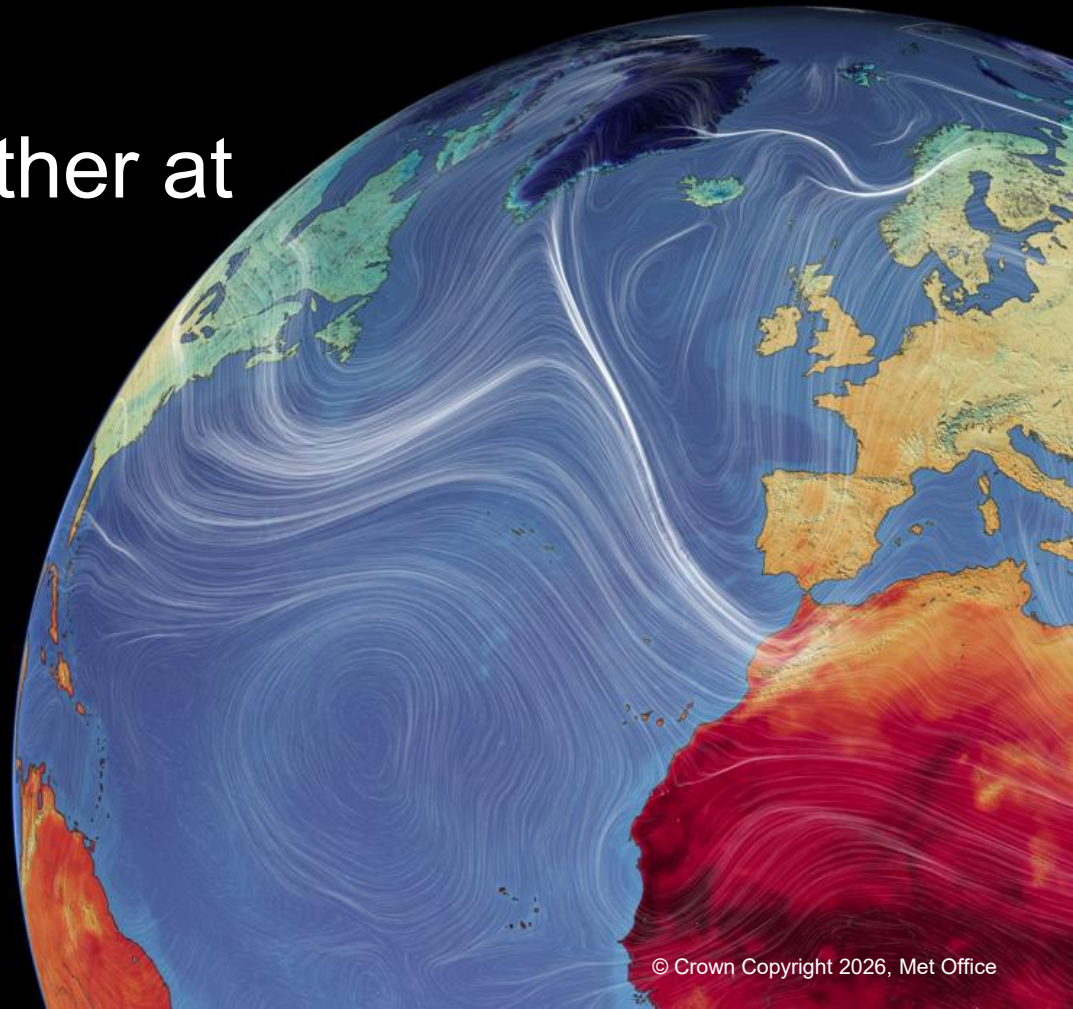


SSEs in Space Weather at the Met Office

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This content has been created by the author.
AI not been applied to refine the document because I wanted to try it out.



What is Space Weather?

Conditions on Earth, its atmosphere & surroundings caused by the Sun:

- Solar wind
- Solar flares
- Coronal mass ejections
- Solar energetic particles

Consequences ...

- Aurora
- Electrical anomalies
- Increased drag for satellites
- Dangerous radiation
- Disruption of communications

Space Weather

Space weather describes changing environmental conditions in near-Earth space. Magnetic fields, radiation, particles and matter, which have been ejected from the Sun, can interact with the Earth's upper atmosphere and surrounding magnetic field to produce a variety of effects.

[Learn more about Space Weather >](#)

What does Met Office do w/ Space Weather?

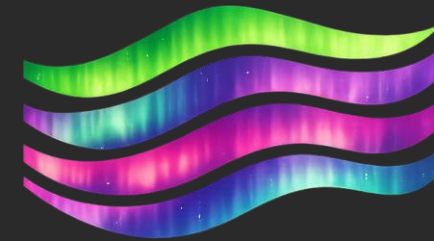
Forecast it! Conditions **and** impacts.

- Probability of aurora
- Electron and neutron fluxes
- Atmospheric density
- Ground-induced currents
- GPS/High Frequency radio interference

Customers: transport, military, satellite operators, electricity grid, ..., government

What do SSEs do with Space Weather?

- There are TWO science teams at Met Office with embedded SSEs
- Space Weather Research (to Operations):
 - Developing research/academic/theoretical techniques into operational models
 - New academic partnership programme
 - SSEs: Richard Mace + one in recruitment
- Space Weather Operations, Observations, and Products:
 - Maintaining and improving the already-operational models
 - SSEs: Anders Englyst, Wilf Wilson + one in recruitment



Met Office
Space Weather

Day to day?



Implementing software
development best practice

This often requires scientific understanding



Mostly inherited: very non-
uniform!

NOAA / American orgs

Academia

British Antarctic Survey



The models are mostly Python, some Fortran (66!)
Maybe others too?