Mapping the Aurora Using Social Media: New Scientific Data for Nowcasting and Forecasting Space Weather?

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GeoSocial | Aurora
Look who's talking about...

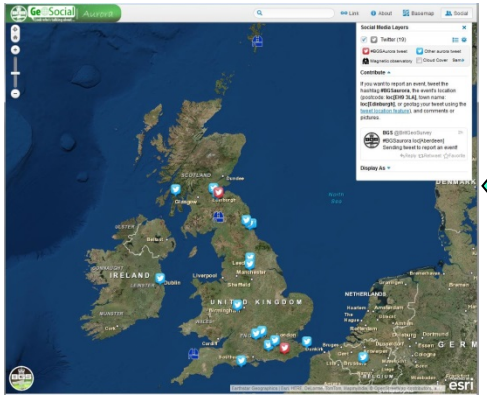
www.bgs.ac.uk/geosocial

"How far south can we see the Northern Lights?"

A common question, which is not easy to answer.
Can citizen science help?

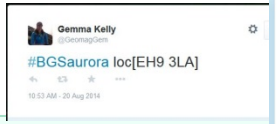
Aim
Create mapping tool that plots aurora sightings reported on social media

Benefits
- Engage the general public, inform when and where aurora are visible
- Gather new data potentially useful for scientific analysis

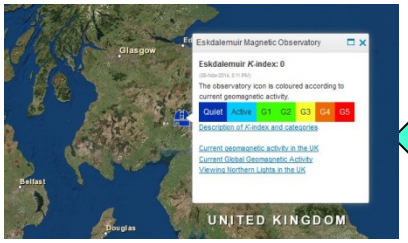


- Geo-located tweets
- Filter results (timeframe, location, type)
- Change display (heatmap, points, clusters)
- Twitter log-in required

Active tweets
- User intends to post on GeoSocial app
- Tweet using a known hashtag (**#BGSaurora**) in a prescribed format
- Tweets are geo-located and placed on the map



Passive tweets
- Collected from all tweets
- Tweets using common hashtags (**#aurora** or **#northernlights)**
- If tweet is geo-located it is placed on map
  - Location may not relate to tweet
  - Content may not relate to topic



Geomagnetic activity levels (*K*-index) for three UK BGS observatories
Updated every 5 mins

UK cloud cover map layer
Data from Met Office

Future Plans
- Remove Twitter login requirement
- Routinely capture sightings for post-event analysis
- Promote and encourage use by public