RTMM Enhanced Season Switcher

Seasonal File Switching for Return To Misty Moorings (RTMM) Scenery

User Guide and Developer Reference

Table of Contents

Introduction

For many years Return to Misty Moorings (RTMM) scenery has included seasonal variations which enhance the experience of the scenery by displaying objects and textures appropriate for a particular season. These can be selected by using the RTMM Season Switcher which automatically enables the correct scenery files for a specified season.

Over 50% of the RTMM scenery now includes these seasonal variations. Recently, RTMM created a system to succinctly capture the simulator's seasonal look for a given month at a given location. They are called season maps. Today, each seasonal scenery in the RTMM Scenery Library has a Season Map that provides a table of seasons by month. See sample below:

For a given scenery the Season Map gives the user the following information:

White = set Season to Winter for this month;   Light Green = set Season to Spring for this month; Dark Green = set Season to Summer for this month and Orange = set Season to Fall for this month

Here is an example of how these Season Maps might be currently used by an RTMM user: if you are flying a particular seasonal scenery that carries the Season Map shown above, and if your Simulator Flight Date is set to November 5th, the ORBX default textures and foliage will be depicting the proper looks for Fall. Therefore, the user should set the season to Fall using the RTMM Season Switcher when flying in the area of this scenery.

Although the switching process is automated through the RTMM Season Switcher, there was no good solution for a user who is flying from one scenery to another where the Season Maps are different because the RTMM Season Switcher can only apply a season globally to all of the RTMM seasonal sceneries. This can be particularly noticeable in the geographical regions that the RTMM scenery covers in the Pacific North West and Alaska. For instance, many coastal locations in the region have relatively mild climates throughout the year while interior conditions can be markedly different, especially in winter. A quick glance at the season tables in the RTMM Scenery Library shows the range of variation in seasons for particular months and it is quite possible for a pilot to fly inland from the coast to find themselves quickly in a different climate and effective season.

In addition, it was problematic for a user to pick a scenery to inspect from the air, say on March 25, and have to go on the RTMM site to determine if the Season Map displays March in light green for Spring or does it display March in white because it is still Winter at that scenery location.

To address these problems and make full use of the seasonal variations offered in the RTMM seasonal scenery, an enhanced method of choosing the season and switching the scenery was needed. The tool developed to do this is the RTMM Enhanced Season Switcher (RTMM eSwitcher).

The RTMM eSwitcher is a completely new application, based on the old RTMM Season Switcher, written in a modern coding language and compiled using the Microsoft .NET Framework v4.5. The RTMM eSwitcher has been written to use the existing RTMM seasonal .bgls found in all of RTMM's seasonal scenery. In addition, a season map xml file, unique to each RTMM seasonal scenery, has been created. It contains the month/season data unique to each specific seasonal scenery which is the digital equivalent of the RTMM season maps mentioned earlier in this document. This season map xml file is stored inside the seasonal scenery folder along with the existing RTMM seasonal .bgls. The current RTMM Season Switcher functionality is also being retained but the RTMM eSwitcher adds the additional capability, at the user's choice, to electronically read that unique season map xml file from each scenery folder and switch that scenery's seasonal files based on a planned simulator flight date selected by the user. This means that different sceneries can be automatically set to different seasons based on the planned flight date. The old RTMM Season Switcher did not have the capability to switch one scenery location to fall while switching a different (and possibly colder) location to winter at the same time.

This guide explains how to use the new RTMM eSwitcher and make best use of its capabilities. While simple to use, the eSwitcher performs many checks behind the scenes to ensure the integrity of seasonal scenery elements and provides help with the process of transitioning to this new switching method.

An Appendix, in this document, contains detailed notes for RTMM scenery developers explaining how to make their seasonal scenery compatible with the RTMM eSwitcher.

We at RTMM are sure you will really appreciate the flexibility and convenience the RTMM eSwitcher offers and that you will soon find you can't fly without it!

Installation

If any of your RTMM seasonal scenery folders were installed before July 25, 2019 or if you are not sure of the date or if any of your seasonal scenery folders have been merged into a single scenery folder location (referred to as "consolidated" or "combined" scenery), please read through the RTMM eSwitcher Scenery Preparation Guide found in the RTMM eSwitcher Scenery Preparation folder for instructions on how to prepare your installed RTMM Scenery to be "RTMM eSwitcher ready" before continuing with this Guide.

If all of your RTMM seasonal scenery folders were installed, after July 24, 2019, into one folder set for each scenery, then your RTMM seasonal scenery folders should be "RTMM eSwitcher ready". Therefore, you should not need to use the RTMM eSwitcher Scenery Preparation Guide. Please continue reading this Guide.

Installing the eSwitcher application is very simple but there are some **basic prerequisites to check** before you install:

- The eSwitcher works with all versions of Microsoft Flight Simulator (FSX) and Lockheed Martin Prepar3D (P3D) that are supported by Return to Misty Moorings.
- The eSwitcher will run on all versions of Windows from Windows 7 onwards but requires the Microsoft .NET Framework v4.5 or later to be installed. If you use Windows 10 this is built in; for Windows 7 and 8 you will almost certainly have installed it at some point (probably as a Windows update) as it has been around for several years now. In fact, if you are using RTMM scenery you will have installed Orbx FTX regions using FTX Central which requires at least .NET 4.5. In the remote eventuality that you don't have a recent version of the .NET Framework it can be downloaded direct from Microsoft by searching for .NET.

- The RTMM eSwitcher program is stand-alone. This means that there is only one single program file and no separate installer is needed.
- The eSwitcher should not require any special permission to run. Most RTMM users will be using a login account with administrator level permissions in any case because of the requirements of many 3rd party add-ons (such as weather, GPS systems and so on) which can have problems when being run under a limited user account. If Windows does display a warning when running the eSwitcher for the first time, then simply acknowledging this message will allow it to run thereafter.
- ***To avoid potential conflicts and errors that would be flagged by the RTMM eSwitcher, each seasonal scenery <u>must be installed</u> into a single folder. This is the recommended practice at Return to Misty Moorings for all scenery installations. Installing multiple different seasonal scenery files into a single scenery folder location (referred to as "consolidated" or "combined" scenery) is not supported by Return to Misty Moorings. However, for more information on how to prepare consolidated scenery for eSwitcher use, please read through the RTMM eSwitcher Scenery Preparation Guide found in the RTMM eSwitcher Scenery Preparation folder before proceeding with the RTMM eSwitcher installation.***

To install the RTMM eSwitcher, copy the RTMMeSwitcher.exe from the RTMM eSwitcher v1.0\RTMM Enhanced Season Switcher folder to the top-level folder on your computer where you keep your RTMM sceneries. You may wish to create a start menu or desktop shortcut to the RTMM eSwitcher for convenience.

Before you start the eSwitcher for the first time there are also a couple of important points to consider.

1. Ideally the eSwitcher should only be installed in one location, at the top level ("root") folder of all your RTMM sceneries. This is because the eSwitcher scans all the folders under the one in which it installed for the presence of seasonal scenery. If your sceneries are spread around different locations, you can put a copy of the eSwitcher in each but you would then need to run it separately for each location losing the advantage of the simple "one-click" operation it offers. For example, if you keep your scenery in the default simulator "Addon Scenery" folder then this is the place you should copy the eSwitcher files. The most likely situation is that you will simply copy the eSwitcher to where you already keep the previous RTMM Season Switcher. Note also that only one instance of the eSwitcher can be run at the same time.

2. The most important feature of the eSwitcher is its ability to set seasonal variations appropriate to a given date for each scenery according to a season table designed for that scenery. This feature relies on "season map" files which are unique to each scenery. The eSwitcher performs a scan at start-up searching for consolidated scenery and, if any is found, will show a prominent warning and then disable the seasonal date switching function, reverting instead to the fixed season switching of the previous RTMM Season Switcher. This prominent warning displays **each time** the RTMM eSwitcher is started if consolidated scenery is found. For more information on the RTMM eSwitcher and consolidated scenery please refer to the "Checking for Consolidated Scenery" section of this guide

3. When the eSwitcher is first run it creates a settings file named curseasonset.xml. This file should not be erased. It keeps track of what settings were last used when the eSwitcher was run.

Running the RTMM eSwitcher For the First Time

Each time you run the eSwitcher it performs a number of start-up checks. When you run it for the **first** time some additional checks are needed.

There are two possibilities if the eSwitcher has not been run before: you may be using it having never used the previous RTMM Season Switcher (a "clean" install); or you may already be using the previous switcher and you are now moving over to the eSwitcher.

