

33 Eclipse Cruises



Another way to enjoy a total solar eclipse is aboard an eclipse cruise. This is how I observed the 2006 eclipse, aboard a cruise in the Mediterranean Sea. There are several reasons to choose a cruise for an eclipse, and we will discuss them in this chapter. For me, in 2006, the reason I chose a cruise was that I did not like the land options in Libya and Turkey. And it provided the opportunity to visit Greece and the Greek Isles.



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Since approximately 71% of the Earth's surface is water, very long portions of eclipse paths are over water. Some eclipse paths may offer very limited land access, and this can be areas of the world that are not safe for tourists. So, an eclipse cruise may be the only option to observe some eclipses. In 2021, for the eclipse path that made landfall on Antarctica, safety wasn't the issue; access to the continent was the main problem. So about ten cruises tried to see that eclipse.

Look at the 2031 eclipse path. The totality duration close to the point of greatest eclipse, in the middle of the Pacific Ocean, is 1m 8s. When the eclipse path makes landfall in Panama, the totality duration is 16 seconds. I imagine there will be cruises along this eclipse path, despite its short duration.



However, the majority of the time, it is a personal choice. Some eclipse chasers prefer the relaxation of a cruise to the congestion and traffic in cities along the path. Some eclipse chasers have no interest in touring cities along the path because they have already visited those places. Most cruises will have interesting ports of call for day trips. On a cruise, it's fun to mingle with other eclipse chasers from around the world and share eclipse stories. You will see a variety of gear. There will be educational talks on board. The cruise line will hire an astronomer with eclipse experience as the eclipse expert. On my 2006 cruise, the expert on board was David Levy, from Comet Shoemaker-Levy 9 fame. The co-discoverer of the comet that crashed into Jupiter in 1994. When would I ever have had the chance to meet him? So that was fun.

For eclipse photographers, there are some downsides to be aware of. I will discuss some observations from my cruise, but of course each cruise will have different issues. The main issue for all cruises is that the moving platform of a ship limits the focal lengths you can work

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with. That will, of course, depend on the size of the ship, the seas, the weather, and the captain. But even in perfect conditions, the deck will still move up and down. We had perfect conditions on the Mediterranean Sea.



Calm conditions on the Mediterranean Sea for the 2006 total solar eclipse.

But my zoomed-in video of the partial phases showed the ship's motion. The composite image below is 10 partial phase screenshots captured from a video over 10 seconds. This reveals the motion even in very calm seas!



Ship motion revealed by the partial phase. - 10 images over 10 seconds. (2006)

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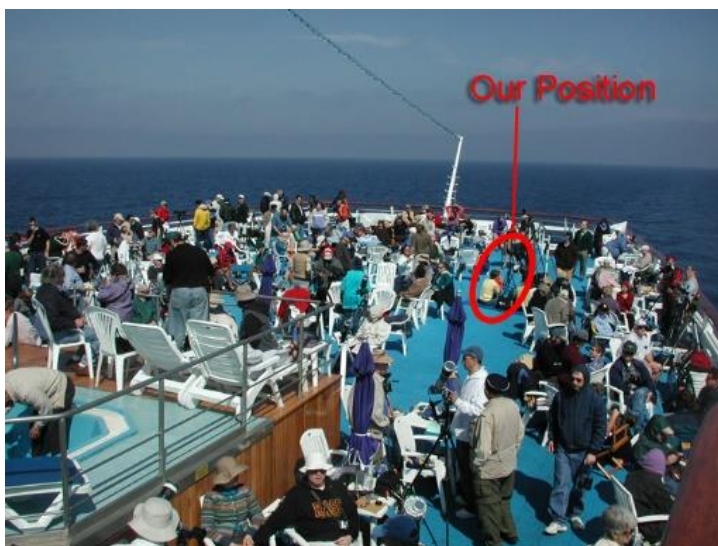
If the seas were any rougher than the perfect conditions we had that day, these oscillations would be much worse. It's impossible for me to predict what focal length you could get away with. You could do quite well with individual shots of the partial phases, the diamond ring, and Baily's beads because those shutter speeds would be quite fast. But corona images would be severely limited by the need to keep shutter durations short. For cruise ship eclipse photography, it may be a wise choice to use a zoom lens so you can adjust your focal length based on the conditions on eclipse day. A telescope with a long fixed focal length may not be a good idea. In addition to doing still photography, definitely consider wide-angle video with something like a GoPro.

