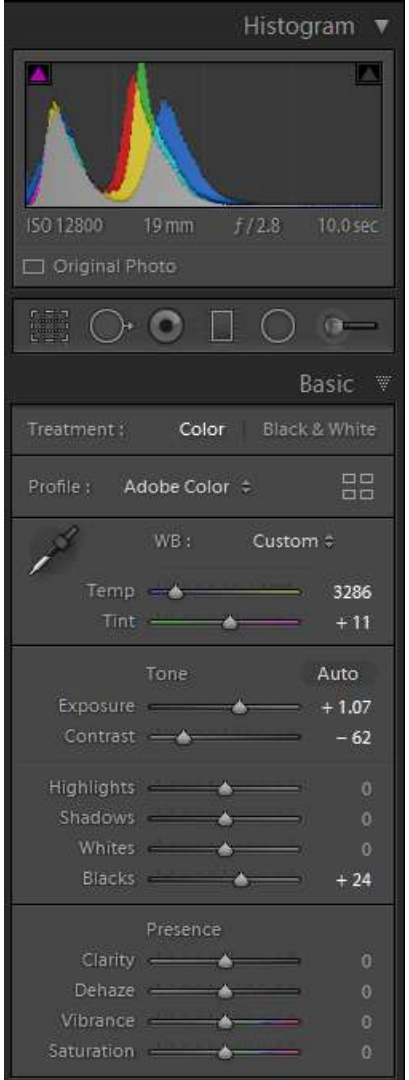
Starry Landscape Stacker Procedure

David Swindler – Action Photo Tours

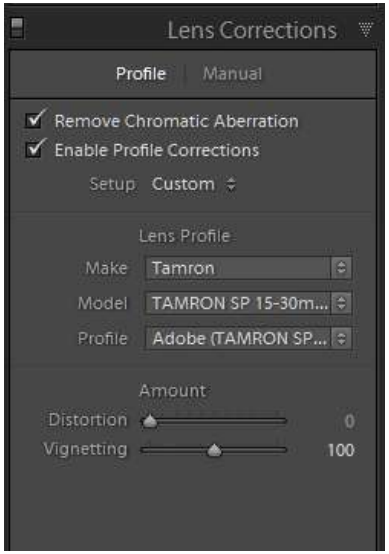
Preparing Images for Stacking

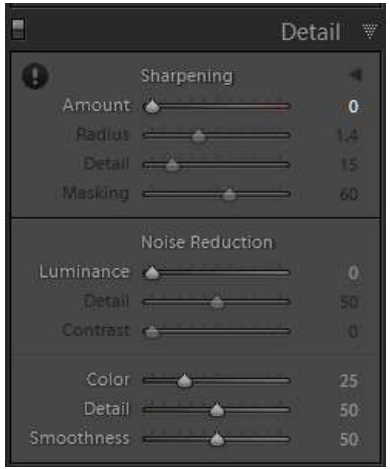
- The best stacking results are obtained from doing the least amount of pre-processing as possible in Lightroom or Camera RAW.
- Recommended Adjustments:
  - Use Custom WB
  - Increase Brightness
  - Decrease Contrast
  - Increase Blacks (look at left side of histogram)
  - Remove Lens Vignetting and Chromatic Aberration
  - Mild Color Noise Reduction



Things to Avoid

- Auto White Balance
- Adding Contrast, Clarity, and DeHaze.
- Adding Color through Vibrance, Saturation, and HSL
- Pushing the Bright Tones through Highlights and Whites
- Noise Reduction & Sharpening
- Lens Distortion Corrections
  - Move distortion to zero. Still need vignetting correction.



