



CAS MAG

The official magazine of the Canterbury Astronomical Society

www.cas.org.nz www.facebook.com/CanterburyAstronomicalSociety

Monthly Meetings:

Our 3rd Tuesday of the month Members meetings have finished for this year and will start again 18th February 2025.

The Saturday at Observatory nights will start again 22nd February 2025.

Thanks to our Speakers this past year for the informative evenings



CAS CHRISTMAS BBQ 7TH DECEMBER 2024



From 5pm, BBQ starts at 6pm

CAS will supply Meat, Breads, Sauces.

Please bring salads, deserts to share with others

Your CAS Committee wishes
You and Your Family
a Happy and Safe Christmas and Holiday season



We look forward to seeing you next year

IN THIS MONTHS ISSUE

Front Cover;	Monthly meeting information
Page 2:	In this Issue /Editor Notes
Page 3:	Calendar Dates /PO Box Closed
Page 4:	2024 Open Nights /Monthly Meeting Info
Page 5:	Welcome new Members/ASTRONZ Referral
Page 6:	Special General Meeting/Observatory Info
Page 7:	Observatory Updates
Page 8:	Images from 2024
Page 9:	Images 2024 cont
Page 10:	Images 2024 cont
Page 11:	Hororata Highland Games Report
Page 12:	Raffle Results
Page 13:	Stardate SI 2025 Info/Central Star Party 2025 Info
Page 14:	Heather's Note's
Page 15:	CAS Merchandise
Page 16:	Clothing/ Library Corner/Quotes for the Month
Page 17:	Members Interest Sections/2025 Subs Due Date
Page 18:	Security at the Obsevatory
Page 19:	Sponsors page
Page 20:	Evening sky in Map for December 2024
Page 21:	Evening sky in Text for December 2024
Page 22:	Contact Information
Page 23:	Membership Form/Payment Details

From Your Editor

December is here, a busy time for many folks & families, schools finishing & all the Christmas planning, Holiday time for some.

Its great to see all the gardens around the city/country side all blooming with the summer plants/flowers. The changes with daylight hours back in September also means changes to observing hours, and the changes to the summer night sky.

Remember to keep looking up. I happened to up and outside at 4am 1/12/24 & saw the Chinese launcher burn (What a sight to the eye) then on 2/12/24 3.52am saw the newest Star link chain heading across the sky

This is your Casmag, for YOU our members,

So I welcome any ideas or articles you would like to share with the other members. Please email your Article or favourite photo with details so I can include it in future issues.

Deadline for each issue is 1st of each month

Remember you can have your advert added in the future casmag's,

Any questions, Ideas or suggestions please email to editor@cas.org.nz

Dale Kershaw

[Please see page 22 for notes:](#)

CAS Calendar December 2024—February 2025



December 2024

Saturday 7th	CAS Christmas BBQ at Observatory
Monday 9th	First Quarter
Tuesday 10th	Committee Meeting
Sunday 15th	Full Moon
Monday 23rd	Last Quarter
Tuesday 24th	Christmas Eve
Wednesday 25th	Christmas Day
Thursday 26th	Boxing Day
Tuesday 31st	New Moon
	New Years Eve

January 2025

Wednesday 1st	New Years Day
Thursday 2nd	Day after New Years
Tuesday 7th	First Quarter
Tuesday 14th	Full Moon
Wednesday 22nd	Last Quarter
Thursday 30th	New Moon

February 2024

Wednesday 5th	First Quarter
Thursday 6th	Waitangi Day
Tuesday 11th	Committee Meeting
Thursday 13th	Full Moon
Tuesday 18th	CAstronauts @ University 6.30-7.30pm
	Members Meeting @ University from 7.30pm
Friday 21st	Last Quarter
Saturday 22nd	Members Night @ Observatory
Thursday 27th-Sunday 2nd March:	
	Stardate South Island @ Staveley
Friday 28th	New Moon

CAS Mailing Address Change

The committee has decided to close the PO BOX and have installed a Mail box at the Observatory,
 The Mailing address is now
 Canterbury Astronomical Society
 218 Bells Road
 West Melton
 7671

2024 Open Night Season

Our 2024 Open night season closed at the end of Daylight Saving. We had 1 extra night on 11th October with a later start time. Those who were there were very lucky to see the Aurora that evening.

Our Thanks go to all of our volunteers who have assisted over this year with both Wednesday, Friday Group, Public Nights as well as Kidsfest. These nights are a major part of our Outreach program and bring in much needed funds to keep the Society and Observatory running including the maintenance and upgrades.

Remember no matter your experience you are able to help on these nights, We will find something for you to do and it also is a great way to continue your learning/training with these events.

Your volunteering helps assist in supporting the society financially,

So Many Thanks to you all who have helped this 2024 season

Your CAS Committee.

