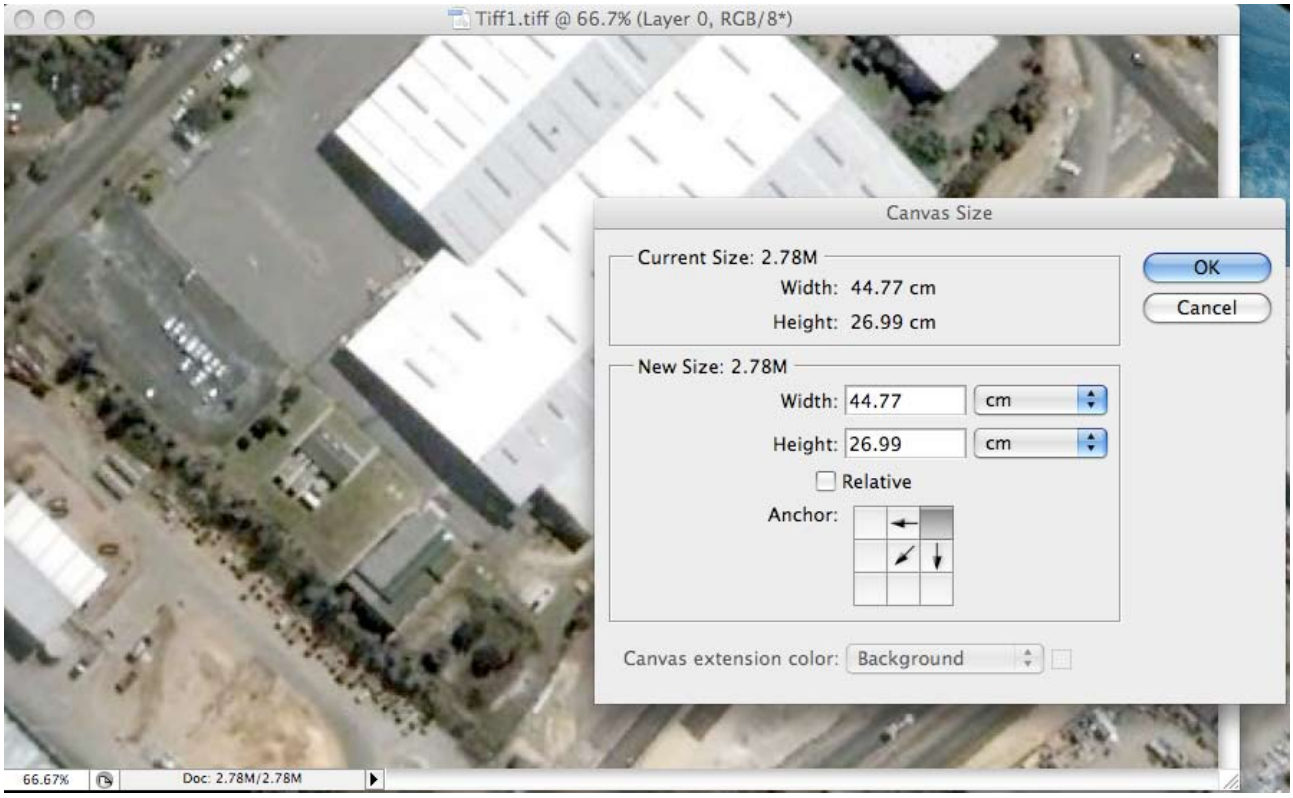
ArcView how to do it manual No. 3
How to create a mosaic from Google Earth



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Open GoogleEarth and enlarge the magnification to level you require. I have selected six images from Google Earth of the Kew Street area that you will all be familiar with (see below). In Google Earth work out the area you want to cover and how many grabs

