

# Adding an Animated Windsock to Any Location

## An Illustrated Tutorial

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Adding an animated windsock which reacts to wind speed and direction to your favorite airport is much easier than you might think.



This brief tutorial will show you how to add a windsock and detail a few of the options which are available such as the color of the pole, the color of the sock and if you wish it to be lighted at night.

All information and the basic XML file in this tutorial came directly from Microsoft and is readily available on their website.

The concept is really very simple: we will be altering a “ready-made” XML file by inserting information regarding where your windsock should be placed as well as color and night lighting options.

This XML file (which is nothing more than a text file that is arranged in a very specific manner and which can be read and edited using Notepad) will then be “compiled” using BGLCOMP and the MSXML Parser, into a file with a BGL extension that FS2004 can read and act upon.

No special programming knowledge is required so if you are ready, let us get started.

Required files:

**bglcomp.exe** and **bglcomp.xsd**. These are included with this package.

**msxml.msi**. This installs the Parser (MSXML4) and it is also included in this package.

Before proceeding, please check to see if you already have MSXML4 installed. (Several other programs use this so you may already have it installed)

The easiest way to do this is to go to the Start/Settings/Control Panel/Add-Remove Programs dialogue.

If you **don't** see MSXML 4.0 SP2 Parser listed then you will need to install the msxml.msi package. Just click on the .msi file and it will offer to install it for you.

If you **do** see it listed then do not attempt to install msxml.msi again.

This is the only “extra” program which needs to be installed.

- a.** Create a work folder - anywhere is fine - I put mine on the desktop.
- b.** Name it Windsock Work Folder (or a name of your choice).
- c.** Copy bglcomp.exe and bglcomp.xsd into your work folder.

- d. Select one of the sample XML files and **copy** it to your work folder also. For your first experiment please use the sample XML file which is named "Default\_Windsock\_Default\_Colors.xml".

This will give you a Windsock with a pole that is Grey and a sock that is Orange – the default colors.

- e. Rename the XML with a name that will reflect its location.

Example: Windsock\_KDAL.xml

I used this example as my test windsock was placed at Dallas, Texas Love Field (KDAL). Yours will likely be different.

Be **sure** to use underscores between words – **not** spaces!

- f. Now start up FS2004 and using a small aircraft, go to the airport where you wish to place your windsock.

Slew to the location of your choice.

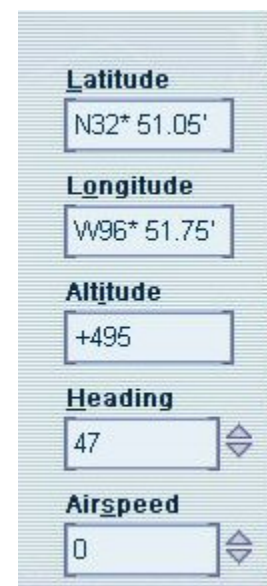
Use Shifted Z to bring up the coordinates of that location on the top left of your screen.



Write down these coordinates very carefully.

In the above example the coordinates are N32 51.05 by W96 51.75.

Alternatively you can get this same information by opening the Map view as shown in this screenshot.



We are only interested in the Latitude and Longitude information.

You can now close FS2004.

- g. Open the XML file using Notepad. (Do not use the Edit option if it is shown when you right click the XML file – use the Open command instead).

You will see the following text. Note: I have added comments here that will not appear in what you see. This is the basic XML file structure for a default Windsock: Items which you may wish to change are highlighted in Red.

```
<?xml version="1.0"?>
<FSData
version="9.0"
xmlns:xsi='http://www.w3.org/2001/XMLSchema-instance'
xsi:noNamespaceSchemaLocation="bglcomp.xsd" >

  <SceneryObject
lat="N32 51.06"           ← These entries will determine the location
lon="W96 51.76"          ← where you want the Windsock placed.
alt="0"
altitudesAgl="TRUE"
pitch="0"
bank="0"
heading="0"
imageComplexity="NORMAL">    ← Minimum display setting
                               required for the object
                               to be visible.

    <Windsock
poleHeight="8"           ← Can be changed
sockLength="5"           ← Can be changed
lighted="TRUE">          ← If FALSE it will not be lit at night

  </Windsock>
</SceneryObject>
</FSData>
```

**h.** Carefully change the lat= and lon= entries by substituting the coordinates which you wrote down earlier. Be **very careful** not to change the punctuation such as quote marks anywhere in the file.

