

Active Sky for P3Dv4



User's Guide

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Legal Notices

By using this software, you are bound by the End User License Agreement which you accepted during installation. Please refer to the EULA_P3Dv4.rtf file included with your installation, located in the base program installation folder, along with the AdditionalLicenses.rtf or AdditionalLicenses.txt file.

Under no circumstances is this software to be used for real aircraft operation or planning activities. This software is designed for use as an entertainment and educational product, is not fault-tolerant, and is not acceptable for use in high risk activities including, but not limited to, aircraft operation and planning.

This software may only be used by one person on one computer. Attempting to use this product by more than one person or on more than one computer may result in the product becoming unusable.

An internet connection is required for automated registration and activation of the product, as well as usage of most product features. This product may be unusable without a working internet connection.

This software's online services include access to private servers, which keep track of all online activity and usage. Illegal or unauthorized access to our servers, by way of unlicensed product usage or piracy, is automatically identified and tracked. Continued illegal usage may result in prosecution.

Table of Contents

Introduction	4
Welcome to Active Sky!.....	4
Quick Start.....	5
Additional Windows and Security Software Configuration Steps.....	8
Using Active Sky for P3Dv4 (Detailed).....	9
Overview	9
Starting ASP4.....	9
Entering your License	10
Selecting Simulator Installation and Application Data Paths.....	10
Simulator Installation Path (aka Simulator Path, FSXPath, P3DPath):	11
Application Data Path (aka AppData Location, Private Appdata Path, FSX AppData Path, P3D AppData Path):.....	12
Automatic ASConnect Module Installation	14
Weather Modes	14
Intuitive Weather Simulation	15
Starting the Simulator the first time after Installing and running ASP4	15
The User Interface Overview	16
Navigation Links.....	17
Control Buttons.....	17
Status Indications	18
Tool Bar	19
Weather Depiction	20
Advanced Technologies.....	21
New Active Sky for Prepar3D v4 Features	23
Performance Considerations.....	24
Voice Features	25
To use the new voice features:.....	25
Weather Request Menu	26
XGauge Wx + Radar Gauge	27
Installing the Gauge.....	27
Manual Installation (optional).....	29
Using the Gauge	30
Airborne Radar Mode	32
Precipitation Radar Graphics and Detailed Clouds	33
Generic Precipitation Display	33

Wx Control 34

 Toolbar Buttons 35

 Live Weather Mode 36

 Historical Weather Mode 36

 Custom Weather Mode 38

 Using the Map to Create or Edit Custom Weather Areas 39

 Custom Weather Area Context Menu Options 40

 Custom Weather Editor Wizard 41

Map 45

 Toolbar Items 47

Conditions 52

 Toolbar Buttons 53

Flight Plan 55

 Toolbar Buttons 56

Briefing 58

 Toolbar Buttons 59

Scenarios 60

Search 62

 Toolbar Buttons 63

ASP4 Options 65

 User Presets 66

 EASY and REALISM Option Modes 66

 Settings Details 68

 Important notes regarding Visual Fixes 85

 Toolbar Buttons 88

Debug Tool 89

Database Tool 91

Pirep Tool 93

Weather Web Companion App 94

Networked Configuration 96

 SimConnect Troubleshooting 98

 Detailed SimConnect Configuration Steps 99

Getting Support 105

Credits 106

Introduction

Welcome to Active Sky!

Active Sky for P3Dv4 is the latest addition to the Active Sky weather simulation engine line. ASP4 pushes realistic weather simulation even further, providing brand new features and building upon the ground-breaking and proven features of Active Sky while integrating with the latest platform from Lockheed Martin.

Extended from AS16, ASP4 further improves visibility simulation while adding a new 64-bit ASConnect interface for P3Dv4 integration. Other new features include new active runway information and new turbulence and air effects enhancements.

Previous AS16 features include a newly designed P3D visibility and volumetric fog depiction technique with visibility smoothing, a new mapping system with new vector backgrounds and overlays, new high-latitude cloud depiction for elimination of "squeezed" cloud structures, new in-cloud motion effects, new Scenarios system, new XGauge Wx + weather gauge with included airborne weather radar mode, new universal remote weather control and display capability using webserver/browser technology, improved API features, enhanced interpolation, enhanced general weather depiction, Navigraph data integration for airports, nav aids and fixes, and much, much more.

Also included is tight integration with Active Sky Cloud Art, our new graphics enhancement solution for FSX and P3D. ASCA enhances everything above the horizon and includes never-before-seen features such as dynamic texture reloading, texture smoothing, new 3D cloud structures and more. While ASCA is not required, and any/all graphics add-ons are supported, using AS+ASCA will bring brand new looks and entirely new levels of variation and realism to your simulated skies.

We've also internally re-worked much of the codebase in a large refactoring effort aimed at improving performance and stability.

ASP4 represents over 16 years of effort to expand weather realism and the overall weather experience for desktop flight simulation! Further development would not be possible without the support of our customers, testers and the entire community. Thank you for helping us create this version of Active Sky. We hope you enjoy it!

Onward and Upward,

The HiFi Development Team

Quick Start

To jump right into ASP4, just run the program and take these simple steps:

1. Run ASP4 for the first time

It is recommended to keep your simulator CLOSED during ASP4 install and first run.

When starting ASP4 for the first time, you will be asked to enter your license key (or request a trial). After license entry, ASConnect Installer will need to be run and most users can choose "Yes" to automatically install this when asked. This installs the required ASConnect component that allows advanced weather depiction and control with ASP4. If you are running in an advanced networked configuration, you will need to copy the file over the network and run the ASConnect installer on the server machine appropriately. Instructions will be given on-screen if this is the case.

After ASConnect install completes and the connection is verified, ASP4 will start, updating initial databases from online servers and then automatically enabling Live weather mode with a default option set. At this point, you can just start your simulator and fly, or follow the next steps for a more advanced experience.

2. Configure your Options

By default, a typical and recommend set of options are loaded which provides baseline realism and functionality. If you desire an easier or more difficult experience, you can use the EASY mode or REALISM mode buttons in the Options screen to quickly change options accordingly. More information about these options and modes is available in the Options sections of this User's Guide. Enabling EASY mode, REALISM mode, or DEFAULTs will require a restart of ASP4.

3. Configure your Weather

Press the Wx Control Button. Your current weather mode is shown. Use three main mode buttons to select your primary weather mode:

a. Live

Live mode provides automatic updates of actual real-time conditions, keeping you in sync with real data at all times

b. Historical

In Historical mode, you select the date/time (within the past 2 years) you would like data for, and conditions are automatically and dynamically updated from that point forward

c. Custom Weather

Custom Weather mode is OFFLINE and does not automatically update. Once you enter custom mode, the current weather conditions (as last set/downloaded) are activated.

Configuring the Custom Weather is done initially via the Map screen. Click the Map item at the top and then use the map area to find the geographic location you would like to change weather for. Right-click the map at this location and choose "Add new custom weather area". An easy weather setting wizard will guide you through the configuration.

Once you have created one or more Custom Weather areas, you can manage these areas either via the Map Screen (right click for options) or the Wx Control screen.

For more information about Custom Weather, see the Custom Weather chapter of this User's Guide.

4. Plan your Flight

Use the Map, Conditions, Flight Plan, Briefing and Search screens to examine the weather and establish your route of flight. You can import flight plans or create your own using our simple auto-routing feature. Flight plans are not required, but are highly recommended, as they enable more accurate weather conditions as well as provide more accurate data reports. Flight plans also enable certain features and map overlays.

5. Fly!

Now you are ready to begin your flight with ASP4! Just startup your sim and go! During your flight, you can get weather updates from ASP4, through the interface, the gauge, or via voice reports you can get by tuning 122.00, 122.02, 122.05 or 122.07 (see the Voice Features chapter for more information).

Additional Windows and Security Software Configuration Steps

While most users will not need to worry about any special settings, certain Windows configurations and/or Security software configurations may lead to problems as ASP4 and ASConnect attempt to communicate with each other.

If you experience the errors "Ambients Error", "Unable to control ambient weather", "Unable to load weather theme", or experience stutters/delays, you may need to perform some additional steps to allow ASP4 and ASConnect to operate properly without interference.

- Ensure that ASP4 and your simulator are fully trusted by your Security software (add them as trusted or excluded applications).
- Certain firewall/AV software such as AVG requires trusting/excluding the ASConnect module file `as_btstrp.dll` (located in your [Sim Installation Location]\as_srv folder).
- You may need to provide additional security rights to your user account to allow the ASConnect module to operate and output data. This may include one of the following (either of these steps may be sufficient):
 - Run your simulator "as administrator"
 - Set ownership of your Program Files (x86) folder to your user account (<http://technet.microsoft.com/en-us/magazine/ff404240.aspx>)
 - Set read+write permissions to your user account within the Sim installation folder
 - Disable User Account Control (UAC) (<http://windows.microsoft.com/en-us/windows/turn-user-account-control-on-off#1TC=windows-7>)

Note that application of any ASP4 updates may require re-application of security software settings for the ASP4 executable and ASConnect module components.

Reminder: Most users will not need to perform the above steps, and should use them only if problems with ASConnect/Ambients are experienced.

Using Active Sky for P3Dv4 (Detailed)

Overview

The documentation provided below will help you get acquainted with Active Sky for P3Dv4. Note that certain terms may be used interchangeably including Active Sky versions and simulators. Any such reference is intended to refer to the current version of Active Sky for P3Dv4 using Prepar3D v4.

Active Sky for P3Dv4 is provided as a complete, robust, and realistic weather simulation system for your flight simulator. All simulated weather, including data/conditions and visual representation, is controlled by ASP4. Several weather data visualization utilities are provided within ASP4, allowing you to view the weather at any location, at any time, in textual or graphical format, either from ASP4 itself, or within the simulator using the provided weather gauge and/or voice weather facilities.

ASP4 is very flexible, allowing you to choose from three weather modes (Live, Historical and Custom), and providing many options to further fine-tune your weather experience. To make option tuning easier, we have provided option presets including Easy mode and Realism mode. Selecting Easy mode or Realism mode automatically adjusts certain options to get the kind of experience (and challenge) that you desire.

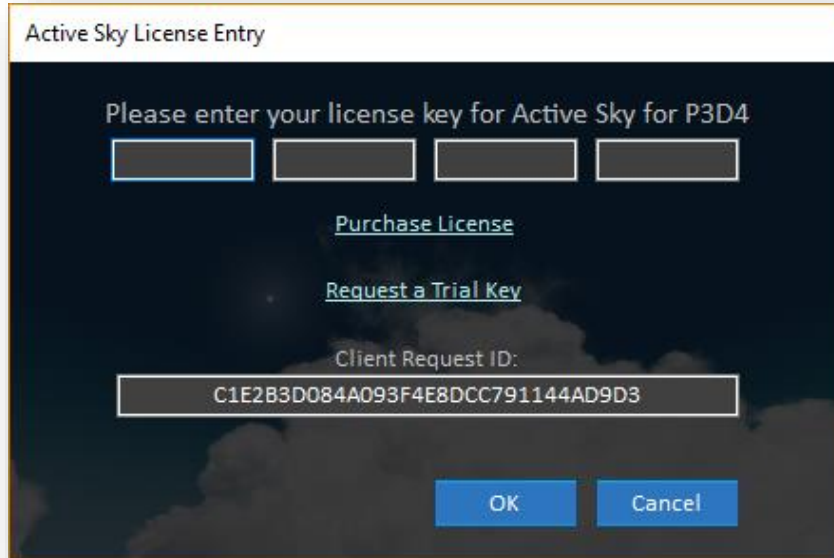
Starting ASP4

ASP4 can be started before or after your simulator is running, but for three specific reasons, we do recommend that ASP4 be started first. These reasons are:

1. ASP4's initialization, especially on first run, will configure and install important required items within your simulator. If your simulator is running already, these items may fail to update or may require a simulator restart.
2. If using the automatic Flight Plan loading feature, your flight plan loaded in simulator may not update when ASP4 starts, due to SimConnect synchronization limitations. Starting ASP4 first ensures that any flight plan change within the simulator will be recognized.
3. If you are using Historical Mode with "Lock to Sim Time", the simulator's date/time may not be automatically updated when ASP4 starts, also due to SimConnect synchronization limitations. Starting ASP4 first ensures that your configured simulator date/time is always updated and recognized by ASP4.
4. Starting and using ASP4 first allows you to study the weather environment, make informed decisions about your flight, and configure your weather environment before you even start the simulator.

Entering your License

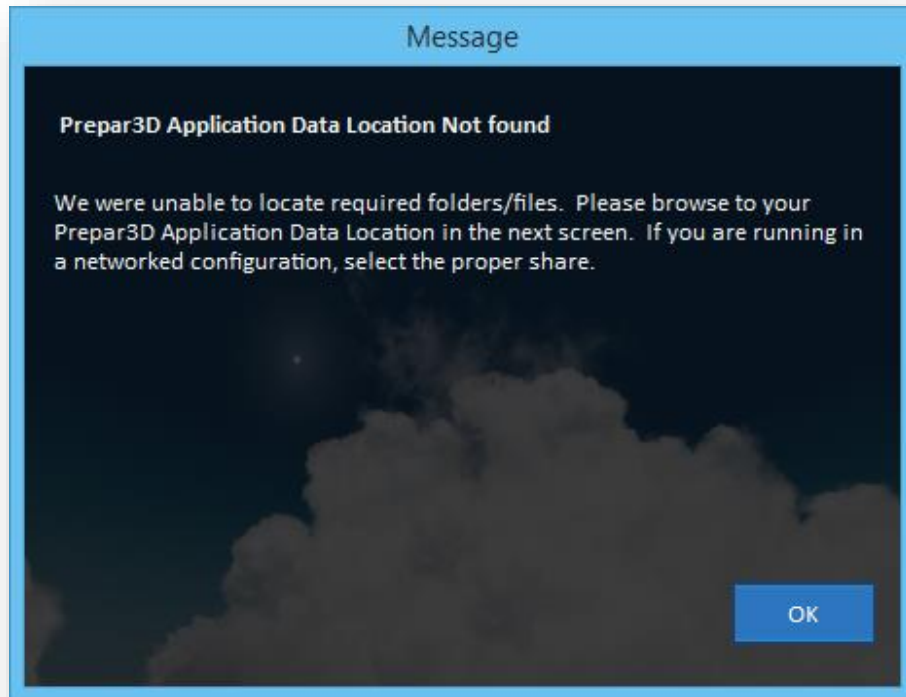
On your first run of ASP4, a License Entry form will be shown, allowing you to enter your license key. If you do not have a key, you can request a trial license or purchase a full license and a key will be provided.



The image shows a dialog box titled "Active Sky License Entry". The background is dark with a cloudy sky pattern. The text inside the dialog box reads: "Please enter your license key for Active Sky for P3D4". Below this text are four empty rectangular input boxes for the license key. Underneath the input boxes are two links: "Purchase License" and "Request a Trial Key". Below the links is the text "Client Request ID:" followed by a white-bordered box containing the alphanumeric string "C1E2B3D084A093F4E8DCC791144AD9D3". At the bottom right of the dialog box are two buttons: "OK" and "Cancel".

Selecting Simulator Installation and Application Data Paths

Most users will not need to select the paths to your simulator installation and application data locations, as this information is automatically obtained by your Windows registry and within certain accessible configuration files. In some cases, however, the required paths might not be found automatically. If this occurs, a message will come up indicating that you need to select the proper folder. Simply follow the instructions provided to select the appropriate folder.



When selecting your folders for the installation and application data locations, please make sure to select the proper folder (especially if you have multiple simulators and versions installed), so that the proper simulator installation is referenced by Active Sky. Failure to select the proper installation/folders can result in failure of ASP4 to operate or failure of proper weather condition & simulation data control.

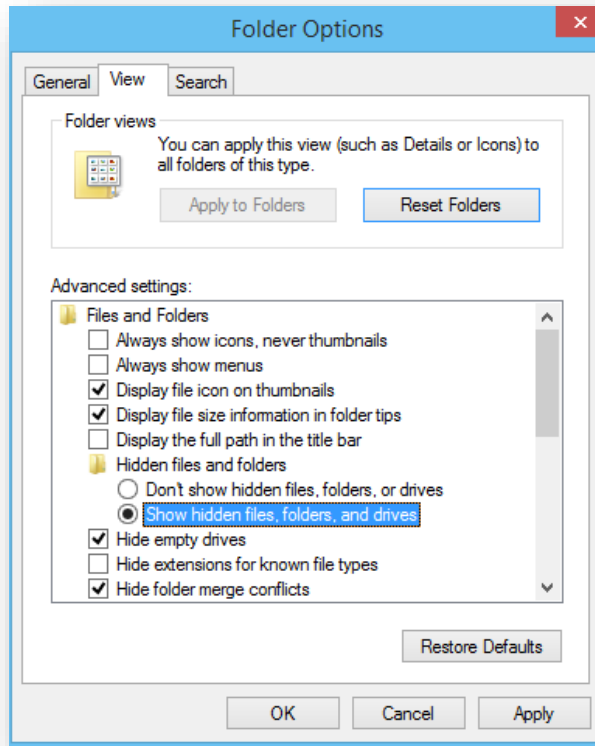
The default location possibilities are provided below for convenience:

Simulator Installation Path (aka Simulator Path, FSXPath, P3DPath):

- C:\Program Files (x86)\Microsoft Games\Microsoft Flight Simulator X
- C:\Program Files (x86)\Steam\SteamApps\common\FSX
- C:\Program Files\Lockheed Martin\Prepar3D v4
- C:\Program Files (x86)\Lockheed Martin\Prepar3D v3
- C:\Program Files (x86)\Lockheed Martin\Prepar3D v2
- Note: The proper "Simulator Install Path" location is verified by finding your simulator's .EXE file in the same location, i.e. Prepar3D.exe or FSX.exe

Application Data Path (aka AppData Location, Private Appdata Path, FSX AppData Path, P3D AppData Path):

- C:\Users\<<yourUserName>\AppData\Roaming\Microsoft\FSX
- C:\Users\<<yourUserName>\AppData\Roaming\Microsoft\FSX-SE
- C:\Users\<<yourUserName>\AppData\Roaming\Lockheed Martin\Prepar3D v4
- C:\Users\<<yourUserName>\AppData\Roaming\Lockheed Martin\Prepar3D v3
- C:\Users\<<yourUserName>\AppData\Roaming\Lockheed Martin\Prepar3D v2
- Note: The proper "Appdata" location is verified by finding your simulator's .CFG file in the same location, i.e. Prepar3D.CFG, FSX.CFG or FSX-SE.cfg
- Note: When selecting the "Application Data Folder" for your simulator, you may need to adjust your Windows folder settings to see the AppData folder, as this folder is marked "System/Hidden". This applies to Windows Vista and later. To enable view of hidden/system files and folders, please follow these steps:
 1. Run Control Panel (right click on Start button and choose control panel, or bring up control panel via alternate actions).
 2. In the top right search box type "Folder Options" (without the quotes) and then click the Folder Options item.
 3. Click the View tab at the top.
 4. Find the "Show hidden files, folders and drives" item and select it (under Hidden files and folders section).
 5. Press Apply then Ok. You will now be able to see the Application Data folder correctly.



Automatic ASConnect Module Installation

When you run ASP4 for the first time, the ASConnect interface module must be installed for proper ASP4 operation. You will receive a notice when starting ASP4 advising that the simulator must be CLOSED to perform this operation. It is important that the simulator is properly closed (and restarted after) to ensure proper configuration. If running a local (non-networked) installation, you can then automatically launch the AS Connect installation when prompted by ASP4. Networked installations must manually copy and run the installation from the server machine (The ASConnect installation file is located in your ASP4 installation folder as ASConnect_P3Dv4_Install.exe or ASConnect_FSX_Install.exe).

Note that the ASConnect module is installed as a separate program/application (that can be uninstalled separately from ASP4 if desired).

