Displaying ADL Weather in SkyDemon

All ADL Devices and ADLConnect App

Version 2.00

12.04.2022

1   Version History

Version 1.00 published 01.11.2019
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2   Page Index

This manual contains numbered pages 1 to 11.

3   Emergency procedures

If you suspect any malfunction of the ADL device or interference with other aircraft systems, deactivate the device by pulling / deactivating the aircraft circuit breaker for the device or pulling the cigarette lighter plug whichever is applicable. Do not reactivate the device until the problem has been investigated and resolved on the ground.

In case of a generator failure or similar situation requiring electric load shedding, deactivate the ADL device by pulling / deactivating the aircraft circuit breaker for the device or pulling the cigarette lighter plug whichever is applicable.

4   AHRS Warning

Some ADL devices come with a non-certified experimental AHRS. THIS AHRS IS NOT DESIGNED OR SUITABLE TO CONDUCT ANY IFR/IMC FLIGHT. IT IS DESIGNED FOR ENTERTAINMENT PURPOSES ONLY, DRIVING SYNTHETIC VISION IN SUITABLE iPad APPS AND SIMILAR.
DO NEVER FLY THE AIRCRAFT BASED ON THE ADL DEVICE AHRS! USE ONLY CERTIFIED INSTRUMENTS FOR THIS TASK.

5   ADS-B Traffic Warning

Some ADL devices come with a non-certified 1090 MHz ADS-B receiver. Not all aircraft are broadcasting 1090 MHz ABS-B and the non-certified nature of the ADL devices means that, due to antenna installation etc., it could miss signals from aircraft broadcasting ADS-B. **THEREFORE, NEVER RELY ON THE ADL DEVICE FOR COLLISION AVOIDANCE!**

6   Weather Warning

While we do everything we can to ensure quality of the ADL devices, they 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 DEVICE.** This information is for situational awareness only. The device features a GPS moving map system. This system is designed to display the aircraft position in relation to the weather data. **THE ADL DEVICES ARE NOT SUITABLE AS A MEANS OF PRIMARY NAVIGATION.** Especially the build in database is not updated in a regular aviation cycle. It is not maintained to the standards of certified aviation databases

7   General Description

It is possible to display weather data downloaded using the ADL system in SkyDemon. Please make sure you are running the latest version of the ADLConnect app (currently version 9.00) and also the ADL device firmware (currently version 9.00) if applicable.

It is important to understand there are actually two different mechanisms used to send the weather data to SkyDemon. First the ADLConnect App Broadcasts the weather data and second the ADL device broadcasts the weather and traffic data.

7.1   ADLConnect App Broadcasts Weather Data

The ADLConnect iOS app will send the weather data to SkyDemon directly. Currently this feature is not yet available on Android. This mechanism will be used in the following cases:

- Operating a legacy ADL110B, ADL120 or ADL130 device
- Using the ADLConnect for Iridium GO! feature
- Using the ADLConnect app stand alone with Internet based weather downloads

Before using this feature make sure the configuration is correct. In the iOS settings for ADLConnect make sure all authorizations are set as shown below. Pay special attention the location authorization is set to "Always".
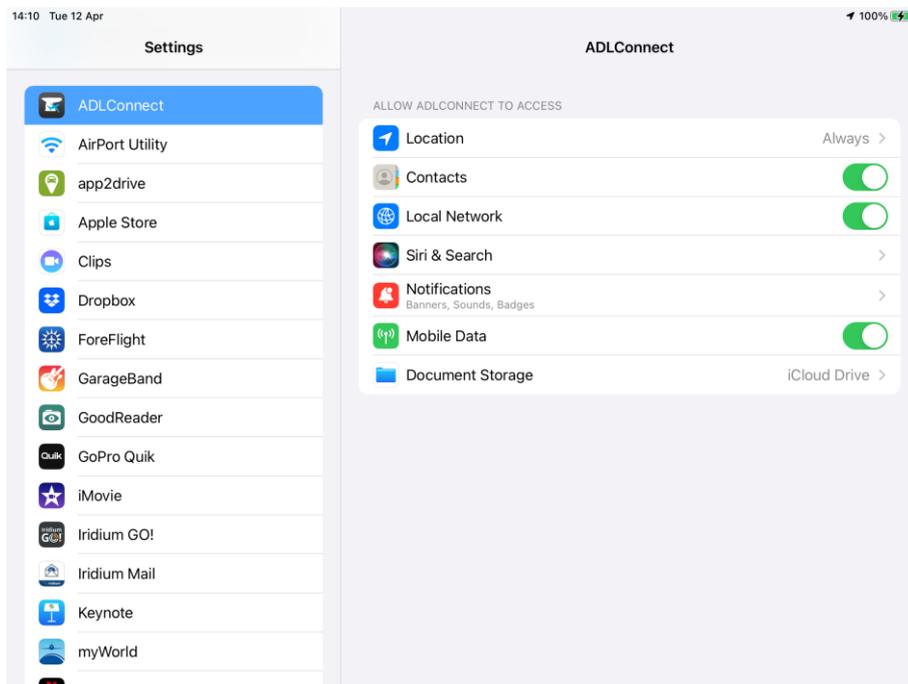
Figure 1   ADLConnect iOS authorizations

