Google Sky

Many people are probably aware of the amazing service that Google Earth offers. Its creators have now got Google Earth to look up with equally astonishing results. Google Sky, formally called "Sky in Google Earth", is made up of stitched photographs of the heavens, pieced together to make a one giant navigable seamless view of the night sky.

If you know what you want to look at, Google Sky's search allows you to type in destinations like Crux, Sagittarius, NGC 4755, etc. Otherwise you can just browse around aimlessly and if you see something of interest, simply click on it. Google Sky offers pop-up information and photographs of everything – black holes, galaxies, planets and stars. Pop-up content comes from third parties – for example pictures featured in Hubble Showcases to come directly from NASA's Hubble Space Telescope. Other high-resolution imagery comes from the Space Telescope Science Institute, the Sloan Digital Sky Survey, etc.

However, to really get the most out of Google Sky you will want to use its Layers feature. These layers are content that has been created for Google Sky. Google Sky Layers such as Backyard Astronomy feature some of the most interesting, well-known objects that you can observe with the naked eye, a pair of binoculars, or a modest telescope. Other layers include The Planets, The Moon, and Constellations. With layers activated, when you click on a heavenly body of interest, will pop up background information on the object.

Point your browser at http://earth.google.com/sky/skyedu.html for a short promotional video and further links to download a program to get started. ☆

A probable spectacular bolide observed on 3 May 2007

Tim Cooper (Director, Comet and Meteor Section)

The author received a call during a business dinner at the Bedford Centre, reporting a bright object seen in the sky from just outside the same Centre! I must have missed seeing the event myself by 5 minutes. In the subsequent 24 hours I received several further reports, mainly via Clare Flanagan, Willie Koorts, and Chris Middleton, all from members of the public. After further investigating the circumstances of these reports I ended up with the 10 accounts as recorded in Table 1.

There is some discordance in the observed times. Two reported the sighting as around 18h00, while the remainder are clustered around 18h15-18h35. Richard Smith was fairly certain his time of 18h27 is accurate. The divergent times initially led me to believe there may have been more than one object, however I now believe the object to be a single event with inaccuracies in the reported times by some reporters. Similarly there is some discordance in the duration of the passage. Most are in the range 10-30 seconds, but one observer quoted 2 minutes!

All observations were consistent with a path from roughly north to south across the country. The range of locations was quite wide, from Rustenburg in the north-west to Kruger National Park (KNP) in the north-east, centrally across Gauteng, and as far south as Giants Castle in the Natal Drakensberg. Assuming a single event, this would indicate the object travelled through the upper atmosphere and should have been noticed by anyone looking in that direction at the time.

The object was mainly reported as orange or red in colour with a tail and two observers (Pretoria and Benoni) reported it to disintegrate. One observer indicated it was not as bright as the near full moon, which had just risen.

I forwarded the observations to Alan Pickup to determine if the event may have been the decay of satellite debris. His response was:

Table 1. Summary of bolide observations, 3 May 2007

Observer	Location	Time (SAST)	Path, duration	Notes
Marita Hill	Rustenburg	18h25-18h30	30 seconds	
Ursula Pretorius	Lower Sabi Camp KNP	~18h00	Facing S, right to left	
Dewan Hamman	Menlyn Pretoria	~18h00	10-15 seconds	
Werner Badenhorst	Wilgers, Pretoria East	18h25-18h35	~15 secs, facing E, N to S	Disintegrated and faded
Sharon Haasbroek	Centurion	18h25	~10 seconds	
Richard Smith	Chartwell	18h27	North to south	
Rosemary Boulter	Benoni	18h15-18h20	Few seconds, NE to SE	Split into two fragments
Silvia Lal Beharie	Bedfordview	~18h30	2 minutes	
Anon	Brakpan	18h25-18h30	Facing SE, left to right	
Anon	Giants' Castle Natal		North to south	Turned red then burst

> No luck, I'm sorry to say. I got quite excited by the possibility that it might have been the decay of Feng Yun 1C debris piece J (1995 25J = #29720) which I suspect was the only re-entry on that day. SpaceTrack list this as decaying on the 2nd, even though they also list an orbital element set for it early on the 3rd. My own calculations suggest that it decayed at about 11h UT on the 3rd. However, if I force it to stay in orbit for another few revs, then it would pass over South Africa, and over the area of the reports, at about 16h25 UT (18h25 SAST)! Sadly, though, it would have been moving from south to north – the opposite direction to what was seen. So it could not have been this object. Despite the long duration of the sightings, I suspect that this was meteoric.

Based on the observed paths I determined if the object had impacted that the fall site would be somewhere in the Eastern Cape or offshore in the Indian Ocean.

Clare Flanagan commented further:

> I asked the [editor of the] Daily Dispatch in East London if they'd had any reports, none that he knows of, but he'll ask around in the newsroom and let us know.

No further reports of the object apart from the original sightings were received.

Conclusions

Based on the observations in Table 1, and the comments of Alan Pickup, I conclude the object was a bright bolide occurring at 18h27 SAST on the evening of 3 May 2007. The reports do not permit a determination of any fall site with sufficient accuracy, neither were any meteorite falls reported. The wide range of observing sites probably indicates the object grazed the upper atmosphere at low geocentric velocity before passing well south of the country. ☆

How To … Visually Observe Satellites

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Introduction

Most sky watchers no doubt have seen an artificial satellite slowly cross the sky or flash across their field of view. Visually they look like slowly moving stars that may appear steady or flashing or go through a longer cycle of being faint and bright. Sometimes they may suddenly appear out of nowhere as they come out the Earths shadow or fade away as they enter the shadow, usually associated with reddening of the satellite's colour.

Since October 1957 amateur astronomers have played a role in tracking satellites. Many of the members of the MOONWATCH network set up in the late 1950's were amateurs but the larger majority were ordinary people with little or no scientific training or knowledge who were fascinated by following moving points of light. Today MOONWATCH has long disappeared but some still pursue this occupation.