

CZBB (2011)

for FS9, FSX and Prepar3D

(Version 2.xx)

USER MANUAL

**An Add-On Covering the Boundary Bay, British Columbia, Canada Airport and
Surrounding Area as it Appeared in Mid 2011.**

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1. INTRODUCTION

CZBB (2011) for Microsoft® Flight Simulators ("MSFS") FS9 and FSX and Lockheed Martin's Prepar3D portrays the Boundary Bay (British Columbia, Canada) Airport (CZBB) - Canada's fifth-busiest airport by number of operations - and surrounding area.

Except for the new custom approach lighting, Version 2 is visually identical to its predecessor but has been updated to be compatible with Prepar3D Version 2. As well, it has been re-developed using ADE_GP to replace all the ground-poly objects. So, FPS should also be somewhat improved.

While CZBB (2011) has been updated for Prepar3D Version 2, please note that Prepar3D does not support certain legacy technologies and does not offer replacement technology. So features that use this legacy technology, in particular, custom approach and airfield lighting, are not available when CZBB (2011) is used with P3D v2.

Features - CZBB features:

- an airport definition (AFCAD) based on high-resolution aerial photos that:
 - accurately places all runways and taxiways,
 - displays realistic taxiway and apron markings,
 - drive-through parking for all AI,
- more than thirty very detailed buildings - including every significant structure on the airfield - all modeled with GMax and "painted" with hand-drawn textures,
- accurate taxiway and apron signage,
- low-FPS-impact, multi-LOD, ground-hugging perimeter fencing (8' high chain link with bent top, and
- a selection of static aircraft and operating AI.

Compatibility - CZBB is fully compatible (once the necessary compatibility files are configured) with:

- ORBX FTX NA Blue USA Canada Pacific Northwest ("ORBX FTX NA"),
- Ultimate Terrain Canada/Alaska for FS9 and Ultimate Terrain X - Canada for FSX (generally referred to as "Ultimate Terrain" or, simply, "UT"), and
- Jon Patch's and Holger Sandmann's Vancouver+ for both FS9 and FSX.

These add-ons (other than the mesh) all generate roads, shorelines and/or landclass that may differ in position and textures from one another and from the mating features in CZBB. Without attention,

there would be discontinuities at the boundaries where, for example CZBB's roads meet those generated by whatever add-on is controlling the roads in the surrounding area. (CZBB is outside the area addressed by Jon Patch's and Holger Sandmann's Victoria+ and Vancouver +, so it should not affect, or be affected by, either of those offerings.)

Add-on compatibility may be managed in either of two ways. If compatibility with only a single add-on is required, the compatibility files are combined with the CZBB scenery. However, if you wish to be able to quickly reconfigure CZBB to be compatible with more than one add-on, the compatibility files remain in separate folders and a Scenery Library item is used for each set of files. The latter method is referred to as the "Scenery Library method" of compatibility. (For further detail, see Section 4, Reconfiguration and Customization.

2. INSTALLATION AND UPDATES

Automatic Installation - CZBB includes an installer. This installer is a Microsoft .NET Framework 3.5 application. If .NET Framework 3.5 or a later version is not already installed on your computer, the latest "redistributable" can be downloaded from the Microsoft website at no charge. The installer does not affect the system registry or any other files/folders managed by the operating system. For users who wish to have finer control of the installation or choose not to use the installer, a manual installation procedure is provided below.

Vista and Windows 7 users must have and others may require administrator privileges when running the installer. If you need, but do not have, administrator privileges, the installer will "complain" when you attempt to install. To run the installer with administrator privileges, right-click on *Installer.exe*, select "Run As ..." and select "administrator".

Windows 7 users who do not run the installer in the XP compatibility mode will receive a "this program may not have installed correctly" message upon closing the installer. Despite the error message, the installation completes normally and the message may be safely ignored.

When updating a previous installation of CZBB, any AI traffic files (*traffic*.bgl*) in the existing *CZBB\scenery* folder will be retained. As well, the installer backs-up the previous version before overwriting it. If the installation procedure does not complete normally, the previous installation will be restored.

