



ADL Weather System Timestamp Manual

Version 1.00

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1 Warning

While we do everything we can to ensure quality the ADL1 weather system it might not work at any time. In addition the system may display false information. **NEVER PENETRATE WEATHER BASED ON THE INFORMATION PROVIDED BY THE ADL SYSTEM.** This information is for situational awareness only.

2 General information

Data link weather information will always come with some sort of delay. This document discusses what kind of delays you can actually expect.

Please note that this document applies to the European ADL weather products only. Data link weather products for other regions of the World are processed differently and have different delays.

Please also note there is much information available for the United States which claims to explain data link weather delays but in fact this information applies to the US only. European systems work quite differently.

All timestamps on the ADL system are UTC.

3 ADL Weather update rhythm

If you start the automatic download mode the ADL device will try to download new data at 04, 19, 34 and 49 minutes every hour. You should then receive radar, strike and infrared data timestamped 00, 15, 30, 45 minutes along with the latest minima, METAR/TAF, winds and temperatures aloft. This rhythm is optimized for the radar and infrared data while we try to match the rest of the data to it.

4 Radar

The timestamp of the European radar product is the moment of the last meteorological measurement. All further processing is done after the timestamp. Thus a radar product for timestamp 12:00 will usually be available until latest 12:04 on the ADL system. Please note that for example US weather is time stamped at publication and thus will artificially appear a bit newer compared to European data.

The European timestamp of 12:00 means the latest meteorological data contained was measured approximately at 12:00. The weather services do not fully disclose what the age of the oldest contained meteorological data is. We are told it is usually a maximum of 5 minutes. Thus a radar images time stamped 12:00 will usually contain radar data measured between 11:55 and 12:00 and be available at 12:04.

New data is available every 15 minutes on the ADL system. So in the end the displayed data can have a maximum age of 5 minutes measurement, 4 minutes processing 15 minutes end of download rhythm which equals a maximum delay of 24 minutes. In a best case the data will only be 4 minutes old for processing.

Some countries have systems which update in 5 minute intervals but due to internal processing delays this does not result in any significant improvement over the

conventional 15 minute updates with less processing delay. Therefore the ADL system offers only updates in 15min intervals.

5 Strikes

The timestamp of the strike product is again the moment of the last meteorological measurement. Thus a strike image time stamped 12:00 contains strike information measures until 12:00. In line with the radar data this data is available at 04, 19, 34, 49 minutes every hour. The data usually contains strikes measured in the last 10 minutes before the timestamp. So the 12:00 data contains data measured between 11:50 and 12:00 and is available at 12:04

6 Infrared

The infrared satellite data is generated as a single snapshot and not measured over a longer period of time. So the 12:00 image was taken at 12:00. It is then transmitted, processed and made available on the ADL system at 12:04. Updates are available every 15 minutes.

7 METAR / TAF

METAR and TAF data is available on the ADL system as soon as it is available on the weather service servers. From practical experience we know that there can be a delay of 4 to 5 minutes until a METAR is available while for example the local ATIS is updated much faster. The update rhythm of the METAR/TAF depends on the country and airport. German airports update usually at 20 and 50 every hour and with the delay the data is available around 25, 55 minutes every hour.

8 Minima

The colour coded approach minima are simply another representation of the METAR data. This delay is the same as the one for METAR/TAF. The final timestamp of the minima product is then the moment of the download. This download can contain METAR up to 40 minutes old. The minima weather product is supposed to give an overview. If you intend to land at an airport always also download the more detailed textual METAR.

9 Wind / Temperatures aloft

The wind and temperature data is based on predictions provided as part of the global GFS weather prediction system. This data is available in 3 hour intervals at 0, 3, 6, 9 ... hours every day. The ADL system will download until one hour after the timestamp the old data and then 2 hours before the next timestamp the new data. Thus the timestamp of the wind and temperature data can also be in the future, which is impossible for the other weather products.

10 Summary

Data link weather is a very powerful tool. But please take into account the known and also unknown delays of such a system. Also remember that the ADLConnect app can play back up to hour of historical data which allows you in some situations to anticipate future changes of the current weather situation

11 Disclaimer

This document is supposed to give some insight how the ADL data link weather system works. But the final responsibility for safe flight is upon the pilot and command and his certified weather avoidance equipment. **The ADL system is for situational awareness only.** We are no certified meteorologist but IT people. So this document represents our personal opinion and experiences but is no official meteorological or pilot training publication.

12 Contact

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