Glacier Bay Version 2

for FS2004

Produced by Holger Sandmann & Team

FS2004 - Glacier Bay Version 2.0

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File Names: glbayv2a.zip and glbayv2b.zip

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For feedback and questions, please visit the **Glacier Bay v2 support forum** at *http://forums.fsaddon.eu/viewforum.php?f=10*

Overview

Glacier Bay v2 is a complete replacement of the default FS2004 landscape and scenery objects for an area of more than 90,000 square kilometers (36,000 sq miles) of northern Southeast Alaska and adjacent Canadian areas of Yukon and British Columbia. The major settlements of the coverage area are Juneau, Haines, Skagway, Yakutat, Atlin, and Carcross. There are 16 main airfields included in this package (plus one fictitious airstrip), 20 unlisted airstrips, 16 seaplane bases, and seven heliports, all of which have been modeled to match their real-world counterparts. To provide you with "company" we've also included AI ship traffic in various locations as well as several options for GA and floatplane AI traffic.

Glacier Bay v2 is fully compatible with other third-party add-ons, including terrain mesh (FSGlobal, FS Genesis, FSProject, etc.), ground textures (Ground Environment, BEV, FScene, etc.), and landscape enhancements (Ultimate Terrain Canada/Alaska, Misty Fjords, Tongass Fjords, Freight Dogs). A configurator panel allows users to set compatibility options and choose levels of scenery detail. Also, inland water bodies can be made to "freeze over" via an on/off switch. We provide detailed documentation including a sectional map of the coverage area and a list of weblinks to real-world information.

This project is a collaboration of nine FS developers from Germany, Austria, USA, and Canada, logging more than 1000 hours of work over the past 14 months. We acknowledge the kind support of FSAddon Publishing. However, this project is independent of any commercial product.

Enjoy!

Installation

Glacier Bay v2 is meant to be installed (and uninstalled) with its auto-installer and configurator panel. If you have concerns regarding the specific file movements please refer to the "GBv2_installation_specs.txt" in the **"\FSAddon\Glacier Bay\"** folder.
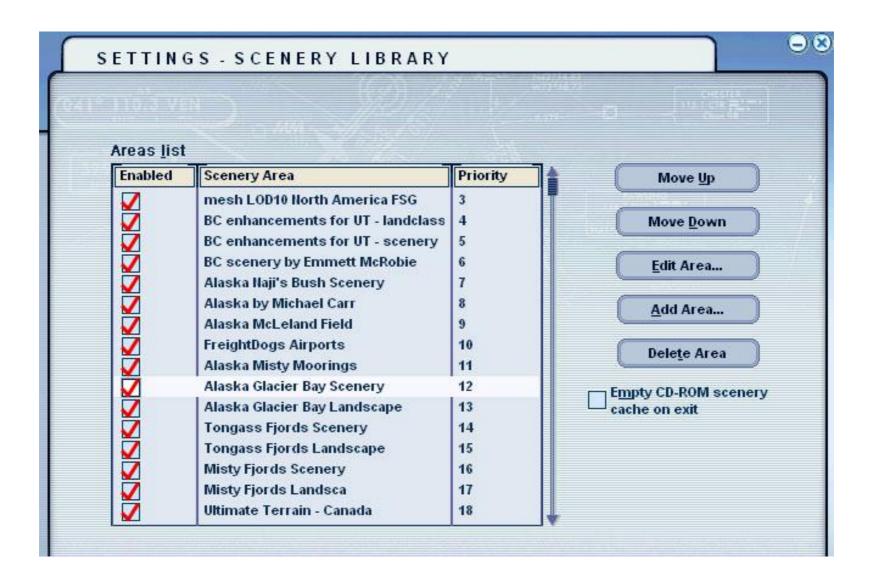
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Please note before installing:

- The Glacier Bay configurator software, essential for using Glacier Bay v2, requires an existing installation of Microsoft's .Net Framework. The autoinstaller will test for its presence on your system. If it can't find it it will post a warning message and the option to open the Microsoft webpage with the download link to the .Net package. Install .Net then proceed with the installation of Glacier Bay v2.

- If you're currently using Glacier Bay v1 (in its original or the Ultimate Terrain compatible version) you need to completely remove it from your system prior to installing Glacier Bay v2. Please refer to section "Uninstalling Glacier Bay v1" of this manual for specific information.

- If you are using a third-party LOD10 (38-m) add-on mesh for the Glacier Bay area please refer to the "Technical Notes - Third-party Terrain Mesh" section below

- Glacier Bay had to be split into two packages, GlBayV2a.zip and GlBayV2b.zip, due to file size restrictions. You need to install both parts for Glacier Bay to function as intended.

- Even though the autoinstaller will add the two scenery library entries most likely you will need to move those entries into their correct positions relative to other add-ons. Please refer to the description and screenshot in the installation instructions below.

Installation process

- Unzip GlBayV2a.zip and run GlBayV2a.exe. Make sure that the installer points to your main Flight Simulator 9 folder. If it doesn't, browse to its correct location. Please do not direct the installation to any other folder because the configurator won't be able to handle the necessary file movements later on.

- Unzip GlBayV2b.zip and run GlBayV2b.exe. Again, make sure that the installer uses your main FS9 folder.

- Once GlBayV2b.exe has completed its tasks it will start the configurator screen. Make your choices (see below) and click on "Save and Exit" to close the configurator.

- If you're also using Tongass Fjords the Tongass configurator (\FSAddon\Tongass Fjords\TfConfig.exe) will start automatically once you close the Glacier Bay v2 configurator. On the Tongass configurator panel select "Glacier Bay National Park Version 2" and use the browse button to set the path for "Glacier Bay 2 landscape", which should be "Flight Simulator 9\FSAddon\Glacier Bay\Alaska Glacier Bay landscape". Ignore the field for "Glacier Bay 2 landclass" and click "OK" and then "OK" again on the main panel to close the configurator.
  It is necessary to run the Tongass configurator once every time you've made changes on the Glacier Bay v2 configurator; however, as long as you have Tongass Fjords selected on the Glacier Bay configurator panel the Tongass configurator will get started automatically every time you close the Glacier Bay configurator. After the initial changes to the Tongass configurator listed above you don't need to do anything other than clicking "OK" to close the Tongass configurator (the necessary file movements will happen in the background).

