

xToolbox

Manual

Version 1.2.0

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Main changes compare to V1.1.0:

- Chapter 4: new images: location of image in tile
- Chapter 5 new images: summary is presented in separate textbox
- Chapter 6: new setting for the UI (borders)

1 Introduction and installation

1.1 What is xToolbox?

xToolbox is a perfect companion for xOrganizer. It contains a collection of tools that can help you manage your X-Plane related files. For instance when you:

- Move scenery or other X-Plane folders to another disk (manage links)
- Add, remove or rename scenery packages
- Use ortho (photo) scenery

xToolbox now is a **64bit application that uses parallel processing to utilize all CPU cores** (for the more demanding tasks). It contains 4 modules:

Link manager

There are several reasons why you might want to move folders outside the main X-Plane folder:

- Insufficient space on the disk where X-Plane is installed
- Share folders between different X-Plane installations to use the exact same content
- Save disk space by sharing folders between X-Plane installations

With the right tool creating links is not an issue at all and soon you have your X-Plane folder filled with links. But as you add more and more, or move or rename stuff you can quickly loose the overview.

Summary:

- **Quickly create or remove links (junction, symbolic link or shortcut)**
- **See:**
 - **To which source folders all the links in a folder point to**
 - **If you forgot to link a source folder**
 - **If all links are still valid and working (check for bad links)**

The link manager works very well in combination with xOrganizer (see below)!

Batch rename

In general choosing and maintaining a naming system with your scenery in X-Plane is advisable. If you don't use a tool like xOrganizer, which helps you manage the order of the scenery_packs.ini, a **naming scheme can help you to keep overview create the right order (for instance by using a prefix)**.

NB: a lot of scenery packages already follow some sort of order, like zOrtho4XP_+xx+xxx.

xToolbox can help you with renaming packages to fit your system. It also helps by extracting and showing data of airports (**ICAO, airport name and country**) and tiles (**latitude / longitude and country**). You can use this information to rename your packages.

Summary:

- **Rename based on the airport / tile data of a package**
- **Change the name by adding text or replacing text**

Photo scenery (orthos)

Photo scenery generated with G2XPL or Ortho4XP is very popular. A lot of people generate these packages themselves, but there are also various sources sharing them.

Occasionally photo packages make X-Plane crash, which can be very frustrating if you are in a long flight. Fortunately xToolbox can help you detect problems with photo packages by checking the presence and integrity of all files.

Especially the check on DDS images is important, as this is the most common problem leading to crashes. But xToolbox can also filter out complete black or white images and even images with too much clouds obscuring the ground.

Online shared packages often contain JPG images (to save space) which need to be converted to DDS images before X-Plane can load them. xToolbox offers an easy and fast conversion.

Summary:

- **Check presence and integrity of all files**
- **Check DDS images including black/white images (and images with clouds)**
- **Convert JPG images to DDS images (for downloaded packages)**
- **List the zoom level of orthopackages**

Manipulate scenery

Sometimes you would like to change the coverage of certain scenery packages, by splitting/merging folders or disabling overlap.

Summary:

- **Split or merge photo packages**
- **Copy a parts of a scenery packages: for instance overlays for a certain area**
- **Disable (non) overlapping parts of scenery packages**

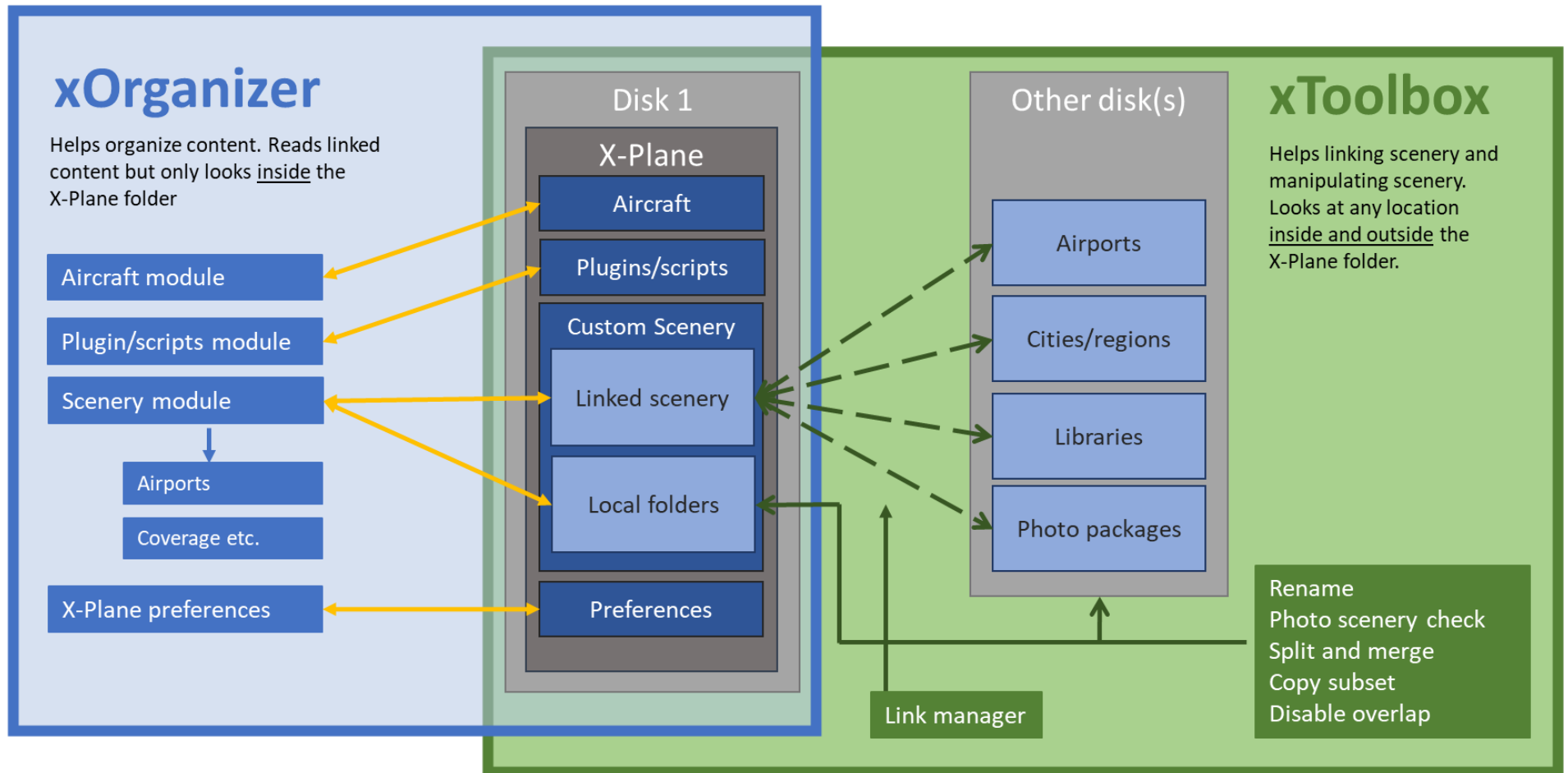
1.2 How xOrganizer (sold separately) and xToolbox work together

xOrganizer and xToolbox complement each other:

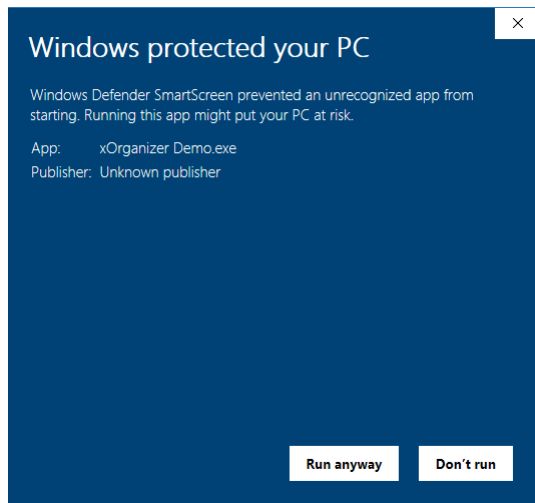
- **xOrganizer** helps you organize your X-Plane installation, in such a way that you exactly see and experience the content (scenery, plugins/scripts, preferences and aircraft) you want when you run X-Plane. xOrganizer will read any linked content, but will not by itself look outside the actual X-Plane folder.
- **xToolbox** helps you link content outside the X-Plane folder (usually another disk) to the X-Plane folder. Furthermore it can help you with renaming, checking and changing scenery folders, regardless of the actual location (inside or outside the X-Plane folder).

Advanced tip: as a backup for scenery that is removed by accident xOrganizer keeps these packages in its database for 10 days. If you regularly link and unlink scenery packages with xToolbox this can be helpful: xOrganizer will restore the relinked ("readded") packages at the exact same location in the order. You may want to set the number of days higher (see xOrganizer settings).

How xOrganizer and xToolbox work together



1.3 Installation and requirements



xToolbox needs no installation at all. Just unzip the file you downloaded to any location with normal access rights. This could be the root of a drive, the My Documents folder, etc., but NOT any of the system folders like Program Files or Windows.

The first time you run xToolbox it is possible that your virus scanner or Windows Defender gives a warning. This is because they search in their online databases and treat any relatively unknown application as potentially harmful, but not because they actually found anything unusual in the code.

Just tell your scanner to trust xToolbox. For Windows Defender you have to select “Run anyway”.

The system requirements for xToolbox are:

- Windows 7 or newer, but only 64 bits
- Optimal minimum display size: 1280x768 (you might need to scale the application to 80%, see settings)
- .Net Framework 4.6.1 or newer (normally installed by default by Windows).
xToolbox will warn you if the right version is missing. If Windows Update does not help you can download the .NET framework directly from Microsoft: search for “.net download runtime framework”. Current latest version is 4.8.

2 Link manager

2.1 Types of links

If you move folders outside the X-Plane folder you somehow will have to make a link to these folders. There different types of links you can use (with their pros and cons):

	Shortcut	Junction	Symbolic link
Difficulty	Easy, can be created with Windows Explorer	Medium, tool or terminal window needed	Medium, tool or terminal window needed
X-Plane use	Only Custom Scenery	Any folder	Any folder
Admin rights needed	No	No	Yes
If the source is moved or renamed	Windows will try to update it (resolve)	The link will turn invalid	The link will turn invalid
Link to another disk	Yes	Yes	Yes
Link to network location	Yes	No	Yes
Drive format supported (location of the link)	FAT and NTFS	Only NTFS	Only NTFS
Relative path	No	No	Yes

Although shortcuts work pretty good, they can only be used for scenery packages in the Custom Scenery folder of X-Plane. If you would like to for instance to move or share aircraft in the Aircraft folder it will not work.

Symbolic links are the most versatile type of link. But the fact that you need administrator rights to create them is a disadvantage (in some cases with annoying User Account Control messages).

