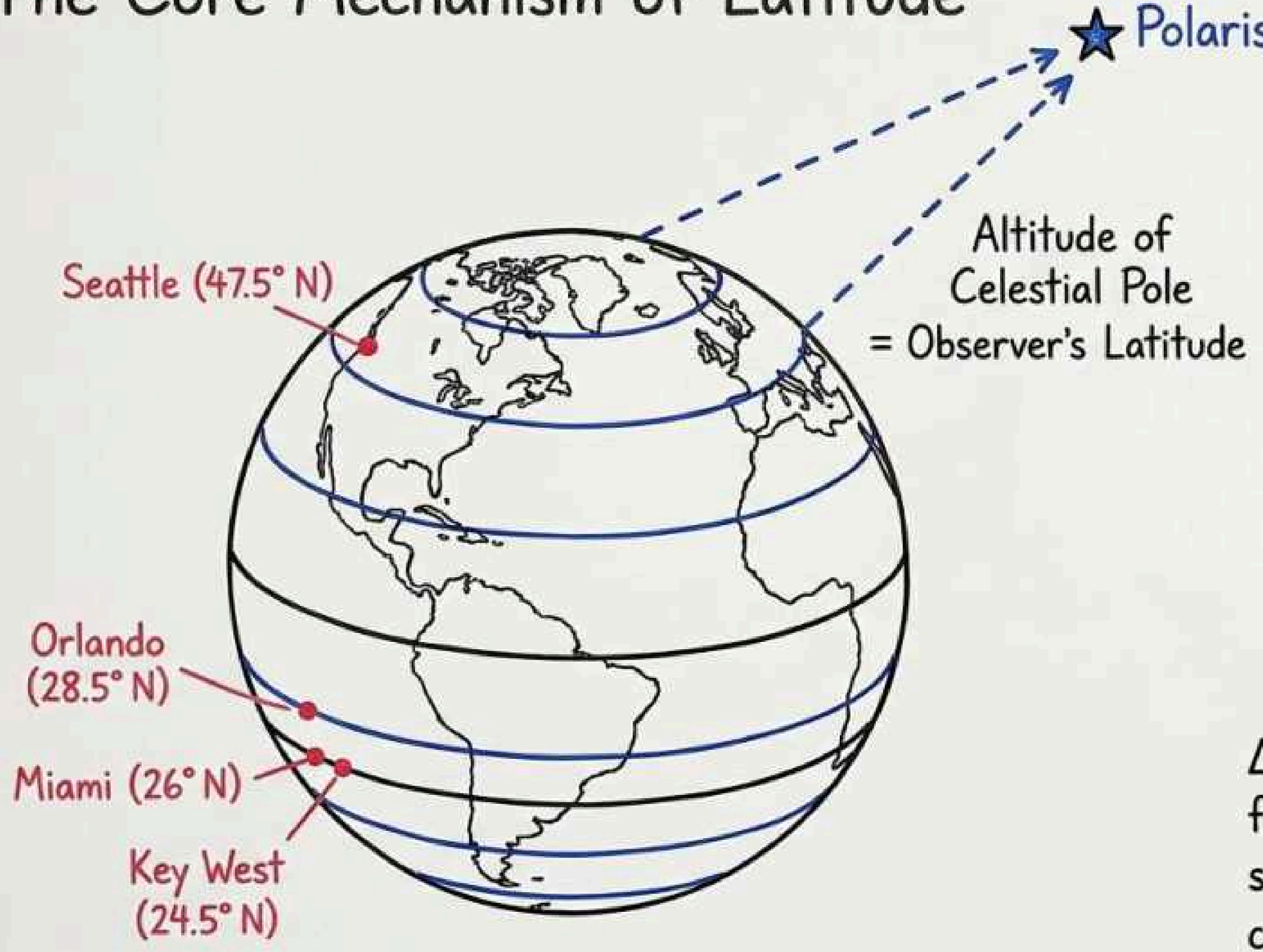
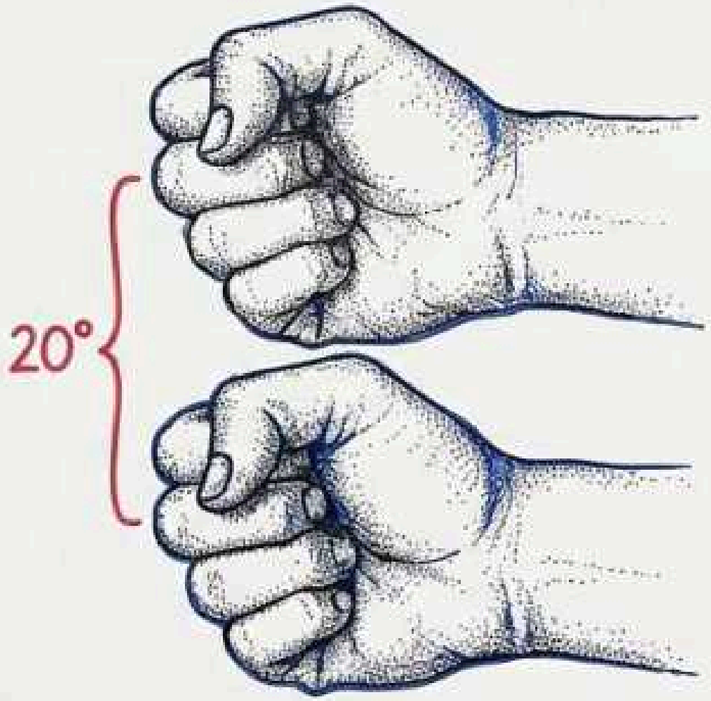
The Core Mechanism of Latitude