MONTHLY MEETINGS:

Meeting Venue:

Room ER 225 in the Ernest Rutherford Building, University of Canterbury, Entrance to the building will be via the north side entrance, Then using the lift or stairs up to level 2

If you have any suggestions for speakers or would like to give a talk at our members meeting

PLEASE CONTACT MANDY WITH YOUR SUGGESTIONS OR IF YOU CAN GIVE A TALK via secretary@cas.org.nz

Upcoming Members Meeting Dates:

REMINDER: NO MEMBERS MEETINGS

DECEMBER OR JANUARY

18th February 2025: Speaker to be confirmed

18th March : CAS AGM

(correct as at 20th November 2024, Subject to change as required)

Many thanks go to Sharlene Wilson and Orlon Petterson from the School of Physical and Chemical Sciences, University of Canterbury for arranging the meeting room for CAS this year.

Also Thanks to Associate Professor Karen Pollard for organising the Lecture theatres for our public talks

WELCOME TO OUR NEW MEMBERS:

A warm welcome to our new members, We look forward to meeting you at our meetings and/or events, Please make yourselves known to others. We like to welcome our new members here after the membership is accepted by the committee at the meeting following memberships are received.

Welcome to these New Members we accepted recently:

Marilyn Denton-Rowe—Senior

Nicholas Witte -Senior

Kaliat Ramesh—Adult

Henry Allison -Senior

Rob & Bev Duncan—Family



Welcome to all our New Members, I hope you enjoy reading CASMAG and remember to keep an eye on the website for any updates

It is always great to see our new members coming along to our Members Meetings, Members Nights and Events.

Apologies from the editor for any spelling mistakes in the names

ASTRONZ

For all of our members "ASTRONZ" offers

Friends of Astronz Referral Scheme

How it Works

- When someone purchases an item from ASTRONZ, they can use a unique referral code linked to your society or business.
- Your society or business receives 5% of the purchase amount (subject to terms and conditions) as a token of our support.
 - Referral rewards are accumulated and distributed quarterly.

How to Participate

The ways to engage with our referral scheme:

Unique Referral Code: Members can use your society's specific code during checkout.

This means that CAS receives a donation from ASTRONZ when you make your purchases. You need to use this code when ordering for CAS to benefit from the scheme

Code: 'AS-CAS'

We welcome *Andrew Buckingham* back to ASTRONZ, Andrew has a huge knowledge base and is very happy to answer your questions



CAS SPECIAL GENERAL MEETING

New Treasurer

Due to David Brian resigning as our treasurer since the AGM in March.

We held a Special General Meeting on 15th October 2024 to elect a new Treasurer.

Brent Schroeder was nominated & 2nd for the role.

All in attendance agreed. Brent was elected.

Thanks to Brent for accepting this new role.

The committee extends to David Brian many thanks for all of his efforts and assistance in this and other roles he has held over his time on the committee.

The committee wish him and his family all the best for the future and we hope to see you all at future events

OBSERVATORY IMPORTANT INFORMATION

DOOR CODE & ALARM AT THE OBSERVATORY

The Door code and Alarm code has been changed with the new lock being installed available to members, Ask a committee member for the passwords.

INTERNET WI-FI:

Ask a committee member for the password

LASER POINTERS:

There is a legal requirement when importing them, and information is on our website and at the observatory, CAS has a drafted a set of guidelines which we were presented at our AGM and were voted and added to our By-Laws,

If you need a letter confirming your membership for your application, please contact either membership secretary or secretary,

(This letter will state you are a current financial member of our society)

ACCREDITATION

A reminder that unless you have full accreditation on the equipment you are not to use the equipment unless there is an accredited person with you.

Full training is available, Please ask our Observatory Director how you can get your Accreditation. There is a full list of accredited person's on the wall above the kitchen sink inside the lodge. contact Brent (our Observatory directory via his email listed on our website or the inside back page of this casmag

OBSERVATORY UPDATES

It has been busy this past year with several ongoing Updates/Projects at our Observatory.

Including the revamp of our Library: All of books are now housed on the new bookcase, A fresh coat of paint, new carpet and curtain and 2 nice chairs so you can sit and read, Have a look next time you visit the Lodge.

New Garden Shed: This has been sited in-between the 16inch and 14 inch buildings, We will be moving all the gardening, maintenance items from the lean to behind the 14inch into this when the final touches have been completed.

Toilet's Facelift: A fresh coat of paint to the ceiling, walls, floor and doors was completed in April,

Gardening/Working Bees:

We have had 2 this year for general garden tidy up and thanks to those who came along to help with this, Keeping the Observatory grounds tidy through the year is an ongoing job, Regular lawn mowing now that summer is here is a weekly exercise. Thanks to those who have helped both Terry & Brent with this job, As they say "Many helpers make it easy to keep things sorted"

IMAGES FROM 2024

Here is a selection of images from our members from this past year.



