Imaging Workflow Using NINA

Figure 1

Choose your target. Research which targets interest you by browsing online or social media groups dedicated to astrophotography. Next, you can use an app on your mobile phone such as Stellarium shown in figure 1. Search the target catalog number and ensure it is in view during your imaging session.
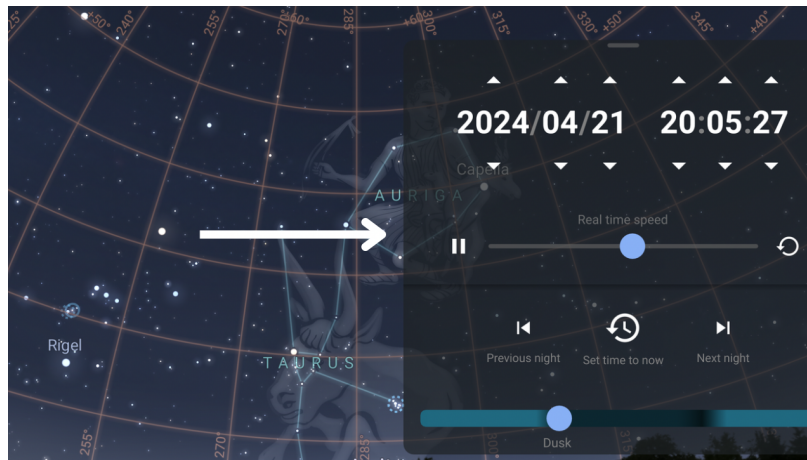

Figure 2

Using the app of your choice, such as Stellarium, notate the time the target will be in view, taking into consideration landscape obstacles that may be in the way. Use the time setting in the app to fast forward time and notate when the target object will be out of view or when the sun will rise. This is shown using Stellarium shown in figure 2.
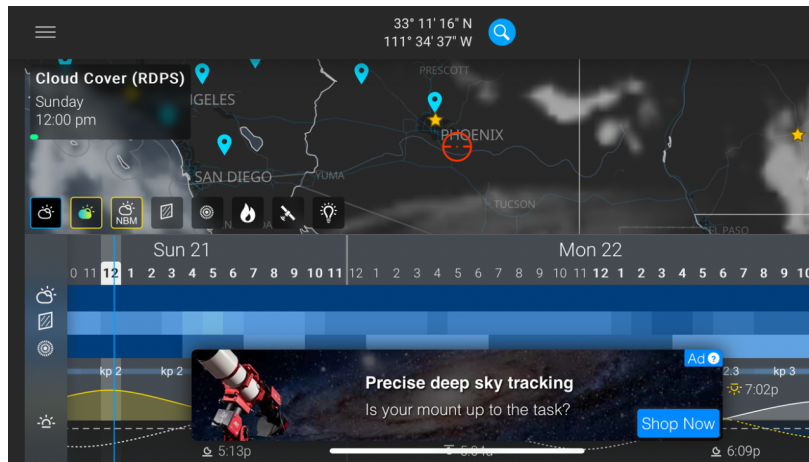
Figure 3

Check weather forecast. This can be done using a mobile phone app such as Astropheric shown in figure 3. Always cross reference with local weather apps or local weather forecasts. Ultimately, always use your instincts!
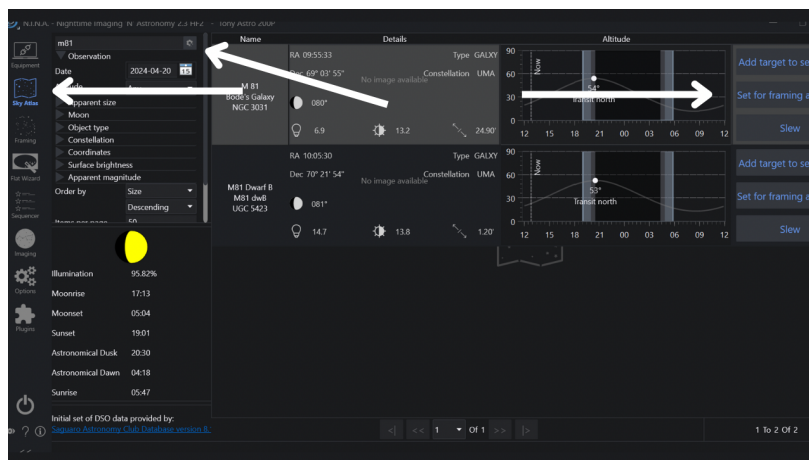

Figure 4

Load NINA and navigate to the Sky Atlas tab shown in figure 4. Enter the catalog number of your target into the object name field and press enter.