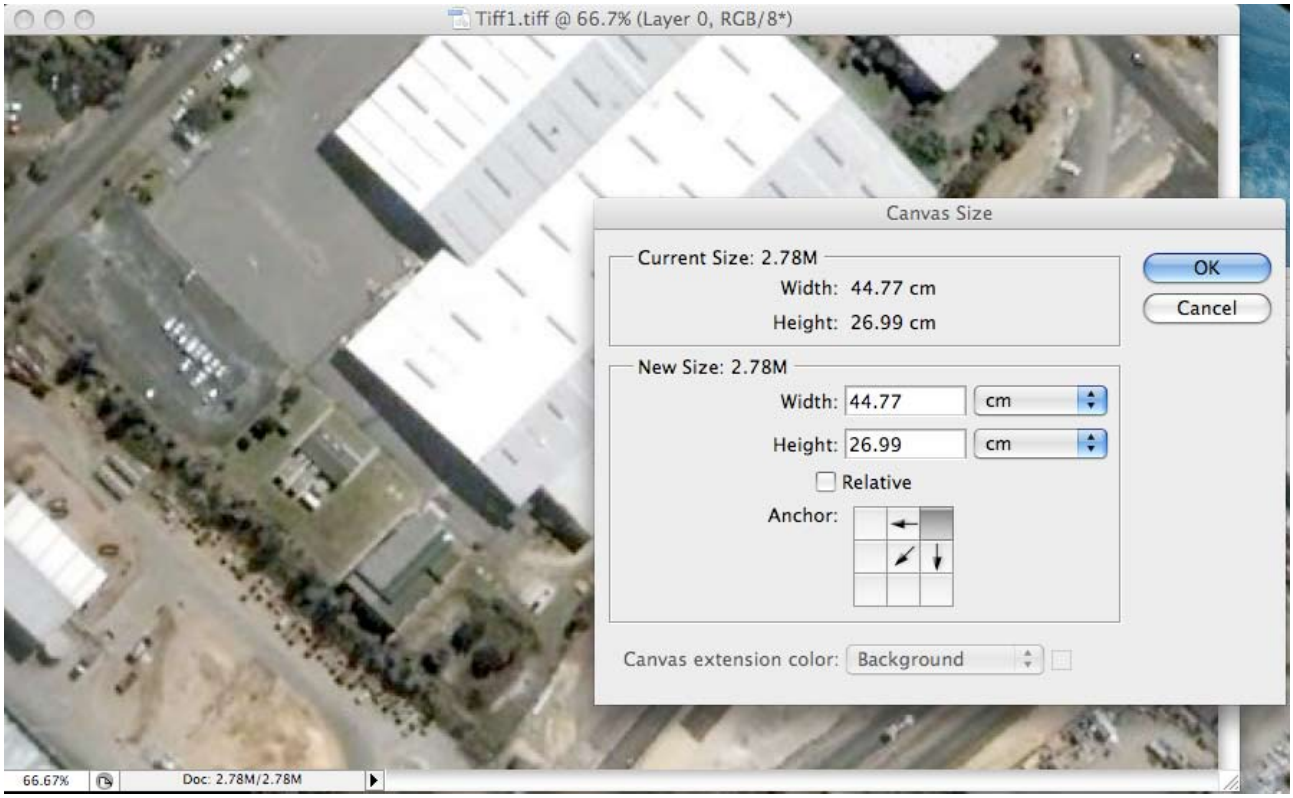
it will take to do it. Start and work in a systematic manner, I started at the top right and moved West making three grabs each one having a bit of an overlap (Note Tiff.1 top left is a mistake, its a zoomed image of the CRC).