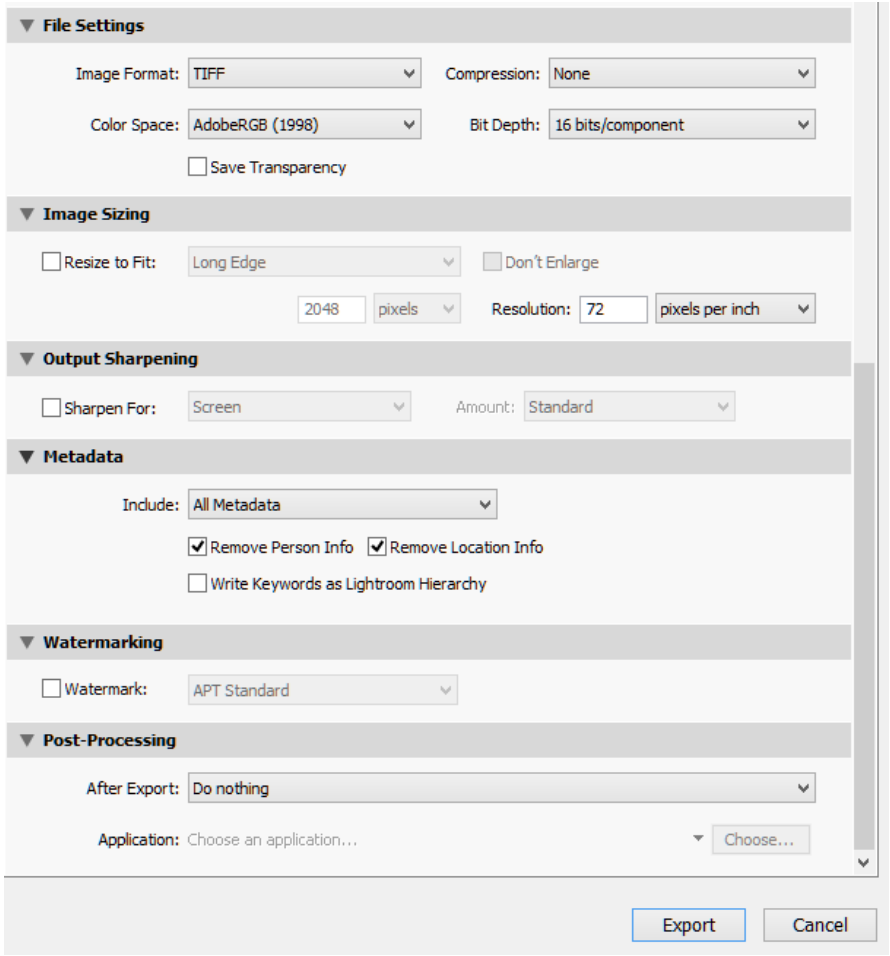


If done properly, the resulting image will look flat, dull, and noisy.

If too much contrast is added in pre-processing, Starry Landscape Stacker tends to blow out the bright tones. Radial banding is especially problematic and is primarily caused by using lens distortion corrections.

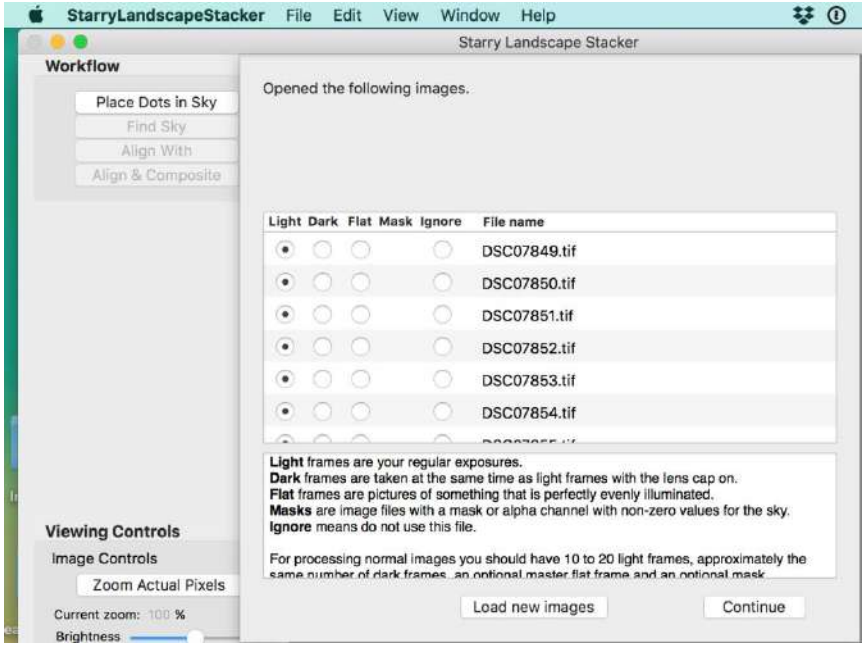
Sync and Export

- Sync your Lightroom adjustments to the rest of your sky images.
- Export all sky images as 16-bit TIFF files and save them to disk.
  - Can use Adobe RGB or ProPhoto RGB.
  - No image resizing
  - Include all Metadata



Load Images

- Open Starry Landscape Stacker and Open the TIFF files you just saved.
- These files are called “Lights” by the software.
  - More advanced users can load additional files types like Darks, Flats, and Masks. These file types will not be covered in this procedure.
  - All your files should be brought in as “Lights”.