In **general junctions** seem the best solution to use with X-Plane, because they will work with any X-Plane folder and creating them is quick and easy (with the help of xToolbox or another tool). According to some sources junctions are also the best choice performance wise (simple and optimized), but this will hardly be measurable when using them for X-Plane.

2.2 Source and target

The underlying idea of this module is that you have a **target folder** (on the left) and **source folders** on the right.

The source is the folder where the linked files are actually stored. This will often be on a different hard drive than the one where X-Plane is installed.

The target folder is the folder that X-Plane uses, as if it accesses files located in its own main folder (while in fact the files are read from a different location).

Each target folder that you add to xToolbox has a collection of one or more source locations. A **source location is a parent folder that contains the source folders with X-Plane related files**. An example is an airport scenery package: one package = one folder.

Source locations are added automatically if xToolbox finds existing links in the target folder. Of course you can also add new source locations manually.

Source locations can only be removed from xToolbox if there are no active existing links to the target folder.

xToolbox only works with folders, not with files. Also each source location should contain the source folders as direct children: 1 level lower. Deeper levels or nested folders are not used.

2.3 Source order

To order your scenery you could create for example a structure like this:

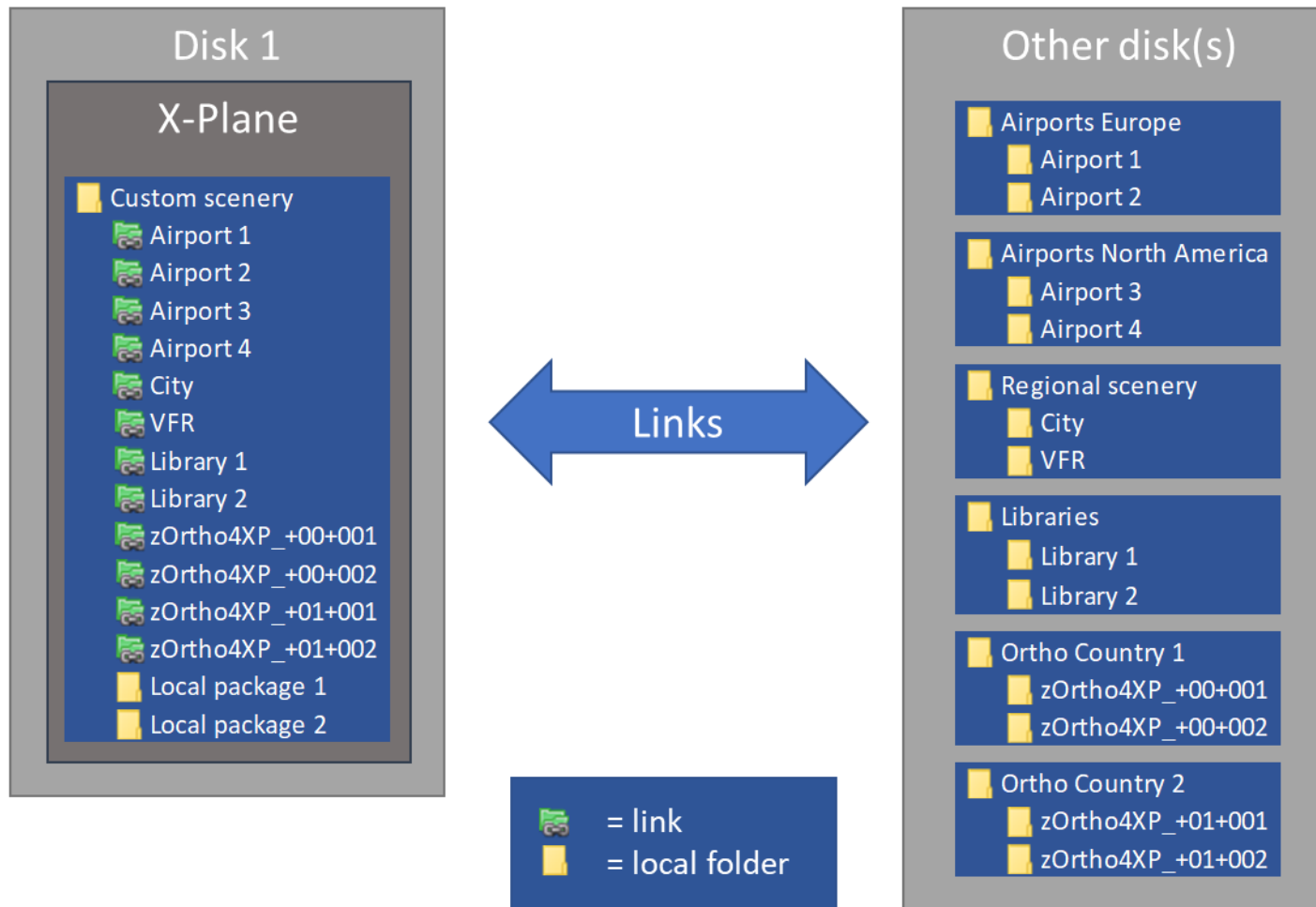
- E:\Airports
 - EHAM Schiphol
 - KPHX Phoenix
- E:\Libraries
 - 3D People
 - OpenSceneryX
- E:\Ortho France
 - zOrtho4XP+xx+xxx
- E:\Ortho Germany
 - zOrtho4XP+xx+xxx

In this example E:\Airports would become a source location in xToolbox and the underlying folders the source folders. The target folder could be something like: D\X-Plane 11\Custom Scenery.

The next page shows an overview of this structure.

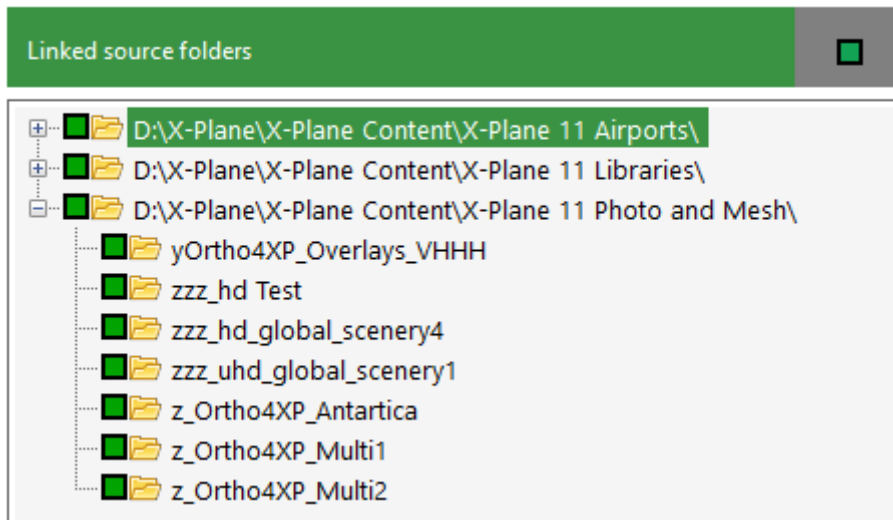
A similar folder structure could be made for aircraft, plugins or any other content you might like to link to your X-Plane installation.

How to organize your scenery on multiple locations (example)

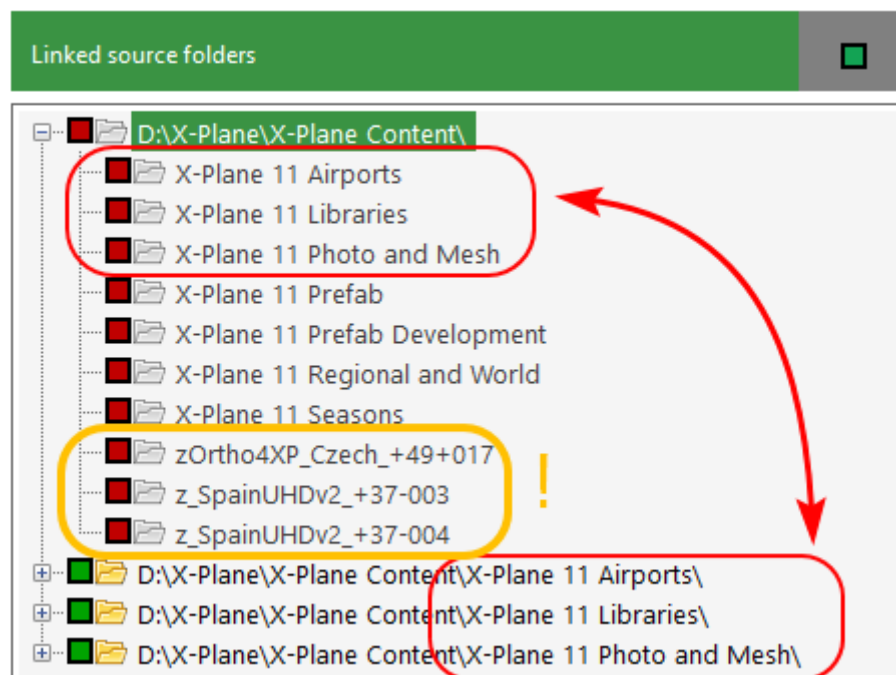


2.4 Potential problems with source folders

It is advisable to keep a strict order in which you store your source folders:



And **not** like this:



Here you see source that source location “X-Plane 11 Airports” is part of the other source location “X-Plane Content”.

If you would select “X-Plane 11 Airports” in “X-Plane Content”, turning the checkbox green, and you would instruct xToolbox to write links to your target folder, you end up with a useless link in your target folder. With a link to the Custom Scenery folder the “X-Plane 11 Airports” will be ignored by X-Plane, because it is a folder containing packages but not a package itself.

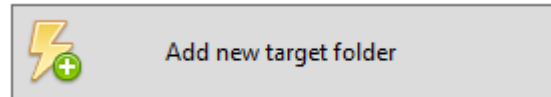
It will do not much harm, but a structure like this can easily become very confusing.

In the example above it would be best to move the zOrtho and zSpain packages (marked orange) to the Photo and Mesh folder and remove “X-Plane Content” as a source location in xToolbox.

NB: xToolbox will always warn you not to add nested folders (one folder part of another)!

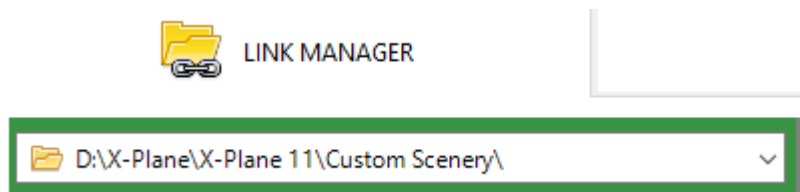
2.5 First start: add a target folder

When you first start xToolbox it will show an empty overview. The first think you need to do is to add a new target folder.



If the target folder already contains links they will show up with their actual source location. If the target folder is empty or only contains local folders only the left overview will be filled.

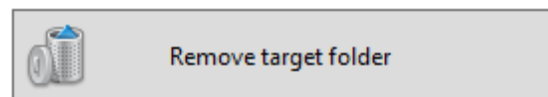
You can add several target folders to xToolbox. You can select them with the dropdown list on the right. The target folders are automatically sorted alphabetically.