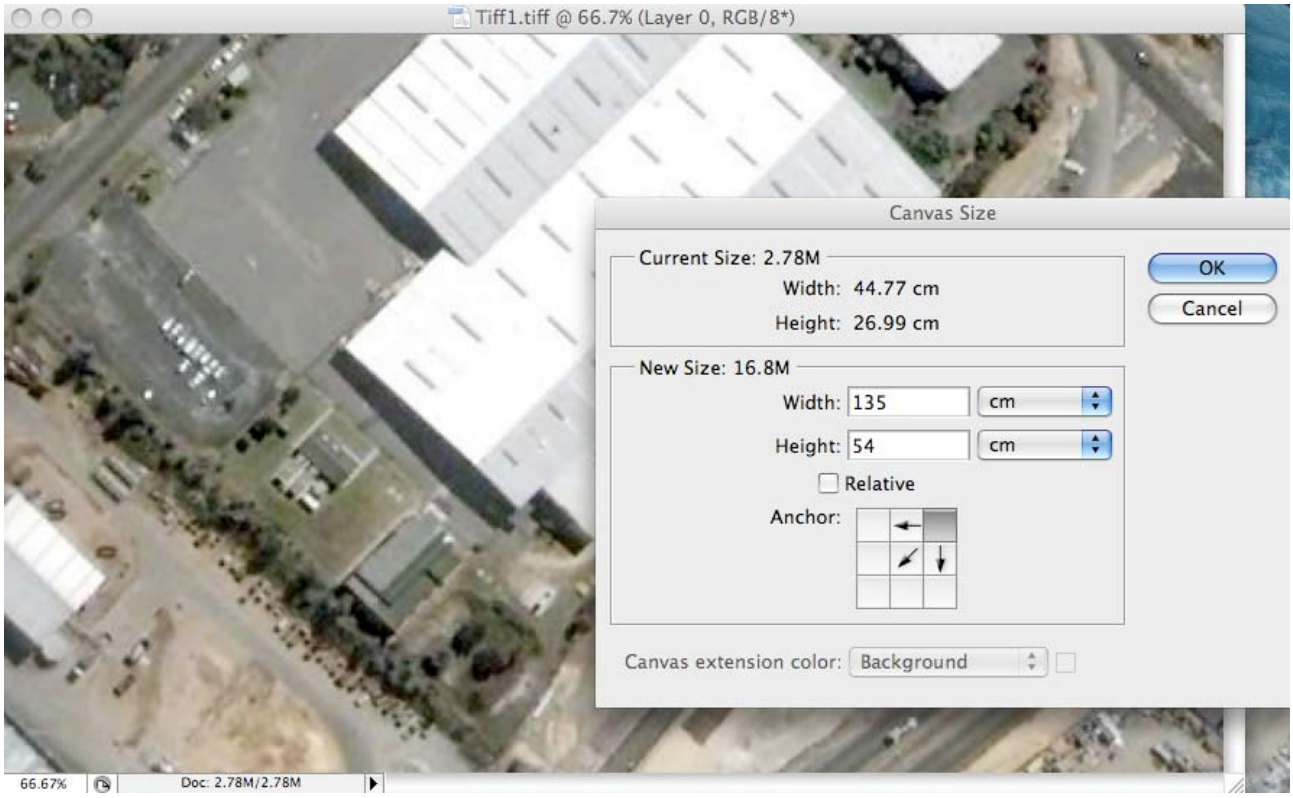
I work on a Mac and I am less familiar with the PC environment but there is a screen grab which is keystroke F13 Print Screen. This saves the grab to clipboard on computer. On a Mac there is a utility called Grab that allows you to select an area and save it as a TIFF image.