The composite of partial phase images on the previous page was taken with an HD720p video camera on a regular camera tripod working at a focal length of 800mm. Remember, on the ship, you will not be able to polar align. Additionally, the ship will most likely keep moving forward. Most ships are more stable when moving slowly forward. However, this can vary from ship to ship, depending on the ship's size, stabilization controls, weather conditions, and the captain's preferences.

This means that on a cruise ship, my Solar Eclipse Timer app can't be as accurate with precise contact times. It would be very close if you geolocated and recalculated the contact times within a minute or two of 2nd contact. To do that, your phone would need to get new GPS coordinates. It may be able to get the coordinates rapidly from the ship's WiFi. If not, your phone might need to get GPS data directly from satellites, which could be relatively quick or take a minute or so. The app would still be useful for announcements about the partial phase phenomena, but the timing accuracy down to a second for the contact times is not possible on a moving ship.

The ship's deck will be crowded, and depending on the eclipse's azimuth and altitude, the crowd could affect your position for a clear view.

The way the captain will approach the path of the eclipse and how the captain will cruise within the path is variable. The direction of the path, the altitude of the eclipse, the size of the ship, the number of passengers, and the weather all play



a role. If you are serious about your photography plan, I strongly recommend that you ask the eclipse expert on board to confer with the captain the day before the eclipse and report back on exactly what the approach to the path and cruise plan is.

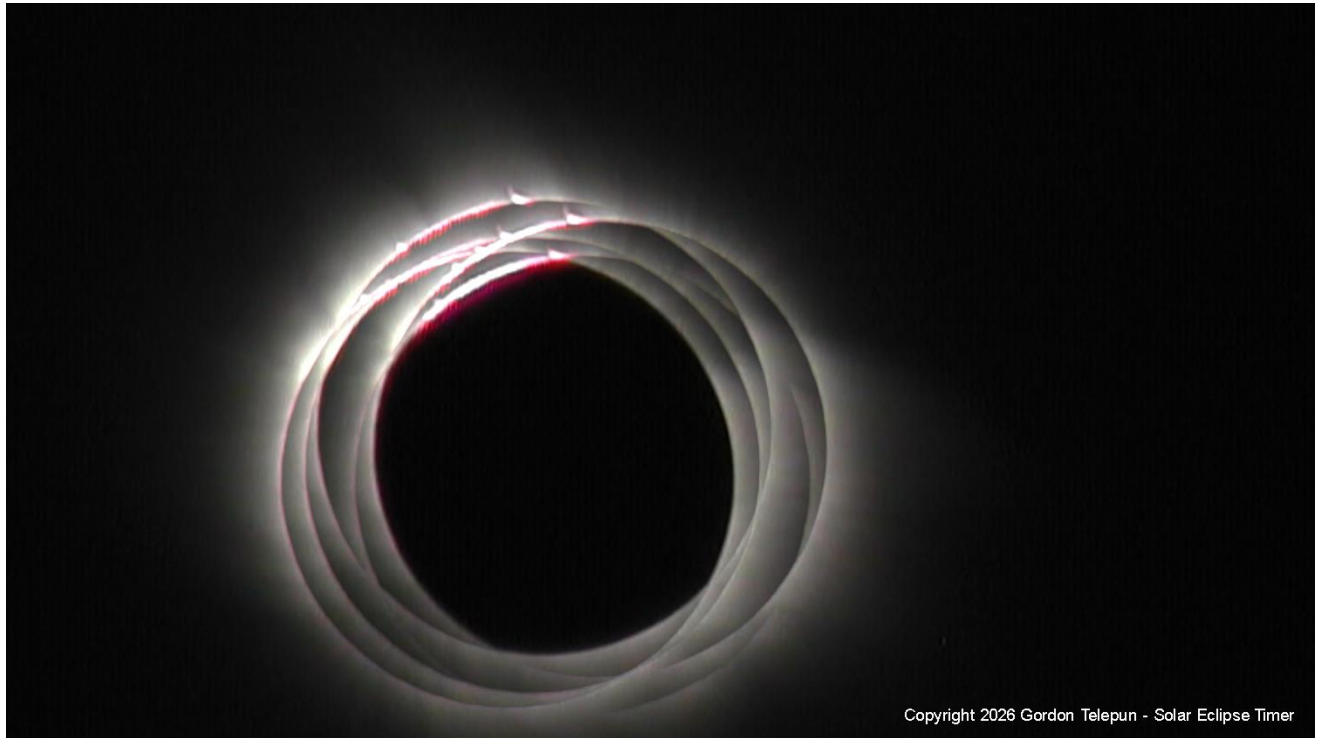
Why do I bring this up? On our cruise, something totally unexpected happened. We were all on deck, with our gear facing the Sun. Then, right before 1st contact, the captain made a 180° turn and began cruising in the opposite direction! Everyone had to flip their gear around to point to the Sun again. It did not affect me as much because I was centrally located on the stern deck. But for those whose preference was to be on a rail facing the eclipse, suddenly they needed to face the other way. There could have been some people whose view was obstructed by that turn, I don't know. But we were not made aware that this maneuver was in the captain's plans. To the right is a picture of the rapid turn in the water.



