for 50 miles from north to south, and for 80 miles east to west. It has dozens of launch pads and five tracking-control centers, nine tracking stations, and a 930-mile missile test range.

During their visit, Putin and Nazarbayev toured a plant where Proton rockets and satellites are assembled. They later met with veterans of space exploration.

They also laid the foundation stone of a new joint Russian-Kazakh launch complex, Baiterek, for the

more environmentally friendly Angara vehicle. The Angara is meant to be an alternative to Russian boosters now in use, some of which use poisonous fuel and litter the countryside with the debris of burned-out rocket stages.

The \$400 million complex is expected to be completed in 2008-2009.

The Baiterek project is seen as the result of Kazakhstan's long campaign to minimize pollution from rocket launches from their territory and also a breakthrough in the oil-rich nation's ambitious plans to become Russia's partner in space exploration.

Russia pays \$115 million annually for the use of Baikonur under a deal effective through 2050. The cash-strapped Russian space agency has abandoned many programs since the collapse of the Soviet Union, leaving many Baikonur facilities to rust and crumble.

By Bagila Bukharbayeva
Associated Press Writer

For Sale

17.5 inch F4.5 Dobsonian, similar to the Societies own 24inch.

Asking Price is \$4,600
eMail: pdudfield@gmail.com

NASA May Launch Phoenix Mars in 2007

LOS ANGELES (AP) -- NASA is moving ahead with plans to put a long-armed lander on Mars' icy north pole to search for clues for water and possible signs of life, the space agency said Thursday.

The \$386 million Phoenix Mars is scheduled to touch down in the Martian arctic in May 2008. The stationary probe will use its robotic arm to dig into the icy terrain and scoop up soil samples to analyze. In 2002, the Mars Odyssey orbiter spotted evidence of ice-rich soil near the arctic surface.

Scientists hope the mission will yield clues to the geologic history of water on the Red Planet and determine whether microbes existed in the ice.

will be the first mission of the Mars Scout program, a renewed, low-cost effort to study the Red Planet.

During the next two years, scientists will test the spacecraft and payload as well as choose a landing site in the northern latitudes based on information gathered by the Mars Reconnaissance Orbiter that will launch in August.

"The mission explores new territory in the northern plains of Mars analogous to the permafrost regions on Earth," principal investigator Peter Smith of the of , ,

said in a statement.

True to its name, rose from the ashes of previous missions. The lander for was built to fly as part of the 2001 Mars Surveyor program. But the program was scrapped after the high-profile disappearance of the Mars Polar Lander in 1999. The Polar Lander lost contact during a landing attempt near the planet's south pole after its rocket engine shut off prematurely, causing the spacecraft to tumble about 130 feet to almost certain destruction.

The probe had been in storage at a Lockheed Martin clean room in before it was resurrected for its current mission. It will carry science instruments that were designed for the Mars Surveyor program including an improved panoramic camera and a trench-digging robotic arm.

will lift off from the in August 2007 and land on the planet nine months later. The mission is managed by NASA's Jet Propulsion Laboratory in .