- Start FS2004, open the Settings > Scenery Library menu and look for the two Glacier Bay entries, "Alaska Glacier Bay landscape" and "Alaska Glacier Bay scenery". Make sure that "... scenery" is above (lower priority number) the "... landscape" entry and that both are arranged relative to other add-ons as shown below.

- Shut down FS2004 and start again. You're now ready to enjoy Glacier Bay. Choose from a number of pre-configured flights (Select A Flight > Glacier Bay...) or start at any of the airfields or seaplane bases listed in the Airfields section below.

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Uninstallation

- Use the Windows Start menu to find "FSAddon > Glacier Bay > Uninstall Glacier Bay" to initiate the uninstallation process. All necessary file movements to restore the default landscape will be done automatically and the two scenery library entries will be removed.

- If you have Tongass Fjords installed start the Tongass configurator (\FSAddon\Tongass Fjords\TfConfig.exe) and de-select Glacier Bay National Park Version 2 from the compatibility options. Due to a bug in the Tongass configurator logic you'll receive an error message saying that the Glacier Bay folder couldn't be found and whether you'd like to create it. Click yes then click on "OK" to close the Tongass configurator. The final step is to delete the new "Glacier Bay" directory folder created by the configurator in "Flight Simulator 9\FSAddon".

Configurator Options

Compatibility

Please select which of the listed three commercial add-ons, if any, you have installed. The Ultimate Terrain "hovering" night lights can be selected or deselected independently. Be aware that keeping the night lights active will have an impact on autogen object density in urban areas; this is a restriction of the Ultimate Terrain night light technology.

Optional Scenery Elements

Since computer specs and personal preferences vary greatly we offer several options to remove resource-intensive objects and specific textures.

- Unchecking "Small details" will remove cars, fences, small boats, and other minor objects from several locations with high object density, specifically Juneau, Gustavus, Haines, and Skagway. Please note that you can also influence the amount of visible detail with the "Scenery Complexity" slider in the FS2004 Settings > Display > Scenery menu.

- Unchecking "Marine navigational lights" will remove all buoys and other marine lights from water bodies, including their light effects.

- Unchecking "PAYA apron texture" will remove the photoreal but coarse ground texture that covers parts of the Yakutat airfield. Try both options and decide which you prefer.

- Unchecking "Water textures" will deactivate the custom water textures and water class (spatial distribution of water colors) throughout the Glacier Bay area. Some users don't like our textures or colors, which is why we offer this option. Keep in mind that to be able to use the "Frozen water" option the Glacier Bay custom water textures need to be active. Also, deactivating our water textures will lead to dark grid lines appearing on larger glaciers.

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AI Traffic

We provide several independent sets of computer controlled traffic, which you can activate or de-activate as desired. Please note that the "Air traffic density" slider, in your FS2004 Settings > Traffic menu, will also regulate the amount of our AI traffic. Only at a setting of 90% and greater will you have full traffic density in Glacier Bay.

- General Aviation, default models and textures: provides AI traffic at all major airfields using the FS2004 small airplanes as well as a few DC-3s

- General Aviation, HTAI Cessna's: uses the same flight plans as above (so don't activate both!) but is based on the HTAI Cessna payware package - http://htaimodels.com/projects.html - with the addition of a few default Piper aircraft.

- Dash 7/8 flights: uses a custom Dash7 AI model (by Milton Shupe, included) and the default FS2004 Dash-8 for a few flights between the major airfields.

- Floatplanes, Tongass DHCs: requires Tongass Fjords - http://www.fsaddon.com/products/products_tongass.html - and its included AI De Havilland floatplane models to provide AI traffic between all 16 floatplane bases.

- Floatplanes, HTAI Cessna's: uses the same flight plans as above (so don't activate both!) but is based on the same HTAI Cessna payware package mentioned above.

- Floatplanes, Hu-16 Albatross: the lone floatplane model included with Glacier Bay: uses an AI model made by Greg Pepper and Warren Landis, with flightplans between four floatplane bases.

- Cruise ships and US Coast Guard 47' Motor Life Boat: provides AI ship traffic in several locations throughout the coverage area; see Section "AI Ship Destinations".

Lakes and rivers "frozen"

As you probably know, FS2004 does not provide for water bodies to automatically freeze with cold temperatures. However, as with Misty and Tongass Fjords, we're using a tweak to turn inland lakes and rivers into landable "ice" surfaces whenever you want this to happen. Use this check box to activate or deactivate this option. While activated we suggest you move the Water Effects slider in Settings > Display > Scenery to "None" to avoid whitish grid lines on larger lakes.

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PDF Manual

This provides you with a direct link to our manual (the same you're reading right now). Requires Adobe Acrobat Reader:
http://www.adobe.com/products/acrobat/readstep2.html

Sectional Map

We combined the official sectional charts into one map file and added an outline of the Glacier Bay v2 coverage area. Note that there's a detailed inset of the Juneau area in the lower left corner.

Support Forum

Kindly hosted by **FSAddon Publishing**, we have a dedicated **support forum** for Glacier Bay v2:
http://forums.fsaddon.eu/viewforum.php?f=10

Restore Default Settings

This checkbox is not meant for everyday use. If you activate it and also deactivate the two Glacier Bay entries in the FS2004 scenery library you will be able to quickly return the Glacier Bay coverage area into its pre-install state without having to uninstall the entire package. Useful for tracking down compatibility issues with other add-ons.

Technical notes

Scenery Density

Some areas in Glacier Bay, specifically near Juneau, contain a lot of custom objects in close proximity. While we have attempted to minimize frame rate impacts of individual objects you may find the need to reduce detail. One option is to completely remove smaller objects through the configurator check boxes, as explained on page 9. Another option is to move the "Scenery Density" setting, in Settings > Display > Scenery, to something less than Extremely Dense. For most of the smaller scenery elements we implemented a three-way split in increasing density: at "Normal" one third of the objects are visible, at "Dense" two thirds, and at "Very Dense" all of the objects.

TMVL

To experience the full detail of the LOD10 (38m) terrain mesh and avoid water crawling up shorelines in various places you need to set TERRAIN_MAX_VERTEX_LEVEL to 20, in the [TERRAIN] section of the FS9.cfg file (the default value is 19). Glacier Bay is optimized for a value of 20.

The FS9.cfg file is hidden by default so you first need to check the "view hidden files and folders" option in Explorer, using Tools > Folder Options > View.

