

## **StarTools Step by Step Processing Guide for the n Car Nebula - (NGC 3372)**

By Pete Scully

The following is a step by step approach adopted by myself to process Eta Carina using StarTools 1.0.68 Beta.

The main objective is to demonstrate StarTools powerful and easy to use functions. This tutorial is by no means a once off approach as StarTools has many “secrets” which will achieve similar or even better results than those illustrated. The user is encouraged to “experiment” with the many powerful modules contained in StarTools.

The subject chosen is Eta Carina. 20 x 25second exposures at ISO 1600 were taken with a modified Canon 1000d – IR filter removed. White balance was set to White Fluorescent Light. The camera was controlled with Astro Photography Tool – APT software. The images were stacked in Registax 6.1.0.8

The scope used is a 10” f4.7 Skywatcher on an EQ5 mount with GOTO. All is interfaced to a Samsung RV510 laptop running Stellarium and EQASCOM.

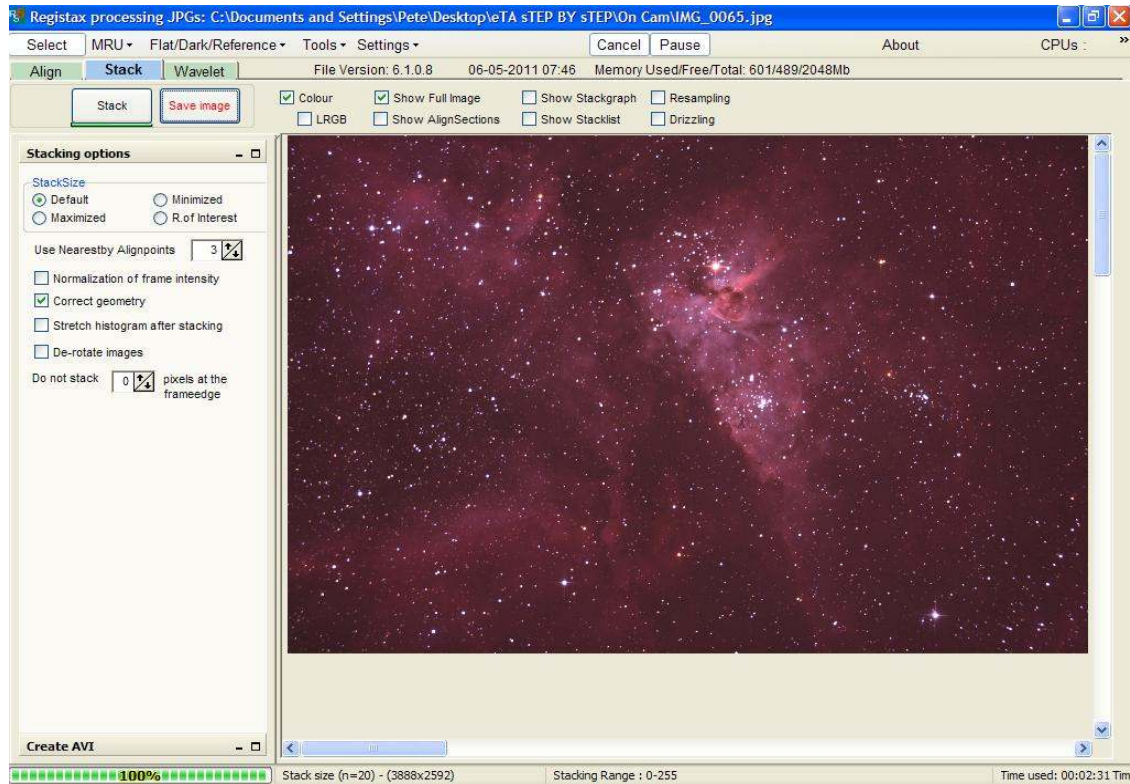
The challenge was to remove excessive light pollution and red tinge as well as bringing out the various colors of hydrogen and OIII without over exposing the nebula too much.