If you do not wish to set any framing, click "Add Target to Sequence" otherwise, click "Set for Framing Assistant" to set framing for your target.
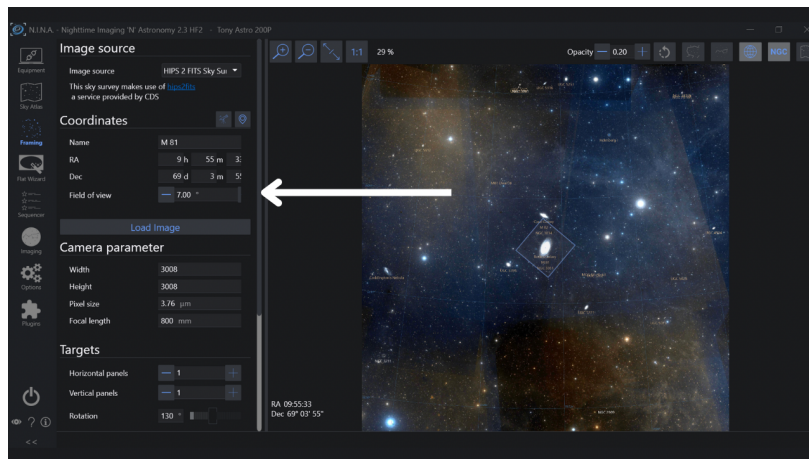
Figure 5

To zoom in or out of the displayed image, change the number in "Field of View" field shown in figure 5. A smaller number will zoom in and a larger number will zoom out.
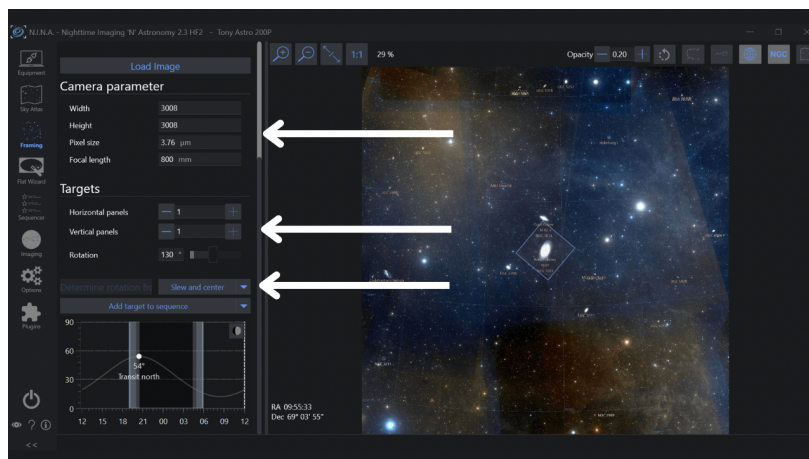

Figure 6

Ensure all camera parameters are correct as well as telescope focal length as shown in figure 6.

Set up any horizontal or vertical panels you want if you wish to image a mosaic and set any rotation you wish to have within your framing.

Either click slew and center or click the drop down to reveal slew, center and rotate if you wish to have a specific rotation.

Add target to sequence in order to send the framing setup to the sequencer.

If using SharpCap to determine exposure times, slew and center the target using the slew and center button in the framing assistant shown in figure 6.

Open SharpCap, connect your camera (make sure camera is not connected in NINA) and use SharpCap's smart histogram to obtain exposure recommendations. Close camera and exit out of SharpCap.
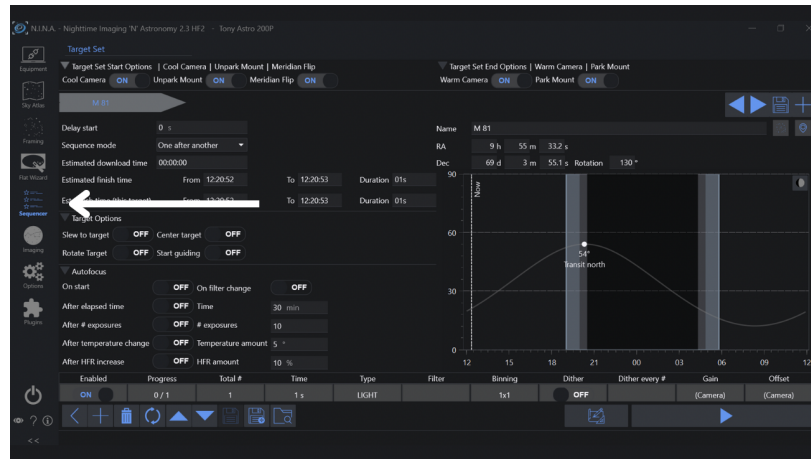