Each target folder has its own set of source locations.

When a new target folder is selected, xToolbox will ask if you want to copy the source locations of another target folder (if there is another target folder of course). This can for instance be useful if you have a beta copy of X-Plane and want to link the same scenery.

Target folders can be removed from xToolbox any time without affecting the folder itself.



Here C:\X-Plane 11\Custom Scenery is added as target folder:



As you can see currently the target folder only contains local folders. So we add some new source locations (next paragraph).

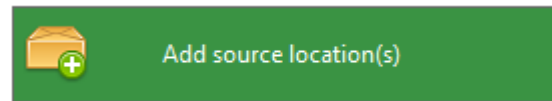
2.6 Add and remove source locations

Use this button to add new source locations.

A source location is a parent folder containing folders with X-Plane content.

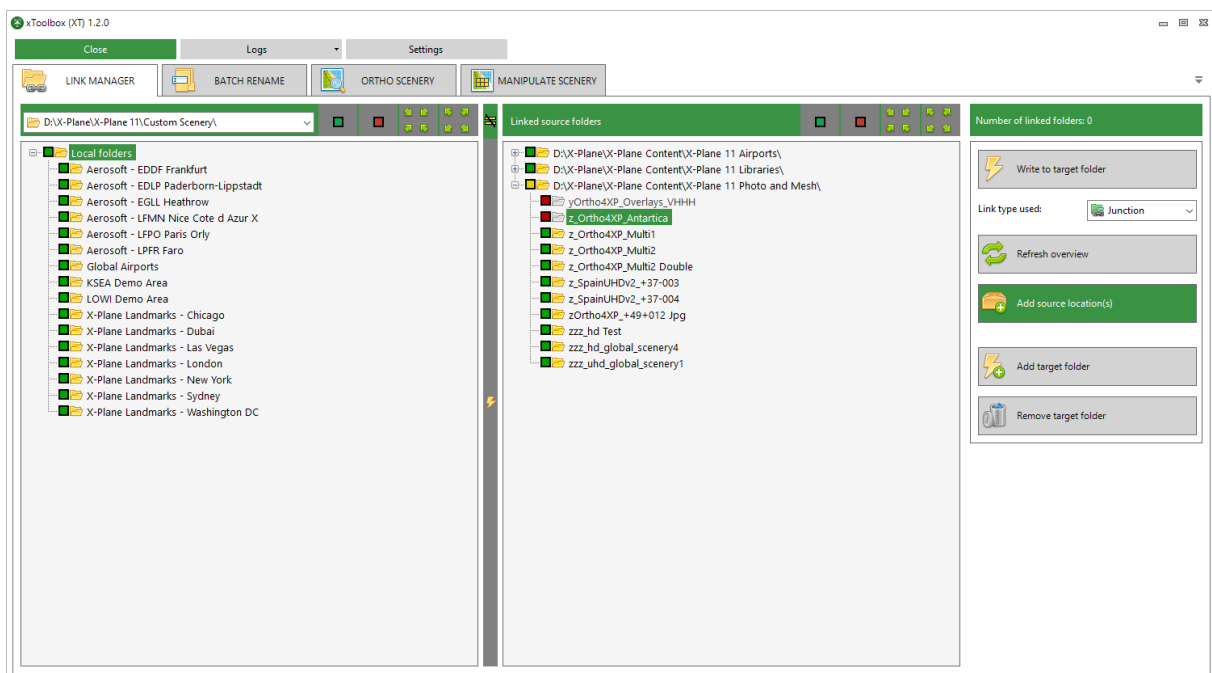
Usually these will be scenery packages, but they could also be plugins.

The content folders will be the source folders for the links.



NB: the button is green to prevent accidental clicking on 'Add target folder' instead.

With the new source locations the left and right side are filled:



Also note that in the example the locations “D:\X-Plane\X-Plane Content\X-Plane 11 Airports”, “...Libraries” and “...Photo and Mesh” were (partly) selected with the checkboxes after adding the source locations. But write to target folder is not executed, so no links were created yet.

Color of the checkboxes	Source location (parent)	Source folder (child)
Red	Nothing selected	Not selected -> when writing: no link will be created + existing link will be deleted.
Green	Everything selected	Selected -> when writing: link will be created + existing link is kept.
Yellow	Mix selected / deselected	-

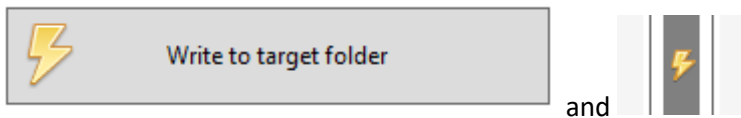
Remove a source location

To remove a source location you can use the context menu (see paragraph below): **right click on a source location and select 'Remove source location'**.

NB: this is only possible if there are NO links from this location to the target folder present.

2.7 Create and delete links

As soon as you select or deselect a source folder on the right which does not match the current status in the target folder these buttons will light up:



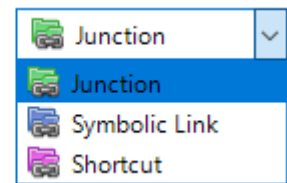
NB: the small area between the left and right overview is also a button!

The fact that the target and source locations are “in sync” can also be seen by this mark:



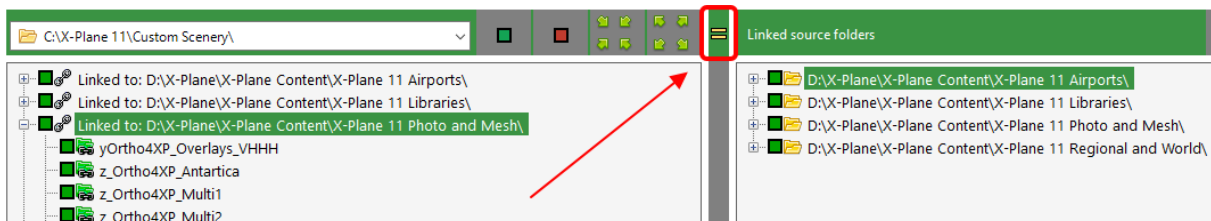
To “sync” the target with its source locations you need instruct xToolbox to write to the target folder. xToolbox can use the following types of links:

Type used to write links:



When you click on the Write button xToolbox will create the new links or remove the links that are deselected.

After writing to the target folder the overview will look like this (note that the Write buttons are now disabled and **the = mark is shown, because left and right are “in sync”**):

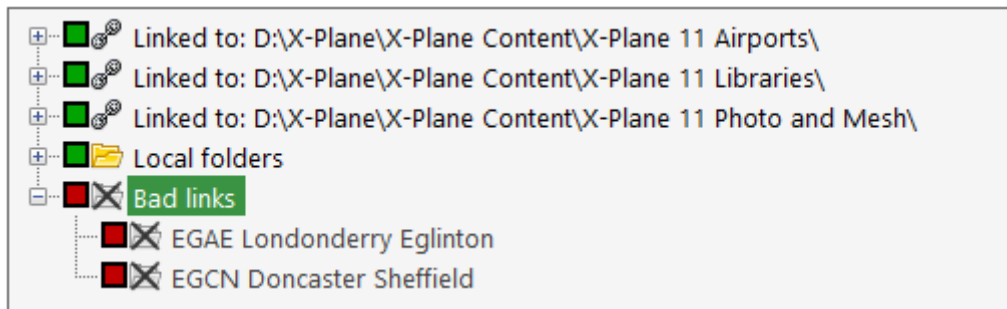


As you can see the target folder is now filled with links to all source folder that are selected on the right side. The links in the target folder are shown with an icon based on the type of the link (junction in the example above).

You can also select or deselect any link in the target folder on the right (not local folders or bad links). Any change will be applied to the corresponding linked source on the left side.

2.8 Bad links and deleting them

Any links in the target folder that no longer point to a source folder, because the source folder was moved, renamed or deleted, will be marked as bad links:



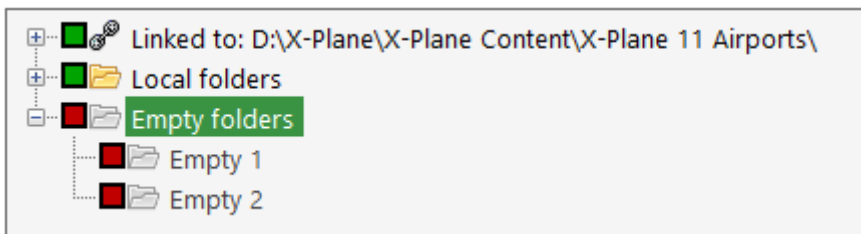
The easiest solution is let xToolbox delete these bad links or delete them yourself and recreate links if wanted. To let xToolbox delete the bad links you need to **uncheck them (see above: checkbox no longer green)** and hit the 'Write target folder button'

2.9 Empty folders and deleting them

If you copy a folder filled with links, for instance when you create an extra X-Plane installation to test a beta, you end up with a lot of empty folders. The link information of the reparse points is lost when copying.

With xToolbox this is not a problem as you can easily recreate the links by enabling the packages of your source locations (in the right overview) and click 'Write to target folder'.

To make it easy to spot which folders are empty they are listed separately in a similar way as bad links (see above). Deleting them works also the same: just disable them and click 'Write to target folder'.



2.10 The target folder is renamed or moved

If xToolbox cannot find a target folder it will automatically ask you to relocate it. Just point to the new location or the renamed folder and everything should work as before.

2.11 Context menu

If you right click on an item in the left or right overview, you will see a context menu with extra options.

Most of them speak for themselves, for remove source location also see the paragraph 'Add and remove source locations'.

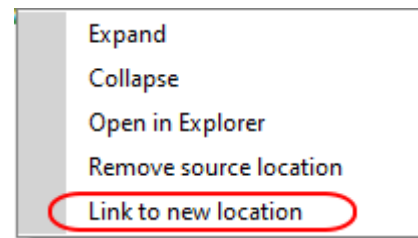
- Expand
- Collapse
- Open in Explorer
- Remove source location

2.12 The source location is renamed or moved

If xToolbox cannot find a source location it will mark it gray with '[Not Found]' added to the name.

To relocate the source location right click with the mouse and choose 'Link to new location' from the context menu.

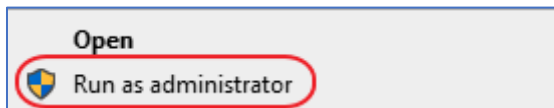
You can of course also remove the source location from xToolbox.



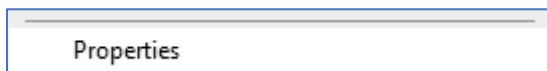
2.13 Symbolic links and administrator rights

xToolbox can write symbolic links, but only if you **run xToolbox as administrator**.