Weather Modes

Three main weather modes are provided within ASP4. To change modes, press the Wx Control Button. Your current weather mode is shown. Use three main mode buttons to select your primary weather mode:

a. Live

Live mode provides automatic updates of actual real-time conditions, keeping you in sync with real data at all times

b. Historical

In Historical mode, you select the date/time (within the past 2 years) you would like data for, and conditions are automatically and dynamically updated from that point forward

c. Custom Weather

Custom Weather mode is OFFLINE and does not automatically update. Once you enter custom mode, the current weather conditions (as last set/downloaded) are activated.

Configuring the Custom Weather is done initially via the Map screen. Click the Map item at the top and then use the map area to find the geographic location you would like to change weather for. Right-click the map at this location and choose "Add new custom weather area". An easy weather setting wizard will guide you through the configuration.

Once you have created one or more Custom Weather areas, you can manage these areas either via the Map Screen (right click for options) or the Wx Control screen.

For more information about Custom Weather, see the Custom Weather chapter of this User's Guide.

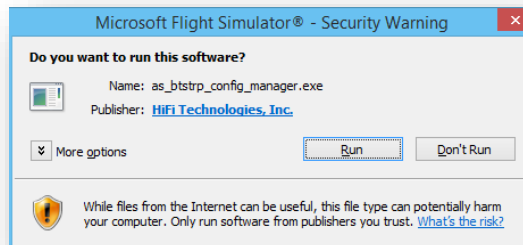
Intuitive Weather Simulation

Using ASP4 is extremely easy. As long as ASP4 is running, it automatically manages the connection to your simulator and automatically depicts weather. During your flight, you can use ASP4's various features to monitor (or control) the weather, including the provided weather gauge which provides unprecedented levels of precipitation accuracy.

Starting the Simulator the first time after Installing and running ASP4

After installing and running ASP4, certain module files will be copied into your simulator installation folder and your simulator add-on configuration startup files (dll.xml and exe.xml) will be automatically edited to load the ASConnect module and config manager.

When starting your simulator, you may see a confirmation message asking if you want to Run the as_connect_64.dll file and as_btstrp_config_manager.exe file. If asked, you must choose to Run these in order for ASP4 to function correctly.



After choosing to Run, you will be asked if you'd like to "trust" each file and load it again automatically in the future. Choose Yes.

The User Interface Overview



ASP4 uses a “Navigator” main window (pictured above) in which all commands and screens are accessed.

When first run, the Home screen is displayed and includes some general Wx condition information and ASP4 news. You can configure which stations are shown under “Favorite METARs” by adding favorite stations in the Conditions Screen. Your first 5-7 favorites will be shown (depending on the size of the METAR text).

Navigation Links

Along the very top, the main navigation links will bring up the associated screens.



Each screen is covered in detail within subsequent chapters of this User's Guide. The *Home* link will bring you back to the startup screen at any time.

Note that each screen in ASP4 is, by default, docked to the main Navigator window. By pressing a screen's "Undock" button, the screen is undocked from the Command Center and can be controlled separately as a new window. To re-dock an undocked window back into the Command Center, press the "Dock" button.

Most screens/windows within ASP4 can be resized, maximized and minimized as desired.

Screens within ASP4 may have screen-specific menu commands, which are located at the top of the screen's window (when docked, this will be just under the main Command Center navigation buttons).

Control Buttons

At the top right, the control buttons are standard windows controls.



From the left, the available buttons are:

Send to Tray: Hides ASP4 and places an Icon in the System Tray. Double Click the ASP4 Icon to bring the ASP4 window back up.

Minimize: Minimizes the ASP4 screen, placing it in the Task Bar. To bring back up the main screen, click the ASP4 Task Bar item.

Maximize/Restore: When in a normal window, clicking this will expand the ASP4 window to the full size of the available monitor space. When already maximized, clicking this will return ASP4 to normal size.

Exit: This will close ASP4.

Status Indications



At the top left of the main Navigator screen, and at center top, the status indications are shown:

Version: The current build #/version of ASP4

Wx Mode: The current weather mode

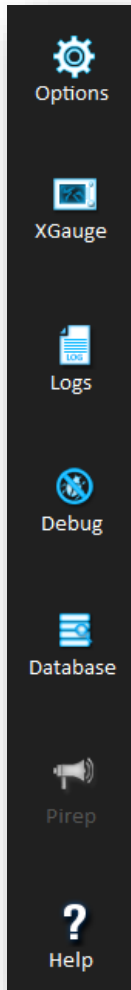
Connection: The current simulator connection status

Activity: The current download activity status (Idle or Downloading)

Date/Time: The currently active date/time pertaining to weather

Tool Bar

Along the left side, certain tools are available.



Options: Brings up the Options screen allowing you to configure many different settings within ASP4 - See the [ASP4 Options](#) section for more information

XGauge: Brings up the Gauge Installation Wizard providing a means to install and uninstall the ASP4 XGauge Wx + Radar gauge into/from your aircraft - See the [XGauge Wx +](#) section for more information

Logs: Creates a log export that can be helpful to view specific log information, and/or send it to HiFi staff for technical support purposes

Debug: Brings up a debug window showing live logging information and specific real-time parameters, and also providing triggering of some effects - See the [Debug Tool](#) section for more information

Database: Brings up the Station Database Editor, allowing you to customize or update your Airport and Weather Station databases - See the [Database Tool](#) section for more information

Pirep: Allows you to post a Pirep (Pilot Report) on the Active Sky Network, available to all Active Sky users (must be connected and in Live mode) - See the [Pirep Tool](#) section for more information

Help: Brings up this documentation

Weather Depiction

ASP4 uses a unique weather depiction system, using multiple weather control techniques within the simulator in a hybrid fashion, including Themes, SimConnect station-based weather control, and interfacing via the ASConnect module. This allows depicting accurate, visually correct weather conditions while providing smooth transitions in all cases as well as specialized effects such as in-cloud visibility reduction, in-cloud motion effects, cloud-synchronized turbulence, precipitation, icing and up/downdrafts, and microburst simulation.

Your currently loaded flight plan within ASP4 can effect certain interpolation and weather synthesis behavior. In summary, your flight plan-associated waypoints, stations and airports have precedence in certain situations where multiple weather stations within a “weather cell” can influence the conditions experienced. For this reason, we recommend using flight plans for better accuracy according to your route-specific relevant weather stations.

ASP4 actively “synthesizes” the weather conditions based on data, features enabled, interpolation, flight plan, and other factors. For example, if certain options are enabled, ASP4 will generate cirrus clouds, fog layer clouds, etc. When ASP4 synthesizes weather for a certain station, it will provide information regarding the synthesis in the METAR text for that station. This information is provided in the “RMK” (remarks) section at the end of the METAR code (Conditions Screen).

ASP4 includes optional Dynamic Cloud Distance Control in order to provide balanced performance, automatically adjusting Cloud Draw Distance based on your altitude and the changing cloud complexity. To enable this feature, refer to the Minimum and Maximum Cloud Draw Distance settings. Note that increasing CDD can have dramatic performance penalties depending on your system and the weather scene. In addition, using Dynamic Cloud Draw Distance Control (when minimum and maximum settings are different) can cause certain depiction alignment issues within the simulator depending on the area and situation. Such alignment issues generally clear up during a theme reload (which occurs at your regular download interval or when you have moved a certain range from your previous theme reload location).

Advanced Technologies

Advanced technologies exist within ASP4 to increase the levels of weather realism and enjoyment possible within your simulation sessions. Some of these technologies include:

- Cloud squeeze reduction - reduces and/or eliminates "squeezed" cloud shapes in high latitude areas
- Prepar3D Visibility and Volumetric Fog handling including full visibility smoothing and increased performance and visuals
- Tight ASCA Integration enabling full real-time texture dynamics and weather-influenced selections
- Hybrid weather depiction system
- ASConnect low-level interfacing module
- "Smooth Theme Reload" to update cloud conditions in Theme depiction smoothly without abrupt transitions
- XGauge Wx + Gauge - Precipitation Radar with complete accuracy to depicted conditions - Now with airborne radar mode in addition to NEXRAD/Satellite format
- High-fidelity air effects:
 - Wind Shear
 - Microbursts
 - Updrafts and Downdrafts
 - Thermals
 - Wake Turbulence
 - Cloud Turbulence
 - Enhanced Wind Turbulence
- Cloud sprite awareness and associated effects:
 - In-Cloud motion effects
 - Accurate Precipitation Radar
 - Detailed cloud position graphics
 - In-cloud visibility reduction
 - Cloud-related turbulence
 - Accurate ambient precipitation localization and control
- Uncoupled Audio/Voice System
 - Allows playback of audio on either client or server in networked configuration
- Aloft Inter-layer interpolation for smooth transitions of temperature and wind as you climb and descent
- Weather cell awareness and depiction control
- Enhanced depiction and interpolation logic
- Forecast weather integration including new forecast aloft data
- Dynamic weather changes based on forecast conditions
- Global sigmets/airmets with appropriate weather condition synthesis to apply advisory conditions appropriately to depicted weather

These new technologies are integrated within ASP4 at nearly all levels, and are available in the default provided option set. Many of these technologies are configurable or may be enabled/disabled as desired within the Settings screen.

These technologies and related features are listed here as a reminder and reference as to the complexity and painstaking effort taken to make Active Sky the most realistic and robust weather engine possible. Many realistic subtleties and phenomenon will occur as a result, and this can be unexpected for many simulator pilots. Before assuming something is working incorrectly, please refer to the above list and consider that this may be a realistic and/or desirable realism-based situation.

Because of the Active Sky's goal of realism, we highly recommend trying "EASY Mode" if you are unfamiliar with aviation weather and related principles. If, however, you are experienced, or just want a challenge, we suggest "REALISM Mode" which enables all options at their highest-realism setting.

New Active Sky for Prepar3D v4 Features

New to ASP4, the following features/enhancements bring an improved weather experience to P3Dv4:

- **New 64-bit ASConnect simulator interface**

ASConnect has been re-designed as a 64-bit simulator module for tight integration with P3Dv4

- **Updated 64-bit XGauge Radar and Weather Display Gauge**

XGauge has also been updated to 64-bit for P3Dv4 use

- **New Active Runway Data**

ASP4 brings new active runway awareness and display. You'll find this information in several locations:

1. The map screen popups, when hovering over an AIRPORT (Airport overlay must be enabled)
2. Conditions Screen (Decoded METAR text, near the end) – Active station must be a valid AIRPORT station
3. Briefing Screen (Departure / Arrival / Alternate airport conditions information)

- **New visibility depiction improvements**

Previous AS16 for P3D(v3) visibility handling improvements were subject to limitations in trying to achieve proper balance between low and high visibility situations, for both users trying to restrict upper visibility, and those desiring a more unlimited upper visibility feel. ASP4 extends visibility depiction overall, reducing these limitations, and directly addresses the apparent low visibility/hazy depiction seen in P3Dv4 in fair weather conditions.

- **New turbulence and air effects enhancements including “low-interval smoothing” for a more organic feel**

Previous AS16 for P3D(v3) turbulence and air effects updates were limited by an approximate 1-second minimum interval. ASP4 implements new low-interval effects routines including smoothing, which provides a more organic and realistic feel to all air effects including turbulence, updrafts, downdrafts, shear, gusts and microbursts.

Performance Considerations

Weather, specifically cloud depiction, can significantly affect your simulator performance. It is important to consider this when using and configuring Active Sky for P3Dv4.

The most dramatic effect on performance is due to the amount of cloud sprites drawn, which is related to the amount of cloud layers depicted and specific ASP4 weather options such as **Minimum/Maximum cloud draw distance**. Internal simulation options, such as **Cloud coverage density** also can have a dramatic performance effect.

By default, ASP4 is configured to provide a balance between performance and detail. Users with more powerful systems may want to increase bias towards detail, while users with less powerful systems may need to increase bias towards performance.

A further consideration is based on potential graphics add-ons in use. Using higher-resolution cloud imagery and 32-bit (vs. DXT) imagery can also significantly reduce performance. When increasing **Cloud draw distance**, for example, you may need to reduce cloud imagery resolution to provide desired simulator performance levels.

You can further improve performance dramatically during theme reloads by utilizing the new "Suppress Local Weather Changes" option. This eliminates Smooth Cloud Transitions but provides an alternative for equally smooth weather changes. Please see the Options chapter for more information.

Voice Features

ASP4 includes an advanced audio/voice engine which can provide in-sim voice readback of local weather conditions (similar to ATIS), readback of destination conditions (similar to FlightWatch), and readback of a full voice weather briefing (similar to Flight Service weather briefings). A "Wind Check" voice playback feature has also been provided.

Included with ASP4 are several voice sets, which are randomly chosen for different readback events.

To use the new voice features:

1. Tune an aircraft's com radio to 122.00 to receive local (closest) weather conditions similar to ATIS
2. Tune an aircraft's com radio to 122.02 to receive destination weather conditions similar to FlightWatch (enabled only when a flight plan is active)
3. Tune an aircraft's com radio to 122.05 to receive a full voice weather briefing similar to Flight Service weather briefings (enabled only when a flight plan is active)
4. Tune an aircraft's com radio to 122.07 to receive a "wind check" (current surface wind direction and speed) on tuning and at specific intervals when approaching the runway (approximately 1000ft and 500ft AGL).
5. From the "Briefing" screen, press the "Play voice briefing" button to receive a full voice weather briefing similar to Flight Service weather briefings (enabled only when a flight plan is active)

You can also receive accurate ATIS from the sim-provided ATIS frequencies. Some discrepancies may exist due to the simulator's lack of knowledge of specific ASP4 weather condition parameters that would otherwise be provided in ASP4's voice reports.

Enabled by default, ASP4 also includes a Wind Shear Aural Alert system. When enabled, and wind shear is detected in front of the aircraft, a warning audio message will be played.

Note that voice will be played back on the device of your choice as specified in the Settings screen. This can include your normal windows default audio device, or another device, which can exist locally or on a separate computer in the case of networked configuration.

Weather Request Menu

ASP4 includes a weather request menu that can be called up directly inside the simulator.

Use the Add-Ons drop down menu in the simulator and choose "ASP4 Weather Request" to bring up the menu.

You can also press the hotkey: **CTRL+F11** (Configurable in Options)

From the weather request menu you can choose to see weather for current and closest stations, as well as a winds aloft report. If using a flight plan, you can also see weather for departure, destination and alternate (if specified).

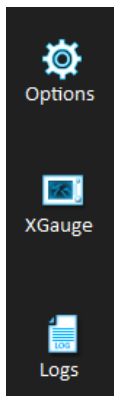
XGauge Wx + Radar Gauge

We have provided a realistic Weather Gauge that can be installed into your aircraft panels easily with our included Gauge Installation Wizard tool. This gauge now simulates both NEXRAD satellite-based weather and mapping display as well as an Airborne radar mode.

Once installed, the gauge can be accessed from a normal panel hotkey (i.e. Shift-5, configurable), or via the simulator's Window/Panel menu commands.

Installing the Gauge

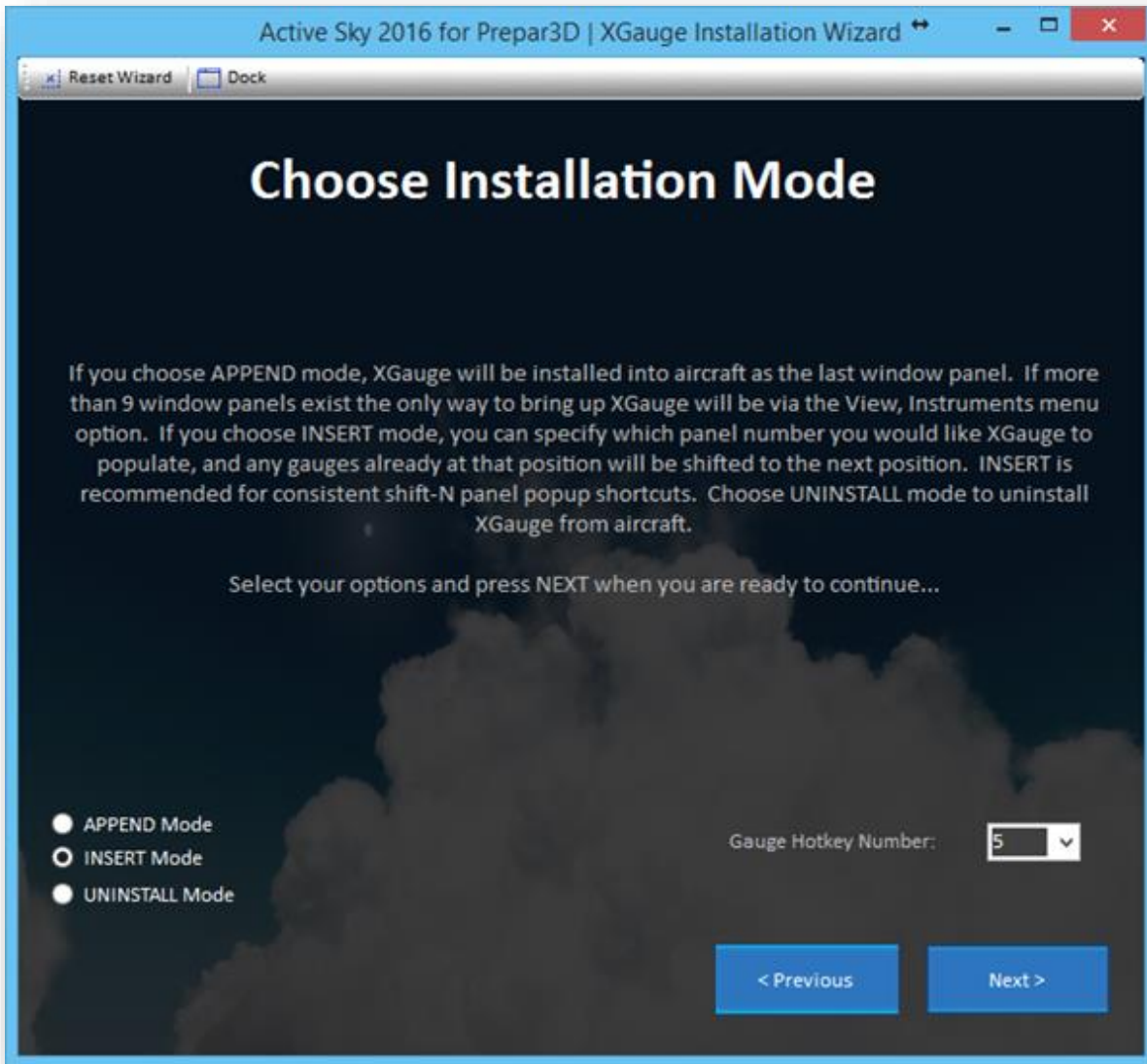
To install the Gauge, click the "XGauge" icon on the left of the main ASP4 screen.



Follow the wizard steps to easily install the gauge (or uninstall) from all aircraft or specific selected aircraft.

Your simulator needs to be **CLOSED** in order to properly install the gauge.

Once installed, the gauge will be loaded appropriately in your aircraft when your simulator is run.



Note: Users of previous Active Sky versions will need to run the Gauge Installation Wizard to update required gauge files. It is required to Uninstall the gauge from all aircraft then re-install to properly update the gauge entries.

When using the Gauge Installation Wizard, you can choose between 3 modes of operation:

1. APPEND Mode

This mode will add the Weather Gauge as an entry at the end of your list of “gauges” for each aircraft. If you have many gauges, the Weather Gauge might not be accessible by hotkey, and instead will need to be accessed by the View/Windows/Panels section of the simulator menu.

2. INSERT Mode

This mode inserts the gauge into the position specified by the “Gauge Hotkey Number”. This provides a consistent hotkey combination (i.e. Shift-5) in all aircraft to bring up the Weather Gauge. For this reason, we recommend installing with INSERT Mode.

