

Removing light pollution and uneven field illumination

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In this tutorial I will show you how to remove light pollution and correct uneven field illumination caused by gradients in light levels. The software I will be using is Paint Shop Pro 6, but the methods can be adapted to be used on any similar package such as Photoshop.

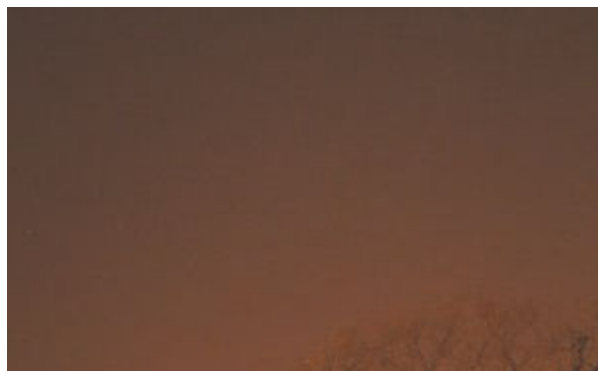
First off, convert the image files to bmp or a similar uncompressed file format. This will prevent a loss of quality when we save the file. You can convert back to jpg when you have finished post processing.

Load up the image to process, in this example I am using one of Orion.

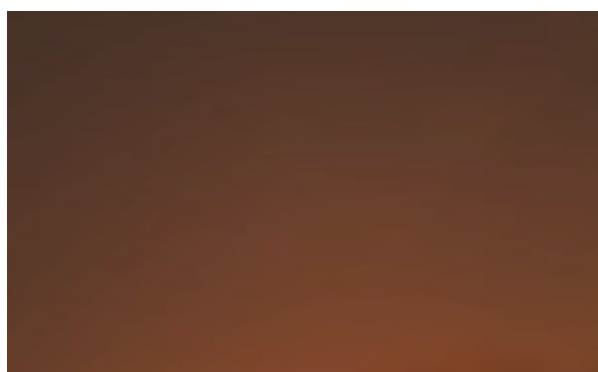
You can see that there is a gradient in the background colour, ranging from orange light pollution at the bottom to a darker colour at the top.



Create a duplicate of the background layer and rename it to something like "light filter". Use the clone tool to edit out as many of the stars as possible. This will help reduce the brightness for the next part. Don't worry if you miss a few dim stars, as long as the bright stars have been covered over.



Next apply a gaussian blur of at least 50 pixels. I usually use around 55. This blurs the image and creates an average of the background. Had we left the stars in we would have brighter and darker areas.



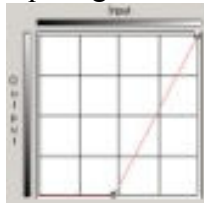
Apply the negative filter to the layer and you should have a light blue gradient.



Adjust the opacity of the layer until you have an even blue-grey image, then merge the two layers. Don't worry that its very light and you can't see much detail.



Adjust the levels so that the stars are still visible and clear, yet the sky is as dark as possible. You have to play around with this, but I find a curve setting like the one below to be quite good.



You can then resize, crop and apply an unsharp mask filter to the final image