Above: left to right
Toilets showing before and after
Inside 14 inch with the new rubber matting installed
and the steps painted and safety edge fitted



- 1) Library refresh finished
- 2) Front end of Lodge refresh
- 3) Set up for Public Nights

Photos this page:
Mandy H & Dale K



IMAGES FROM 2024 cont



Above and Left: Members night at Observatory, 24th August 2024. Thanks to *Preetha Sreedharan* for these images



CAS sticker spotted in West Auckland in October. Photo: *Ruth S*



Letterbox installed at Observatory



Image from inside the 14 inch, 8th July 2024 John was experimenting with an app he uses, Centaurus with the Pointers. *John Pickering*

IMAGES FROM 2024 cont

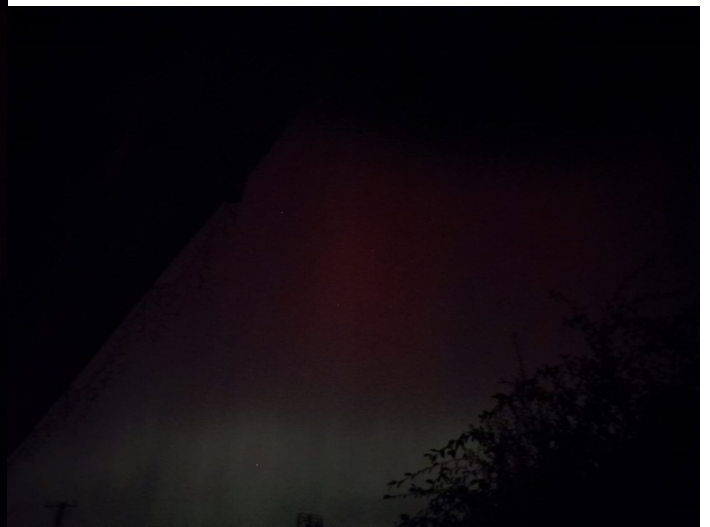


Brent, Terry and Gary have been working hard to install the new garden shed. Since these photos were taken the doors have been fitted and the floor stained. Some finishing touches to still be done to complete this.

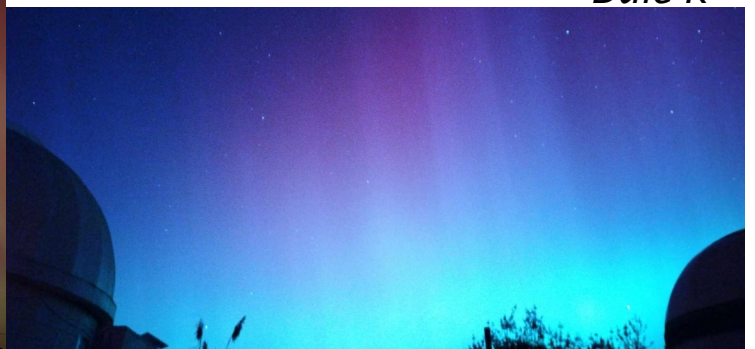
On 11th May 2024 we had an amazing Aurora, People from all over Christchurch were out taking photos and viewing this amazing event. It was visible to the naked eye right up to Auckland. Some of our members were out from 5pm until 2am, visiting several places, then out to the observatory.



At Lake Ellesmere 9pm,



From St Albans 12.30am 12th May
Dale K



Left: Lake Ellesmere 9.30pm *Nick Fagg*
Above: At Observatory between
12-1,30am 12th May *Tom Heslop*

CAS at HORORATA HIGHLAND GAMES 9TH NOVEMBER 2024

7.30-8.30am on 9th November saw us setting up our gazebos for our 3rd time at Hororata Highland Games. The day was very busy with over 10.000 visitors to the event. We had telescopes, solar scopes and a Seestar50 set up for the public to view. Along with our range of merchandise and the raffle tickets, We had a “Guess the Number of Stars” in the Jar Competition, this was popular with both the young and old with over 220 entries, No one guessed the correct number, but the closest was awarded 1st prize and the 2 either side of that a small gift. Our Raffle was drawn at 3pm by the Mitre 10 lady. All prize winners have been contacted. This is a major fundraiser for us with all the main prizes being donated.



2024 FUNDRAISING RAFFLE RESULTS

Thanks to everyone who supported our 2024 Raffle.- All funds go to supporting CAS'S outreach education programme for our Kids and the local community. All prizes winners have been contacted. We gratefully thanks the following for their support and generosity in donations for our Raffle prizes:

ZWO
ASTRONZ
Photo Warehouse (Christchurch)
Explore Scientific

1	ZWO Optical SEESTAR 50 Digital Telescope with Tripod & CAS Membership	Serena
2	ASTRONZ Astronomical Binoculars & CAS Membership	Alan T
3	Benro Camera Tripod with Camera Bag & CAS Membership	D Granger
4	Explore Scientific G600 Binoculars & CAS Membership	Jan W
5	Camera Bag & Cas Membership	Anne W
6	Calendar, Drink bottle, Cushion Cover, Pen, Patch etc +CAS Membership	Nick
7	Calendar, Drink bottle, Cushion Cover, Pen, Patch etc +CAS Membership	Sebastian
8	Calendar, Drink bottle, Cushion Cover, Pen, Patch etc +CAS Membership	Huia
9	Calendar, Drink bottle, Cushion Cover, Pen, Patch etc +CAS Membership	Karen W
10	Calendar, Drink bottle, Cushion Cover, Pen, Patch etc +CAS Membership	Zelda Y



Simon presenting
1st Prize to Serena

2nd: Alan T 3rd: D Granger, 4th: Jan W, 5th Anne W, 7th Sebastian



STARDATE SI 2025

Stardate SI 2025 is set for *Thursday 28th February till Sunday 2nd March*, Starting on the Thursday afternoon through till Friday evening set as free time and hopefully some extra viewing on the Thursday night

Any questions please email either Dale at campmother.stardatesi@gmail.com
Or Rob at robglassey741@gmail.com

Updates will be on the Stardate Facebook page.

