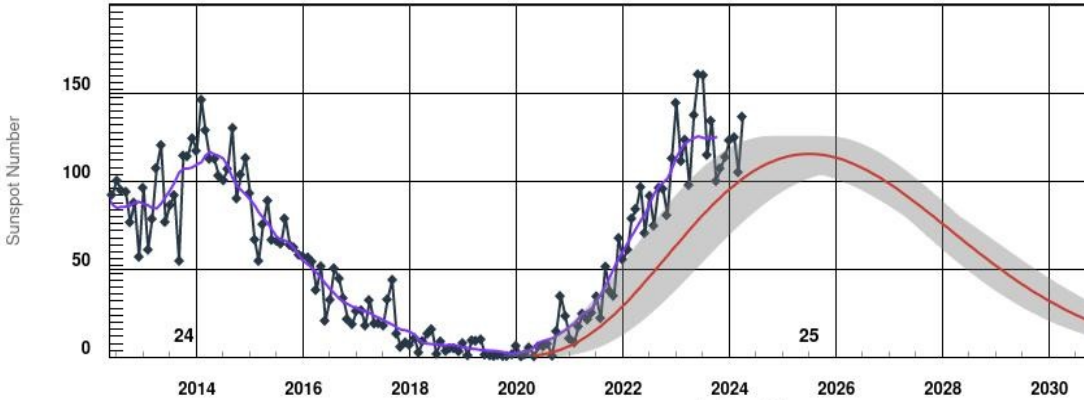




Sunspots and the Northern Lights

Our Sun is near its Solar Activity Maximum (about every 11 years). In the image below we can see the monthly sunspot counts until April 2024, along with the predictions for the current cycle. It seems pretty clear that the solar weather is more lively than predicted and could easily get a lot more energetic in the rest of May and June.



Sunspots and solar flares produce streams of high energy solar wind particles which smash into the Earth's magnetic field and are deflected towards the north and south magnetic poles, where they produce the bright displays of the auroras that we've been seeing so much of recently, especially last week.

Really striking aurora displays are quite rare here in Galloway, so we've been especially lucky this month. A series of powerful solar storms with extreme solar flares occurred from 10-13 May, producing aurorae at far lower latitudes than usual. Here, for example, is a photo taken by Andy Sawers on the 10th of May, looking south from Newton Stewart. Notice the green, red and violet colours from bottom right to top left of the image. The green colour is produced when high concentrations of oxygen molecules at altitudes of around 60 to 190 miles are excited by the solar wind. The red auroras are less common and are associated with intense solar activity. They are also produced by oxygen molecules, but higher in the atmosphere. The violet bands are from nitrogen molecules higher still, and are only seen during really intense solar storms.



GFAS Membership

We always welcome new and returning members, especially juniors who join for free. Subs remain at £15.00 Adult, £25.00 Family, £0.00 Juniors or Students in full-time education. Just email members@gf-astro.org for a form.



Galloway Forest Astronomical Society

Registered Scottish Charity SC035033.

Chairman: Antony Berretti;

Secretary: Doug Snell, 5 Elm Grove, Newton Stewart, DG8 6JT

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Fb page: [@GallowayForestAstronomicalSociety](https://www.facebook.com/GallowayForestAstronomicalSociety/) / Group: [@gfas chat](https://www.facebook.com/gfas.chat/)

Supported by Kilgallioch Community Fund

with funding from ScottishPower Renewables' Kilgallioch Wind Farm





Here we have another aurora image from Friday 10th May, this time from Minnigaff, taken by Brian and Robin Rice. It's particularly striking because the aurora seems to be spreading out from a single point in the sky and it shows the full range of colours from violet through blue from very high altitude Nitrogen emissions, to red and orange from mid-height Oxygen down to green from lower level Oxygen.



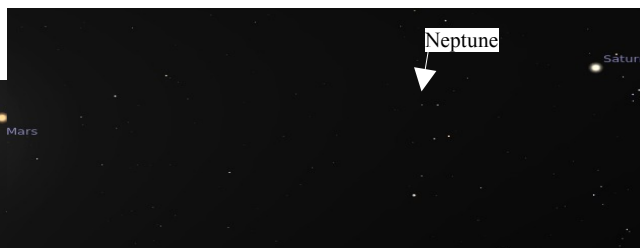
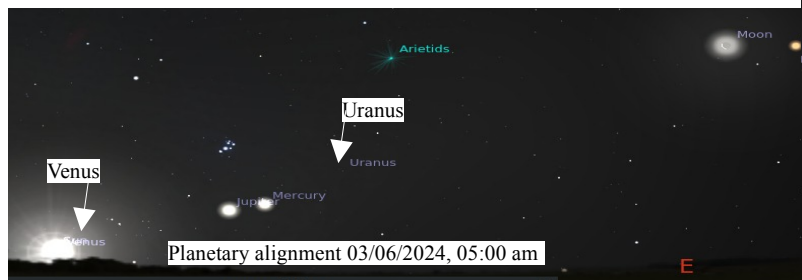
Plot-a-sunspot Session!

Come and join us in the car park of the **Belted Galloway Visitor Centre, Riverside View, Riverside Road, Newton Stewart DG8 6NQ on Saturday 8th June, 10:00am - 12:00 noon**, when we will be having a solar observing session. Solar telescopes and solar eclipse spectacles will be available and visitors can view and map any sunspots they can see. This is a free public event but we'll cancel if there's no sun to see.

We use special solar filters when we want to view the face of the sun. **You must never look at the sun without proper eye protection** whether or not you are using a telescope or binoculars - you will damage your eyes if you do.

Many thanks to the Belted Galloway Visitor Centre for permission to use their car park for this event. The Belted Galloway will of course be happy to sell you refreshments during the event!

Upcoming Planetary alignment: Monday 3rd June before sunrise, all seven planets and a crescent Moon!



This is a composite image from Stellarium, with the atmospheric haze taken away. The alignment won't be visible from the ground because the sky will be too bright, although it might be visible from the ISS. The next big alignment will be on 28th August, during the daytime.

Newsletter Articles: send us your astro news! We are happy to consider all contributions to our newsletters and we will always acknowledge the source of anything we use. Just email us any original astronomy-related items for inclusion.

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