3. UNINSTALL Mode

This uninstalls the gauge from your aircraft. Users of previous versions of Active Sky should uninstall (then reinstall) the gauge to make sure the gauge is updated properly.

Important Note

- “Aliased” aircraft/panels will not be shown or processed. These panels are aliased from other aircraft, typically used for variants. Installing/uninstalling to/from the main non-variant aircraft will affect all aliased variants.

Manual Installation (optional)

If you encounter a situation where the weather gauge cannot be installed into a certain aircraft/panel, you can manually install the gauge instead. To manually install the gauge:

1. Locate the panel.cfg file which is located in <FSX Install Folder>\SimObjects\Aircraft (or Rotorcraft)\<Aircraft Name>\panel
2. Edit the panel.cfg file
3. In the [Window Titles] section, insert an entry for XGauge. You need to choose a unique WindowXX entry where XX = the number of the window to be assigned. For example, Window04=XGauge. Ensure that the window number is not used for any other item (increment any item after XGauge by one).
4. Below the [Window Titles] section, add a new [WindowXX] section where XX = the window number you assigned in the previous step. In this section, place the following text:

```
size_mm=659,489
window_size_ratio=0.4
position = 5
Visible = 0
ident = 14991
zorder = 100
gauge00=XGauge!WeatherMap,0,0,659,489
```

5. Save the panel.cfg file and reload your simulator to see the changes

Using the Gauge

When bringing up XGauge and powering it on, it will start in NEXRAD/Satellite mode.

In this mode, the Gauge will display your graphical weather map (similar to the Map screen) and textual local and/or destination weather. All overlays (such as precipitation, winds, stations, etc.) can be toggled on and off using the gauge's overlay control buttons.

Using the gauge, you can instantly view updated weather conditions as you fly, get accurate precipitation radar, and perform realistic weather avoidance procedures.



The buttons along the left and right side of the gauge provide overlay toggle control. Press the button once to turn an overlay on, and again to turn it off.

- **STA** Weather Stations
- **APT** Airports
- **RTE** Route (flight plan) legs and waypoints
- **CLD** Clouds
- **PRE** Precipitation Radar (First Press = BASE REFLECTIVITY, Second Press = Cloud Tops, Third Press = OFF)
- **VIS** Visibility
- **WND** Winds
- **NAV** Navigation Aids (VOR/NDB)
- **SIG** Sigmets, Airmets and Pireps
- **A/C** Other Aircraft (including wake trails)
- **WSH** Wind Shear (Enables visual display and aural warnings)
- **DTL** Detail Zoom Lock (Limits maximum zoom/range to maximum available detailed radar range)
- **MET** Closest Reporting Station Conditions (not necessarily your interpolated/active conditions)
- **DST** Destination Weather Conditions (when flight plan is loaded)
- **TRK** Track Up / North Up Toggle
Note: When Track Up is enabled, the surface map is replaced with a black background
- **BKG** Changes between the various background modes (Vector Dark, Vector Light, Blue Marble/Satellite, and None)

The buttons along the bottom provide display control:

- **Z +** Zoom In
- **Z -** Zoom Out (Will be limited to maximum available detailed radar range when DTL is ON)
- **W +** Winds Flight Level Increase
- **W -** Winds Flight Level Decrease
- **PWR** Power On/Off Toggle
- **MODE** Toggles between NEXRAD/Satellite Mode and Airborne Radar Mode

When a specific overlay/mode is enabled, an enabled status light is displayed adjacent to the associated button.

Airborne Radar Mode

When the **MODE** button is pressed (and powered on), the gauge will switch to/from NEXRAD and Airborne Radar Modes.

In Airborne Radar mode, the gauge simulates accurate airborne radar echoes similar to real airborne radar displays.

Separate commands are available when in Airborne Radar Mode and Tilt control is enabled to properly use your radar to scan desired areas of the sky either above or below your aircraft.

The buttons along the bottom provide radar control:

- **Z +** Zoom In
- **Z -** Zoom Out (Limited to 160 miles maximum)
- **T +** Tilt up 1 degree
- **T -** Tilt down 1 degree
- **MODE** NEXRAD/Airborne Radar Mode Toggle

Your current range and tilt are displayed along the left side of the display.

Precipitation Radar Graphics and Detailed Clouds

ASP4 includes accurate precipitation radar simulation to provide a dramatically increased level of realism.

At the heart of these technologies is awareness of actual cloud sprite positions within the simulator. ASP4 constantly monitors the position of these sprites and compares this with synthesized precipitation conditions to graphically display the exact boundaries and intensities of precipitation, as well as directly control the ambient precipitation experienced to always keep the “radar” in sync with the sim. This means you’ll get realistic, accurate radar graphics that perfectly match the depicted conditions. Rain/Snow/Hail will be depicted where it should be, within and under clouds, and never in “clear air”. In addition, exact cloud positions can be displayed on the map or gauge.

When in NEXRAD/Satellite mode XGauge, or when viewing the ASP4 Map, precipitation and cloud graphics are displayed (when Base Reflectivity overlay is enabled) and on the Weather Gauge (when PRE overlay is enabled). Detailed cloud positions are shown using the Clouds overlay (map) or CLD toggle (gauge). Several conditions must be met in order for these detailed graphics to be displayed:

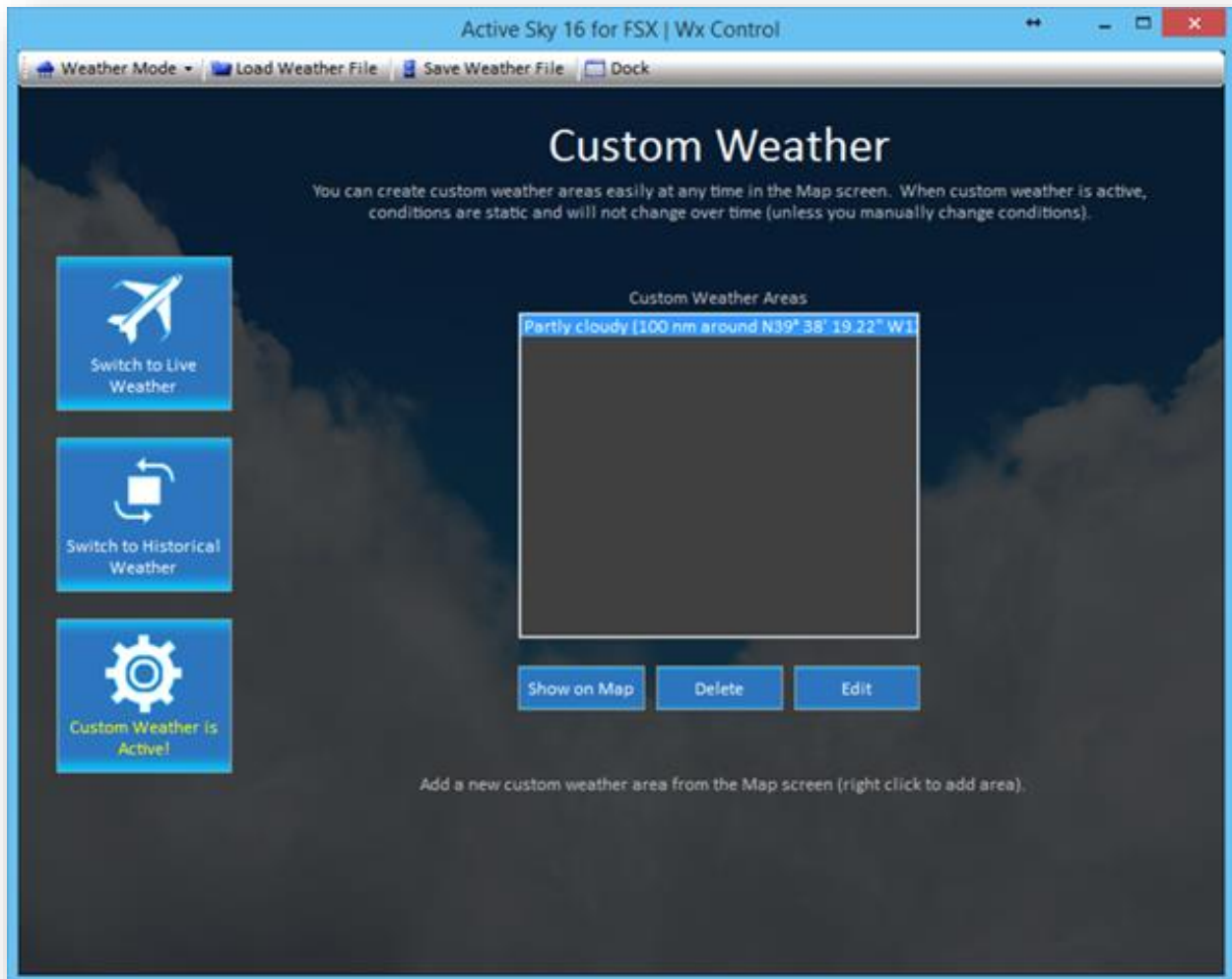
1. An active connection to the simulator must be present
2. A flight must be active within the simulator
3. Lock to Aircraft must be enabled
4. Since cloud sprite positions are only available within the “Cloud Draw Distance”, your range/zoom must be within the currently active Cloud Draw Distance (generally 60 to 150 miles)
5. To automatically limit your maximum range/zoom to available detailed range, you can use the “Detail Range Lock” toggle on the map or the “DTL” toggle on the gauge

Generic Precipitation Display

When the above conditions are not met, generic precipitation graphics are shown instead of detailed graphics. These generic graphics are not as accurate, but do give a general representation of the clouds/precipitation in a given area.

When you “zoom out” past the range of detailed graphics availability (the current Cloud Draw Distance), generic graphics are shown. In order to limit maximum range/zoom to always display detailed radar graphics, you can use the “Detail Range Lock” features of the map and gauge.

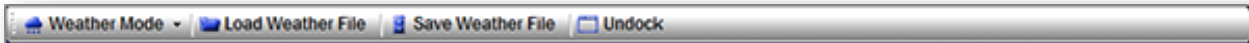
Wx Control



The Wx Control screen allows you to easily configure the weather for your simulation sessions. There are three main weather modes which can be selected main three buttons on the left, or the Weather Mode dropdown at top left.

The modes of operation are Live, Historical and Custom. There is also a toolbar at top providing additional functions.

Toolbar Buttons



The buttons at the top of the Wx Control screen are:

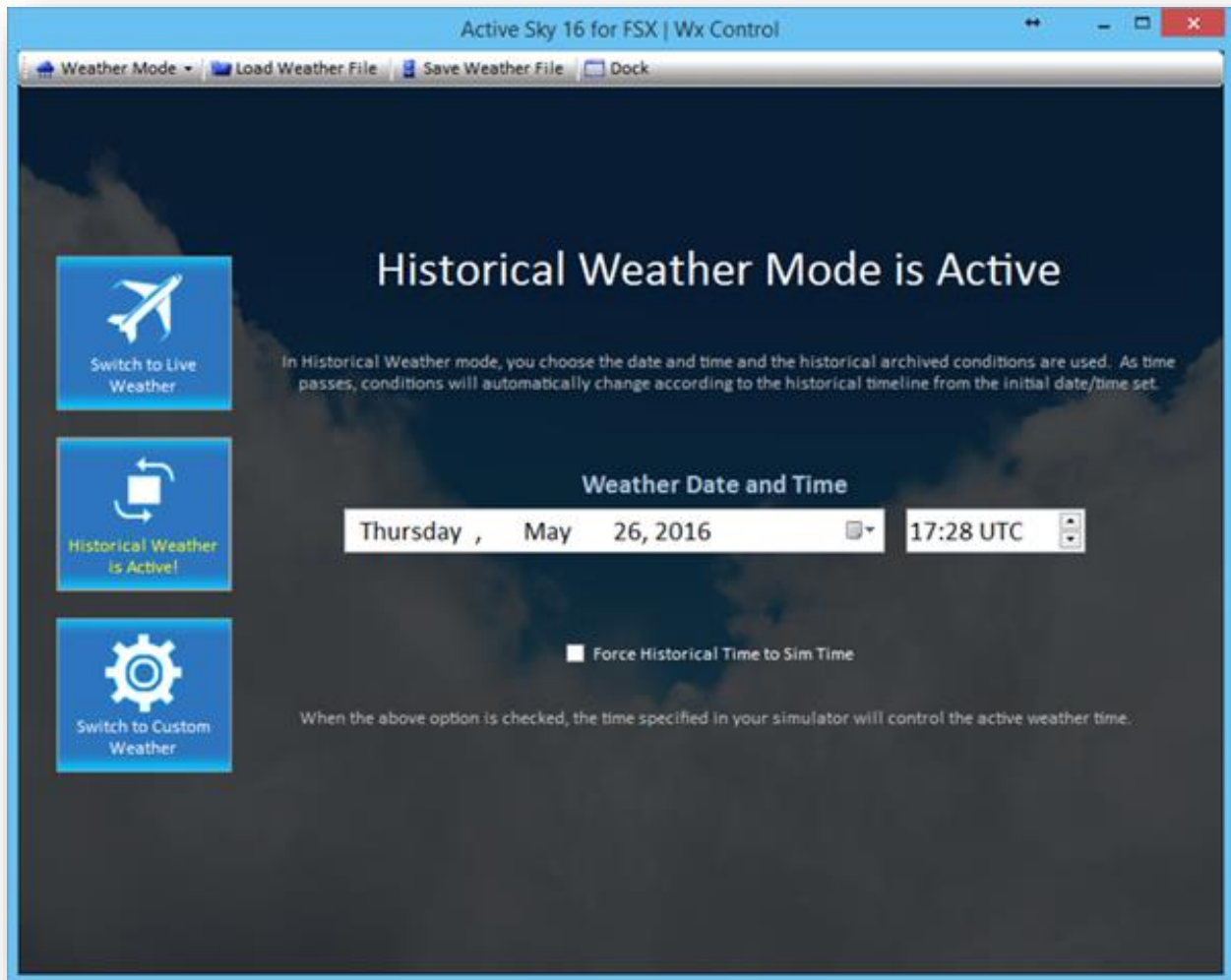
- **Weather Mode**
Changes your current weather mode as described above
- **Load Weather File**
Loads a pre-saved weather file and switches the weather mode to Manual
- **Save Weather File**
Saves the current active weather, either as downloaded or as manually configured
- **Dock / Undock**
Docks or Undocks the Wx Configuration Screen

This toolbar and attached buttons are available in any weather mode. When using specific weather modes, the remainder of the Wx Control screen will change accordingly, indicating the specific mode details and/or providing certain settings and controls specific to that mode.

Live Weather Mode

In Live Weather Mode, the most current “real-time” weather data is constantly downloaded and updated automatically without any intervention required. This is the most realistic mode of operation which simulates real conditions at all times around the globe.

Historical Weather Mode



In Historical Weather Mode, you can choose the date/time of your session, up to two years in the past.

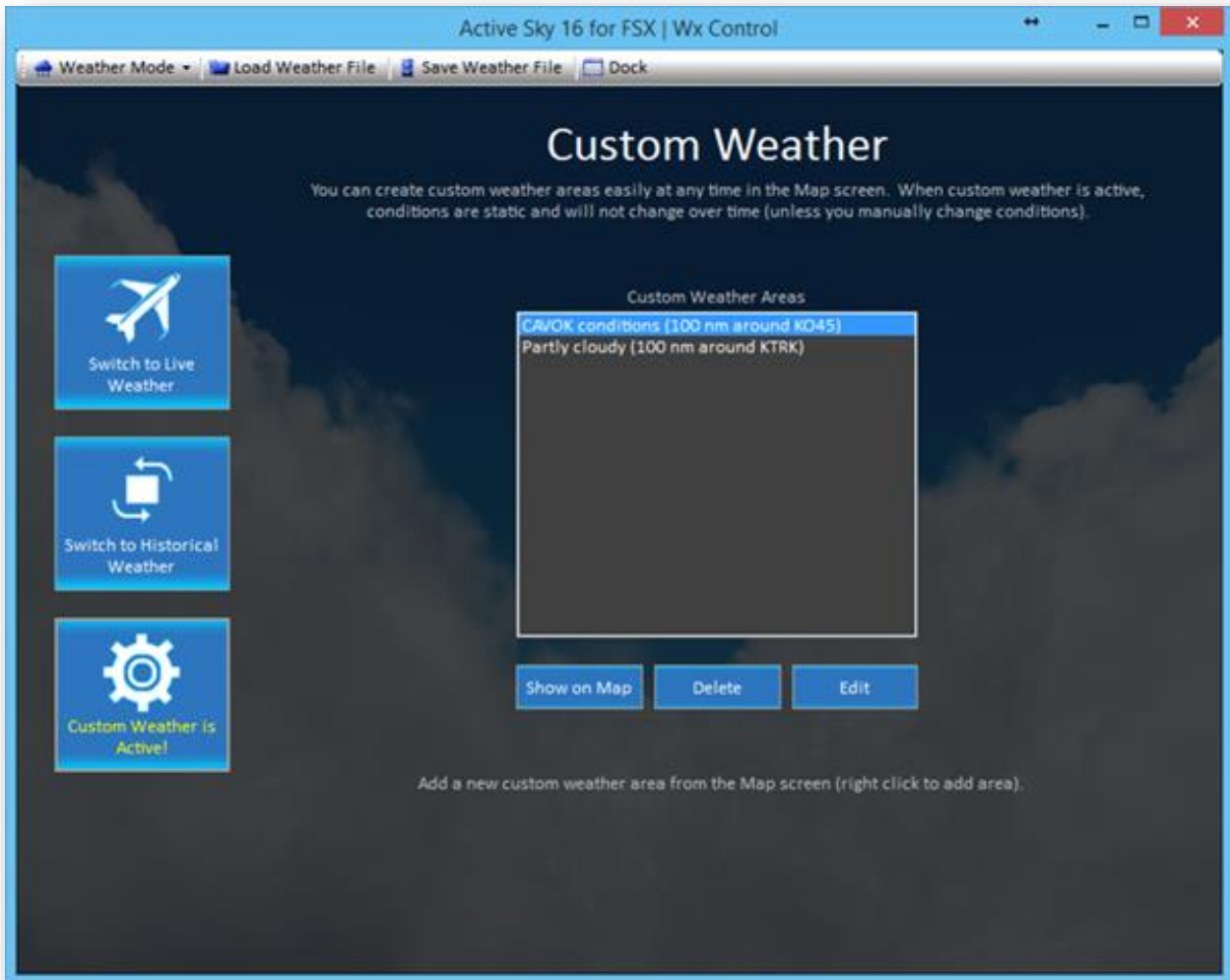
Simply select the date and time via the date/time selectors and the conditions will automatically be downloaded for the selected period, and then will automatically update during your session. For example, if you choose “January 1, 2013 at 05:00 UTC”, the session starts at 05:00 and continues. In one hour, 06:00 weather will be used, and in two hours, 07:00 weather will be used.

You can also choose to have the date/time set in your simulator be used as your historical time. Just check the “Force Historical Time to Sim Time” checkbox and ensure that your sim time is set accordingly.

Important Notes when using “Force Historical Time to Sim Time”:

- Due to potential SimConnect synchronization issues, ASP4 should be started first (before the simulator) when using this feature. If the simulator is started first, the simulator's date/time may not be properly passed to ASP4 during startup. If you require starting the simulator first, be sure to update the date/time value after ASP4 is started so that the proper date/time is sent to ASP4.
- Certain problems exist in FSX/P3D regarding keeping proper track of time, including erroneous time after crossing timezones or the dateline, and the time slowing down/falling behind. To reduce or eliminate these problems, which may affect operation of ASP4 when using “Force Historical Time to Sim Time”, we recommend using 3rd party utilities such as FS Real Time which synchronize the clock correctly.
- When adjusting time in the simulator, we recommend adjusting the UTC time instead of the local time to minimize issues with date/time synchronization. Regardless, the local time may become improperly calculated when adjusting time in the simulator. 3rd party utilities such as FS Real Time can eliminate or reduce this problem.

