HiFi Simulation Software

Welcome To

Active Sky Advanced

for Microsoft's Flight Simulator X and 2004

WELCOME TO ACTIVE SKY ADVANCED

Active Sky Advanced is the culmination of years of development and research by HiFi Simulation Software. All previous versions of Active Sky have played a major role on where we, as a company, are today, and the result is Active Sky Advanced.

When designing this version of Active Sky we were conscious of what our customers have been asking for and also some ideas that we thought you may find invaluable once you start to use it. Below are just some of the major features we have developed for this version of Active Sky:

- **Universal FS9/FSX Integration**
  We've developed a unique dual-interface for ASA that uses either FSUIPC (FS9) or SimConnect (FSX and beyond). Each interface is fully supported to take advantage of all the features they individually offer.
- **Universal Graphics Add-on Integration**
  Using a newly-developed "as-installed" graphics snapshot management system which essentially archives and manages graphics states, any and all graphics add-ons are fully supported and can be used in any combination, all while benefiting from advanced weather-influenced texture selection and manual or automatic texture installation.
- **Universal In-Flight Weather Display Gauge**
  XGauge v2 works for both FS9 and FSX, and gives full in-flight mapping and current/destination textual weather information.
- **Real-Time Sigmets and Airmets for the Continental United States**
  Actual Airmet and Sigmet data is provided from live sources and listed in both data grid and visual mapping format.
- **Weather Theme Drag And Drop**
  We have now introduced 'Drag and Drop' to the map screen to allow you to drag and drop weather files (.ast) onto locations on the map and to apply that weather to a radius anywhere from 5 miles to Global from that drop point.
- **Real-Time Global Networked Pilot Reports**
  All ASA users will receive networked Pireps as posted by other users, and can make a Pirep at any time. Pireps are also listed in a data grid as well as on the Map.
- **Station Database Management**
  The user is now in full control of their station databases, allowing on-the-fly additions, deletions and modifications in several different categories including Physical Stations, Data Stations, Airports, NDBs and VORs.
- **Enhanced Mapping**
  New overlays include VORs, NDBs, Airmets, Sigmets and Pireps. All are fully accessible from XGauge v2.
- **Enhanced Flight and Weather Planning**
  Additional flight planning reporting includes helpful information for fuel calculations as well as Met/Reps. A new Wx-Finder screen allows you to quickly find any kind of condition you are looking for.
- **Included FS Haze Layer Eliminator**
  We've included a texture that can be configured to automatically install, and eliminates FSX's haze layer depiction which can cause graphical problems when intersecting with terrain (as well as an undesirable look). FS9 fully supports the disabling of the Haze Layer via direct visibility control, graduation and smoothing.

- **New FSX Direct Wind Control, Visibility Graduation, and Smoothing**
  Using FSX's global depiction mode and new techniques, we have achieved control and smoothing of the wind, temperature and visibility. When enabled, you'll have an environment with little to no wind shifts, accurate direction and speed, and smooth visibility graduation and transitions. FS9 also benefits from these features (in custom vs. global mode).
- **New Quadrangle Distance-Weighted Interpolation Technology**
  New intelligent interpolation fills gaps in weather data more realistically than ever before. The 4 closest data stations in each 90-degree directional quadrant are analyzed and weighted against distance, significantly increasing depiction accuracy in areas with few (or no) reports.
- **New Vertical Air Simulation Technology**
  For both FS9 and FSX, new realistic up and downdrafts as well as thermals and ridge lift are simulated throughout your flight.
- **Dozens of Additional New Features**
  Enhanced high-fidelity wake turbulence simulation, improved weather depiction techniques for better visuals, increased smoothing, direct wind control, visibility graduation and smoothing, and much more is included!

## CONTENTS

CONFIGURING ASA AND FSX/FS9

Active Sky Advanced is pre-configured after installation for recommended default settings.

These default settings should work well for most users. If you'd like to customize the way weather is reported and/or depicted, please see the Options Screen section of this documentation. We do recommend that you first experience ASA with these normal default options.

FLIGHT SIMULATOR X:

FSX will need to be configured for the best balance of graphics and performance. Essentially, any settings that you normally use in FSX with default weather should work fine. Do realize however that ASA can increase the complexity of weather scenarios and cause a further hit on performance when conditions dictate.

The most important settings relating to weather and performance are found in the Settings/Display/Weather menu within FSX:
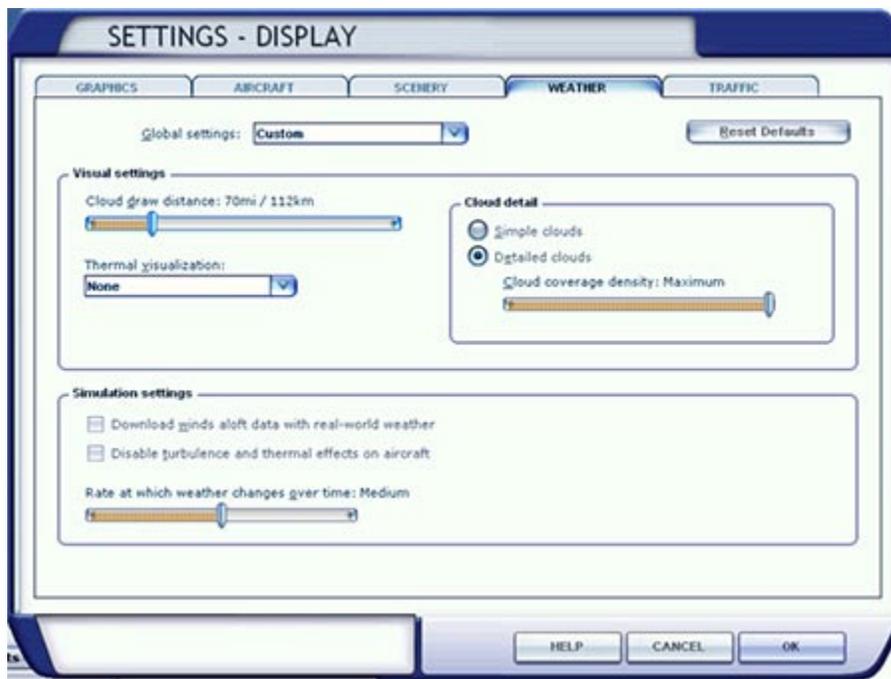

- Cloud draw distance: Controls the maximum distance at which you will see cloud formations. The further the distance, the slower the performance (we recommend 60-70 miles on most systems, perhaps higher on very high-end systems).
- Thermal visualization: We recommend the most-realistic "None" setting here, but you may wish to enable visual cues to help you identify thermals. See the FSX documentation for more information.
- Cloud detail: Detailed clouds are highly recommended on all but the lowest-end systems.
- Cloud coverage density: We recommend the Maximum setting on all but the lowest-end systems. Lowering this setting will increase performance but at the cost of losing cloud density.
- Download winds aloft data with real-world weather: This setting does not affect ASA operation.

- Disable turbulence and thermal effects on aircraft: Check this option to disable all turbulence and thermal effects (not recommended).
- Rate at which weather changes over time: This controls how fast weather can "drift" from one set of conditions to the next, and also controls how fast clouds will form/dissipate within the area. ASA has an option which automatically controls this setting (defaults at medium), so it is irrelevant what option you choose here.

FLIGHT SIMULATOR 9:

Certain settings in FS9 are important for proper ASA operation. Primarily, you need to adjust your weather display settings for desired cloud depiction.

The most important settings relating to weather and performance are found in the Settings/Display/Weather menu within FS9
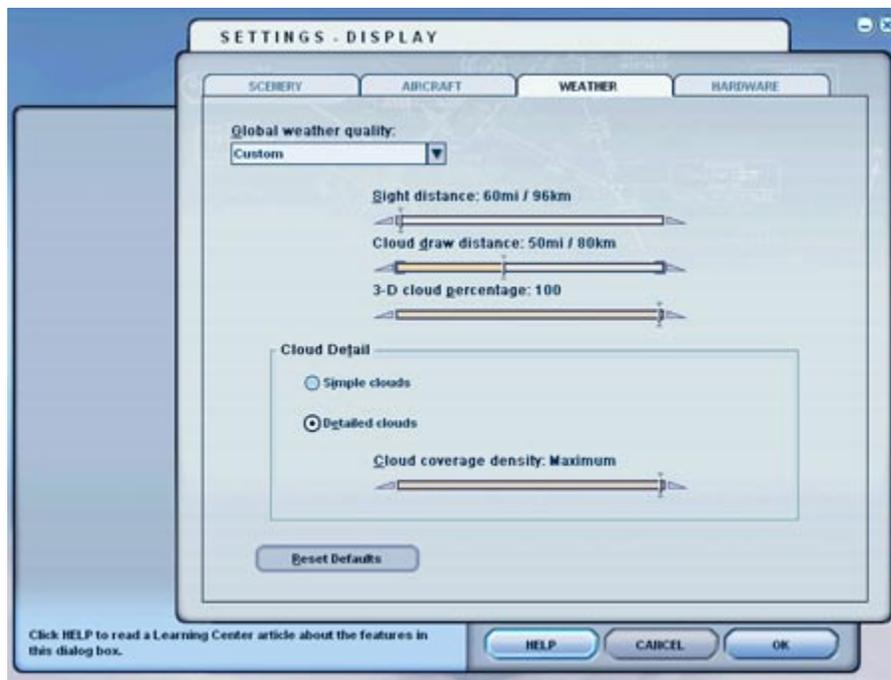

- Sight Distance controls how far out you want the outside world to be rendered. Lower values will increase performance and hide distant objects. High values will decrease performance and show more distant objects. Any setting will work, but you should leave this on the low side for maximum performance.
- Cloud Draw Distance controls how far out you want clouds to be depicted. This can severely effect performance.
- 3-D Cloud Percentage indicates what percentage of 3D clouds to draw versus 2D clouds. We recommend always using 100% to prevent possible flickers during weather writes, and for more realistic depiction. Cloud Detail specifies which type of clouds to draw. We highly recommend using "Detailed Clouds" with MAXIMUM cloud coverage density for best depiction. Using lower settings can result in low density cloud coverage regardless of the METAR reports (i.e. OVERCAST may appear Broken or Scattered).

FSUIPC version 3.75 or greater is required for ASA to communicate with FS9. A licensed version is not a requirement.

FSUIPC is required by ASA for FS9 connectivity and many other external FS9 add-ons. It provides the core communications system to and from FS9 and allows us to find out the location of the user aircraft, speed, altitude, etc., and control things such as weather parameters, vertical air effects, and more.

ASA is accredited for use with FSUIPC, meaning that we have pre-paid the license for basic unregistered FSUIPC use. You do not need the registered/paid FSUIPC version – all required FSUIPC features are automatically enabled and controlled by ASA.

To install FSUIPC, visit http://www.schiratti.com/dowson.html and download the latest version appropriate to your FS9 version. Follow the included FSUIPC installation instructions. When installed, you will see a new "Modules -> FSUIPC" menu option set in the FS9 menu bar. Clicking on this menu option will enable configuration of FSUIPC Parameters. Start FS9 and do this now, as shown below:
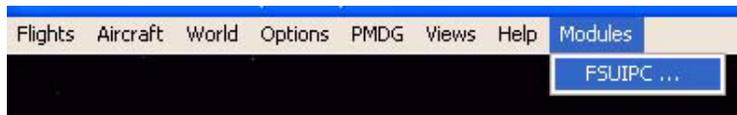
This will open the main FSUIPC options configuration screen. The registered version is depicted below. The unregistered FSUIPC version is similar but does not permit detailed configuration of individual categories.

(NOTE: The screenshots below may not reflect your installed version of FSUIPC and or FS9.)
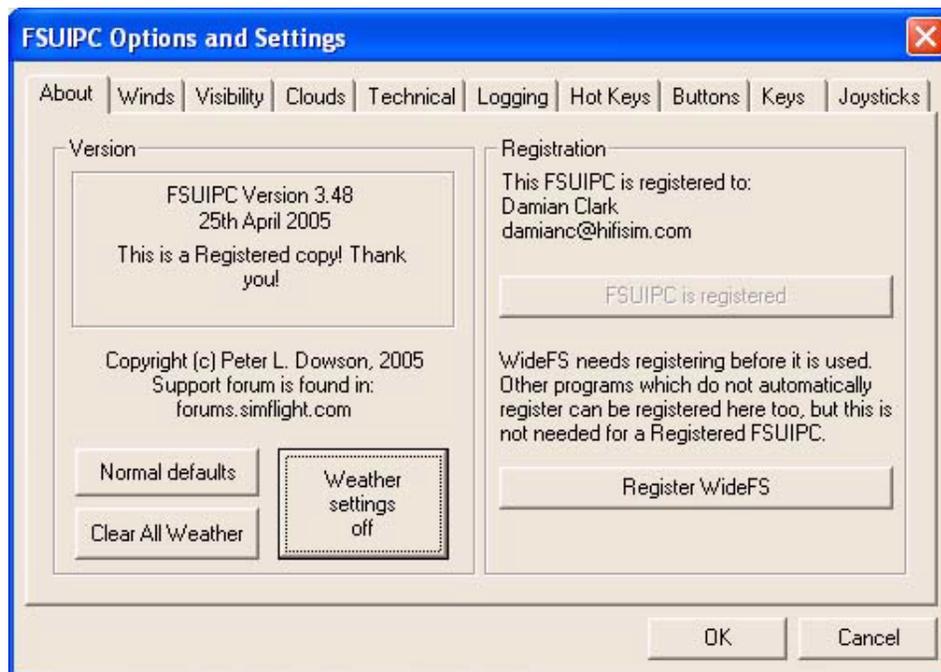
Click the "Weather settings off" button to reset all weather settings to default values, which is generally required for proper ASA operation.

