

Letter to the Editor

# Discussion on Google Earth Pro Software

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## Article history

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**Abstract:** Google Earth is a free-of-charge geographic browser that gains images from satellites, the atmosphere, the ocean, and other graphical data by means of the internet. The present letter shows that Google Earth Pro which is known as an updated version of Google Earth cannot present enough information to users. In other words, images provided by Google Earth are more original and/or complete than those provided by Google Earth Pro.

**Keywords:** Google Earth, Google Earth Pro, Developers

The nature of a satellite is related to the duty which is determined for that satellite. Spacecraft can be applied as communication satellites (TELECOM, INTELSAT, DRS), television satellites, meteorological satellites (METEOSAT, GOES, NOAA), navigation satellites (INMARSAT), astronomical satellites (ANS, IRAS, ISO, Hubble Space Telescope (HST), TESS), military satellites (espionage), earth remote sensing satellites (SPOT, ERSI, Landsat, RADARSAT, ENVISAT, Lunar (the earth natural satellite)), scientific satellites (EURECA, GIOTTO, CLUSTER), human space flights (Shuttle, Spacelab, MIR, Space station ISS), micro gravitations (EURECA) and so on (Wijker, 2008; Virgil Petrescu, 2019; Talekar *et al.* 2021).

Google Earth is a free-of-charge geographic browser that obtains images from satellites, the atmosphere, the ocean, and other graphical data via the internet. It displays the Earth as a 3D globe. In other words, it is computer software that applies satellite imagery to provide a representation of the Earth. It was first introduced on June 11, 2001 (Guo and Wu, 2010; Michelson, 2017) and since then it has been widely used by researchers in various areas of science including astronomy, aerospace engineering, environmental pollution, etc. For example, Tabunschik *et al.* (2023); Ayyamperumal *et al.* (2024) recently considered Google Earth to study of air pollution.

Figure 1 shows a satellite image of a Big Sandy power plant in the USA, which was prepared by Google Earth. As can be seen in the figure, items including scale, compass direction, location name, latitude and longitude, and imagery date are distinguishable. In contrast, Figure 2 shows a satellite image of the mentioned plant which was

prepared by Google Earth Pro. As can be seen in the figure, latitude longitude, and imagery date are removed from the figure. In principle, the two mentioned items (latitude and longitude and imagery date) are removed in the print version not in the software itself (Tables 1-2). Overall, it can be stated that Google Earth Pro which is known as an updated version of Google Earth cannot present enough information to users. In other words, images provided by Google Earth are more original and/or complete than those provided by Google Earth Pro. In principle, it is not clear why the two mentioned items are removed in the print version of Google Earth Pro. Hence, the present author hopes that Google Earth developers will restore items "latitude and longitude and imagery date" in future versions of Google Earth software.

It must be pointed out that most plumes released from modern plants are virtually invisible. Stacks with invisible plumes may still be in full operation; hence airspace in the vicinity should be treated with caution. In principle, the impact of invisible plumes on aircraft is unexpected and takes the Pilot-In-Command (PIC) by surprise (Stessel, 2012; US Federal Aviation Administration, 2012; Elite Aviation Solutions, 2013).

**Table 1:** Comparison between the print version of Google Earth and Google Erath Pro

Software (print version)	Scale	Compass direction	Location name	Latitude and longitude	Imagery date
Google Earth	√	√	√	√	√
Google Earth Pro	√	√	√	-	-

**Table 2:** Comparison between Google Earth and Google Erath Pro software

Software	Scale	Compass direction	Location name	Latitude and longitude	Imagery date
Google Earth	√	√	√	√	√
Google Earth Pro	√	√	√	√	√



**Fig. 1:** Satellite image of a Big Sandy power plant in 2015 (prepared by Google Earth)



**Fig. 2:** Satellite image of a Big Sandy power plant in 2015 (prepared by Google Earth Pro)

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### **Ethics**

This study is original and contains unpublished material. The author verifies that there are no ethical issues involved.

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