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Bellingcat UNdeletes response Charles Wood

UPDATE Febr. 5, 2015

Mr. Charles Wood analyzed Bellingcat article [Examining the MH17 Launch Smoke Photographs](#) written by Daniel Romein. I chose to post the [entire analysis unedited](#) in this post.

In the comment section of Bellingcat’s article writer Daniel Romein praises the “*constructive feedback*” of Charles Wood. However, almost all of Mr Wood’s constructive feedback is simply ignored and the latter emailed me that his response to Romein’s long attack in the comment section was deleted. Mr. Woods response was deleted and later undeleted:

Charles Wood – [February 4th, 2015](#)

I use nomenclature from my National Meteorological Organisation, not Wikipedia. I also use professionally calibrated air navigation data recorded at the standard 10m height rather than an amateur website quite likely with data from sensors on someone’s roof. At the nearest recorded time of the incident (13:30 UTC) the air navigation wind speed at 10m AGL was 7 m/s from 70 degrees. That corresponds to Beaufort Scale 4 or in standard nomenclature “Moderate Winds – Raises dust and loose paper; small branches are moved, Small waves – becoming longer; fairly frequent white horses.” I agree that wind at ground level is slower than at higher elevation. However the majority of that effect is observed below the first 10 metres – which is why the standard observation height is 10m. In open flat country in daylight with a 7 m/s wind you are then looking at a velocity change of maybe 20% between 10m and 100m. That does not correspond to near horizontal smoke trails below 100-500m in non inversion conditions that suddenly take off upwards. For smoke to rise it requires to be warmer than ambient and be in a vertical temperature gradient that cools with elevation. In an inversion the opposite effect is seen – it gets warmer with elevation. That is why smoke in an inversion is often trapped and doesn’t rise above the inversion level. Of course if you generate a huge ball of hot gas say in an explosion it will punch straight up through the inversion and then accelerate up the temperature gradient. It won’t hang around and meander km down-wind before suddenly punching through. In the alternative case where there is no inversion, the hot gas will rise immediately and accelerate upwards. Again it won’t hang around.

In both cases the gas will rise and cool by adiabatic expansion and eventually become neutrally buoyant and stop rising.

See for example

http://www.crh.noaa.gov/images/fgf/Schwartz_24oct2011_IMG_7605_midsize.jpg

https://bp3.blogger.com/_XOLPWwoK4KA/R_IcaDp3TLI/AAAAAAAAAJk/e_6FbiKtOAK/s400/chineham+smoke.jpg

<http://resources3.news.com.au/images/2011/09/16/1226138/551779-canberra-fire-massive-smoke-plume.jpg>

What you appear to posit is a dramatic change in buoyancy of the smoke (entrained in non visible gas) between the dark smoke and white smoke elevations. Under the prevailing meteorological conditions there is no possibility of an inversion to explain that, nor is there any evidence of microburst activity.

You can't claim different buoyancy between white and black smoke because it's not the smoke that's buoyant. It's the hot gases associated with it. Rockets squirt out hot gas that in all circumstances will be well hotter than ambient. It is buoyant!

Here is some reference material

<http://www.lawrencehallofscience.org/static/scienceview/scienceview.berkeley.edu/html/view/plume.php>http://atmosphericdispersion.wikia.com/wiki/Air_pollution_dispersion_modeling

Bellingcat deletes response Charles Wood

UPDATE Febr. 4, 2015

Mr. Charles Wood analyzed Bellingcat article [Examining the MH17 Launch Smoke Photographs](#) written by Daniel Romein. I chose to post the entire analysis unedited in this post. (See original article February 2 below.)

Now there is news.

In the comment section of Bellingcat's article writer Daniel Romein praises the "constructive feedback" of Charles Wood. However, almost all of Mr Wood's constructive feedback is simply ignored and the latter emailed me that his response to Romein's long attack in the comment section was deleted.

To be continued with, of course, Mr. Wood's comments in the next update.

Charles Wood – [February 2nd, 2015](#)

- See <https://7mei.nl/2015/02/02/mh17-bellingcat-photo-proof-spoof/> for actual meteorological data at the time. *It was mild to brisk winds with little directional change over many hours*
[Reply](#)

- **Charles Wood – [February 2nd, 2015](#)**

To be pendantic, it was mild to moderate winds (Based on the Australian Bureau of Meteorology nomenclature from the Beaufort scale). The low speed of the winds and very slow direction change indicate no local wind conditions that could cause the apparent plume shift

[Reply](#)

- **Daniel Romein – [February 3rd, 2015](#)**

The wind was not that strong that day, a breeze of 4 m/s (or 10 mph), so that is a gentle breeze of 3 beaufort. Still within 1 to 2 minutes the white smoke trail would have been moved 240 to 480 meters, which seems quite correct when looking at the photographs. It is well known that wind close to the ground has much more friction (in this case of trees and villages nearby) and for that reason a lower speed. The grey smoke also might be thicker and heavier, so less easy to be affected by wind.