Alicia Chang
Associated Press



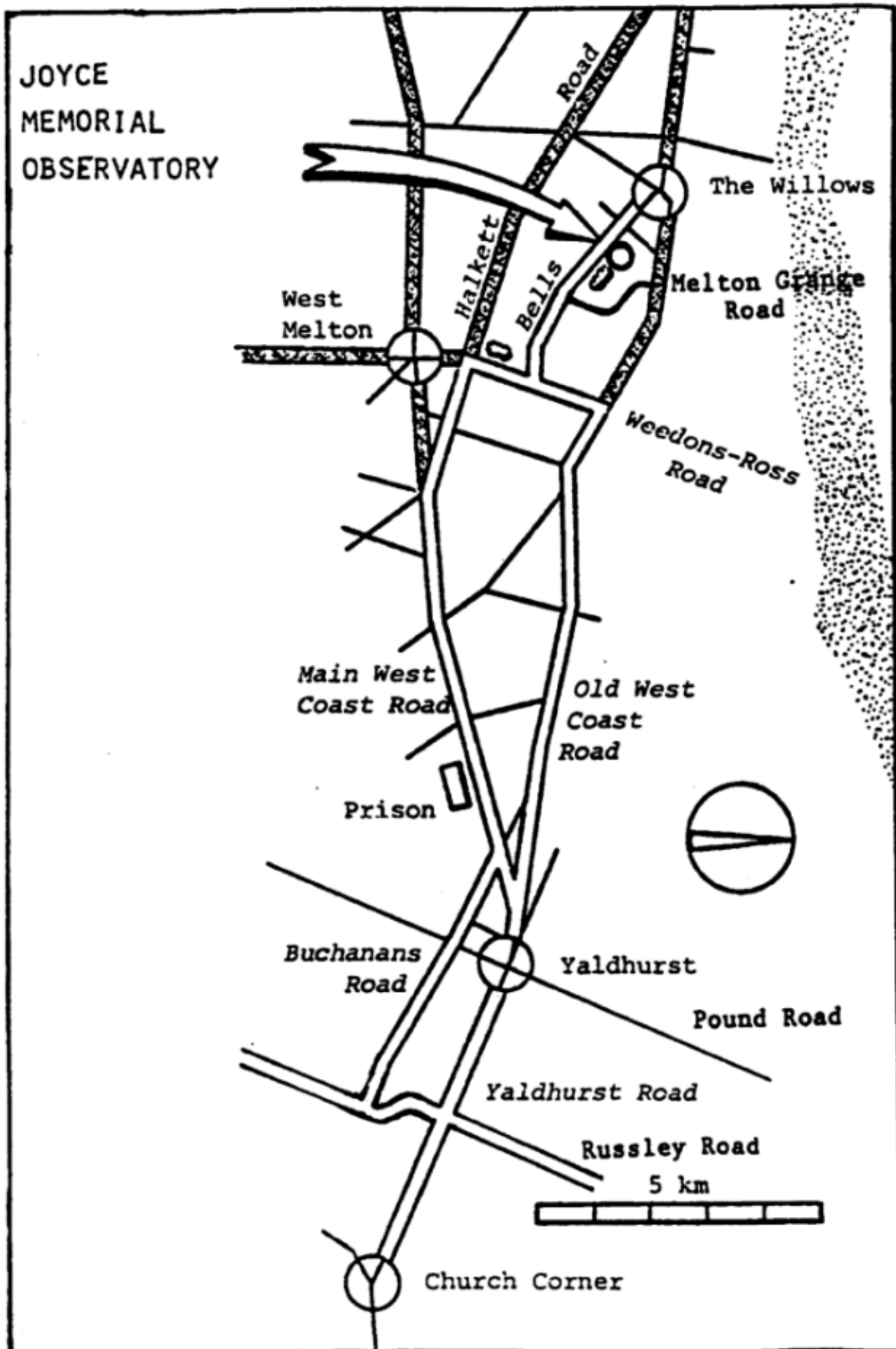
Mid Winter Star Party

For those looking to head out to West Melton for the Mid Winter Star Party, (This **IS** Wet or fine) I am once more printing a copy of the route map to our facilities. Starting time is early evening.

This is purely a "Social" event, We look forward to seeing the whole family out there.

Please note that if it is clear, the "traditional bonfire" will likely prohibit any observing! As I said this is a "Social" event for every one to get to know each other better.

West Melton Route Map on next Page:



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SPACE CALENDAR

June 2005

- 03 - 40th Anniversary (1965), Gemini 4 Launch, USA's First Spacewalk (Ed White)
- 08 - 30th Anniversary (1975), Venera 9 Launch (Soviet Venus Orbiter/Lander)
- 08 - 40th Anniversary (1965), Luna 6 Launch (Soviet Moon Flyby)
- 08 - Giovanni Cassini's 380th Birthday (1625)
- 11 - 20th Anniversary (1985), Vega 1, Venus Landing/Balloon
- **14 - Pluto At Opposition**
- 14 - 20th Anniversary (1985), Vega 2, Venus Landing/Balloon
- 14 - 30th Anniversary (1975), Venera 10, Venus Landing
- 16 - Progress M-53 Soyuz U Launch (International Space Station 18P)
- **16 - Moon Occults Jupiter**
- 17 - 5th Anniversary (2000), Discovery of the Dhofar 378 Meteorite (Mars Meteorite)
- 20 - 335th Anniversary (1670), Discovery Of Nova 1670 Vulpeculae
- 21 - Summer Solstice, 06:46 UT
- 21 - Cosmos 1 Volna Launch (Solar Sail Mission)
- 21 - Cosmos-OkO N87 Molniya M Launch
- **22 - Royal Greenwich Observatory's 330th Birthday (1675)**
- 23 - GOES-N Delta 4M Launch
- 23 - Express AM-3 Proton K Launch
- 24 - Spaceway 2/ Telcom 2 Ariane 5ECA Launch
- 24 - Fred Hoyle's 90th Birthday (1915)
- 25 - Rupert Wildt's 100th Birthday (1905)
- 26 - Astro E-2/Cute 1.7 M-V Launch
- **26 - Mercury Passes 1.4 Degrees From Saturn**
- **26 - Venus Passes 1.3 Degrees From Saturn**
- 26 - Charles Messier's 275th Birthday (1730)
- **27 - Mercury Passes 0.1 Degrees From Venus**
- 30 - Monitor E N1 Rokot KM Launch
- 30 - Deep Impact, Trajectory Correction Maneuver #4 (TCM-4)
- 08 - Cassini, Orbital Trim Maneuver #25 (OTM-25)
- 09 - Mercury Greatest Eastern Elongation (26 Degrees)
- 10 - NROL-20 (B-26) Titan 4B Launch (Final Launch of the Titan 4B)
- 10 - Galaxy 14 Soyuz FG-Fregat Launch
- 11 - 15th Anniversary (1990), Gamma Observatory Launch (Soviet Union)
- 13 - STS-114 "Return To Flight" Launch, Space Shuttle Discovery, PCSat 2
- **13 - Moon Occults Jupiter**
- 14 - Cassini, Enceladus Flyby
- 14 - 40th Anniversary (1965), Mariner 4, Mars Flyby
- 15 - TWINS-A Pegasus XL Launch
- 15 - 30th Anniversary (1975), Apollo 18 Launch (Apollo-Soyuz)
- 16 - 15th Anniversary (1990), Badr-A Launch (1st Pakistan Satellite)
- 16 - 40th Anniversary (1965), 1st Proton Rocket Launch (USSR)
- 17 - 30th Anniversary (1975), Apollo-Soyuz Handshake
- 18 - 40th Anniversary (1965), Zond 3 Launch (USSR Moon Flyby)
- 20 - 5th Anniversary (2000), Discovery of Jupiter Moon Callisto
- 22 - Cloudsat/ Calipso Delta 2 Launch
- 23 - 10th Anniversary (1995), Alan Hale's & Tom Bopp's Discovery of Comet Hale-Bopp
- 24 - 55th Anniversary (1950), 1st Rocket Launch from Cape Canaveral (Bumper/V-2 Rocket)
- 25 - Christoph Scheiner's 430th Birthday (1575)
- 26 - 100th Anniversary (1905), Paul Gutz's Discovery of Asteroid 568 Cheruskia
- 27 - 100th Anniversary (1905), Johann Palisa's Discovery of Asteroid 569 Misa
- **29 - South Delta-Aquarids Meteor Shower Peak**
- 30 - 100th Anniversary (1905), Max Wolf's Discovery of Asteroid 570 Kythera
- 30 - 395th Anniversary (1610), Galileo Observes Saturn's Rings

