**Cutting out a catchment**

You can run CWATM for the intire globe. But if you are interested in a specific catchment or region it is faster to cut out a region:

1. Second fastest way

You specify a rectangular in the settings file:

Number of Cols, Number of rows, cellsize, upper left corner X, upper left corner Y

MaskMap = 62 24 0.5 90.0 36.0

1. Fastest way – recommended for calibration

Cut out a catchment with the river network map

How to create a mask map for a specific catchment

You need

1. pcraster for this - <http://pcraster.geo.uu.nl/>
2. a tool called catchment
3. the river network connection map (ldd map)



Fig 1: River network connection 30 arcmin (local drain direction – ldd)

Fig 1 shows a ldd map. Each point is a) connected to another (a line) b) is a sink (a dot) or c) is not land at all (a black cell).



Fig 2: River network connection 30 arcmin - most upstream and downstream catchments

The most upstream catchments are those which are connected only in downstream direction. The most downstream catchments have a lot of cells upstream but end up in the sea (see fig 2)

To ensure fast computation with CWATM it is the best to minimize the “MaskMap” – the map which tell CWATM which cells have to be used, to the area you need e.g. the Yangtze in fig 3.



Fig 3: River network connection 30 arcmin - basin of the Yangtze - Cháng Jiāng

1.) Select the last outlet of a catchment

a.) select a catchment e.g. Yangtze

b.) use the ups.map (upstream area map) in aguila or ArcGis or QGis

c.) use the biggest upstream area of the catchment and note down the lon/lat location e.g. yangtze lon/lat 120.84 31.75

2.) run catchment.exe to create mask map

a.) run: .\catch\catchment

you see some explanation (hopefully)

b.) if it is not working change the paths in ./catch/config\_win.ini

c.) put in the location and the river network

.\catch\catchment 120.84 31.75 ldd.map a1.map

d.) check if the catchment fits to your expectations e.g. if you do  
 .\catch\catchment 120.84 31.36 ldd.map a1.map -> very tiny catchment

3.) resample to the smallest area

The map is still global, to shrink it:

a.) resample -c 0 a1.map yangtze.map

b.) check again with ArcGis, Aguila etc.

4.) if you do not like pcraster .map change it to .tif (e.g. with ArcGis) or .nc   
 (CWATMM is reading all types .map, .tif , .nc)

5.) use it in CWATM as maskmap