Clean Install

The eSwitcher starts with a splash screen to let you know that it is active as some of the start-up checks may take a few moments to complete depending on the number of sceneries you have:

The eSwitcher remembers the last season set and keeps a record in a settings file in the folder it was installed in. If this file is missing the eSwitcher assumes it is being run for the first time and will inform you with a pop-up message and start with default settings:
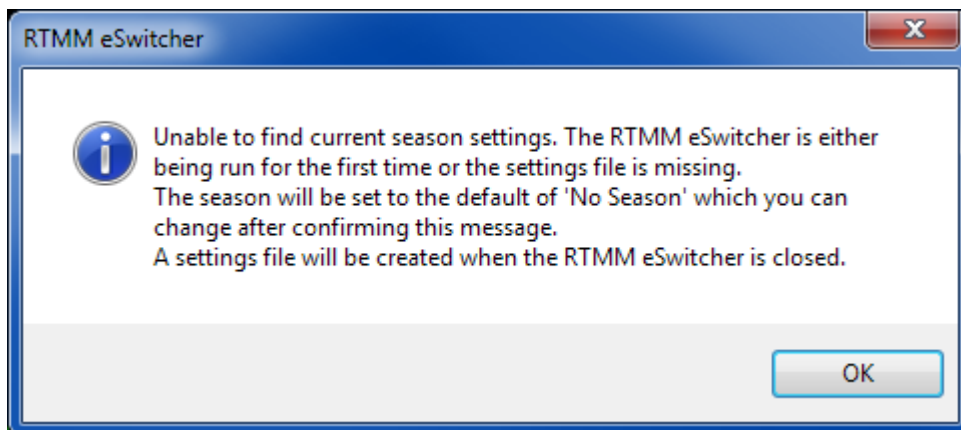
The initial default of "No Season" uses seasonal scenery files which look reasonably good throughout the year but lack the specific seasonal details and features of scenery files designed for each season. Once the full eSwitcher window appears you can chose a date or specific season to start taking advantage of the full seasonal details available with RTMM sceneries. These choices are remembered by the eSwitcher when it is closed and the next time it is started the last used choice will be automatically restored.

If at some later time the settings file is deleted or becomes damaged the eSwitcher will show a warning and act as if it is being started again for the first time.

Migrating From the Previous RTMM Season Switcher

This is the most likely situation for first time use as many RTMM users already have the RTMM Season Switcher. In this situation a different pop-up message is displayed:
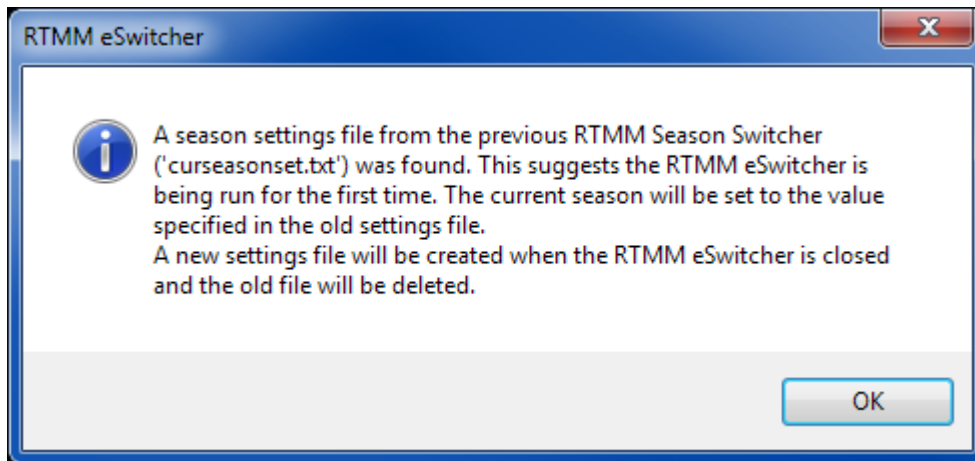
Here, settings from the previous switcher have been found and the eSwitcher will take the existing choice of a fixed season or "No Season" and apply these. Similarly to a "clean" start-up you are free to change the old choice of season once the eSwitcher has fully loaded.

Once the previous season switcher settings have been successfully migrated the old settings file and the old switcher program are deleted as they are no longer needed.

It is important to note, that migration to using the RTMM eSwitcher for the first time also requires scenery folder preparation which is covered at the beginning of the Installation section of this document.

You can now start using the eSwitcher as described in the rest of this user guide.

eSwitcher Start-up Checks

The RTMM eSwitcher performs a number of checks every time it starts. These tasks ensure the integrity of the seasonal scenery files, check for problems which would prevent seasonal scenery switching from being performed and warn of situations which prevent the full features of the eSwitcher from being used. In addition the eSwitcher keeps a detailed log of any problems found which contains sufficient information to help you identify the cause of the problem or, where full season switching is not available, the reasons for the disabling of full season switching.

Checking for an active Simulator (FSX or P3D)

The eSwitcher cannot access seasonal scenery files reliably if the flight simulator is running. This is because both FSX and P3D will scan and process scenery files for any scenery in their scenery libraries even before a flight is started. For this reason, the eSwitcher's first check is to detect either of the simulators running on your computer and show the following warning:
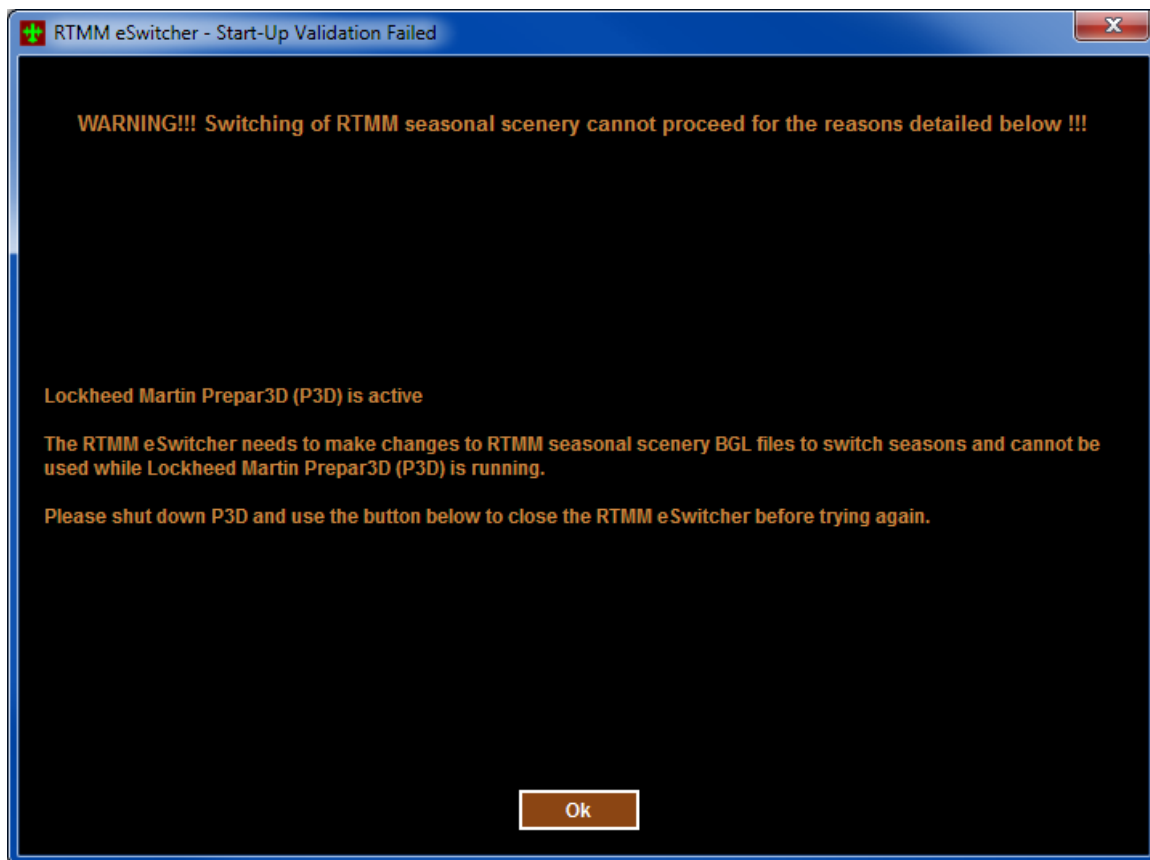

The eSwitcher will close once the warning message is confirmed as there is nothing further it can do until the simulator in use is shut down. To proceed close whichever simulator is running and then start the eSwitcher again.

