

A Short Tutorial for converting NASA World Wind NLS Landsat 7 Tiles into Orbiter

Version 1.0

1. Preparations

- First of all, you should know how to add surface textures in orbiter principally
- Second, you need the excellent program NASA World Wind
- You will need a .dds converter to convert the NASA Tiles into bitmaps or jpegs and to convert the final Tiles back to .dds for orbiter
- You should have the add-on Image Splitter by Nikolay Dimitrov – it will save a lot of work
- You need a program like Photoshop or Paintshop Pro to get the single tiles from NASA to a big picture together
- You need to know what area you want to cover
- If there are places where you want high resolution you should know the coordinates of them.

2. Getting the NASA Tiles

- The NASA-Tiles are in the Cache-folder at the place:
Cache\Earth\NASA Landsat Imagery\NLT Landsat7 (Visible Color)\ .
The next folder defines the level of detail and then one folder for every row (described later detailed)
- TIP: If you have already Landsat-Tiles in this directory, make a backup of this and cleanup the directory. Then you know that every tile in the directory will be in your defined area
- Start Nasa WW and make sure you have NLT Landsat 7 images enabled – then rotate to the area you want to
- Zoom to the locations you want and make sure you are near enough to the ground to get the lvl 4 Landsat images (STRG H will open the download box) – then wait until every Tile was loaded sucessfully (you can restart WW if it is waiting for image tiles too long – should help)
- Zoom out slowly and stop every time when you see that new images are downloaded
- At a defined altitide NLT Landsat images disappear and Blue Marble is visible. So go nearer a bit and see what area is covered – your area should be within
- This procedure you should do for every place you want to have in high resolution
- Then copy the entire Landsat folder to a temporary folder where you can work...

3. Preparing the NASA Tiles

- Now you should have 5 levels of details for the area, as i have seen level 0 is not nessesary because surface lvl 0 in orbiter has a better

resolution and i think you should take always better resolution in the source images

- So we begin with lvl1 NASA Tiles. Copy all the lvl1 Tiles into one folder, convert them into bmp or jpg and start the nasa2orbiter.xml spreadsheet
- In the spreadsheet, you see yellow cells – this are the ones you should write in the information
- The blue cells are for information and calculation – dont write into them
- The red cells are the output of the sheet – what you have to do – but more of this later

1	area 1							
2	nasa world wind tile numbers			left bottom		right top		
3	lvl	row	column	long	latt	long	latt	
4	4	974	1357	10,8281	46,9688	10,9688	47,1094	
5	4	977	1363	11,6719	47,3906	11,8125	47,5313	
6								
7	orbiter surface tiles			left bottom		right top		
8	3	124	535	10,8984375	47,0214844			
9	3	133	539			11,7773438	47,4609375	
10								
11		nasa image	pixel/degree	offset left bottom		images size for cut		
12	width	3584	3640,88889	256	3200			
13	height	2048	3640,88889	192	1600			
14								
15	texture quality	final image size (resize)						
16	256		2560					
17			1280					
18								
19								

- Type in the lvl of the nasa tiles and the min and max values of the row and column values in the filenames
- Type in the lvl of the orbiter tiles you want to have – they should always be equal or less to the nasa levels (or your hires lvl will be useless).
- Now you see the values the NASA image should have (the blue ones at the left) when you get all the tiles together – so you should start your imaging programme and combine all the tiles to one big picture
- A low row number is more left, a low column number is more bottom
- TIP: a grid with 512x512 length would speed up the process since NASA Tiles have this resolution and you can position the Tiles then fast and exact.
- If you have finished the image, you have to crop it. The size of the resulting image is in the red cells with “image size for cut”, the offset from the left bottom corner of the original image is left at “offset left bottom”.
- Then finally you have to resize the image to fit with your defined Texture quality (128, 256, 512, 1024 or so).
- So now its a good time to save the image for backup and make a copy of it and save it as .bmp for splitting it with imagesplitter

4. Preparing the Orbiter Tiles

- Start imagesplitter and select your .bmp and type in the orbiter tile numbers out of the spread sheet (negative values are for west and

south) and type in your number of tiles in width and height and start splitting

- Convert the tiles back to .dds, update your base.cfg with the new tiles and copy them into the textures folder – now you can test if all has gone right
- Now you can also delete some tiles if you see you didnt need them

5. Multires-Tips

- If you want to make a area where the resolution used is increasing nearer to the bases, you should do the following:
- Start with preparing lvl0 orbiter tiles and cover the whole area
- Prepare the lvl1 tiles, then go into orbiter and deactivate the lvl0 tiles and look where the lvl1 tiles are – then you must decide where lvl0 should end and lvl 1 should begin – start bringing back the lvl0 tiles tile for tile and delete the lvl1 and lvl0 tiles that are not needed.
- So you can go ahead until you reach the lvl you want
- On higher levels you may have no complete area of NASA WW-Tiles, but thats no problem, let the rest be white and after splitting it into orbiter tiles, delete the tiles with white areas.

6. Good Luck

- For suggestions and improvments please write a review or bug report at orbithangarmods
- Looking for a Texture set that has prepared as described? Look for Austria Hires Textures
- Thanks for the add-ons Image Splitter by Nikolay Dimitrov and SURFACE TILE CALCULATOR V2.0 made by José Pablo Luna Sánchez who has made this work and the generation of the spreadsheet possibly
- Made by Peaceman