If you retain an earlier version of CZBB by installing CZBB (2011) to a new folder, ensure only one of them is enabled in the Scenery Library at a time.

Installation is performed as follows. (It will take you far longer to read this than to do it! Buttons and other controls are enabled only when they can be used. Hence, they are progressively enabled as you make prerequisite selections.)

- (a) Unzip the file *CZBB_nnn.zip* to a temporary folder ("folders" option enabled). **DO NOT UNZIP TO THE INSTALLATION FOLDER and DO NOT REMOVE ANY FILES FROM THE TEMPORARY FOLDER.** (Depending on your operating system, you may be able to omit the "unzip" and run *CZBB Installer.exe* directly from the .zip file.
- (b) Run (double-click on) *Installer.exe*. The installation dialog will appear.
- (c) Select the target FlightSim version (FS9, FSX, P3Dv1 or P3Dv2)). The installer will attempt to locate the main folder for that version. If successful, the path is shown in the FS Base Folder text box. If not, you must locate it manually using the FS Base Folder "Select" button before installation can proceed. If you plan to use CZBB (2011) with more than one FlightSim version, perform a separate installation for each.
- (d) Select the type of installation: *New Installation* or *Update existing version*. If you select the former, the installer "recommends" *Addon Scenery\CZBB (2011)* as the Top Level Folder folder. You may install to any folder - **but recognize that the contents of the nominated folder will be deleted prior to installation.** If you choose to update an earlier version, the

installer scans the *Addon Scenery* folder to locate any previously installed versions. (The scan may take a few seconds, depending on the number of installed add-ons on your system.) If the installer finds more than one previous installation, it will identify each in turn asking if that is the version you wish to update.

- (e) Select the add-on(s) with which you want CZBB to be compatible. If you plan to use CZBB with:
- only one compatible add-on, check the applicable radio-button, or
 - several compatible add-ons (at different times), select Compatibility: Multiple and check the relevant add-ons.

If you do nothing, the installed CZBB will be compatible with default FlightSim.

If any compatible add-on is active, CZBB should always be configured for it. Otherwise, roads, lights, terrain and possibly other features may not display properly.

DO NOT CONFIGURE CZBB FOR ADD-ONS THAT ARE NOT INSTALLED ON YOUR SYSTEM OR THAT WILL NOT BE INSTALLED BEFORE USE OF CZBB. OTHERWISE, FLIGHTSIM MAY CTD.

- (f) De-select any optional scenery, static aircraft and AI you do not want. (See Section 4, RECONFIGURATION AND CUSTOMIZATION, Section 5, OTHER THINGS YOU SHOULD KNOW and Section 7, STATIC AIRCRAFT and CUSTOM AI for a discussion of the optional components.)

To facilitate selection of the best option scenery configuration on "challenged" systems, it is recommended you check "Save all optional files" on the initial install. Only the checked features will be enabled, but you will be able to create different configurations by simply enabling/disabling scenery files. Otherwise, you'll need to re-install for each desired configuration. Once you've decided on a configuration, re-install with "Save all optional files" unchecked to eliminate all unused features and their related processing overhead.

- (g) Microsoft recommends use of mipmapped textures. All textures provided are mipmapped. However, in some situations, mipmapped textures are not ideal. For example, several mipmap levels may be used when large ground polys are rendered – with obvious boundaries. So, the installer offers four options for the removal of mipmaps:

None (all textures mipmapped)	+Static Aircraft (and key features)
Key features only (GPs, ramp illumination, etc.)	All

Note, however, it has been reported that use of both mipmapped and non-mipmapped textures in close proximity to another scenery that does not use "mixed" mipmaps sometimes results in the "blurries". If you experience this, try re-installing with None or All, depending on the situation.