Then regarding SkyDemon also check the authorizations according to the screenshot shown below. Pay special attention to the Local Network authorization.
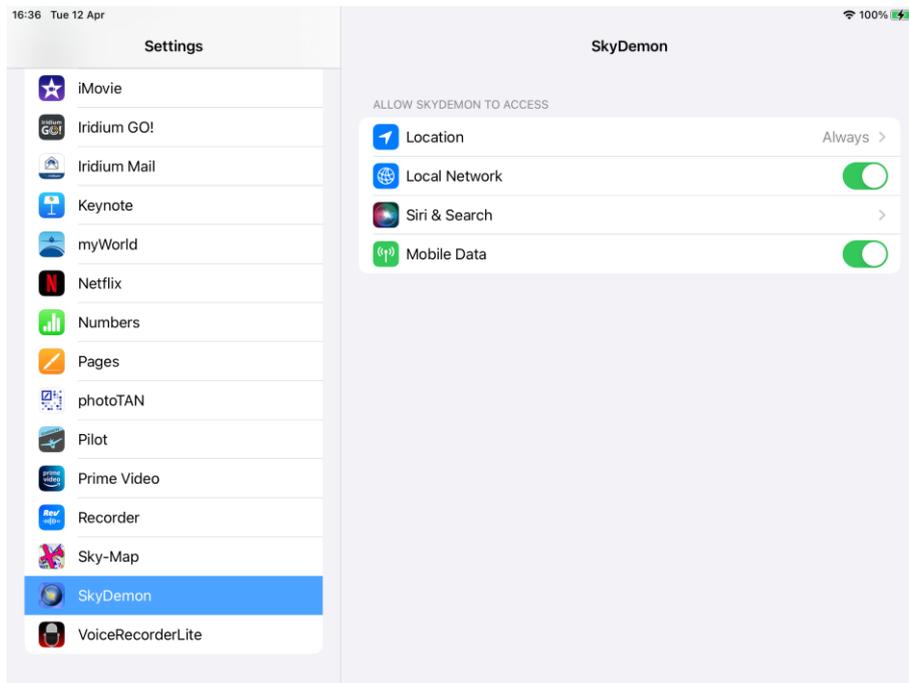
Figure 2 SkyDemon iOS authorizations