For Windows XP users the fs9.cfg file is located in [Drive_Letter]:\Documents and Settings\User_Name\Application Data\Microsoft\FS9 and for Windows 9x users in [Drive_Letter]:\Windows\Application Data\Microsoft\FS9.

Third-party Terrain Mesh

FS2004 has an unfortunate "bug" in that it reverses the display priority of overlapping terrain mesh of the same resolution (LOD). Thus,

in order for FS to use the custom terrain mesh for Glacier Bay you need to place any LOD10 mesh in a scenery library folder with its entry above our landscape entries.

Some third-party terrain mesh files, like the FS Genesis products, are placed in \Scenery\World\scenery by their autoinstallers. Thus, if you own the FSGenesis Cordillera LOD10 terrain mesh you need to set up a new scenery folder, say "mesh LOD10 North America FSG", create a "scenery" subfolder in it, move the following files from \Scenery\World\scenery into it -- dem38m_can_104.bgl, dem38m_can_105.bgl, dem38m_can_114.bgl, dem38m_can_115.bgl -- and add that entry to the scenery library as shown in the screenshot.

If you're using a LOD9 (76m) terrain mesh, like FS Global or MyWorld, then you don't necessarily need to do this.

Duplicate AFCADs

The presence of more than one custom Airport Facilities file (AFCAD) for the same airport can create problems. Usually, the AFCAD file with the highest display priority takes precedence but that doesn't always work reliably. Thus, we recommend that you scan your system for duplicates and remove those from active scenery folders. Eliot Rogers has created a very simple to use but efficient free tool for this task named ScanAFD. It is available at his site - http://www.nwlink.com/~erog - or as "scanafd.zip" at Avsim and elsewhere. Run a scan with "Show duplicates" and "All scenery directories" selected (don't select "Include disabled sceneries") then scroll through the list of airports and move (to a holding folder outside of your FS2004 directory) or disable (renaming to .bgl.bak) any obvious duplicates.

Specific to Glacier Bay v2 you should remove any duplicates of the airfields and seaplane bases in our coverage area (see airfield list below) that are in a folder other than the "\FSAddon\Glacier Bay\Alaska Glacier Bay scenery\scenery" folder. In ScanAFD, clicking on "File Details" will show you the location of each duplicate file.

Compatibility with third-party scenery add-ons

The combination of accurate terrain and lake/ocean shorelines throughout the Glacier Bay coverage area usually leads to compatibility issues for any scenery add-on based on the default mesh, shorelines, and airports. Often, these add-ons end up wedged into mountain sides or have their seaplane docks on dry land. Ideally, the original author of these add-ons would move the individual objects to more suitable locations. However, this isn't always easy to do and sometimes it doesn't make sense because we provide similar scenery objects in the same locations. Nevertheless, wherever feasible, we will be happy to provide patches that improve on the situation. Patches will be made available by request in our **Glacier Bay support forum**: ***http://forums.fsaddon.eu/viewforum.php?f=10***.

List of Add-ons Known to be Compatible

- Coastal Shipping 1: Alaska Panhandle, by Brian Burger (coastalship1.zip). Nice assortment of static fishing boats, cruise ships, freighters, and sailboats. Only the US Navy Destroyer in Gastineau Channel near PAJN sits in a "tight spot".

- Hanks Trading Post (Revisited), Michael Carr (hanks_fs9.zip). Fictitious add-on next to the Taku River east of Juneau. Minor elevation issues but usable.

- Naji's Bush Scenery: BFU B.C., by Naji Chehabeddine (bfubc.zip). Fictitious add-on across the lake from Atlin (CYSQ). Can be made compatible with the help of a small patch - http://forums.avsim.net/dcboard.php?az=show_topic&forum=143&topic_id=30976&mesg_id=30976&page=3 - but some of the objects (boats, docks, etc.) will be on dry land.

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List of Add-ons Known to be Incompatible

- Alaskan Docks SE, Package #1, by Dave Erickson (akdk1.zip). We've adjusted the coastline a bit to fit his excellent representation of the Juneau Municipal dock.

- AK183 - Geneer AKR Station D, by Edmund Cox (ak183v10.zip). Fictitious seaplane base incompatible with the Glacier Bay v2 shorelines
.
- Alaska Lighthouses 2004, by Bob Langendorfer, Ed Neuhauser, and Larry Silsbee (aklights04.zip). Wonderful and highly accurate depiction of the many lighthouses along the AK coast.

- Scenery enhancements for Haines (PAHN) and Gustavus (PAGS) airfields, by Frank Betts (Haines_S&R.zip and PAGS.zip). Visit Frank's website http://www.flightsimsetc.dhs.org.

- Search & Rescue Mission, by Frank Betts (haines_s&r.zip). The PAHN enhancements are incompatible with our version.

- Excursion Inlet, Alaska, by Dale Caruso (excursion_inlet.zip). Glacier Bay v2 includes its own version of that seaplane base.

- Alsek River Rafting, by Dale Caruso (alsek_river_rafting.zip). Shorelines are different in Glacier Bay v2.

- Juneau International Ferry/Seaplane Terminal, by Dale Caruso (juneau_int_ferry_terminal.zip). PAJN and shorelines are different in Glacier Bay v2.

- Juneau Downtown and Warfside, by Dale Caruso (juneau.zip). Glacier Bay v2 includes its own version of downtown Juneau.

- Juneau PAJN Enhancements, by William Morgan/FRF Studio (pajn_166994.zip). Glacier Bay v2 includes its own version of PAJN.

- Alaskan Winds Juneau Hub Scenery Enhancement, by Joe Watson (aw_juneau.zip). Incompatible with our version of PAJN.

- BC Landclass 1, by Curt Jardey (bc_landclass1.zip). One of the files, BC,Atlin1_LC.bgl, needs to be removed or Curt's add-on placed at a lower priority in the FS scenery library.

Known Issues

- Linear steps in terrain mesh. Glacier Bay includes three jurisdictions, Alaska, B.C., and Yukon Territory, each of which develop their own elevation data. Where these data sets meet you'll often find straight-lined cliffs. Trying to remove these is a very complex and tedious tasks so we left them as they are. In general, the Yukon elevation data are of variable quality and you may find additional mesh issues within that area.