If using the registered FSUIPC, you may change other weather options, but some may interfere with ASA. We recommend only changing smoothing rates (wind, visibility, etc.) as desired. Leave the other weather options off/default or experiment at your own risk. If you get unexpected results, return back to "Weather settings off". All non-weather options can be set as desired without negative ASA interaction.

Once this is done, click the "OK" button to return to FS. FSUIPC configuration is now complete!

USING ASA

Active Sky Advanced can be started using the Desktop icon or Start/Programs/HiFi/Active Sky Advanced programs menu item. It can be started before or after FS9/FSX, but we recommend starting it first in order to allow all basic internal initialization to complete beforehand. There is no need to adjust any settings on the FS Weather Settings page in FS, as 'User Defined' is automatically set for you. Once you start FS and the flight is loaded ASA will commence depiction of the weather automatically.

Once loaded, the initialization process will start which takes approximately 1 minute. During this time, ASA is downloading weather, synthesizing it, creating initial reports and map imagery, and many other tasks. Most options within ASA are disabled until initialization completes, but you can use the browser on the Main Screen while things initialize. This is a great time to check the latest news, view recent articles and more.

THE IMAGE BELOW SHOWS THE BUTTONS TO ACCESS EACH OF THE SCREENS IN ACTIVE SKY ADVANCED

After initializing, all options and screens are available! The menu bar at the top lets you navigate through the main areas of ASA, and is always visible.

The screens that these buttons access are explained in the next sections of this documentation, starting with the Main Screen.

The "**Active Date and Time**" area below the navigation buttons will show you the currently active time used within ASA. Normally this is your current system "live" time.

You can use the "**GMT / Local**" selector to choose which format to show your active time in. GMT time (also known as UTC or Zulu time) is what aviators use to have a reference of time regardless of current local time zone. This is essentially the current time in Greenwich, UK.

When "**Force to Real Time**" is checked, your time will always be synchronized to real/live time.

When "**Force to Sim Time**" is checked, your time will always be forced to the time set in FS (minimum date January 1, 2007).

All weather engine processes depend on the currently active date/time. Please make sure you are aware of your settings here to get the results expected. Normally, Force to Real Time is recommended.

You'll notice 3 buttons on the top right of the ASA program. These are, from left to right: Send to System Tray, Minimize and Quit.

Sending to System Tray will hide ASA and put an icon down near your Windows clock. To bring it back up, simply double-click the icon in the tray.

Minimize will hide ASA and put the ASA item in the Windows taskbar. Simply alt-tab to it or click the taskbar item to see it again.

When ASA is minimized to the taskbar or sent to the tooltray, then right clicking on the taskbar item or tooltray icon will bring up a context menu with the following items:

- **Open ASA**: Brings ASA back up to the desktop.
- **Close ASA**: Shuts down ASA.
- **Reset Screen Location**: If for some reason the ASA main window is not showing up then this will reorientate the main ASA screen top left to the location of the menu.

When you're finished using ASA, hit the Quit button.

Note: When virtual station generation is enabled (on by default), it can take FSX some time to remove and reinitialize the station database after ASA quits. FSX may appear "frozen" during this time. ASA will remind you about this if you attempt to quit while FSX is running. We therefore recommend that FSX is actually closed first, before ASA, in order to avoid any delays (this does not apply when virtual station generation features are disabled and only applies to FSX).

There are 3 status indicators at the very bottom of the program that indicate the activity for the 3 main repeating processes within ASA:

- **Synthesis:** Process which takes raw weather data and synthesizes it into usable weather parameters
- **Depiction:** Process which sends weather data from ASA and injects it into FS9/FSX – This indicator will be lit at most times as ASA constantly communicates with FS and controls the weather environment
- **Download:** Process which downloads new weather from the HiFi DataNet X Weather Servers

These are visible when each process is active. When the processes are inactive the indicators are not visible.

Voice Feature:

To use the voice feature tune to 122.00 on any radio in FSX or FS9 (must be activated and audio panel selected for that radio) and receive a voice message for the closest weather station. Tuning to 122.02 when a flight plan is specified plays back a destination weather report. You can view the text instructions for creating new voice sets in your ASA\Voice folder (voice-information.txt).

MAIN SCREEN

The Main screen is the main entry screen to ASA. From this screen you can view the complete status of the application.

At the very top of this screen you'll find some web-browser-like buttons and an address bar. These work like they do in any web browser, allowing you to move back, forward, go to the start/home page, and refresh. The address bar does not allow input directly but allows you to easily select between any "pages" you've recently viewed.

Below the browser tools is the main browsing window. This is initially a live web page sent from our servers and contains various bits of information and resources for ASA users. News, articles and more can be found here. Simply click on any hyper-link (colored blue or magenta) to access that page. Use the scroll bar on the right to scroll up and down the page.

Below this on the left is the Quick-Access menu, which lets you perform many common tasks within ASA, such as viewing weather information and specifying your flight plan. Details on each task are available in the individual main screens that they are contained in.

To the right of the Quick-Access menu is the log, which shows important information on the status of ASA internal processes.

REPORT SCREEN
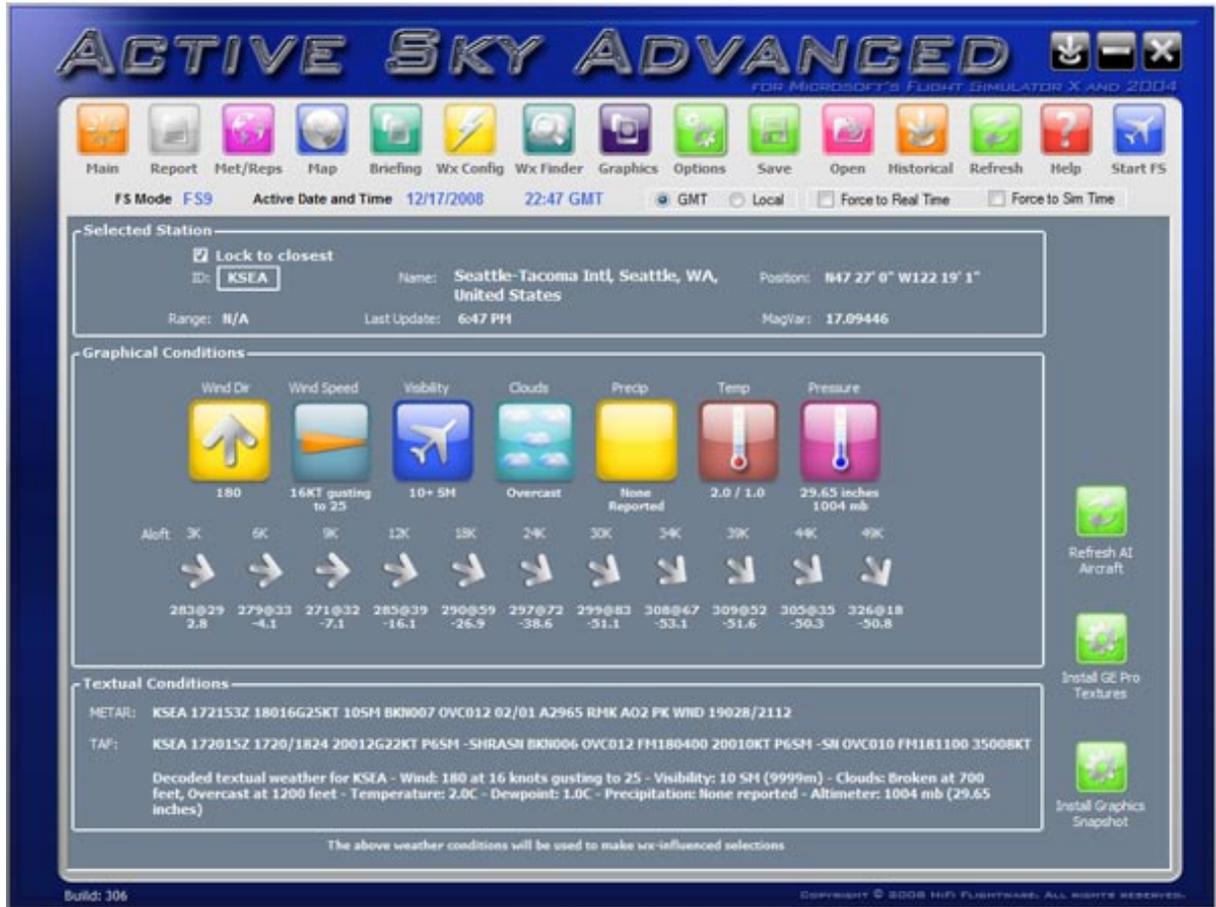
The Report Screen shows you a collection of various items of weather information for the station/airport you are interested in.

At the very top the checkbox "**Lock to closest**", when checked, will force this screen to always show the closest available station/airport's weather information.

The "**ID**" field allows you to specify any valid 4-letter ICAO weather station/airport code. Simply type the code into this field and the weather information will automatically update appropriately. Once a station is selected, its location, range and other information will be displayed.

In "**Graphical Conditions**" you'll find weather icons and specific weather conditions. This includes wind direction and speed, visibility, clouds, precipitation, temperature, pressure and winds aloft.

In "**Textual Conditions**" the METAR, TAF and Decoded Textual weather information is shown.

Press the "**Refresh AI Aircraft**" button to refresh AI aircraft.

The "**Install GE Pro Textures**" button will be available only if GE Pro is installed. Press this button to have GE Pro and ASA use the weather shown in this screen to make weather-influenced decisions and automatically pick an

appropriate set of textures for these conditions. This feature is also only available if the current FS Version selected is FS9.

Press the "**Install Graphics Snapshot**" button to have ASA use the weather shown in this screen to make weather-influenced decisions and automatically pick an appropriate graphics snapshot for these conditions. This feature is available for both FSX and FS9. You must have already created at least one snapshot to use with this feature.

The Met/Reps screen will display a list of the current sigmets/airmets and Pireps. Hovering over each cell will display a popup of the full information in that cell. You can double click on a cell and ASA will take you to the Map Screen to view the location of the data in that row.

Press the "**Make Pilot Report**" to file a Pirep. The image on the next page shows the form that will show when the button is pressed. You should check the entered location and then enter the details required such as aircraft type (C172 for instance) and the report that you wish to make such as "Moderate Turbulence below 10,000ft. This pirep will then be filed and all users of ASA will be able to see this report. These reports are displayed on the map screen and on XGauge. Pireps are normally valid for 6 hours, but removal of old ones happen whenever a new one is submitted so that there will always be at least 1 pirep regardless of age. Pireps are encouraged! It helps other pilots get a picture of the actual weather conditions experienced at specific locations so please use this facility to keep others informed of actual conditions you are experiencing. The more Pireps filed by ASA users, the better the coverage for all to benefit from.

When you make a pilot report, it will be available to all other ASA pilots.

Pireps are encouraged! It helps other pilots get a picture of the actual weather conditions experienced enroute at specific locations.

Enter a location, such as "30N of "KLAX FL200

Location Text

1 NM BRG 162 FROM KSEA AT FL054

Enter your aircraft type, such as "B737"

Aircraft Type

C172

Enter your report, such as "Mod turb "below FL120

Report Text

Mod Turb Below 5,000ft

OK   Cancel

The Map Screen is where you can view weather information in a graphical format. This can be extremely useful when looking for certain kinds of weather, planning, and monitoring weather during your flight.

The main map view is shown on the right with the map controls and available on the left and below the actual map view. There is also a weather treeview on the left of the screen.

"**Zoom**" will allow you to zoom in and out. There is a 5nm minimum and 5000nm maximum zoom range, with most weather graphics having a maximum display range of 3000nm.

The next items are the **Pan** buttons and allow you to move in any direction. The center button will center and lock on your current aircraft position (if FS active).

The "**Seek Station**" field allows you to type in any valid ICAO code, press the seek station button, and have that station centered on the map screen.

"**Lock to FS position**" keeps the map centered and locked on your current aircraft position (if FS active).