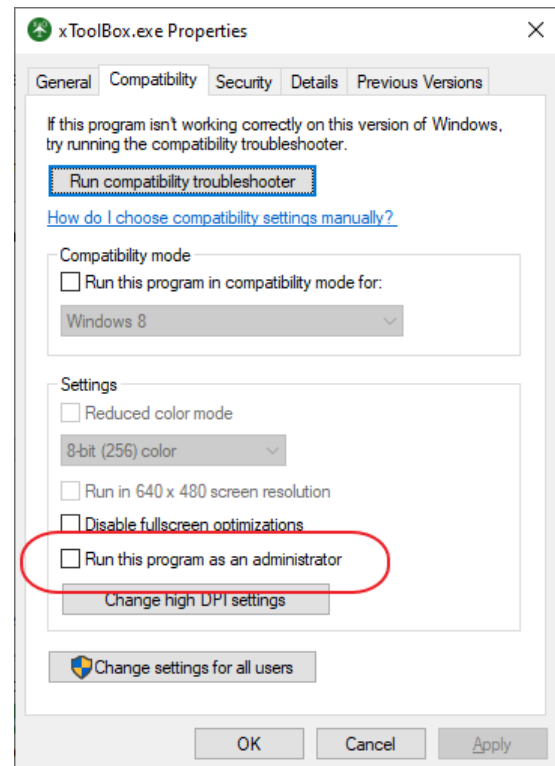
To do this you can right click on xToolbox.exe (in Windows Explorer) and choose run as administrator from the context menu:



If you would like xToolbox to **always** run with administrator rights, you can change it with the properties (again in Windows Explorer):



On the right you see the checkbox to need to check in the Compatibility tab.



Note:

If you run an application as administrator you will not see any mapped network drives. This is default Windows behavior. It is possible to change this by adding a registry key. Please only edit your Windows registry if you have experience with it.

In Registry Editor, locate and then click the following registry subkey:

HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Policies\System

- Right-click Configuration, click New, and then click DWORD (32-bit) Value.
- Name the new registry entry as **EnableLinkedConnections**.
- Double-click the **EnableLinkedConnections** registry entry.
- In the Edit DWORD Value dialog box, type 1 in the Value data field, and then click OK.
- Exit Registry Editor, and then restart the computer.

Source: <https://support.microsoft.com/nl-nl/help/3035277/mapped-drives-are-not-available-from-an-elevated-prompt-when-uac-is-co>

2.14 Circular references

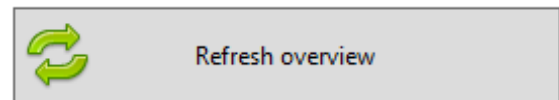
With links it is possible to create an infinite loop, where links directly or indirectly point to each other. This could cause a situation where Windows “locks-up”.

Although this will not happen soon, xToolbox tries to prevent this by checking the source location with the target location: they should not be part of each other paths in any way.

For the same reasons xToolbox will ignore and not show any link found in a source location.

2.15 Refresh

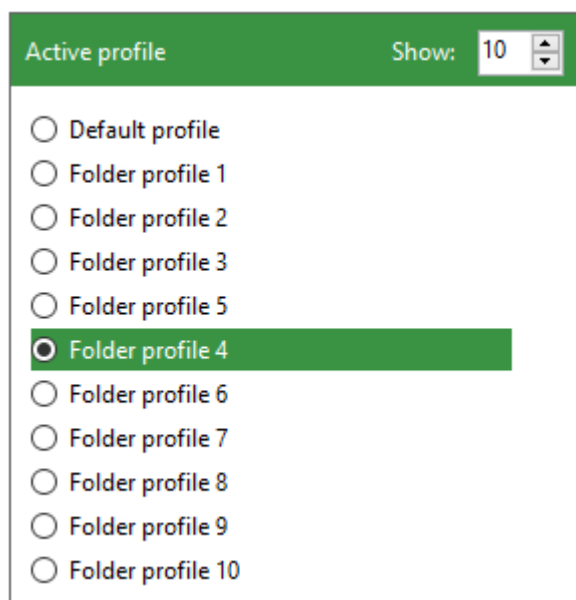
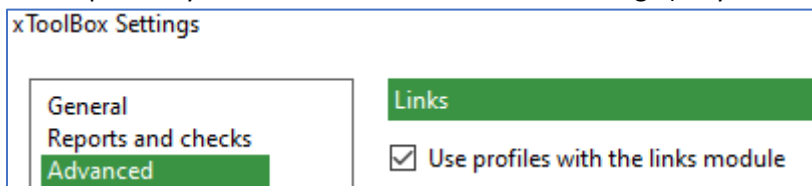
With the refresh button xToolbox will reread the target folder and source locations. Any changes made in the overview will be lost.



2.16 Profiles

Profiles in xToolbox are used to store the (de)selected state of source folders. By selecting a profile you can load these states. You can use profiles if you often link and unlink certain folders.

To use profiles you need to enable them in the settings (they are off by default):



xToolbox can store up to 15 profiles for you.

Renaming user profiles

By default, the user profiles are named Profile 1 and up but you can give them a more meaningful name by double clicking on the profile.

Default profile

The default profile is always refreshed when xToolbox starts (or refreshes). It reflects the state of the target folders at that moment.

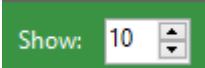
However, you can use the default profile to quickly enable or disable things and hit 'Write to target folder'.

Switching between profiles

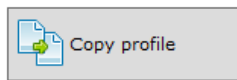
If you click on a profile, the overview will directly show the states of that profile.

New profiles always start with everything disabled. Just enable the source folders you would like in that profile and this will be stored. Please keep in mind that any change you make is stored automatically: there is no need to save the changes.

Hide/show profiles, no deletion

With the small box on the right side of the bar  you can select the number of profiles that are visible. So, if you only have 3 profiles you can simply hide the rest. **Note:** profiles cannot be deleted only hidden from sight!

Copy and order profiles



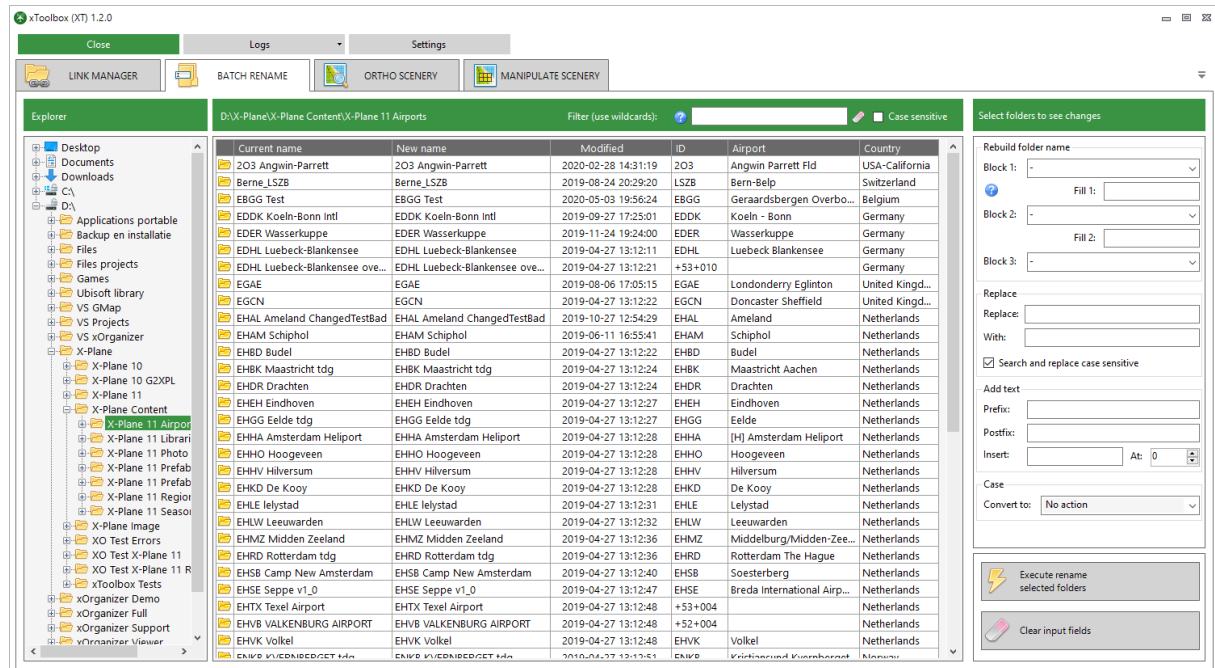
With the copy button you can copy all states of one profile to another.



The move up/down buttons help to create the order you would like for the profiles.

3 Batch rename

The batch rename module works straightforward. On the left you will see an overview similar to Windows Explorer. The overview in the middle shows the contents of the selected folder, while the overview on the right will show the same folders with a preview of the effects of renaming:



Note that xToolbox adds an extra information (extracted from the folder and apt.dat file and the xToolbox database):

- **Airports: ICAO, airport name and country**
- **Tiles: latitude / longitude and country**

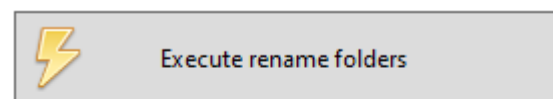
You can use this information when renaming a folder.

The preview of the effect of renaming is only visible for those folders that are selected in the middle overview. You can use shift and control to make any selection of single or multiple folders.

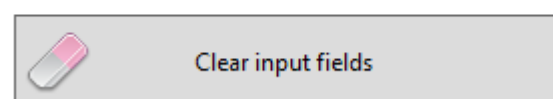
Any illegal characters (like * ? \ /) will be filtered out automatically.

3.1 Buttons

To let xToolbox actually rename folders you can press the execute button.



To clear the rename fields you can use the clear button.



NB: only selected folders are renamed:

EGAE	EGAE Londonderry Eglinton
EGCN	EGCN Doncaster Sheffield

3.2 Rebuild folder name

The rebuild text block probably needs the most explanation.

With this block you can rebuild the folder name:

Block1 Fill1 Block2 Fill2 Block3


Each block can be filled with the dropdown list:


- Current text: copies the current name
- ID, airport name or country: fills in the scenery data
- zOrtho4XP_: fills in this text

BUT: you can also type in any text you want in any of the blocks!

The Fill1 and Fill2 fields can be used any way you like, but also to add a – sign or space between the blocks.