- Abrupt changes of textures and shorelines along the edges of the coverage area. The boundaries are largely determined by the FS landscape LOD5/LOD8 grid system. We could have edited the shorelines, roads, etc. to better blend into the coarse and often inaccurate default counterparts but then they wouldn't match for users of Ultimate Terrain or other landscape enhancements.

- Glaciers show up as water bodies in the GPS and FS map window. The method we use for depicting glaciers is a necessary compromise to avoid more severe display issues.

- Glaciers and frozen lakes/rivers show whitish grid lines when approaching from a distance. Again, a side effect of the method for displaying glaciers and ice. Turning off "Water Effects" in the FS9 Display Settings menu will get rid of those lines.

- When starting a flight at a seaplane base and selecting the active runway (instead of a specific runway direction or a parking spot) FS will place the user at the start location of the default seaplane base's location, which may be on land. Thus, please always select a parking spot or specific runway direction when starting a flight from one of the seaplane bases.

- All seaplane bases are set up for AI floatplane traffic. Due to the special requirements for AI floatplanes each seaplane base shows two runways in the GPS/map window and GoTo Airport menu: an invisible concrete runway meant for AI only and a parallel water runway meant for user floatplanes. Try to avoid taxiing over the AI runway as it will likely make your floatplane bounce and show sparks.

- AI General Aviation flights are coded as VFR flight plans but FS will switch those to IFR if the weather situation doesn't permit for VFR. There are no means to prevent AI flights from commencing under IFR conditions.

- Depending on wind direction and flight type (VFR or IFR) some AI aircraft may fly into mountains and disappear (or reappear on the other side) during takeoff and landing in places with steep terrain.

Uninstalling Glacier Bay v1

There are two variants of the first version of Glacier Bay in circulation, one for users of the default landscape and another for users of Ultimate Terrain Canada/Alaska. If you have either of these please follow the uninstallation instructions below

Users of the original version, gl_bay_1.zip and gl_bay_2.zip :

- If you are also using Tongass Fjords, run the Tongass configurator (\FSAddon\Tongass Fjords\TfConfig.exe) and deselect the "Glacier Bay National Park Version 1" entry, then close the configurator by clicking OK. Ignore the warning message about Glacier Bay.

- Start FS2004 and, in the scenery library menu, remove the entry for "Alaska Glacier Bay scenery and mesh" then shut down FS2004

- Navigate to "\Scenery\Namw\temp hold for gl_bay_1" and move any .bgl file it contains into "\Scenery\Namw\scenery", then delete the empty "temp hold for gl_bay_1" folder

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Users of the version compatible with Ultimate Terrain Canada/Alaska, ut_bc_hs.zip :

- Navigate to "BC enhancements for UT - landclass" and delete the following files:

  LC_011_010_ut_bc_hs.bgl
  LC_011_011_ut_bc_hs.bgl
  LC_012_010_ut_bc_hs.bgl
  LC_012_011_ut_bc_hs.bgl
  WC_012_011_ut_bc_hs.bgl

- Navigate to "BC enhancements for UT - landscape" and delete the following files:

  2_excl_Juneau_UT.bgl
  s_Glacier_Bay_UT_5.bgl
  s_Glacier_Bay_UT_9.bgl
  s_Gustavus_UT_5.bgl
  s_Gustavus_UT_9.bgl
  s_Haines_UT_3.bgl
  s_Haines_UT_5.bgl
  s_Haines_UT_9.bgl
  s_Juneau_UT_3.bgl
  s_Juneau_UT_5.bgl
  s_Juneau_UT_9.bgl
  s_Yakutat_UT_3.bgl
  s_Yakutat_UT_5.bgl
  s_Yakutat_UT_9.bgl
  also, if present:
  mesh_gl_bay_e_LOD9.bgl
  mesh_gl_bay_e_LOD10.bgl
  mesh_gl_bay_w_LOD9.bgl
  mesh_gl_bay_w_LOD10.bgl

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List of Airfields, Seaplane Bases, and Heliports

Listed Airfields (16)

```
7AK2   Snettisham         N58* 8.10' W133* 43.67'   6ft    (repositioned, AI ready)
A57    Alsek River        N59* 11.95' W138* 26.71'  30ft   (repositioned, AI ready, Forest Service cabin by Rainer Duda)
A67    Harlequin Lake     N59* 24.87' W139* 1.96'  110ft   (repositioned, AI ready, Forest Service cabin by Rainer Duda)
A68    Situk              N59* 33.14' W139* 30.62'  59ft   (repositioned, AI ready, Forest Service cabin by Rainer Duda)
A69    Tanis Mesa         N59* 14.96' W138* 30.23' 130ft   (repositioned, AI ready, Forest Service cabin by Rainer Duda)
A70    Dangerous River    N59* 24.21' W139* 14.09'  13ft   (repositioned, AI ready, Forest Service cabin by Rainer Duda)
AK76   East Alsek River   N59* 7.58' W138* 24.49'   20ft   (repositioned, AI ready, Forest Service cabin by Rainer Duda)
CBS4   Mule Creek, B.C.   N59* 46.61' W136* 35.73' 2960ft  (repositioned, AI ready)
CFA4   Carcross, Yukon    N60* 10.43' W134* 41.92' 2180ft  (custom objects and textures by Jon Patch)
CYSQ   Atlin, B.C.        N59* 34.52' W133* 40.36' 2348ft  (approximation with third-party objects)
PAGS   Gustavus           N58* 25.61' W135* 42.42'  20ft   (approximation with third-party objects)
PAGY   Skagway            N59* 27.59' W135* 18.99'  30ft   (custom objects and textures by Jon Patch)
PAHN   Haines             N59* 14.63' W135* 31.44'  16ft   (approximation with third-party objects)
PAJN   Juneau Intl.       N58* 21.50' W134* 35.03'  19ft   (custom objects and textures by Manfred Herz, some third-party
                                                            objects)
PAOH   Hoonah             N58* 5.73' W135* 24.70'   20ft   (approximation with third-party objects)
PAYA   Yakutat            N59* 30.50' W139* 39.66'  33ft   (custom objects and textures by Michael Eder)
```