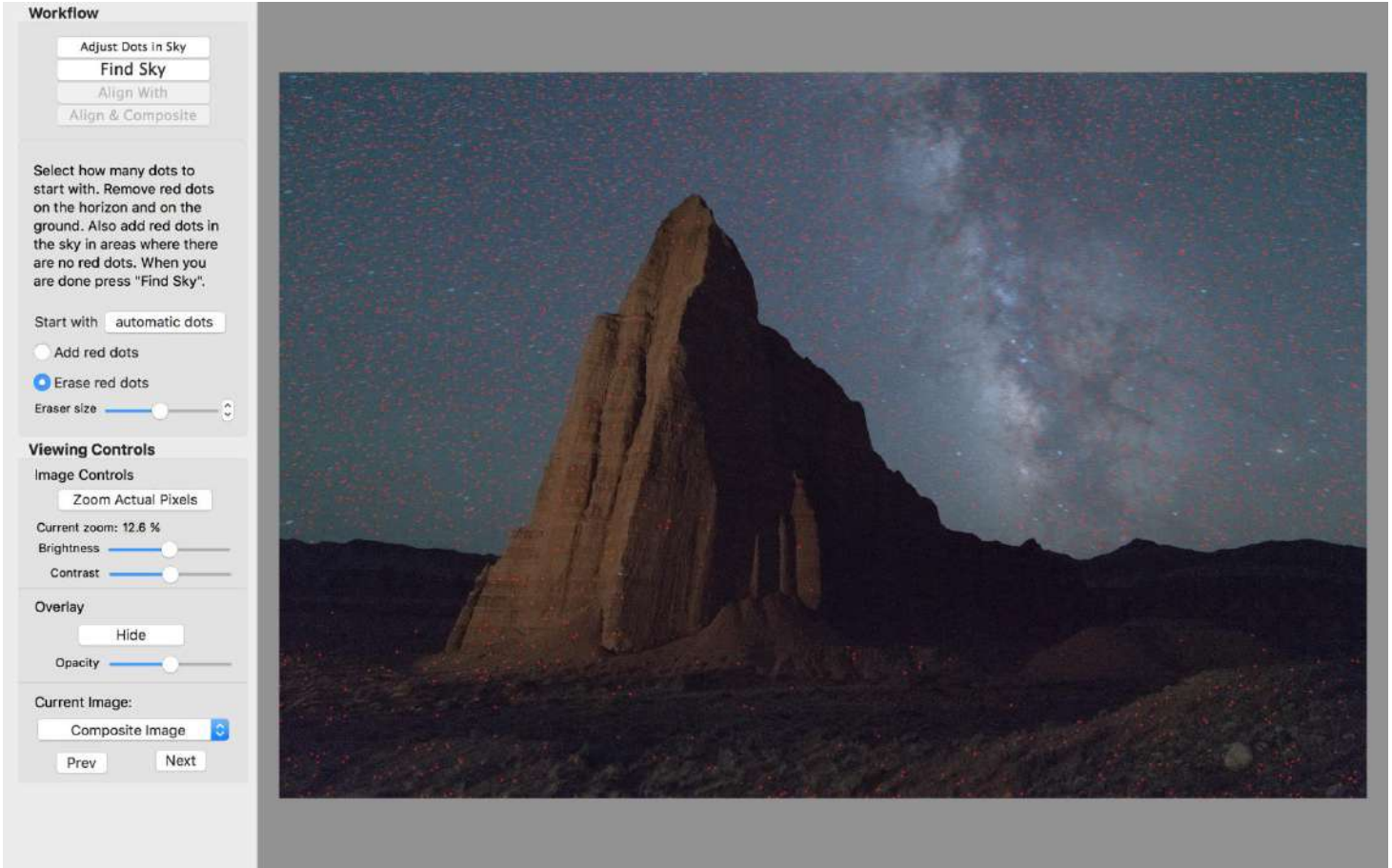
Commands

- The same keyboard commands that work in Photoshop also work in Starry Landscape Stacker:
  - Command +: Zoom In
  - Command -: Zoom Out
  - Hold Spacebar: Brings up Hand tool to move around image
  - Left Bracket Key: Reduce Brush Size
  - Right Bracket Key: Increase Brush Size