The "**Legends**" button brings up a helpful legend indicating what each graphical weather icon represents.
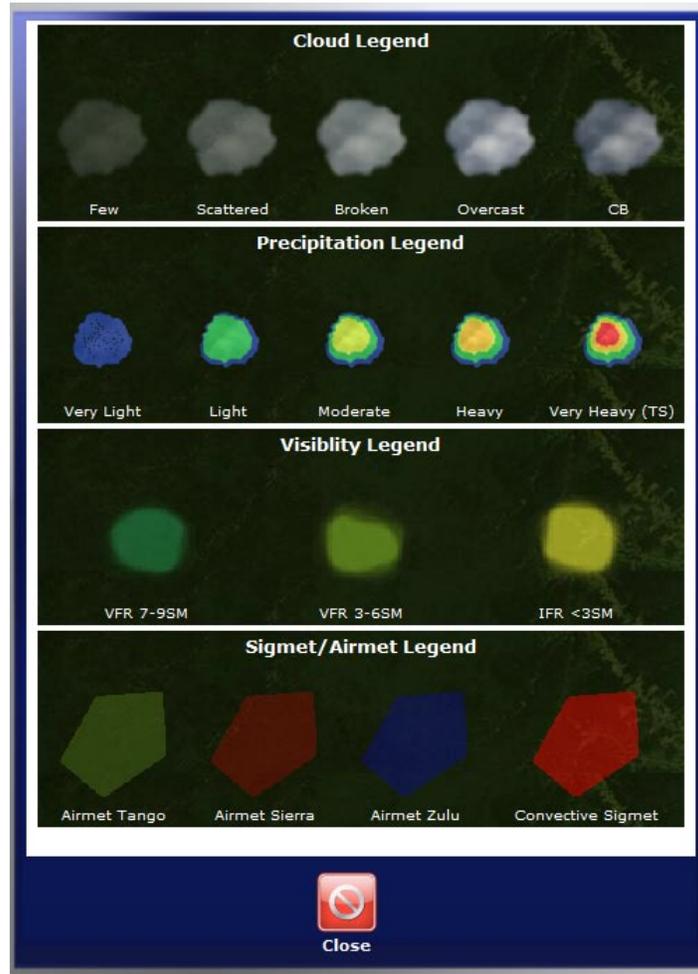
"**Winds Level**" allows you to show the next higher or lower wind altitude level.

Below the map view are the **Overlay Toggle Buttons** which turn on and off certain visual elements of the map:

Stations: Shows all weather stations (not airports). Weather stations are the locations that actually report weather information. The stations are color coded for ease of identifying which stations have reported weather and which are interpolated. The blue stations are showing reported weather data and the purple stations have no actual data and show interpolated weather information.

Airports: Shows all airports (not stations). Airports can have weather stations located at or adjacent to airports, but this is not always the case.

VOR/NDBs: Shows all VORs and NDBs. When you hover your mouse over each station a popup will appear giving you information about the station such as Frequency, Latitude and Longitude, elevation (in feet) and Station name. This will be invaluable as it will mean you do not have to leave the screen to obtain this information for your flight planning.

Route: Graphically shows your route based on the flight plan specified (use the Briefing Screen to specify a flight plan).

Clouds: Shows a graphical indication of cloud coverage.

Precipitation: Shows precipitation including rain and snow.

Visibility: This will show areas with less than 9SM visibility.

Winds: Shows the wind direction via arrow icons for the currently specified **Winds Level**.

Met/Reps: Displays graphical boundaries of current Sigmet and Airmet reports available at the current time plus you will also be able to see any Pireps current within the map range selected.

You can see extended information about any station/airport and its weather conditions by simply moving your mouse over the station icon. The following pop-up window will appear:
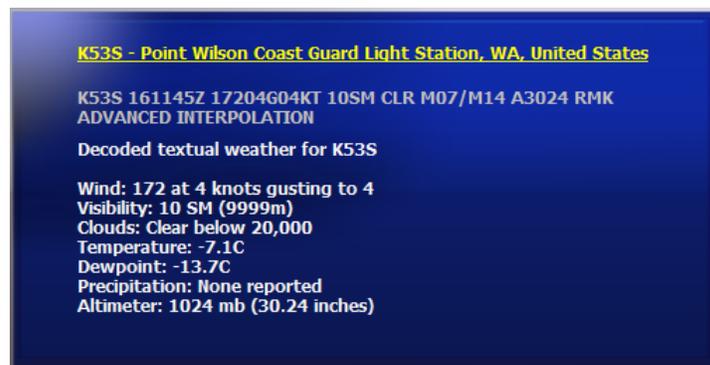
You can also see information about each VOR/NDB, including the frequency, latitude and longitude and elevation of the station by moving your mouse over the VOR/NDB icon. The following popup will appear.

You can see information about each sigmet/airmet by moving your mouse over the area covered by the sigmet/airmet. The following popup will appear.
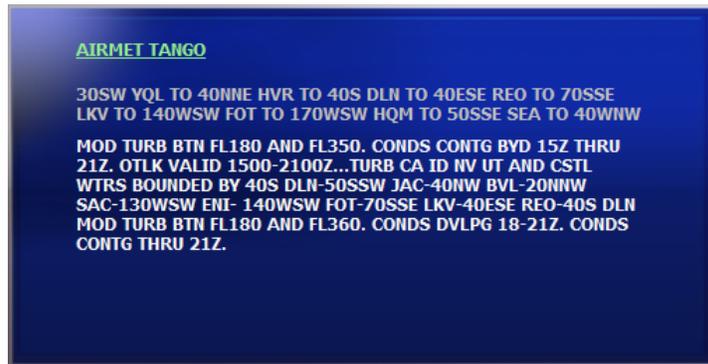
If any Pireps are in force in your area then these will be displayed on the map and you can see further information about the pirep by moving your mouse over that area. The following popup will appear.
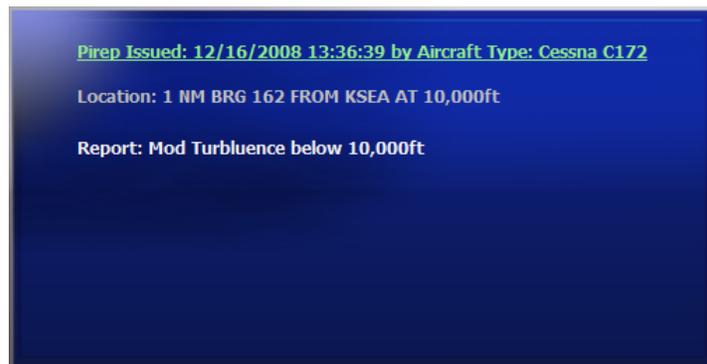
NOTE: If multiple layers/items are shown on the map, the top-most item is displayed in the popup.

The **Weather Treeview** allows you to drag and drop your custom weather files onto the map. Below the Treeview there is the range control consisting of a "+" and "−" button which will increment or decrement the range that the weather will be applied to from the location of the drop. The range will be displayed in the textbox between the buttons and will range from 5nm to 5000nm, any range greater than 5000nm will be considered as global weather.

Simply click and hold down the left mouse button on the weather file you wish to use, whilst holding the left mouse button down drag the file across to the location on the map where you wish the weather to be centered then release the left button. This will drop the weather onto the location you selected. The weather from the file will now be applied to all stations within the range specified in the textbox below the treeview.

Note: The greater the range selected the longer it will take for the processing of the selected weather.

BRIEFING SCREEN

Here in the Briefing Screen you can specify your flight plan and view the weather-related route details on a waypoint-by-waypoint basis.

Starting at the top, the **Flight Details** area shows the currently specified flight plan details. Click the "**Change Flight Plan**" button in order to manually specify or import a flight plan.

The above window will be shown when you click "**Change Flight Plan**". Simply enter the desired information and hit "**Process**" to specify your route. To import a flight plan that includes waypoints, click the "**Import**" button. FS9 and FSX flight plan files are supported (.pln).

Once you've specified a flight plan, the **Navigation Log** and **Textual Briefing** areas will give you the details.

Once the process is completed and the Briefing details are populated, ASA will ask if you wish to install Wx Influenced textures from your Graphics Snapshots. Clicking 'OK' will instruct ASA to make a random selection from snapshots that match the weather data for your route.

If you are in FS9 mode and have GE Pro installed ASA will also ask if you wish to install GE Pro textures to match the same weather data. Clicking 'OK' on the resulting dialog will launch GE Pro in client mode to select the most appropriate textures for the weather data passed.

"**View Route Briefing Map**" will bring up the Map Screen focused on your departure location and showing your route of flight.

The "**Install GE Pro Textures**" button will be available only if GE Pro is installed on this system. When clicked, it will use the Route Average weather conditions for wx-influenced texture selections and automatic installation by GE Pro. If you'd rather use a specific station's weather conditions for wx-influenced selections, use the "**Install GE Pro Textures**" button located on the Report Screen.   This feature is also only available if the current FS Version selected is FS9.

Press the "**Install Graphics Snapshot**" to have ASA use the Route Average weather conditions for wx-influenced texture selections and automatic graphics snapshot installation. If you'd rather use a specific station's weather conditions for wx-influenced selections, use the "**Install Graphics Snapshot**" button located on the Report Screen. This feature is also available for both FSX and FS9.

"**Print**" will print all the information shown on this screen

"**Print Log Only**" will print just the log information shown on this screen.

"**Refresh**" will update the information based on a new specified route or updated weather conditions.

The Wx Config Screen is the place to load, save and manually edit weather conditions.

Commands

- **Load Metar file**: Loads an existing .Wx file (METAR string) representing weather conditions.
- **Save Metar file**: Saves the current weather into a .Wx file (METAR string).
- **Download Wx**: Calls up the Download Screen.
- **Map**: Brings up the Map Screen showing the current selected station.

Weather Edit

- **Selected Station ID**: Enter the desired ICAO identifier for the station you wish modify.
- **Date**: Enter the valid METAR date which is the day number for the current month.
- **Hour**: Enter the GMT/UTC(Z) Time for this weather.
- **Load Current**: Click to load and reset the wx conditions shown for the selected station ID.

Wind and Temperature

- **Altitude MSL**: Choose the existing layer (base, feet, above sea level).
- **Direction**: Choose the wind direction (degrees, true).
- **Speed**: Choose the wind speed (knots).
- **Temp C**: Choose the temperature (Celsius).
- **Turbulence**: Choose the level of turbulence for this layer.
- **Shear**: Choose how quick the wind direction or speed will change between layers.
- **Dew C**: Choose the dew point (temperature at which air condenses and clouds/fog form).
- **Add Layer**: Add a new wind/temperature layer.
- **Edit Layer**: Edit the currently selected layer.
- **Delete Layer**: Delete the currently selected layer.

Clouds

- **Altitude AGL**: Choose the existing layer (base, feet, above ground level).
- **Thickness:** Choose the cloud layer thickness (Note that FSX currently does not support modifying thickness externally and will automatically apply an appropriate thickness to each layer. Future revisions of FSX may support manual thickness specification).
- **Coverage:** Choose how dense the cloud layer will be. Can be one of: Few, Scattered, Broken or Overcast.
- **Type:** Select one of: Cirrus, Stratus, Cumulus or Cumulonimbus.
- **Turbulence:** Choose the level of turbulence to be experienced within this cloud layer.
- **Shear:** Choose how quick the wind direction or speed will change within this cloud layer.
- **Icing:** Choose the level of airframe/induction icing while within this cloud layer.
- **Add Layer:** Add a new cloud layer.
- **Edit Layer:** Edit the currently selected layer.
- **Delete Layer:** Delete the currently selected layer.

Precipitation

- **Type:** Select Rain or Snow.
- **Strength:** Choose the overall intensity of the precipitation.

Visibility

- **Range SM:** Select the desired surface visibility for this area (statute miles).

Altimeter

- **Pressure:** Select the desired pressure (millibars) for this area.

Encoded METAR

You can directly edit this METAR text area which will automatically update the specific weather conditions. Any manual entry here will result in existing conditions to be reset per the strict METAR code (thicknesses and cloud types, for example, will be lost). If you wish to specify extended information such as thicknesses and cloud types, edit the METAR first THEN edit the specific information using the interface.

Application Range

Select the desired range (statute miles) around this station to apply the weather. Any station within the range specified will inherit the specified conditions. Choose "global" to apply world-wide.

View Summary

This previews the current weather specified in the Report Screen.