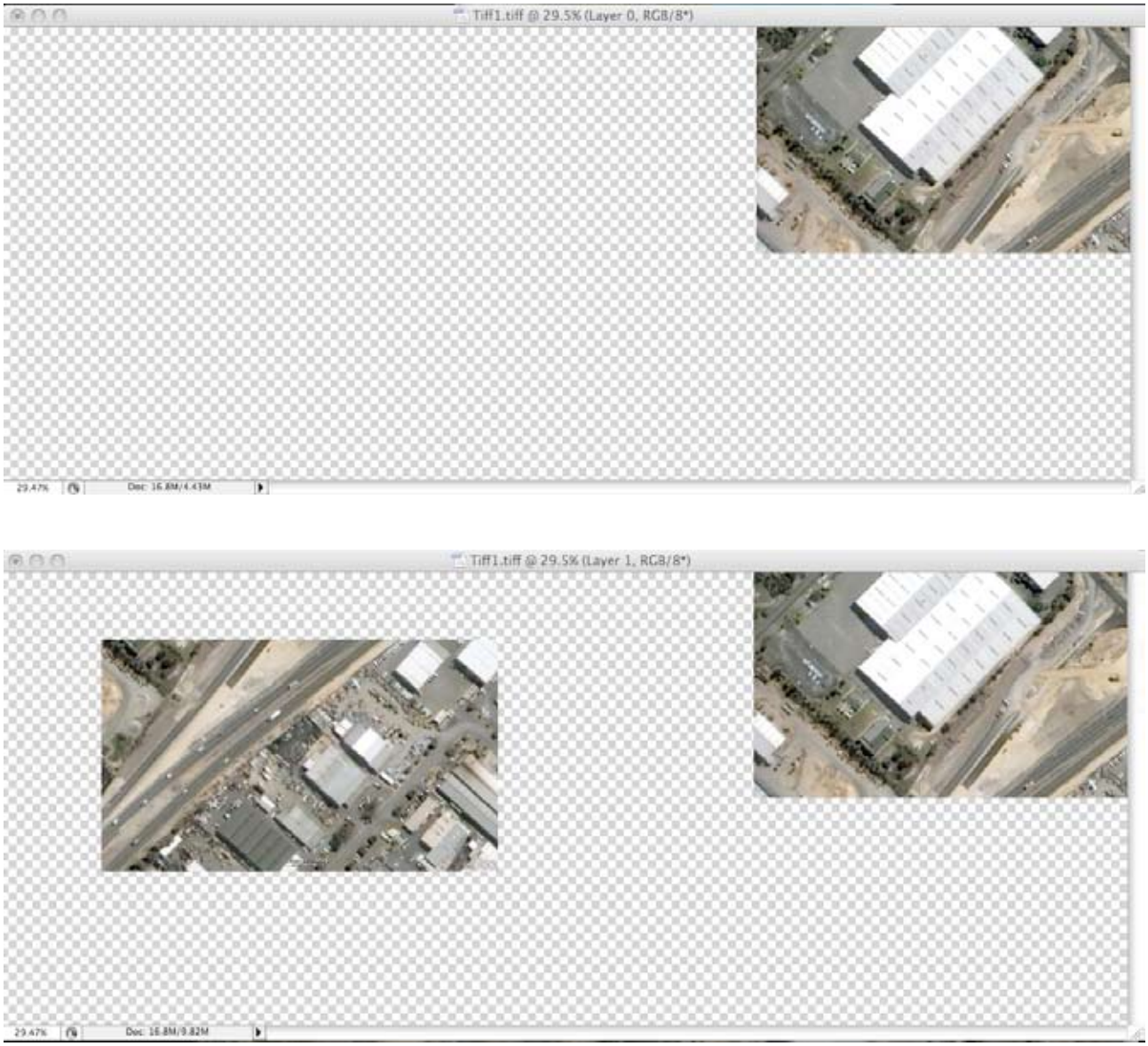
Open Photoshop or Photoshop Elements and on a PC save clipboard to a document for each of your Google Earth Grabs. So in my case I have 6 grabs saved as TIFF 1 to TIFF 6. If you are going to have more than 9 files remember to save the firs nine as 01, 02, etc as that makes file management easier.

The firs thing to do is to create a Canvas size that will allow all the images to fit onto. You can do this either by creating a new file and setting the canvas size or resizing the first image (in this case top right, i.e. the NE corner) to the appropriate size. In my case the image is 44.7 (say 45) cm by 26.99 (say 27) cm (see opposite top). So the canvas needs to be 135 cm by 54 cm and I have set the Anchor top-right so that the new canvas area is in the right place (see opposite bottom).

We now have a canvas ready to place the images to form the mosaic (see page 4 top). Open the second image in Photoshop and either copy whole image and the paste it into the master image, or drag it to the master image. This will then form a new layer on the master image. Close second image.


