

Orto scenery for Czech Republic and X-Plane 12

First of all I would like to thank you for downloading my scenery for X-Plane 12.

The scenery was created over several months and I am aware that there are some mistakes to be found. If you manage to find a bug, please don't hesitate to contact me. Either directly via email info@simulaotrs.cz or on the simulators.cz or flightsim.cz forums.

Slightly different orthophoto scenery

This ortho scenery is based on a slightly different principle than the commonly available orthophoto scenery for X-Plane.

It is mainly focused on X-Plane 12 and should support all technological innovations of this version of the simulator.

I'm talking mainly about 3d water, seasonal changes, etc.

Now what is the difference? Mainly in how the simulator handles it and what all is included in the scenery (or what is not included).

- The scenery contains no terrain, water autogen etc.
- The scenery contains only the Orto texture, which will overlay any background unless the background is set to not be overlaid, but we'll talk about that later.
- The scenery works as an overlay, as well as additional autogens, nets, forests, etc.
- No library or third-party products are needed.
- Does not disable the default autogen
- It has a lower performance impact than classic ortho, this is due to the non-interference with terrain, as X-plane only loads textures.
- It should work not only with the default terrain but also with any enhanced third-party terrain. However, this is where X-plane 12 technologies may stop working if the additional terrain itself does not support them (ortho4xp 1.3 etc.).

Why this ortho principle?

It all started many moons ago when I wanted to fly seaplanes on inland water. In my case, it was a firefighting drone that I couldn't figure out for several hours, why it won't draw water even though I followed the instructions exactly. Just as I was about to give up, I realized something was wrong when moving on the water and looking outside. I was using ortho4xp and it uses the wet texture feature on water surfaces, it worked with water physics until xpl 11, in xpl 12 it has no physics.

I fiddled around with it for a while, added bathymetry data to ortho4xp but there were large artifacts, I managed to minimize those as well and it still wasn't the same.

Other shortcomings were inaccurate water areas, missing some rivers, etc. However, this is due to the data from eight.

So I started trying to somehow create everything through meshtool. But it fully supports xpl up to version 10. In Meshtool I got a nice detailed terrain and added the Czech Hydrological Office. But the problem was again the overlapping of the water with the ortho.

Either you could overlay the water and it just looked like a texture, or use a wet texture and finally a functional use of water but no texture at all, hence no gradual blur as we were used to from ortho4xpx and xpl 10,11.

So the dilemma was what to do. In the end I approached the creation in a completely different way. The main problem with third party terrains and scenery is the alignment of buildings, autogen and airports to the terrain. If we want to create an airport for X-Plane, it is exclusively created in the World editor. It aligns everything to our default terrain and any differences will cause objects to levitate or get buried. The solution is to smooth the terrain on airports, but this is undesirable in many places, the real curvature disappears.

X-Plane 12.1 should rasterize, so I thought why not start with ortho. So after a lot of trial and error and a lot of failed attempts, I created this ortho, which just works as an overlay texture over everything below it, depending on the ordering of the scenery in scenery_pack.ini. The texture sticks to the underlying terrain, and since X-plane 12 uses bathymetric data, the texture lies on the bottom water surface and 3d water can work.

Orto of the Czech Republic

Data source

The source of the data is from ČÚZK and on the basis of the EU directive on mediation through INSPIRE the data are freely downloadable. Unfortunately the Czech Republic downloaded using mapping utilities still generates a watermark, I had to download the raw data in 2x2 km squares at maximum resolution. It's an incredible amount of data and in result about 1,4 TB. I reduced the data to half resolution and manually transcribed coordinate file (the data was a jpeg and the coordinates a text file next to it) to match the new resolution.

I merged everything, converted to geotiff, cropped, etc. The next steps are very tedious.

I had to manually create a batch and adjust the colors with gamut and brightness. And in the final step, I lowered the resolution again a bit.