- (h) Unless you uncheck Update Scenery Library, all necessary Scenery Library items will be created for you. If you checked the Compatibility - Multiple radio button, CZBB will be configured for default operation - since the installer does not know your preference. If that's not your intent, you'll have to uncheck the corresponding Scenery Library entry and check the one of your choice. (Please refer to Section 4, RECONFIGURATION AND CUSTOMIZATION, for further details.) If you wish the Scenery Library entry name to be other than "CZBB (2011)", edit the Name textbox. If, for some reason you do not wish a backup file of the Scenery Library to be made, uncheck Backup Scenery Library.

When all selections have been made, click the "Install" button. The installer will ask you to confirm the installation folder and compatibility selections, following which it will install and configure CZBB accordingly. Should you change your mind about an option or wish to change any aspect of the installation, simply select the desired new parameter(s) and click the "Install" button again.

All textures provided in the downloaded archive are mipmapped. Certain features, most notably, ground polys and lines display much better without mipmaps and static aircraft liveries will remain sharp as you get further away. However, a mix of mipmapped and non-mipmapped textures can

sometimes be problematic. At the completion of the installation, you will be asked if you want to remove mipmaps. If you respond "Yes", KillMipmaps (see below) will be initiated.

When finished, close the dialog. If you have checked the Delete Temporary files checkbox, all the temporary files except the installer will be permanently deleted.

If the installer encountered difficulties and was unable to fully restore a previous installation, a folder named *CZBBInstall_bak* will remain in the installation folder. In that folder is a copy of the installation folder as it was prior to the installer being run.

Manual Installation - Users who do not wish to use the automatic may manually install and configure standalone CZBB as follows:

- (a) For a new installation, create a top-folder called *CZBB (2011)* or another name of your choice in FlightSim's *Addon Scenery* folder or elsewhere. If upgrading from an earlier version of CZBB, delete everything from the old CZBB top-folder except any traffic files you wish to save. The traffic files should be moved elsewhere temporarily.
- (b) Create a subfolder named *CZBB* in the CZBB top folder. Copy into it the *\scenery* and *\texture* subfolders from the temporary *FS9* or *FSX* folder, as applicable. **Use the FSX folder for all versions of Prepar3d.** Each temporary folder contains a file named *ElevAdjust_CZBB_FSn.bgl*; copy it to *Scenery\World\Scenery*. Disable/delete one or the other of *ADE_CZBB_nnn (Custom Lights)_FSn.bgl* and *ADE_CZBB_nnn (Stock Lights)_FSn.bgl*.
- (c) Copy the *Compatibility Files* folder from the temporary *FS9* or *FSX* folder, as applicable, to the CZBB (2104) top-folder. If you plan to use CZBB with only one compatible add-on, also copy the files from the *\scenery* subfolder in the relevant *Compatibility Files* subfolder(s) into the *CZBB\scenery* folder. If you don't have any of the compatible add-ons, copy the files from the *Compatibility Files\Default\scenery*. (You may find Section 4, RECONFIGURATION AND CUSTOMIZATION helpful.)
- (d) You may find several folders named *Optional Scenery* containing various optional sceneries. The *.bgl* files - whether or not in a *\scenery* sub-folder go into your *CZBB\scenery* folder and any *.bmp* (FS9) or *.dds* (FSX) files go into the corresponding CZBB\texture folder. Generally, to install and enable an optional scenery item, copy all the files contained in its Optional Scenery folder. Some optional scenery installations are complex. While it will do no harm, these options cannot be effected simply by copying files (*FS9\Trees* is an example)
- (e) If you are installing for P3Dv2:
 - delete the following files from the indicated folders, and then
 - copy the contents of the PV2 folder to the indicated locations.
- (f) Copy the contents of the *Effects* folder, if it exists, to your FlightSim *Effects* folder as applicable.
- (g) For each category of static aircraft, copy from the applicable sub-folder in the temporary *Static Aircraft* folder:
 - the *.bgl* file whose name that starts with "obj_SAMM_" and from the *FS9* or *FSX* sub-folder, as applicable, *lib_SAMM_...bgl* into your *CZBB\scenery* folder, and
 - the contents of the *\texture* subfolder into your *CZBB\texture* folder.
- (h) If you want custom AI, for each desired category copy from the applicable sub-folder in the temporary *AI* folder :
 - the applicable (FS9 or FSX) traffic into your *CZBB\scenery* folder, and
 - the contents of the *Aircraft* sub-folder into the *FS9 Aircraft* folder or, for other versions, into a valid SimObjects folder.