Checking for Scenery Files In Use ("Locked Files")

Similarly to FSX or P3D being active while trying to start the eSwitcher, seasonal scenery files can be held in use by another application or rarely, previously used files can be left open even after the application which used them is closed. If this is the case another warning message will be displayed:
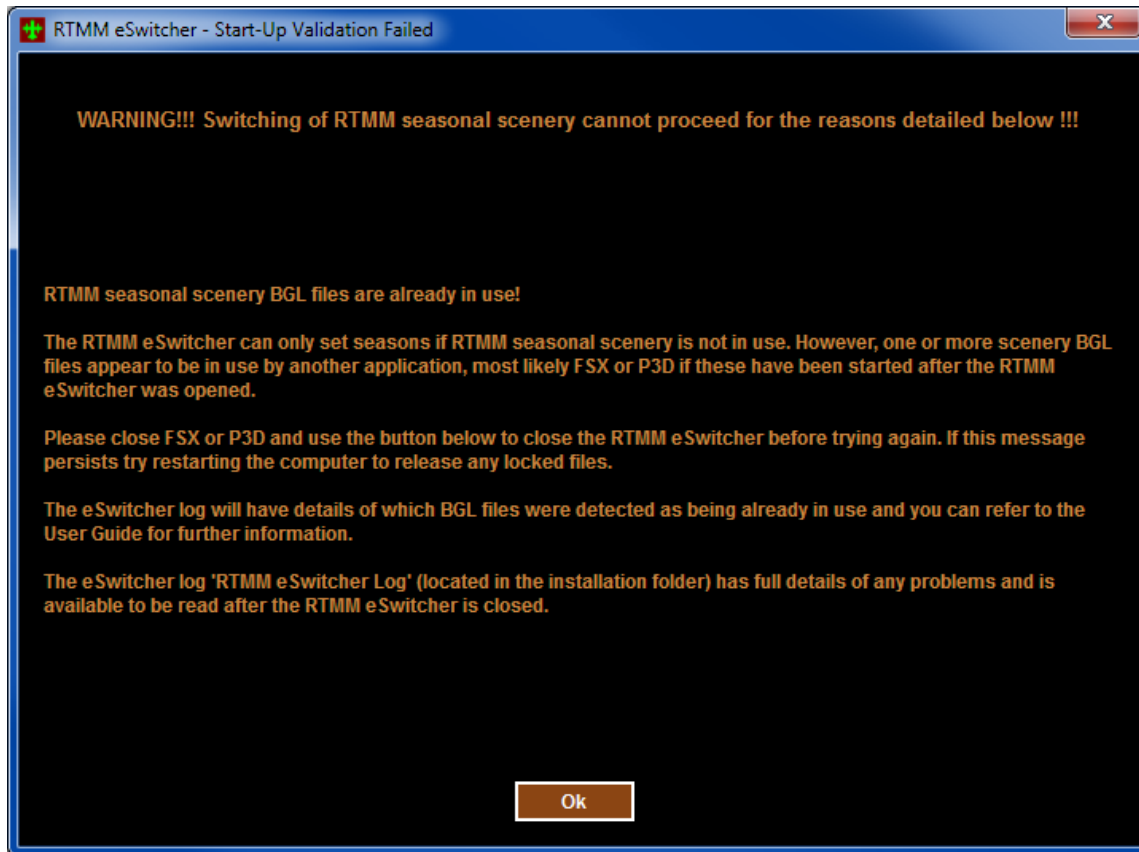
Applications that access seasonal scenery files include developer tools, 3rd party utility programs which scan scenery libraries looking for inconsistencies and problems and, of course, the simulators themselves. If you have any of these tools or utility programs you will probably be aware of what they do. But in the unlikely event that you see the above warning, the eSwitcher log will have details of all the files which were found to be in use.

If you find any files in use, after examination of the log, which do not appear to be open in any other application, it is recommended that you restart your computer. This should release any "handles" which even a closed application may have originally assigned to open the files.

Checking for No Scenery

When the eSwitcher performs the checks described above, it will detect if seasonal scenery is present in any of the scenery folders under the folder in which the eSwitcher is installed. If no seasonal scenery is found the eSwitcher will close down after displaying a warning message.

Checking for Consolidated Scenery

As mentioned in the installation section of this guide, the new seasonal switching by date feature relies on RTMM seasonal scenery being installed as one scenery per folder. If you have multiple seasonal sceneries present in any of your RTMM scenery folders, these constitute combined or "consolidated" scenery which the eSwitcher cannot process when setting seasonal scenery variations by date. If this situation is discovered for any scenery, **switching by date will be disabled** and only switching to a fixed season will be available. A warning message is shown first and detailed information is added to the log for the scenery locations which were found to be consolidated:
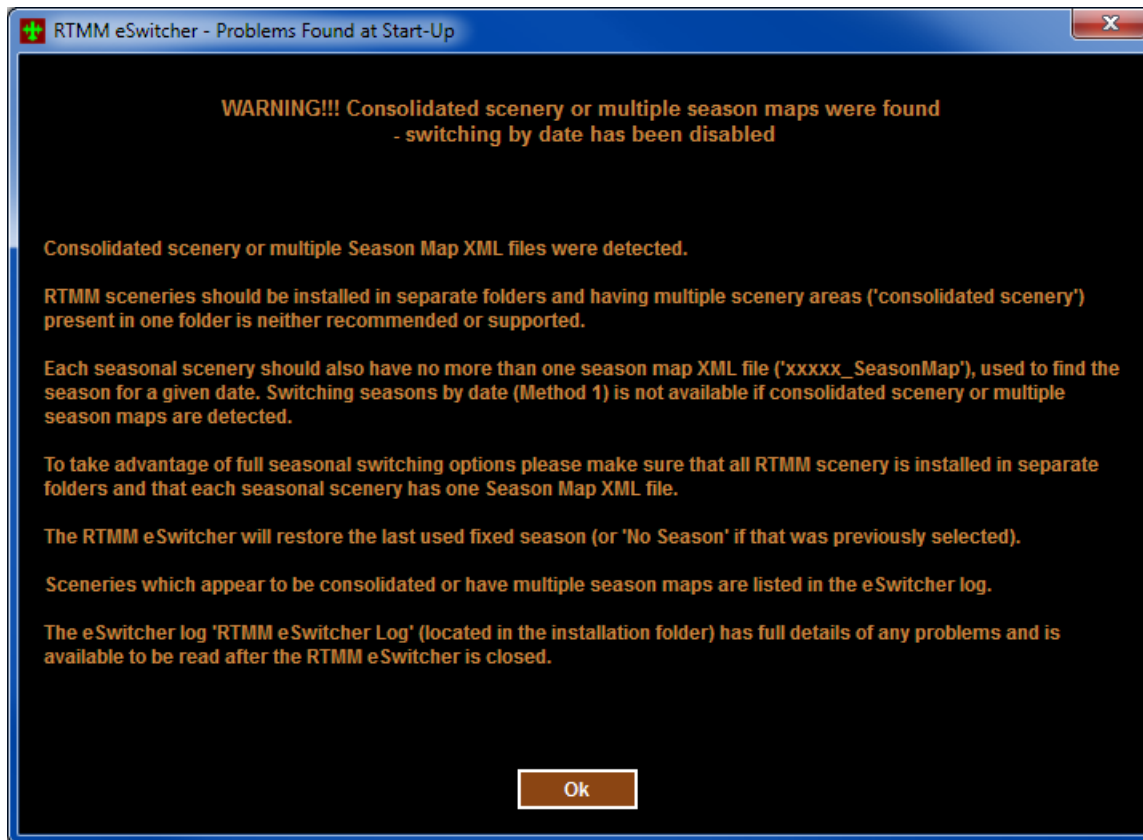
Note that the eSwitcher will still set a season but this will be the last fixed season chosen or the "No Season"' option if no previous choice was made. The eSwitcher log will help you pinpoint which scenery locations have been combined by listing the folder where each consolidated scenery is installed. (Technically, consolidated scenery is detected if more than one season map is found in a scenery folder. Season maps are the means by which seasons can be determined for a given input date and are discussed later in this user guide. Multiple season maps indicate that the content of more than one scenery may have been accidentally copied to the same folder.)

Since consolidated scenery is NOT supported by Return to Misty Moorings, if you do have consolidated seasonal scenery and want to use the flight date switching feature of the RTMM eSwitcher, the most straight-forward solution is to uninstall, download and re-install all of the RTMM scenery locations which were originally combined but this time install them, as recommended for all RTMM scenery, in their own scenery folders.

For consolidated scenery users only: If you wish to use the RTMM eSwitcher to do season switching without the Flight Date capability (the eSwitcher is a more robust switcher than the old Season Switcher) and you don't want to keep getting the consolidated scenery warning each time you start the eSwitcher, please check the "Do not show consolidated scenery warning" option found at the bottom right of the main screen. This box can be unchecked again at

any time. Checking this box will suppress two types of warning messages: the "Multiple Season Map XML files were detected" message and the "Missing Season Maps" message. However, the RTMM eSwitcher Log.txt file will continue to silently log the problems so that you can verify that they are related to your Consolidated Scenery folder(s).