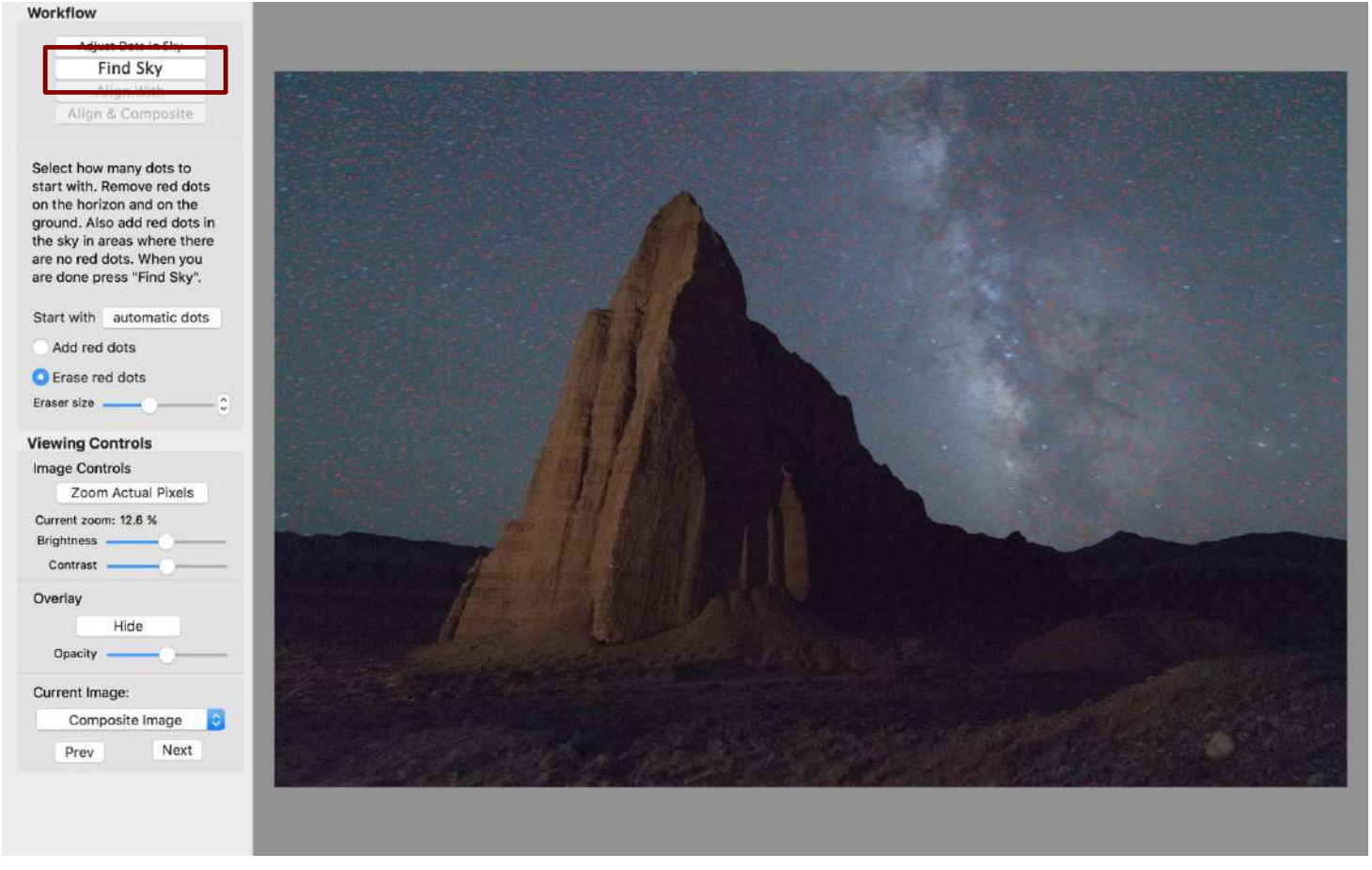
Dots

- Starry Landscape Stacker finds the brightest stars that are common across all files and identifies them as red dots. It uses these dots to try and identify the sky vs the land.
- Automatic Dot placement will usually work best. Your job is to remove any red dots from the landscape by using the Eraser.
- Once this is cleaned up, you will click on the Find Sky button. It should do a good job segmenting the sky from the landscape.
- A little bit of sky/land cleanup will likely be required. Use the Paint Sky/Land brush for that.
  - If you have complicated land like trees, bridges, arches, etc, you'll want to use the "Mask With Islands of Sky" option.