Fictitious Airfield (1)

```
RAWL   Wood Lake Research Station      N58* 30.43' W136* 25.77' 166ft    (custom buildings and structures by Jay Langham)
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Listed Seaplane Bases (16, all repositioned, docks, AI ready)

2Y3	Yakutat	N59* 33.88' W139* 44.53'	0ft
3Z9	Haines	N59* 13.97' W135* 26.35'	0ft
5Z1	Juneau Harbor S	N58* 17.93' W134* 24.51'	0ft
5Z1	Juneau Harbor N	N58* 18.04' W134* 25.70'	0ft
7K2	Skagway	N59* 26.93' W135* 19.50'	0ft
A43	Taku Harbor	N58* 4.11' W134* 0.84'	0ft
BQV	Bartlett Cove	N58* 27.33' W135* 53.26'	0ft
CAD6	Atlin, B.C.	N59* 34.42' W133* 42.47'	2188ft
CEB7	Carcross, Yukon	N60* 10.34' W134* 41.80'	2152ft
ELV	Elfin Cove	N58* 11.69' W136* 20.89'	0ft
EXI	Excursion Inlet	N58* 25.30' W135* 26.98'	0ft
FNR	Funter Bay	N58* 15.37' W134* 53.69'	0ft
HWI	Hawk Inlet	N58* 7.54' W134* 45.43'	0ft
OOH	Hoonah	N58* 6.76' W135* 27.04'	0ft
PAJ1	Juneau Intl.	N58* 21.29' W134* 35.39'	10ft
TKL	Taku Lodge	N58* 29.44' W133* 56.64'	0ft

Helipads/Heliports (7)

Juneau Intl. - West	N58* 21.53' W134* 35.30'	19ft	4 helipads (Northstar Trekking?)
Juneau Intl. - Coastal	N58* 21.47' W134* 34.82'	19ft	6 helipads (Coastal Helicopters)
Juneau Intl. - TEMSCO	N58* 21.33' W134* 33.61'	19ft	11 helipads, custom hangar by Manfred Herz
Era Aviation (PAER)	N58* 19.93' W134* 29.84'	20ft	11 helipads, custom buildings and structures by Larry Silsbee

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TEMSCO Skagway (PAGY)   N59* 27.27' W135* 19.49'   30ft   7 helipads, custom buildings and structures by Jon Patch
Haines (PAHN)   N59* 14.73' W135* 31.43'   16ft   1 helipad on airfield
Juneau, hospital roof   N58* 18.04' W134* 24.48' 121ft   1 helipad
Yakutat (PAYA)   N59* 30.65' W139* 40.34'   40ft   1 helipad on airfield (elevated)

Lighthouses (4, with helipads)

Eldred Rock   N58* 58.24' W135* 13.23' http://www.lighthousefriends.com/light.asp?ID=828
Sentinel Island   N58* 32.77' W134* 55.40' http://www.lighthousefriends.com/light.asp?ID=826
Point Retreat   N58* 24.52' W134* 57.27' http://www.lighthousefriends.com/light.asp?ID=827
Cape Spencer   N58* 11.92' W136* 38.43' http://www.lighthousefriends.com/light.asp?ID=829

Unlisted Airfields (20, no features other than apron and runway textures)

Yakutat/Dangerous River Area

N59* 35.34' W139* 27.96'   88ft
N59* 21.36' W139* 9.84' 16ft
N59* 21.06' W139* 9.80' 13ft
N59* 21.12' W139* 9.57' 16ft
N59* 24.86' W139* 6.45' 23ft

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Alsek River Area

```
N59*  8.52' W138* 32.44'    1ft
N59* 11.48' W138* 30.12'    1ft
N59*  9.88' W138* 29.46'   10ft
N59*  6.57' W138* 28.54'   10ft
N59*  8.66' W138* 26.47'   33ft
N59* 11.31' W138* 25.81'   16ft
N59*  6.06' W138* 25.54'    3ft
N59*  5.96' W138* 24.77'   10ft
N59* 11.42' W138* 20.37'   49ft
```


Excursion Inlet road strip