Apply Weather

Click to actually apply the specified weather and make active. It may take time for the weather to update and show within the simulator.
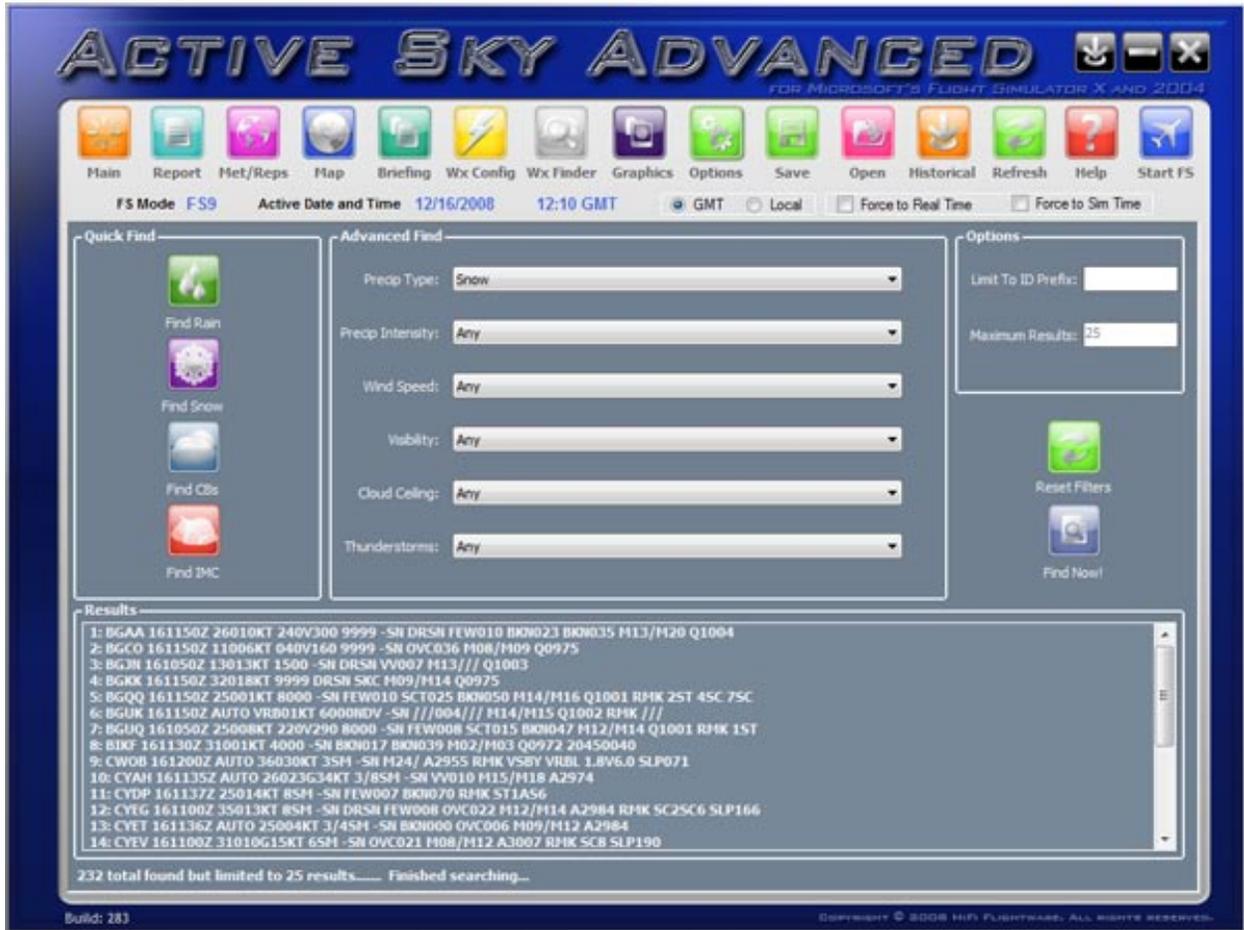
The Wx Finder screen allows you to search for weather conditions that you would like to fly in. You can quickly select a general condition such as Rain or IMC etc by clicking one of the buttons on the left of the screen.

You can select more detailed conditions by using the 'Advanced Find' combo boxes in the center of the screen to drill down to specific conditions you require.

You can further filter the results by limiting the ICAO prefix up to, and including, a full single ICAO by entering a partial or complete ICAO code in the '**Limit to ID Prefix**' text box.. You can also limit the number of results by entering a number value in the '**Maximum Results**' text box, by default this is set at 25 results.

Once you have filled in this information click on the 'Find Now' button and the results will be displayed in the list view at the bottom of the screen. There will also be an indication of the total results found displayed below this list.

You can then double click on a list item which will then take you to the map screen at the ICAO of the METAR selected.

To clear the search criteria click on the "Reset Filters' button.

GRAPHICS SCREEN

Continuing with our concept of open source to enable users to use Active Sky with as many add-ons as possible we have come up with a 'Snapshot' concept to allow you to create scenarios in Flight Simulator and then recreate those at any time.

We are aware that you wish to use different graphics applications from different developers and with that in mind we have a Graphics screen in ASA to allow you to manage these 'Looks'.

For instance, you may wish to use Clouds and Sky from one developer but Water from another. Setting all these up each time you wish fly is time consuming and eventually you miss what these applications can bring to your enjoyment of Flight Simulator. Eventually you just stick with one look because of the amount of time it is taking to actually get in the cockpit.

To enable you to get the best from all your products we created this snapshot system. To use this all that is required from you is some initial time to install the textures you wish into FS from the differing developers' interfaces. Once you have a look that you feel is perfect for a particular scenario, such as Stormy or Clear or IMC etc, open the ASA Graphics Screen and click the '**Take Snapshot**' button. All the required texture files from FS will be archived. The next time you wish to create that look just click on the '**Install Selected**' button and the textures will be installed from the archive into Flight Simulator recreating it from one single location. When you create the

Snapshot you will be invited to give a name for your Snapshot and also assign a weather influence to the Snapshot. The weather influence will be used by ASA to install a Snapshot matching the weather conditions prior to commencement of your flight using the weather data currently available in ASA.

You can also take a screenshot [ALT + Prt Scn] of the current FS screen and then select the '**Save Screenshot**' button to create a preview image for your Snapshot. The Snapshot functionality works with both FS9 and FSX.

Once you have assigned a wx influence to a Snapshot it is easily re-assignable by selecting the Snapshot you wish to change the wx influence for and then click '**Reassign Wx Inf**'.

You can also define whether a Snapshot is available for wx influenced selection via the Reports or Briefing screens by checking or un-checking the '**Enable selected snapshot for Auto-Select'** checkbox. Checked means that ASA will include the Snapshot in the wx influenced selection, unchecked means that ASA will not include the Snapshot during the wx influenced selection process.

You can delete a Snapshot by selecting the Snapshot in the treeview on the left then clicking on the '**Delete Selected**' button. This button is disabled if the selected Snapshot is the currently installed Snapshot.

Note: The snapshot process works by archiving your current-state environment graphics textures within FS itself. The archives are stored within FS as well. The snapshots and their textures are not manipulated or modified in any way, and are simply "backups" of your FS graphics states. When snapshots are installed, the desired archived state is restored. In this way, ASA and its use does not violate copyright and license restrictions, and is essentially the same thing as backing up your current texture set, which most graphics products currently (and legally) do. You cannot, however, share Graphics Snapshot files with other users! Obviously someone who has not purchased ASG, FE, XG, FEX or REX (or software from other vendors including Microsoft) are not allowed to obtain their textures without purchasing their software license. Please refer to your license from your individual products for more information.

OPTIONS SCREEN

GENERAL OPTIONS
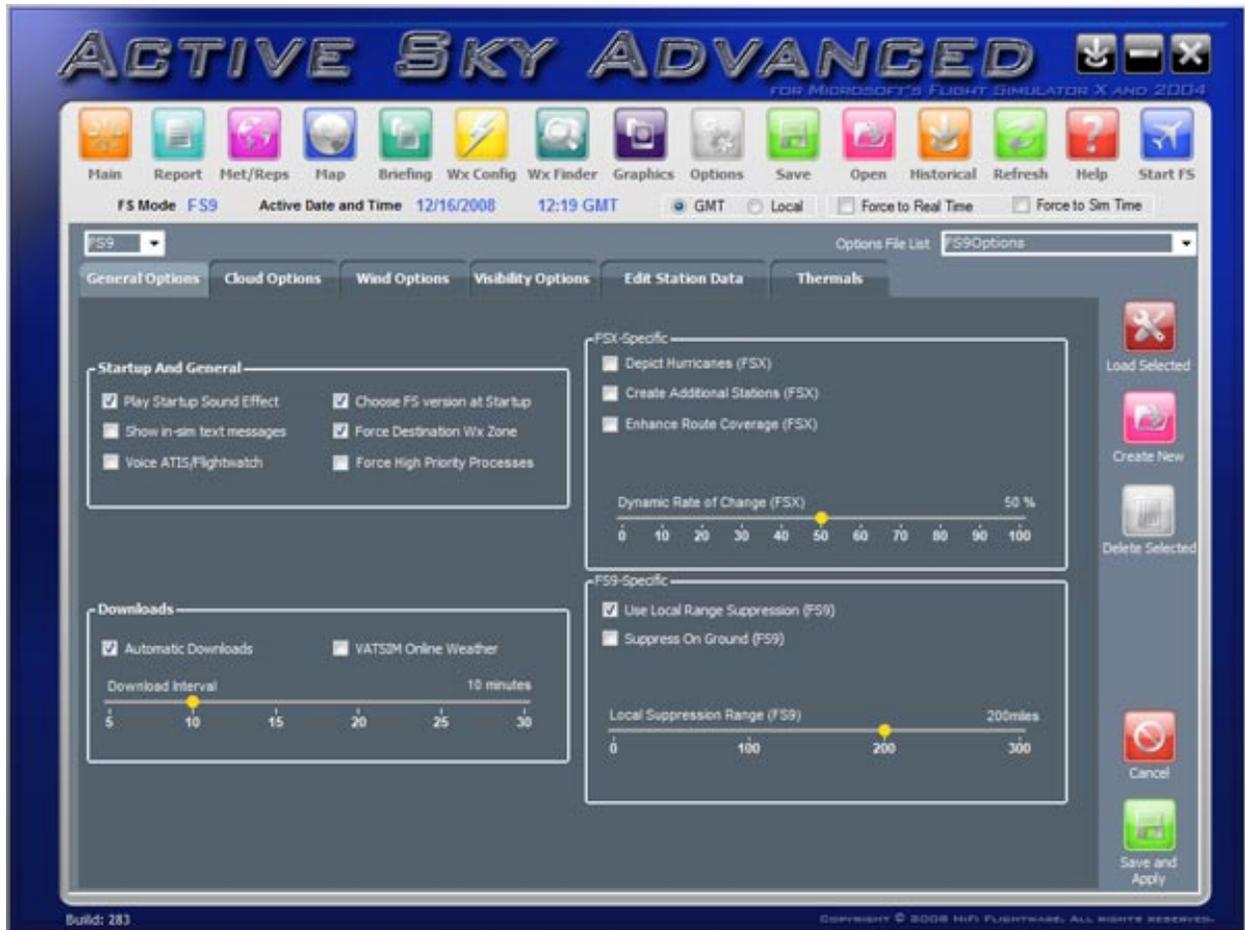
In this section of ASA there are a number of common controls available to you when you view the following tabs:

- General Options
- Cloud Options
- Wind Options
- Visibility options.

These controls are:

- '**FS version selection**' combo box: This drop down list allows you to select the version of Flight Simulator you wish ASA to generate weather for.
- '**Options File List**' combo box: This drop down list shows all the options files available to you for the currently selected FS version.
- '**Load Selected**' button: Clicking on this button loads the currently selected options file data.
- '**Create New**' button: Clicking on this button creates a new options file using the current settings from all the option tabs. As you can see you can have many different option capabilities.

- '**Delete Selected**' button: Click this button to delete the currently selected options file. You cannot delete any of the default options file therefore this button is grayed out if a default file is selected.
- '**Cancel**' button: Click this button to cancel any options changes you have made and reload the settings from the currently selected file.
- '**Save And Apply**' button: Click this button to save any changes, made in the options screen, to the currently selected options file.

General Options Tab

The following options are available on the General Options tab:

- **Play Startup Sound Effect**: Selecting this option plays the thunder wav file as ASA starts up.
- **Show in-sim text messages**: Selecting this options allows ASA to display scrolling messages in FS.
- **Voice ATIS/Flightwatch**: Selecting this option plays the ATIS and Flightwatch messages when you select the assigned frequency in FS (122.00).
- **Choose FS Version At Startup**: Selecting this option brings up the FS Version selection dialog on startup to enable you to select the FS Version that you wish to use ASA for during the current session.
- **Force Destination Wx Zone**: Selecting this option instructs ASA to force all weather stations to your present destination conditions when you are within 80nm. Using this feature, you can start to see your final weather earlier and provides for less surprise on final approach, where conditions might have normally been much different. You must have a flight plan loaded for this feature to enable.
- **Force High Priority Processes**: Selecting this option allows ASA to set ASA as the high priority application for processing requests on your computer.
- **Automatic Downloads**: Selecting this option tells ASA to automatically download and update weather data using the interval selected on the download interval slider.
- **VATSIM Online Weather**: Selecting this option instructs ASA to use VATSIM as the weather data source for weather updates of your current and destination weather. A flight plan must be in use.
- **Download Interval**: Moving this slider adjusts the time period between weather updates. Works in conjunction with the Automatic Downloads checkbox.
- **Depict Hurricanes (FSX)**: Selecting this option tells ASA to depict hurricanes using specialized hurricane simulation when ASA detects hurricane strength wind data from weather stations. This option is only available in FSX at the present time.
- **Create additional stations (FSX)**: Select this option to instruct ASA to create additional weather stations between reporting stations. ASA will interpolate weather data between the stations to allow smoother transition of weather changes between stations. This option is only available in FSX at the present time.
- **Enhance Route Coverage (FSX)**: Select this option to instruct ASA to create an enhanced corridor of additional stations along the route of your flight. A flight plan needs to have been entered for ASA to calculate your route enhancement.
- **Dynamic Rate of Change**: Moving this slider adjusts the dynamic rate of change of weather conditions.
- **Use Local Range Suppression (FS9)**: Select this option to suppress weather updates inside a certain range of the aircraft. This option is only available in FS9, and prevents graphical cloud shifts during updates. The weather you fly into is updated, but the weather around your visible area is kept the same.
- **Suppress On Ground (FS9)**: Select this option to suppress weather updates when the aircraft is on the ground. Normally, when suppression is enabled, ground updates are allowed to continue. This option is only available in FS9.