Custom Weather Mode



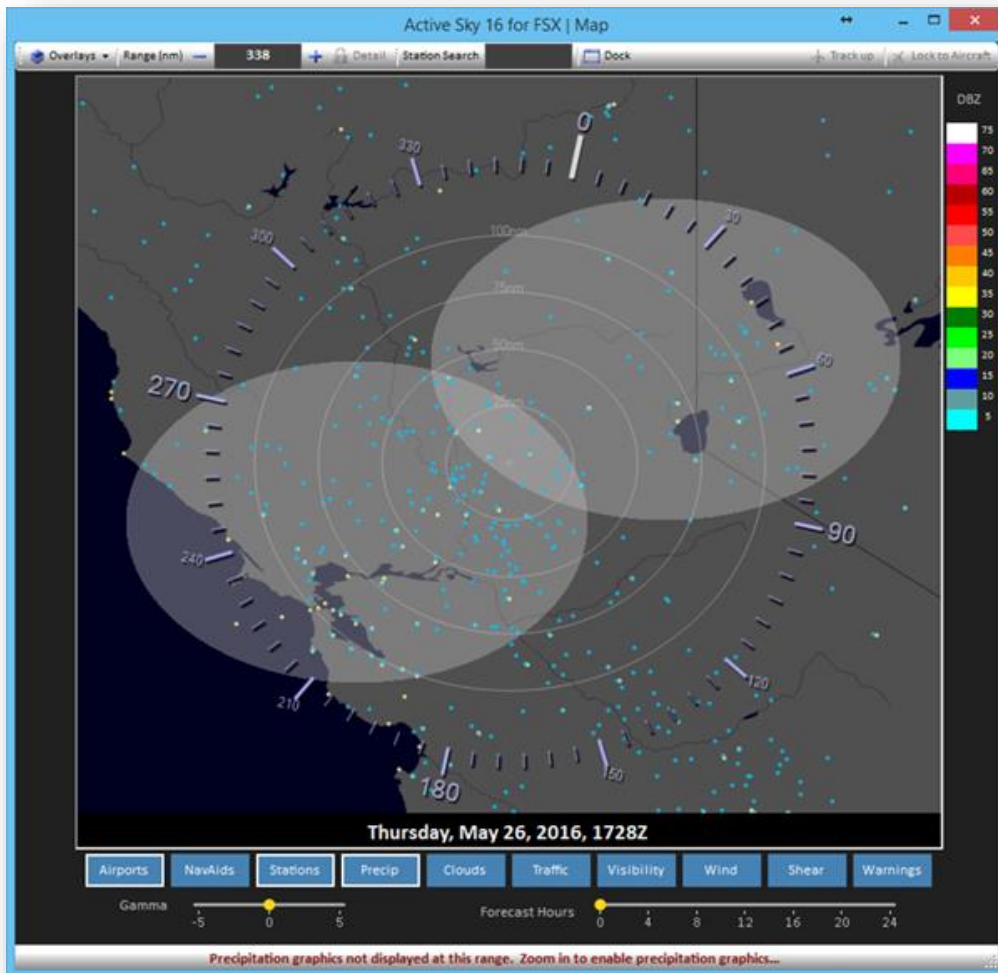
When you switch to Custom Weather Mode, the weather that was loaded previously becomes the “base” weather, and will remain static and unchanged unless you change it.

In Custom Weather Mode, the primary "Weather Editor" becomes the Map Screen, in which you can right-click and place "Custom Weather Areas". Once you have added one more or more Custom Weather Areas, they will show as a list in the Wx Control screen. From here, you can highlight a custom weather area and use one of three buttons:

- Show on Map:** Switches to Map screen and shows the weather area at center
- Delete:** Deletes the selected custom weather area
- Edit:** Edits the selected custom weather area

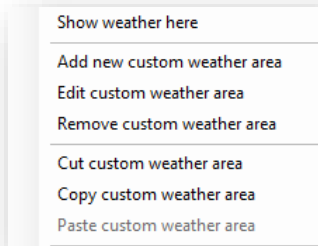
Using the Map to Create or Edit Custom Weather Areas

The Map Screen is used to create new custom weather areas, and can also be used to edit or delete custom weather areas.



Defined custom weather areas are shown as ellipses on the map and can appear different colors depending on the type of conditions defined.

Simply right-click at any location on the map and context-menu will appear.



Custom Weather Area Context Menu Options

The following options/commands are available:

Add new custom weather area

Creates a new custom weather area at the clicked location and launches the Custom Weather Wizard to easily define the weather for this new area.

Edit custom weather area

Launches the Custom Weather Wizard to easily re-define/edit the weather for the clicked custom weather area.

Remove custom weather area

Removes the custom weather area that was clicked on.

Cut custom weather area

Similar to Windows "cut" command, this copies the weather area into the clipboard and deletes the custom weather area that was clicked on (to be later "pasted" in another area).

Copy custom weather area

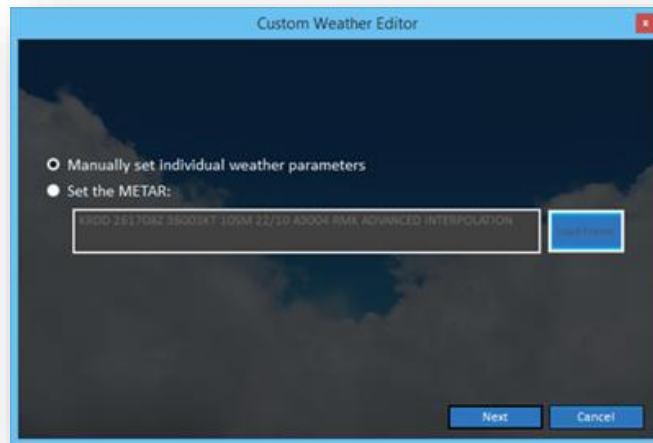
Similar to Windows "copy" command, this copies the weather area into the clipboard (to be later "pasted" in another area).

Paste custom weather area

Similar to Windows "paste" command, this places a new weather area (as previously cut or copied from the clipboard) at the clicked location.

Custom Weather Editor Wizard

When you choose to create a new custom weather area, or edit an existing one, the Custom Weather Editor Wizard is launched:



Your two initial options are:

Manually set individual weather parameters

This provides subsequent dialogs for all weather conditions in a sequential method, as shown further below.

Set the METAR

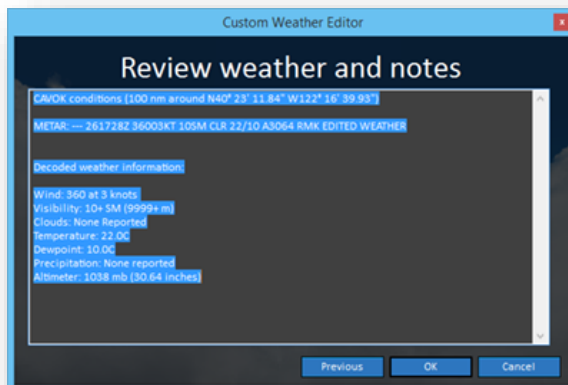
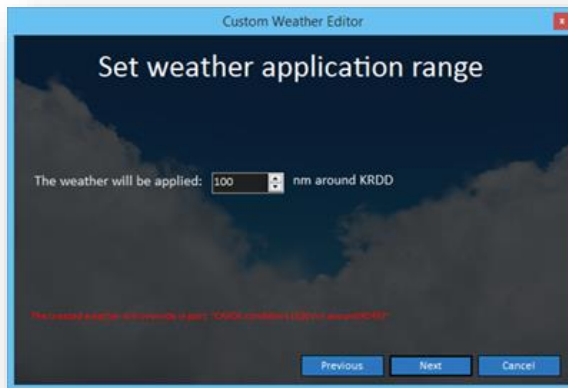
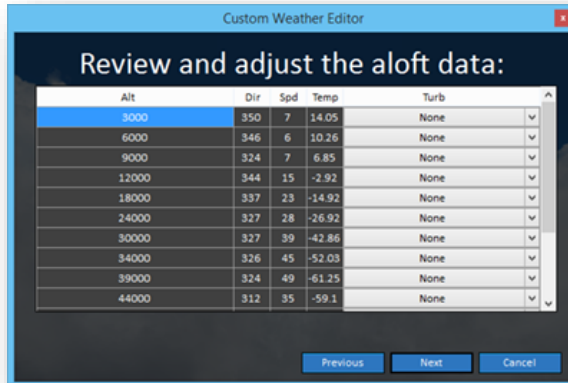
Use this to quickly set the surface weather conditions using METAR code. Initially, the closest station (if one exists) to the clicked location and the current weather/METAR is shown, which is fully editable. You can also click the "Load Preset" button to select and load a pre-defined METAR string. Several presets are included for common weather conditions (Storms, Hurricane, Foggy, Fair Weather, etc).

If you have chosen to Manually set individual weather parameters, the following surface condition dialogs will be shown, allowing you to easily change any weather condition value appropriately:



Note that for cloud layers, all altitudes are specified in MSL for consistency and universal placement ability. To set a specific "Ceiling Height" you will need to know the ground level elevation at the airport/location intended, and add that elevation to the desired cloud base altitude. For example, if your desired airport is at 500ft elevation, and you require a 2000' AGL ceiling, you should specify a 2500' MSL cloud base.

At this point, regardless of "manual" or "METAR" setting, you can then adjust the aloft and final parameters:



At any time during the Custom Weather Editor Wizard process, you can move forward or back using the "Previous" and "Next" buttons, or "Cancel" to cancel the wizard.

When finished, review the notes provided and then press OK to finish the application of the edited weather.

Note that certain weather conditions requested might be conflicting or inappropriate (such as rain with no clouds), and the notes section will provide a list of such potential conflicts, allowing you to confirm or go back and edit conditions before experiencing unexpected results.

While you can use the map screen exclusively to view, add, edit and reposition custom weather areas, they are also listed in the Wx Control screen when in custom mode, allowing you to manage your custom weather areas in a "list" format.

Map



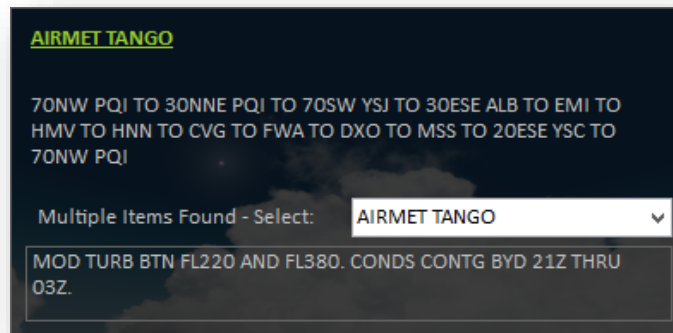
The Map screen provides graphical weather and route mapping which is useful for all stages of flight, including routing, planning, monitoring, weather avoidance and re-routing.

Several mouse actions are available on the main Map display:

- **Hover** your mouse over a waypoint, station, airport, aircraft, VOR or NDB to display popup information about that item (such as weather conditions, position, frequency, etc.)
- **Click and drag** the map to pan/move the map.
- Use your **scroll-wheel** to zoom in and out.
- **Right-click** an item to bring up a context menu (i.e. insert a waypoint, show conditions, add or edit custom weather areas).



Example of the Map popup information window shown when hovering over certain map items.



Example of Map popup when multiple items are layered over the top of each other - Notice the drop-down box allowing you to select the desired item to obtain detailed information for.

At the top of the Map screen, the Toolbar items allow you to toggle overlays, view/set zoom range, center on any station, Dock/Undock the window, set Track up mode, and set Lock to Aircraft mode.

At the bottom, the displayed weather date/time is shown. You can use the Forecast Hours slider to view forecast conditions up to 24 hours in the future. The Gamma slider is used to darken or lighten the background map imagery.

Along the left and right side, legends for Visibility and Precipitation densities will be shown (when these overlays are enabled).

A set of "Quick Overlay Toggle" buttons also exist at the bottom, enabling the most popular overlays to be easily toggled on and off. All of these overlays are also available within the "Overlays" drop down toolbar item, but not all overlays/options are shown within the quick overlay section.

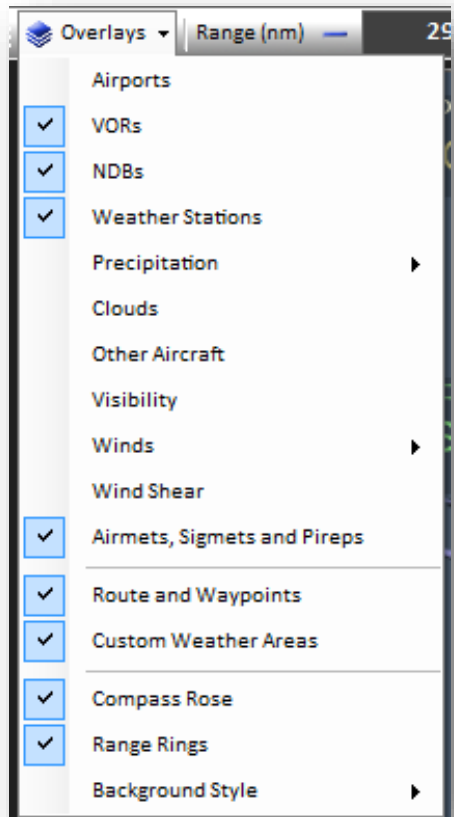
Toolbar Items



The following toolbar items are available in the Map Screen:

- Overlays

Use the Overlays drop-down to toggle certain overlays on or off.



The available overlays are:

- **Airports**
- **VORs**
- **NDBs**
- **Weather Stations**
- **Precipitation**

Brings up choice of three different precipitation overlays that are available:

- **Base Reflectivity**

Shows detailed and accurate precipitation radar graphics around the aircraft, and generic precipitation radar graphics outside the Cloud Draw Distance. Base Reflectivity is a radar image taken from a single sweep of radar at a low tilt level, which is good for showing storm structure and seeing higher-resolution returns.

- **Echo Tops**

Shows detailed and accurate echo top graphics around the aircraft, and generic echo top graphics outside the Cloud Draw Distance. Indicates the maximum altitude of radar echos returned in radar sweeps. This mode is useful for determining the intensity and upper limit of cells.

- **Clouds**

Shows detailed and accurate cloud graphics around the aircraft, and generic cloud graphics outside the Cloud Draw Distance.

- **Other Aircraft**

Other aircraft in the area around the user's aircraft are shown in this overlay. In addition, a graphical representation of an aircraft's wake trails are shown. Wake strength/intensity is indicated by color:

- **Red: Strong**

- Yellow: Moderate
- Green: Light

- **Visibility**

The Visibility overlay shows a generic color-coded representation of visibility conditions:

- Yellow: IMC/MVFR- (Less than 4 miles Visibility)
- Lime: MVFR+ (4-5 miles Visibility)
- Green: VFR- (6-7 miles Visibility)
- Clear: VFR+ (Over 7 miles Visibility)

- **Winds**

The Winds category brings up additional items allowing you to select the desired altitude level overlay of the winds shown, or enter a custom altitude. Winds are shown by realistic “staffs” which point to the direction (from) and indicate the speed with flags and barbs. A triangular flag indicates 50 knots, a full-barb indicates 10 knots, and a half-barb indicates 5 knots. When more than one flag/barb is shown on a staff, they are added (i.e. a triangle flag, a full-barb and a half-barb indicates 65 knots).

- **Wind Shear**

This overlay shows realistic Wind Shear alert graphics around the user's aircraft. When wind shear is identified, a red/black stripped icon (indicating the location of wind shear) is shown with two yellow/black radial lines that extend radially from the wind shear area to the map edges.

- **Airmets, Sigmets and Pireps**

Airmets and Sigmets are shown via transparent colored polygons on the map.:

- Green: USA Airmet Tango (Turbulence)
- Yellow: USA Airmet Sierra (IMC and Mountain Obscuration)
- Purple: USA Airmet Zulu (Icing)
- Red: USA Convective Sigmet (Dangerous Thunderstorms)
- Blue: International Sigmet (Turbulence, Icing, Thunderstorms)

- **Route and Waypoints (requires active Flight Plan)**

Shows your current route and included waypoints per your active Flight Plan.

- **Custom Weather Areas**

Shows ellipses for your custom weather areas that you have previously added within Custom Weather Mode. You can hover over to see specific custom weather area weather information, and right click to edit/copy/cut/delete custom weather areas. See Wx Control section for more information.

- **Compass Rose**

Shows a compass rose referenced to magnetic north.

- **Range Rings**

Shows range rings at 25, 50, 75 and 100nm as ellipses adjusted for the current map window aspect ratio as configured by the user via window resizing.

- **Background Style**

You can choose between 4 different styles of backgrounds for the map view: Vector Dark, Vector Light, Blue Marble (Satellite imagery) and None (black).

Other Map Screen Toolbar Items:

- **Range**

Your current zoom range is shown here. You can click here and manually type in your desired zoom range (in Statute Miles). Alternatively, you can use your mouse scrollwheel to adjust range, or use the + and - buttons to zoom in (+) and zoom out (-).

- **Detail Lock**

Enable Detail Range Lock to limit your maximum zoom to the maximum available detailed radar range. Enabling this makes it easy to always ensure you are viewing detailed radar graphics. Disable this to be able to zoom further out (where generic radar graphics are shown instead).

- **Station Search**

Type in any station ID here and the map will automatically center to the specified location.

- **Dock / Undock**

Docks or Undocks the Conditions Screen.

- **Track Up**

Enables Track Up mode (verses default North Up mode). In Track Up mode, the aircraft's true heading is always at the top of the map. As the aircraft's heading changes, the aircraft remains pointed up while the map rotates around it. In North Up mode, true north is always at the top of the map. As the aircraft's heading changes, the aircraft icon will rotate while the map itself remains at the same north-up orientation. Note that in Track Up mode, the surface imagery is replaced with a black background. A connection to the simulator must be active to use this mode.

- **Lock to Aircraft**

Enables Lock to Aircraft mode. In this mode, the map is kept centered on the aircraft's current location at all times. A connection to the simulator must be active to use this mode. This mode is automatically disabled when panning or moving to a new location on the map. Note that Lock to Aircraft must be enabled in order to view detailed precipitation and cloud position graphics.

Conditions

AS16 for P3D 6/7/2016 - 1614Z (0914 Local)

Version: 0
Wx Mode: Live Real time mode
Connection: Waiting for Simulator
Activity: Idle

Home | Wx Control | Map | Conditions | Flight Plan | Briefing | Scenarios | Search

Station: **KLAX** Favorites Map Undo

Los Angeles Intl, Los Angeles, Ca, United States

Last Updated: 15:53Z (08:53 Local)
ICAO ID: KLAX
Station Type: METAR, TAF, Airport

Latitude: N33° 56' 38.40"
Longitude: W118° 24' 28.79"
Elevation: 125 ft (38 m)

Hazy

Alt	Dir	Spd	TempC
3000	185	5	14.91
6000	339	11	22.14
9000	331	16	21.00
12000	317	27	11.09
18000	299	40	-5.00
24000	289	40	-20.00
30000	288	36	-36.09
34000	291	31	-46.11
36000	278	28	-48.89

Temperature: **16C (61F)**
Dewpoint: **13C (55F)**
Surface Winds: **240 @ 7 kts True (229 Mag)**

Visibility: **5.0 SM (8047 m)**
Precipitation: **None reported**
Pressure: **1013 / 29.91**

METAR: KLAX 071553Z 24007KT 5SM HZ SCT010 OVC017 16/13 A2991 RMK AO2 SLP127 TD1610133
Decoded textual weather for KLAX:
Wind: 240 at 7 knots
Visibility: 5.0 SM (8047 m)
Clouds: Scattered at 1000 feet, Overcast at 1700 feet.
Temperature: 16.0C
Dewpoint: 13.0C
Precipitation: None reported
Altimeter: 1013 mb (29.91 inches)

TAF (Direct data from station KLAX): KLAX 071451Z 0715/0818 25005KT 5SM BR BKN009 OVC013 FM071800 26008KT P6SM BKN015 FM072000 26012KT P6SM FEW015 FM080300 26008KT P6SM OVC012 FM080800 VR03KT 5SM BR OVC008 FM081600 26006KT 6SM BR BKN008

Forecast Hours: 0 4 8 12 16 20 24

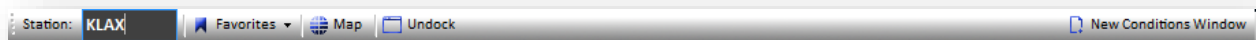
The Conditions screen displays the active weather conditions for any station. To use it, just type in the desired station ID in the textbox at the upper left corner. The station parameters and the weather conditions are displayed immediately.