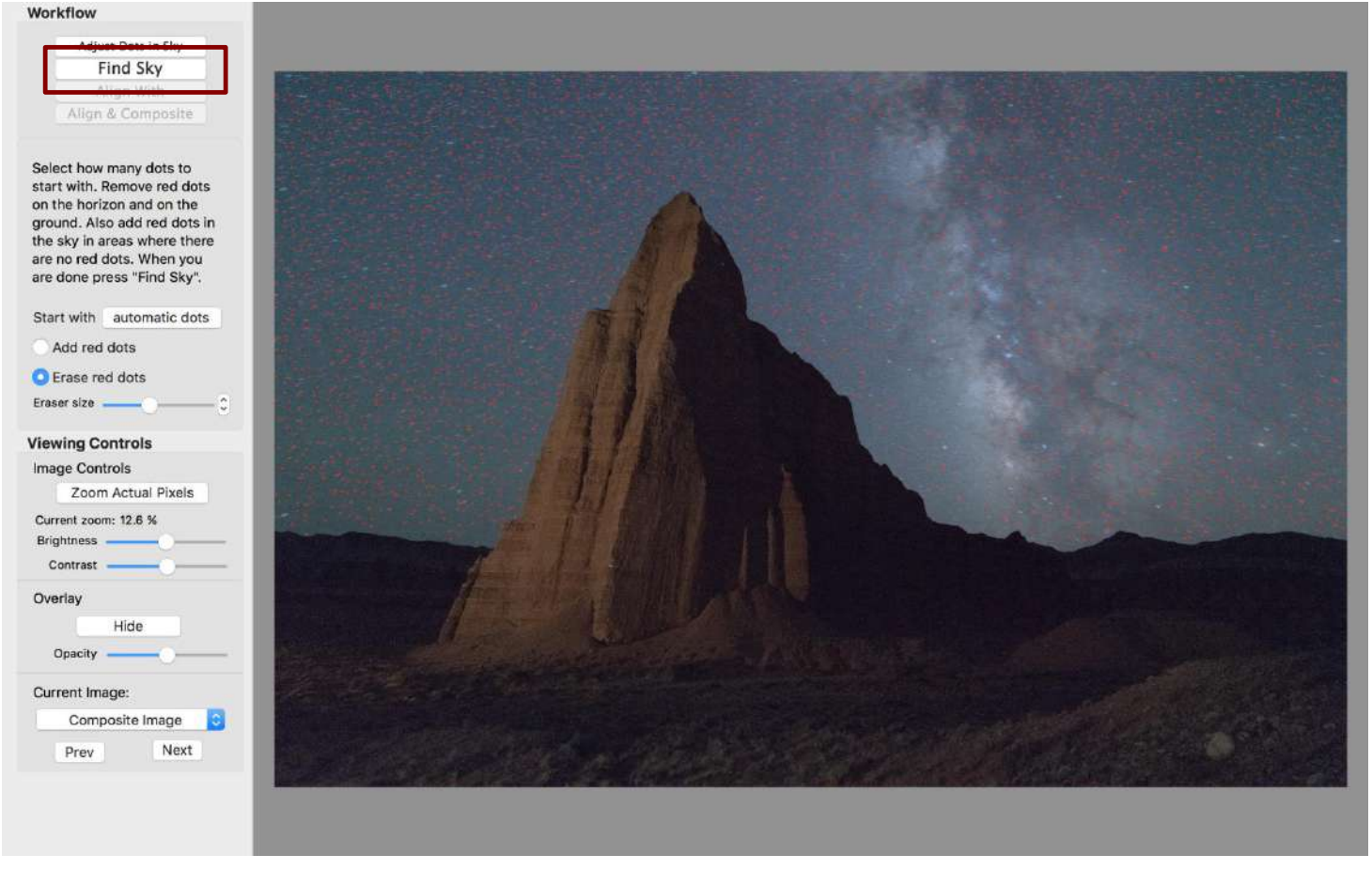
Start With Automatic Dots



Erase Dots in Landscape – Find Sky

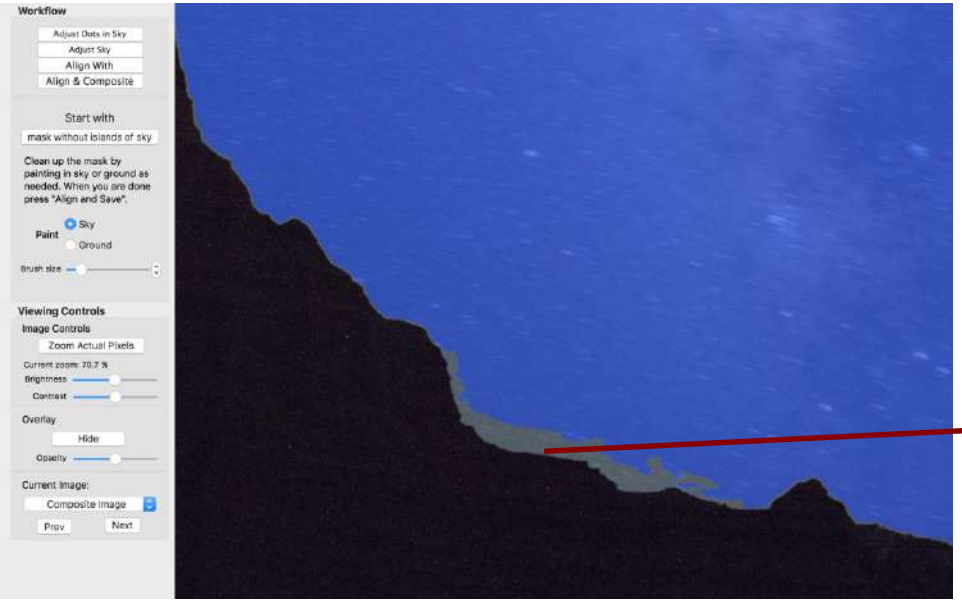


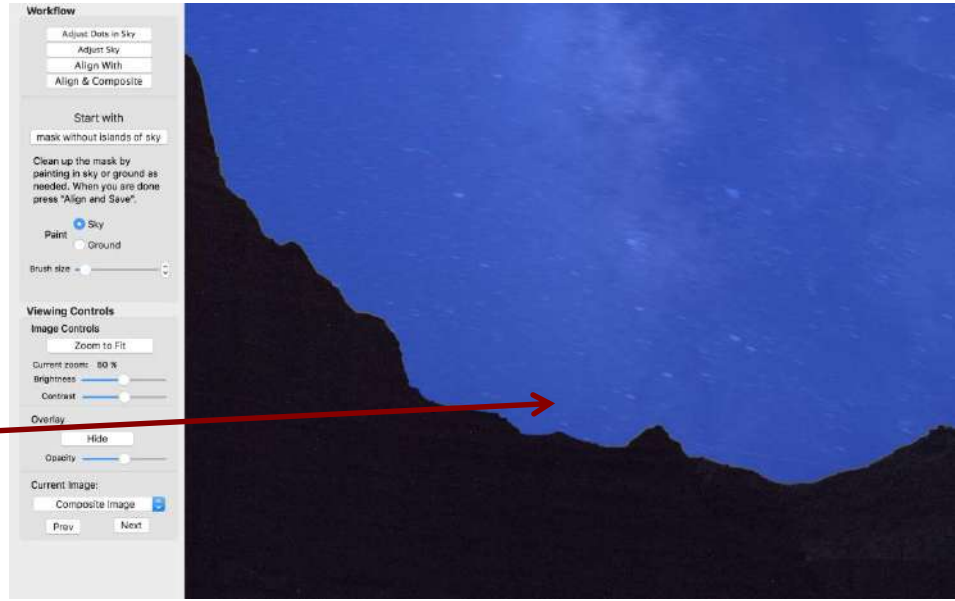
Create Sky Mask



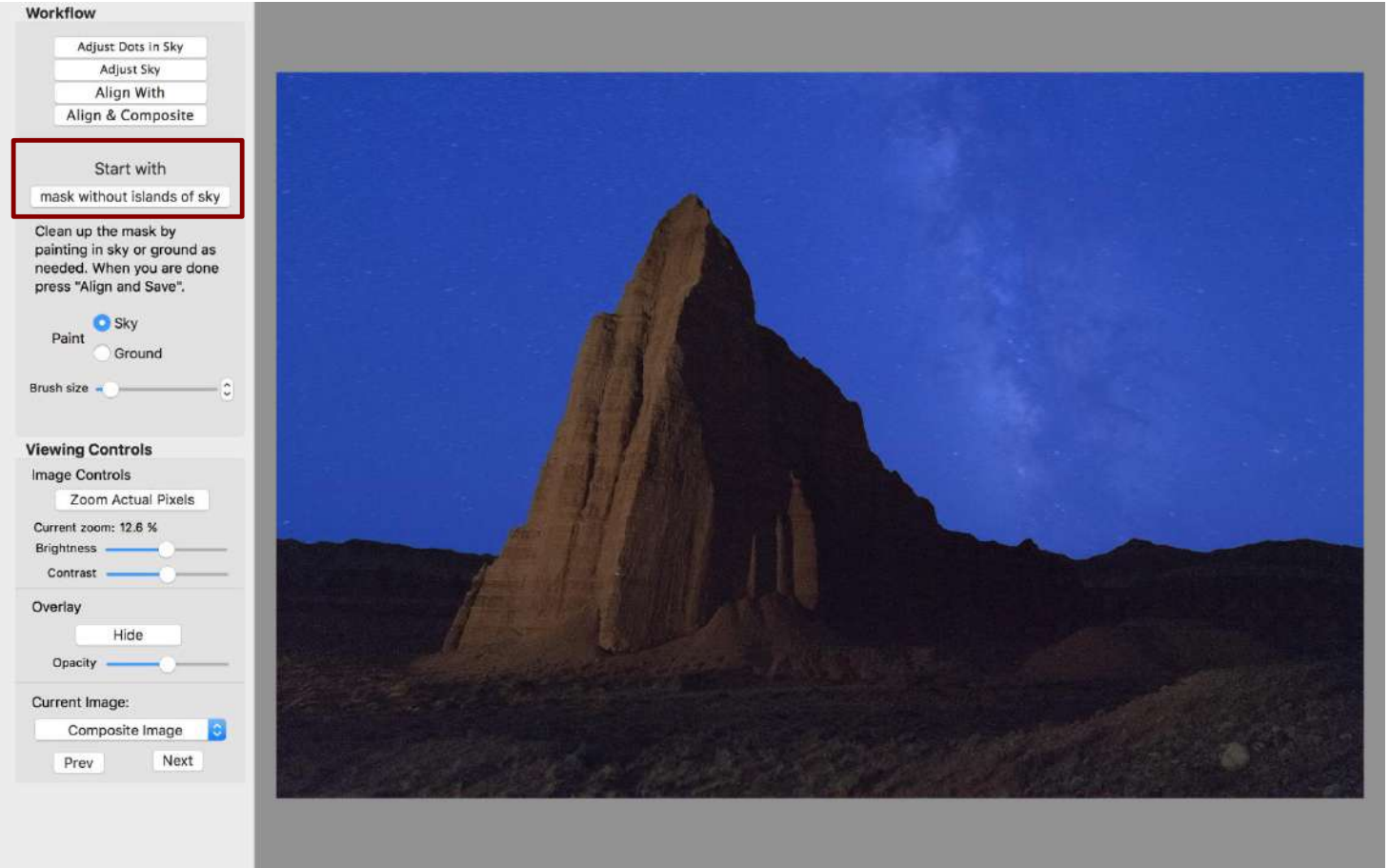