You should not enable both the AI and static aircraft in the same category.

- (i) If you saved any AI traffic files as noted above, they may now be copied back to the *CZBB\scenery* folder.
- (j) Copy additional files to the destination of your choice (see following sections).

File/Folder Configuration – Following proper automatic installation of CZBB, the structure of the “installation folder”, i.e., CZBB (2011) - or whatever you choose to call it will be as follows:

CZBB (2011) containing the following folders:

- *CZBB* – the main folder, containing:
 - *lscenery* - containing the scenery .bgl's, suffixed with ".xxx" if not activated
 - *ltexture* - primary texture folder containing subfolders for static aircraft and .bmp and/or .dds (FSX/P3D) files.
- *Compatibility Files* – containing the files that allow the features of CZBB to integrate seamlessly with other add-ons that control the "environment" collected into a series of sub-folders entitled *Enable for ...* ,
- *CheckForUpdate.exe* - To check for updates, simply run *CheckForUpdate.exe*,
- *config.dat* – essential configuration information
- *KillMipmaps.exe* – see below,
- *halo.bmp* - a file to adjust the size of airfield light "dots" (see Section 4),
- *EULA.txt* - the end user license agreement, and
- a .pdf version of this user manual.

You may move any of these file/folders except *CYBL*, *Compatibility Files* and *KillMipmaps* elsewhere. However, *CheckForUpdate.exe* and *config.dat* must remain together.

Scenery\World\scenery will contain a file named *ElevAdjust_CZBB_FSn.bgl*. Delete/disable any other elevation adjustment files for CZBB or ensure they are named such that they will be loaded before *ElevAdjust_CZBB_FSn.bgl*.

KillMipmaps.exe – As mentioned above, you may wish to remove mipmaps from some textures. KillMipmaps serves this purpose without loss of quality. Execute Killmipmaps.exe, select the texture sets from which mipmaps are to be removed by checking the corresponding checkboxes. If you check Select, you will be presented with a checked listbox showing all textures. Check those from which mipmaps are to be removed. Then click Remove Mipmaps.

So mipmaps can easily be restored when necessary, before mipmaps are removed, the texture is saved to the folder Mipmap Backup, in a subfolder named as the subfolder the originally contained the texture. This folder serves no other purpose.

Uninstalling CZBB - The installer only installs the files as noted above. It does not write to the Windows Registry or anywhere else. To uninstall CZBB, delete:

- the CZBB folder from the Flight Simulator *Addon Scenery* folder (or wherever else you installed it),
- *ElevAdjust_CZBB_FSn.bgl* from *Scenery\World\scenery*, and
- the CZBB entry(ies) from the Scenery Library

3. SCENERY LIBRARY

If you did not have the installer do it for you, add the folder *CZBB (2011)\CZBB* to the Scenery Library and, if you've selected the Scenery Library method for compatibility management (see next section), an additional entry for each *CZBB (2011)\Compatibility Files* sub- folder.

The CZBB Scenery Library entry(ies) **must** be placed above (be of higher priority than) those for Vancouver+, Ultimate Terrain, ORBX FTX NW and any other scenery that includes terrain, roads and/or shorelines. If you have other add-ons that affect the CZBB area, their position in the Scenery Library relative to CZBB will depend on what they do. Please refer their documentation. In general, unless they are intended to affect the CZBB (2011) scenery, they should be of lower priority than, i.e., be below, CZBB.