Figure 7

Go back into NINA and navigate to the Sequencer tab as shown in figure 7.
Set target start options at the top: cool camera if applicable, unpark mount and meridian flip if desired (ensure meridian flip is properly configured before using this feature).
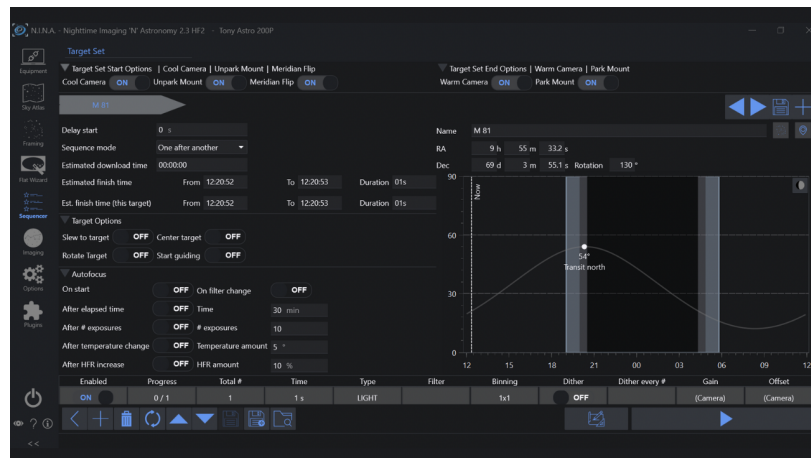

Figure 8

Set target end options at the top: warm camera if camera has been cooled for imaging and park mount.
Click on arrow by target options shown in figure 8 to reveal additional commands. select Slew and Center target (ensure plate solving is properly configured if using this feature). If there is a

specific rotation selected in framing, then select Rotate Target and if using a guiding system then select Start Guiding.

If using an automatic focuser, select the arrow next to Autofocus. Select all desired command settings for the autofocus system. On start is recommended as well as After HDR increase of 10%

Take the timeframe your target is available as figured in step 2 and and subtract 30-45 minutes to account for auto focus runs, dithering and meridian flip (if being used) and multiply by 60 and then multiply by 60 again. For example, the target is available for 7 hours (9pm until 4am). take away 30 minutes giving you 6.5 hours of available time. Multiply 6.5 hours by 60 to get minutes. This example is 390 minutes. Multiply 390 minutes by 60 to get seconds. This example is 23,400 seconds of total available time.

Divide your total available seconds by your exposure seconds per frame. For example, your target is available for 23,400 seconds and you want to use 180 second exposures this would by 23,400/180 for a total of 130 frames of imaging. Enter this number into the total # field at the bottom of the sequencer.

Enter your exposure time into the Time field at the bottom of the sequencer.

Select "Light" for the Type

Enter any binning that you wish to have set as well as dithering, gain and offset settings being used.

You can use the save icon as shown in the Sequencer to save the sequence for later use.
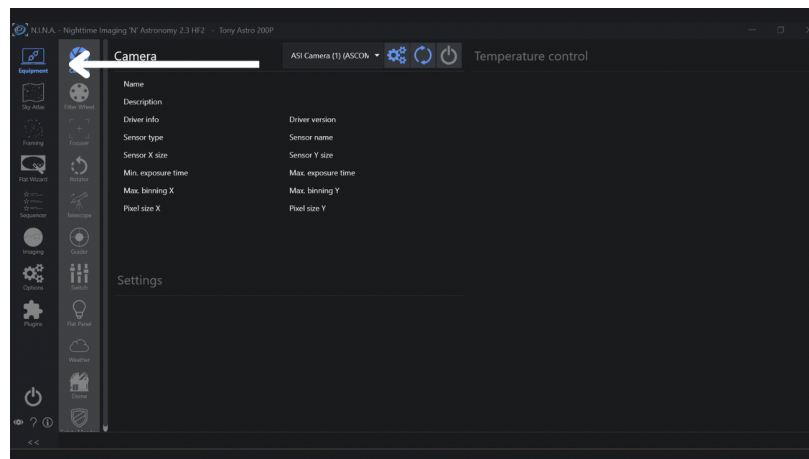

Figure 9

Navigate to the Equipment tab shown in figure 9 and connect all equipment being used for imaging.

Navigate back to the Sequencer tab and click play.