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# MapUploader 5

Tutorial

vers 5.1

N Willink © 2012/18

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## *Introduction*

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MapUploader 5 comes with a default style and TYP file

For this tutorial the following files have been included:

- 1) faroe-islands.osm.pbf
- 2) HGT files covering the above area

The following files are not included

**Mkgmap.jar** for creating maps and DEM

**Splitter.jar** for splitting large maps

**Hgt2osm.exe** for creating contour files

**Osmconvert.exe** for clipping contours

**p7.eze and p7.dll** for bulk unzipping of hgt files

MapUploader 5 provides links to download these files.

## Lesson one

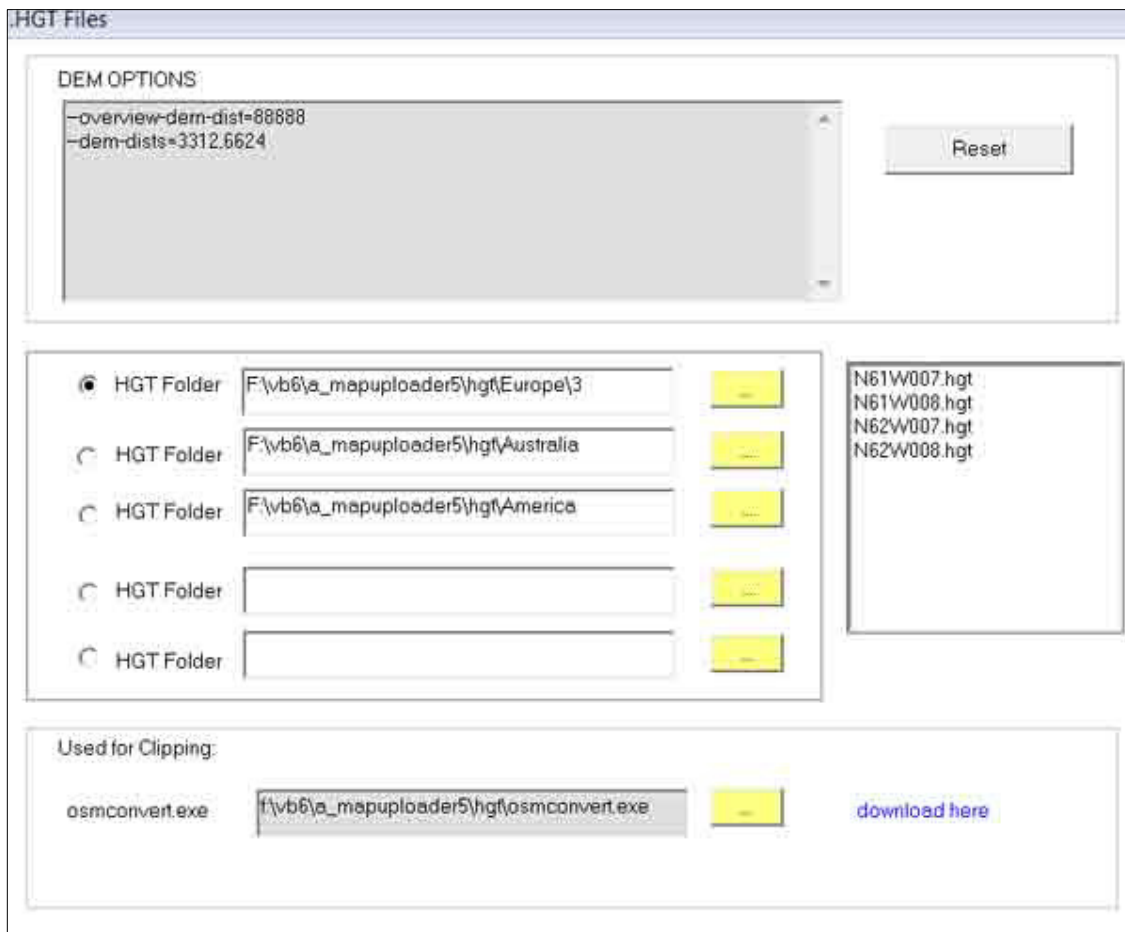
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### **Adding DEM to the our map.**

Makes sure you have the latest copy of mkgmap.