4. RECONFIGURATION AND CUSTOMIZATION

Management of add-on compatibility files - Compatibility files may be used in either of two ways:

- If you specified to the installer that you want CZBB to be compatible with a specific add-on (or with default FlightSim), the installer will have copied the compatibility files from the relevant *CZBB (2011)\Compatibility Files* folder into the *CZBB\scenery* and *\texture* folders. Should you wish to make CZBB (2011) compatible with a different add-on, remove any existing compatibility files as described below from *CZBB\scenery* (remove only those *\scenery* files as are contained in the Compatibility Files folder for the add-on being removed) and then copy the files from the relevant *CZBB (2011)\Compatibility Files\...\scenery* and *\texture* (the latter may not exist or it may be empty) into the *CZBB\scenery* and *\texture* folders respectively.
- However, if you specified Multiple Compatibility to the installer (which gives you the ability to quickly reconfigure compatibility for various add-ons (e.g., sometimes you'll have UTX Canada enabled and at other times you'll want to be compatible with Orbx's FTX PNW), the installer will not have copied any compatibility files into *CZBB\scenery* and *\texture*. To effect compatibility with any specified add-on, you need only enable its Scenery Library compatibility item - in addition to CZBB (2011), of course. Only one such Scenery Library item should be enabled at any time. These entries must remain at a lower priority in the Scenery Library than CZBB (2011).

Compatibility files are named:

for FS9: *0_CZBB_Roads_(...)_VTPX.BGL*
CZBB_Roads_(...)_VPTL.bgl
CZBB_Terrain_(...).bgl
LD_1414_(...).bgl

for FSX: *CVX_CZBB_Roads_(...).BGL*
CVX_CZBB_LC_(...).BGL
CVX_CZBB_Skirt_(...).BGL
LC_1414_(...).bgl

where (...) is the abbreviated name of the add-on(s) to which they apply.

Textures - Both mipmapped and non-mipmapped textures are supplied - mipmapped being the default. Choose whichever you like. Be aware, however, in some instances where two scenery add-ons are in close geographic proximity, undesirable effects have been reported if one uses mipmapped textures and the other does not.

Please note, non-mipmapped textures are only provided for textures where a significant increase in display quality is likely to result. So, if you wish to use non-mipmapped textures, make a backup copy of the folder containing the mipmapped textures and copy the non-mipmapped textures into the original texture folder.

Airfield Light Size - Some (including me) think the stock lights used to represent taxiway and runway lights in both FS9 and FSX are too big. The CZBB archive includes a file (*halo.bmp*) that will reduce the size of those lights. Please note, however, using this file will affect the lights at all airports, not just CZBB. If you want to try it, copy this file to your *FSn\texture* folder - after backing-up the current *halo.bmp* so you can easily revert to the original if necessary. (I obtained the file from an attachment to a fsDeveloper.com post. Unfortunately, I have been unable to find that post again in order to give proper credit. So, thank you, whoever you are.)

Fences - The perimeter fences are of the "ground-hugging" variety, generated by FenceBuilder PRO (a payware application by the author and available from Silver Cloud Publishing, Flight 1 and other fine retailers.) Due to the limited amount of other scenery at CZBB, the addition of the outer perimeter fence is unlikely to cause low-FPS issues. However, should you want eliminate that fence, disable/delete the file *FBP_CZBB_Perimeter_Outer_FSn.bgl* in the *CZBB\scenery* folder. All fences may be removed by disabling/deleting all files whose name start with "FBP" in *CZBB\scenery*

Fuel Triggers - The whole of the terminal apron is a fuel-trigger area. MSFS does not permit user aircraft doors to remain open in fuel trigger areas. If you want your aircraft automatically refuelled, enable *obj_FuelTrigger.bgl*. If you want to leave the user a/c doors open while parked in these areas, disable *obj_FuelTrigger.bgl* (but keep an eye on your fuel gauge).

Other Customization - Some users may be tempted to modify the airport definition files (*ADE_CZBB_103_....bgl*). I strongly recommend against that since, regardless of your skill level, any changes you make will have to be re-done if they are to be used with any future versions of CZBB. Instead, unless you must change the runway/taxiway/apron configuration (I can't image why you'd need to other than to add GA parking on the grass), implement your changes as a separate add-on, placed above CZBB in the Scenery Library.