If you wish, you can also change the height of the pole and the length of the sock. These measurements are in meters. 8 and 5 work well as does 5.5 and 3.5. The latter provides a somewhat smaller pole and sock which may be more suitable for very small airports.

You may also change the minimum display setting at which the windsock will be visible.

Valid entries are VERY\_SPARSE, SPARSE, NORMAL, DENSE, and VERY\_DENSE. Note the use of underscores if there are multiple words.

If you do not wish the sock to be lit at night, change the lighted= entry to read FALSE. Note: Only the sock is lit – the pole is not.

When you are finished making your changes, Save your work and exit the Notepad program.

**i.** You are now ready to transform this “text” file (xml) into a form which can be read by FS2004.

To do this simply Left Click on the XML file and “drag” it over the bglcomp.exe file and release it there.

In moments you should see a new file has been created in your work folder. It will have the same name as your XML file but will have a BGL extension.

Using the earlier example, the new file would be named Windsock\_KDAL.bgl.

**j.** Copy and Paste this new BGL file into your Addon Scenery/Scenery folder or into any “active” scenery folder.

Startup FS2004 – go to your location and admire your new windsock. Set up some wind situations and see how the sock reacts to them.



This screenshot illustrates what you might see if the wind is fairly strong. At higher wind speeds the sock will “flutter” in the wind noticeably!



Here we see an example of the sock lit at dusk. The pole is not illuminated. The wind is lighter in this shot also.

After you have experimented with the basic default Windsock you may wish to take a look at the more advanced sample XML which allows you to choose the color of the pole and the sock.

Open the sample XML file which is named  
"Default\_Windsock\_All\_Options.xml".

I have added comments which you will not see in the XML.

The basic XML file structure for a Windsock with Color Options:

Items which you may wish to change are highlighted in Red.

```
<?xml version="1.0"?>
```

```
<FSData
```

```
version="9.0"
```

```
xmlns:xsi='http://www.w3.org/2001/XMLSchema-instance'
```

```
xsi:noNamespaceSchemaLocation="bglcomp.xsd" >
```

```
<SceneryObject
```

```
lat="N32 51.06"
```

← These entries will determine the location

```
lon="W96 51.76"
```

← where you want the Windsock placed.

```
alt="0"
```

```
altitudelsAgl="TRUE"
```

```
pitch="0"
```

```
bank="0"
```

```
heading="0"
```

```
imageComplexity="NORMAL">
```

← Minimum display setting  
required for the object  
to be visible.

```
<Windsock
```

```
poleHeight="8"
```

← Can be changed

```
sockLength="5"
```

← Can be changed

```
lighted="TRUE">
```

← If FALSE it will not be lit at night

```
<PoleColor
```

← (Blue Pole)

```
red="255"
```

← Valid numbers are 0 thru 255

```
blue="48"
```

← Valid numbers are 0 thru 255

```
green="7" />
```

← Valid numbers are 0 thru 255



```
<SockColor
red="254"
blue="42"
green="247" />
```

← (Yellow Sock)  
← Valid numbers are 0 thru 255  
← Valid numbers are 0 thru 255  
← Valid numbers are 0 thru 255

```
</Windsock>
</SceneryObject>
</FSDData>
```

You will see the options are the same as the first XML you worked with but two other entries are available for you to edit – the Pole Color and the Sock Color.

If you remember your basic science classes, you know that every color you see is made up of three basic components – red, blue and green. The “shade” of any color depends upon the relative strength of each of these components.

That is why there are three possible entries for the Pole and three for the Sock.