<https://www.facebook.com/profile.php?id=100063786623600>

Or the website <https://www.treesandstars.com/stardate/>

We welcome Rob Glassey to the Stardate committee and look forward to his input, Rob will be organising the Speakers and schedule for the 2025 event, so if you are interested in giving a talk please contact Rob on his email above.

NOTE: If we do not get the minimum required booking for the Thursday/Friday we will revert back to Friday afternoon start.

Come along and enjoy an extra day/night under the amazing skies

Central Star Party

Hosted by the Hawkes Bay Astronomical Society, is an annual star party held in the central North Island for the benefit of the astronomical community of the North Island of New Zealand. The goal of the organisers is to provide a fun social astronomical gathering laced with talks and activities.

The ninth Central Star Party will be held from Thursday 2nd January to 6th January 2025 and will be held at the Tuki Tuki Camp site in the Hawkes Bay. This is the site of many previous star parties.

There is plenty of tent sites and limited bunks and caravan sites. There is a kitchen facility, toilets and showers available.

As well as many varied astronomy presentations, an astrophotography workshop and telescope observing, there will be an Astro Quiz, raffle, movies, sausage sizzle, and a fish & chip dinner. The full [programme](#) is available at https://censtar.party/?page_id=3402 or as a [downloadable pdf](#)

[Bookings](#) are now available at https://censtar.party/?post_type=product

We look forward to seeing you at Central Star Party 2025 <https://censtar.party/>.

HEATHER'S NOTE'S

From May 2024

Aurora, and then some !!!!

Went out for an afternoon at Orana Park, and I saw and had a natter with another Cas bod who is a helper, anyway, he and another helper said the word, Aurora which made my ears tingle and I just had to join in the conversation, yes, Aurora tonight.

I thought, well perhaps a bit of a glow, and some lovely pictures of colour that only astro photography can show and, at the time there was cloud cover, but the wind seemed to be coming from the east which can mean a clear sky...

Home, and a little dusty after walking around Orana Park all afternoon, which I really enjoyed very much, anyway, a freshen-up and jarmies on, and I thought I would just have a quick look outside which took about four hours or more!!!

Bit of a glow be bugged! It was full-on with 'search' lights, bright bands of red right up to the zenith, and it seemed to be from east to west even Scorpius was red at times..

I have only ever seen one other Aurora like that many years ago and it is not something you forget.. I TXT the neighbours and they stood outside watching it with Oh WOWS coming over the fence..

I though I would go out to the observatory, and was there for a short time, no one else there, but I thought people would be scattered at different places watching it, so, after a short time, it seemed to fade a bit so I thought that's it,

I will come home and set up 'camp' in my driveway all rugged-up sitting on my little beach chair.. And no, the show wasn't over, it got brighter, trees were back-lit, more ray bands like search lights more red that would get more intense and fade a little; it seemed to fill the sky, really, words don't describe it, but words will describe the fact that I was pleased I didn't have any car problems going to the observatory and home as I was, and still am as I am writing this at 11pm this Saturday night after viewing the Aurora, dressed in my Harry Potter jarmies with a hooded cuddle rug over me, if I got stopped enroute, I would have seemed like something from either Harry Potter, or, The Lord of the Rings, and who cares or gives a flying whatsit !!!

There will be some fantastic pics from that..... Happy hunting and stay warm.... Heather....



CAS MERCHANDISE

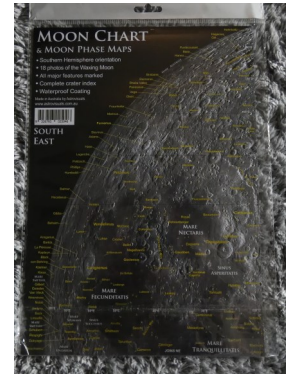
EFTPOS now available for payments

2025 CAS COSMIC CALENDARS:

All the images are from our own members,
\$18.00 plus postage or Pickup available
Contact calendar@cas.org.nz to order you copy

NEW STYLE OF CAS PENS NOW AVAILABLE IN 2 STYLES \$3.00

These are all black ink and with a variety of arrel colours



STAINLESS DRINK BOTTLES: \$10/00 \$15.00
with flip top 750ml

MOON CHART

8 sheets showing Moon phase maps,
with waterproof coating. \$15.00

DOUBLE -SIDED PLANISPHERE FOR SOUTHERN HEMISPHERE \$20.00



SUN-DISK KIT, \$25.00
Make a sundial at home

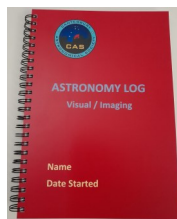


**EFTPOS
Available**

We have a wide selection of other merchandise items available, including:

