Airprox report number 2019123

Summary of Airprox Information from UKAB

Date: 26 May 19 Time: 1319Z Position: 5545N 00303W Location: 16nm SE Edinburgh Altitude: 6500ft Aircraft: B737 (CAT)

The B737 pilot reports in the descent when he saw a drone about ¼nm ahead. It had black and white markings, possibly stripes. There was no time to take avoiding action and the drone passed below the level of the left wing. ATC were informed immediately. The pilot noted that the drone was above a near solid cloud layer and out of sight of the ground.

Reported Separation: 100ft V/ 50m H *Reported Risk of Collision: High*

UKAB Cause/ Risk Statement

Cause: The reported drone was being flown above the maximum permitted height of 400ft and within controlled airspace such that it was endangering other aircraft at that location.

Risk: The Board considered that the pilot's overall account of the incident portrayed a situation where safety had been much reduced below the norm to the extent that safety had not been assured.

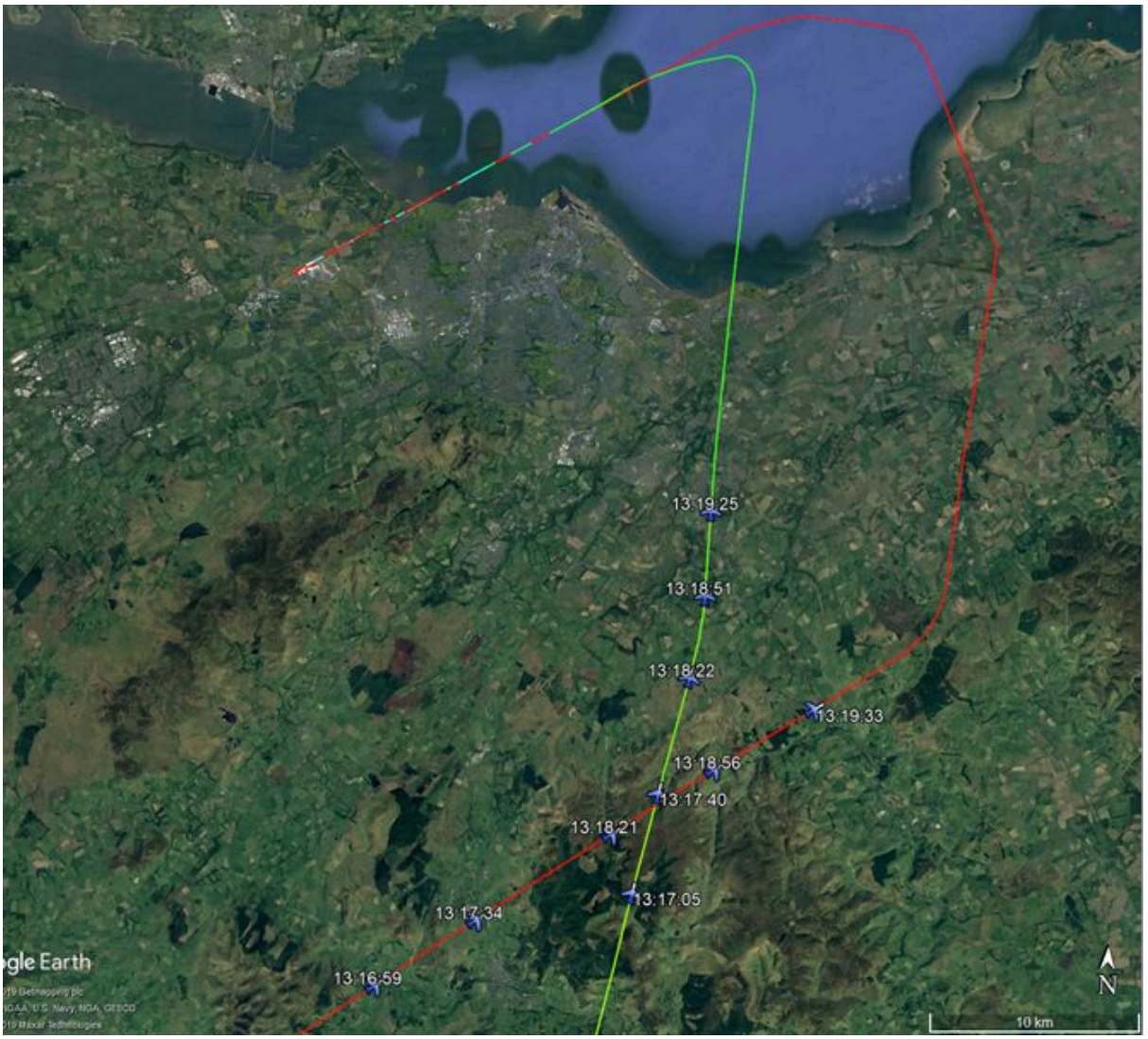
Airprox Reality Check ADS-B based analysis

The reporting B737 aircraft was Jet2 G-JZHR inbound to Edinburgh from Faro, descending through 8,000ft, heading North East, approximately 16nm South East of Edinburgh. At precisely the time and place stated in the pilot's report, the reporting Jet2 had a second Jet2 B737, G-JZBE, also inbound to Edinburgh, cross right to left in front at about 10km range, 1700ft lower. This aircraft passed below the level of the reporting aircraft's left wing.

10km is the distance at which a B737 appears to be approximately the same size as a Phantom sized drone at 100m.

The location is in a remote area of the Scottish Borders hills, miles from habitation.

The wind speed at the reporting aircraft's altitude was 64km/h.



Reporting B737; red track.
Crossing B737; green track.

Discussion

The location (remote location in Scottish Border hills), the wind speed (64km/h is close to the maximum speed of most drones, which would mean all the drones thrust would be used fighting the wind, with very little left for climbing to altitude) and the altitude (considerably higher than any commercially available drone could reach) make it very unlikely that a drone was involved.

The ADS-B data is much more compelling. Given that the events shown in the ADS-B data occurred at the time stated in the UKAB report, at the location reported, and the features of how the aircraft would have appeared substantially match the narrative in the report, there is little room for doubt that this was the encounter in question.

Unfortunately, the pilot misidentified the apparently tiny object ahead of him as a drone in close proximity, when in fact it was a B737 some 10km away. (In the sky most of the normal cues to size and distance are absent, and human visual perception is prone to this error.)

Airprox Reality Check Conclusion

This was a classic case of a distant full-size aircraft being mistakenly identified as a nearby drone.

This was not in fact an airprox. There was absolutely no risk of collision.

In the sky, there is nothing to give scale to an object. Once the human brain leaps to the wrong conclusion about what the object is, the relative distance is 'calculated' on this 'wrong' basis.

About Airprox Reality Check

Airprox reports featuring unmanned aircraft are almost always pure eyewitness accounts, which are notoriously unreliable[1]. Airprox Reality Check analyses airprox data using its 'Reality Check System[2]' to evaluate the likelihood of the event actually having involved a multirotor drone.

Airprox Reality Check believes that airprox data relating to drones should be an accurate and reliable indicator of the actual number of times drones come into proximity to manned aircraft, and is committed to achieving that goal.

References

[1] = There are several studies regarding eyewitness reports in the studies section on our website: https://www.airproxrealitycheck.org/studies/
[2] = The Airprox Reality Check is explained here: https://www.airproxrealitycheck.org/reality-check-system/
ADS-B data sourced from The OpenSky Network: http://www.opensky-network.org