In addition, we need the necessary .hgt files and inform mkgmap where they are stored.

From main menu select DEM/Contours , DEM/contours Settings.



MapUploader provides 5 possible locations, although **only one is used by mkgmap ; the top folder is always searched first, the bottom one last.**

DEM option always relies on HGT files and MapUploader5 searches any of the 5 specified folders for the required files.

Please note: **it is important to have all the required hgt files in ONE folder.**

These files can be zipped but should not be renamed, for example:

We need N40W003.hgt – (40 degs latitude and 3 degs longitude)

If it was renamed as dummy.hgt , mkgmap cannot establish the coordinates of this file.

- 1) Check if faroe-islands.osm.pbf has been selected
- 2) Just tick DEM and Add to Basemap/Mapsource option
- 3) Add name , say map\_dem
- 4) Click Create Map

### ***DEM Options:***

#### **--dem-dists**

The lower the number the darker the shading, the greater the contrast

The higher the number the more blurred the effect.

You can have more than one level. Levels are separated by a comma.  
Levels are specified in your Options style sheet, ie

levels = 0:24 , 1:20, 2:18, 3 :16

for this you could have the following dem options:

**--dem-dists=3312,9942,16560,44176**

The more levels, the larger your map size.

In general it is advisable to use the recommended numbers designed to match the arc seconds

If you are using 3'' hgt files you may want to start with 9942 (32 meters)

If you are using 1'' hgt files, perhaps start with 3312 (11 meters)

## Lesson two

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### ***Adding contours to the our map.***

For this we need to first create our own contour files then add them

We prefer contours to be saved as pbf ,o5m or osm as these files give us greater flexibility and control then mp files.

The default syle includes contour\_lines in the inc folder.

This allows us to decide on how intervals are labelled and at what level they are shown. With mp files labels ,type numbers and levels are fixed.

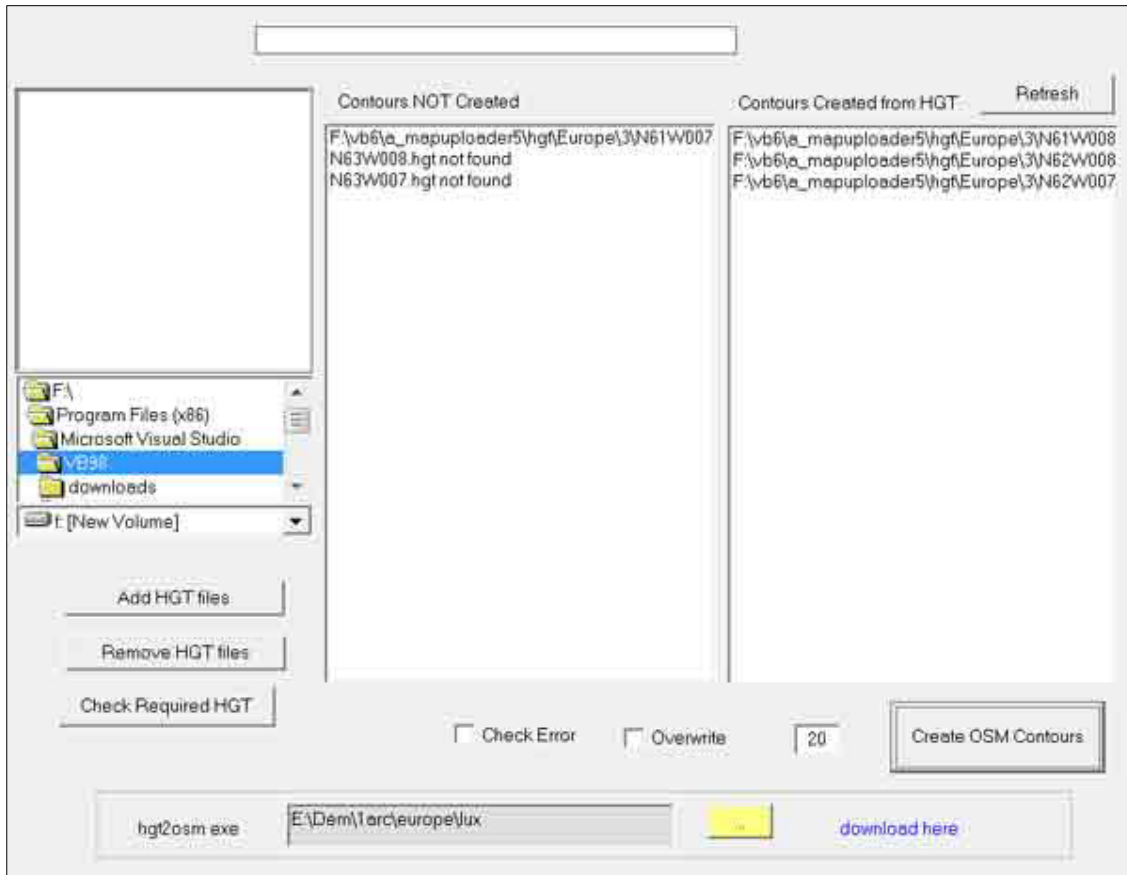
We need a utility that a) reads hgt files and b) converts them to osm.