Earrings, Necklaces, Bracelets, Keyrings, Red light torches,
Space Plasters, CAS Log Books, NASA Beanies, 3D Printed Lamps, Plant pots

To view /purchase
contact Dale
editor@cas.org.nz or
0272426376



CAS CLOTHING RANGE

Waterproof Stickers **New TYPE** with our logo are also available \$2.50 each

CAS Beanies: Now in stock. Wool Blend Beanie with the CAS logo \$20.00

CAS Sew-On LOGO Badges: Now in stock \$10.00 each

The following we will take orders and then order the items, 1-2 weeks
Delivery from order) We have some samples of each of the following items

Cas Soft Shell Jackets = Sizes S— 8XL \$65.00

Cas Polo Shirts = Sizes S—5XL \$45.00

Cas Zip Front Polar Fleece Jackets = Sizes 2XS -5XL \$47.00

Cas T-Shirts = Sizes 3XS—8/9XL \$22.00

Full size charts available for ordering the correct size. Payment can be cash
or bank deposit

They are available from Editor (Dale), contact via editor@cas.org.nz
or 0272426376

LIBRARY CORNER

If you have seen a new book available and think it would be a good addition
to our CAS Library please email the details to Sean and he can sort
purchasing this

BOOK COLLECTION DONATIONS:

As we have had many generous donations of books over the years to avoid
double ups and disappointment

Please contact Sean before hand, if you or your family wish to donate books
so he can advise the best plan for this.

Email Sean @ librarian@cas.org.nz

QUOTES FOR THE MONTH

“Astronomy compels the soul to look upwards and leads us
from this world to another”. *Plato*

“The history of astronomy is a history of receding horizons.”
Edwin Powell Hubble

“When we meet people who are astronauts or deal in
astronomy, it's always really fascinating”. *John Legend*

“It's been said that astronomy is a humbling and, I might
add, a character-building experience”. *Carl Sagan*

Quotes sourced from the world wide web.

Members Interest Section

This section is dedicated to members on what **you** have as an interest under the umbrella of Astronomy.

Do you like: Meteors / Comets / Photometry / Solar observing / Photography / Telescope building / Spectroscopy / Aurora's / Occultation's / Variable Stars / Satellite tracking / Lunar observations/ Jupiter impact monitoring / Radio Astronomy / Eclipses ? **Or**

Do you have other interests that you would like to share and see who else would enjoy knowing some more? Form your own interest section. Here's a couple of ideas that if you would like to know more about You can also use the CAS forum to discuss other ideas to check out who else would be interested.



Tune into Jupiter or the Sun with Radio Astronomy

Radio astronomy can be done during the day and even cloudy nights. Terry has built a receiver and with his computer can log activity of the Sun and Jupiter.

Terry Richardson

member1@cas.org.nz

Cell: 021 776 458

Bounce Signals off the Moon

Beam a signal at the Moon or at a lunar orbiting satellite
Simon Lewis

Vice.president@cas.org.nz

Cell: 022 640 6649

Spectroscopy

CAS has recently purchased a diffraction grating which can be attached to a telescope eyepiece or camera on the telescope.

The grating, like a prism, spreads the light from starlight into component colours (distribution of wavelengths). Thus begins the engaging look into the not so private lives of stars, nebulas and galaxies.

Ray Pointon

rpointon@cyberxpress.co.nz



2025 ANNUAL SUBSCRIPTIONS/MEMBERSHIP

Payment for the 2025 Year is due on 1st April 2025

This can be paid via internet banking, PayPal, eftpos/cash in person, Please use your name & member number in your reference when making payment, (this can then be matched to your membership)

PLEASE advise any changes to your details:

Address, Phone Number, email,

Please email any changes or if you have questions to Dale via membership@cas.org.nz

If your details are not updated we will be unable to contact you, keeping you updated with happens/meetings etc

Membership Fees and Banking payment details are included on the back page of every CASMAG

membership@cas.co.nz

OBSERVATORY NEWS IMPORTANT INFORMATION

New Security System in Lodge

The new security system in the Lodge is up and running well. This takes the form of an intrusion sensor outside, and a Wifi cam inside the lodge in the back corner at the car park end. The intention is to add another camera outside the lodge overlooking the car park area. The advantage of these is that they will trigger on intrusion alert and can be viewed remotely in real time or reviewed within 2 weeks. These are not for the purpose of watching people, but rather to check that entry to the lodge is by legitimate members. Given the assets we have on site, this is necessary for any insurance claims.

Access to these cameras is limited to Webmaster, Vice President and Observatory director only. We already have a surveillance network installed (several years ago) which records to a hard drive but cannot be remotely viewed in real time.

If anybody needs to know more please feel free to email me
observatory.director@cas.org.nz

SECURITY FOR OBSERVATORY KEYS- Accredited Members

Committee have decided that we need improved security for access to the observatory equipment. From now all keys are stored in a lock box in the library.