The captain makes a 180° turn right before C1. This was a surprise to us!

Another terribly annoying thing about our cruise was that the captain thought it was a good idea to blow the ship's main horn to mark C2! But worse, he blew it for 10 seconds, 3 times in a row! Ugh! It ruined everyone's audio if they were doing a video recording. He did the same thing to mark C3; he blew the horn for about 5 seconds, three times in a row. Tell your eclipse expert on board to tell the captain NOT to blow the horn to mark the contact times. It's just a stupid thing to do.

Sea conditions remained calm throughout the partial phases and totality. The motion of the ship was documented by the oscillation of the eclipsed Sun. The image on the next page is a composite of 4 totality screenshots taken over about 8 seconds at a focal length of 800mm. Keep in mind that this degree of motion is occurring with extremely calm sea conditions.



Ship motion revealed during totality. 4 images over 8 seconds (2006).

One potential benefit of a cruise ship is the possibility of moving to clear skies for the eclipse if the ship's initial planned position on the open seas is forecast to be overcast. I am sure this benefit has been utilized with success on eclipse cruises at some time in the past. Although it sounds good, it turns out to be more complicated than you think.

Reports from the cruise ship Paul Gauguin, which missed totality in 2019 in the Pacific Ocean near the Pitcairn Islands, reveal the complexity of sailing to clear skies when large weather fronts are a problem. From the stories I heard, the eclipse experts on board and the captain had to decide whether to sail 500 nautical miles to the northeast or 500 nautical miles to the southwest to potentially avoid overcast skies. It seemed like both directions were risky regarding the weather. However, the trip to the northeast would take the ship in a direction that would have meant missing planned excursions in Rangiroa and Bora Bora. Ultimately, they decided to head southwest, but they never found clear skies. I have a source from that ship who told me that potentially missing the planned excursions played a role in the decision to head to the southwest. His opinion was that the northeast route had better potential for clear skies. So, the decision-making is complex. You have to realize that on these cruise ships,

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The December 4, 2021, solar eclipse just north of Antarctica was popular among cruise ship expeditions, as it provided a unique opportunity for standard Antarctica cruise lines to promote their cruises. I believe about 10 ships cruised to try to see the eclipse. However, the weather prospects for this eclipse were horrible. There was a high risk of being clouded out. From the post-eclipse reports I read, only one ship was able to position itself to see the eclipse, and, of course, that was the ship with Jay Anderson aboard, the world-renowned expert on weather predictions for eclipses. Surely, that captain was guided by Jay Anderson's expertise.

At the end of Chapter 35, The Next 10 Total Solar Eclipses, I discuss something I call the "Travel Eclipse Matrix." It's a guide, or decision tree, to help you decide how to choose an international eclipse to travel to. I use the 12/4/21 Antarctic cruise eclipse as an example of an eclipse with factors indicating it should be avoided, and the 8/2/27 eclipse through Egypt as the eclipse with factors making it worth traveling to. This matrix can be applied to any future eclipse.