Missing or Invalid Season Maps

In order for seasonal switching by date to work, each seasonal scenery folder must include a single valid season map. A season map is a small file which contains a season definition for each month of the year for that specific scenery and which can be compared against the date on which you wish to fly.

It is possible that a season map may be missing for a scenery, or may be corrupted or invalid. It is also possible that a season map has been copied by mistake to a scenery folder which does not contain any seasonal scenery so that it is missing from the place it is supposed to be.

None of these problems prevent the eSwitcher from setting the season for those sceneries which are unaffected. Therefore, the eSwitcher can start after displaying a warning message detailing the problems it has found:
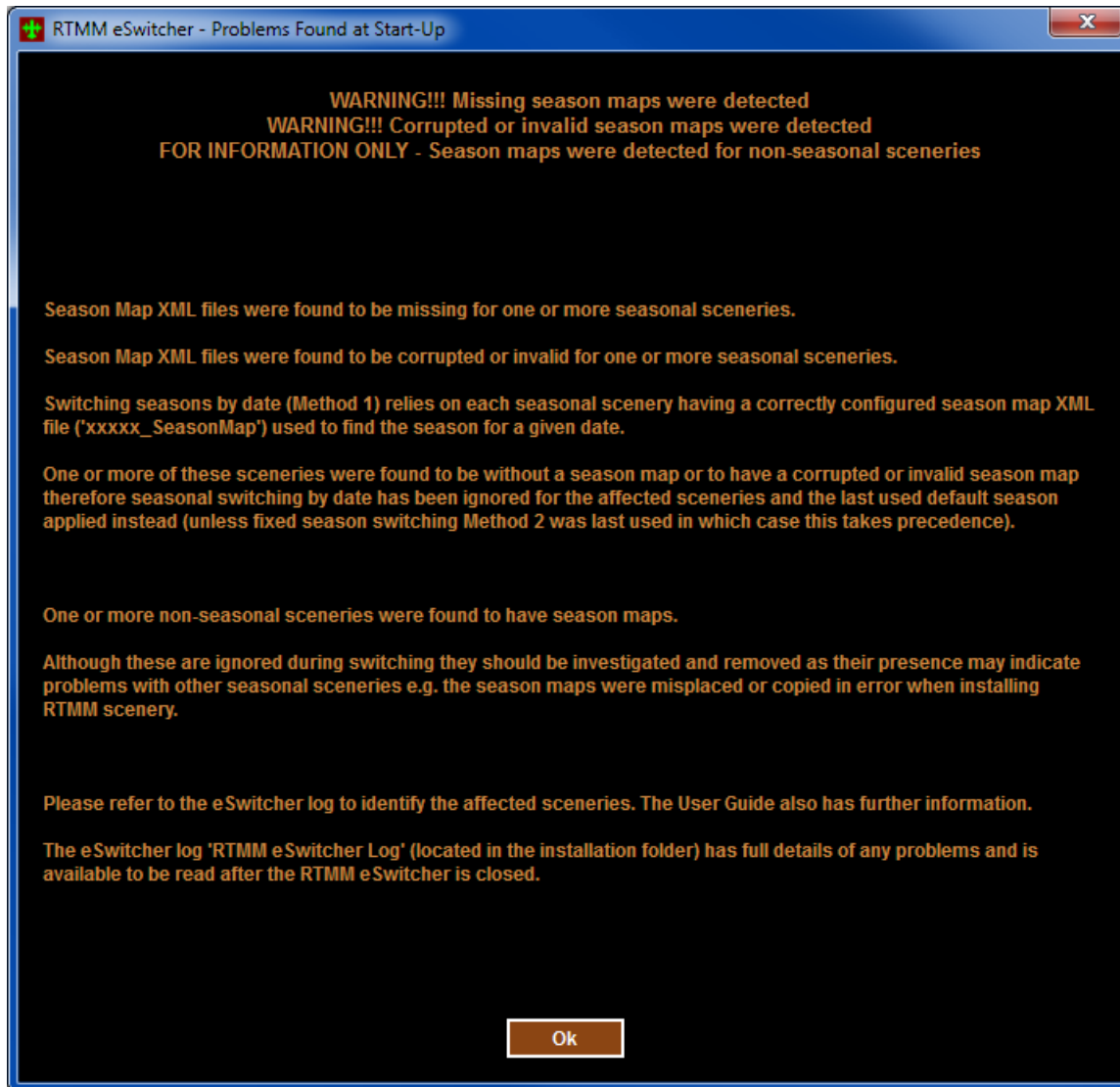
In the example above the eSwitcher has found examples of all the potential season map problems:

- Missing season maps – one or more seasonal sceneries are missing a season map entirely
- Corrupted or invalid season maps – the structure of one or more season maps are incorrect or the season map contains invalid month or season values. The developer information in the appendix contains detailed information on how season maps must be structured and the content they must contain.
- Non-seasonal sceneries contain season maps – while this will not cause any problems for the eSwitcher (as no switching is possible for non-seasonal sceneries anyway) it might indicate that a season map has been misplaced.

If any of the above conditions are found the eSwitcher will set the last used default fixed season for all the sceneries where a season map cannot be used. This default season will have been set the last time the season was switched by choosing a date as explained in the next section.
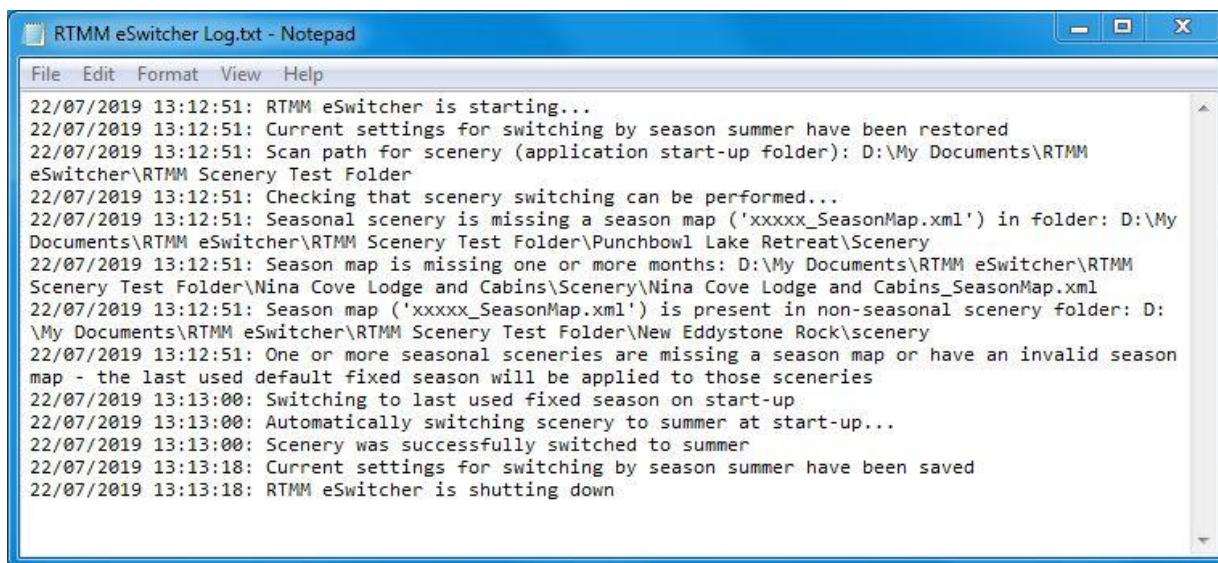
Switching to the Last Used Season

Assuming the start-up checks have passed successfully the eSwitcher will automatically set the season, either by the last date chosen by the user or the last used fixed season.

The eSwitcher Log

The eSwitcher log is located in the same folder as the eSwitcher program and is called "RTMM eSwitcher Log". It is a standard text file and can be viewed in Windows Notepad or any text editor or word processing program. **The log is created fresh each time the eSwitcher is run and saved when it closes so if you want to keep any recorded details for future reference make a copy before you start the eSwitcher again.**

The eSwitcher records details of its operation and a comprehensive listing of any problems that it finds, including details of the problem and the folder in which it occurred. This will help you to track down any missing or invalid season maps and will be of use to the RTMM team should you seek help in the unlikely event that any other problems occur.