Installation

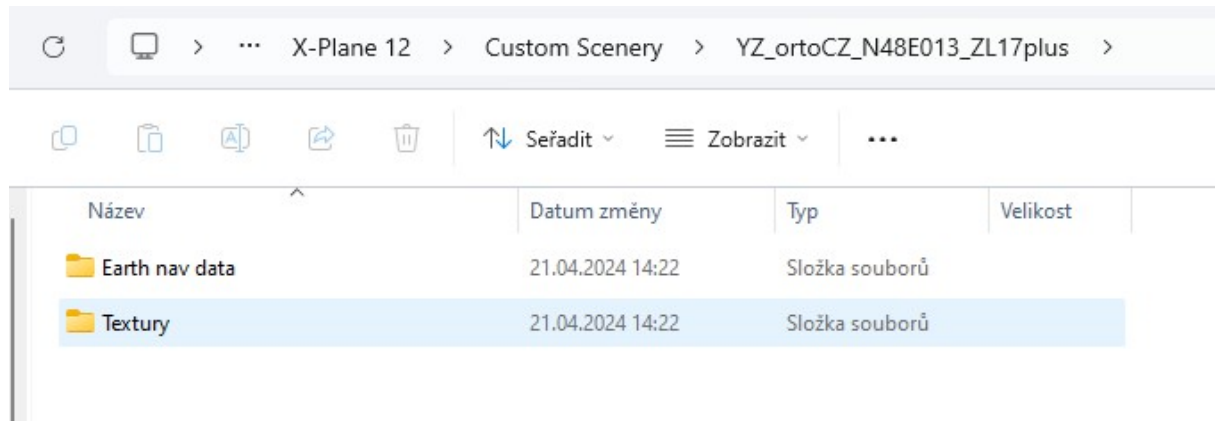
Installation can be done in two ways:

1. Individual squares
2. The whole Czech Republic as one scenery

1. Individual squares

Unzip the downloaded square into a folder ...X-Plane 12\Custom Scenery

And the destination directory must look like this:



Then in scenery_pack.ini the scenery must be placed on all terrains (mesh) and also under other overlays etc.

Sample arrangement:

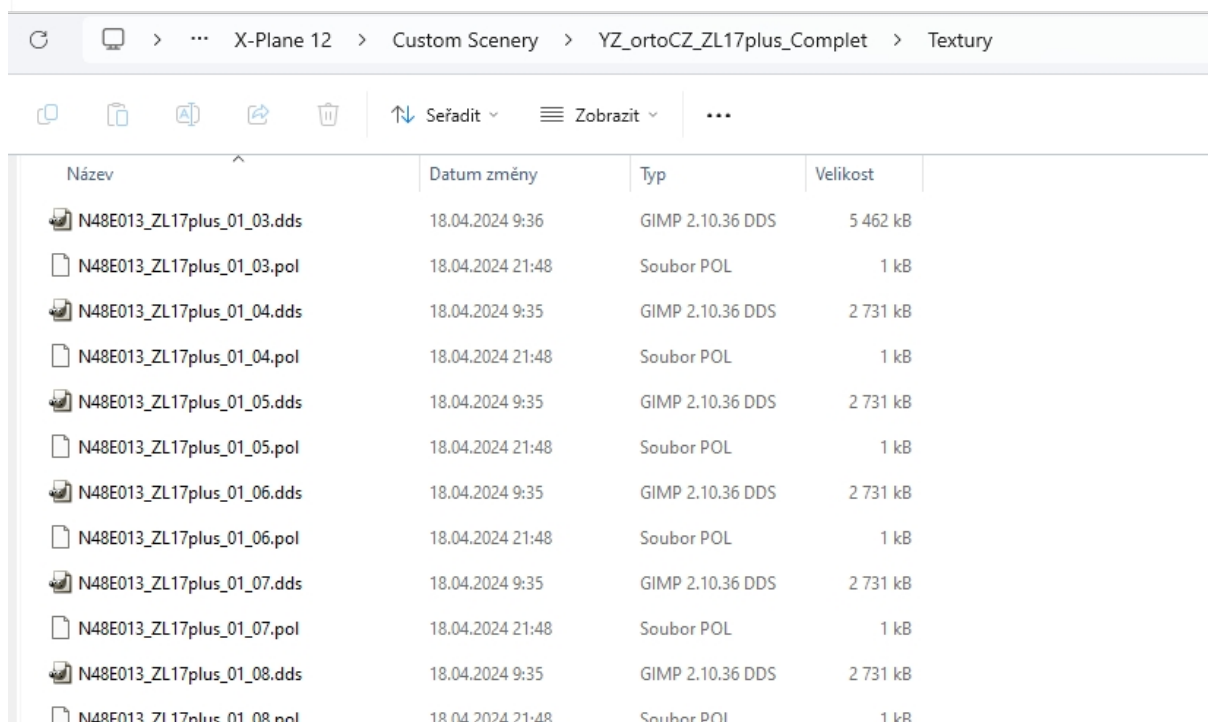
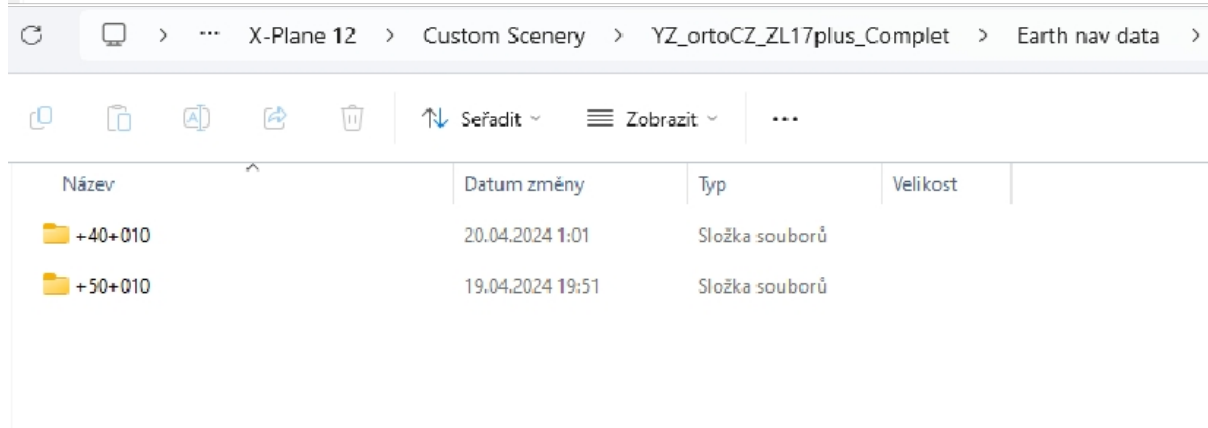
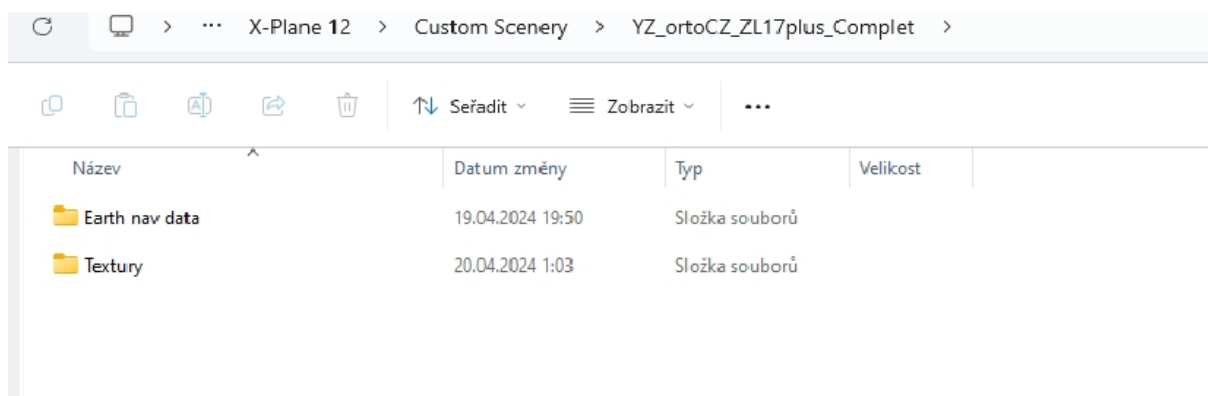
- Airport
- Pathways
- forests
- buildings
- autogen etc.
- YZ ortho
- Ortho4xp
- Mesh