### **NGC3372 Final Image – Approximately 8000 ly distance**



Now lets get on with the processing steps to arrive at the above.

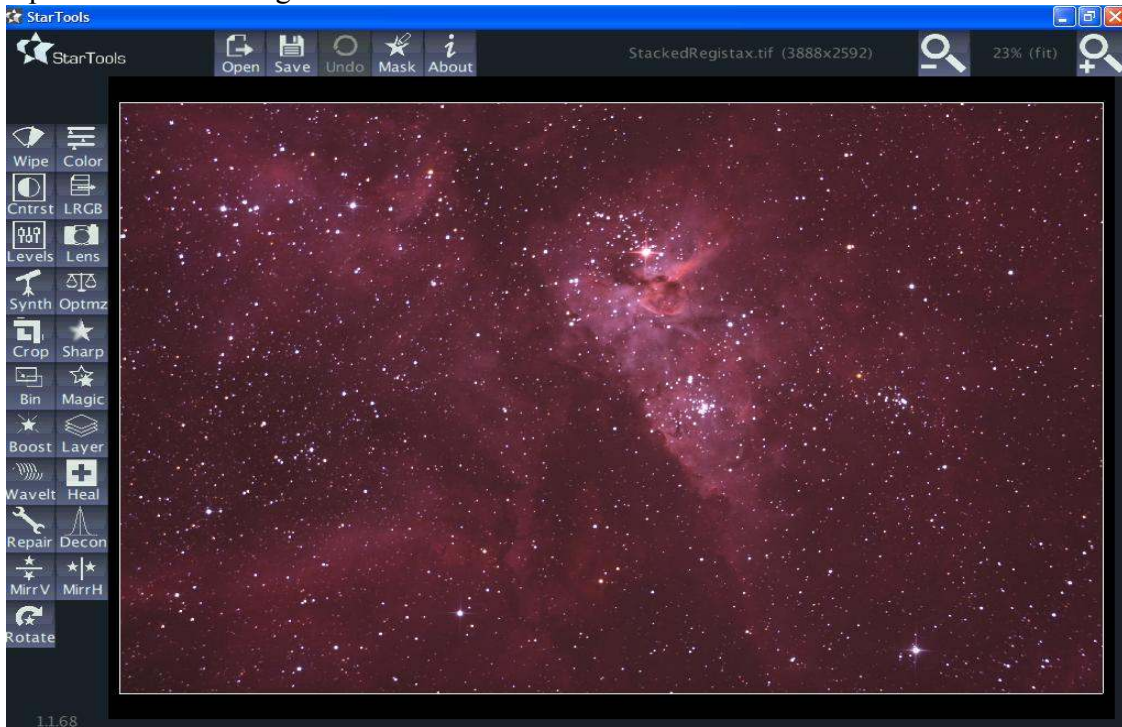
Below is the original sequence after stacking with Registax. No manipulation was done in Registax.