The example below shows a typical listing when season map problems are detected:

```
RTMM eSwitcher Log.txt - Notepad

File   Edit   Format   View   Help

22/07/2019 13:12:51: RTMM eSwitcher is starting...
22/07/2019 13:12:51: Current settings for switching by season summer have been restored
22/07/2019 13:12:51: Scan path for scenery (application start-up folder): D:\My Documents\RTMM
eSwitcher\RTMM Scenery Test Folder
22/07/2019 13:12:51: Checking that scenery switching can be performed...
22/07/2019 13:12:51: Seasonal scenery is missing a season map ('xxxxx_SeasonMap.xml') in folder: D:\My
Documents\RTMM eSwitcher\RTMM Scenery Test Folder\Punchbowl Lake Retreat\Scenery
22/07/2019 13:12:51: Season map is missing one or more months: D:\My Documents\RTMM eSwitcher\RTMM
Scenery Test Folder\Nina Cove Lodge and Cabins\Scenery\Nina Cove Lodge and Cabins_SeasonMap.xml
22/07/2019 13:12:51: Season map ('xxxxx_SeasonMap.xml') is present in non-seasonal scenery folder: D:
\My Documents\RTMM eSwitcher\RTMM Scenery Test Folder\New Eddystone Rock\scenery
22/07/2019 13:12:51: One or more seasonal sceneries are missing a season map or have an invalid season
map - the last used default fixed season will be applied to those sceneries
22/07/2019 13:13:00: Switching to last used fixed season on start-up
22/07/2019 13:13:00: Automatically switching scenery to summer at start-up...
22/07/2019 13:13:00: Scenery was successfully switched to summer
22/07/2019 13:13:18: Current settings for switching by season summer have been saved
22/07/2019 13:13:18: RTMM eSwitcher is shutting down
```

Using the eSwitcher Log to Fix Reported Problems

Although the eSwitcher log is created every time the eSwitcher is used, its principal purpose is to help you identify and fix any problems which are reported by pop-up warning messages when the eSwitcher starts (and possibly during switching depending on the type of problem). You are more likely to see these warnings if you are migrating from the previous RTMM Scenery Switcher and have RTMM seasonal scenery installed before July 25, 2019. If this is the case, the RTMM eSwitcher Scenery Preparation Guide will help you through the process of preparing your scenery for use with the eSwitcher.

However, this user guide assumes you have completed preparation of your scenery (if required) and any new RTMM scenery that you have installed was downloaded after July 24, 2019. The emphasis is therefore on problems reported by the eSwitcher that you may encounter during normal use with your existing scenery.

The log is a chronological recording of all the operations the eSwitcher has performed since it was started. A new log is created every time the eSwitcher starts so you may want to make a copy when using it to fix problems. Then you will be able to see which problems have been fixed by comparing the "before" and "after" copies of the log.

This section contains examples of how you can use the log to fix reported problems. Although only one instance of each problem is shown in the sample log, in practice you may see multiple log entries identifying all the sceneries found to have problems.

In the first example below you can see the eSwitcher has detected consolidated scenery (note that the lines are wrapped for inclusion in this document and unfortunately the wrapping occurs in the middle of the paths of identified folders – you can determine where a new line starts by looking for the date and time of the log entry which is always at the start of a new line):

22/07/2019 13:38:01: Consolidated scenery detected in folder: D:\My Documents\RTMM eSwitcher\RTMM Scenery Test Folder\01-Consolidated Scenery\Scenery
22/07/2019 13:38:01: (Consolidated scenery season map files: Fortaleza Ridge Cabin_SeasonMap.xml; Gilbert Bay Airfield_SeasonMap.xml; Yehiniko Airstrip_SeasonMap.xml)
22/07/2019 13:38:01: Scenery switching by date has been disabled - consolidated scenery was detected which can only be switched to fixed seasons

The first entry shows the location where consolidated scenery was detected with the full path to the folder which contains the scenery. The next entry has the full names of all the season maps found in that folder (remember that consolidated scenery is detected if more than one season map is found in a seasonal scenery folder). Looking at the names of the season maps and navigating to the location in which they were found using the Windows File Explorer will help you work out if they were copied there by mistake or if you genuinely have consolidated scenery in the folder. Consolidated scenery should be "unconsolidated" by separating it into the correct individual scenery folders. In this way you will be able to use the full features of the eSwitcher. Alternatively, if you wish to keep your consolidated scenery you can do so, but you will not be able to switch season by specifying a flight date for that scenery and will instead only be able to use fixed season switching. If you also have seasonal scenery that is not consolidated, remove your season map xmls (if any) from your consolidated scenery folder(s) only and check the consolidated scenery check box (see "Checking for Consolidated Scenery section in this guide). You will then be able to choose a flight date for your non-consolidated seasonal scenery and subsequently be prompted to choose a season for the consolidated scenery. By identifying the locations of the folders and the season maps the log will help you to resolve such problems.

In the second example a number of missing or invalid season maps have been detected:

22/07/2019 13:12:51: Seasonal scenery is missing a season map ('xxxxx_SeasonMap.xml') in folder: D:\My Documents\RTMM eSwitcher\RTMM Scenery Test Folder\Punchbowl Lake Retreat\Scenery
22/07/2019 13:12:51: Season map is missing one or more months: D:\My Documents\RTMM eSwitcher\RTMM Scenery Test Folder\Nina Cove Lodge and Cabins\Scenery\Nina Cove Lodge and Cabins_SeasonMap.xml
22/07/2019 13:12:51: Season map ('xxxxx_SeasonMap.xml') is present in non-seasonal scenery folder: D:\My Documents\RTMM eSwitcher\RTMM Scenery Test Folder\New Eddystone Rock\scenery
22/07/2019 13:12:51: One or more seasonal sceneries are missing a season map or have an invalid season map - the last used default fixed season will be applied to those sceneries

Three different problems have been identified here.

The first line states that the scenery in the folder shown has no season map when it is expected that the scenery should have one because it is seasonal. The 'xxxx_' shown at the start of the season map name simply indicates that a season map having the correct name of the scenery should be present in that folder.

To start investigating the problem, first navigate to the folder shown in the log entry and take a careful look at the files found there. If they are seasonal BGL files (the format of the names of these is described in detail in the Appendix) should they be present in the scenery folder? You can best determine this by comparing the names of the seasonal files with the name of the folder in which they are found. If they are obviously different it may be that they have been left behind or accidentally copied there by some earlier manipulation of the folder contents. If it is obvious they do not belong they can be deleted. Another possibility is that the name of the folder has been corrupted in some way. This can easily be checked by comparing with the correct name as specified in the Seasonal Scenery Maintenance Tables on the RTMM website. From this you should be able to identify which scenery should be installed and can re-download the scenery and replace the corrupted scenery folder with the correct one. It is also possible that the folder is correctly named and has the correct files except for the season map. In this case the correct scenery should be downloaded again to replace the one with the missing map.

The second line refers to a correctly named and placed season map but one which is invalid for some reason. Again the log entry line identifies the location by giving the full path name of the folder containing the season map. The season map is also named and a description of the type of problem given. As before navigate to the folder containing the season map file and replace it with the correct scenery re-downloaded from the RTMM website using the method of comparing scenery names described in the previous paragraph.

The third line shows that a season map was found in a folder containing scenery which is non-seasonal. Although this will not cause any problems for the eSwitcher (it ignores folders containing non-seasonal scenery), it may indicate that the season map was mistakenly copied to the wrong folder. Once again, navigate to the reported folder using File Explorer and look for a season map file. The name of the file should indicate which seasonal scenery it belongs to and will enable you to either move it to the correct scenery folder or delete it if that folder already has a season map.

By following the above steps for each reported problem you can fix them one by one. Once you have done this start the eSwitcher again and if all the fixes are correct no more warnings will be displayed. However, if they are, the log will be updated with the latest detected problems and you can repeat this process until all issues are resolved.

Using the RTMM eSwitcher

On successful completion of the start-up checks the eSwitcher window will appear once the splash screen has cleared:

In the example shown the eSwitcher has been run before and seasons have been set by selecting a date (Method 1). In addition, under the "Flight Date" button, you can read some additional information . The text documents that when the eSwitcher was run previously, at least one Season Map was not found or was unusable inside of a seasonal scenery folder. As a result, you chose to have the scenery folder or folders with the unusable Season Map(s) set to Summer.

 If starting for the first time you will either have one of the fixed seasons set through migration of settings from the old season switcher or "No Season" set if you have never used seasonal switching before.

The eSwitcher offers you three methods to switch seasonal scenery:

Method (1)

Seasonal scenery will match the appropriate season for each location for a specified calendar date. The eSwitcher compares the month of the date you provide against a season map for each scenery which tells it what the appropriate season for that month is at the particular geographical location of the scenery. To use this method choose the date on which you want to fly from the pop-up calendar which appears when you click the "Flight Date" button. Note: If you just want to set the calendar to today's date, when the flight date calendar is open there is a little rectangular box at the bottom of the calendar with the word, "Today:" and today's date displayed to the right of it. If you click inside the rectangular box or on the date information to the right of the box, the calendar will immediately change to today's date.