Any accredited member will be given the combination (just ask me).

This includes the key to the equipment room and for the dobs.

Although the dobs do not require formal accreditation, they are precision instruments that can be damaged if not used correctly.

A member accredited on any of the scopes can open these for you.

Members still have free access to the lodge and its facilities, but any other access will require an accredited person to be present.

Any accredited member can get access to the keys,

but of course can only use (or supervise) the instrument they are accredited for.

This sounds a bit restrictive, but has become necessary due to recent misuse and possible damage to some instruments.

Any questions please email me
observatory.director@cas.org.nz
Brent Schroeder



We would like to thank the following
sponsors for their generous donations
to our 2024 Fund Raiser

<https://www.zwoastro.com/>



<https://explorescientificusa.com/>

The logo for Explore Scientific features the word 'EXPLORE' in a large, black, sans-serif font. The letter 'O' is replaced by a yellow circular icon with a black spiral inside. Below 'EXPLORE' is the word 'SCIENTIFIC' in a smaller, black, sans-serif font. The entire logo is set against a light gray background.

<https://www.photowarehouse.co.nz/>



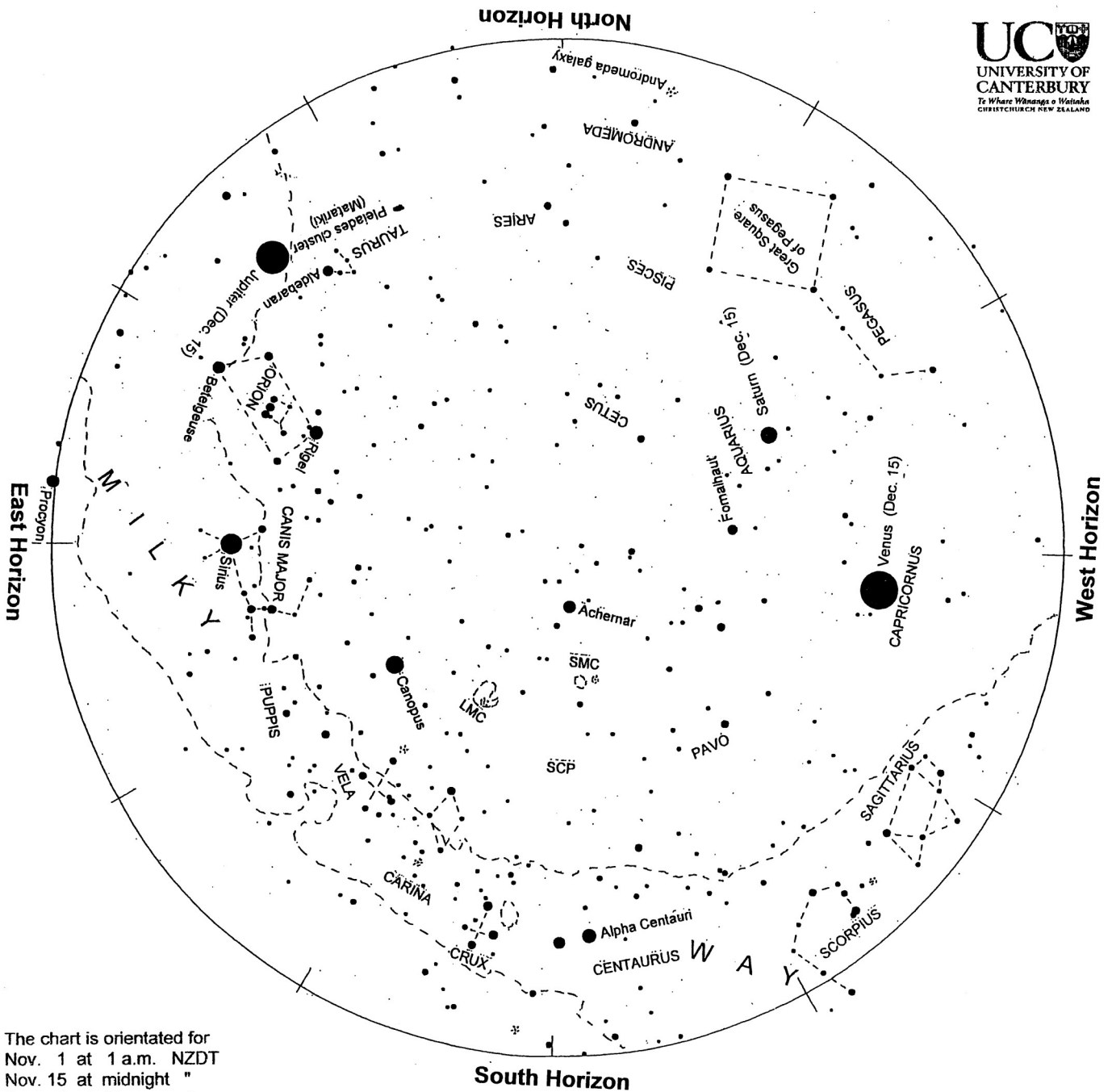
<https://astronz.nz/>



Astronz
Order code
'AS-CAS'