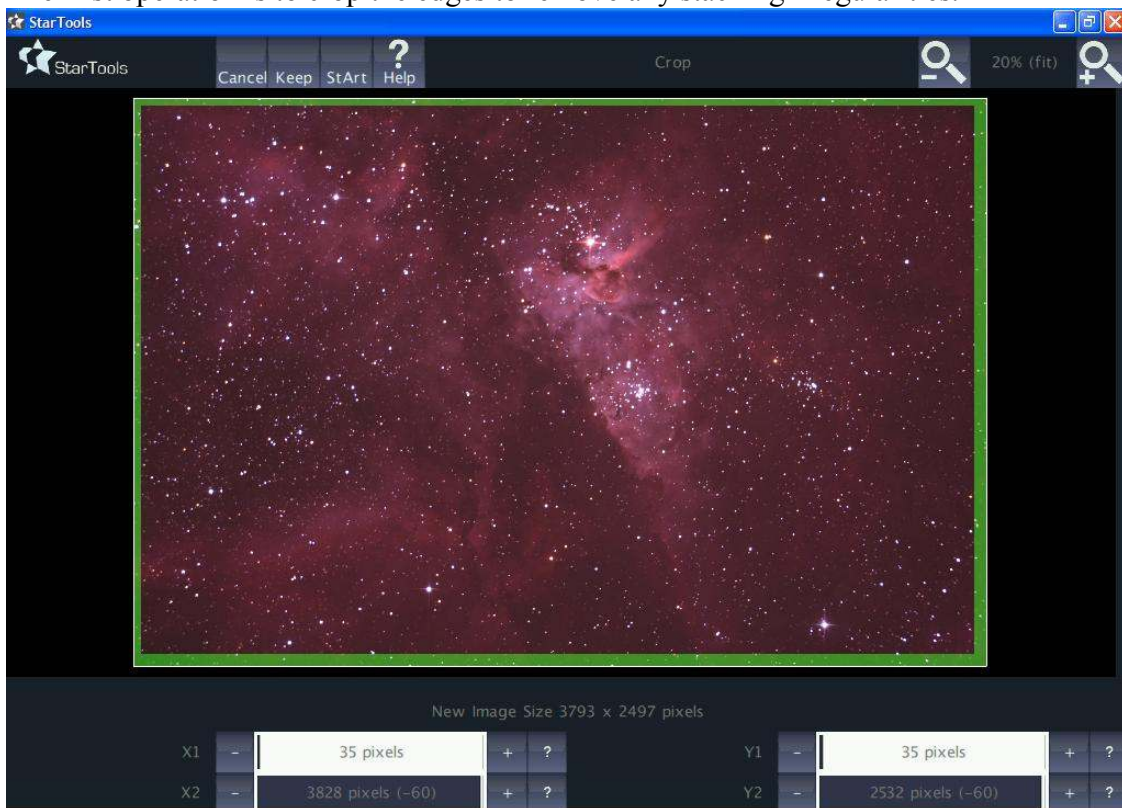
The image has a distinct reddish tint as a result of being taken in a heavily light polluted residential area and the removed IR filter. The task at hand is now to process the image in StarTools to remove the light polluted background and enhance the image to your liking.

Using DeepSkyStacker 3.2.2 is also an option for stacking. I find that DSS tends to dull the final stack which makes further processing a little more difficult. Much of the red tint is removed in DSS when the RGB alignment is done. Again the choice is yours. StarTools handle images from either equally well.

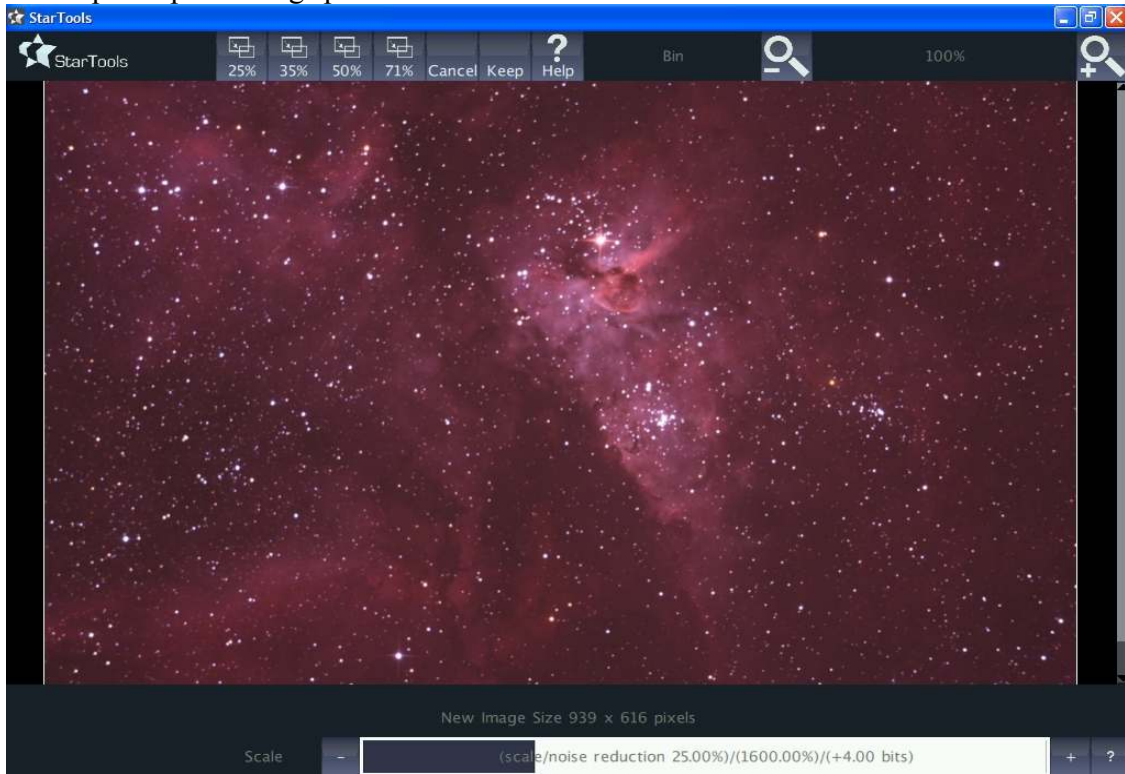
Open the stacked image in StarTools. Refer below