```
N58* 24.87' W135* 26.34'   30ft   (no flatten)
```

The Sisters Island

```
N58* 10.49' W135* 15.52'   25ft   (no flatten)
```

Lynn Canal Area

```
N59* 10.44' W135* 28.36'   19ft   (no flatten)
N59*  1.41' W135* 22.72'   17ft   (no flatten)
N58* 47.52' W135* 15.19'   23ft   (no flatten)
```

Atlin Area
```
N59* 35.24' W133* 39.38' 2379ft  (next to CYSQ)
```

List of Features

Landscape Features

- Extent: N58*00' - N60*30', W133*07' - W140*10'; 275km by 385km / 170mi by 240mi; ~93,000 sqkm / ~36,000 sqmi

- accurate ocean and fjord shorelines, based on 1:63,360 (AK) and 1:50,000 (BC) hydrographic data, with custom seasonal shoreline textures.

- accurate position of all lakes greater ~65ft/20m in diameter; all lakes have flat water surfaces; larger lakes have custom seasonal shoreline textures.

- all ocean and lake islands greater ~65ft/20m in diameter.

- all major rivers are depicted as FS water and either follow the terrain mesh gradient or are coded as sloped polygons (LWM3); braided rivers (shallow rivers with multiple channels) also have sand and gravel bars added where appropriate.

- small rivers and streams are placed to best fit the terrain mesh; very steep stream sections have a special "whitewater" texture.

- LOD10 (38-m) base mesh developed from 60-m USGS NED data (US) and 25-m CDED1 data (Canada), plus several levels of "buffer mesh" to prevent texture "tearing" in the mid to far distance.

- all major and minor settlements are represented.

- complete road network, except in places (e.g., settlements) where a dense road network would eliminate too many autogen objects.

- accurate position of forestry operations (clearcut logging and roads), based on satellite imagery and topographic maps.

- best possible land class file (i.e., land use types), hand-made based on Landsat 7 satellite imagery. All classes utilize custom seasonal textures, some of which are FScene textures used with permission by Ruud Faber.

- custom water class file (i.e., water color), hand-made based on Landsat 7 satellite imagery. All classes utilize custom water colors.

- special seasonal textures that reflect the long persistence of snow at higher elevations and in forestry cutblocks.

- custom seasons file, which governs the distribution of seasonal textures in the coverage area on a monthly basis.

- lakes and rivers can be made to "freeze" (i.e., become landable ice surfaces); this requires switching of files via the configurator.

- all mountain and fjord glaciers, in particular their "toes". Some of the glaciers that reach lakes or fjords have ice floe textures and 3-D icebergs in front of them.

Airfield, Heliport, and Seaplane Base Features

- all listed airfields (16) in the coverage area have been adjusted to reflect their real-world location and layout.

- detailed rendition of Juneau (PAJN), Yakutat (PAYA), Skagway (PAGY), and Carcross (CFA4) airfields based on current real-world information.

- "generic" hangars and other objects at PAGS, PAHN, PAOH, CYSQ, similar to their real-world configuration.

- 19 unlisted airfields are modeled as simple dirt strips. Some of these have rough surfaces (no flatten files).

- 16 seaplane bases throughout the coverage area with custom docks and marinas placed to approximate the real-world layout. All seaplane bases are ready for AI floatplane traffic with AFCAD files that utilize new methods for "float-through" docking.

- in addition to helipads at several airports (PAJN, PAHN, PAGY, PAYA) Larry Silsbee modeled the Era Aviation (Douglas) heliport near Juneau as well as a landable helipad on top of a hospital in downtown Juneau.

Custom Static and Dynamic 3-D Features

- Larry Silsbee modeled many of the landmark Juneau buildings and structures. He also created custom object libraries for the many seaplane bases and marinas throughout the area.

- Jon Patch modeled the town site of Carcross, including landmark buildings, bridges.

- Rainer Duda modeled eight of the famous US Forest Service cabins in the Yakutat area - Dangerous River, Alsek River, Tanis Mesa, Suqare Lake, East Alsek, Italio River, Harlequin Lake, and Situk, and placed them in their accurate locations (see http://www.fs.fed.us/r10/tongass/cabins/yakutat/map/yakutatcabinmap.shtml).

- Larry Silsbee modeled the four lighthouses in the Glacier Bay area: Eldred Rock, Sentinel Island, Point Retreat, and Cape Spencer (see http://www.lighthousefriends.com/pull-state.asp?state=AK&Submit=Go). Bob Langendorfer kindly gave permission to re-use some of the textures he originally made for his FS2002 Alaska lighthouse package.

- We placed about 150 marine navigational lights (with custom flash effects), based on current US Coast Guard tables, in their accurate positions (see http://www.navcen.uscg.gov/pubs/LightLists/LightLists.htm). Bill Womack created the buoys, skeleton towers, and dolphins in GMax and Holger Sandmann wrote the custom effect files and placement code.

- We placed many static real-world 3-D landmarks from the FS default object library (buildings, antennae, small boats, docks, etc.) according to topographic maps and airphotos.

Links to Real-world Information on the WWW

Topographic and marine maps, and airphotos

http://www.flashearth.com/?lat=58.359281&lon=-134.699472&z=17.7&r=0&src=yh
http://www.topozone.com/map.asp?lon=-135.737&lat=58.4133
http://terraserver-usa.com/image.aspx?t=2&s=14&x=167&y=2019&z=8&w=1&qs=%7cjuneau%7cAK%7c
http://toporama.cits.rncan.gc.ca/toporama_en.html
http://www.dec.state.ak.us/spar/perp/grs/se/home.htm
http://mapserver.maptech.com
http://nauticalcharts.noaa.gov/csdl/ctp/cm_vs.htm
http://www.photolib.noaa.gov/coastline/index.htm
http://www.tongass-seis.net/roadless.html

Airfields and Seaplane Base Information and Charts

http://en.wikipedia.org/wiki/Category:Airports_in_Alaska
http://www.dot.state.ak.us/stwdav/AirportList.shtml#southeast
http://www.airnav.com/airports
http://www.alaska.faa.gov/fai/airports.htm
http://www.gcr1.com/5010web
http://www.naco.faa.gov/index.asp?xml=naco/online/d_tpp
http://bathursted.ccnb.nb.ca/vatcan/fir/edmonton/charts.cfm

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Specific Airports

http://www.juneau.org/airport/index.php
http://www.atlasaviation.com/AviationLibrary/alaskainfo/alaskainfo.htm
http://dot.alaska.gov/stwdplng/projectinfo/ser/Yakutat_Airport/index.shtml
http://www.gov.yk.ca/transportation/airports
http://en.wikipedia.org/wiki/Atlin_Airport