Remember to mention you are a CAS Member when ordering

The Evening Sky Map for December 2024



The chart is orientated for
Nov. 1 at 1 a.m. NZDT
Nov. 15 at midnight "
Dec. 1 at 11 p.m. "
Dec. 15 at 10 p.m. "

Evening sky in December 2024

To use the chart, hold it up to the sky. Turn the chart so the direction you are looking is at the bottom of the chart. If you are looking to the south then have 'South horizon' at the lower edge. As the earth turns the sky appears to rotate clockwise around the south celestial pole (SCP on the chart). Stars rise in the east and set in the west, just like the sun. The sky also does a small extra clockwise rotation each night as we orbit the sun.

There are two 'evening stars'. Venus, in the west, is the first to appear. It is soon followed by Jupiter in the northeast. Saturn is midway down the northwestern sky. Due east is Sirius, the brightest true star, twinkling like a diamond. Left of it is Orion, with 'The Pot' at its centre. Bright Rigel is above the Pot and reddish Betelgeuse below. Left of Orion, above Jupiter, is orange Aldebaran with a V-shaped cluster making the face of Taurus the Bull. Further left is the Pleiades/Matariki/Seven Sisters star cluster. The Pointers and Crux, the Southern Cross, are low in the south. Right of Canopus, the second brightest star, are the Clouds of Magellan (LMC and SMC on the chart), two small nearby galaxies. The Great Square of Pegasus spans the lower northern sky with the Andromeda Galaxy below and right of it.

The Evening Sky in December 2024

There are two 'evening stars' this month on opposite sides of the sky.

Venus is the first to appear, due west soon after sunset. It is soon followed by Jupiter in the northeast. Venus sets in the southwest around midnight, a brilliant object in the dark night sky. Jupiter crosses the north sky through the night, setting in the northwest around dawn. Venus is bright enough to see in daylight if you can get your eyes focused on infinity. On December 5 the Moon will be near Venus. Around 5 pm the pair will be due north of the zenith. Venus will be 3°, six moon widths, below and left of the Moon. Though bright, Venus isn't of much interest in a telescope. It looks like a featureless Moon just after first quarter.

Saturn is northwest of the zenith at dusk. It sets due west around midnight. It looks like a medium-bright cream-coloured star. The Moon will be very close to Saturn on the 8th. Jupiter and Saturn are good targets for a telescope. Any telescope will show Jupiter's 'Galilean' moons, but not all four every night as they cross in front of and behind Jupiter. A small telescope will show the disk of Saturn. The ring is becoming edge-on so it looks like a spike through the planet.

Sirius is the brightest true star, low in the east, twinkling colourfully. Canopus, the second brightest, is a bit higher in the southeast. Almost overhead is Achernar. Left of Sirius is the constellation of Orion. Bluish Rigel and orange Betelgeuse are Orion's brightest stars. Between them is the line of three stars making the bottom of The Pot; in our southern hemisphere view. A faint line of stars above the bright three is the Pot's handle.

At its centre is the Orion Nebula, a glowing gas cloud nicely seen in binoculars.

Left of Orion and just above Jupiter is a triangular group making the upside-down face of Taurus the bull. Orange Aldebaran, at one tip of the V shape, is one eye of Taurus.

The stars on and around the V, except for Aldebaran, are the Hyades cluster.

Aldebaran is not a member of the cluster but closer and on the line-of-sight. Further left is the Pleiades/Matariki/Subaru cluster, a tight grouping of six naked-eye stars.

Many more stars are seen in binoculars.

Low in the south are the Pointers, Beta and Alpha Centauri, and Crux the Southern Cross, upside down at this time of the year. The Milky Way is wrapped around the horizon. The broadest part is in Sagittarius, low in the southwest. It narrows toward Crux in the south and becomes faint in the east below Orion.

The Clouds of Magellan, LMC and SMC, high in the southern sky, are two small galaxies about 160 000 and 200 000 light-years* away, respectively. They are easily seen by eye on a dark moonless night as misty patches of light.

Mars (not on the chart) rises in the northeast around 1 a.m. at the beginning of the month and 11 p.m. at the end. It is a bright orange red 'star'. We pass Mars next month, so it is nearly at its closest, just under 100 million km away. It is small in a telescope. The Moon will be close to Mars on the morning of the 19th. Mercury (not on the chart) appears in the southeast dawn sky mid-month when it is rising an hour before the Sun. It rises 80 minutes before the Sun at the end of the month. It is the brightest 'star' in that part of the sky. Very low in the north is the Andromeda Galaxy. In binoculars in a dark sky it looks like a spindle of light. It is a bit bigger than our Milky Way Galaxy and nearly three million light-years away.

*A light-year (l.y.) is the distance that light travels in one year: nearly 10 million million km, 10^{13} km. Sunlight takes eight minutes to get here; moonlight about one second. Sunlight reaches Neptune, the outermost major planet, in four hours. It takes sunlight four years to reach the nearest star, Alpha Centauri.