Refine Sky Mask

Refine Sky Mask



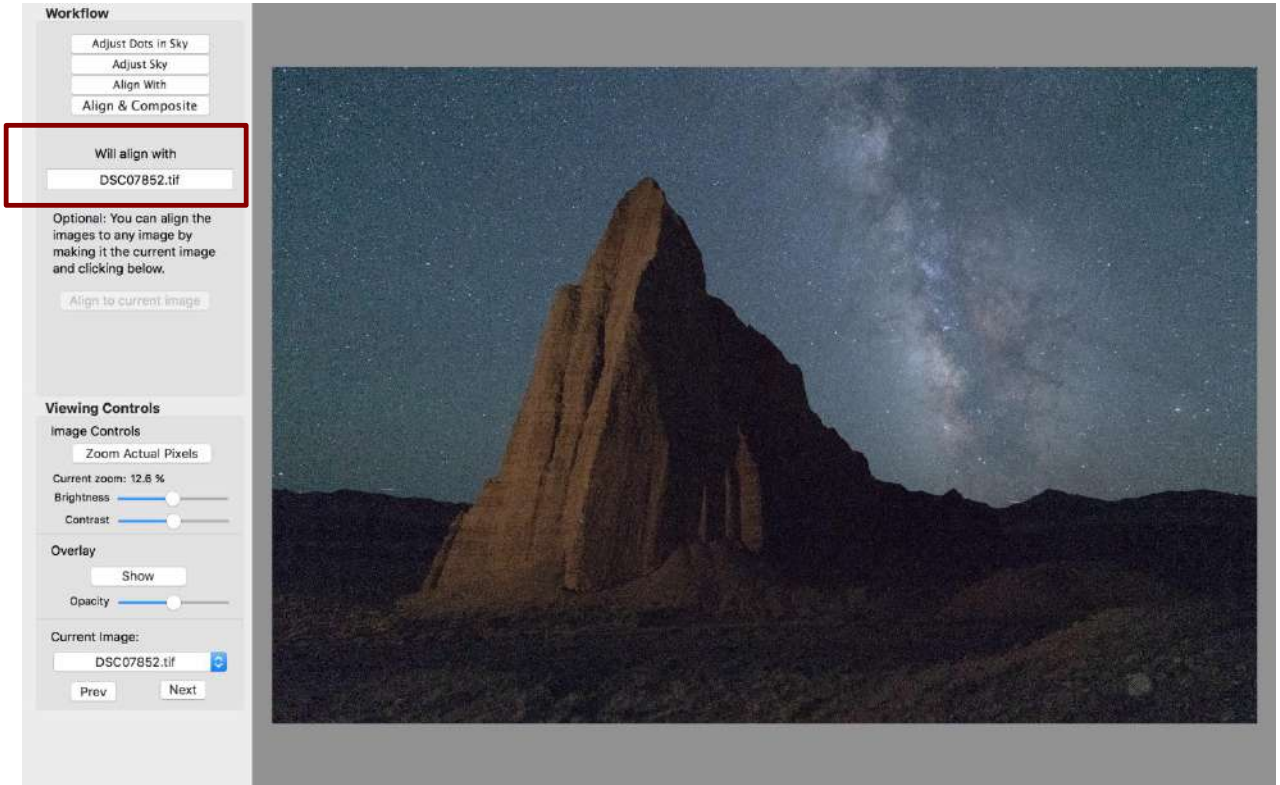


Final Sky Mask



Align With

Unless there is a specific star/feature alignment you are concerned with, just align with the center image of the sequence.