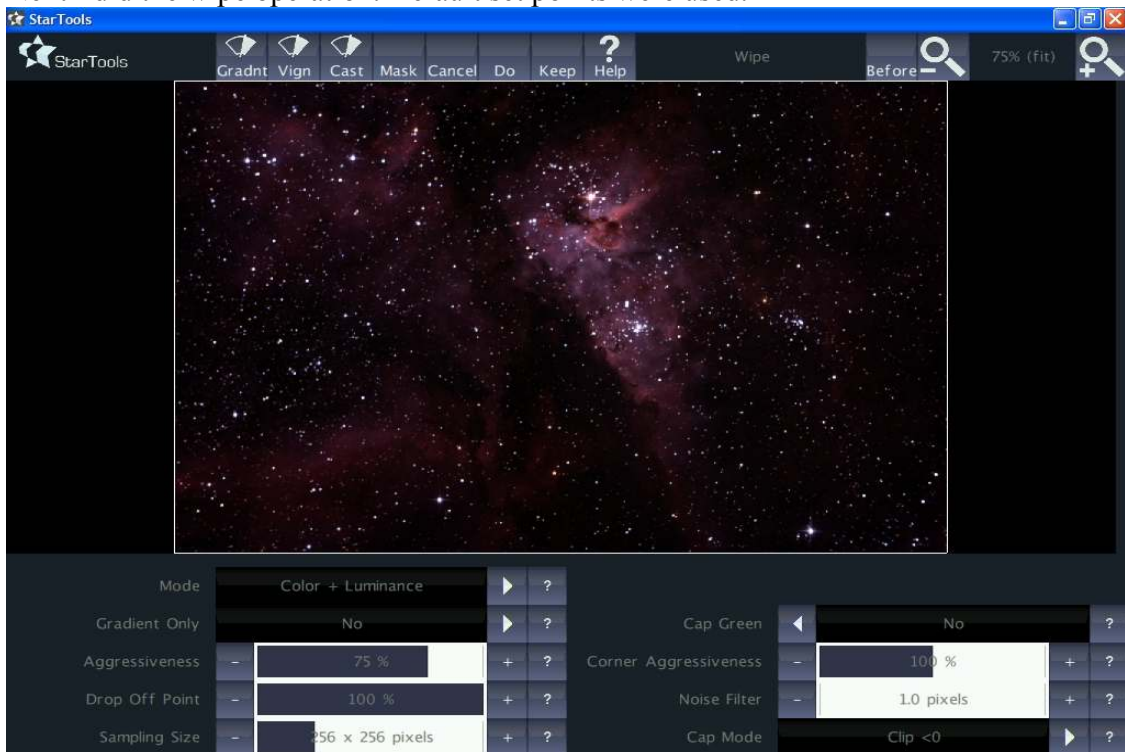
The first operation is to crop the edges to remove any stacking irregularities.