*Notes by Alan Gilmore, University of Canterbury's Mt John Observatory, P.O. Box 56,
Lake Tekapo 7945, New Zealand.
www.canterbury.ac.nz 241103*

CAS COMMITTEE AND OFFICERS 2022/2023

Public Group Bookings		bookings@cas.org.nz
President:	Simon Lewis	president@cas.org.nz
Vice President:	Terry Richardson	vice.president@cas.org.nz
Treasurer:	Brent Schroeder	treasurer@cas.org.nz
Secretary:	Mandy Heslop	secretary@cas.org.nz
Observatory Director:	Brent Schroeder	observatory.director@cas.org.nz
Editor:	Dale Kershaw	editor@cas.org.nz
Membership Secretary:	Dale Kershaw	membership@cas.org.nz
Librarian:	Sean Mullis	librarian@cas.org.nz
Web Master:	Orlon Petterson	casweb@cas.org.nz
Committee Members:	Marc Bunyan	member1@cas.org.nz
	Gary Steel	member2@cas.org.nz
	Ray Pointon	member3@cas.org.nz
	Neil Heslop	member4@cas.org.nz

For more specialized information please see the contact information page on www.cas.org.nz

CAS Contact Information

Canterbury Astronomical Society Inc.

218 Bells Road

West Melton 7671

Web: www.cas.org.nz

Canterbury Astronomical Society Facebook Group:

www.facebook.com/groups/CanterburyAstronomicalSociety

West Melton Observatory: 43° 29' 55.5" S, 172° 20' 59.0" E 218 Bells Road, West Melton

CAS Members Meetings:

The *CAS monthly members* meetings are currently held from 7.30pm onwards every third Tuesday of the month (except December and January) at the University of Canterbury, Room ER225 Ernest Rutherford Building (2nd floor)

CAstronauts Meeting's are 6.30-7.30, in the same venue on the same night (3rd Tuesday of the month)

Any member of the public who is considering in joining the society are most welcome to attend the meetings.

Members Nights at the Observatory are detailed on our website

Observatory Members Nights:

Cas holds these nights as follows

Members Nights (General) on the 3rd Saturday of the month after the Tuesday Members meeting at UC, (be aware some months it is the 4th Saturday, depending on the start of the month) check the website for details

CAS on Facebook:

Cas has a Facebook presence, Useful to keep up to date with events, interesting articles, asking for advice, For members please use the website forums for more detailed information etc

CAS Membership:

Subscriptions are due 1st April each year

Fees for current members shown on the membership form included on the back page of your Casmag,

Full details are included on our website.

Contributions to CASMAG:

Member contributions to CASMAG are always most welcome (letters, observing notes, articles, news)

Please submit articles by email to editor@cas.org.nz

The deadline for each issue is the 1st of each month

Small personal advertisements are free to financial members, (less than 8 lines in a column)

Charges for larger items range from \$5 to \$40, email the editor for more details.

The Constitution of The Canterbury Astronomical Society Inc:

This is available on request, Please ask for a copy if required

DISCLAIMER:

This newsletter is for general information purposes only. The views expressed herein are not necessarily those of the Canterbury Astronomical Society Inc (CAS)

CAS has taken all reasonable measures to ensure that the material contained herein is correct, but gives no warranty for, and accepts no responsibility for its accuracy or completeness.

Readers are advised not to rely solely on this information, and should seek independent advice before making any decision, CAS reserves the right to make changes at any time, as deemed necessary.

Canterbury Astronomical Society Inc

APPLICATION FOR MEMBERSHIP

To: Membership Secretary
 Canterbury Astronomical Society Inc.
 218 Bells Road
 West Melton 7671
 membership@cas.org.nz



Applicants Name in Full _____

Address: (Note a P.O.Box is NOT a legal address) _____

Home Phone: _____ Cell Phone: _____

Email: _____ Date of Birth: (if under 18) _____

Membership Category (tick, subscripton must accompany application)**Online Banking Details (Please identify your payment):** 03 0802 0098273 00

	Full
<input type="checkbox"/> Adult (any person 18years of age or over who is not eligile for anyother category)	\$70
<input type="checkbox"/> Family (two or more persons living at the same address)	\$105
<input type="checkbox"/> Junior (under 18 years of age on 1st April in the current year)	\$35
<input type="checkbox"/> Senior (over 65 Years)	\$35
<input type="checkbox"/> Community Services Card Holder	\$35
<input type="checkbox"/> Student (any person studying full-time at a tertiary instition, must reapply annually)	\$35
<input type="checkbox"/> Corporate (members have voting rights of one member, but cannot take office)	\$210

Name:	Date of Birth(if Under 18yrs)	Signature

All CAS members receive CASMAG a monthly newsletter,

Do you have access to a telescope? What type and size? _____

I the undersigned declare that the information given herein is true.

Signature: _____ Date: _____

By signing this application the applicant agrees to comply with the Constitution and By-Laws of the Canterbury Astronomical Society Inc.

Date Approved: _____

*Please send a copy of this form to
 membership@cas.org.nz*