To display interpolated conditions for the current aircraft position, clear the station ID textbox. The active interpolated conditions will be shown (when the simulator connection is active). Note that this is not “closest station” weather, but the actual interpolation conditions at your exact position. The closest station may be many miles away and is irrelevant to actual interpolated conditions.

At the bottom of the screen, the **Forecast Hours** slider is used to view forecast weather information up to 24 hours in the future. Just slide to your desired hours and watch the conditions update accordingly.

Using the toolbar buttons, you can easily recall favorite weather stations (including your active route departure, destination, and alternate), view the current station on the map, or edit the weather at that station. You can also bring up new Conditions windows, so that you can monitor multiple stations at once.

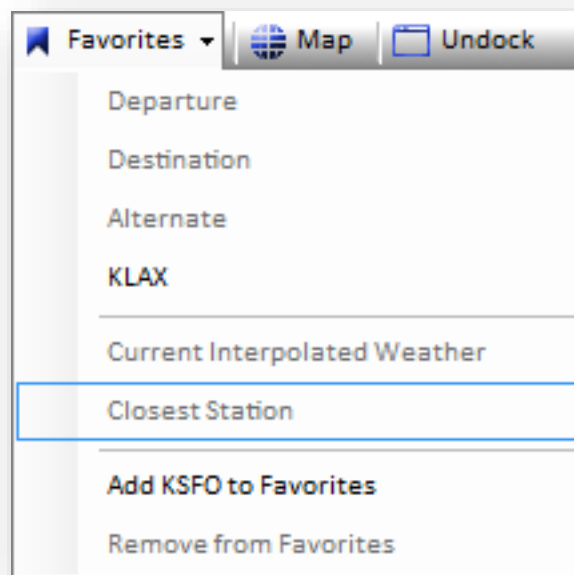
Toolbar Buttons



The buttons at the top of the Conditions screen are:

- **Favorites**

Use the Favorites drop-down to bring up favorite Wx stations or active route stations.



The **Departure, Destination** and **Alternate** items will bring up the appropriate stations per your actively loaded Flight Plan.

The **Current Interpolated Weather** item brings up the weather conditions at your current aircraft position (when connected to the simulator).

The **Closest Station** item brings up the closest weather station.

The **Add to Favorites** item will add the current station to your list of favorites, which will appear in this drop-down.

The **Remove from Favorites** item will remove the current Favorite station from your list of Favorites.

- **Map**

Brings up the Map screen centered on the current station

- **Dock / Undock**

Docks or Undocks the Conditions Screen

- **New Conditions Window**

Brings up a new Conditions window. You can have as many Conditions windows as you'd like, monitoring multiple stations at once.

Flight Plan

AS16 for P3D 6/7/2016 - 1636Z (0936 Local)

Version: 0 Wx Mode: Live Real time mode Connection: Waiting for Simulator Activity: Idle

Home | Wx Control | Map | Conditions | Flight Plan | Briefing | Scenarios | Search

Load Save Print Clear Way points Refresh Undo Auto Route VDR to VDR

Departure: KLAX Cruise Altitude: 14000 Climb FPM: 1000 Climb KTAS: 140

Destination: KSFO Cruise KTAS/Mach: 220 Descent FPM: 1000 Descent KTAS: 200

Alternate: KRNO

Add Top of Climb / Top of Descent Waypoints to Flight Plan
 Include surface layers in average briefing calculations

ID	Freq	Alt	TAS	WDir	Wspd	GS	Hdg	Dist	ETE
KLAX		100		240	007				
VNY	113.10	7500	220	341	011	209	334	017 (0017)	5 (5)
TOC		14000	220	315	025	197	326	015 (0032)	4 (9)
EHF	115.40	14000	220	306	015	207	325	066 (0099)	20 (29)
ROM	110.00	14000	220	309	023	197	286	086 (0184)	26 (55)
TOD		14000	220	291	014	208	307	075 (0259)	22 (77)
SJC	114.10	7600	220	227	002	220	307	021 (0281)	6 (83)
KSFO		0		300	007			025 (0306)	7 (90)
KRNO		4409		000	000			166 (0473)	45 (135)

The Flight Plan screen provides a means of entering, modifying and viewing your active flight plan, along with important waypoint/leg navigation information affected by winds.

The main flight plan parameters (Departure, Destination, Altitude, etc.) are located in the upper section, while the waypoint/leg information is displayed below.

The **Add Top of Climb / Top of Descent Waypoints to Flight Plan** checkbox, when checked, automatically adds TOC and TOD virtual waypoints to aid in flight planning accuracy.

The **Include surface layers in average briefing calculations** checkbox, when checked, uses surface winds during your departure/destination wind calculations, versus aloft data.

You can manually enter your flight plan at any time by filling out (at a minimum) the Departure, Destination and Cruise Altitude fields, then selecting an Auto Route function in the toolbar. Alternatively, you can load a pre-saved flight plan (in .PLN format).

Once a flight plan exists, it can be modified at any time using this screen. Waypoints can be added or removed easily using the Waypoints toolbar dropdown.

When the Map screen is also open (i.e. when Map and/or Flight Plan screens are undocked), clicking/selecting a waypoint will automatically center that waypoint on the Map.

Other functions available include saving the flight plan, clearing it, refreshing the data and printing.

Toolbar Buttons



The available Flight Plan toolbar buttons are:

- **Load**
Loads an existing flight plan in FS9, FSX or P3D .PLN format
- **Save**
Saves the active flight plan in FSX .PLN format
- **Print**
Prints the current Flight Plan navigation log
- **Clear**
Clears the active flight plan and all flight plan parameters
- **Waypoints**
Provides ability to insert and remove waypoints. To use, select an existing waypoint and choose the appropriate function from the Waypoints dropdown.
- **Refresh**
Refreshes all flight plan details. Useful to update the plan with updated weather parameters.

- **Dock/Undock**

Docks or Undocks the Flight Plan screen.

- **Auto Route**

When entering/building a flight plan, first enter the parameters including Departure, Destination and Cruise Altitude (at a minimum). Then click the Auto Route dropdown and select an Auto Routing type to automatically build your plan accordingly.

Available Auto Routing Types are:

- **Direct/GPS**

Routes directly from Departure to Destination with no intermediate waypoints (except TOC/TOD, if selected)

- **VOR-VOR**

Routes between VOR stations at a target range of approximately 100nm between VORs

- **VOR-NDB**

Routes between VOR OR NDB stations at a target range of approximately 100nm between VORs and NDBs

Briefing

AS16 for P3D 6/7/2016 - 1639Z (0939 Local)

Version: 0
Wx Mode: Live Real time mode
Connection: Waiting for Simulator
Activity: Idle

Home | Wx Control | Map | Conditions | Flight Plan | Briefing | Scenarios | Search

Print Refresh Play Voice Briefing Undo

Concise weather briefing:
- Average winds (temps): 305/12 (14.21), Temp at TOC: 10.86, Head wind component: 12.14, More favorable winds at: FL100 (avg head winds: 6.18)

Detailed weather briefing:

KLAX: (Calculated flying altitude 100 feet)
- ETA in 0 minute(s) 0 second(s)
- Expected weather conditions: KLAX 071553Z 24007KT 5SM HZ SCT010 OVC017 16/13 A2991 RMK AO2 SLP127 T01610133
- Expected winds: 240/7
- Expected temperature: 16.00 celsius

VNY: (Calculated flying altitude 7500 feet)
- ETA in 4 minute(s) 48 second(s)
- Expected weather conditions: KVNK 071551Z 08004KT 5SM HZ OVC010 17/13 A2991 RMK AO2 SLP122 T01670128
- Expected winds: 341/11
- Expected temperature: 22.42 celsius

TOC: (Calculated flying altitude 14000 feet)
- ETA in 9 minute(s) 17 second(s)
- Expected weather conditions: KVNK 071551Z 08004KT 5SM HZ OVC010 17/13 A2991 RMK AO2 SLP122 T01670128
- Expected winds: 315/25
- Expected temperature: 10.86 celsius

EHP: (Calculated flying altitude 14000 feet)
- ETA in 28 minute(s) 57 second(s)
- Expected weather conditions: KBF1 071554Z 00000KT 10SM CLR 28/09 A2984 RMK AO2 SLP097 T02830089
- Expected winds: 306/15
- Expected temperature: 9.81 celsius

ROM: (Calculated flying altitude 14000 feet)
- ETA in 54 minute(s) 32 second(s)
- Expected weather conditions: KPR8 071617Z AUTO 30003KT 10SM SCT008 16/12 A2992 RMK AO2 T01610117 T3NO
- Expected winds: 309/23
- Expected temperature: 10.28 celsius

TOD: (Calculated flying altitude 14000 feet)
- ETA in 1 hour(s) 16 minute(s) 44 second(s)
- Expected weather conditions: KSJC 071553Z 09006KT 8SM FEW000 BKN010 OVC013 16/12 A2992 RMK AO2 SLP129 HZ FEW000 T01610122
- Expected winds: 291/14
- Expected temperature: 8.35 celsius

SJC: (Calculated flying altitude 7600 feet)
- ETA in 1 hour(s) 22 minute(s) 41 second(s)
- Expected weather conditions: KSJC 071553Z 09006KT 8SM FEW000 BKN010 OVC013 16/12 A2992 RMK AO2 SLP129 HZ FEW000 T01610122
- Expected winds: 227/2

Options
XGauge
Logs
Debug
Database
Prep
Help

This screen shows a textual weather briefing report for your active flight plan. The briefing report includes details such as expected weather conditions, altitudes, ETA, etc. Your flight plan navigation log (including waypoint/leg/wind information) is also shown along with wind aloft information.

Toolbar Buttons



The available toolbar buttons are:

- **Print**
Prints the weather briefing report.
- **Refresh**
Refreshes the weather briefing report, useful to update the briefing to for updated weather conditions.
- **Play Voice Briefing**
Plays a full voice briefing similar to the briefing given by actual Flight Service Station briefers.
- **Dock / Undock**
Docks or Undocks the Briefing screen.

Scenarios

AS16 for FSX 6/7/2016 - 1729Z (1029 Local)

Version: 0
Wx Mode: Live Real time mode
Connection: FSX connected!
Activity: Idle

Home | Wx Control | Map | Conditions | Flight Plan | Briefing | Scenarios | Search

Scenarios

- Gusting Winds
- Microburst Encounter
- Severe Icing
- Spatial Disorientation
- Wake Turbulence

Gusting winds during approach represent a significant challenge for aviation. Gusts arise from turbulent mixing of air in the boundary layer and have their own speed and direction. In general (in the northern hemisphere) gust wind direction veers 10 to 20 degrees clockwise compared to the main wind direction. This scenario demonstrates an incident of an Airbus A320-211 flying from Munich to Hamburg airport in March 1, 2008, at 1630 local time (UTC+01:00). Winds at the time of incident were from 300 degrees at speed of 32knots gusting up to 47knots (with a forecast of gusts going up to 55kts). This lead to conditions marginal in respect to the maximum crosswind limitation of this particular aircraft (33 knots gusting to 38 knots). Discussion is made (by the BFU) as to choosing RWY33 in this setting (having crosswind from the "left"), might be safer even though it had no precision approach instruments available. The PIC actually did select RWY33 after going around. This given that during gusting and due to the clockwise wind direction change, this would increase the headwind component instead of the crosswind component, thus making the approach more stable.

Recommended Aircraft: Airliner (I.e. A320, 737)

Recommended Configuration: Approach to land (gear down, flaps down) 180 KIAS

Start Location: Established on localizer for ILS RWY23 at EDDH

Success Goal: Land at EDDH straight ahead on the ILS RWY23 OR execute successful go-around/missed approach

Additional Resources

German Federal Bureau of Aircraft Accident Investigation - http://www.bfu-web.de/EN/Publications/Investigation%20Report/2008/Report_08_5X003_A320_Hamburg-CrosswindLanding.pdf?blob=publicationfile
A320 Hamburg incident - <https://www.youtube.com/watch?v=j42fchzhtfY>

To fly this scenario, start the sim session in the aircraft of choice at any location, get it in the recommended "configuration" and then press "Start Scenario". AS16 will automatically position your aircraft accordingly.

Start Scenario

The Scenarios system provides a means of easily recreating a specific weather environment or weather phenomenon at a specific location. 5 scenarios are currently included.

At the top left, click on any available scenario. The description and details of the scenario will be shown on the right side, with interesting links regarding the scenario provided at the bottom.

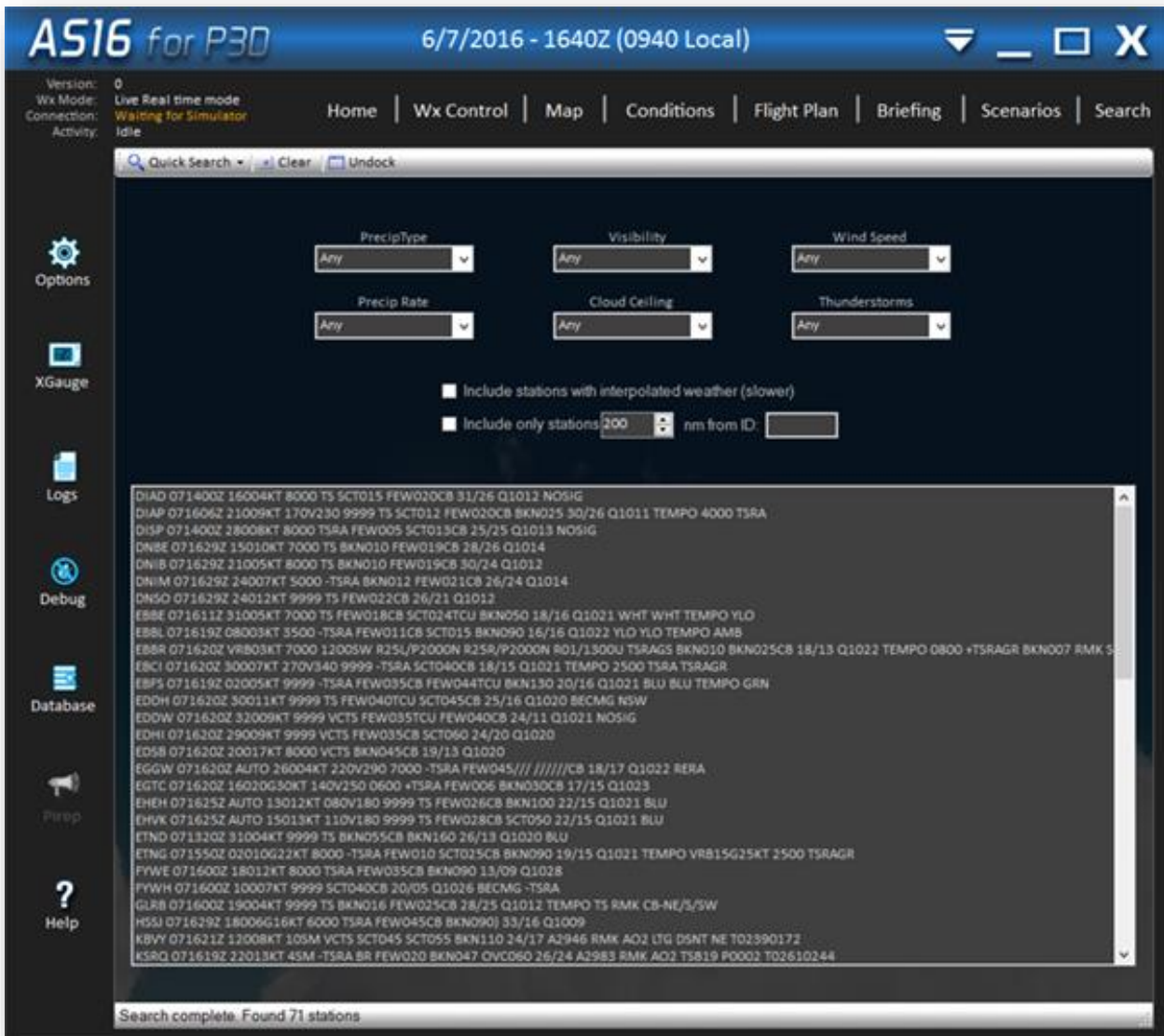
To use the scenario system, simply perform the following steps:

- 1.** In the simulator, start a flight session in the desired aircraft, at **any location**. See the recommended aircraft information (center of the scenario screen) for recommendations, but you may use any aircraft desired.
- 2.** Place the aircraft in the recommended configuration, such as gear/flaps down, etc. You may want to "slew" your aircraft up (default Y, F4, Y keys) to accomplish this quicker.
- 3.** Press the Start Scenario button in the Scenarios screen. The airplane will be automatically positioned at the scenario start location.
- 4.** Fly the scenario. Text messages will be shown in the simulator to assist with this process.

Notes:

- When the success goal is reached, the scenario will automatically stop/pause.
- If a failure is encountered (crash, or outside the boundaries of the scenario success goal), the scenario will automatically stop.
- At any time you can Stop or Restart the scenario using the button right button in the Scenarios Screen.
- When stopping a scenario, your previous weather conditions/mode will be restored.

Search



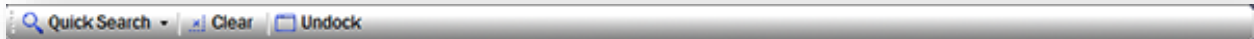
The Search screen provides a way to easily locate desired weather conditions at any time.

The top section of the screen contains certain condition parameters you can select, such as Precipitation Type, Visibility or Cloud Ceiling. Simply select a parameter and the search will commence with the results shown below.

By default, only stations with actual provided data (not interpolated) will be shown. To also show interpolated stations, check the “Include stations with interpolated weather” checkbox.

You can filter your search results to a specific area, by checking the “Include only stations within nm from ID” checkbox and specifying a range and station ID. For example, Include only stations 500nm from ID: EGLL will provide results only within 500 of EGLL airport.

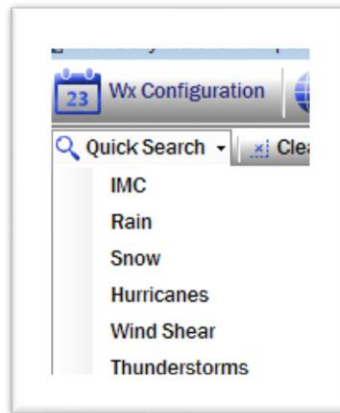
Toolbar Buttons



The available toolbar buttons are:

- **Quick Search**

Provides easy pre-specified searches for conditions such as IMC, Rain, Snow, etc.