Then open the ADLConnect app and verify the settings on the Config page of the app. Make sure the "App GDL90" setting is configured to "SkyDemon".
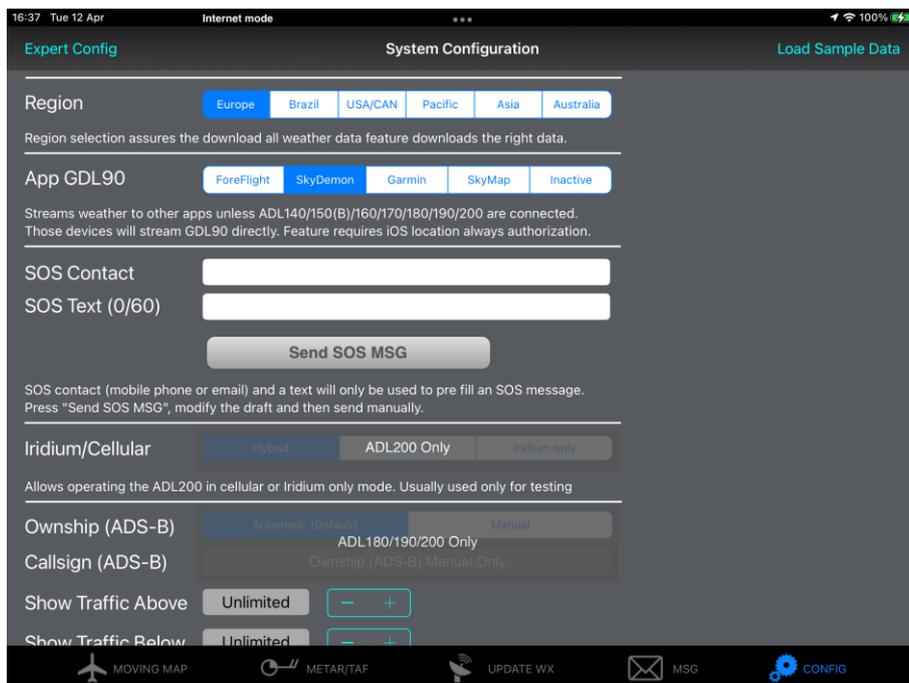
Figure 3 ADLConnect App GDL90 Setting

Then download new weather in the ADLConnect app data using whatever technology you are using (Legacy devices ADL110B/120/130, Iridium GO! or Internet). When using the Internet mode, we recommend downloading only the flight plan corridor in order to limit the amount of weather data distributed to SkyDemon later on.
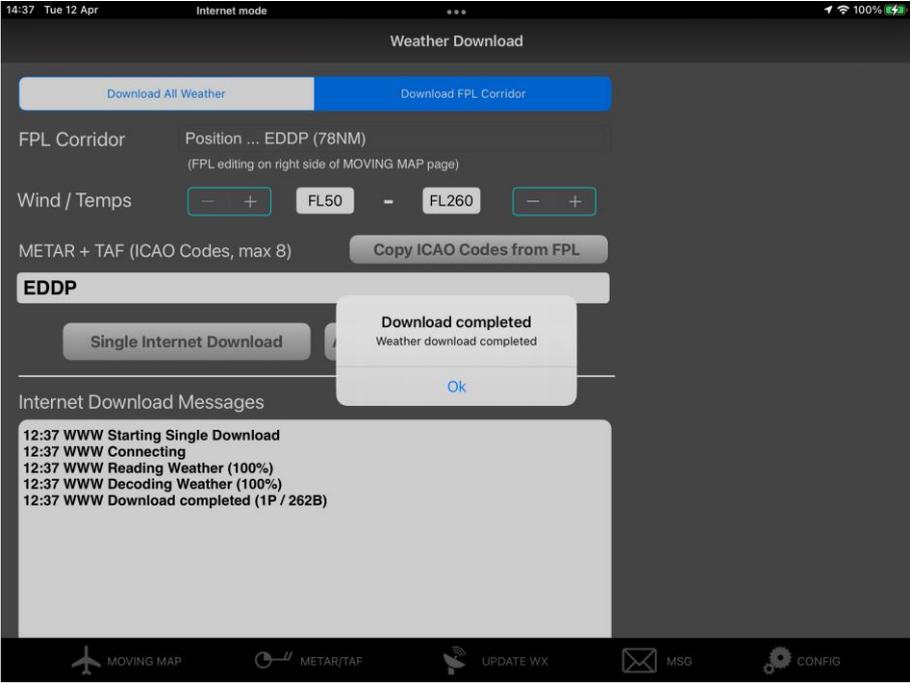
Figure 4   Downloading new Weather Data over the Internet

Once the latest weather data is visible in the ADLConnect app, switch over to SkyDemon. Then please follow the steps described below in chapter "Displaying Weather Data in SkyDemon".

