

# I FLY OUTSIDE CONTROLLED AIRSPACE ADS-B IS OF NO USE TO ME. OR IS IT?

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Since 2008 there've been three fatal mid-air collisions – all in uncontrolled airspace – and at least 325 reported near misses overall. The benefits of being conspicuous to other aircraft are huge and obvious.



Photo courtesy of Garmin.

**A** newly equipped ADS-B pilot told my team recently, “I’m amazed how full a sometimes quiet and empty-looking sky really is”.

The comment highlights the degree to which Automatic Dependent Surveillance-Broadcast technology can improve situational awareness.

That applies as equally to uncontrolled as it does to controlled airspace.

Being equipped with ADS-B will be mandatory in all controlled airspace from 31 December 2022, and some pilots, who avoid controlled airspace, may believe they don’t need the kit.

But close calls can happen anywhere. So can collisions.

However, the relative effectiveness of ADS-B relies on as many aircraft as possible being equipped with it.

Earlier in 2021, in uncontrolled Bay of Plenty airspace, a non-equipped aircraft passed within 100 feet of a fully equipped (OUT and IN) aircraft.

The ADS-B pilot heard no radio call (it was in an area where a frequency change was due) and, of course, no OUT transmission showed up on the IN display.

Fortunately, through sheer luck, the aircraft avoided each other. But it could have had a catastrophically different outcome.

If *both* aircraft had been equipped with ADS-B OUT and IN, a quick glance at the ADS-B IN display would have identified the other approaching aircraft. (A system providing an audio warning of the nearest conflict would have been even better).

Then a good look out the window to confirm the approach of the other aircraft and a calm management of separation would have avoided the potential heart attack in both cockpits.

The non-aviating passenger in the ADS-B equipped aircraft later expressed surprise that the other plane in their close call was not ADS-B equipped in any way. Possibly shaken by their experience, they made the sage observation that, “Surely all aircraft should be equipped to avoid these types of incidents”.

## Lookout is still paramount

An ADS-B IN display should certainly not replace a good lookout, and it’s important not to become complacent or over-reliant on this technology.

Why? Because not everyone is going to be equipped.

Even if 90 percent of aircraft were to equip with ADS-B, you would still need to keep a lookout for the remaining 10 percent.

But that 90 percent of aircraft being identified on your IN display leaves more time to identify those not transmitting ADS-B data.

## Not quite magic ...

You also need to be aware of the limitations of ADS-B IN equipment that connects to, for instance, an iPad® running your favourite EFB app.

With portable ADS-B IN receivers that sit in your cockpit, a line of sight to the aircraft transmitting the OUT data is required – an obstruction such as the aircraft body itself can block these transmissions from being received.

You also need to be aware the display device you’re using for your ADS-B IN receiver may be showing incorrect altitude readings.

ADS-B OUT data is set to a standard pressure setting of 1013.2 hPa. The EFB app, however, may try to apply a local QNH which could cause the altitude readings to be out by several hundred feet.

This could potentially mean that an aircraft you believe is 100 ft below, could, in reality, be 100 ft above. Be aware of what your EFB app is, or isn’t, doing. Either way the advice is the same – treat the information on altitude displays with a pinch of salt.

This illustrates why you need to always remain on the lookout for other aircraft. The ADS-B system has many benefits, but you’re not necessarily going to see the aircraft detected on your display in exactly the location expected when doing your visual lookout. The technology is available to provide increased situational awareness – but it’s not the only thing you rely on.

## ... but pretty close

We all know about the importance of the ‘golden hour’ in an emergency and subsequent medical help.

If you need to be found, and medevaced out to medical treatment, a working ADS-B system has the potential to identify your exact location, leading searchers straight to you.

So ADS-B OUT and IN have the potential to both reduce mid-air collisions and to assist in search and rescue missions – possibly reducing serious injuries and deaths.

That’s in uncontrolled airspace too. ➡