http://en.wikipedia.org/wiki/Mule_Creek_Airport

Weather Information

http://akweathercams.faa.gov/sitelist.php
http://aawu.arh.noaa.gov

Juneau

http://www.juneau.com
http://www.juneau.org
http://en.wikipedia.org/wiki/Juneau,_Alaska
http://images.google.ca/images?hl=en&q=juneau&btnG=Search+Images&gbv=2
http://junlistserv.juneau.lib.ak.us/pictures/nodetails.php
http://www.juneau.org/ecrestftp/index.php?menu=menu2

Other Settlements

http://www.explorenorth.com/library/communities/canada/atlinphotos.html
http://www.destinationcarcross.com/images.html

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http://www.ptialaska.net/~gycc/maps.html
http://www.gustavus.com
http://www.haines.ak.us
http://www.skagway.com
http://www.whitepassfan.net
http://www.alaskatravel.com/alaska/hoonah.html
http://images.google.ca/images?svnum=10&hl=en&q=elfin+cove

Commercial Airplane Operators

http://www.alaskaair.com
http://www.labflying.com
http://www.skagwayair.com
http://www.alsekair.com http://www.wingsofalaska.com/dest_home.php
http://www.arcticcircleair.com/ANC%20Destinations.htm
http://www.alaskabyair.com

Helicopter Operators

http://www.temscoair.com
http://www.coastalhelicopters.com
http://www.northstartrekking.com
http://www.flightseeingtours.com

Lighthouses and marine signals

http://www.thelighthousepeople.com/Gallery/Alaska/Alaska_index.html
http://www.unc.edu/~rowlett/lighthouse/ak.htm
http://www.navcen.uscg.gov/pubs/LightLists/LightLists.htm

Guest Lodges

http://www.takuglacierlodge.com
http://www.elfincove.com

U.S. Forest Service Cabins

http://www.fs.fed.us/r10/tongass/cabins/cabinlist.shtml

National Parks

http://www.nps.gov/glba/index.htm
http://en.wikipedia.org/wiki/Glacier_Bay
http://en.wikipedia.org/wiki/Tatshenshini-Alsek_Park
http://www.greatcanadianparks.com/bcolumbia/tatshen/index.htm

Fjords and Glaciers

http://www.nps.gov/glba/naturescience/naturalfeaturesandecosystems.htm
http://nsidc.org/glaciers/gallery

Geography, History, and Conservation

http://www.whitepassrailroad.com
http://www.fs.fed.us/r10/tongass

http://www.centerforlakewashingtonstudies.com/ak/r4.htm
http://www.sitkawild.org
http://www.tongass.com
http://vilda.alaska.edu/index.html
http://www.explorenorth.com
http://www.ilovealaska.com
http://www.nbctourism.com
http://www.tatshenshini.com/slideshow/tatshenshiniriver

Miscellaneous Photo Sites

http://www.flickr.com/search/?q=haines+alaska&m=text
http://www.airphotona.com/Stock/Images.asp?catnum=14000&catname=Alaska
http://www.stevemueller.com/docs/travelPhotography/us/alaska/indexAlaskaGallery.php
http://www.markkelley.com/site/seportstock/results.asp?Key=seport
http://www.alaskaphotography.com/photos/index.html
http://theinfrequentflyer.com/aviation-photo-gallery.php

Notes to Developers

Glacier Bay v2 includes a number of object libraries, containing custom 3D objects and textures our team made or used for placement throughout the coverage area, such as cabins, docks, houses, marine signals, and airport buildings. Object placement utilities, like Abacus' EZScenery, will provide easy access to these libraries and the objects can be relocated or any number of new objects placed in different locations. The resulting object placement files can then be shared with others so that any user of Glacier Bay will be able to enjoy additional cabins, docks, etc. in new locations.

While we encourage the use of our object libraries for making and sharing enhancements to Glacier Bay or nearby areas we'd like to emphasize that redistribution of the library files themselves or their textures, whole or in part, without the written consent of the original authors, is not permitted. Please see "End User License Agreement: Object Libraries".

Also, we would ask anyone working on object placements to not add to or otherwise edit any of the existing Glacier Bay v2 placement files. Instead, please create your own placement files with appropriate names.

Finally, when sharing placement files that use Glacier Bay object libraries please point out in your documentation that they require an installation of Glacier Bay v2 to be visible and that the objects and textures themselves are copyrighted to the individual object library author.

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Credits and Acknowledgements

Development Team:

- Holger Sandmann: project lead, landscape development, seasonal ground textures, AFCAD files, AI config files, object placement, effects, maps
- Larry Silsbee: custom objects and textures; generic objects; static and dynamic birds; dynamic paragliders
- Manfred Herz: custom objects and textures; generic buildings
- Jon Patch: custom objects and textures; generic hangars and objects; AFCAD files;
- Michael Eder: custom objects and textures
- Rainer Duda: custom objects and textures
- Jay Langham: custom objects and textures
- Jim Vile: active (curved) approach files for PAJN
- Scot Fraser: autoinstaller and configurator

Additional Content providers:

- Bill Womack: buildings and trees, powerline poles, and marine signals object libraries
- Ruud Faber: summer forest textures and some of the winter ground textures, http://www.fscene.com
- Mitsuya "Hama" Hamaguchi: custom cruise ship models of the Voldendam, Dawn Princess, and Clione, http://f1.aaa.livedoor.jp/~rjnnhama/craft.htm
- Milton Shupe: de Havilland DASH 7-101 Cargo AI model, with repaints by Bill Womack and Bjoern Erik Henriksen
- Greg Pepper and Warren Landis: HU-16 Albatross in US Coast Guard livery
- Jordan Moore: hangar library, JM_Bldgs1.zip
- Dennis Waggoner: hangar library, ezhangers.zip
- Joerg Dannenberg: windsock library, windsock.zip (with enhancements by Jon Patch and Arno Gerretsen)
- Arno Gerretsen: custom tree library, Agen_XTrees_lib9_1.BGL

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- Lars Hoyer: vehicle and object library, ez-extra-objects-1.zip and ez-extra-objects-1-textures.zip
- "Finney Air" (Rob Finnegan and Gary Mills): fences and helicopter trailer libraries, fg_fences.zip and chopper_trailers.zip
- Bob Langendorfer: some of his lighthouse textures, aklights04.zip
- Microsoft ACES FS Design Team: default library objects (boats, radio antennae, special buildings, etc.)

General Support

- Francois A. "Navman" Dumas: manual lay-out, Support Forum, mental support, FSAddon CEO
- Ken Peters: installer and configurator consulting
- Robert Gerdes: local photography and consulting