This selection will rename

 EGAE

To:  EGAE Londonderry Eglinton-United Kingdom

Rebuild folder name

Block 1:

Block 2:

Block 3:

Current text
ID: ICAO or Tile
Airport Name
Country
zOrtho4XP_

Rebuild folder name

Block 1:


Block 2:

Block 3:

Fill 1:

Fill 2:

This selection will rename

 EHAM Schiphol

To:  EHAM Schiphol (Netherlands)

Rebuild folder name

Block 1:


Block 2:

Block 3:

Fill 1:

Fill 2:

This selection will rename

 Phototile 22-113

To:  zOrtho4XP_+22+113

Rebuild folder name

Block 1:

Block 2:

Block 3:

Fill 1:

Fill 2:

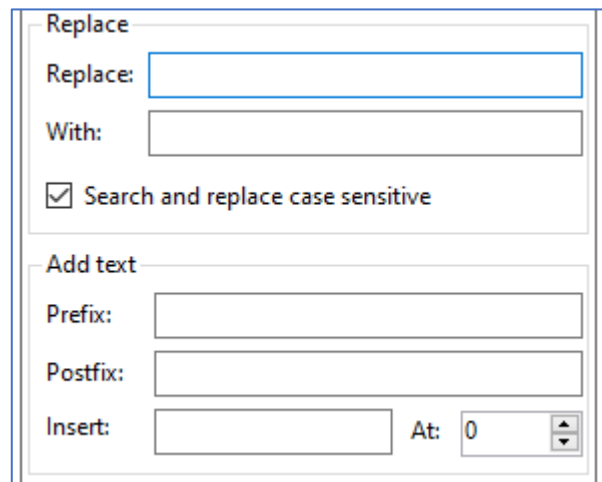
3.3 Replacing text and adding or inserting

These functions will probably be more familiar. With replace you can replace any part of the name (case sensitive or not).

Prefix will add text before the current name (for instance 0_ if you would like to group a certain type of scenery packages).

Postfix does the same, but at the end of the current name.

Insert will insert the supplied text at the exact position given in the numeric box.

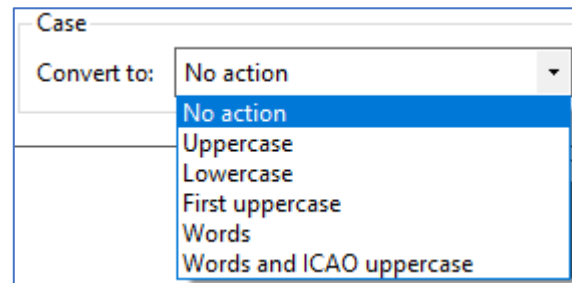


The image shows two stacked dialog boxes. The top one is titled 'Replace' and contains two text input fields: 'Replace:' and 'With:'. Below these is a checkbox labeled 'Search and replace case sensitive' which is checked. The bottom dialog box is titled 'Add text' and contains three text input fields: 'Prefix:', 'Postfix:', and 'Insert:'. To the right of the 'Insert:' field is a numeric input field labeled 'At:' with the value '0' and a small up/down arrow icon.

Change case

Most options of the casing conversion will look familiar.

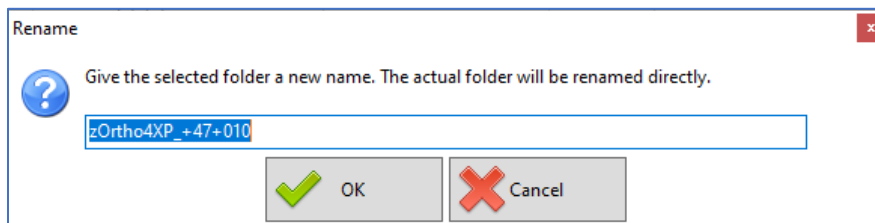
The words option will make every new word start with uppercase. The ICAO version does the same, except xToolbox will try to find the airport code (ICAO) with a regex search and keep the code fully uppercase.



The image shows a dialog box titled 'Case'. It has a label 'Convert to:' followed by a dropdown menu. The dropdown menu is open, showing a list of options: 'No action' (selected), 'No action', 'Uppercase', 'Lowercase', 'First uppercase', 'Words', and 'Words and ICAO uppercase'.

3.4 Rename single folder (double click)

You can directly rename a folder by double clicking on the row in the overview and provide the new name:



The image shows a dialog box titled 'Rename'. It has a question mark icon and a text label: 'Give the selected folder a new name. The actual folder will be renamed directly.' Below this is a text input field containing the text 'zOrtho4XP_+47+010'. At the bottom are two buttons: 'OK' with a green checkmark icon and 'Cancel' with a red X icon.

Any illegal characters (like * ? \ /) will be filtered out automatically.

4 Photo scenery

4.1 Structure of a photo package

Photo scenery contain different types of files which are related:

File type	Contains	Refers to	Folder
DSF	Mesh triangles with used terrain definition and location (lat/lon)	Terrain definitions (TER files)	Earth nav data
Terrain (TER)	Terrain definitions used to paint terrain patches	DDS files PNG files	Terrain
Images (DDS and PNG)	DDS images: actual satellite image PNG images:masks	-	Textures

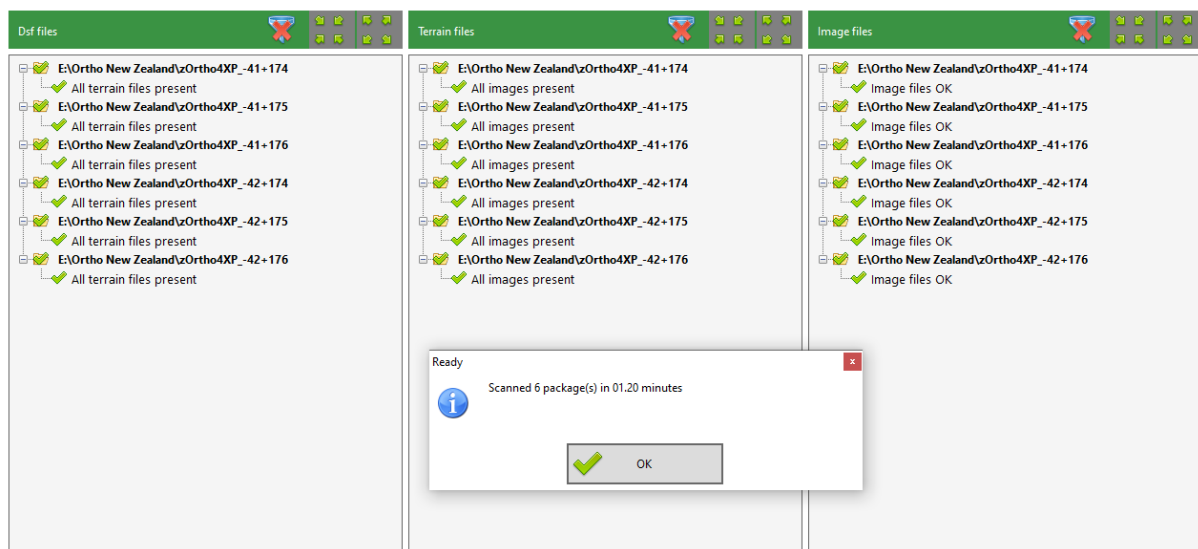
In each package the DSF files refer to the terrain files and the terrain files refer to the DDS and PNG images. All files should be present and valid. xToolbox check these relations:

- DSF ⇔ terrain files
- Terrain files ⇔ DDS and PNG files

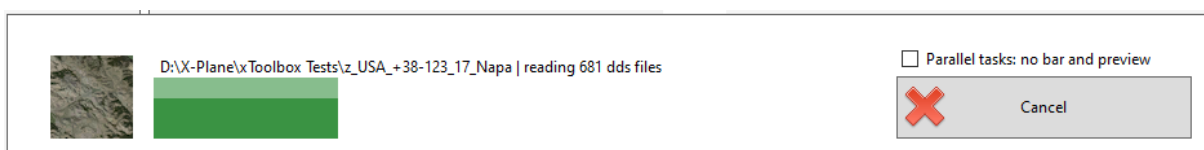
Furthermore it can check if the terrain and DDS files are valid and not corrupted. This last check costs a lot of processing power, because each DDS image is decompressed to check the actual content.

4.2 Scan results

The results of each scan are divided in 3 columns referring to the DSF file(s), terrain files and image files. A scan of a valid folder with photo packages results in the following overview:



During the scan a progress bar is shown and (if applicable) a preview of the DDS image:



The bar and preview can be disabled during parallel processing tasks which gives a small performance gain (approx. 2%).

4.3 Scan options

Before you select one or more photo packages you should decide which checks you want to be performed (see 4.1 for the explanation of the structure of a photo package).

Check images

Problems with the images seem the most common, which can be:

- Missing DDS images [2]
- Corrupt DDS images [3]

Convert JPG images to DDS images

Sometimes DDS images are missing because they were not yet converted from JPG. xToolbox will tell you if the corresponding JPG is found. In these cases the problem is simply solved by letting xToolbox run the conversion for you [4].

After the conversion you could let xToolbox check the new DDS image and delete the no longer needed JPG file [4]. The deletion will be executed only if the resulting DDS image is indeed valid.

Checks to perform

- ☒ Dsf files: all terrain files present 1
- ☒ Terrain files: all images present (*) 2
- ☒ Images: valid and not not corrupted (*) 3

(*) most common problems

Check	White	Black
Percentage	15	75
RGB	190	40

Perform with or without the checks above:

- ☒ Convert jpg images to dds images if dds image is missing 4
- ☒ Delete jpg images if dds image is present

Starting with version 1.0.3 works in 64bit with parallel processing, also when converting JPG files. It **uses all CPU cores and CUDA** (if a Nvidia GPU is available that supports it).

Check black or white images (and images with clouds)

Not only can xToolbox check the integrity of DDS images, it can also check the colors to filter out black or white images (also a problem that can occur with photo packages) [5].

The same check can be used to detect images that are covered with clouds (so you see white patches in X-Plane instead of the ground, see image below). To get the best results you can tweak the settings:

- Percentage = the percentage of pixels that are black or white
- RGB = the "whiteness" or "blackness" of the pixel -> 255 is 100% white and 0 is 100% black.

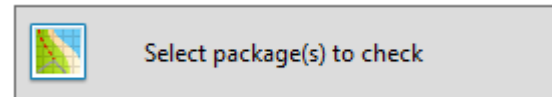
As background: xToolbox checks if all color channels of the pixels (of a 16x16 mipmap) are above or below the given value. If all channels have the same value the color varies from black to white on a grayscale. All pixels with an alpha channel of zero (transparent) are ignored.

On the right side a preview of the image is show + the actual location in the 1x1 degree tile:



Start a scan

With the Select button you can select photo package(s).



You can use the **mouse + SHIFT/CONTROL** to select multiple packages. Or use **CONTROL-A** to select all packages in a folder you opened.

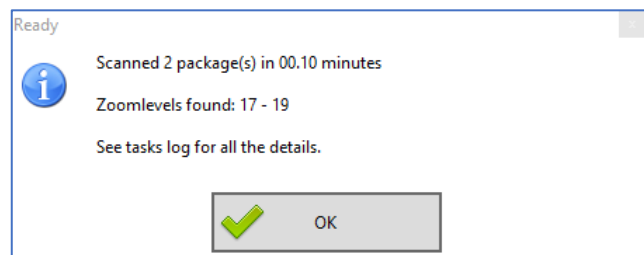
After selecting the photo packages the scan will start immediately.