- **Local Suppression Range (FS9)**: Moving slider adjusts the range in which weather updates are suppressed. Anything outside this range will continue to update, and anything inside this range (while airborne) will be kept the same. 100-200nm is recommended. This feature is only available in FS9.

CLOUD OPTIONS
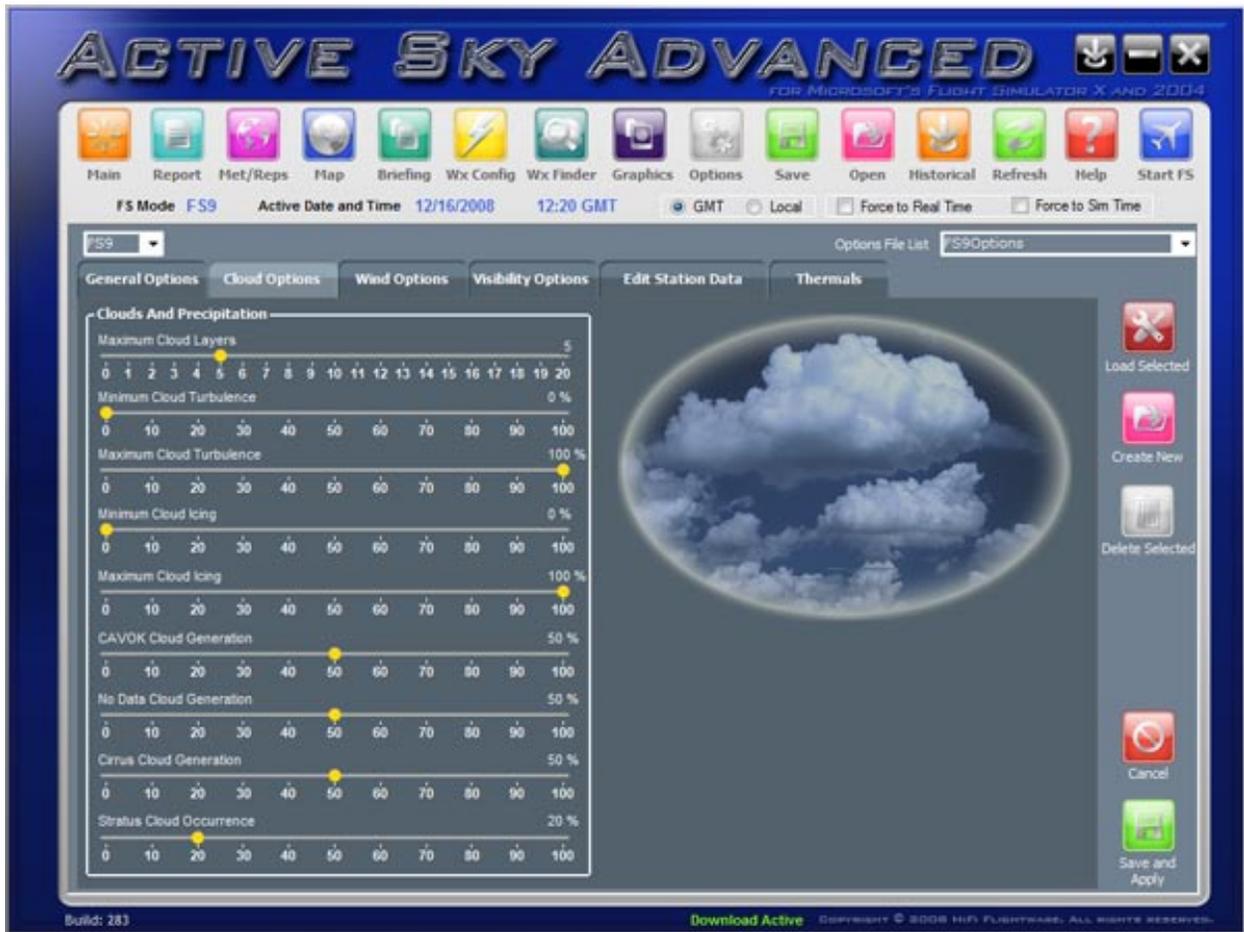
Cloud Options Tab

The following options are available on the Cloud Options tab:

- **Maximum Cloud Layers**: Moving this slider will adjust the maximum number of cloud layers depicted. The more layers selected the more of a load will be placed on FS, and the slower potential performance.
- **Minimum Cloud Turbulence**: Moving this slider adjusts the minimum % of turbulence experienced when in cloud layers.
- **Maximum Cloud Turbulence**: Moving this slider adjusts the maximum % of turbulence experienced when in cloud layers.
- **Minimum Cloud Icing**: Moving this slider adjusts the minimum % of icing experienced within cloud layers.
- **Maximum Cloud Icing**: Moving this slider adjusts the maximum % of icing experienced within cloud layers.
- **CAVOK Cloud Generation**: Moving this slider adjusts the % of chance that cloud layers will be generated when conditions are reported as CAVOK (Clouds And Visibility OK). Any generated layers will generally be at least 5000ft and of FEW or SCT type.
- **No Data Cloud Generation**: Moving this slider adjusts the % of cloud layers generated when stations are not reporting cloud data.

- **Cirrus Cloud Generation**: Moving this slider adjusts the % level of high (cirrus) cloud layer generation (usually not reported in METARs).
- **Stratus Cloud Occurrence**: Moving this slider adjusts the % of Stratus cloud layers versus Cumulus layers. Stratus layers are generally flat in appearance, while cumulus are puffy and more dramatic. Air stability calculations will also influence the stratus cloud occurrence rate (less stability means more chance for cumulus).
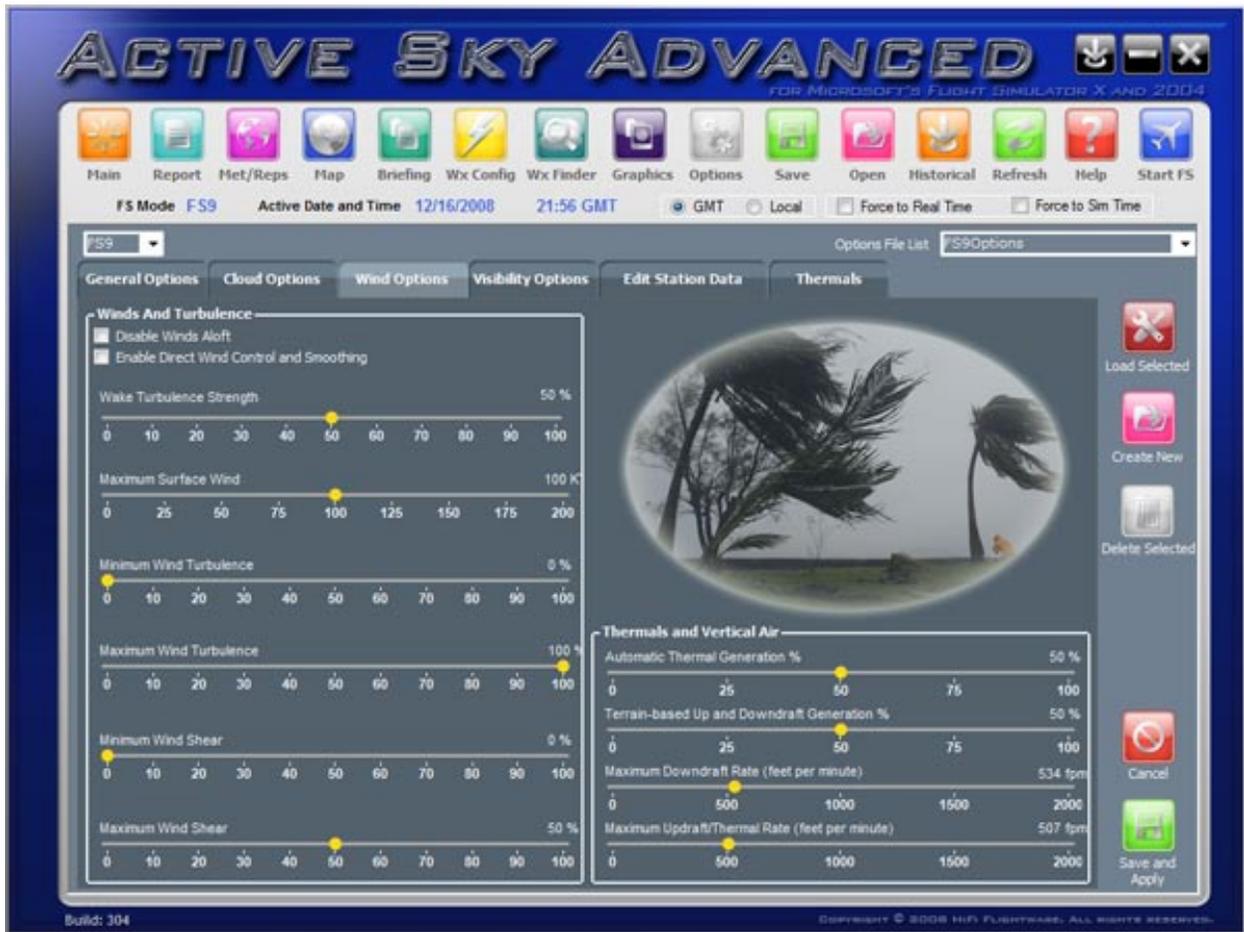
Wind Options Tab

The following options are available on the Wind Options tab:

- **Disable Winds Aloft**: Selecting this option will disable wind generation above the surface wind layer.
- **Enable Direct Wind Control (DWC) and Smoothing**: Selecting this option will allow ASA to directly control the wind depiction to enable smoothing between wind changes, and to also control and smooth temperature. When used with FSX, FSX will enter global mode and control global weather depiction. This option must be enabled for Visibility Graduation and Smoothing to be effective (when used with FSX). For FS9, custom station-based mode is used rather than global mode, and updates to the required parameters are made via FSUIPC.
- **Wake Turbulence Strength**: Moving this slider adjusts the % of wake turbulence strength during the wake turbulence simulation by ASA.
- **Maximum Surface Wind**: Moving this slider adjusts the maximum wind strength in knots depicted by ASA.
- **Minimum Wind Turbulence**: Moving this slider adjusts the minimum % of wind turbulence experienced.
- **Maximum Wind Turbulence**: Moving this slider adjusts the maximum % of wind turbulence experienced.
- **Minimum Wind Shear**: Moving this slider adjusts the minimum % of wind shear experienced.

- **Maximum Wind Shear**: Moving this slider adjusts the maximum % of wind shear experienced.
- **Automatic Thermal Generation**: Moving this slider adjusts the % of thermals generated by ASA.
- **Terrain Based Up and Downdraft Generation**: Moving this slider adjusts the % of up and downdrafts generated by terrain features.
- **Maximum Downdraft Rate**: Moving this slider adjusts the maximum downdraft rate, in fpm, experienced when entering a downdraft.
- **Maximum Updraft Rate**: Moving this slider adjusts the maximum updraft rate, in fpm, experienced when entering an updraft.
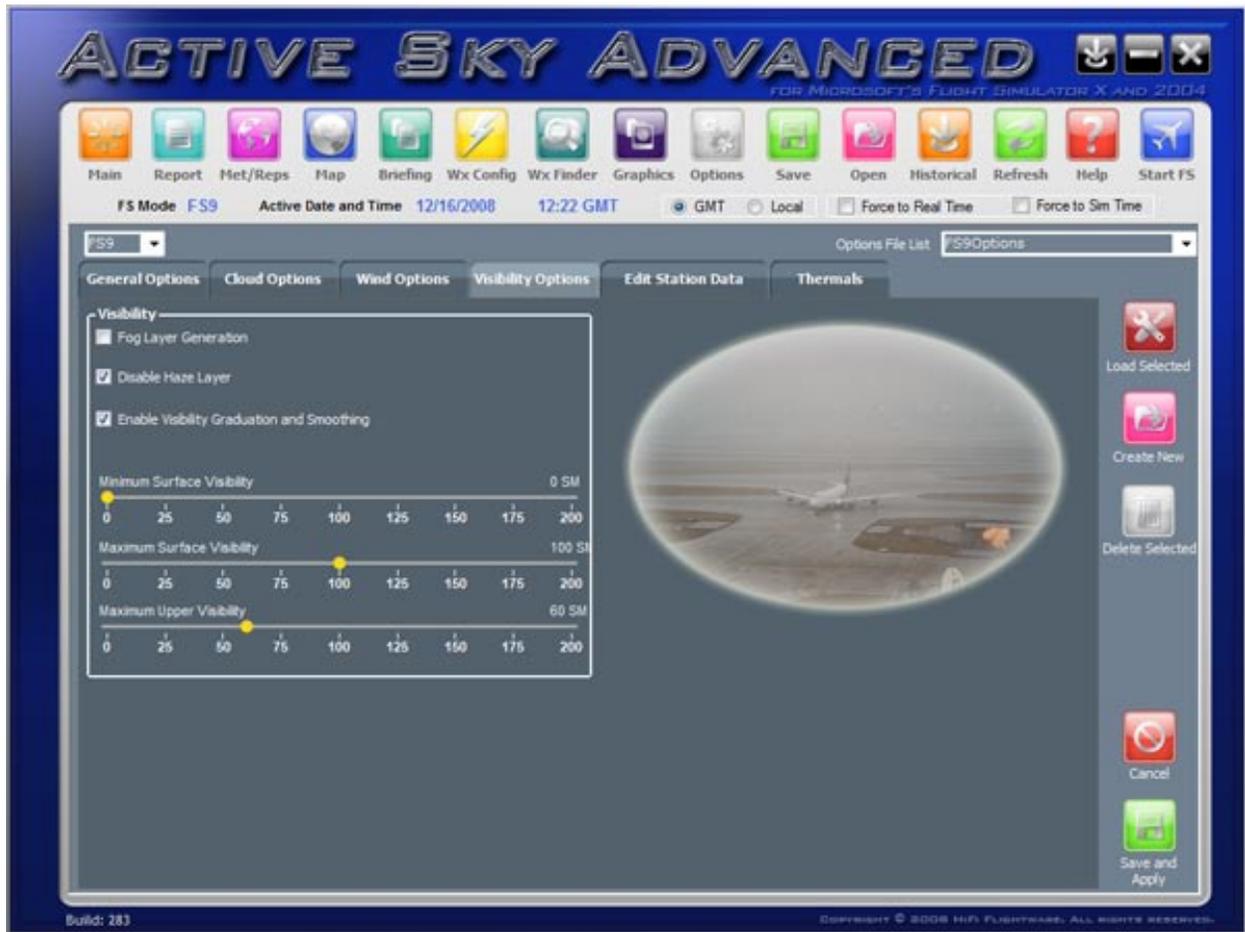
Visibility Options Tab