Tiff1.tiff @ 66.7% (Layer 0, RGB/8*)
Canvas Size
Current Size: 2.78M
Width: 44.77 cm
Height: 26.99 cm
New Size: 2.78M
Width: 44.77 cm
Height: 26.99 cm
Relative
Anchor:
Canvas extension color: Background
OK
Cancel
66.67%
Doc: 2.78M/2.78M

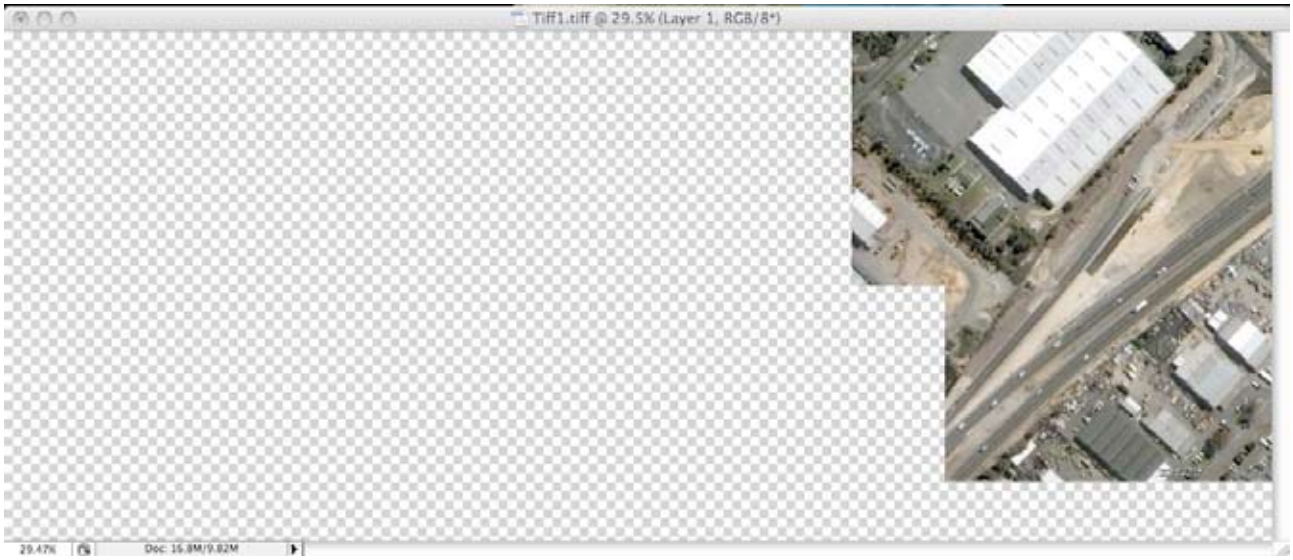

Tiff1.tiff @ 66.7% (Layer 0, RGB/8*)
Canvas Size
Current Size: 2.78M
Width: 44.77 cm
Height: 26.99 cm
New Size: 16.8M
Width: 135 cm
Height: 54 cm
Relative
Anchor:
Canvas extension color: Background
OK
Cancel
66.67%
Doc: 2.78M/2.78M