Once the eSwitcher has set the season for all your RTMM sceneries close it and start FSX or P3D choosing the same date for your flight date in the simulator. This will ensure that the season shown for regional scenery (which will be Orbx FTX regions as per the requirements for RTMM scenery) will match the seasonal variations of RTMM scenery which the eSwitcher has set.

Method (1) is highly effective at matching seasonal scenery because of the detailed seasonal variations within the base FTX regions which vary not only by date but also location (so think altitude, closeness to the coast and so on). You can see these variations very clearly when you select the top down view in the simulator and zoom out sufficiently.

RTMM seasonal sceneries are carefully designed to fit in with the underlying seasonal variations and with the eSwitcher can now all be set automatically with only a couple of mouse clicks!

An important extra feature offered by the eSwitcher is the ability to detect seasonal scenery which does not have a valid season map and give you the option of selecting a default fixed season to apply to those sceneries:
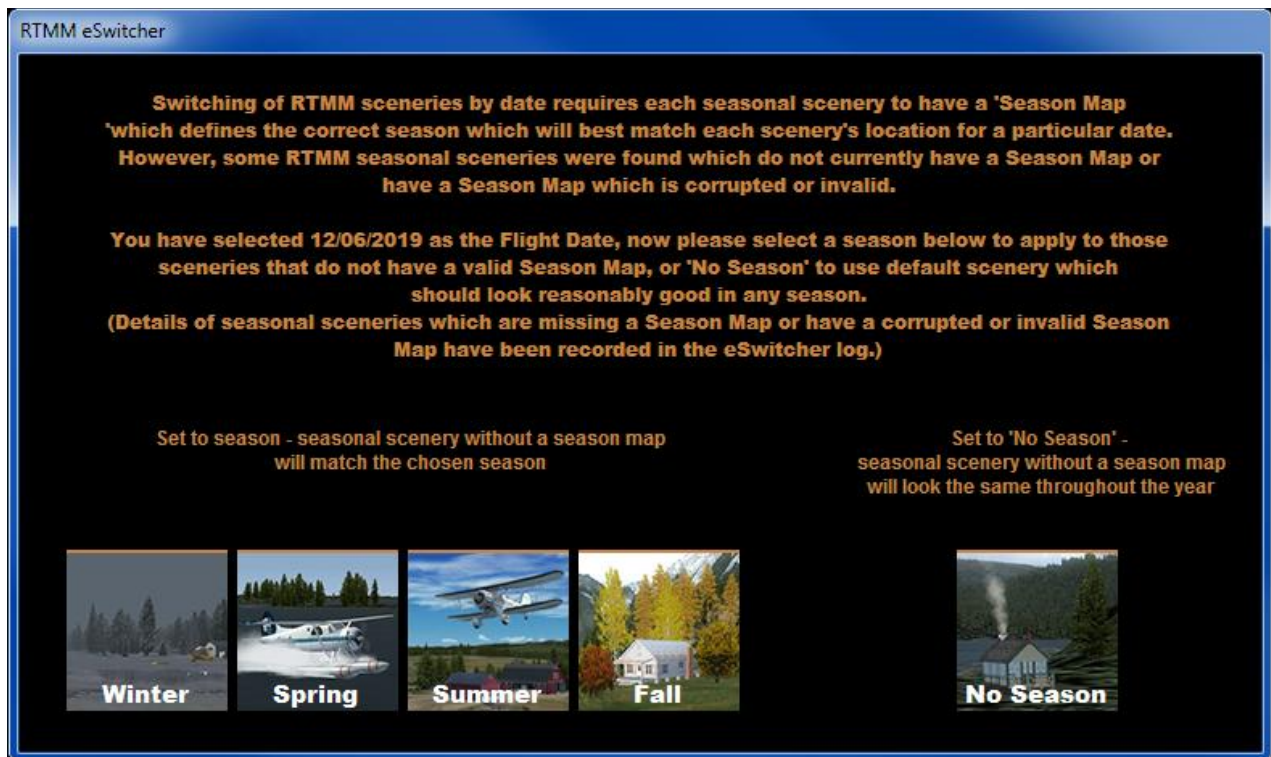
At start-up, all the sceneries which are missing a season map or do not have a valid season map were listed in the eSwitcher log to help you track down the cause of any problems. The default fixed season chosen here will be used at

the next start-up to automatically set the season for the affected sceneries until you choose a different default season. Once you are able to add valid season maps for those sceneries that are missing a season map, the season maps will then be used to provide full seasonal switching.

As of July 25, 2019, Return to Misty Moorings finished upgrading all of their seasonal sceneries with season maps. As mentioned at the beginning of this document, if **all** of your currently installed RTMM seasonal scenery folders were installed after July 24, 2019 into one folder set for each scenery, then your RTMM seasonal scenery folders should already be eSwitcher ready. If you have not already done so, and you have older RTMM seasonal scenery folders, are not sure of the date, or if each of your seasonal sceneries are not installed into one folder set for each seasonal scenery, you will need to go to the RTMM eSwitcher Scenery Preparation folder and read the RTMM eSwitcher Scenery Preparation Guide found inside.

If your seasonal scenery folders are not eSwitcher ready, and you install and run the eSwitcher, the errors listed in the eSwitcher log may be much longer than you would like but will serve as a very useful reminder of what needs to be done to make your installed RTMM season scenery able to provide full seasonal switching using Method (1).

Method (2)
This method does the same thing as the previous RTMM Season Switcher - by clicking a button all seasonal scenery is set to the chosen season. The method does not require a season map and operates directly on the seasonal files for each scenery. The seasonal scenery variations at all locations will match the chosen season and should be a good match in many circumstances as the scenery files were designed with the location in mind. However, setting RTMM seasonal scenery files to the same fixed season will not give a correct seasonal match in all cases due to local variations in the season. Method (1) is highly recommended if you want the best seasonal experience!

Method (3)
The default fallback, "'No Season", is the same as that provided by the old RTMM Season Switcher. A season-independent variation is chosen for all seasonal sceneries. This generic variation will look okay throughout the year but will be missing seasonal objects and does not have the seasonal fine tuning available with the first two methods. It is also the variation chosen by the eSwitcher the first time it is used if there is no previously set season which can be migrated from the old RTMM Season Switcher.

The three methods can be thought of as providing seasonal variations with increasing fidelity: so Method (3) is the least accurate as it has no specific seasonal support; Method (2) provides seasonal variations for each location but these are all the same so might not match the specific local seasonal variations; Method (1) provides the most fidelity and will closely match the seasonal variations for each locality on a given date.

All the choices you make for season selection (including a default season when setting by date for sceneries missing or not having a valid season map) are remembered by the eSwitcher and are restored each time you start it.

The Season Switching Process

Once you have chosen to switch to a season by one of the three methods the eSwitcher will start processing all the RTMM seasonal sceneries it finds. This involves activating and deactivating RTMM seasonal scenery files (scenery BGLs) and then checking that this has been done correctly. In this way the eSwitcher ensures that all seasonal scenery is switched consistently.

While it is running the eSwitcher will pop-up a progress message to let you know it is busy:

Once switching has finished the eSwitcher will pop-up another message to tell you that it has completed successfully:
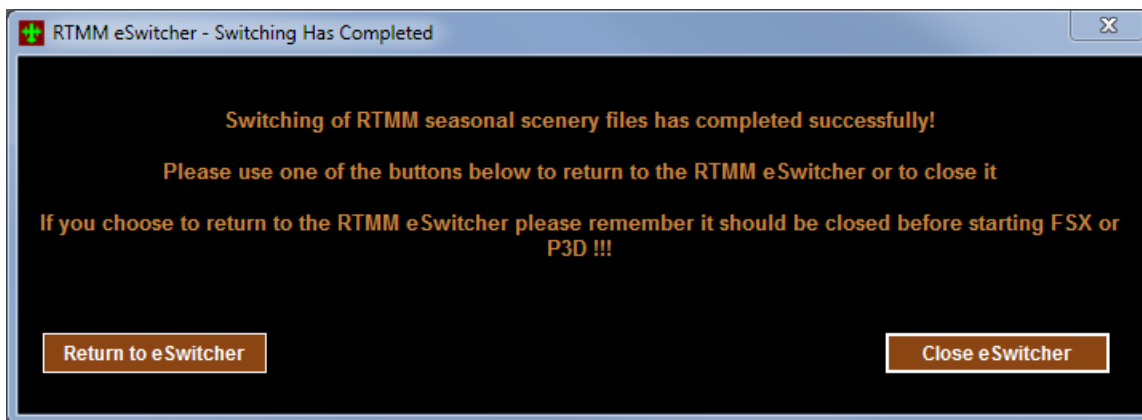

At this point you have two options:

Return to eSwitcher – Click on this option and you will be taken back to the eSwitcher window where you can choose another season or quit. **Note that you should always close the eSwitcher before starting FSX or P3D and launching your flight.**

Close eSwitcher – Click on this option and the eSwitcher will shut down and you will be ready to start FSX or P3D and go flying. **This is the recommended option!**

In the unlikely event that a problem occurred during switching, the same completion message will be shown but will provide details of what has happened. Further details will also be found in the eSwitcher log. You will still have the choice of returning to the eSwitcher to try switching seasons again or to shut it down to investigate the problem further.