August 2005

- **01 - Alpha Capricornids Meteor Shower Peak**
- 01 - Helen Battles Sawyer Hogg's 100th Birthday (1905)
- 02 - MESSENGER, Earth Flyby
- 02 - Cassini, Mimas Non-Targeted Flyby

July 2005

- 02 - Deep Impact, Trajectory Correction Maneuver #5 (TCM-5)
- 02 - 15th Anniversary (1990), Giotto, Earth Flyby
- 02 - 20th Anniversary (1985), Giotto Launch (ESA's Comet Halley Mission)
- **03 - Deep Impact, Impactor Release**
- 04 - Deep Impact, Comet Tempel 1 Impact/Flyby
- 04 - Earth At Aphelion (1.017 AU From Sun)
- 05 - Comet Tempel 1 Perihelion (1.506 AU)



Please Submit your articles for the June edition of CasMag by the 30th of June.

SPECIALIST SECTIONS

Aurorae & Solar	Orlon Petterson	942-5382
Comets	Orlon Petterson	942-5382
New Astronomers	David Downing	385-8170
Occultations & Minor Planets		
	Brian Loader	(03) 318-7659
Astrophotography	Phil Barker	383-3683
Variable stars and photometry		
	Clive Rowe	(03) 318-3166
	c.rowe1@xtra.co.nz	
Telescope Making	Phil Barker	383-3683

New Astronomers Meeting

Tuesday, 14th June

**2nd Tuesday of Month. (No Meeting
January)**

Starting at 7.30 pm

**DEADLINE FOR CONTRIBUTION
FOR NEXT CASMAG IS ...**

30th June 2005

Address of the
Ashburton Astronomical Society
c/- 11 Queens Drive
Ashburton.

SUN

**TIMES OF SUNRISE and SUNSET for
Christchurch**

Date	May 7	May 14	May 21	2005
Rise	7.26 am	7.34 am	7.41 am	NZST
Set	5.24 pm	5.16 pm	5.09 pm	NZST

Date	May 28	Jun 4	Jun 11	2005
Rise	7.47 am	7.53 am	7.58 am	NZST
Set	5.04 pm	5.01 pm	4.59 pm	NZST

THE MOON'S PHASES

New	1st QTR	FULL	Last Qtr
May 8	May 16	May 23	May 30
Jun 7	Jun 15	Jun 22	Jun 29

Canterbury Astronomical Society (Inc.)
P.O. Box 25-137
Victoria Street Post Office
CHRISTCHURCH

OFFICERS AND COMMITTEE

2005/2006

President:	Ian Crumpton	(03)342-5375 crumpton@clear.net.nz
Vice-President:	* Richard Rutherford	327-7579 rrutherford@caverock.net.nz
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Mem Sec.:	John Osborne	355-0593 john.osborne@paradise.net.nz
Editor:	* David Downing	385-8170 david@hynlar.co.nz
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	* Euan Mason	348-2671
	Graham Townsend	322-8457 towlea@clear.net.nz
	Ken McMaster	
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West Melton Observatory		347-9231
Observatory CAS Members		347-9261

(* denotes keyholder to West Melton Observatory.
Any of these people may be contacted for supervised
access to the observatory.)

WEST MELTON OBSERVATORY

For observatory bookings and Enquiries, please
contact

Lionel Hussey Cell Ph: 021 296 4780

Obs. Groups Helper Co-Ordinator

Richard Rutherford 327-7579

SUBSCRIPTION INFORMATION

Financial year April to March

Standard membership.....	\$50
Family membership.....	\$75
All others classes (Junior,.....)	\$25
Senior Citizen, Tertiary Student & Educational)	