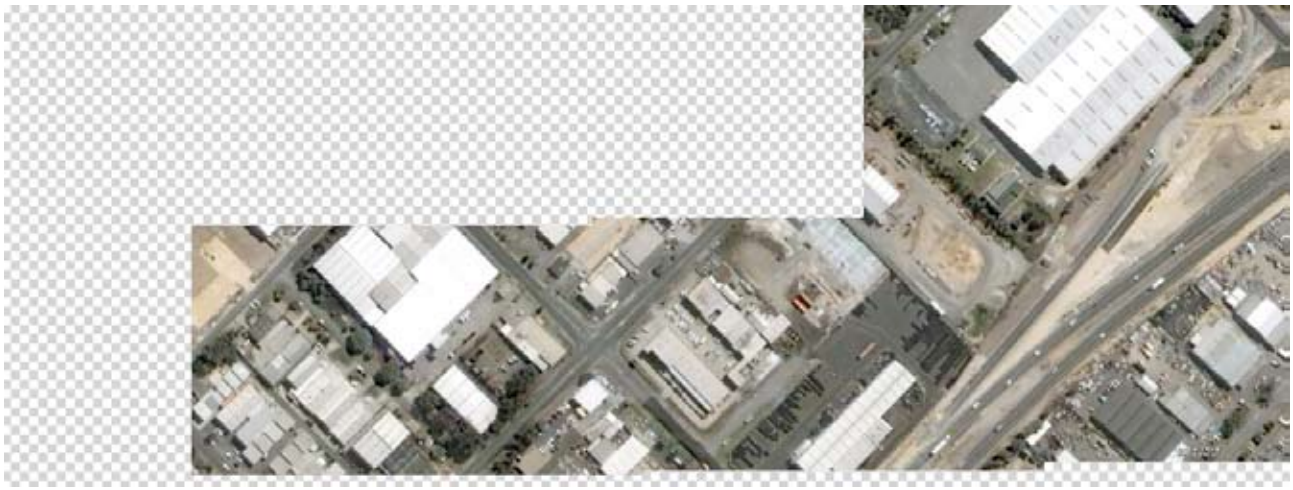


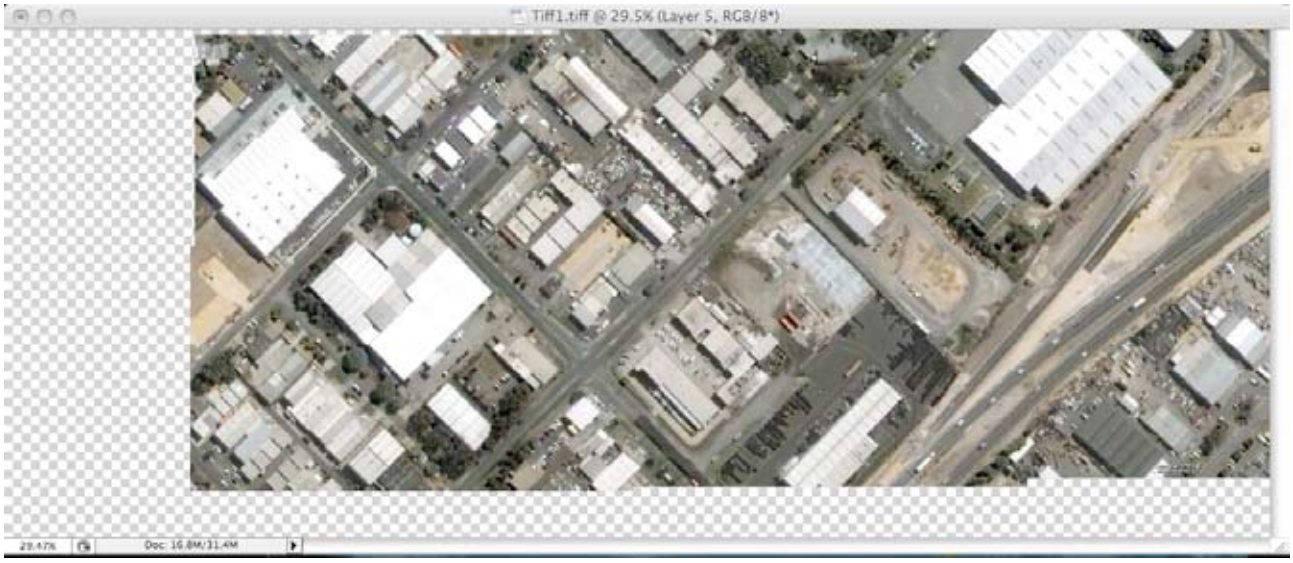
You now have a situation as above, with the second image that needs to be move into its correct place. In this case the image belongs below the first image. You can drag the image either by doing a Command-Drag (Mac) or a Control-Drag (PC) so that image is in approximately the right place (see opposite top).