- Nick Lindegaard: local photography and consulting
- Nick Churchill: manual illustrations

Software Developers and Technical Support

- Christian Fumey: Ground2K4 and DefArea utilities
- Jim Keir: Slartibartfast and LWMViewer, http://www.jimkeir.co.uk/FlightSim/index.html
- Richard Ludowise "Rhumbaflappy": TCalc2004 and TDFmacros
- Luis Sá: SBuilder
- Discreet Systems: GMax
- Global Mapper Software LLC: Global Mapper GIS (under licence), http://www.globalmapper.com
- Lee Swordy: AFCAD2 and TTools
- Konstantin Kukushkin and Arno Gerretsen: Abacus EZ-Scenery v 1.03, http://www.abacuspub.com
- Allen Kriesman: Ultimate Terrain compatibility
- Joachim "JOBIA" Buhre: land class documentation and table, replacement texture blending masks
- Christian Stock: seasons file documentation
- Lennart Arvidsson: the idea of using "feathered" coastline textures, http://www.flightsim.no/home/textureart
- Janne Sinkkonen, Finnish Scenery Designers: the idea of frozen lakes, http://fisd.fsnordic.net
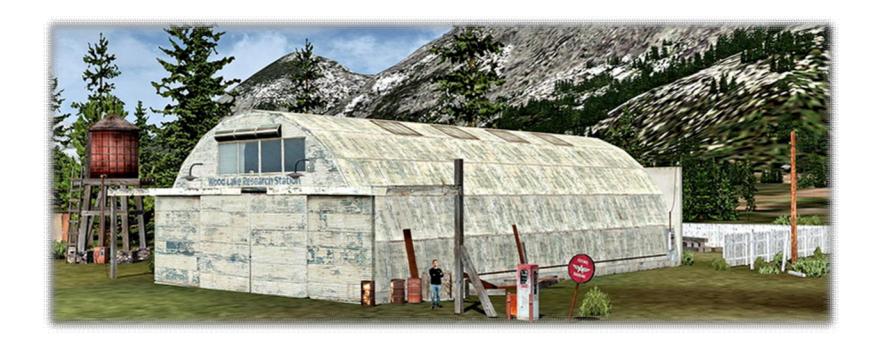
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- Alaska State Geospatial Data Clearinghouse: http://www.asgdc.state.ak.us
- U.S. Geological Survey, EROS Data Center, Sioux Falls, SD, http://gisdata.usgs.gov/NED
- GeoBase geospatial data, http://www.geobase.ca
- Toporama online maps, Natural Resources Canada, http://toporama.cits.rncan.gc.ca/toporama_en.html
- U.S. Airport and Seaplane Base data: http://www.airnav.com/airports
- Canadian Airport and Seaplane Base data: http://www.navcanada.ca
- U.S. Coast Guard: http://www.uscg.mil/d17
- Tongass National Forest: http://www.fs.fed.us/r10/tongass/cabins/cabinlist.shtml

* Copyright notice for the Skagway orthophoto as per licensing agreement: "This map was prepared by the Tlingit-Haida Regional Housing Authority (THRHA) in cooperation with the Alaska Department of Commerce, Community, and Economic Development (Commerce) using funding from the Alaska Native Tribal Health Consortium, Housing and Urban Development, and funding from the Initiative for Accelerated Infrastructure Development (IAID). The IAID is supported by grants from the Denali Commission, USDA Rural Development, Alaska Department of Transportation and Public Facilities and Commerce. The Alaska Native Tribal Health Consortium provided sanitation facility records. The THRHA contracted with Global Positioning Services Incorporated in May of 2004 to prepare the map. The original AutoCAD drawing and orthophoto has been revised or added to as described: partial use of the orthophoto for photoreal ground and building textures of Skagway airfield, town site, and harbor, for use in Microsoft Flight Simulator 2004."

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Beta Testers

"Cecil", Milt Chambers, Tom Cunningham, Dorian Davis, Rob de Vries, Rick Grant, Lars Hammer, Paul Kane, Craig Kiltie, Nick Lindegaard, Joe Lorenc, Takanobu Motoki, Robert Gerdes, Peter McLeland, Lance Tucker, John Mensink, Christian Mohr, Aaron Myers, Dale "natedanger" Ekstrom, Eric Norton, Brian Nuss, Eric Payne, Ian Pearson, Greg Poirier, Pete Reid, Tim Scharnhop, Larry Silsbee, Brian Smith, Don Smith, Terry "tango papa", Paul van Harte, David Voogd, Dan Wambolt, Juergen Weinberger and Bill Womack.

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File Names: glbayv2a.zip and glbayv2b.zip

Team Lead: Holger Sandmann

Development Team: Rainer Duda, Michael Eder, Scot Fraser, Manfred Herz, Jay Langham, Jon Patch, Holger Sandmann, Larry Silsbee, and Jim Vile

Copyright Dates: August 30, 2004 through February, 2007

Authorized Web Sites:

www.AVSIM.com

www.Flightsim.com

www.simviation.com

www.Flightxpress.de

www.vanisleva.com

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Installer

- autoinstaller created with *Inno Setup*, http://www.jrsoftware.org/isinfo.php, © 1997-2007 Jordan Russell

Object libraries (with associated textures)

- GBv2_library_BW_autogen.bgl and GBv2_library_BW_powerline_poles.bgl: © Bill Womack
- GBv2_library_DW_ezhangers.bgl: © Dennis Waggoner (original package name is ezhangers.zip)
- GBv2_library_JD_windsock.bgl: © Joerg Dannenberg, with modifications by Jon Patch and Arno Gerretsen (original package name is windsock.zip)
- GBv2_library_JL_icebergs.bgl: © Jay Langham
- GBv2_library_JP_containers_Alaska.bgl, GBv2_library_JP_hangars.bgl, GBv2_library_JP_objects_airport1.bgl, GBv2_library_JP_op_buildings.bgl: © Jon Patch (GBv2_library_JP_objects_airport1.bgl available in Airport_Objects1.zip)
- GBv2_library_LH_extra-objects-1.bgl: © Lars Hoyer (original package names are ez-extra-objects-1.zip and ez-extra-objects-1-textures.zip)
- GBv2_library_LS_birds_dynamic.bgl, GBv2_library_LS_birds_static.bgl, GBv2_library_LS_docks.bgl, GBv2_library_LS_downtown.bgl, GBv2_library_LS_hangar_objects.bgl, GBv2_library_LS_kayaks.bgl, GBv2_library_LS_misc.bgl, GBv2_library_LS_paragliders.bgl, GBv2_library_LS_static_boats.bgl, and GBv2_library_LS_vehicles.bgl: © Larry Silsbee
- GBv2_library_MH_buildings.bgl, GBv2_library_MH_buildings.txt, and GBv2_library_MH_PAJN.bgl: © Manfred Herz
- GBv2_library_RD_div.BGL: © Rainer Duda
- GBv2_library_RF_chopper_trailers.BGL and GBv2_library_RF_FinneyGround_Fences.bgl: © "Finney Air", Rob Finnegan and Gary Mills (original package names are fg_fences.zip and chopper_trailers.zip)
- GBv2_library_RJ_Jetwayscollect.bgl: © Ron Jeffers (original package name is ezjetwayz.zip)

Additional Objects

- marine signals models and associated textures: © Bill Womack
- hangar library, JM_Bldgs1.zip: © Jordan Moore

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Textures

- Ruud Faber: summer forest textures and some of the winter ground textures, http://www.fscene.com.
- Bob Langendorfer: some of his lighthouse textures originally part of aklights04.zip

AI Aircraft and Ships

- Mitsuya "Hama" Hamaguchi: custom cruise ship models of the Volendam, Dawn Princess, and Clione, http://f1.aaa.livedoor.jp/~rjnnhama/craft.htm
- Greg Pepper and Warren Landis: HU-16 Albatross in US Coast Guard livery
- Milton Shupe: de Havilland DASH 7-101 Cargo AI model, with repaints by Bill Womack and Bjoern Erik Henriksen

Effects

- Holger Sandmann: Light, wake, and smoke effects

Miscellaneous

- Skagway orthophoto background © Tlingit-Haida Regional Housing Authority (THRHA) and Alaska Department of Commerce, Community, and Economic Development (Commerce)

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