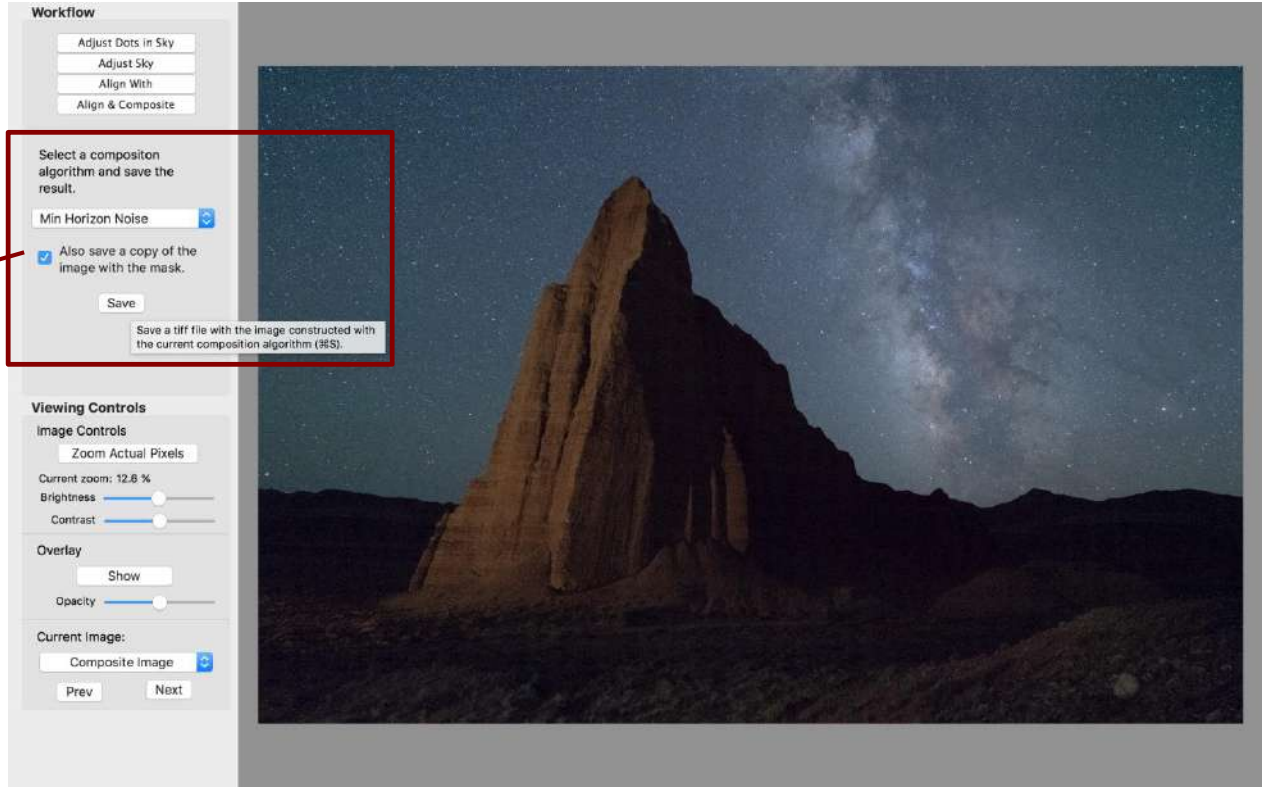


Select Composition Algorithm

Save Final File

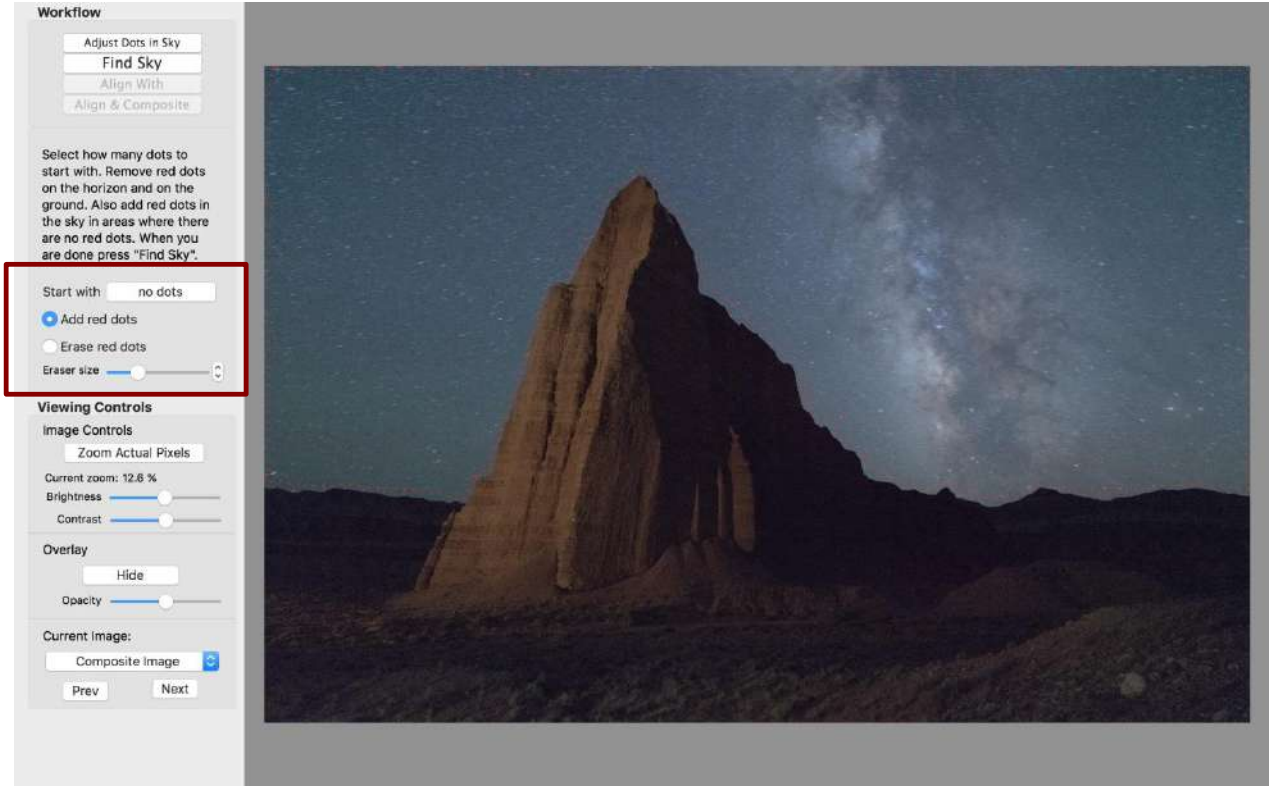
You can save multiple TIFF files if you want to experiment with different algorithms.