5. OTHER THINGS YOU SHOULD KNOW

Airfield Lighting in Low Visibility - CZBB (2011) gives you a choice of stock airfield lighting or custom lighting. (Custom lighting is not available with Prepar3Dv2.) FlightSim does not provide a mechanism for scenery models to test visibility, Consequently, the custom airfield lights do not automatically illuminate in daytime low visibility conditions - like the stock lights. If you use the custom lights and want airfield lights during the day, select code 0066 on your transponder.

Collisions While Taxiing - As at the real CZBB, most aircraft parking is "drive-through", implemented using an invisible, overlay taxiway network for departures. Consequently, even though arriving and departing AI traffic in close proximity may appear to be on the same taxiway and you would expect one to give way, they are not on the same taxiway as far as FlightSim is concerned. Hence, they may appear to collide. This is the price for drive-through parking.

Departing AI - It is necessary with drive-through parking to have two hold-short nodes at the ends of each runway - one in the arrivals network, the other in the departures network. To ensure arriving aircraft remain on the arrivals network, it is necessary to place the hold-short node in the (invisible) departure network to the runway side of the one in the (visible) arrivals network. Consequently, departing AI may hold-short on, rather than before, the hold-short line.

6. STATIC AIRCRAFT AND CUSTOM AI

CZBB contains a selection of static aircraft and operating AI.

There are ten SAMM-generated static aircraft based on stock aircraft models. (SAMM is a utility to convert flyable aircraft models into static scenery models by the author and available from popular download sites.) While these static models (and their AI counterparts) add a good deal of realism to the airport, some of this "eye candy" is derived from flying models. Hence, they may be "FPS-hogs". If you have an older system, you may have to be selective as to which static/AI aircraft you enable. (The installer offers a full range of options, or you may simply enable/disable appropriate .bgl files. The static aircraft models are contained in files in the *CZBB\scenery* with names beginning with "lib_SAMM_" and placed in the files whose name starts with "obj_SAMM_". The textures are contained in appropriately-named folders in the *CZBB\texture* folder.

The AI, also based on stock aircraft that are available in both FS9 and FSX, provides TNG traffic, two aircraft departing fifteen minutes apart five times a day and performing touch 'n gos for an hour.

The traffic is enabled at an air traffic density of 50% (GA in the case of FSX). It is controlled from the traffic file *CZBB\scenery\Traffic_CZBB_TNG_FSn.bgl*. This file may be edited with AI Flight Planner (also by the author and available from popular download sites.) If you don't want the AI, delete this file (or don't check AI on the installer).

7. SUPPORT

CZBB is freeware. Hence, support will be limited. Nonetheless, I would like to be made aware of any problems you discover in CZBB and will make reasonable effort to respond. As well, I welcome your comments suggestions for improvements and, where warranted, your criticisms.

The website <http://stuff4fs.com> is the primary mechanism for delivering support for CZBB. Among other things, it documents known problems with the most current release and, where available, provides workarounds and patches. Please check the site before reporting any problems or suggesting new features.

8. ACKNOWLEDGEMENTS

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Thanks also to Alpha Aviation, the Boundary Bay airport operator who provided me detailed airport information and allowed me airside access for photos.

Enjoy,
Don Grovestine

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Other British Columbia, Canada Airports by Don Grovestine

CYYJ (2011) - Victoria International
CYQQ (2010) - Canadian Forces Base Comox
CYBL (2011) - Campbell River
CYCD (2012) - Nanaimo
CYXX (2012) - Abbotsford

End User License Agreement (EULA)

You are granted a free, non-exclusive right solely to install and use CZBB (2011) on your computer system(s).

You may not:

- upload CZBB (2011), whether or not modified, in whole or in part, to any file distribution system,
- reverse engineer, disassemble or decompile any part of CZBB (2011) for any purpose other than to implement improvements for your own personal use, or
- incorporate CZBB (2011) in whole or in part into any commercial product or facility, “shareware” or “freeware”, or any other product or facility for which there is a charge of any kind,

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Your use of CZBB (2011) is entirely at your own risk. The author accepts no liability whatsoever for any damage arising from its use no matter how caused.

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