NB: xToolbox will automatically read junctions and symbolic links, but shortcuts are ignored. It is advisable to let xToolbox scan the original location (where the link is pointing to).

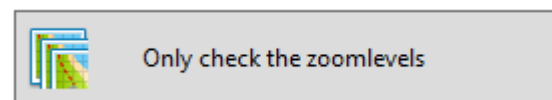
4.4 Zoomlevels

With any scan where terrain files are checked the zoomlevel of a package is automatically calculated. At the end of a scan xToolbox will report the minimum and maximum zoom zoomlevel found.

More details are available in the tasks log.



If you would like a list of only the zoomlevels you can use the button down the right bottom. After the scan the complete list can be found in the task log.



4.5 Scan performance and selection size

Please note that scanning photo packages can take a considerable time. Of course it depends on your CPU and the drive: HDD or SSD.

In general a HDD will be the bottleneck limiting the scan speed and with a SSD the CPU. On a system with an i7-4790K, 32Gb and a SSD, scanning 80Gb of photo scenery takes 3.5 minutes.

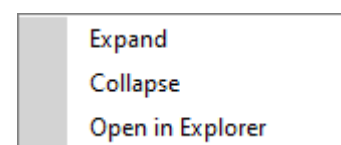
It is possible to let xToolbox scan your whole Custom Scenery folder. It will skip all non-photo packages automatically. But it might be better to **limit the amount of packages scanned at once**. Not only will it take a while, but the list of results could be hard to read.

NB: it might be worth to consider **storing your photo packages in folders per country**. This makes it easier to manage and gives better overview. To find out which photo package belongs to which country the Rename module might help (it will list the country).

One last remark: **xToolbox will only scan photo packages** with a normal folder structure with an Earth nav data folder + terrain folder + textures folder. It will also recognize **Winterized packages**, but all other types of packages are skipped.

4.6 Context menu

When you right click on a top node in the overviews, you will see a context menu.



The overview with the images (right) also has a context menu for the “Image file invalid” node. With this function you can delete all invalid images.

Delete images

The context menu for the black and white images show the option to copy the filename to the clipboard or open the image in the Windows Explorer.

Copy filename to Clipboard
Select file in Explorer

4.7 Examples of detected problems

With the buttons on top you can set a filter to only show results that need you attention. The other two buttons collapse or expand the overview.



On the right you can see some examples of errors. **NB: these errors are created on purpose to show all possible problems. In reality this many errors are unlikely.**

Some dsf and terrain files are missing and one dsf file could not be read.

These errors cannot be repaired: the only solution is to completely recreate or redownload the package.

The unused terrain files are not referenced and should normally be safe to delete. However, it can also be ignored as it does not harm.

Dsf files

- D:\X-Plane\xToolbox Tests\203 Angwin-Parrett
 - Skipped: not a photo package
- D:\X-Plane\xToolbox Tests\Phototile 22-113
 - +22+113.dsf : not valid
- D:\X-Plane\xToolbox Tests\zOrtho4XP_+49+012 Jpg
 - +49+012.dsf: missing terrain files
- D:\X-Plane\xToolbox Tests\zOrtho4XP_Czech_+48+017
 - No dsf files found
- D:\X-Plane\xToolbox Tests\zOrtho4XP_Czech_+49+017
 - All terrain files present
 - Unused terrain files

Here are some terrain files are missing or invalid.

These errors cannot be repaired: the only solution is to completely recreate or redownload the package.

If dds images are missing and you still have the original jpg images, you could try to rerun the conversion (jpg -> dds).

The unused images could be deleted, although they can also be ignored because they do no harm

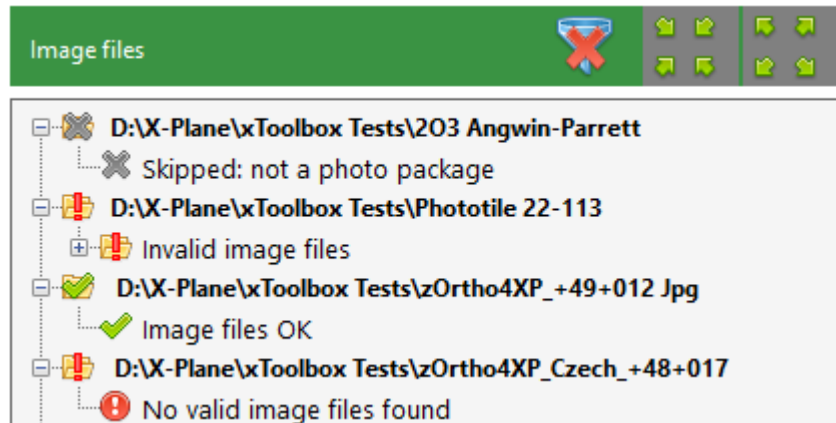
Terrain files

- D:\X-Plane\xToolbox Tests\203 Angwin-Parrett
 - Skipped: not a photo package
- D:\X-Plane\xToolbox Tests\Phototile 22-113
 - Missing png images
- D:\X-Plane\xToolbox Tests\zOrtho4XP_+49+012 Jpg
 - All images present
- D:\X-Plane\xToolbox Tests\zOrtho4XP_Czech_+48+017
 - No terrain files found
- D:\X-Plane\xToolbox Tests\zOrtho4XP_Czech_+49+017
 - All images present
 - Unused image files
- D:\X-Plane\xToolbox Tests\z_Ortho4xp_NL_ZL16_+52+004
 - Skipped: not a photo package
- D:\X-Plane\xToolbox Tests\z_USA_+38-123_17_Napa
 - Invalid terrain files
 - Missing dds images

Here dds images are missing or invalid.

If you still have the original jpg images you could try to rerun the conversion.

Otherwise recreating or redownloading is the only solution.



4.8 How to solve problems

The check on photo packages is aimed at detecting problems to prevent a frustrating X-Plane crash in the middle (or end) of a long flight.

If problems are detected, in most cases the only solution is to partly or completely recreate the photo package with the original tool or to try to redownload the package from a different location if it is from an online source.

If the problem is related to corrupt DDS images and the original JPG files are still available, you could try to rerun the conversion (with xToolbox or other scripts).

5 Manipulate scenery

With this module you can tailor (the coverage of) scenery packages exactly as you want.

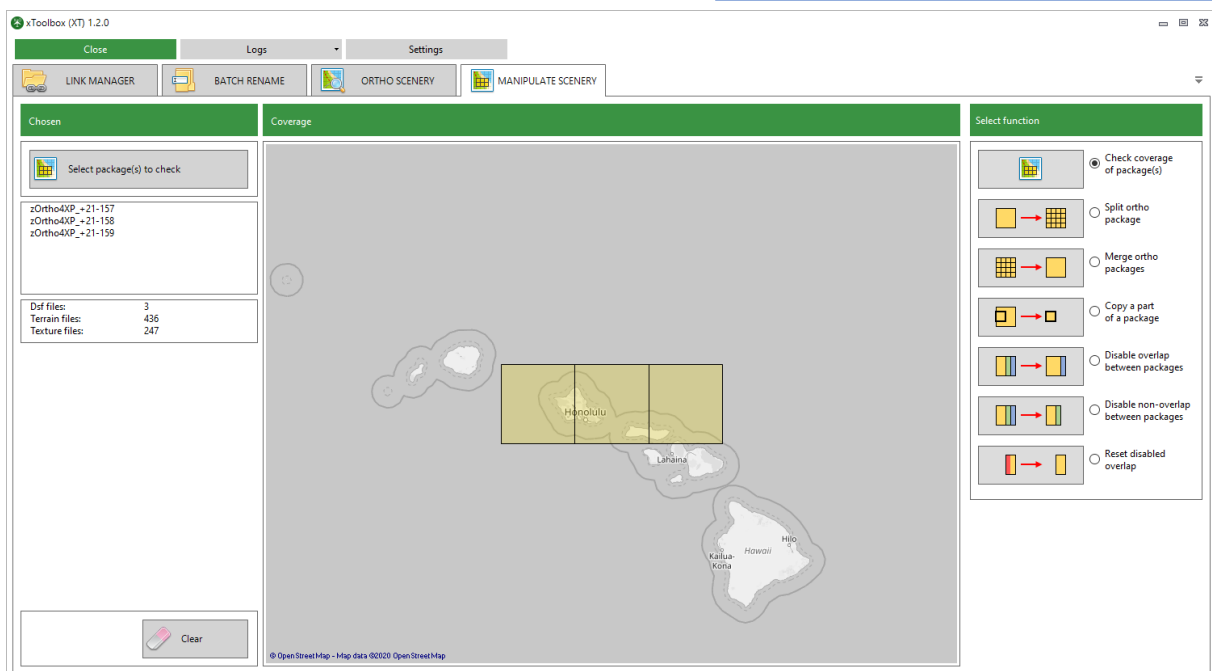
5.1 Check of the files found

With all the described functions xToolbox will check which files are found in the selected folders and summarize them. It will also report if folders are missing:

- Earth nav data: should always be present
- Terrain / textures: should always be present for photo packages, but not for overlays etc.

5.2 Check coverage

This option simply shows the coverage of the selected scenery packages:



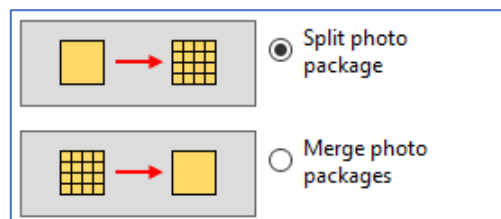
The box below the selected packages will show the number and types of files found:

Dsf files:	3
Terrain files:	436
Texture files:	247

5.3 Split and merge photo package

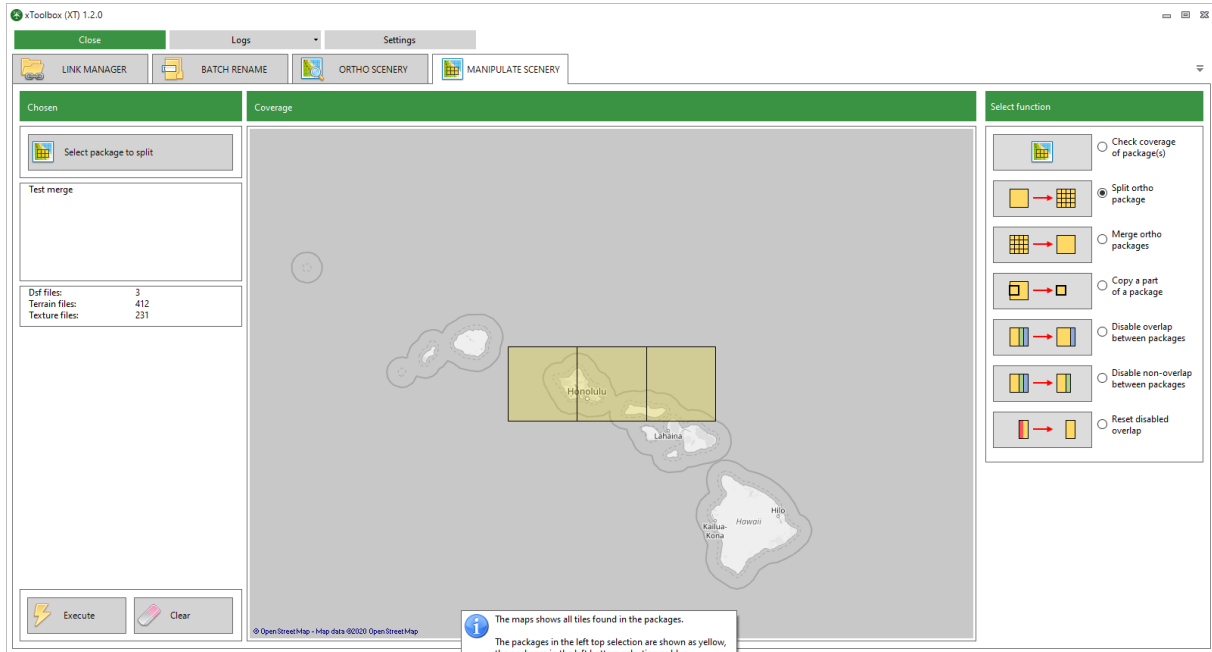
With the **split** option you can split up a photo package that contains multiple tiles into several single packages. With **merge** you can of course do the exact opposite.