At present we recommend hgt2osm.exe which , although slow ,does the job reasonably well.

Remember:

- ***contours only have to be created once for each hgt file !***
- *You can speed up the creation of contours by increasing the default interval size.*
- *Intervals can be from 5 to 1000m. The lower the interval the more contours you get.*
- *Many Garmin TOPO's have intervals of 5m but TOPO France V4 has 20m!*

**From the main window select Dem/Contours , Create Contours**



In screen-shot above 2 hgt files have not been downloaded – this is because they don't exist and are just blocks of sea.

Three Contours have been created and one hasn't.

Select the one not created , check the desired **interval** (ie 20) then click **Create OSM Contours**.

Once the contours have been created exit from this window.

- 1) Check if faroe-islands.osm.pbf has been selected
- 2) Just tick Contours and Add to Basemap/Mapsource option
- 3) Add name , say map\_dem
- 4) Click Create Map

Contours option always relies on HGT files and MapUploader5 searches all folders starting with the top one for the required files. These files can be zipped but should not be renamed

The default style has a file called contour lines.

It doesn't do much and does not allocate lines to specific multiples of altitude.

For this you need to consider your own requirements, ie intervals ( 20m by default)

The following code enables you allocate specific contour types to altitudes:

0x22 is used for intervals of 100m

0x21 is used for intervals of 50m

0x20 is used for any other lines

```
contour=elevation & ele ~ '\d*[0123456789]00' # ie for 100,200,300
  { name '${ele|conv:m=>ft}'; }
  [0x22 resolution 20]
# multiples of 50m
contour=elevation & ele ~ '\d*[5]0'# match 1 or more repetition digits 100 150
200 250
  { name '${ele|conv:m=>ft}'; }
  [0x21 resolution 21]
contour=elevation
  # { name '${ele|conv:m=>ft}'; }
  [0x20 resolution 24]
```

## Lesson 3

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### ***How to add DEM and contours to your map***

Once contours have been created the procedure to add DEM to contours is very easy

- 1) Tick the ADD Contours option
- 2) Tick the DEM Option

You may find that contours are drawn beyond the accrual map, in which case tick the

**Clipping** option.

Clipped files require osmconvert.exe.

Go DEM/Contours , DEM/Contour Settings and locate osmconvert.exe

Note : Contour files when large can cause mkgmap to error: Solution , resplit the map using lower maxnodes, ie 80,000.



## Lesson 4

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### ***How to add DEM only maps***

When you select DEM and dem only , MapUploader 5 creates a DEM only map.

However, mkgmap may run out of memory ; in which case resplit your map using maxnodes 80 000



## *Lesson 5*

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How to create DEM and contour maps only

As in lesson 4, but tick Contours

## *Where to download hgt files?*

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Form the main menu select Dem/Contours ,Download HGT

ALL hgt files are **labelled** [longitude][Latitude].hgt

They contain no headers so the information regarding quality and block identity are obtained differently.

Standard Quality 3 arcsec obtainable from [www.viewfinderpanoramas.org](http://www.viewfinderpanoramas.org)

High Quality 1 arcsec (larger files) obtainable using free registration from [dwtkns.com](http://dwtkns.com)