The following options are available on the Visibility Options tab:

- **Fog Layer Generation**: Selecting this option will instruct ASA to depict a fog layer whenever Fog is stated as obscuration in the station weather report.
- **Disable Haze Layer**: Selecting this option disables the depiction of the haze layer in FS
- **Enable Visibility Graduation and Smoothing (DVC)**: Selecting this option will instruct ASA to smooth/graduate the visibility differences between surrounding stations and also vertically as you climb/descend. When used with FSX, DWC must also be enabled, and Global mode is used. When used with FS9, custom mode is used.
- **Minimum Surface Visibilit**y: Moving this slider adjusts the minimum surface visibility, in nm, depicted in FS.
- **Maximum Surface Visibility**: Moving this slider adjusts the maximum surface visibility, in nm, depicted in FS. FS sight radius/maximum visibility settings can also influence maximum visibility depicted.
- **Maximum Upper Visibility**: Moving this slider adjusts the maximum visibility, in nm, above the surface layer depicted in FS. FS sight radius/maximum visibility settings can also influence maximum visibility depicted

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DIRECT WIND CONTROL (DWC)

In FS9, DWC constantly controls wind or visibility (per options) and applies smoothing, eliminating most FS9 wind direction depiction problems.

In FSX it enables Global Mode and also constantly controls wind or visibility (per options) and applies smoothing, eliminating most FSX wind, visibility and temperature depiction problems including wind shifts and visibility shifts.

GLOBAL MODE in FSX:

When DWC is enabled and in FSX mode, the weather system will be configured for GLOBAL mode, which is different from station-based mode. In Global mode, a single weather 'station' encompassing the globe is populated and depicted. This disables some of the more complicated station-based distant-weather depiction features, but is a nice compromise to achieve the best smoothness and realism in airline and/or IMC-style flying. In many cases the weather depiction is much richer using this mode.

When in global mode, the weather is constantly updated and FSX ATIS may report differing wind, visibility and temperature values. This is normal. Use ASA's ATIS feature on 122.0 to receive accurate surface weather reports.

In global mode, occasional flickers may be noticed approximately every 10 minutes as the FSX global weather depiction system is re-populated in order to show changed weather. This is normal.

Note that when DWC is enabled, global mode is automatically enabled. Visibility Graduation and Smoothing, using the same global system, requires that DWC and global mode are ENABLED for the feature to activate.

These Global Mode notes do not pertain to FS9.

This screen allows you edit the following data:

- Airports.
- Data Stations
- VORs
- NDBs
- Physical Stations

As you can see the center of the screen contains the full list of stations in the currently selected file. The data displayed varies according to the file.

ASA creates a backup of the original file to enable you to revert at any time to that file. The file that is being edited is a temporary file with extra data stating whether the values for the data have been edit or whether the item in that file is disabled.

You can change any value in the list by selecting the cell and then amending the value selected. Once you have edited the value the '**Edited?**' value will change to true giving you a visual clue to the stations where you have

changed data. You can also disable the station entirely by checking the '**Disabled**' checkbox. You can also add new stations by scrolling to the bottom of the list and entering the data in the blank row at the bottom.

Once you have completed your changes you can click the '**Save Edit**' button which will save all your changes to a temporary edit file. These changes are not committed at this time. To commit the changes and write the file you should then click the '**Create File**' button. You can cancel and changes you have made prior to saving by clicking on the '**Cancel Edit**' button.

If you wish to refresh the data from the current in use edit file click on the '**Reload File**' button.

If you wish to refresh the currently selected file with data from our servers click the '**Update File**' button. ASA will download the latest file from our servers and merge the data using the rules you have specified on the '**Overwrite User Edited Data On Update**' radio buttons. ASA will then go through the data item by item and update each station as necessary. Any stations that have not been flagged as edited by the user will be updated.

The options available are:

- Ask: Any station data that differs from the file on your pc and has been flagged as user edited will require confirmation before ASA updates that station.

- All: All station data, including any user edited data, will be updated with no intervention required by you.

- None: All station data that is not flagged as user edited will be updated. User edited data will not be updated and will keep your changes.

All station files can be updated from the server with the exception of the wxmapping.bin file which is a FS file and cannot be updated by our servers.

If you find that the data you have changed is incorrect or cannot remember the original values you can delete the Edit file and start with fresh data. Click the '**Delete Edit File**' and this file will be deleted then recreated by ASA from one of two options. A message box will appear asking the following question.

```
 “Do you wish to download a fresh[Selected Edit File]from the server?  If you
select no then we will reload data from the current data file.”
```

Select 'Yes' to allow ASA to download the latest dat file from the server or select 'No' for ASA to use the current file stored on your PC.

This screen allows sail plane pilots to add custom thermals in flight sim.

There is a main data grid where you can view the thermal data you have created, showing:

- **Latitude**: Latitude of thermal. If flight sim is running at the time of creation then the latitude will value will be the latitude of the aircraft.
- **Longitude**: Longitude of thermal. If flight sim is running at the time of creation then the latitude will value will be the longitude of the aircraft.
- **Base Alt**: The altitude at which the thermal will commence.
- **Upper Alt**: The altitude at which the thermal will finish.
- **Decay**: The factor by which the thermal will decay as it ascends (1.0 default)
- **Fpm**: The feet per minute rate at which the air ascends or descends (use negative values for downdraft)
- **Range**: The effect range from the center of the lat and long that the thermal can be experienced.

All these values can be edited directly in the grid.

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The screen also contains the following buttons:

- **Create New**: Click this button to create a new thermal. If flight sim is running then the lat and long values will be the location of the aircraft otherwise the values will be zero.
- **Delete Selected**: Click this button to delete the thermal selected in the data grid.
- **Clear All**: Click this button to clear all thermals from the data grid.
- **Cancel Edit**: Click this button to cancel any changes you have made since the last time you clicked the Apply/Save button.
- **Apply/Save**: Save this data and apply the thermal settings to flight sim.

Note: Any creation or changes to the data in the data grid will not activate in flight sim until you click the Apply/Save button.
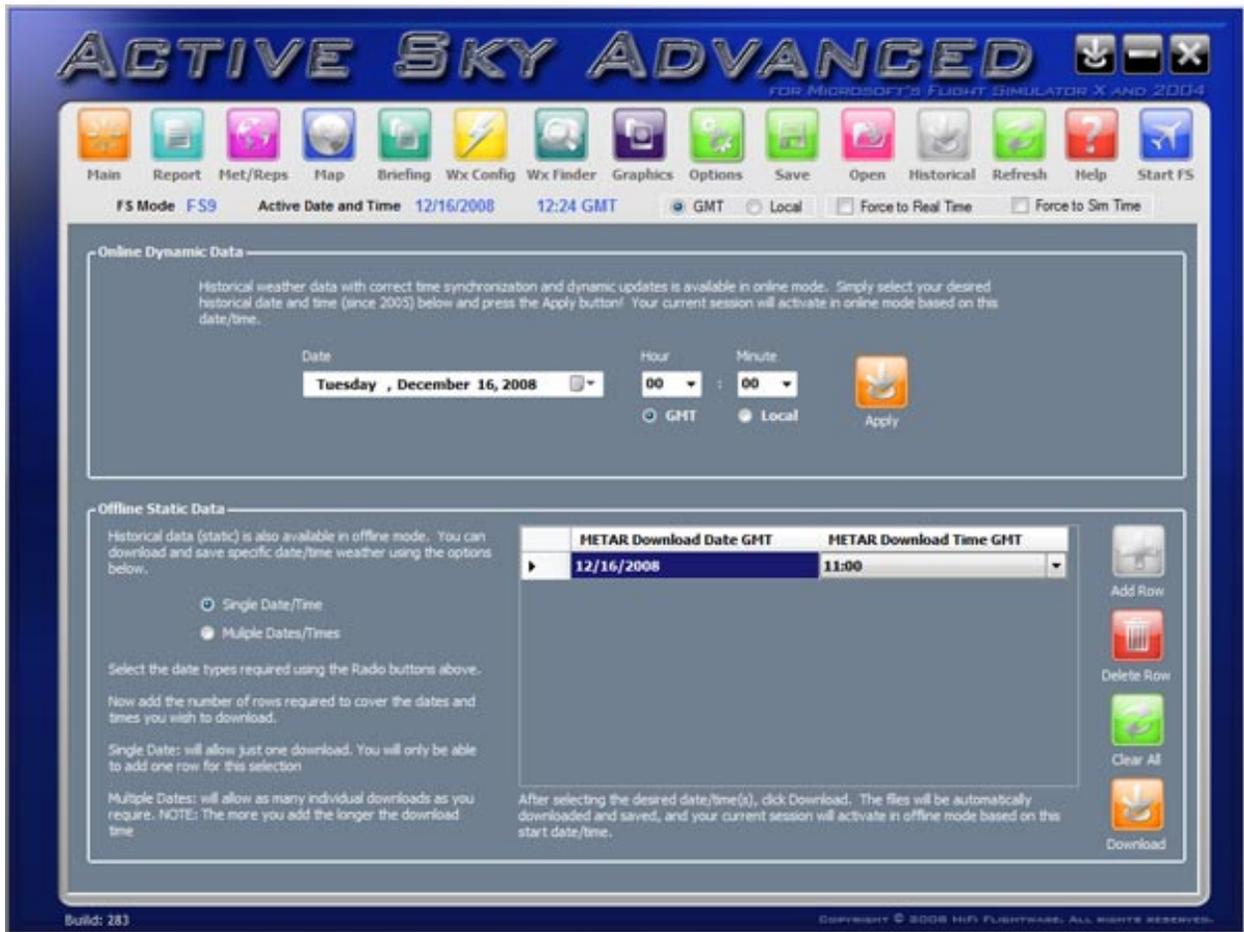
Historical Data with correct time synchronization and dynamic updates is available in online mode. Simply select your desired historical date and time (since 2007) and press the '**Apply**' button. Your current season will activate in online mode based on this date/time.

The Historical Screen also provides a way to download historical weather for Offline mode. Weather can be downloaded for any date/hour since January 1, 2007.

Select the date types required using the Radio buttons at the top left of the screen.

Now add the number of rows required to cover the dates and times you wish to download using the "Add Row" button.

Single Date: will allow just one download. You will only be able to add one row for this selection.

Multiple Dates: will allow as many individual downloads as you require. NOTE: The more you add the longer the download time.

Any dates that are in the future will be set to current date and previous hour.

For selection you can either edit the date value directly or click to open a calendar popup.

Click **Download** to complete the process. The weather will automatically be saved and activated, and Automatic Weather Downloads (if enabled) will be temporarily disabled (to prevent updates from overwriting your desired historical weather).

SAVE, OPEN, REFRESH, HELP, START FS BUTTONS

The remaining buttons at the top of the ASA interface are:

Save: Click this button to save the current weather to a wx file for later use.

Open: Click this button to load a previously saved weather file. This action will also disable automatic weather updates.

Refresh: Click this button to refresh the current weather data and Met/Reps.

Help: Click this button to open the Active Sky Advanced documentation

Start FS: Click this button to launch the currently selected version of Flight Simulator. This button will be disabled if ASA is used in a network environment and is installed on the client machine.