Daniel Romein – [February 3rd, 2015](#)

Hello Mr. Charles Wood, thanks for reading our article so thoroughly and thanks for the constructive feedback, which we are happy to receive. Despite the fact you have noticed some minor errors in our article, we have noticed a lot of your comments are not correct and we also have noticed that you don't provide any source that support most of your claims. This is especially astonishing looking at the fact you accuse Bellingcat of providing images of unknown provenance and creating spoof. Apart from that we are not able to verify you are a professional forensic analyst, but we do have noticed your Twitter account, which gives us a different impression of your expertise. About the time the Twitter message of 17 July 2014 with the Torez picture was posted you are right: this time was 19:23 and not 18:23. We have corrected this mistake in the article. As you might have noticed in our article we also used the site timeanddate.com, we were very aware of the time difference of 10 hours this website indicated, but we had doubts if the displayed time in pacific time (9:23 am) was right, since Twitter usually displays relative time. Taking into account the one hour time difference between summer and winter, we subtracted one hour. However it turns out older messages on Twitter are displayed in absolute time, not relative. The other error you noticed already was corrected before you wrote your article and was a minor error, I wrote "hours" instead of "minutes", probably mixed it up with the fact the picture was published several hours later. The launch of Grad rockets can be clearly seen in the next video: <http://www.youtube.com/watch?v=hiAudmHkFN8>

As you obviously can see the trails of Grad rockets are grey and the rockets are not fired high in the sky, but with an angle of approximately 45 degrees. It wouldn't make much sense to fire a Grad straight up in the air, since the Grad rocket is supposed to hit a ground target. Sounding rockets in a Grad artillery unit we haven't seen in any video, but if you can provide a source, it would be very helpful. We have chosen deliberately not to publish any metadata of the photographs of 17 July 2014, which is clearly written in our article, to protect the privacy and safety of the photographer. Publishing this metadata would reveal the identity of the photographer and the type of camera that was used. This does not mean we have not examined the metadata of the photographs (we did with various tools like ExifTool). We can add that the camera supports automatic daylight saving and also leap years (almost all modern cameras support both). The moment a photograph is copied to an external device, the destination file will have not only a different creation date (which indeed could

be altered), but also modified fields in the metadata. Every OS changes fields in the metadata (and not only the exif data), which can be revealed with tools like ExifTool. A forger would need to have in depth knowledge of all metadata codes, since the risk the file becomes corrupt when altering the data with a hex editor is quite big. As far as I know Photo editing software that saves images in RAW format does not exist, but if you can provide an example, it would extend my knowledge significantly. For Photo editing software it wouldn't make any sense to save images back in negative format, since the purpose of this software is to generate a visible (positive) image. However, converter tools that convert positive image format back in negative format do exist, but this process would change metadata as well. More information about RAW images can be found here:

<http://www.luminous-landscape.com/tutorials/understanding-series/u-raw-files.shtml>

In our article a darkened version of the photograph shows clearly the grey plume is connected with the white smoke trail and a less stronger ground wind is not an impossible meteorological effect, it is well known that ground wind suffers more friction. Nowhere in our article do we mention a storm or inversions. As you can see on historical weather websites as meteo.ua and worldweatheronline.com the wind was blowing east before 17:00 and changed to east-northeast only after 17:00. See:

<http://meteo.ua/archive/319/snejnoe/2014-7-17>

<http://www.worldweatheronline.com/Snizhne-weather-history/Donetska-Oblast/UA.aspx>

Your claim about the cloud density goes without source, but it doesn't make much sense. The higher the density is, the better it will be visible on a satellite image, the relation to the height of the clouds is not clear to me, especially not when realizing weather satellites orbit the earth at altitudes of several thousands of kilometers

(http://en.wikipedia.org/wiki/Weather_satellite),

while clouds don't go above 13 kilometers

(http://www.windows2universe.org/earth/Atmosphere/clouds/cloud_heights.html).

Your claim that Bellingcat would have destroyed evidence is completely untrue. The photographer made copies of the original photographs on an external device before sending the files to us, this never can have influenced the original images. The memory card and the camera are being investigated by an official forensic institute in the Netherlands.
