

Re: Google Earth: Elevation of water?

Source: <http://sci.tech-archive.net/Archive/sci.geo.satellite-nav/2005-08/msg01275.html>

- *From:* Terry Pinnell <terrypinDELETE@xxxxxxxxxxxxxxxxxxxxxx>
 - *Date:* Wed, 31 Aug 2005 13:37:12 +0100
-

PJ Halls <pjh1@xxxxxxxxxxx> wrote:

>Terry Pinnell wrote:

>%< Snip

>> Thanks, so it is! (1329 ft). Strange... Prompted by that surprise,

>> I'll try several more UK and European lakes tomorrow.

>

>I've just examined the levels of a set of lakes in northern England in

>the base SRTM data. Many display phase coherence problems, typical of

>radar altimetry over water. None display a flat surface, despite three

>having manmade dams (Ennerdale Water, Haweswater and Thirlmere); all the

>others have natural dams and all are well above mean sea level.

>

>Haweswater gave the nearest to a flat surface – with a 'range' of 4m (it

>*never*, even in the wildest storms, gets waves that big!) whilst others

>– including Buttermere, Coniston Water, Grasmere and Windermere offer a

>range of over 10m! These lakes vary in size – Windermere being

>England's largest natural lake – orientation and the extent to which

>they are within steep-sided valleys ... Buttermere and Haweswater both

>being in steep-sided valleys but, whilst Haweswater had a range of just

>4m, Buttermere gets 11. Interestingly, Thirlmere, which is also

>relatively narrow, within a steep-sided valley but with a similar

>orientation (N–S) to Haweswater also has a low altitude range for the

>water – 6m.

>

>Kielder Water and the Cow Green Reservoir (Teesdale) do not appear to be

>any better, although there do not appear to be any coherence problems

>with either (but both are much more 'open' than any of the Cumbrian

>lakes).

>

>Over the Irish Sea, I find a range from around –1 to +3m – a believable

>swell for that body of open sea – but also many patches of lost

>coherence.

>

>The SRTM data that I'm working with has not been 'smoothed' to deal with

>sea or other areas of water. This would seem to indicate that activity

>that has been performed on the data used to ortho– the GoogleEarth

>imagery to 'water-smooth' it, probably on the basis of some incomplete

>dataset (ie one that omits inland water for Great Britain).

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>
>Given that the satellite imagery used for GoogleEarth includes the near
>infra red band that is wholly absorbed by water, it would have been
>possible to do something better, but this would have required a very
>considerable amount of computation for a worldwide dataset, so was
>perhaps regarded as impractical.
>
>Peter

Thanks, much appreciate your going to that trouble. Have not yet had chance to study your findings in detail, but at first glance they appear to confirm my own tests.

Earlier today I checked a further dozen UK lakes, and roughly the same number of USA lakes. All the UK were not flat, and all the US were flat.

BTW, re your other post, my original target, Ardingly Reservoir/Lake. is at about 51d2'52"N, 0d2m52"W.

—
Terry, West Sussex, UK
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• **References:**

- ◆ ***Google Earth: Elevation of water?***
◇ *From:* Terry Pinnell
- ◆ ***Re: Google Earth: Elevation of water?***
◇ *From:* dold
- ◆ ***Re: Google Earth: Elevation of water?***
◇ *From:* Terry Pinnell
- ◆ ***Re: Google Earth: Elevation of water?***
◇ *From:* PJ Halls

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