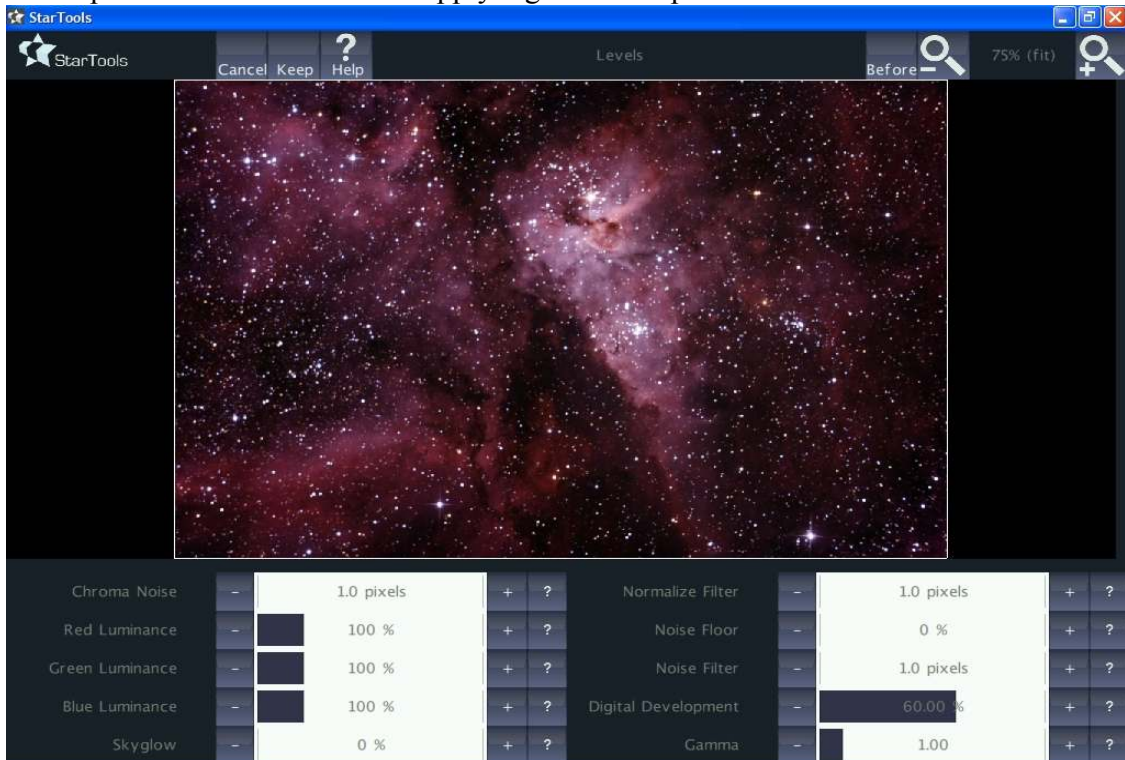
Next bin the image to reduce size. In my case I used 25% due to my PC's lack of RAM and improve processing speed.