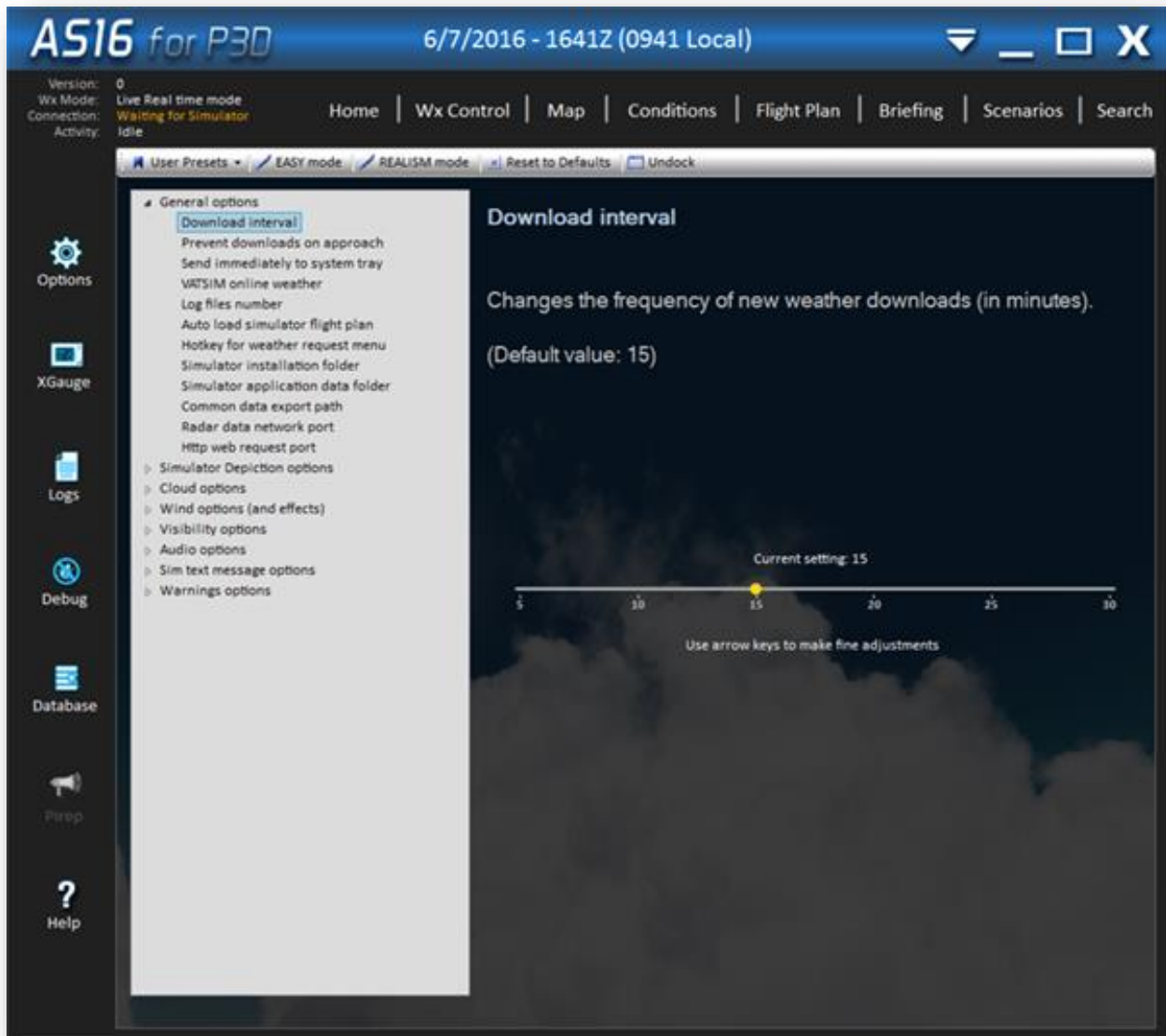
Quick Search types:

- **IMC**
Stations with visibility less than 3SM or ceilings (Broken/Overcast) less than 1000ft AGL
- **Rain**
Stations with Rain indicated
- **Snow**
Stations with Snow indicated
- **Hurricanes**
Searches for hurricanes and stations affected by hurricanes
- **Wind Shear**
Stations or areas with Wind Shear indicated
- **Thunderstorms**

Stations with thunderstorms indicated

- **Clear**
Clears the current search parameters and results
- **Dock / Undock**
Docks or Undocks the Search screen.

ASP4 Options

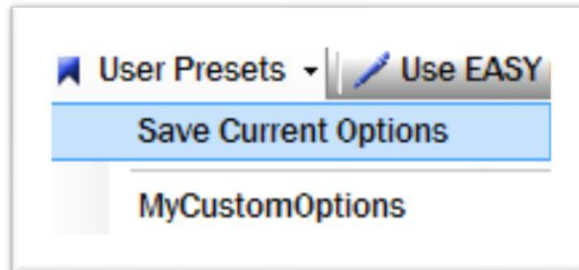


The Options screen contains various options which affect ASP4 operation. We have limited the amount of options and organized them to make things as easy and intuitive as possible, while providing the flexibility to customize your experience.

On the left side of the screen, the various option categories are listed. Select an option category and expand it (by double clicking the item, or clicking the expand triangle), and then select an option within that category. The option name/description and its current setting is displayed on the right side. To change an option, just click on the setting/checkcheckbox or move the slider.

User Presets

You may create your own options presets, which can be recalled later, using the User Presets menu item dropdown. Simply choose the “Save Options Preset” item in the dropdown and name your options file. All user-created option presets will be shown in this list. To load a User Preset, simply select it from the list.



EASY and REALISM Option Modes

To make things even easier, we have also provided two option “modes”. The modes are EASY mode and REALISM mode. To select an option mode, just click on the associated item in the toolbar. When an option mode is chosen, *certain* options are automatically set to provide either an easy/simple, or realistic/challenging experience. The options that are affected by these modes are indicated in the Settings Details below. If the EASY/REALISM mode value of an option is not shown, that option is not affected by these modes.

While we strive to produce an ultra-realistic weather environment, we realize we have many different types of users with different knowledge of realistic weather considerations, and different expectations. These preset option modes provide a way to easily set important options depending on your desired level of realism. Here is a summary comparison of each mode:

Category/Option	EASY Mode	REALISM Mode
Strength of Winds, Turbulence, Icing and Shear Potential	Low-Moderate	High
Wake Turbulence	Light	Strong
Updates prevented on Approach	Yes (Weather will be as planned, before the approach)	No (Weather may change during approach)

Since realism features can result in unexpected and unwanted results for some users, we suggest trying EASY mode if you encounter a challenging situation or weather dynamics that results in reduced enjoyment of your flights. For those who want an extremely realistic experience, despite the increased potential challenge and associated weather dynamics, REALISM mode should be enabled. Of course, the Option Modes are simply starting points, and you can always adjust settings to your liking.

In addition to the User Presets and Option Modes, there is a Reset to Defaults button which restores things to normal installation defaults. These defaults pertain to ALL options, focus on a balance between realism and simplicity, and are recommended for all users as a starting point. If at any time you experience problems or unexpected results, default options (and then possibly EASY Mode) should be loaded to rule out any potential options as causes. Default option parameters are indicated in the below settings details.

Settings Details

General Options

- **Download interval**
 - Changes the frequency of new weather downloads (in minutes).
 - This pertains to Live weather mode
 - Default: 15

- **Prevent downloads on approach**
 - Postpones weather downloads when the aircraft is close to the destination airport, until the aircraft is on the ground. This prevents surprising weather changes, but weather changes may be realistic. We recommend this to be turned off in most cases.
 - Requires a flight plan to be active
 - Default: Off

- **Send Immediately to system tray**
 - Sends ASP4 immediately to the system tray after initialization. Useful if you'd like to automatically start ASP4 and keep it hidden after starting.
 - Default: Off

- **VATSIM online weather**
 - Uses VATSIM weather data for significant weather stations (Departure, Destination, Alternate, Enroute Stations). This ensures that when using VATSIM the weather conditions will match for both pilot and controller. We recommend this only to be turned on when flying on the VATSIM network.
 - Requires Live weather mode and a flight plan to be active.
 - Default: Off

- **Log files number**
 - Sets the number of old log files from previous sessions to be kept.
 - Default: 2

- **Auto load simulator flight plan**
 - Once ASP4 is running, detects flight plan load/change events in the simulator, and automatically loads the same plan within ASP4.
 - Does not load plan when simulator is running prior to ASP4.
 - Requires that you have set a valid flight plans path by manually loading a flight plan (using the Flight Plan screen). This will automatically set the folder used during this automatic load.
 - When using PMDG CDU Auto-load/apply option along with this option, ASP4 will read the new flight plan and update the exported winds data accordingly, but the flight plan itself will not be updated. To update the loaded ASP4 flight plan, manually re-load the flight plan.
 - Default: Off

- **Hotkey for weather request menu**
 - Defines the hotkey/keyboard shortcut to open up the weather request menu in the sim. Hold down any combination to assign a new hotkey.
 - FSX/P3D limit the amount of modifiers (i.e. CTRL, Shift) to 2 and the amount of additional keys to 2.
 - Certain keyboard combinations are not valid in FSX/P3D. If you experience the hotkey not working, please try another hotkey/combination.
 - Default: Ctrl+F11

- **Simulator installation folder**
 - Specifies the simulator's installation/application path. This is normally automatically populated.

- **Simulator application data folder**
 - Specifies the simulator's private application data folder. This is normally automatically populated.

- **Common data export path**
 - The common data export path (between ASP4 for FSX and ASP4 for P3D) where exported data for 3rd party apps is to be placed.
 - Users without BOTH ASP4 for FSX AND ASP4 for P3D do not need to worry about this setting.
 - Users with both apps can use this setting to specify a singular common export folder.
 - Default: First installed app's appdata\weather path

- **Use Navigraph data for VORs and NDBs**
 - When unchecked, internal legacy database is used which allows user to modify VOR/NDB entries with the station database tool (useful to add historical/fictional nav aids). When checked, Navigraph data is used.
 - Default: On

- **Radar data network port**
 - The network port to use (TCP) for radar communication between ASConnect server and ASP4 client components.
 - In a networked configuration, this port must be opened/allowed by your firewall for incoming packets on both machines.
 - Default: 19284

- **Http web request port**
 - The network port to use for the Weather Web Companion App, which allows you to use any device/browser to display and control weather within ASP4. See the Weather Web Companion App section for more information.
 - In a networked configuration, this port must be opened/allowed by your firewall for incoming packets on both machines.
 - Default: 19285

- **Default local IP address**
 - The default local IP address to use for Active Sky radar communications between client (AS) and server (ASConnect/Sim)
 - Option available ONLY when multiple local IPv4 addresses are detected
 - Should not affect most users
 - Default: 0 (Disabled)

Simulator Depiction options

- **Suppress Local Weather Changes**
 - When enabled, the local area will be suppressed from Wx updates when the aircraft is airborne. This can increase performance during smooth theme reloads in complex weather environments. Note that Wx changes outside of this suppression range will still continue normally when enabled, and manual weather application/refreshes will bypass suppression.
 - When flying "local" flights where you are not leaving the local airport area, it is recommended to disable this option to allow weather updates to commence within the local area.
 - Default: Off

- **Depict hurricanes**
 - Depicts hurricanes according to real storm data.
 - Hurricanes are shown in the map as well depicted in the simulator.
 - Hurricanes are defined as Tropical Storms or actual Hurricanes with greater than 60 knots sustain winds, which have been reported within 12 hours of the active date/time.
 - Works with Live and Historical Data
 - Default: On

Cloud options

- **Maximum cloud layers**
 - Limits the maximum number of cloud layers to be synthesized and depicted. This can affect your simulator performance. Low-end systems should limit maximum cloud layers to 2-3. Higher-end systems can provide upwards of 5 layers without negatively affecting performance.
 - The actual Wx conditions (and certain features/options) normally dictate the number of cloud layers. This controls the maximum possible.
 - Default: 5

- **Maximum cloud turbulence**
 - Limits the maximum level of turbulence experienced within clouds. For maximum realism, set this to 100%.
 - Default: 100
 - EASY Mode: 50
 - REALISM Mode: 100

- **Maximum cloud icing**
 - Limits the maximum level of icing experienced in clouds.
 - Icing is only present when conditions dictate (i.e. icing temperatures).
 - Default: 100
 - EASY Mode: 50
 - REALISM Mode: 100

- **Prevent thunderstorms when CB reported**
 - Prevents the rendering of thunderstorm conditions when cloud layers are reported with "CB" indicators. Normally, CB indicators indicate cumulonimbus (thunderstorm) clouds, but some areas may use CB to report cumulus clouds that are not technically cumulonimbus. In such areas you may wish to enable this option for more realism.
 - Default: On
 - EASY Mode: On
 - REALISM Mode: Off

- **Minimum cloud draw distance**
 - The minimum cloud draw distance to be set by ASP4. Used together with the maximum cloud draw distance. If the two values are different, then the application, based on altitude, amount of clouds present, and visibility, adjusts the actual cloud draw distance within the simulator, to keep a balance between performance and range of clouds drawn. Use values larger than 150 at your own risk. Can have a dramatic performance penalty at higher cloud draw distance ranges.
 - Using CDD ranges larger than 150 miles can cause issues with cloud depiction and radar imagery, and can become more significant when using time acceleration.
 - When using a networked configuration, larger cloud draw distance settings will require significantly more network bandwidth and speed to supply associated detailed radar data. A minimum of 100Mb/sec available network speed is recommended for values above 120.
 - Default: 90

- **Maximum cloud draw distance**
 - The maximum cloud draw distance to be set by ASP4. Used together with the minimum cloud draw distance. If the two values are different, then the application, based on altitude, amount of clouds present, and visibility, adjusts the actual cloud draw distance within the simulator, to keep a balance between performance and range of clouds drawn. Use values larger than 150 at your own risk. Can have a dramatic performance penalty at higher cloud draw distance ranges.
 - Using CDD ranges larger than 150 miles can cause issues with cloud depiction and radar imagery, and can become more significant when using time acceleration.
 - When using a networked configuration, larger cloud draw distance settings will require significantly more network bandwidth and speed to supply associated detailed radar data. A minimum of 100Mb/sec available network speed is recommended for values above 120.
 - Default: 90

- **Force BKN to 7/8ths**
 - Forces any broken coverage (i.e. 5/8, 6/8, 7/8) to the maximum 7/8 broken coverage.
 - Increases coverage and density of broken clouds but reduces potential variation
 - Default: On

- **P3D Low cloud offset**
 - Can be used to adjust visual base heights of cloud layers to match the actual data
 - This helps overcome potential mis-aligned cloud layers within P3D
 - This offset value will be applied to cloud bases below 4000ft AGL
 - Default: 0

- **Multi-layer thunderstorm clouds**
 - Depicts thunderstorm clouds with multiple cloud layers instead of a single high-thickness CB structure
 - Can improve cloud coverage
 - Can negatively affect performance due to increase number of cloud layers and effective overall coverage
 - Can cause discrepancy between METAR cloud layer information and cloud layers actually depicted
 - When using ASCA, this setting should be turned off for best results
 - Default: Off

- **Cloud motion effect**
 - Enables a particle effect which turns on in certain cases when entering, transiting and exiting cloud layers
 - The effect simulates a sensation of speed as you fly through various wisps and variable density of certain clouds
 - Effect trigger depends on cloud type, density, airspeed and conditions
 - Default: On

- **Cloud motion effect offset**
 - Provides user control of cloud motion effect longitudinal (z) axis spawn position
 - Can be helpful with certain aircraft depending on size, aircraft visual specification methods, and other factors
 - Higher settings move effect further forward
 - Requires P3D 4.2 or later
 - Default: On

Wind options (and effects)

- **Maximum surface wind**
 - Sets the highest possible wind speed (in knots) at the surface.
 - Default: 100
 - EASY Mode: 50
 - REALISM Mode: 100

- **Maximum wind turbulence**
 - Limits the maximum wind turbulence possible.
 - Default: 100
 - EASY Mode: 50
 - REALISM Mode: 100

- **Turbulence effect scale**
 - Sets the general turbulence effect, from 0% to 100%. Higher values increase the realized turbulence effect on aircraft. Effects any/all turbulence intensities, for all turbulence types.
 - Default: 70
 - EASY Mode: 50
 - REALISM Mode: 70

- **Maximum wind shear**
 - Limits the maximum amount of wind shear. Will also affect gusts. For full gust effect depiction, ensure that at least 50% is used here.
 - Default: 50
 - EASY Mode: 50
 - REALISM Mode: 100

- **Force ATC wind lock**
 - Manipulates winds to lock the direction at the departure and destination airports so that more consistent AI ATC runway selection is experienced.
 - Forces a minimum wind speed of 6 knots (under 6 knots may result in AI ATC changing runway selection).
 - Default: Off

- **Disable winds aloft**
 - Turns off all wind aloft simulation which results in 0/0 winds above the surface layer.
 - Default: Off
 - EASY Mode: Off
 - REALISM Mode: Off

- **Interlayer wind interpolation**
 - Provides interpolation in direction and speed of wind when climbing/descending.
 - When disabled, direction and speed will smoothly change only once you have climbed or descended to a new wind altitude level.
 - Default: On
 - EASY Mode: On
 - REALISM Mode: On

- **Enhanced turbulence**
 - Provides increased turbulence that affect the aircraft attitude in flight by use of rotational commands.
 - May alter aircraft feel/handling in some cases.
 - Default: Off

- **Wake turbulence strength**
 - Sets the overall strength of wake turbulence and the associated wake turbulence effect.
 - Wake turbulence is rotating disturbed air behind an aircraft as a result of lift. Entering wake turbulence, depending on the strength, can lead to loss of control.
 - Wake turbulence effects depend on the size difference of the generating and receiving aircraft. A large aircraft's wake can seriously effect a smaller aircraft, but aircraft of similar size will provide a small effect.
 - Wake trails move with the wind, slowly sink, and dissipate realistically over time.
 - Default: 50
 - EASY Mode: 20
 - REALISM Mode: 50

- **Maximum downdraft rate (feet per minute)**
 - Sets the maximum possible downdraft rate in feet per minute.
 - Downdrafts are caused by wind movement over terrain, and are realistically simulated. Relative strength of downdrafts are influenced by the terrain contour and speed of wind at the level of terrain.
 - Default: 1000
 - EASY Mode: 500
 - REALISM Mode: 1500

- **Maximum updraft/thermal rate (feet per minute)**
 - Sets the maximum possible updraft or thermal rate in feet per minute.
 - Updrafts are caused by wind movement over terrain, and are realistically simulated. Relative strength of updrafts are influenced by the terrain contour and speed of wind at the level of terrain.
 - Thermals are caused by heated terrain creating vertically rising columns of air. Thermal sizes, strength, decay and altitudes are influenced by the type of terrain and surface temperature.
 - Default: 1000
 - EASY Mode: 500
 - REALISM Mode: 1500

- **Realistic thunderstorm up and downdraft rate**
 - Bypasses the maximum up and downdraft rate settings when flying inside severe thunderstorm cells, defined by red and pink areas on radar returns.
 - Up and downdraft rates, when this option is enabled, and when flying in severe storms, can easily exceed the maximum g-force loading on the airframe and cause in-flight breakup/crash, and/or loss of aircraft control, depending on the aircraft used and the realism options enabled in the sim.
 - Default: On
 - EASY Mode: Off
 - REALISM Mode: On

- **Random light chop turbulence percentage**
 - Sets the frequency of random light chop turbulence events not associated with weather conditions.
 - Default: 25
 - EASY Mode: 25
 - REALISM Mode: 25

Visibility Options

- **Enable wing fade effect**
 - Enable this to permit extremely low absolute minimum visibility (i.e. within clouds), to provide a wing fade effect. Can cause slight haze within the cockpit of some aircraft when visibility is reduced to zero.
 - Default: On

- **Disable Haze Layer (ASP4 for FSX Only)**
 - Uses graphic texture manipulation to disable the simulator's haze effects which create a virtual cirrus cloud layer that surrounds the user aircraft.
 - Many users find the simulator's haze effects to be unrealistic and distracting, so this feature prevents such effects and relies on Fog layer generation to visually represent lower visibility at the surface when viewed from above.
 - When this option is not enabled, the graphical manipulation of haze is disabled and the simulator's haze effects are activated.
 - Default: On
 - Prepar3D: This option is disabled with Prepar3D. Prepar3D includes "volumetric fog" which is utilized by ASP4. Make sure to enable "volumetric fog" in P3D.