Neighboring tiles contain a small overlap. As a result the merged packages will contain a slightly lower number of files. The exact numbers can be found in the log file.



With the split function the exact opposite happens: based on the dsf files, xToolbox will collect all the necessary terrain files and based on the terrain files the necessary image files (with the small overlap as result).

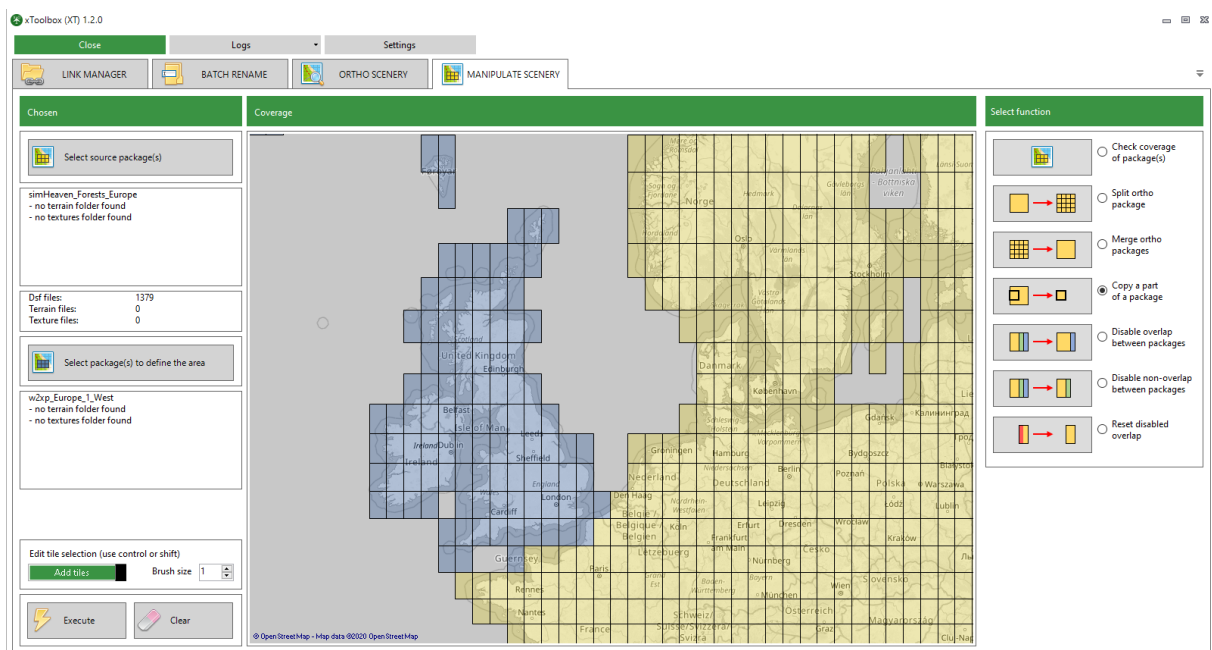
The map will show the tiles to split or to merge (same packages as the example in 5.1 but now merged as one package):



5.4 Copy subarea of a package

With this function you can copy a part of a package. An example could be that you have a folder with photo scenery packages for a country and you would like to copy all overlays for that same country from a large folder with overlays.

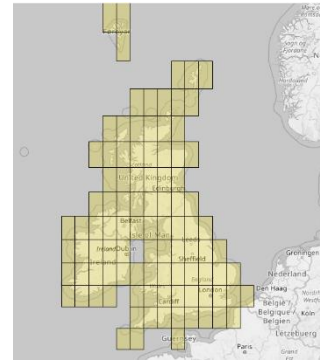
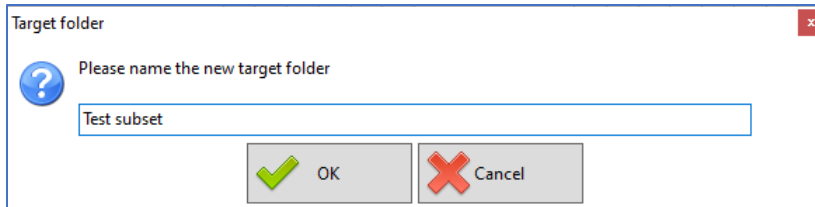
In the screenshot below the blue tiles represent the packages in the country folder and the yellow tiles the large folder with overlays. Notice that the overlap is a bit greenish.



The blue just defines the area you want to copy. You can select packages to define this area, but you also draw the area manually (or a combination of both).

To edit the blue area you can use control and shift to make selections in the map. Use the switch to switch between adding tiles (green) and removing tiles (red). The brush defines the number of tiles you select with each click (while holding control).

You will be asked to name the new package and to choose a location:



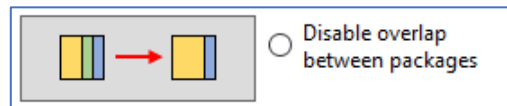
With the check coverage function you can check the copied package (recognize the same area defined by the blue tiles above):

NB: this function is meant to collect overlays but can be used for other types of packages. Don't use this function for photo packages, because it will not copy the terrain and texture files!

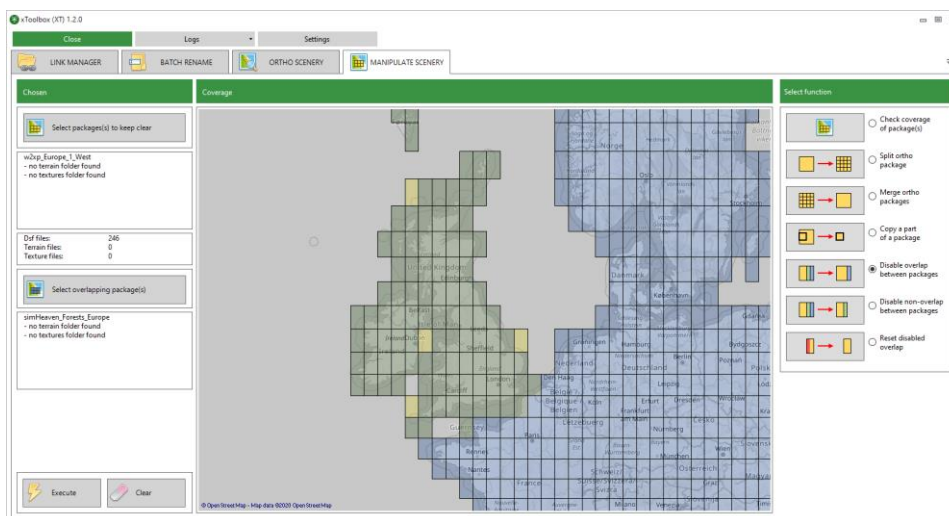
Please note that some packages contain a library file and objects: these are not copied automatically. In these case you can manually copy these files or consider using the "Disable overlap" function. With the overlap function you can keep the parts you want to use and disable the rest.

5.5 Disable overlap

If two packages that you both want to use overlap it can be useful to disable the overlap. This way the order in the scenery_packs.ini is no longer an issue.

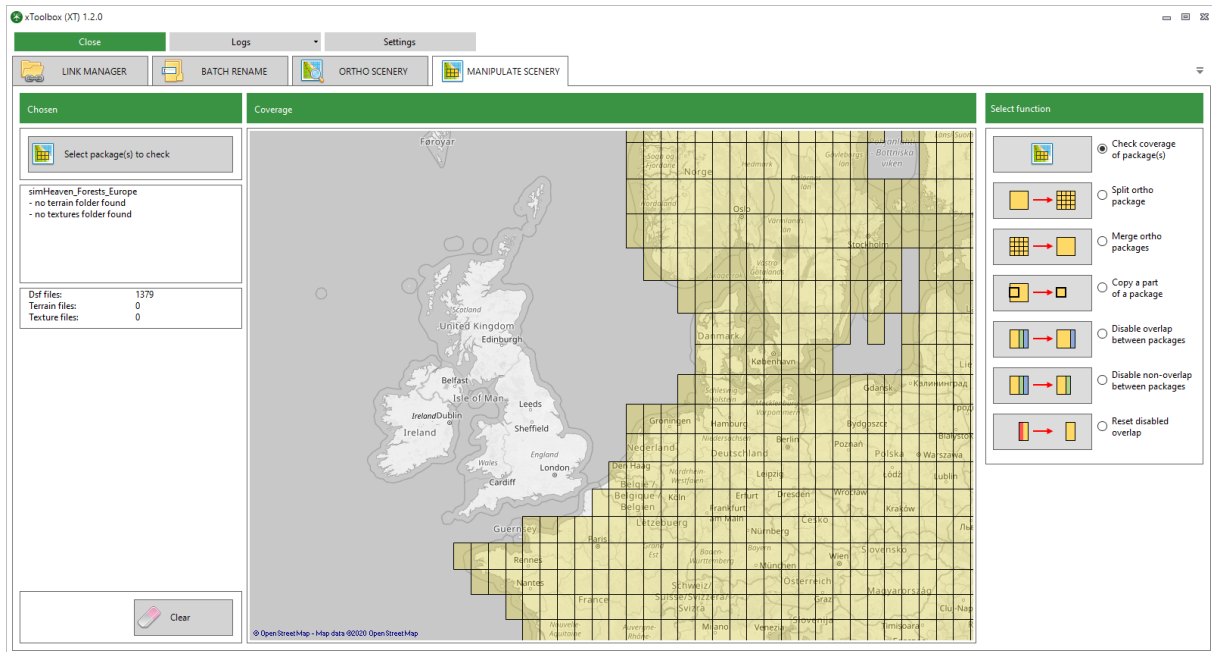


In the example below you see yellow tiles being overlapped by the blue tiles:



This can happen for instance if you install both Orbx UK and X-Europe, where you want to exclude the UK from X-Europe.