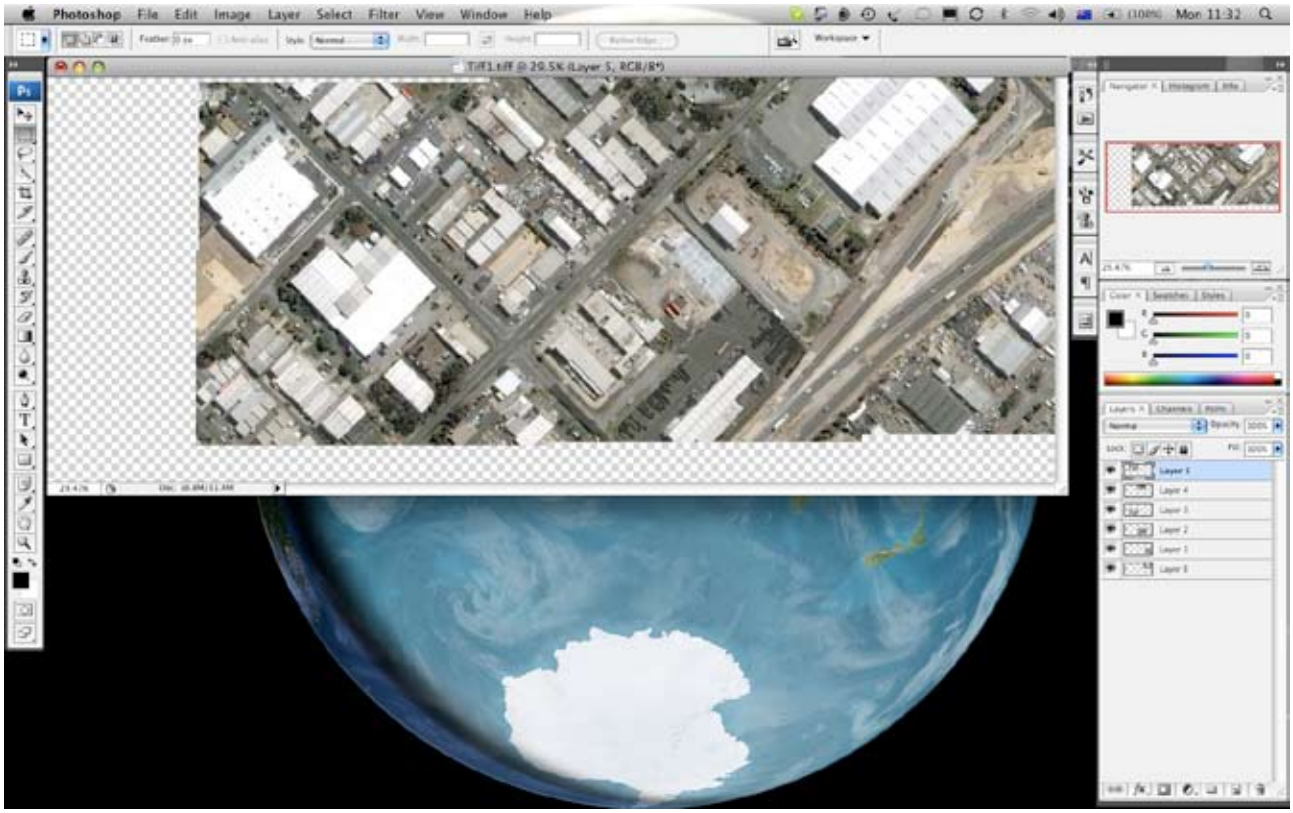
You now need to zoom in on the join and finely adjust the join. Because your images are from Google Earth, they will have no rotation, so the joining process is relatively simple provided you

lots of detail (as these images do). The two image opposite (bottom) show a good selection of features that will allow you to join the image accurately (right).