- **Enhanced haze simulation (ASP4 for FSX Only)**
 - This option provides a haze simulation for marginal visibilities between 3 and 9 miles. Under these conditions, a low semi-transparent overcast cirrus layer will be depicted near the ground to obscure the view of the surface when viewed from above.
 - This haze simulation will only be depicted when there are no other cloud layers present.
 - Can cause visual artifacts when variable terrain and clouds intersect.
 - Prepar3D: This option is disabled with Prepar3D. Prepar3D includes "volumetric fog" which is utilized by ASP4. Make sure to enable "volumetric fog" in P3D.
 - Default: Off

- **Minimum surface visibility**
 - Sets the minimum possible surface visibility (in statute miles).
 - Default: 0

- **Maximum surface visibility**
 - Limits the maximum possible surface visibility (in statute miles).
 - Reduce this value to 1 or 2 miles if you want to simulate IMC conditions at all times (useful for IFR practice/training).
 - Default: 75

- **Maximum upper visibility**
 - Limits the maximum possible upper visibility (in statute miles).
 - Reduce this value to 1 or 2 miles if you want to simulate IMC conditions at all times (useful for IFR practice/training).
 - Default: 100

- **Auto adjust upper visibility**
 - Automatically adjusts the upper visibility based on atmospheric conditions such as air stability, moisture and season
 - Adheres to the Maximum upper visibility setting.
 - Default: On

- **In cloud visibility reduction**
 - When enabled, visibility will be reduced when within clouds.
 - Default: On
 - Does not apply to P3D version (P3D is not currently compatible with ASP4 in-cloud vis reduction, and contains its own in-cloud visibility effects).

- **Low altitude Volfog horizon distance adjustment**
 - Allows user adjustment of final depicted visibility horizon distance at lower altitudes (below 24,000ft MSL).
 - Only effective when Volumetric Fog is enabled in P3D options.
 - High values (positive numbers) increase horizon view distance, low values (negative numbers) decrease horizon view distance.
 - Adjustment occurs after all consideration of weather conditions.
 - Use caution: This setting can alter the visibility depiction result and can cause discrepancies between reported and depicted visibility distance.
 - Default: 0
 - Specific to ASP4 Only on P3Dv4

- **High altitude Volfog horizon distance adjustment**
 - Allows user adjustment of final depicted visibility horizon distance at higher altitudes (above 24,000ft MSL).
 - Only effective when Volumetric Fog is enabled in P3D options.
 - High values (positive numbers) increase horizon view distance, low values (negative numbers) decrease horizon view distance.
 - Adjustment occurs after all consideration of weather conditions.
 - Use caution: This setting can alter the visibility depiction result and can cause discrepancies between reported and depicted visibility distance.
 - Default: 0
 - Specific to ASP4 Only on P3Dv4

Audio Options

- **Application Sounds**
 - Plays certain sounds while using ASP4 (for example the startup thunder sound).
 - Default: On

- **Play wind shear aural alert**
 - Plays an audio warning message (Wind Shear, Wind Shear) when the predictive wind shear system detects the presence of wind shear ahead of the user aircraft.
 - Default: On

- **Voice ATIS/FlightWatch**
 - Enables the voice weather readbacks from ASP4, including ATIS, Flightwatch and FSS Briefing types.
 - ATIS is available on 122.00 and reads back local weather conditions.
 - FlightWatch is available on 122.02 and reads back destination weather conditions.
 - Flight Service Briefings are available on 122.05 and reads back a full voice weather briefing including updated weather conditions for your route of flight.
 - Wind check messages are available on 122.07.
 - Your COM radio must be properly powered, tuned and intercom-activated in order to hear these voice messages.
 - Un-Tune the frequency at any time to stop the voice playback.
 - Default: On

- **Preferred audio device**
 - Provides selection of your desired voice audio playback device.
 - You can select any installed sound device on the simulator system, or use the default windows audio device.
 - When selecting a sound device on the simulator system, your simulator must be loaded and connected.
 - Press the Scan audio devices button, when the simulator is connected, to populate the list of installed devices. Then select the device from the drop down.
 - In networked configurations, selecting an audio device allows playback of sound to occur on the simulator computer instead of the client. Selecting the default windows audio device plays sound on the client.

- **Selected audio volume**
 - Sets the volume of voice messages. Changes here will become active on the next played audio message (currently playing message will not be affected).
 - Default: 100

- **Enabled voice sets**
 - Allows enabling and disabling of specific voice sets that are included within ASP4.
 - The available voice sets are listed with checkboxes. Check or uncheck each set as desired.
 - You can preview a voice set (a simple 1, 2, 3, Alpha, Bravo, Charlie readback) by selecting/highlighting a voice set name and clicking the Preview Selected Voice Set button.

- **Force Inches in voice weather messages**
 - Forces the readback of altimeter settings in INCHES (vs QNH) for all regions regardless of supplied METAR type.
 - ASP4 normally reads back pressure units exactly as supplied by the actual METAR/reporting station, which is realistic but not always preferred
 - Default: Off

- **Force QNH in voice weather messages**
 - Forces the readback of altimeter settings in QNH (vs Inches) for all regions regardless of supplied METAR type.
 - ASP4 normally reads back pressure units exactly as supplied by the actual METAR/reporting station, which is realistic but not always preferred
 - Default: Off

Visual Fix Options (ASP4 for FSX Only)

- **Cloud pop fix**
 - Enables the cloud pop fix which can reduce or eliminate clouds popping into or out of view in some situations.
 - This option is not available in P3D.
 - Default: On

- **Repeating overcast texture pattern fix**
 - When enabled, overcast stratus clouds will appear more variable and realistic without a harsh visible rectangle pattern.
 - This feature/option is not available in P3D version as P3D 2.3 and later already contain similar fixes by default.
 - Default: On (FSX)

Important notes regarding Visual Fixes

If you are using "Steve's DX10 Fixer", or other shader mods, there are some special considerations regarding compatibility.

ASP4 provides for shader modification/enhancements within the "Visual Fixes" settings. By default, these fixes are enabled and this will modify certain items within your shader files.

The DX10 Fixer application and other shader mods also modify shader files, and depending on options, can modify certain visuals that may conflict with ASP4. When using ASP4 and other such mods, please be aware of the following:

- 1) Using the "Disable MSAA" feature within DX10 Fixer can cause problems with ASP4's in-cloud visibility reduction. We recommend not using this option from DX10 Fixer when using ASP4's in-cloud visibility reduction feature.
- 2) At any time you need to restore your shader files to pre-ASP4 status, please see the `SwarmCloud.fx.BeforeASP4` and `SwarmCloud40.fx.BeforeASP4` files within your simulator's `ShadersHLSL\Misc` folder. Remember to clear your Shader Cache when making any shader changes in order to see the effects.

Sim text message Options

- **Show in-sim text messages**
 - Shows miscellaneous status messages from ASP4 within the simulator via the text message system.
 - Default: On

- **Show flight plan warning messages**
 - Shows warning/reminder message when a flight plan has not been loaded in ASP4, which can result in reduced weather accuracy.
 - Default: On

- **Show ASCA installation messages**
 - Shows status message when ASCA texture installation in progress (requires ASCA and a dynamic theme mode activated).
 - Default: On

- **Show weather update messages**
 - Shows current weather/ATIS when weather updates have completed.
 - Default: On

- **Show connection lost messages**
 - Shows online connection lost error message via in-sim text (if connected to sim and ASP4 is not in focus) when connection is lost instead of an application popup message.
 - When disabled, and an internet connection error occurs during download, a popup message window will always show which can cause simulator focus to be lost.

- Default: On

Warnings Options

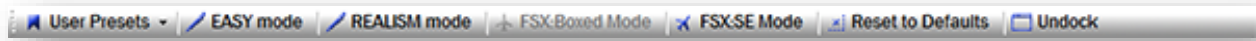
- **Warn on dual boxed/steam FSX Install (ASP4 for FSX Only)**
 - Shows a message on startup when both FSX boxed and FSX steam editions are found installed, and indicates which version is active.
 - You can change the mode using the quick mode switch buttons at the top of the Settings screen.
 - Depending on your configuration, you may get this message even without a dual installation. In this case, you can uncheck this option to prevent the warning.
 - Does not apply to P3D.
 - Default: On (FSX)

- **Warn on FSX AFFINITYMASK setting (ASP4 for FSX Only)**
 - Shows a message on startup when FSX or FSX-SE is in use and the AFFINITYMASK setting has not yet been set in the FSX/FSX-SE.CFG file.
 - Not using an AFFINITYMASK setting can cause FREEZE issues in FSX/FSX-SE.
 - When the warning shows, you can choose to have ASP4 automatically apply the recommended AFFINITYMASK setting.
 - If the setting is applied, the new value will be shown, and a backup of the previous FSX/FSX-SE.cfg file will be made, so that it can be restored at any time.
 - Does not apply to P3D.
 - Default: On (FSX)

- **Warn on low simulator cloud density setting**
 - Shows a warning message when the simulator cloud density slider setting is less than 100%, which can result in prevention of overcast or broken cloud coverage.
 - A setting less than 100% can help improve performance at the expense of realistic full coverage.
 - Default: On

- **Notify when new version available**
 - Shows a message on startup when a new version has been made available for download and update.
 - Default: On

Toolbar Buttons



The available toolbar buttons are:

- **User Presets**

Provides a means of saving your currently active options into a new User Preset options file, which can be recalled/loaded at any time in the future using this dropdown list.

- **Use EASY mode options**

Sets certain options to certain values to provide an easy and simple weather experience. The options and values affected by EASY mode are indicated in the Settings Details above.

- **Use REALISM mode options**

Sets certain options to certain values to provide a realistic and challenging weather experience. The options and values affected by REALISM mode are indicated in the Settings Details above.

- **FSX Boxed Mode**

Available only on single-computer FSX version installations, when FSX Boxed and Steam Edition versions have both been found on your computer. Select this button to switch the path settings to FSX Boxed mode.

- **FSX SE Mode**

Available only on single-computer FSX version installations, when FSX Boxed and Steam Edition versions have both been found on your computer. Select this button to switch the path settings to FSX SE mode.

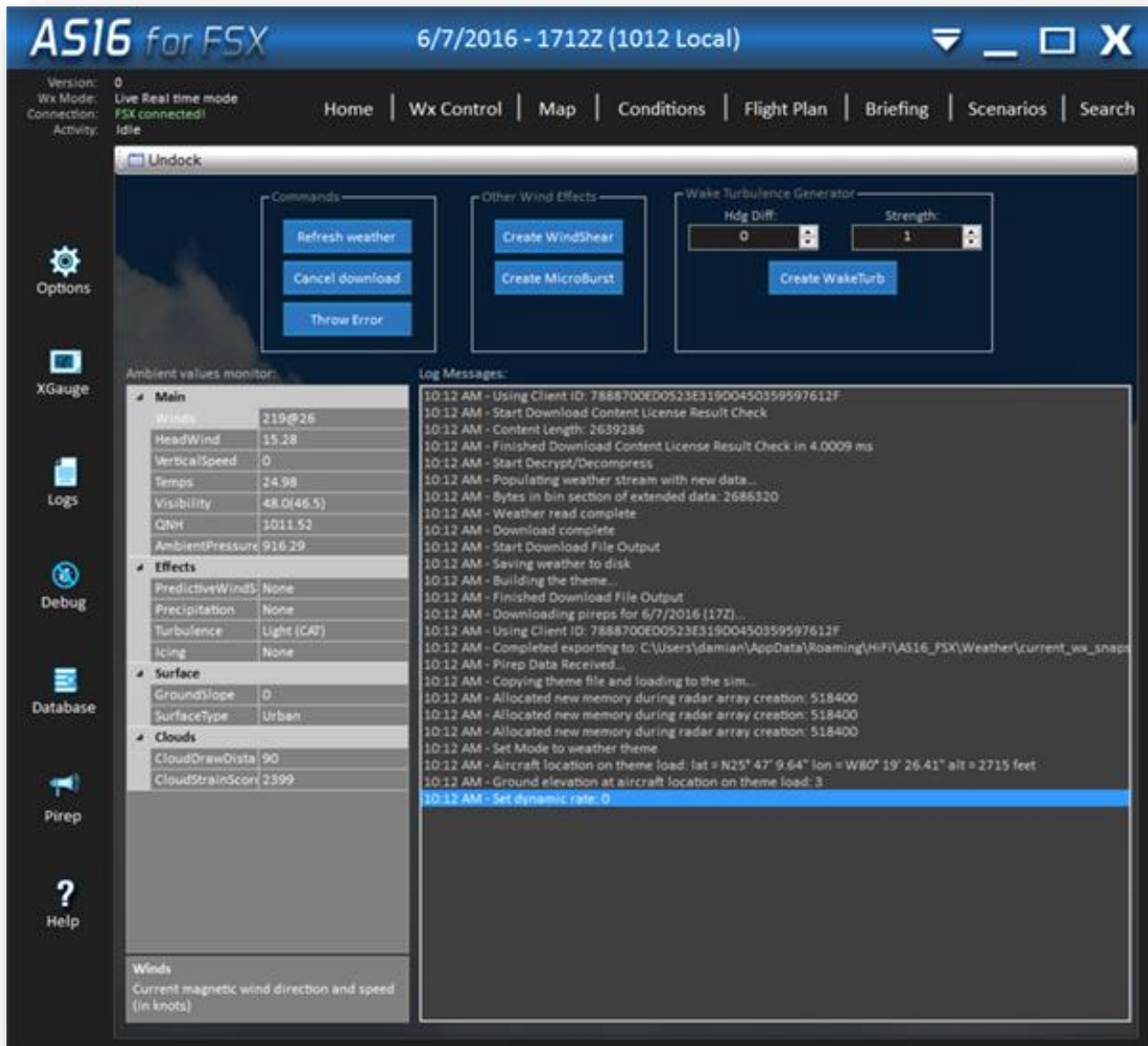
- **Reset to Defaults**

Sets ALL options to their default values which provide a balanced weather experience.

- **Dock / Undock**

Docks or Undocks the Settings screen.

Debug Tool



This window provides log status information, ambient weather data information, and test action command buttons that are useful for testing and debugging ASP4.

The Ambient Monitor area, when a simulator connection is active, will display current ambient parameters such as Wind Direction and Speed, Visibility, Etc.

The Log Messages window will display log messages as they occur during normal processing.

At the top, you can use the relevant buttons refresh the current weather depiction or cancel an active download.

At top middle, you can create a MicroBurst or Wind Shear event with the associated buttons.

At top right, you can create a Wake Turbulence event by specifying the Heading Differential and Strength, then pressing Create WakeTurb. An “encounter” effect will be created immediately, affecting your aircraft. Heading Differential, from 0-359, specifies the difference between the virtual wake trail heading and your own aircraft heading. Strength, from 1-10, controls the relative intensity of the effect.

Any additional buttons, displays and controls not described here are used primarily by developers, and may change periodically with new updates.

Database Tool

The screenshot shows the AS16 for FSX Database Tool interface. The title bar displays "AS16 for FSX" and the date/time "6/7/2016 - 1717Z (1017 Local)". The interface includes a menu bar with options like Home, Wx Control, Map, Conditions, Flight Plan, Briefing, Scenarios, and Search. A sidebar on the left contains icons for Options, XGauge, Logs, Debug, Database, Pirep, and Help. The main area displays a table of weather stations with columns for Station ID, Latitude, Longitude, Elevation (ft), Station Name, Edited?, and Disabled?.

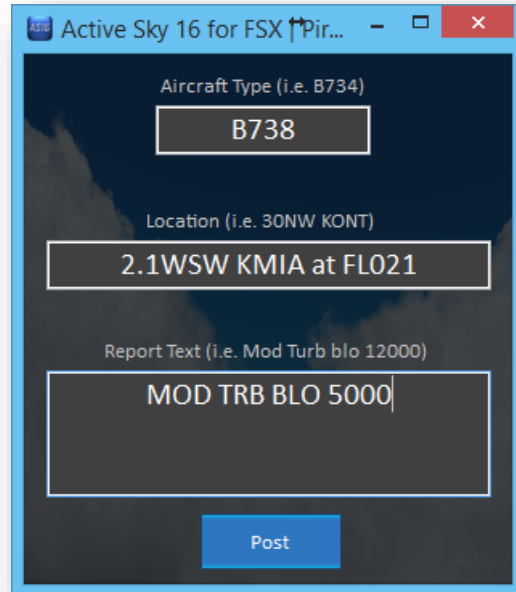
Station ID	Latitude	Longitude	Elevation (ft)	Station Name	Edited?	Disabled?
KLAW	34.5499992370605	-98.41699981689	1106	Lawton-Ft Sill Re...	False	<input type="checkbox"/>
KLAX	33.9329986572266	-118.3830032348	151	Los Angeles Int...	False	<input type="checkbox"/>
KLBB	33.6669998168945	-101.8170013427	3258	Lubbock Intl. Lub...	False	<input type="checkbox"/>
KLBE	40.2669982910156	-79.40000152587	1184	Arnold Palmer R...	False	<input type="checkbox"/>
KLBF	41.117000579834	-100.6669998168	2779	North Platte Reg...	False	<input type="checkbox"/>
KLBL	37.0330009460449	-100.9670028686	2884	Liberal Mun. Lib...	False	<input type="checkbox"/>
KLBO	37.6472015380859	-92.85380859375	1309	Jones Lebanon, ...	False	<input type="checkbox"/>
KLBR	33.5999984741211	-95.06700134277	440	CLARKSVILLE	False	<input type="checkbox"/>
KLBT	34.5999984741211	-79.06700134277	121	Lumberton Mun...	False	<input type="checkbox"/>
KLBX	29.117000579834	-95.46700286865	20	Brazoria Co. Ang...	False	<input type="checkbox"/>
KLCG	42.25	-96.98300170898	1430	Wayne Mun. Wa...	False	<input type="checkbox"/>
KLCH	30.132999420166	-93.21700286865	13	Lake Charles Re...	False	<input type="checkbox"/>
KLCI	43.5670013427734	-71.41699981689	545	Laconia Mun. La...	False	<input type="checkbox"/>
KLCK	39.8170013427734	-82.91699981689	745	Rickenbacker Int...	False	<input type="checkbox"/>
KLCO	30.1821002960205	-82.576904296875	197	Lake City Mun. L...	False	<input type="checkbox"/>
KLDJ	40.617000579834	-74.25	23	Linden, Linden, ...	False	<input type="checkbox"/>
KLDM	43.9669990539551	-86.40000152587	646	Mason Co. Ludin...	False	<input type="checkbox"/>
KLDS	48.5499992370605	-109.6832885742	2543	Leeds, MT, Unt...	False	<input type="checkbox"/>
KLEB	43.632999420166	-72.30000305175	561	Lebanon Mun. L...	False	<input type="checkbox"/>
KLEE	28.8169994354248	-81.81700134277	75	Leesburg Regl...	False	<input type="checkbox"/>
KLEM	45.9329986572266	-102.1829986572	2569	Lemmon Mun. L...	False	<input type="checkbox"/>
KLEW	44.0330009460449	-70.26699829101	289	Auburn-Lewiston...	False	<input type="checkbox"/>
KLEX	38.0330009460449	-84.59999847412	964	Blue Grass, Lex...	False	<input type="checkbox"/>
KLFI	37.0670013427734	-76.36699676513	10	Langley AFB, H...	False	<input type="checkbox"/>
KLFF	31.2329998016357	-94.75	289	Angelina Co. Luf...	False	<input type="checkbox"/>
KLFT	30.2000007629395	-92	36	Lafayette Regl. L...	False	<input type="checkbox"/>
KLGS	39.6669998168945	-99.56700134277	1959	LOGAN	False	<input type="checkbox"/>
KLGA	40.7830009460449	-73.88300323486	36	La Guardia, New...	False	<input type="checkbox"/>
KLGB	33.8170013427734	-118.1500015258	33	Long Beach, Lon...	False	<input type="checkbox"/>
KLGC	33	-85.06700134277	692	Callaway, La Gr...	False	<input type="checkbox"/>
KLGD	45.2669982910156	-118	2713	La Grande/Unio...	False	<input type="checkbox"/>
KLGF	32.8650016794668	-114.39289855957	417	Laguna AAF, Yu...	False	<input type="checkbox"/>

With the Database tool, you can manually change certain station database entries within ASP4. This includes Weather Stations and Airports. To edit a station, simply use the data grid to change the station's parameters and press the **Save** button to make the changes active. You can also "disable" a station by checking the associated **Disable** checkbox for that station. When disabled, a station will not be considered by weather synthesis (useful if a station is providing old or improper weather conditions, which may happen when stations are renamed, for example). To add a station, click on the **Stations** dropdown and select **Add**. A station parameter entry form will be displayed allowing you to set your new station details. Remember to **Save** your changes to make them active.