Examples:      red=255  
                  blue=48  
                  green=7

will give you a deep RED color while

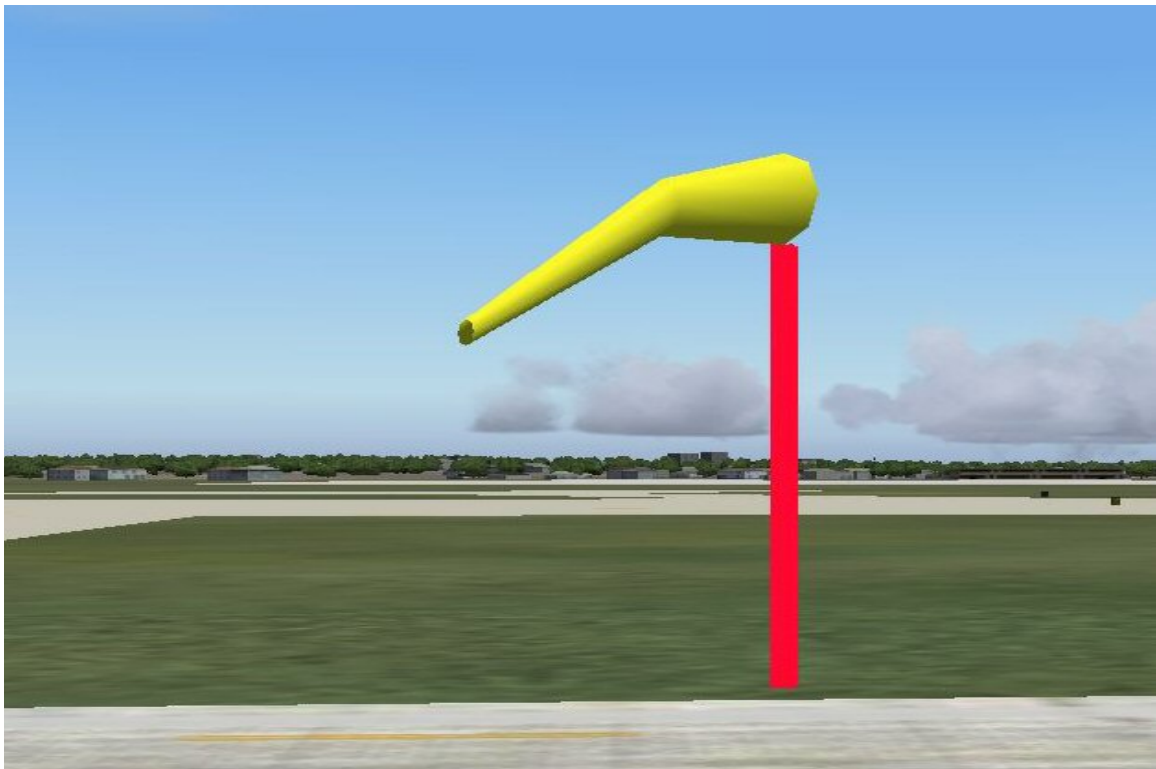
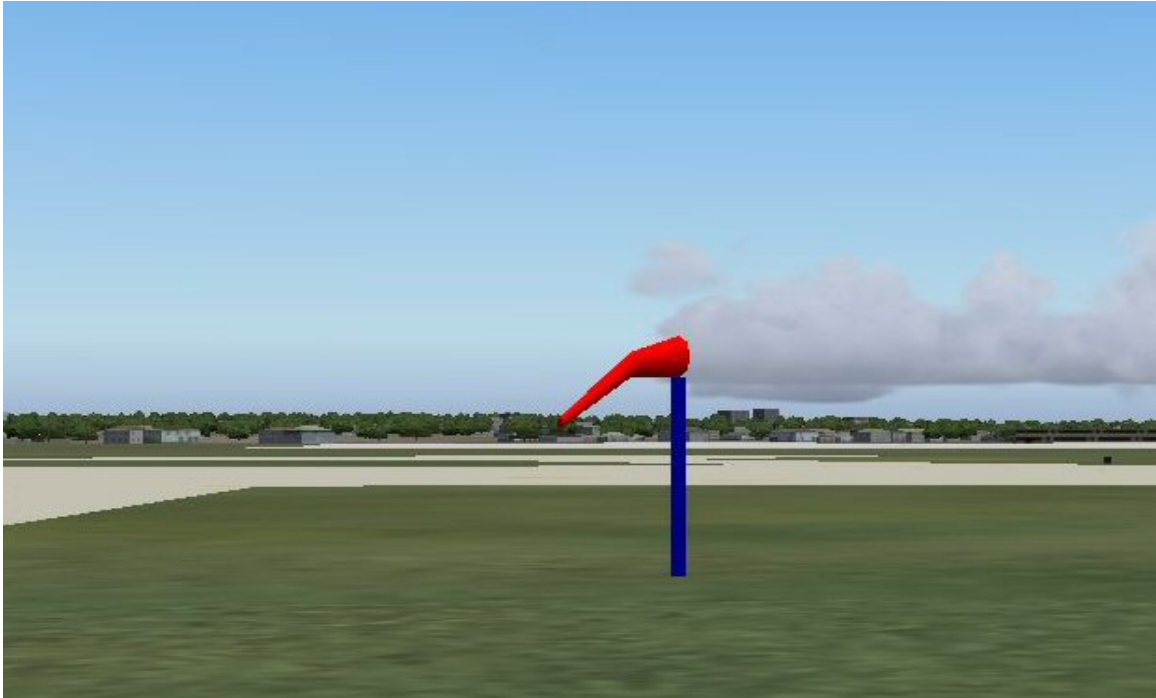
```
red=254
blue=42
green=247
```

