

Flat Earthers and Polaris Star

[Does the North Star \(Polaris\) Prove the Earth Is Flat? | Answers in Genesis](#)

by Dr. Danny R. Faulkner on May 31, 2022

Flat-earthers make two false claims about Polaris (a.k.a. the North Star, a.k.a. Alpha Ursae Minoris). One of these false claims is that Polaris remains motionless in the sky as all other stars circle it. That is the impression one gets by watching the sky over several hours. Even long exposure photographs and time-lapse videos seem to show this too. However, appearances can be deceiving.

If the Earth is flat, why can't you see Polaris below the equator?

[If the Earth is flat, why can't you see Polaris below the equator? : r/flaearth](#)

That's the point, the Earth isn't flat.

The angle (or altitude) to Polaris approximately corresponds to the latitude of the observer. This fact is observed on every location on Earth where Polaris is visible.

By tracing the path to Polaris from multiple locations on the flat Earth model, the lines will not point to a consistent position of Polaris. The reason is that the Earth is a sphere and the flat Earth model does not represent reality.

The position of Polaris today is conveniently very close to the north celestial pole. And therefore, the altitude or the angle between horizon and Polaris can be used to determine the approximate observer's latitude.

South of the equator, Polaris is not visible and obviously cannot be used for navigation. Polaris is below the horizon and obstructed by the Earth. It is necessary to locate the south celestial pole in the sky to determine the observer's latitude. It is more difficult as there is no bright star nearby, unlike Polaris in the north.

Polaris itself is not always the north star. Due to the Earth's axial precession, the position of the north celestial pole will shift. Twenty centuries ago, the north celestial pole was closer to Kochab than Polaris.

All the observed facts are only possible if the Earth is a sphere, and impossible to happen if the Earth were flat.

With the standard flat earth model (centered on the north pole with the Antarctic ice sheet around the edge holding the water in), that both South America & Australia see the southern cross but I don't seem more difficult to explain.

Polaris could theoretically be explained by the sky being close, then either perspective or obstacles could block it. (Think of a really long hallway: I can't really make it the lights at the other end and someone can easily block my view of a light.)

But, I can't see how they then explain the southern cross.

Flat earthers tend to have two explanations for this.

You can see it below the equator. They never present evidence of this, but they sometimes still say that.

They mis-attribute it to perspective. As you move away from something, it'll appear lower in your field of view; move far enough away and it'll disappear completely. The first part is true, but the second part is not. The 'lowering' happens in a very specific way, following the $\tan(\text{angle}) = \text{height}/\text{distance}$ relation. You'd have to go to infinite distance to see Polaris at the horizon if the Earth were flat.

So qualitatively the explanation makes sense, but quantitatively it doesn't. Unfortunately, flatearthers simply do not understand scale, so cannot comprehend that second part (or why it's important).

Examining Claim Number 1: Polaris Is Motionless

The sky appears as a dome above one's location. Since most celestial objects rise and set, it is easy to understand that what we see at any given time is just one half of a celestial sphere. There are two diametrically opposite points on the celestial sphere around which all astronomical objects spin once a day. In the conventional cosmology, these two points are the extension of the earth's rotation axis to where it intersects the celestial sphere. We call these two points the celestial poles. Except at the earth's equator, only one celestial pole is above the horizon. The north celestial pole is above the horizon in the northern hemisphere, while the south celestial pole is above the horizon south of the equator. Polaris is about three-quarters of a degree from the north celestial pole, so each day Polaris makes a circle in the sky with a three-quarter degree radius. That circle is too small to be readily noticed by the naked eye, and it is too small to be recorded by most photographs and time-lapse videos using standard camera lenses.

Examining Claim Number 2: Polaris Has Always Been the Pole Star

The second false claim flat-earthers make about Polaris is that Polaris has always been the pole star and always will be. This is false because an effect called the precession of the equinoxes slowly but continually changes the position of Polaris in the sky. What response do flat-earthers have to this fact? They generally deny it. For instance, in my recent interview that Bob Knodel criticized, I discussed Polaris' slow change in position over the centuries. In response to precession, Bob asserted "We've never recorded that."¹ Of course, Bob gave no supporting evidence for his assertion. Bob also claimed the Antikythera device from 2,000 years ago shows Polaris "to be exactly where it is today," again with no evidence to support his claim. Bob went on to claim without substantiation that "all ancient cultures showed Polaris in exactly the same part of the sky" and asked how I explain that. Bob answered his own question with "You don't; you lie about it." Let's check Bob's assertion about ancient cultures and his claim there is no evidence for precession of the equinoxes.

Conclusion

I have demonstrated how two claims that many flat-earthers make about Polaris are false. First, with a time-lapse video, I have shown that Polaris does not remain motionless throughout the night but rather goes through a small circular motion around the north celestial pole. Second, using historical data and modern data, I have demonstrated that Polaris has not always been the pole star. It was shortly after Copernicus that Polaris was close enough to the north celestial pole to be called "the pole star," or in Latin, Stella Polaris, from which we get the relatively modern name Polaris for this star. These two false claims that flat-earthers repeat about Polaris do nothing to support their belief that the earth is flat, so flat-earthers could readily abandon them, if they wanted to.

If the Earth is flat, why can't you see Polaris below the equator?

[If the Earth is flat, why can't you see Polaris below the equator? : r/flaearth](#)

That's the point, the Earth isn't flat.

The angle (or altitude) to Polaris approximately corresponds to the latitude of the observer. This fact is observed on every location on Earth where Polaris is visible.

By tracing the path to Polaris from multiple locations on the flat Earth model, the lines will not point to a consistent position of Polaris. The reason is that the Earth is a sphere and the flat Earth model does not represent reality.

The position of Polaris today is conveniently very close to the north celestial pole. And therefore, the altitude or the angle between horizon and Polaris can be used to determine the approximate observer's latitude.

South of the equator, Polaris is not visible and obviously cannot be used for navigation. Polaris is below the horizon and obstructed by the Earth. It is necessary to locate the south celestial pole in the sky to determine the observer's latitude. It is more difficult as there is no bright star nearby, unlike Polaris in the north.

Polaris itself is not always the north star. Due to the Earth's axial precession, the position of the north celestial pole will shift. Twenty centuries ago, the north celestial pole was closer to Kochab than Polaris.

All the observed facts are only possible if the Earth is a sphere, and impossible to happen if the Earth were flat.

With the standard flat earth model (centered on the north pole with the Antarctic ice sheet around the edge holding the water in), that both South America & Australia see the southern cross but I don't seem more difficult to explain.

Polaris could theoretically be explained by the sky being close, then either perspective or obstacles could block it. (Think of a really long hallway: I can't really make it the lights at the other end and someone can easily block my view of a light.)

But, I can't see how they then explain the southern cross.

They argue that it's refraction. But refraction changes according to conditions, yet there's no significant variation in Polaris's position at a constant latitude. Once you go south of the equator, they argue that Polaris is just too far away to be seen. They think that light only travels a few thousand miles and then stops.