The **Cancel Changes** button reverts any user changes made.

The **Reset to Defaults** button reloads the selected Station Type database from our servers.

Pirep Tool



The screenshot shows a window titled "Active Sky 16 for FSX Pirep...". The window contains three text input fields and a "Post" button. The first field is labeled "Aircraft Type (i.e. B734)" and contains the text "B738". The second field is labeled "Location (i.e. 30NW KONT)" and contains the text "2.1WSW KMIA at FL021". The third field is labeled "Report Text (i.e. Mod Turb blo 12000)" and contains the text "MOD TRB BLO 5000". The "Post" button is located at the bottom center of the form.

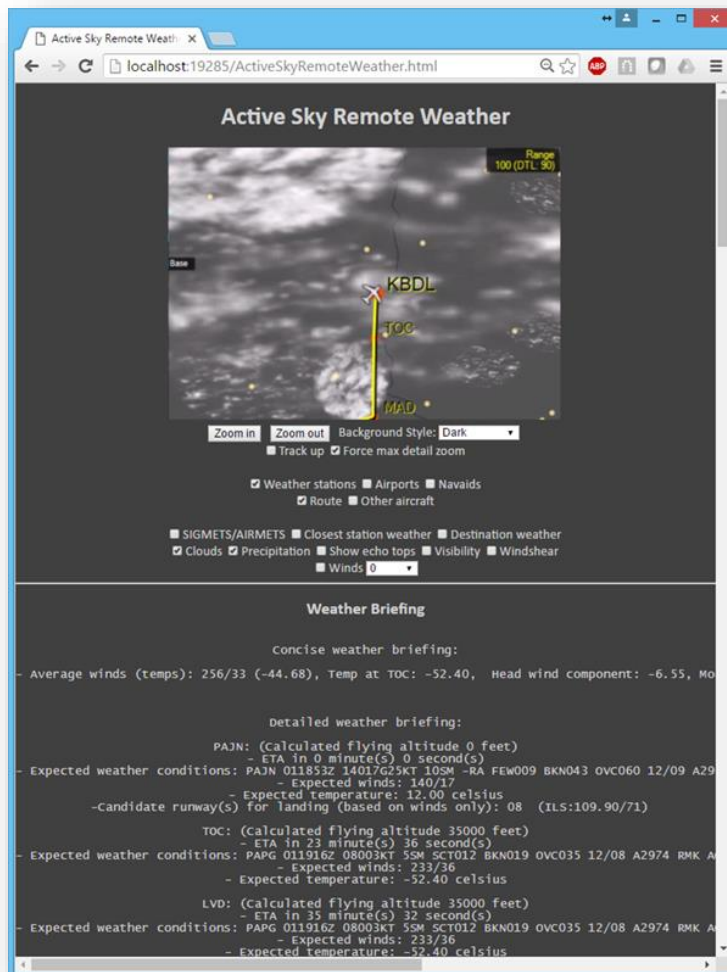
Pilot Reports (pireps) can be made by all Active Sky users, and are shown in the Map under the Sigmets/Airmets/Pireps overlay. When posting a pirep, your location and aircraft type will be automatically entered, but can be edited as desired. Type in the conditions you are experiencing/reporting and press the “Post” button to submit your pirep. Note that this function is enabled only when using Live (real time) Wx Mode and you are connected to your simulator.

Weather Web Companion App

ASP4 includes a Weather Web Companion App which is provided by a webserver/browser system while ASP4 is running.

With ASP4 running, you can access the following URL in any browser, on any device, as long as it is connected to the local area network (LAN).

<http://localhost:19285/ActiveSkyRemoteWeather.html>

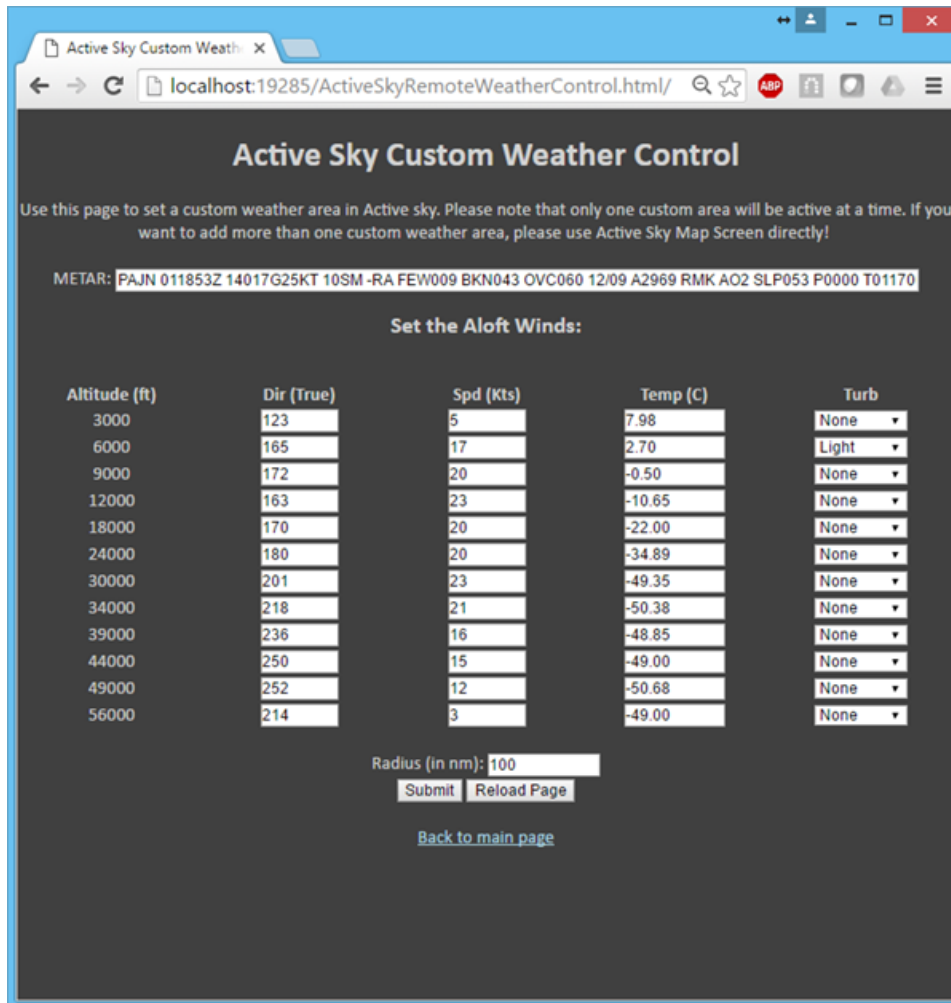


The port specified in the URL (19285) can be changed using the ASP4 general options section. Please ensure this port is opened in any firewall hardware/software when using this over your network.

The Current Weather conditions are shown here, along with a copy of the XGauge Satellite-mode imagery. You can use the various provided buttons, drop-downs and checkboxes to change the imagery options.

If a flight plan is loaded, you will also see your textual weather briefing below the weather imagery.

At the bottom, you can click **Set custom weather** to open the custom weather setting page:



Networked Configuration

ASP4 supports networked configuration where ASP4 is installed on a computer separate to the simulator computer.

In order to use ASP4 in a networked configuration, SimConnect **MUST** be properly installed and configured on both the client (ASP4) and server (FS/P3D) computer. Properly installing and configuring SimConnect is detailed in the Detailed SimConnect Configuration Steps chapter.

We highly recommend following the SimConnect SDK information provided with FSX and P3D in order to install and configure SimConnect on both client and server.

Note that ASP4 requires SimConnect SP2 or Acceleration Managed Client when used with FSX. SimConnect SP1 is not supported. If you do not have SP2/Acceleration client properly installed, you may not get a proper connection to FSX (i.e. "Waiting for Simulator" even when FSX is running). SimConnect client installer is available in the FSX/P3D SDK (for FSX this must be from SP2/Acceleration SDK version) as a .msi file which can be copied to and run on the client.

Confirming a proper SimConnect installation and configuration environment is important before attempting to use an add-on such as ASP4 in a networked configuration. Running the SDK-provided AI Traffic.exe sample add-on will indicate if the configuration is valid. If the AI Traffic program runs and indicates a proper connection to the simulator, then the SimConnect configuration is valid. Otherwise, reconfiguration is required.

Common issues with SimConnect configuration include failure to open a valid port for SimConnect communications (via your firewall software, on both client and server), and failure to install the SimConnect client on the client PC.

Once the SimConnect installation and configuration is verified, certain network file sharing paths must be configured on the server.

These paths are:

- The FSX/P3D main installation path (for example: C:\Program Files (x86)\Microsoft Games\Flight Simulator X = default share name: Flight Simulator X)
- The FSX/P3D private application data path (for example: C:\Users\\Appdata\Roaming\Microsoft\FSX = default share name: FSX)
- The FSX/P3D documents path (for example: C:\Users\\Documents\Flight Simulator X Files = default share name: Flight Simulator X Files)

Each of these paths must be properly configured for read and write access. Windows Vista, 7 and 8 require special configuration given that the Program Files folder (and other system folders) is protected by default to prevent networked write access. There are various ways to enable proper sharing of these system folders, including using HomeGroups or by changing the Ownership of such folders to your current username and then adjusting the read/write access manually.

To confirm proper sharing, we recommend accessing the shared paths from the client computer, to ensure proper read access. Then, attempt writing from the client by copying and pasting any file within each of the shared locations. The copied file will be named <filename>_copy.<ext>. If the copy succeeds without error, the access is configured appropriately.

In order for proper radar data communication to take place between ASConnect (server) and ASP4 (client), you must open the Radar data network port (TCP) on both machines for incoming packets. By default this port is 19284. You can change this port via ASP4 settings screen (General options category). Failure to open this port will lead to missing detailed radar/clouds/cloud top graphics. In addition, the Web Server port should be opened (19285 default). This port provides the web companion app capability, allowing you to use a browser on any device to view and control weather.

Finally, you may need to open port 445 (TCP) on both client and server to enable proper pipe communications between ASP4 client and the AS Connect module on the server. This is the same as the “File and Printer sharing port” and is normally enabled by default when Windows networking is enabled, but may need to be opened manually in some cases.

With a proper SimConnect installation and configuration, proper file sharing paths and access, proper opening of the radar data network port, and proper opening of port 445 on your firewalls, ASP4 will be able to properly operate in a networked environment.

When running ASP4 from the client machine for the first time, it will need to be “pointed to” the proper paths for the simulator main installation path, private appdata path, and the simulator documents path. Once these paths are identified you will not need to “point” to these locations again, as they are saved. You can change the path information in the Settings screen if desired.

SimConnect Troubleshooting

If you are unable to get things working properly with FSX/P3D and SimConnect, please check for the following common issues:

- Standard networking not properly configured between computers
- SimConnect.xml, SimConnect.ini and/or SimConnect.cfg not properly existing or configured properly and in the proper locations
- SimConnect Port not enabled via software firewalls
- Improper computer name or ip address set in the Address fields of the .xml and .cfg files
- Protocol not set for IPv4 in .xml and/or .cfg files
- SimConnect.msi installer for FSX/P3D (SP2/Acceleration required) not run on client machine

SimConnect not found error

Some users may experience trouble with SimConnect installation preventing proper operation of Active Sky for P3Dv4 or other SimConnect add-ons. You may see a message during ASP4 startup similar to:

Simconnect SP2 not found and must be installed for proper operation.

If you see this, or a similar error message, first make sure that you have properly installed the proper Managed SimConnect SDK client version (SP2/Acceleration required. This may be placed under “SDK” or “redist” folders within the P3D installation. If this does not enable proper operation, see the next section for repair steps.

Detailed SimConnect Configuration Steps

Active Sky for P3Dv4 can be used in a networked configuration where FSX/P3D runs on a different computer.

Allowing this to work requires proper networking and security configuration on both computers. SimConnect will be used in networked client/server mode to facilitate the weather communications functions. Networked file access will be used to pass data between ASP4, XGauge and FSX/P3D station databases.

Sharing Folders

To properly use Active Sky for P3Dv4 in a networked configuration, you must have three folders shared on your FSX/P3D PC. If you are not familiar with how to share folders please search the internet as there are many helpful resources.

Folders to share

- C:\Program Files\Lockheed Martin\Prepar3Dv4 (or your FSX/P3D installation folder)
- C:\Users\[username]\AppData\Roaming\Lockheed Martin\Prepar3D v4)
- C:\Users\[username]\Documents\Prepar3Dv4 Files)

These folders should be shared with write permissions (Allow networked users to change my files).

If you are unable to locate these folders, you may need to enable "Show hidden and system files" in your VIEW options within Windows Explorer.

We recommend using the default share names for simplicity.

To confirm that you have sharing setup properly, attempt to access these shared from your remote/client computer. You should be able to view the content of these folders through Windows Explorer (via the Network/[computername]/[sharename] path)

Important requirements for networked configuration:

- The computer to run FSX/P3D (hereby named SERVER) and the computer(s) to run SimConnect add-ons (hereby named CLIENT(s)) must be appropriately configured for normal IP networking
- Firewall software must be configured to allow SimConnect communications on the port you set (we suggest port 500) – This includes windows firewall – and applies to all computers, both SERVER and CLIENT(s)
- Remember to also open up port 19284 for radar data communication
- Shared Folders must be properly configured

Step 1: Verify requirements

Look through the above requirements and ensure everything is setup properly.

Step 2: Configure SERVER

The simconnect configuration file must be configured on the server:

- [ApplicationDataFolder]\Lockheed Martin\Prepar3D v4\SimConnect.xml

ApplicationDataFolder is:

C:\Users\[USERNAME]\AppData\Roaming\

SimConnect.xml:

You will need a local and global comms section in the simconnect.xml file. The local is for local add-on connections (including the ASConnect component of ASP4) and the global is for remote/networked connections (including the ASP4 client software). See the included help/documentation in P3Dv4 regarding simconnect configuration.

The local section should be set as follows:

```
<SimConnect.Comm>
  <Disabled>False</Disabled>
  <Protocol>Auto</Protocol>
  <Scope>local</Scope>
</SimConnect.Comm>
```

For the global section:

```
<SimConnect.Comm>
  <Disabled>False</Disabled>
  <Protocol>IPv4</Protocol>
  <Scope>global</Scope>
  <Address>YOUR SERVER IP ADDRESS HERE</Address>
  <MaxClients>64</MaxClients>
  <Port>500</Port>
```

```
<MaxRecvSize>4096</MaxRecvSize>  
<DisableNagle>False</DisableNagle>  
</SimConnect.Comm>
```

The values for *Address* and *Port* must be modified. The other values should be left as shown.

For *Address*,

use either the computer name or the physical IP address of this **SERVER**.

Example: <Address>192.168.1.102</Address>

For *Port*,

use any port you wish to enable for SimConnect communications. We suggest port 500.

This port will need to be enabled in any software firewall programs you are running (including windows firewall).

Example: <Port>500</Port>

Step 3: Installing SimConnect client on CLIENT(s)

For P3D, there the simconnect.msi is located in the P3D "REDIST" folder instead of "SDK" (use the XPACK/SP2 version).

Step 4: Configure CLIENT

There is a single configuration file needed on all clients:

[MyDocumentsFolder]\SimConnect.cfg

MyDocumentsFolder is:

C:\Users\[USERNAME]\Documents\.

There is an example file located in your SDK installation folder (normally C:\Program Files\Microsoft\Games\Flight Simulator X SDK\SDK\Core Utilities\SimConnect SDK\config). We suggest copying this file to the appropriate location and then modifying as follows:

The values for *Protocol*, *Address* and *Port* must be configured exactly the same as you have configured for the server's SimConnect.xml file. We recommend the other values be left default.

Here is an example SimConnect.cfg file:

```
[SimConnect]
Protocol=IPv4
Address=192.168.1.102
Port=500
MaxReceiveSize=4096
DisableNagle=0
```

The SimConnect.cfg file needs to be set for all client computers that will be running addons that need to connect to FSX/P3D on the server.

***** NOTE: SIMCONNECT.CFG should NOT exist in any other location(s). It needs to be placed only once in your "MyDocs" folder. Any extra simconnect.cfg files (i.e. in your FSX appdata folder, or ASP4 install folder) will cause confusion and invalid configuration.**

Step 5: Test the configuration

If using P3D, AI Traffic.exe is not included. In this case, a successful ASP4 connection to the simulator is the best indicator of a proper simconnect configuration.

Step 6: Configuring ASP4

Once you have the shares and SimConnect configuration complete, you can configure ASP4 to properly work in networked configuration.

ASP4 needs to know the location of the main Simulator installation path as well as the FSX/P3D Appdata path. In addition, you may want to load FSX/P3D flight plans on the FSX/P3D computer into ASP4 on the client. Since your shares are already configured you simply need to point ASP4 to these locations. To do this, simply run ASP4. ASP4 will identify that FSX/P3D is not installed on the client machine and automatically ask for and save the correct network share locations.

If you need to manually specify these locations, you can set them using the Settings screen in ASP4. This should be done with the sim closed and not running.

Step 7: Configuring X Gauge

XGauge needs to be installed into the FSX/P3D installation. To do this, you can run the XGauge Installation Wizard (from the ASP4 Tools menu).

NOTE: Client and Server Usage Warning

If you are using WideFs or SimConnect over a network and ASP4 is installed as a client and you also have an instance of FSX/P3D installed on the client PC (that you do not intent to use) you must ensure that the path(s) in the ASP4 options point to your server version, not the client version. This does not affect most users.

Getting Support

HiFi offers several options for obtaining support for Active Sky for P3Dv4:

- **HiFi Forums**

Our own forums where you can discuss ASP4, simulation and aviation weather with other community members, Active Sky users, and HiFi Developers.

Access the HiFi forums at www.hifisimtech.com

- **Unofficial AVSIM Forums**

A large simulation enthusiast community with a special HiFi/Active Sky forum.

Access AVSIM at www.avsim.com

- **HiFi Support Center**

The official means of obtaining support, including technical, order and billing support. Uses a ticket system which allows escalation, current status, and transfer of files (screenshots, logs, fixes).

Access our Support Center at support.hifitechinc.com

Our goal is to provide excellent customer service and meet or exceed your every expectations. Please give us the opportunity to serve you!

Credits

Lead Developer

Kostas Terzides

Producer

Damian Clark

Community Manager

Dave Opper

Voice Sets

Damian Clark (USA-West-1)

Devin Pollock (Canada-1)

Victor Baron (USA-Mid-1)

Dave Opper (USA-East-1)

Guenter Steiner (Germany-1)

Gerd Johansson (Sweden-East-1)

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