Figure 5   ADLConnect Displaying the Latest Weather Data

7.2   ADL Device Broadcasts Weather Data

When using an ADL140, ADL150, ADL150B, ADL160, ADL170, ADL180, ADL190 or ADL200 device the weather data is broadcasted directly from the device. To avoid interference the ADLConnect app will shut down its own broadcast automatically.

To make sure this feature works properly, please install the latest available ADL device firmware (currently version 9.00). Then connect to the ADL device WiFi and open the ADLConnect app "Config " page. WiFi GDL90 should be enabled and configured in the SkyDemon mode. Please do not forget to press save and reboot ADL below after making changes.
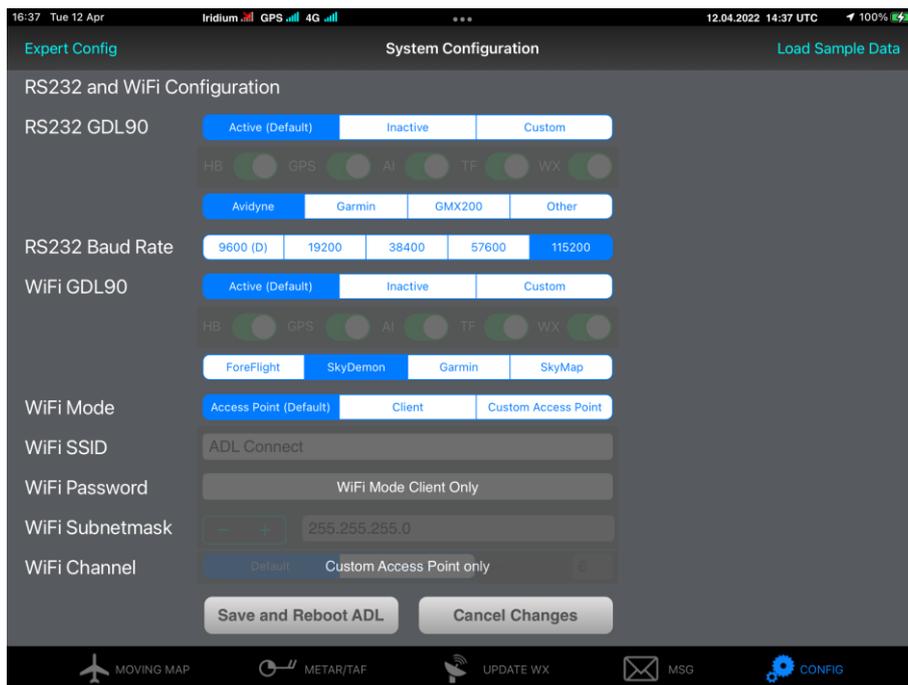
Figure 6   WiFi GDL90 Configuration for Devices ADL140 and later

Now you can download some weather data using the ADL device. This point is important, the ADL device will only broadcast weather data it did download over the Iridium satellite or the integrated 4G link of the ADL200. Once the latest weather data is visible in the ADLconnect app, switch over to SkyDemon.
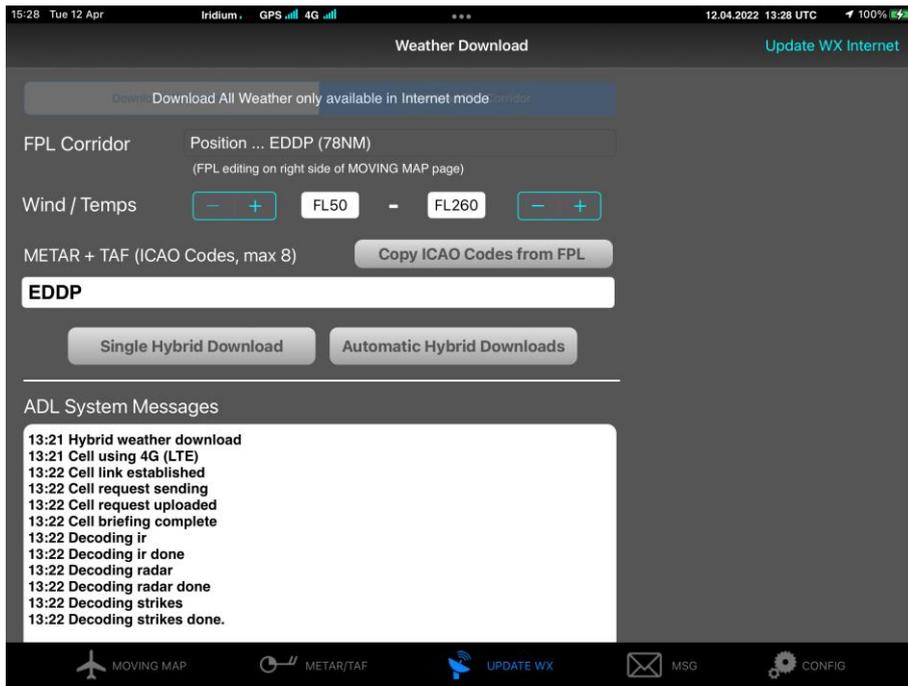
Figure 7   Downloading Weather Data Using an ADL200