2. The whole Czech Republic as one scenery

Unzip the first downloaded square into a folder .X-Plane 12\Custom Scenery

Rename it to: YZ_ortoCZ_ZL17plus_Complet

Then from all the other squares, extract the "textures" folder to the "textures" folder in YZ_ortoCZ_ZL17plus_Complet and do the same with the Eart nav data folder



And again, arrange the scenery_pack.ini

as in option 1.

Known problems:

So far the ortho is working almost smoothly, but there are still some things. Here's a list of known problems, if you find more, contact me.

- Water surface artefacts
 - Most of the time it is an imperfect default terrain
- Non-functional water area
 - X-Plane does not have all the water areas created
- Ortho display problem around the airport
 - Some airports have defined zones where the use of polygons other than in the airport scenery is prohibited.
 - The solutions are modified airports (usually default, currently known at LKPR)
 - Modified airfields can be found on the website in section xpl12-scenarios
- White or black textures on the border
 - Please contact me immediately with this error and I will fix the texture, I can't handle checking every texture.
- Slow loading of additional squares
 - That's a problem with every ortho.
 - It depends on the amount of scenery that is uploaded to the square
 - As the biggest brake we have Global Forest, xEurope
 - I use Global forest, it improves the experience considerably and with slow planes it's fine.

If you find anything else, contact me immediately!

Copyright:

Orto scenery is owned by Simulators Czech at <http://simulators.cz> and its distribution is not banned elsewhere, but it is recommended to download directly from Simulators Czech to keep the links up to date. It is also advisable to contact us for further distribution or modification.

If you have any questions, please do not hesitate to contact us.