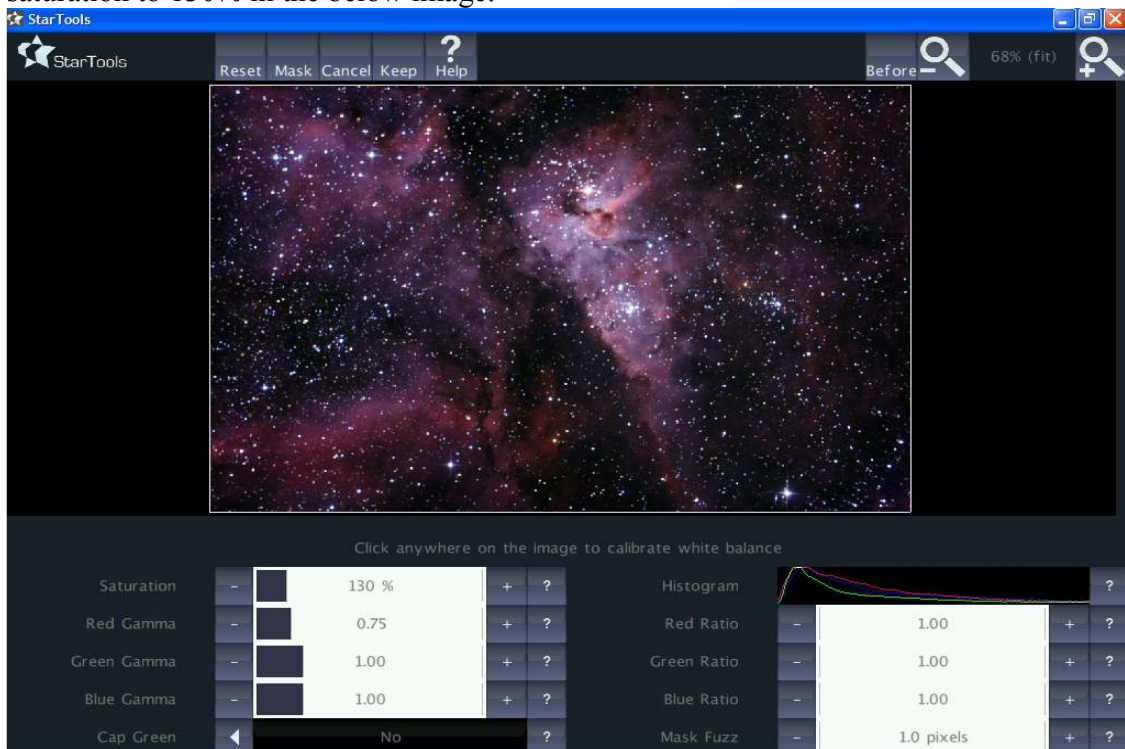
Next I did the wipe operation. Default set points were used.



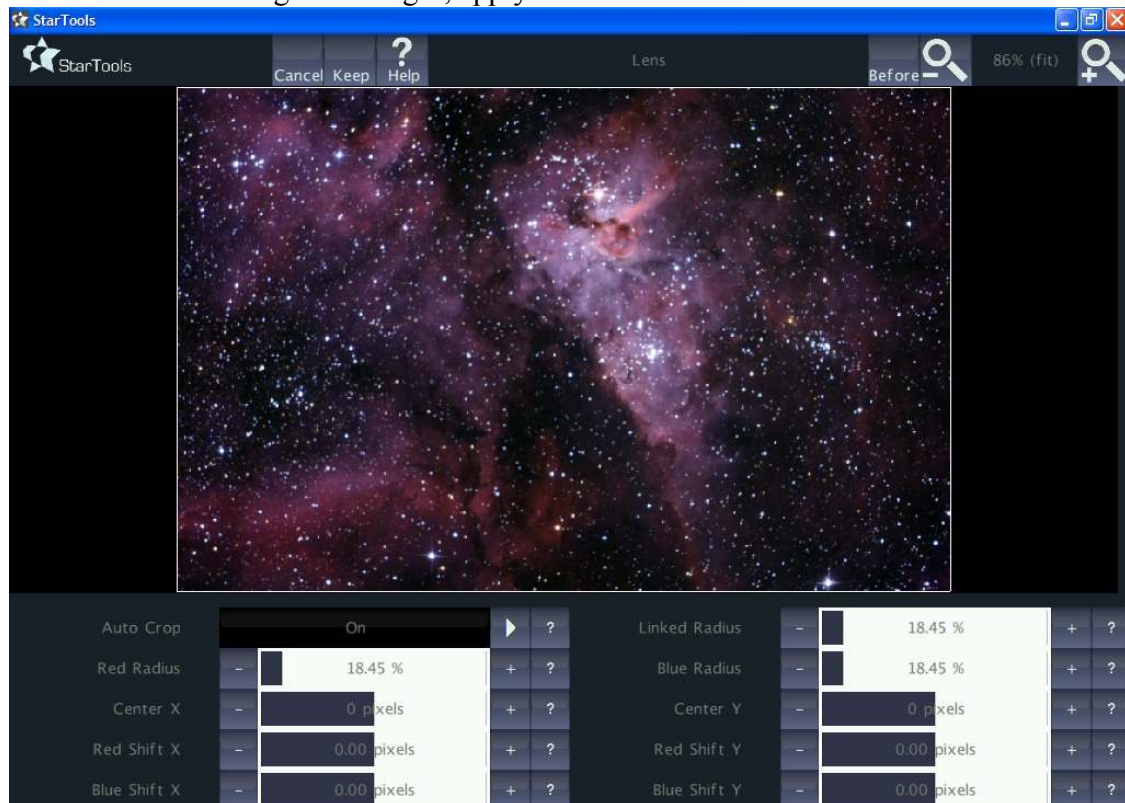
Now open the levels module and apply digital development – 60% in this case