As an example, in the message shown below the eSwitcher is reporting on a problem it encountered while scanning through seasonal scenery folders:
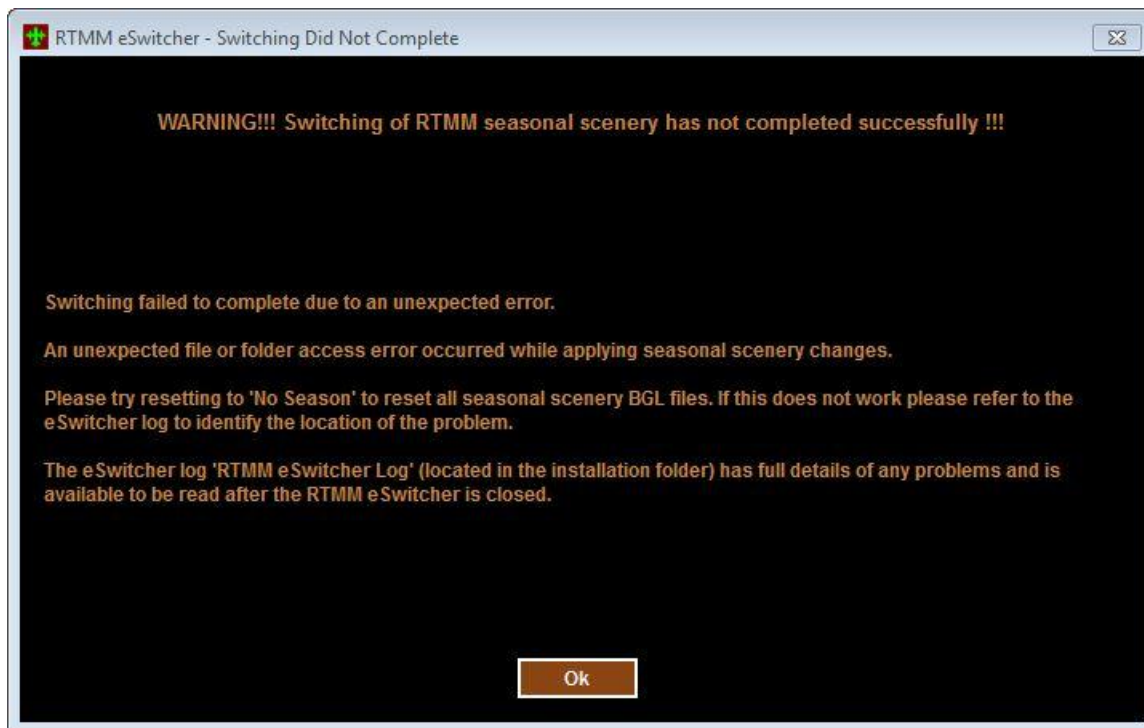
The log provides more details of what happened:
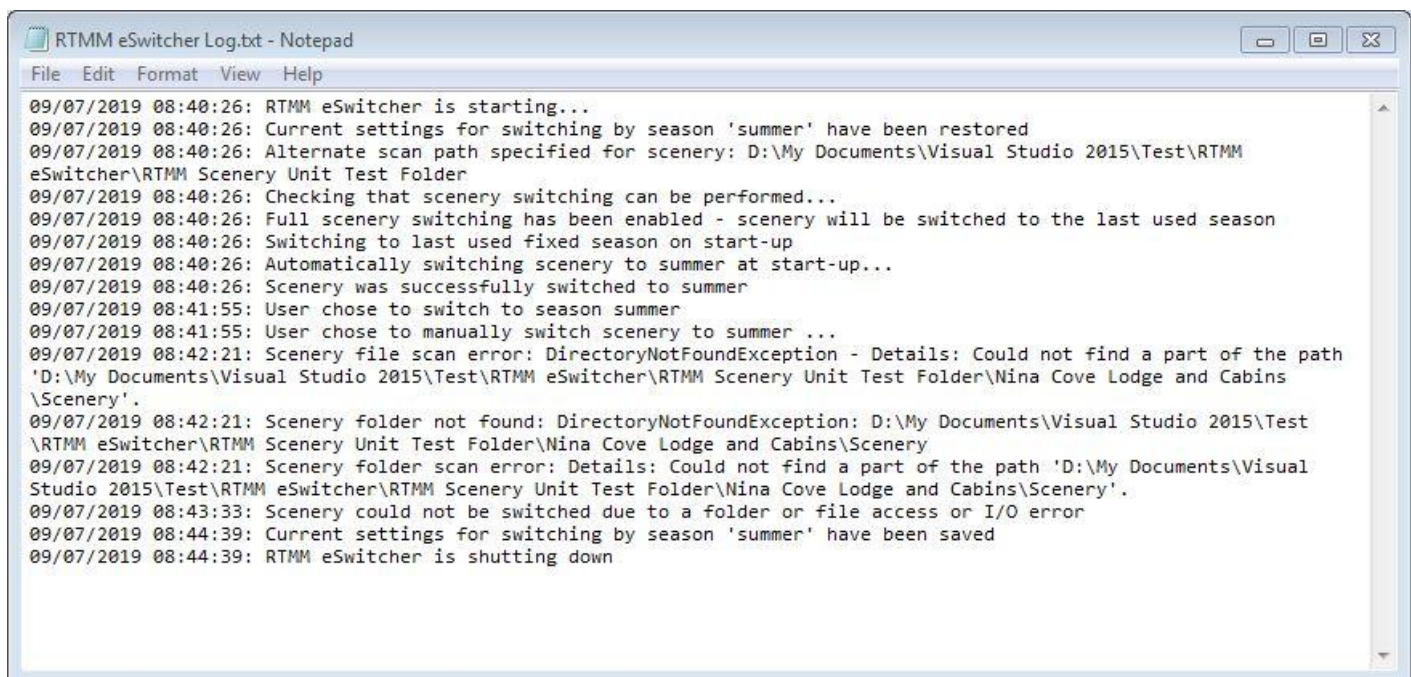
The above example is shown to give you an idea of how the eSwitcher handles an unexpected situation which cannot be

automatically corrected by the eSwitcher. At start-up and when switching seasons, the eSwitcher performs checks on every individual switching operation it makes and can detect various issues such as files being in use, file and folder access permissions being insufficient for the operation to be performed and so on. If it encounters any such problems, it will record them in the log and move on to the next operation if at all possible (as in the example shown above). Additionally, the start-up checks and initial setting of a season are designed to correct any problems which may have occurred previously. Although it is unlikely that you will encounter any difficulties, the eSwitcher is designed to handle anything unexpected that does occur in the least disruptive way possible, with the aim of preserving the integrity of the RTMM scenery files above all.

The eSwitcher is not only very easy to use but also very flexible in the way it controls seasonal scenery. In the unlikely event that you encounter any problems using it, plenty of information is provided to help track down the cause.

The remainder of this guide is intended for RTMM scenery developers but please take a look if you are interested in the mechanisms behind the enhanced seasonal scenery switching features.

Finally, the Return to Misty Moorings staff would like to thank you for downloading and using the RTMM Enhanced Season Switcher. We hope you will enjoy the benefits of the high fidelity seasonal scenery variations it offers and wish you enjoyable and memorable flying at all times of the year!

Credits

Concept and Developer - Rob White, a long time Return to Misty Moorings enthusiast and MFC member.

Project Management, alpha testing, RTMM Season Map Injector Utility development and Scenery Preparation procedure development – Rod Jackson.

Creation of season tables and maps and supporting RTMM scenery infrastructure – Doug Linn.

Beta testers - Doug Linn, Dieter Linde, Garry Scanlan, Jeff Greene, Klaus Troeppner, Norm Richards, Robert Pomerleau, Dr. Thomas Menzel

Note: The RTMM eSwitcher is based on the original RTMM Season Switcher created by Rod Jackson.

Appendix – Notes for RTMM Scenery Developers

This section contains notes for RTMM scenery developers creating new RTMM seasonal scenery or wishing to enhance existing scenery to make use of the new seasonal switching facility.