Figure 8   ADLConnect Showing the Latest Weather Data and Traffic from ADL200

8   Displaying Weather Data in SkyDemon

Switch over to the SkyDemon app. If this is the first time displaying the ADL weather on SkyDemon ,please select the little wheel as shown below. Then select "Third-Party Devices"
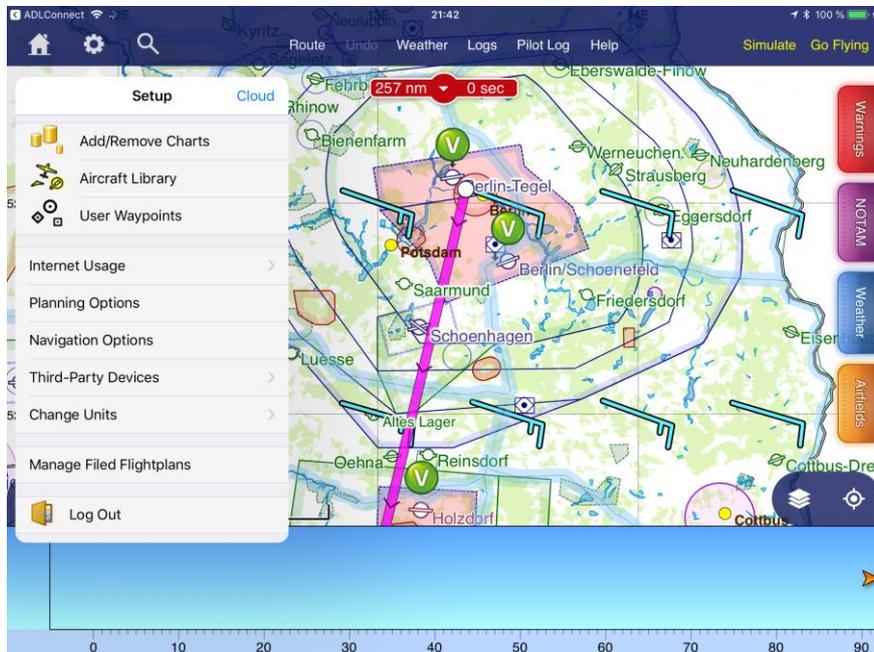
Figure 9   Select "Third-Party Devices" © SkyDemon