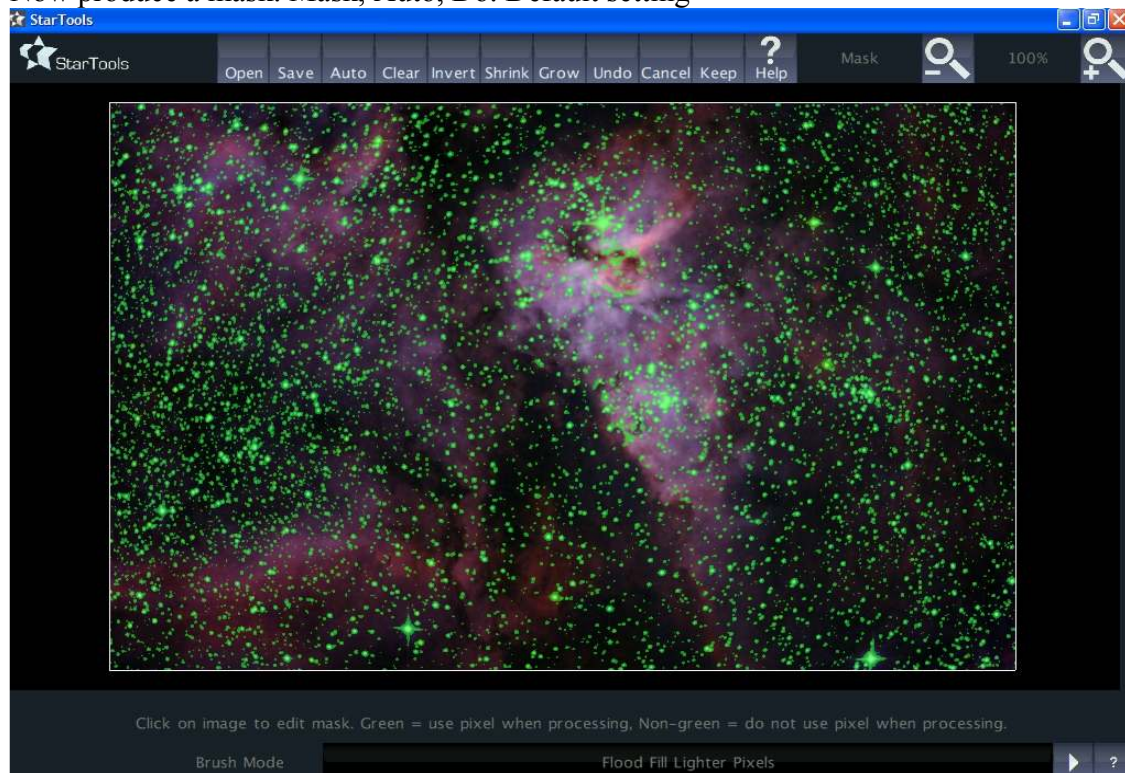
Open the color module and adjust to your liking. Reduced red gamma to 75 and increased saturation to 130% in the below image.