X GAUGE

X Gauge v2 is a FSX/FS9 Gauge that runs within FSX/FS9 itself and is installed to aircraft directly. X Gauge v2 loads the imagery provided by ASA, displays it, and allows you to change the range, toggles and winds level settings, similar to using the Map Screen.

X Gauge v2 must be installed into your aircraft to be used, so we have included a simple "X Gauge Installation Wizard" program to handle this task. With a few clicks it will easily install the required files and the gauge itself into all aircraft.

To run X Gauge Installation Wizard, use your windows START, Programs, HiFi, Active Sky Advanced program menu and click on XGaugeWizard. You simply follow the prompts to complete the gauge installation.

You will be asked which installation mode. We recommend using INSERT Mode at the default 5 Window Number.
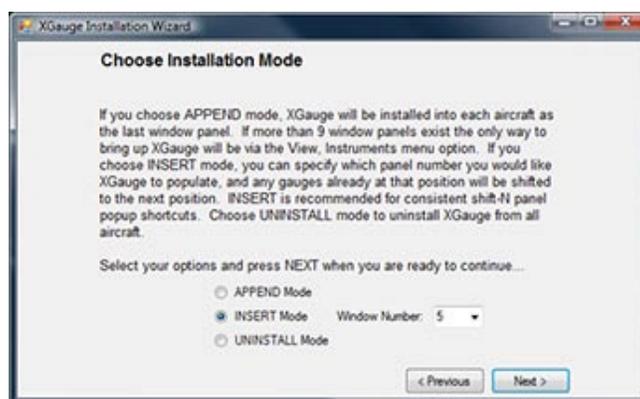
When you first run **FSX** after the installation you may get 2 warnings. The first is the Microsoft warning asking you to allow the software to run. Please select Run to allow X Gauge to complete its processes. This does not apply to FS9.

The second warning is from FSX itself asking you to allow the XGauge.dll to be entered into the trusted software list. If you select yes then you will not see this message again. If you select no then the X Gauge will only be loaded for the current session and each time you open FSX this message will appear. This does not apply to FS9.
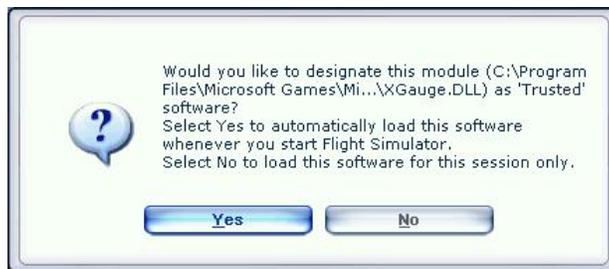
The above 2 warnings do not apply to FS9.

After the installation completes you can simply load ASA and FSX/FS9 and use the SHIFT-5 (or your desired window number) key combination to bring up X Gauge!

Note: Certain 3rd party aircraft panels may not be able to be edited by the wizard. If this occurs, you will see a warning message indicating which aircraft/panel failed, and normal installation will continue. You will be able to manually edit this panel and insert XGaugev2 appropriately. Please see the existing XGaugev2-installed panels and the Flight Simulator Panels and Gauges SDK for more information (www.fsinsider.com).

Note: You can uninstall XGaugev2 and restore your panel files to their original state by using the UNINSTALL mode of XGaugeWizard. Please use caution restoring panel files that have been modified after backup (backup occurs during installation of the gauge).
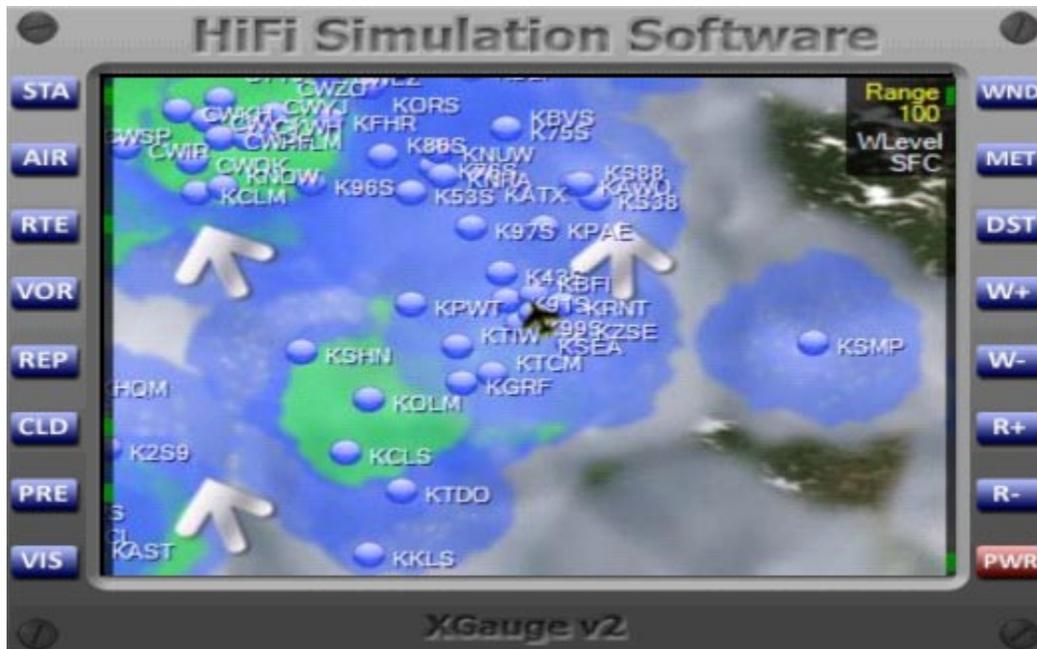
The buttons on the left and right-hand side control the map view. The toggle controls are exactly the same as per the Map Screen. You can also undock this gauge and move it to another position (use right-click, undock).

X Gauge buttons

- **STA** = Station toggle
- **AIR** = Airport toggle
- **RTE** = Route toggle
- **VOR** = VOR/NDB Toggle
- **REP** = Sigmet/Airmet toggle
- **CLD** = Cloud toggle
- **PRE** = Precipitation toggle
- **VIS** = Visibility toggle
- **WND** = Winds toggle
- **MET** = Display the closest station (or custom defined station in Report Screen) decoded weather. Press this button again to turn off the decoded weather display.
- **DST** = Display the destination station (if flight plan loaded) decoded weather. Press this button again to turn off the decoded weather display.
- **W +** = View the next higher wind altitude level (indicated by WLevel value in top-right of gauge display window). WND toggle must be active.
- **W -** = View the next lower wind altitude level (indicated by WLevel value in top-right of gauge display window). WND toggle must be active.
- **R +** = Zoom in (Range is indicated in the top right corner of the gauge display window).
- **R -** = Zoom out (Range is indicated in the top right corner of the gauge display window).

Notes

- The imagery provided is a basic representation of weather conditions and not exact to the depiction that will be experienced in the simulator. Boundaries of precipitation zones, for example, may be different.
- When using X Gauge, the toggle and zoom controls will override any settings on the Map Screen. If the Map Screen is used, toggle controls from X Gauge may lose synchronization. If this occurs simply click any toggle to re-establish control from either X Gauge or the Map Screen.
- X Gauge may be overlaid onto Virtual Cockpit panels if an existing texture surface (such as an existing MFD-style gauge or other available area). Modifying the panel configuration files is required and not all aircraft are compatible with this method. For information on gauges and virtual cockpits, please see the Microsoft Flight Simulator X SDK at http://www.fsinsider.com.

When uninstalling XGauge2 from your panels using XGaugewizard, the previous backup of any XGauge version will be restored, overwriting any recent changes that have been made. The panel files are automatically backed up before XGaugeWizard modifies panels, and are available in the aircraft panel folders.

Some inconstancies can result with 3rd-party aircraft panels, and some panels may fail to process. If this happens, an error for that aircraft/panel will be shown. You will be able to manually edit the panel file and include XGauge2. Please see the modified XGauge2 panels and the Microsoft Flight Simulator SDK for more information.

NETWORKED CONFIGURATION FOR FSX

ASA can be used in a networked configuration where FSX runs on a different computer (FSX Deluxe version is required).

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 ASA, X Gauge, FSX station databases and X Graphics (if installed).

Sharing Folders

To properly use ASA in a networked configuration, you must have three folders shared on your FSX 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\Microsoft Games\Flight Simulator X (or your FSX installation folder)
- C:\Documents and Settings\[username]\Application Data\Microsoft\FSX (or if on Vista, C:\Users\[username]\AppData\Roaming\Microsoft\FSX)
- C:\Documents and Settings\[username]\My Documents\Flight Simulator X Files (or if on Vista, C:\Users\[username]\Documents\Flight Simulator X 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)

CONFIGURING SIMCONNECT

Important requirements for networked configuration:

- FSX Deluxe version ONLY (standard does not include the SDK or required simconnect client installation files)
- FSX Service Pack 1 update applied (http://www.fsinsider.com)
- FSX SDK installed from FSX Deluxe Disk 1 (\SDK folder setup.exe)
- FSX SDK SP1A update applied (http://www.fsinsider.com)
- The computer to run FSX (hereby named SERVER) and the computer(s) to run SimConnect add-ons (hereby named CLIENT(s)) must be appropriately configured for normal IP networking

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- 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)

STEP 1: VERIFY REQUIREMENTS

Look through the above requirements and ensure everything is setup properly and all FSX SDK & update installations have been run.

STEP 2: CONFIGURE SERVER

There are two files which must be configured on the server. They are:

- [ApplicationDataFolder]\Microsoft\FSX\SimConnect.xml
- [MyDocumentsFolder]\Flight Simulator X Files\SimConnect.ini

ApplicationDataFolder is:
For Windows XP: C:\Documents and Settings\[USERNAME]\Application Data\
For Vista: C:\Users\[USERNAME]\AppData\Roaming\

MyDocumentsFolder is:
For Windows XP: C:\Documents and Settings\[USERNAME]\My Documents\
For Vista: C:\Users\[USERNAME]\Documents\.

There are example files located in your FSX SDK installation folder (normally C:\Program Files\Microsoft\Games\Flight Simulator X SDK\SDK\Core Utilities\SimConnect SDK\config). We suggest copying these files to the appropriate locations and then modifying as follows:

SIMCONNECT.XML:

The values for *Protocol*, *Address* and *Port* must be modified. The other values should be left default.

For *Protocol*,
IPv4 should be used.
Example: <Protocol>IPv4</Protocol>

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>

Note: If you are using FSUIPC, you may need to perform the following steps for proper FSUIPC/ASA networked operation:

- First set the SimConnect.xml as described above.

- Next set the <Scope> variable to global instead of local (<Scope>global</Scope>).
- Run FSUIPC install (again if already installed). Your SimConnect.xml will then be properly configured.

SIMCONNECT.INI:

The configuration values here are less important, however it is extremely helpful to have the debug console activated (console=1) to be able to see when SimConnect is appropriately making a connection and talking to the client applications.

We suggest the default values throughout:
Change console to 0 (console=0) to disable to debug console.

STEP 3: INSTALLING SIMCONNECT CLIENT ON CLIENT(S)

There is a simconnect.msi installation file located in the SDK installation folder\SDK\Core Utilities Kit\SimConnect SDK\lib. This file should be copied to each CLIENT machine and run in order to install the appropriate SimConnect client files. Remember to update your SDK to SP1A (or latest) before doing this.

STEP 4: CONFIGURE CLIENT(S)

There is a single configuration file needed on all clients:
[MyDocumentsFolder]\SimConnect.cfg

MyDocumentsFolder is:
For Windows XP: C:\Documents and Settings\[USERNAME]\My Documents\.
For Vista: C:\Users\[USERNAME]\Documents\.

There is an example file located in your FSX 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 on the server.

STEP 5: TEST THE CONFIGURATION

Using the samples provided in the SDK, you can easily test for proper networked simconnect configuration. The AI Traffic.exe example program (located in the SDK Installation folder\SDK\Core Utilities Kit\SimConnect SDK\Samples\AI Traffic) should be run after the SERVER's FSX has been started. If successful, the AI Traffic program will bring up a console window indicating "Connected to Flight Simulator!". If unsuccessful, the program will run and end immediately without any "Connected" message shown. If you have the debug console enabled on server (console=1 in the SimConnect.ini file) then you'll see some messages indicating connection and communication with the client.

STEP 6: CONFIGURING ASA

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

ASA needs to know the location of the main Flight Simulator X installation path as well as the FSX Appdata path. In addition, you may want to load FSX flight plans on the FSX computer into ASA on the client. Since your shares are already configured you simply need to point ASA to these locations. To do this, simply run ASA. ASA will identify that FSX 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 edit the registry key values (on the client machine) as follows:

- **HKEY_CURRENT_USER\Software\HiFi\ASA\FSXMyDocsPath**: Set this to your desired flight plan folder, which should be shared on the FSX computer as \\fsxcomputername\Flight Simulator X Files
- **HKEY_CURRENT_USER\Software\HiFi\ASA\FSXPath**: Set this to your desired Flight Simulator X installation path, which should be shared on the FSX computer as \\fsxcomputername\Flight Simulator X
- **HKEY_CURRENT_USER\Software\HiFi\ASA\FSXAppDataPath**: Set this to your desired FSX AppData Path, which should be shared on the FSX computer as \\fsxcomputername\FSX

STEP 7: CONFIGURING X GAUGE

X Gauge needs to be installed into the FSX/FS9 installation. To do this, you can run the X Gauge Installation Wizard and point it to the proper shared locations.