In the following menu make sure the "GDL-90 Compatible Device" option is activated. This is a one time configuration only.
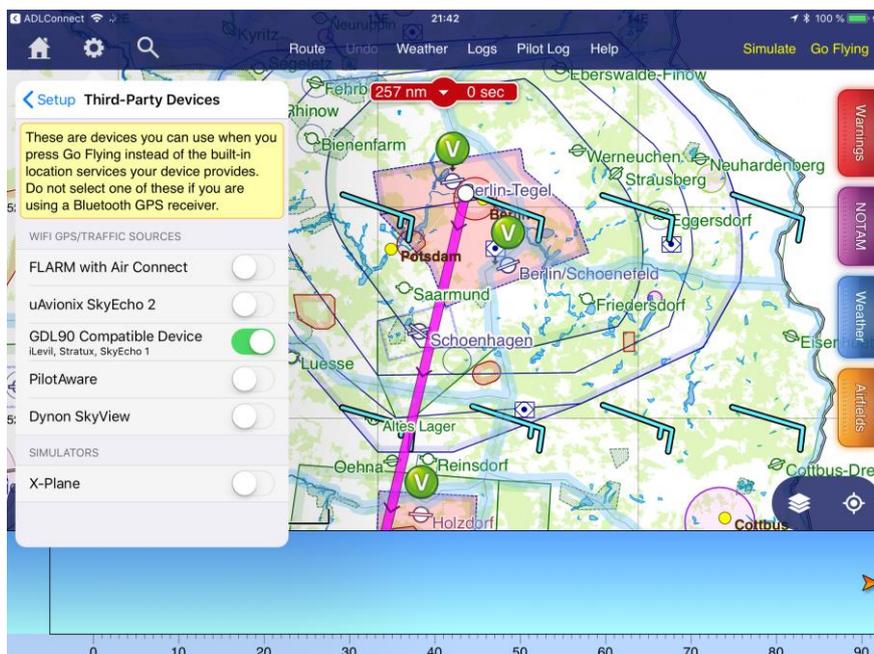
Figure 10   Activate "GDL-90 Compatible Devices" © SkyDemon

On every start of the SkyDemon app you can now press the "Go Flying" button. SkyDemon will offer you the "Use Location Services" and "Use GDL90 Compatible Device" options. The first will use your iPad internal GPS ad not display and ADL weather. The second option will use the ADL as the GPS position source and also pick up the traffic and weather from the ADL device if available.
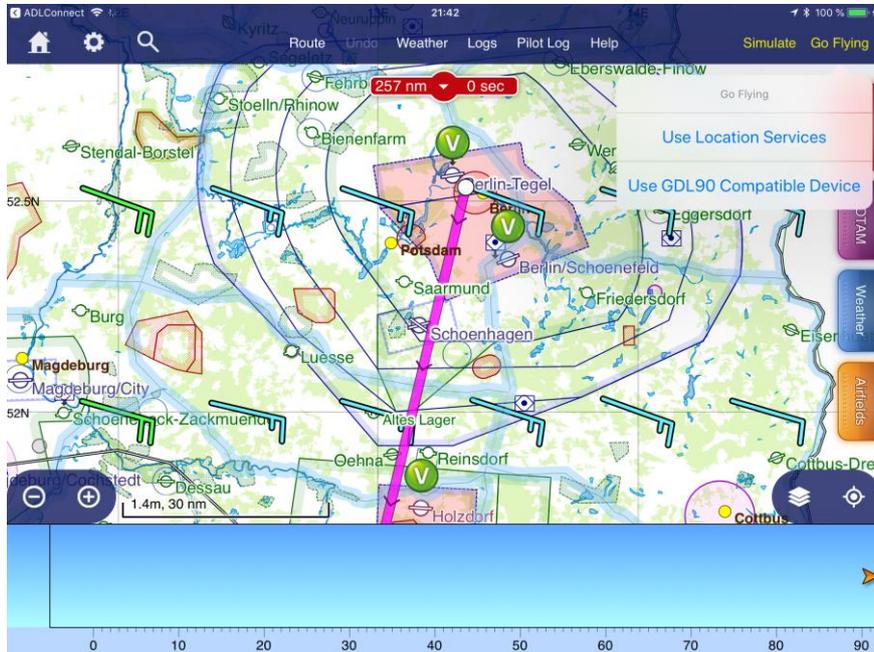
Figure 11   Select "Use GDL90 Compatible Device" © SkyDemon