Optional



No Automatic Dots

If automatic dots don’t work well, you can draw your own dots around the outer edge and land/sky interface. You don’t have to be very exact with this.



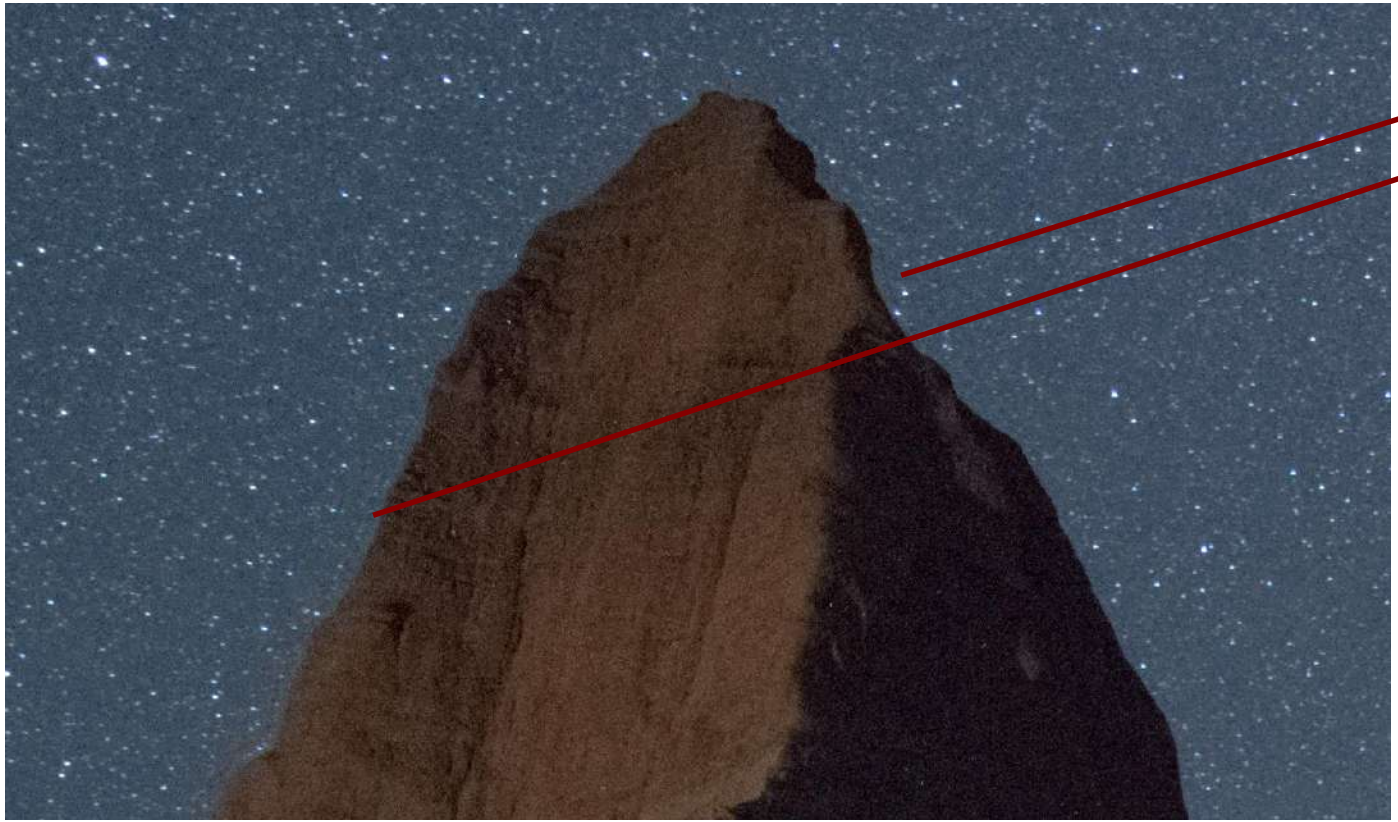
Algorithms

- Min Horizon Noise
  - Uses advanced median filtering and helps reduce noise right near the horizon line.
  - Downside is that stars near the horizon will often go missing.
  - This is the algorithm you will use most often.
- Min Star Duplication
  - You will see more stars near the horizon, but you may see more noise and artifacts from the stacking.
- Max
  - Produces the brightest image. Useful if you want to mask in streaks from satellites or meteors.
- Min
  - Produces the darkest image. Will often highlight the Milky Way the best.

Min Horizon Noise

Note ring of missing stars around rock feature.

Min Horizon Star Dup



More stars near edges but note numerous stacking artifacts.

Max

Min
Horizon
Noise

Min
Horizon
Star Dup

Min