Tiff1.tiff @ 29.5% (Layer 1, RGB/8*)
29.47%
Doc: 16.8M/9.82M



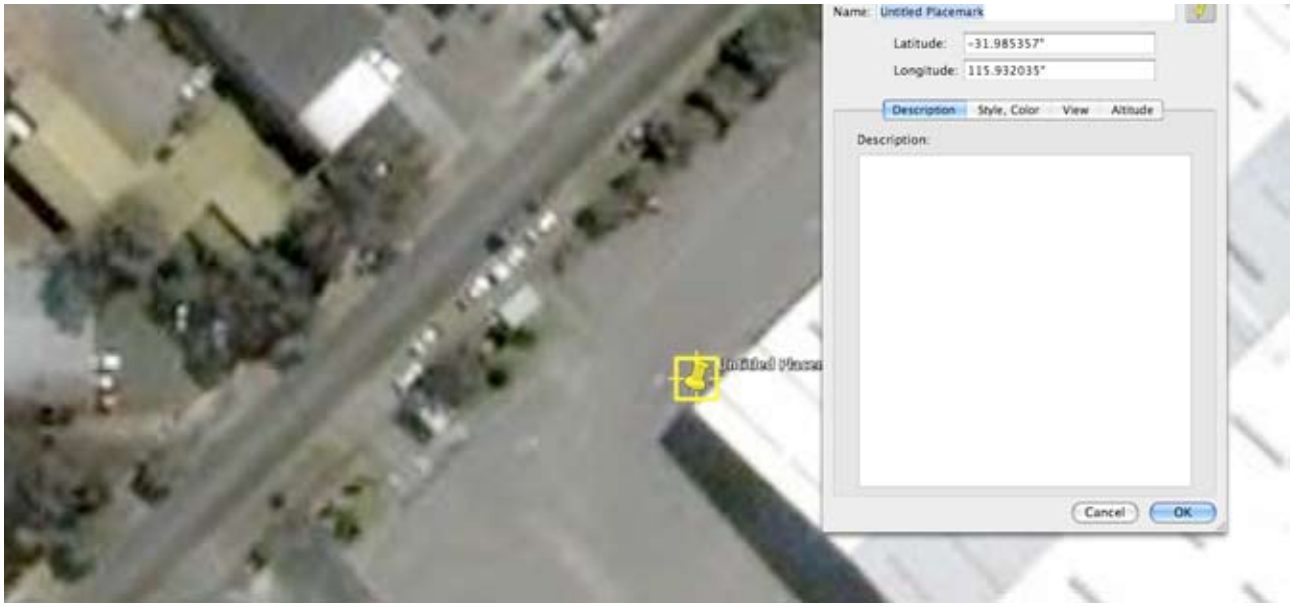

Tiff1.tiff @ 29.5% (Layer 5, RGB/8*)
29.47%
Doc: 16.8M/31.4M



The process is now repeated image by image (opposite middle), until the mosaic is complete. It should be remembered that we are working with layers within Photoshop so that each new image is created in a new layer (see above six layers have been created). This means, in theory, that you can move each individual image in its layer without affecting the other layers. However, a word of caution. I is advisable to get each image absolutely accurately adjusted to adjacent image before moving to next image. If you start adjusting images each adjustment will affect all the images and can lead to a nightmare. Since the Google Earth images will have no rotation, it is absolutely essential that throughout the grabbing process you do not change the scale in any way. This you should be able to join adjacent images at a single pixel level, i.e a particular pixel in one image will match a pixel in the adjacent image.

Once you have finalised, all yo have to do is crop the image and flatten it to a single layer (an option in the layers menu).

To be able to use this image in ArcView it ghas to be georeferenced, This is a subjetc of a previous *How to do it* paper (ArcView How to do it Manual No.1: Georeferencing for Beginners. Report–Department of Maritime Archaeology, Western Australian Museum, No. 219). So it is necessary to select 3 or more points on the mosaic and determine their geographical coordinates.



In Google Earth in preferences 3D View settings, set Show Lat/Long to decimal degrees, what you will need in ArcView. Then Add Placemark on a selected feature, above I have selected the Western corner of the CRC. I do not see to be able to get a good quality grab from Google Earth but you can see the general idea. Make a note of coordinates of each of your points and the refer to georeferencing *How to do it* paper. I have attached a mosaic of Garden Island to show what can be done, Landgate blacks out Garden Island as it is a naval facility, so this is a working option.

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