Much of this Appendix's content has been taken from the RTMM Season Switcher v3.3 readme file since the basic mechanism of providing seasonal scenery BGL files has not changed – the new eSwitcher adds the facility to switch by date and wraps all the switching functionality in a full Windows Forms application with detailed operation logging and error handling. The eSwitcher also adds capabilities to handle various situations the previous switcher did not do or did not do well such as checking seasonal files for consistency, checking for use by another application ("locking"), flagging concurrent use of FSX or P3D and identifying use of incompatible RTMM scenery installations (e.g. consolidated scenery).

Scenery Design Considerations – Use of Seasonal Scenery BGLs

In order for your scenery to take advantage of the RTMM eSwitcher, your seasonal file .bgl files need to follow this file name convention:

*_rtmm_<season name>.bgl or .off

The * can be replaced by any number of characters/symbols to identify your seasonal file. The <season name> parameter needs to be one of winter, spring, summer, fall or noseason. The "noseason" option contains the extra objects you want the user to see if the user decides not to use the RTMM eSwitcher. These objects should look reasonably good in all seasons. Therefore, all of your seasonal files should start out with the .off extension except for the "noseason" file which would have a .bgl extension.

For example: tiny_town_rtmm_spring.off   or   tiny_town_rtmm_noseason.bgl

You need to have all four seasons represented as well as a "noseason" file, even if two or more of the files are the same content (e.g. the appearance of your spring and summer variations are the same). For example, if you are adding extra trees in the scenery location (which in real life would be there all year round in some form) and your spring and summer trees are the same, then you need to have two files of the same thing with the different season names of spring and summer. Otherwise, if you just had spring then in summer there would be no trees showing at all. In your release package, all the seasonal files should be set to .off except the "noseason" version which should be set to .bgl. Then, if someone just doesn't use the switcher, they will still get the default "noseason" version displayed.

The seasonal .bgl files would normally be contained inside the scenery folder of your package where your other scenery .bgl files are also located.

The only time you don't need all five seasonal files represented is if you are using a seasonal file to just add something that isn't there when other seasons are active. For example, a winter file that adds snowdrifts and a summer file that adds high grass but no additions are required for spring or fall. In that case, set the add-on seasonal files to .off so that one doesn't load in the wrong season if a user never uses the RTMM eSwitcher.

Scenery Design Considerations - Use of a Season Map

The RTMM eSwitcher is able to set a seasonal scenery variation for a specific scenery location using a "season map". The season map is an XML file containing definitions for the season appropriate to the location of the scenery for each month of the year. The display version of the Season Maps for each of the RTMM's seasonal scenery that contains a Season Map XML file looks like this and can be seen on the RTMM website scenery download page:

RTMM requires that all seasonal scenery developers define an XML file for each scenery and place it in the "scenery" folder where the seasonal .bgl files are located. The eSwitcher only looks for "scenery" folders when scanning the RTMM scenery folder tree.

The XML file must be named "xxxxx_SeasonMap.xml" where "xxxxx" is the name of the scenery for which the XML file is being made. The name must match the name of the main scenery folder which is included as part of the scenery package that would be found on the RTMM Scenery Library page. For example, Hollis Harbor would have a season map called "Hollis Harbor_SeasonMap.xml" placed in the "scenery" folder of that scenery. For the eSwitcher, the critical part of the XML file name is "_SeasonMap.xml" which is what it matches when searching for scenery maps (i.e. it scans for files having the name "*_SeasonMap.xml".

The file itself is standard XML format and must be structured as shown below:

```
<?xml version="1.0" encoding="utf-8"?>
<eSwitcherSeasonMap>
  <SceneryName>xxxxx</SceneryName>
  <SeasonMapping>
    <month name="jan" season="winter" />
    <month name="feb" season="winter" />
    <month name="mar" season="spring" />
    <month name="apr" season="spring" />
    <month name="may" season="spring" />
    <month name="jun" season="summer" />
    <month name="jul" season="summer" />
    <month name="aug" season="summer" />
    <month name="sep" season="fall" />
    <month name="oct" season="fall" />
    <month name="nov" season="fall" />
    <month name="dec" season="winter" />
  </SeasonMapping>
</eSwitcherSeasonMap>
```

Note that **XML is case sensitive** and the XML elements enclosed in <…> must exactly match those shown in the template example. The "month name" and "season" attributes are also case sensitive and must be as shown. The values of the attributes should be included as per the example but must only have the values given in the template i.e. a 3 character month and season having one of the four values shown.

The template example has default seasons but an actual location will require alterations to the seasons appropriate for that location. Note that the <SceneryName> element must match the "xxxxx" name part of the season map file name. Also note the self-closing <month> elements – these are just an abbreviation of <month></month> and are used for readability.

The seasons must be named as per the naming convention for the seasonal scenery bgl's: winter, spring, summer, fall. (Since this is a template for a Season Map, the "NoSeason" name does not apply). A variant for hard winter has also been reserved in the eSwitcher although it is currently unused per RTMM staff decision; this is called "hardwinter".

For a real-life example, here are the contents of Hollis Harbor's Season Map named "Hollis Harbor_ SeasonMap.xml":

```xml
<?xml version="1.0" encoding="utf-8"?>
<eSwitcherSeasonMap>
  <SceneryName>Hollis Harbor</SceneryName>
  <SeasonMapping>
    <month name="jan" season="winter" />
    <month name="feb" season="winter" />
    <month name="mar" season="spring" />
    <month name="apr" season="spring" />
    <month name="may" season="spring" />
    <month name="jun" season="spring" />
    <month name="jul" season="summer" />
    <month name="aug" season="summer" />
    <month name="sep" season="summer" />
    <month name="oct" season="fall" />
    <month name="nov" season="fall" />
    <month name="dec" season="fall" />
  </SeasonMapping>
</eSwitcherSeasonMap>
```

Failure to follow the above guidelines for creating a season map will result in the eSwitcher skipping the season map for your scenery and recording an error in its log. In effect this is the same requirement as the naming of the season bgl's which must be correct in order for them to be found by the eSwitcher and activated or deactivated.

Scenery Design Considerations - Technique To Create a Season Map

In order to create a Season Map, a scenery developer would need to do enough research to create their own season by month table for the particular scenery location that they are developing. Since the FSX/P3D seasonal looks only change on month boundaries, to do this research, the scenery developer would only need to visit the FSX/P3D location they are developing enough to determine the two months that surround the four times that the season changes.

Once this information is determined, it is quite possible that RTMM has already created a matching pro-forma Season Map for the developer's desired season/month combination. After creating season maps for over 100 seasonal sceneries, RTMM has found 5 combinations of season/months so far for its seasonal sceneries. Here is a link that will take the scenery developer to the RTMM Season Map Tables that separate all of RTMM's seasonal sceneries by Season Map type and also provides a link to a pro-forma Season Map template for each table: https://return.mistymoorings.com/maintenance/#ss.

Before a developer goes through the trouble of creating their own Season Map XML from scratch, it is probable that the scenery they are developing will be able to use one of the 5 pro-forma Season Map templates available. Then the scenery developer will only have to change the Season Map file name to match the template standard requirement as well as populate the scenery name XML element with the name of the new seasonal scenery folder being developed. If the scenery developer does need to create a Season Map XML that does not match one of the 5 pro forma Season Map templates, they should contact Rod Jackson (see info at bottom of this Appendix) to submit information about the locations and the sample new template the scenery developer plans on using.

Documentation To Be Included for Seasonal Scenery

Finally your scenery package readme.txt also needs to have a paragraph like this in it:

==================================

SEASONAL FILE INSTALLATION INSTRUCTIONS (This Scenery is able to use the old RTMM Season Switcher or the newer RTMM eSwitcher)

The latest version of the old RTMM Season Switcher or the newer RTMM eSwitcher is available as a link on the RTMM Getting Started page that is located on the RTMM website. Please download either switcher (not both) using the links available and read the included user guide for detailed installation and operating instructions.

When you run the old RTMM Season Switcher or the newer RTMM eSwitcher program for the date you plan to fly (eSwitcher) or the season you plan to set (either switcher), some of the objects <(e.g. trees, grasses, people, ground cover, flight traffic, ship traffic etc.)> may change accordingly and the scenery, in most cases, will be displayed to match the season better. When you're ready to change seasons, make sure FSX or P3D are not running and simply rerun the switcher your are using and make your new choice as explained in the previously mentioned user guides.

If you never run the old RTMM Season Switcher or the newer RTMM eSwitcher, the default ("no season") scenery will display and, though it will look okay in any season, it will not have the integrated look and seasonal objects that a specific seasonal choice might provide.

=====================================

Please feel free to send Rod Jackson ("stiletto2" on the RTMM Forum), the original developer of the season switching concept, a personal message using the RTMM Forum if you have any questions on development that includes seasonal scenery switching.