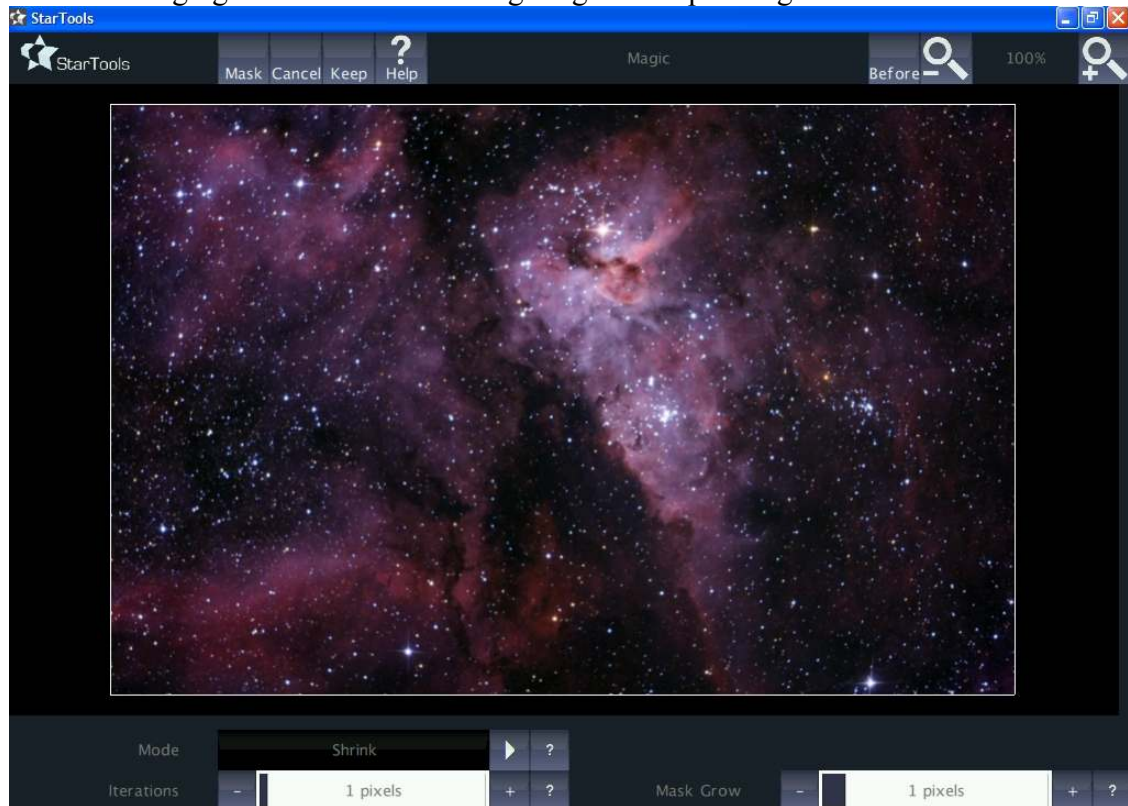
To remove star flaring at the edges, apply the lens module. 18.45% was used.



Now produce a mask. Mask, Auto, Do. Default setting



Open the Magic module – Default settings. This procedure “shrinks” the stars and has the effect of bringing the nebula to the fore giving a more pleasing view.



At this point we have done most of the post processing and removed most if not all of the light pollution and red tinge. All that remains is to improve the image from a brightness, contrast and color perspective.

We have a number of choices. Move between the Levels and Color modules. Applying the Contrast Module is also an option.

Below are two images to illustrate two quite different effects.

The top image with Levels Red/Green ratio, Boost, Contrast Modules applied and adjusted to suit your taste. The sharp module (Default Settings) was also applied

The bottom image has less red gamma (reduced to 75%) and the Optimize Module applied (default settings)

Final 1



Final 2