Just execute and afterwards use the “check coverage” function to check the result. The overlapping blue tiles in the previous image are shown as yellow and as you can see there are now no enabled tiles in the UK anymore:

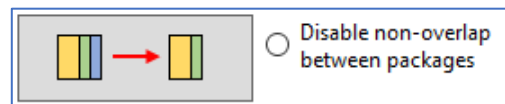


xToolbox adds the extension .xorg to each disabled dsf file (same method xOrganizer uses). This way X-Plane will not (and cannot) load these tiles.

To enable the tiles again: see below.

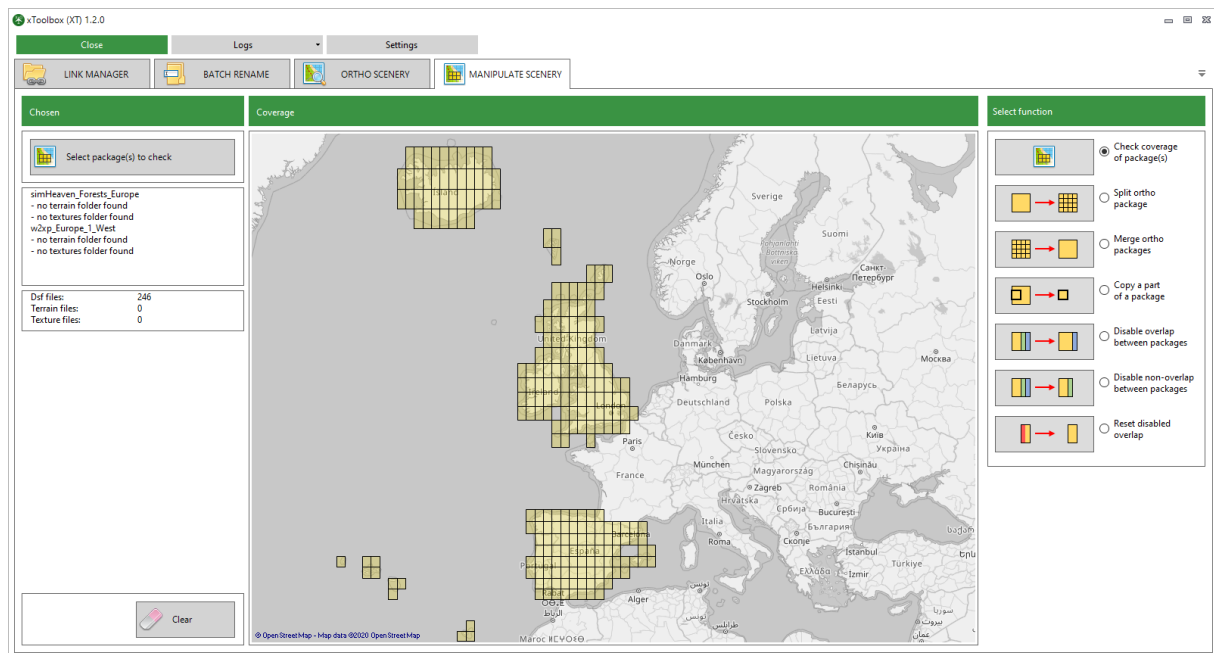
5.6 Disable non-overlap

This function does the opposite as the normal overlap function: it disables the non-overlapping tiles and keeps the overlapping tiles.



This function can be useful if you only want a package to cover a certain area. It has some similarities to the copy subset function. Only here nothing is copied, but the selected area is kept while the rest is disabled.

Using the same overlap as shown in paragraph 5.5 (blue overlapping the yellow tiles in the UK), the result after execution becomes:

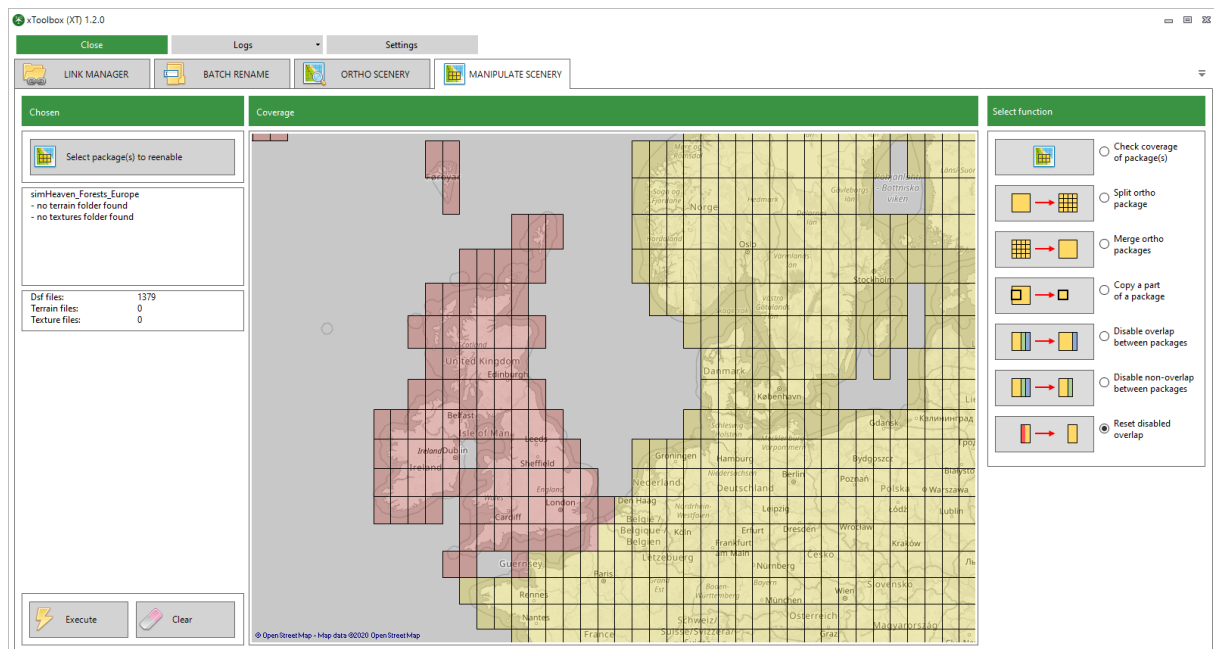
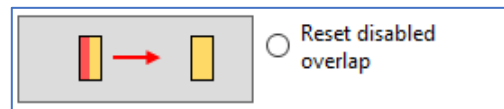


As you can see both packages now cover the same area (so, the overlap is kept).

5.7 Reset disabled overlap

If you want to reenale tiles you can simply select this function. It will remove all .xorg extensions.

The disabled tiles from paragraph 5.4 are shown in red:



6 Settings

General

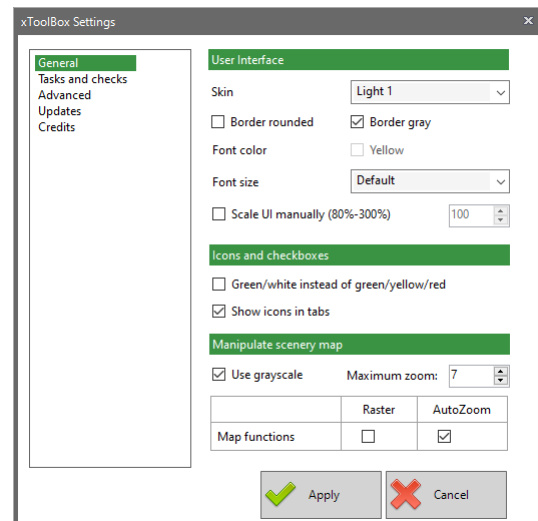
With skin you can choose the UI colors that you like best, also with yellow font color for extra contrast.

The font size can be changed to small, default and large.

The scaling is set automatically by Windows, but you can overrule this and choose anything between 80% and 300%.

Use green/white will give the checkboxes a different color, instead of red/green.

Grayscale will change the map appearance.

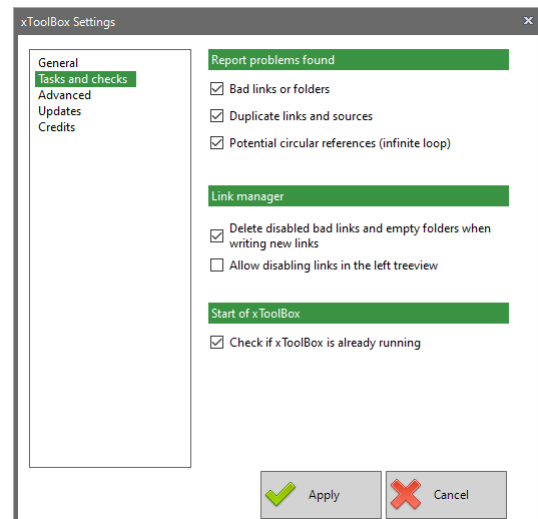


Tasks and checks

xToolbox will always perform checks when scanning links, but you can turn off the messages.

By default deselected bad links found (see paragraph) will be deleted when writing links. If you don't want the bad links to be deleted you can keep them selected (checkbox green in the overview) or turn off this option.

Previously you could disable links in the left treeview of the Link manager. For better logic this is now disabled, but with the "Allow disabling links" option you can reenale it.



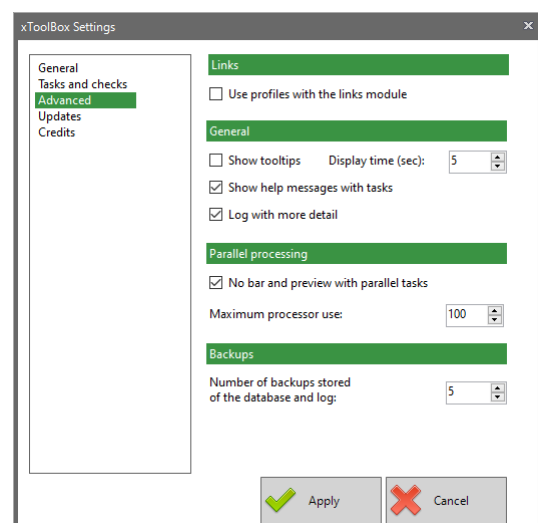
Advanced

For the profiles see the separate paragraph.

If you want you can switch off the tooltips (or decrease the display time) + the pop-up help messages that are shown when selecting clicking a task.

Log more detail will add some extra logging.

With parallel processing tasks xToolbox by default uses all processors, limiting the capacity for other applications. You can lower the % to 25%, 50% or 75%. The other option (no bar and preview) gives a small performance gain of approx.2%.



The database only contains the settings of xToolbox and the target folders + source locations. But if you want you can change the number of backups made.

Updates

xToolbox by default checks for updates, but this can be switched off here. The check will be performed with the interval specified here (in days), but with the button you can also check this right away.