The following screenshot shows ADL traffic and ADL radar data displayed on the SkyDemon map. If you do not see and radar data make sure the Rainfall layer is activated. Therefore press the SkyDemon Logo, select "Weather" and make sure the Rainfall button is activated.
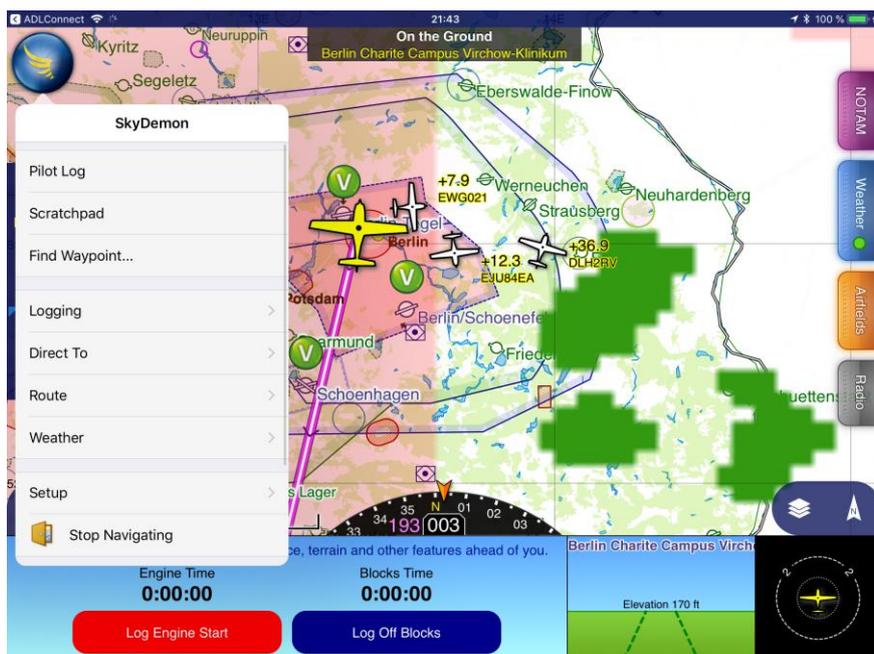
Figure 12   Select "Weather" © SkyDemon
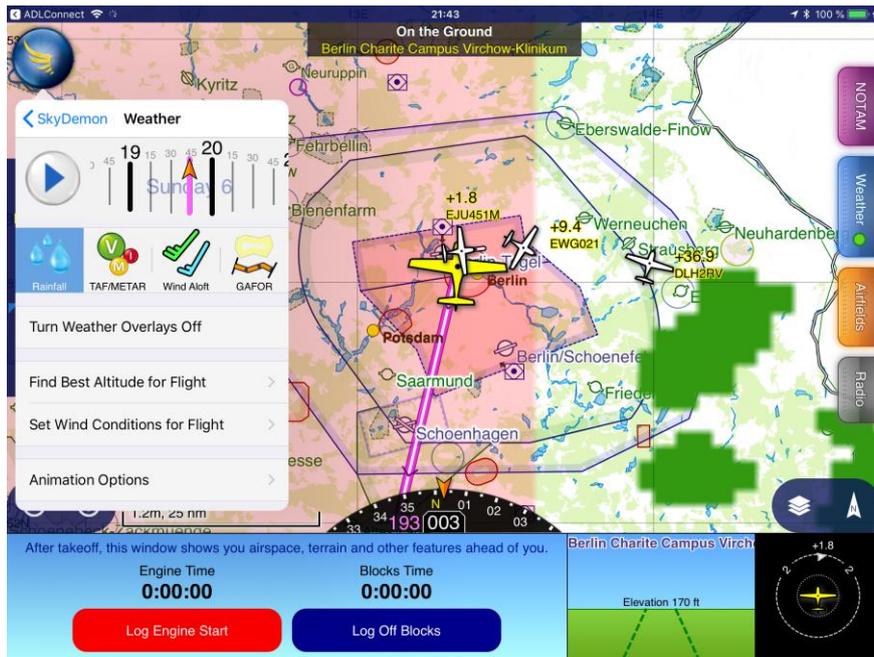
Figure 13   Select "Rainfall" © SkyDemon

The screenshots below shows the radar data displayed in SkyDemon. Please note that the red area is data without any current radar data downloaded. Also note the METAR and TAF information also transmitted by the ADL device displayed on the right side.

Figure 14   SkyDemon Displaying Radar and METAR/TAF © SkyDemon

9 Contact

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