will result in a bright YELLOW color.

If you use a graphics program such as Paint Shop Pro or Adobe Photoshop, you can easily find the required numbers for any shade by putting your cursor over the “pallet or pallet bar” in these programs. The numbers that make up each color will be displayed when you do that.



There is an example XML included in this package which provides alternative pole and sock colors. Review it and the color concept should become clear. Two possibilities are shown below.



Once you have made any and all changes to the XML file, simply compile it as you did in the first example.

Remember to place a copy of it in your addon scenery/scenery folder or any “active” scenery folder.

You can also experiment with the altitude settings if you wish to place the Windsock on a structure such as a building.

If you have found this Tutorial useful, you may also wish to review my Tutorial which shows how to add a Rotating Beacon to your scenery.

The file name is “rotating\_beacon\_tutorial\_updated.zip” and is available at Avsim.com.

## TECHNICAL SPECIFICATIONS

extracted from BGLCOMP Documentation

### Windsock

This element is used to add a windsock to the scene. This element is allowed to contain other data and should not be terminated with ‘/>’.

```
<Windsock  
poleHeight="5.5"  
sockLength="3.5"  
lighted="TRUE">  
<!-- Windsock data -->  
</Windsock>
```

Attribute	Description	Acceptable Values
poleHeight	Height of pole in meters	Non-negative floating point value
sockLength	Length of sock in meters	Non-negative floating point value
lighted	Boolean indicating whether the windsock is lighted	TRUE = lighted FALSE = not lighted

The object types allowed within a WINDSOCK are:

PoleColor (Optional, default is grey)

SockColor (Optional, default is orange)

#### PoleColor

This element is used to specify the color of a windsock pole. This element is not allowed to contain other data and must be terminated with '>'.

Attribute	Description	Acceptable Values
lat	Latitude of object (required)	-90 to +90 degrees Format can be decimal or degrees-minutes-seconds
lon	Longitude of object (required)	-180 to +180 degrees Format can be decimal or degrees-minutes-seconds
alt	Altitude of object (required)	Any floating point value. May be suffixed by 'M' or 'F' to designate meters or feet. Default is meters.
altitudeIsAgl	Boolean indicating whether altitude is AGL or MSL	TRUE = alt is AGL FALSE = alt is MSL
pitch	Pitch applied to object	0-360 floating point
bank	Bank applied to object	0-360 floating point
heading	Heading applied to object	0-360 floating point
imageComplexity	Image complexity	VERY_SPARSE, SPARSE, NORMAL, DENSE, VERY_DENSE

Questions and constructive comments may be directed to:

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For a complete listing of my projects at Avsim.com, follow the link below.

<http://library.avsim.net/eseach.php?CatID=fs2004&Name=&FileName=&Author=David+Marshall&DLID=&Sort=Added&ScanMode=0&Go=Change+View>

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