Alternatively, you can copy the entire XGaugeWizard folder (located in your ASA installation folder i.e. C:\Program Files\HiFi\ASA\XGaugeWizard) to the FSX/FS9 machine (any location) and run the XGaugeWizard.exe file inside there. The files will be appropriately copied into FSX/FS9 and the gauge will be installed into the aircraft.

ASA, when running, will automatically update the imagery as requested by X Gauge, even when on the other computer.

NOTE: Client and Server Use

If you are using WideFs or SimConnect over a network and ASA is installed as a client and you also have an instance of FS9 and/or FSX installed on the client PC you must ensure that the path(s) in the ASA registry setting for FS9 and/or FSX point(s) to your server version.

WARNING: Edit the registry at your own risk. Modifying improper registry keys can result in computer problems.

The registry settings that need adding if you are having an issue with ASA locating your server version are:

HKEY_CURRENT_USER\Software\HiFi\ASA\FS9Path

HKEY_CURRENT_USER\Software\HiFi\ASA\FS9AppDataPath

HKEY_CURRENT_USER\Software\HiFi\ASA\FSXPath

HKEY_CURRENT_USER\Software\HiFi\ASA\FSXAppDataPath

These paths must point to your server versions i.e. (Examples only, enter your correct paths not the values below).

\\VISTA-DESKTOP\Flight Simulator 9\ for the FS9 installation path

\\Vista-desktop\fs9\ for the appdata path

NETWORKED CONFIGURATION FOR FS9

WideFS is required for networked use of FS9. Visit http://www.schiratti.com/dowson.html for more information.

On the separate non-FS9 computer, unpack the ASA installation .zip file to a temporary location, such as C:\ASTEMP (Do not install ASA on the FS9 computer).

Run the Setup.exe program to launch the installation process.

Follow the on-screen prompts.

Setup networking and sharing so the WideClient computer has full access to the Server, especially in all FS9 related paths. You will need to share the FS9 Folder (on the FS9 computer) as well as the Application Data Folder (in the FS9 computer's Documents & Settings\User Name Location), or share the root drives (i.e. C:\) directly. For more help with networking WideFS, please see the WideFS documentation.

Follow the on-screen prompts to locate the appropriate paths/files, copy required data, and test the installation.

Proceed with Configuring FSUIPC and FS9.

Note: WideFS use requires registered FSUIPC and WideFS licenses. For WideFS/networking help, please read the WideFS documentation.

NOTE: Client and Server Use

If you are using WideFs or SimConnect over a network and ASA is installed as a client and you also have an instance of FS9 and/or FSX installed on the client PC you must ensure that the path(s) in the ASA registry setting for FS9 and/or FSX point(s) to your server version.

WARNING: Edit the registry at your own risk. Modifying improper registry keys can result in computer problems.

The registry settings that need adding if you are having an issue with ASA locating your server version are:

HKEY_CURRENT_USER\Software\HiFi\ASA\FS9Path

HKEY_CURRENT_USER\Software\HiFi\ASA\FS9AppDataPath

HKEY_CURRENT_USER\Software\HiFi\ASA\FSXPath

HKEY_CURRENT_USER\Software\HiFi\ASA\FSXAppDataPath

These paths must point to your server versions i.e. (Examples only, enter your correct paths not the values below).

\\VISTA-DESKTOP\Flight Simulator 9\ for the FS9 installation path

\\Vista-desktop\fs9\ for the appdata path

SIMCONNECT TROUBLESHOOTING

If you are unable to get things working properly with FSX 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
- 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 not run on client machine

SimConnect not found error

Some users may experience trouble with SimConnect installation preventing proper operation of ASA or other SimConnect add-ons. You may a message during ASA startup similar to:

Simconnect SP1 or SP2 not found and must be installed for proper operation.

Reinstalling the FSX update(s) (recommended procedure)

The first step in attempting to repair your SimConnect installation is to uninstall/reinstall FSX's SP1 or SP2 update. Removal is done in add/remove programs, making sure to check the "Show updates" box to see the SP1, SP2 or Acceleration/SP2 update entry (if XP) or choosing the "View installed updates" option in (Vista).

The majority of potential installation issues will be solved with this method.

Manual deletion and reinstallation (if recommended reinstall procedure does not fix the problem)

Warning! Modifying your GAC or Windows SxS files can cause improper configuration of the SimConnect modules, and is not recommended for most users. Complete re-installation of FSX may be required.

If further problems are experienced, the actual SimConnect installation may be damaged/corrupt and the normal reinstall procedure may not work to correct the situation. If the described reinstall does not work, please follow these instructions to force a manual reinstallation:

If you have FSX Deluxe:

- Install the SDK from the DVD (if not already installed).
- Update to SP1A or SP2 SDK from www.fsinsider.com (if not already updated).
- You will need the simconnect.msi file located in your SDK folder's Core Utilities\SimConnect SDK\lib subfolder.
- Run this .msi file (double click) and the appropriate SimConnect files will be installed.
- A complete uninstall and reinstall of FSX may be required if none of these methods work. You can also contact Microsoft Technical Support for your FSX product.

If you do not have FSX Deluxe:

- Uninstall/remove the SP1, SP2 or Acceleration update(s) as described above in the recommended procedure
- Using Windows Explorer, locate the folder: C:\Windows\winsxs\ for XP or C:\Windows\assembies(your Windows folder may be different if you chose to install it into another location. C:\Windows is the normal default)
- In this folder will be one or more entries for x86_microsoft.flightsimulator.simconnect. Backup these entries! Copy and paste it to another location i.e. C:\Backup
- Delete all version entries v 10.0.61242 AND LATER by highlighting it and pressing the DELETE key on your keyboard (confirm YES to delete) - DO NOT DELETE ANY OTHER ENTRIES!!! DO NOT DELETE v 10.0.60905!
- Reinstall the FSX update(s) in order as desired
- If the SimConnect files were not properly installed (which can occur in some situations), you may need to restore your backed-up entries
- A complete uninstall and reinstall of FSX may be required if none of these methods work. You can also contact Microsoft Technical Support for your FSX product.

METAR DECODING INFORMATION

METAR code is a standardized textual format for describing weather conditions at wx stations and airports. To decode items, use the table below (applies to METAR and TAF items):

METAR
KPIT 091955Z COR 22015G25KT 3/4SM R28L/2600FT TSRA OVC010CB 18/16 A2992 RMK SLP045 T01820159

TAF
KPIT 091730Z 091818 15005KT 5SM HZ FEW020 WS010/31022KT FM1930 30015G25KT 3SM SHRA OVC015 TEMPO 2022 1/2SM +TSRA OVC008CB FM0100 27008KT 5SM SHRA BKN020 0VC040 PROB40 0407 1SM -RA BR FM1015 18005KT 6SM -SHRA OVC020 BECMG 1315 P6SM NSW SKC

Forecast	Explanation	Report
TAF	Message type: TAF -routine or TAF AMD- amended forecast, METAR- hourly, SPECI-special or TESTM- non-commissioned ASOS report.	METAR
KPIT	ICAO location indicator	KPIT
091730Z	Issuance time: ALL times in UTC "Z", 2-digit date, 4-digit time	091955Z
091818	Valid period: 2-digit date, 2-digit beginning, 2-digit ending times	
In U.S. METAR: **COR**rected ob; or **AUTO**mated ob for automated report with no human intervention; omitted when observer logs on	COR	
15005KT	Wind: 3 digit true-north direction, nearest 10 degrees (or **V**a**R**ia**B**le); next 2-3 digits for speed and unit, KT (KMH or MPS); as needed, **G**ust and maximum speed; 00000KT for calm;	22015G25KT

	for **METAR**, if direction varies 60 degrees or more, **V**ariability appended, e.g. 180**V**260	
5SM	Prevailing visibility: in U.S., **S**tatute **M**iles & fractions; above 6 miles in TAF **P**lus 6SM. (Or, 4-digit minimum visibility in meters and as required, lowest value with direction)	3/4SM
Runway Visual Range: **R**; 2-digit runway designator **L**eft, **C**enter, or **R**ight as needed; **"/"**; **M**inus or **P**lus in U.S, 4-digit value, **F**ee**T** in U.S. (usually meters elsewhere); 4-digit value **V**arialbility 4-digit value (and tendency **D**own, **U**p or **N**o change)		R28L/2600FT

HZ	Significant present, forecast and recent weather: see table (below)	TSRA
FEW020	Cloud amount, height and type: **SK**y **C**lear 0/8, **FEW**>0/8-2/8, **SC**a**T**tered 3/8-4/8, **B**ro**KeN** 5/8-7/8, **OV**er**C**ast 8/8; 3-digit height in hundreds of ft; **T**owering **CU**mulus or **C**umulonim**B**us in **METAR**; in **TAF**, only **CB**. **V**ertical **V**isibility for obscured sky and height "VV004". More than 1 layer may be reported or forecast. In automated **METAR** reports only, **CL**ea**R** for "clear below 12,000 feet"	OVC010CB
Temperature: degrees Celsius; first 2 digits, temperature "/" last 2 digits, dew-point temperature; **M**inus for below zero, e.g., M06 18/16		
Altimeter setting:	A2992	

indicator and 4 digits; in U.S., **A**-inches and hundredths; (**Q** -hectoPascals, e.g. Q1013)	
WS010/31022KT	In U.S. **TAF**, non-convective low-level (<=2,000 ft) **W**ind **S**hear; 3-digit height (hundreds of ft); "/" , 3-digit wind direction and 2-3 digit wind speed above the indicated height, and unit, **KT**
In **METAR**, **ReMarK** indicator & remarks. For example: **S**ea-**L**evel **P**ressure in hectoPascals & tenths, as shown: 1004.5 hPa; **T**emp/dew-point in tenths °C, as shown: temp 18.2°C, dew-point 15.9°C	RMK SLP045 T01820159
FM1930	**FroM** and 2-digit hour and 2-digit minute beginning time: indicates significant change. Each FM starts on a new line, indented 5 spaces.
TEMPO 2022	**TEMPO**rary: changes expected for < 1 hour and in total, < half of 2-digit hour beginning and 2-digit hour ending time period
PROB40 0407	**PROB**ability and 2-digit percent (30 or 40): probable condition during 2-digit hour beginning and 2-digit hour ending time period
BECMG 1315	**BEC**oM**inG**: change expected during 2-digit hour beginning and 2-digit hour ending time period

Table of Significant Present, Forecast and Recent Weather - Grouped in categories and used in the order listed below; or as needed in TAF, **N**o **S**ignificant **W**eather.

QUALIFIER

Intensity or Proximity:

- Light "no sign" Moderate + Heavy
VC Vicinity: but not at aerodrome; in U.S. **METAR**, between 5 and 10SM of the point(s) of observation; in U.S. **TAF**, 5 to 10SM from center of runway complex (elsewhere within 8000m)

Descriptor:	Precipitation:
MI Shallow **BC** Patches **PR** Partial **TS** Thunderstorm **BL** Blowing **SH** Showers **DR** Drifting **FZ** Freezing	**DZ** Drizzle **RA** Rain **SN** Snow **SG** Snow grains **IC** Ice crystals **PL** Ice pellets **GR** Hail **GS** Small hail/snow pellets **UP** Unknown precipitation in automated observations
Obscuration:	Other:
BR Mist(>= 5/8SM) **FG** Fog(< 5/8SM) **FU** Smoke **VA** Volcanic Ash **SA** Sand **HZ** Haze **PY Spray** **DU** Widespread dust	**SQ** Squall **SS** Sandstorm **DS** Duststorm **PO** Well developed **FC** Funnel cloud **+FC** tornado/waterspout dust/sand whirls

ACTIVE SKY ADVANCED CREDITS

We'd like to thank everyone for their support of our continued development of weather simulation products. Without your purchase and support, we would not be able to work on Active Sky. Thank YOU!

We'd also like to thank a few organizations and individuals who have been critical to our success and the betterment of the entire Flight Simulation Community: AVSIM, Peter Dowson, Microsoft, PMDG, SimFlight, SimMarket, Flight One Software, Just Flight, and VATSIM. Thank you!

Additionally, HiFi would like to say thanks to our tremendous BETA TEAM who have helped contribute to make Active Sky what it is today. We have members on the Beta Team who've been with us from the beginning, and continue to work just as hard today as they did 6 years ago to help guide us and put the final touch on our software. We also have new members who have just recently joined us and have done an excellent job getting ASA ready for release. New or old, our Beta Team members are instrumental and without them we'd never be able to achieve the level of fidelity and quality in our products that we strive for. Thank you!

Finally, HiFi must thank its own Development and Support team members, who have tirelessly pursued innovation, integrity and quality to help bring out and support what we think is the most sophisticated weather engine ever produced. When called to duty, they have delivered above and beyond, and without them we'd just be another software company. Thank You!

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