¶ 6.1

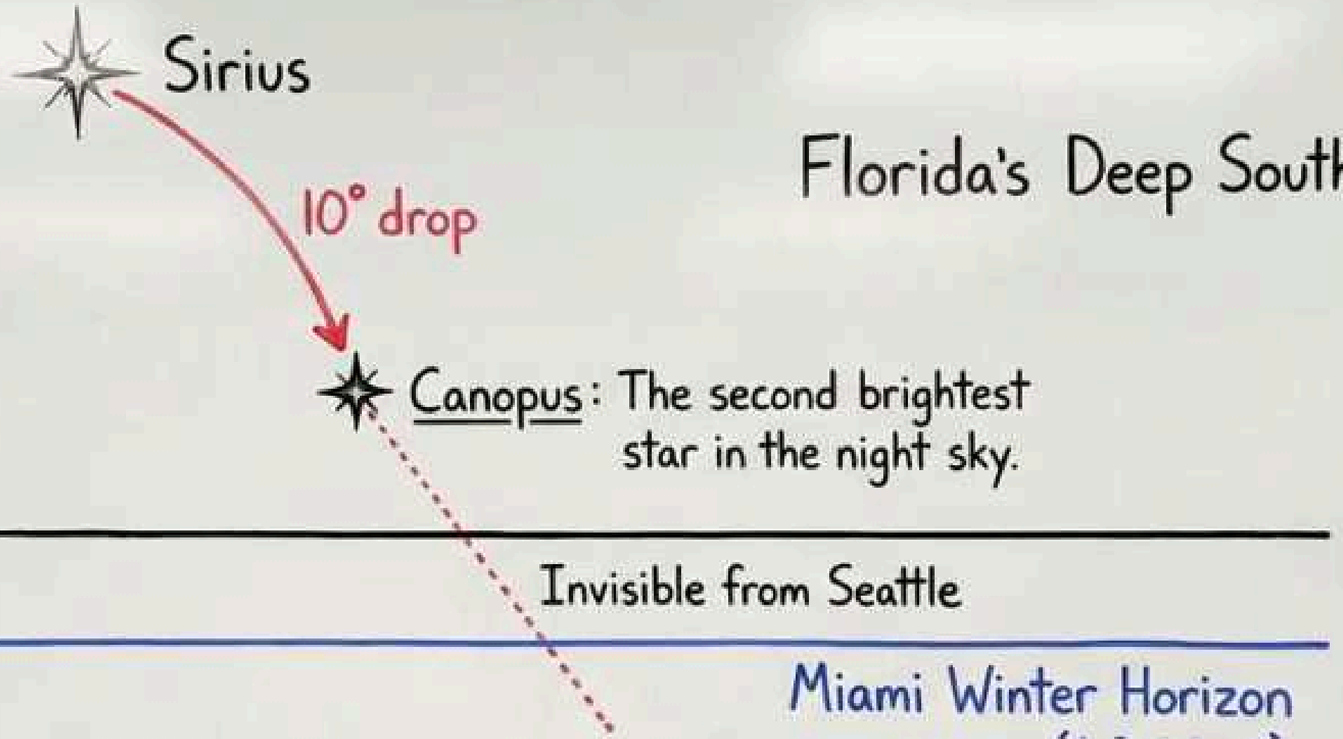




Δ Latitude ≈ 20° ⇒ Polaris sits two fists higher in Seattle, while every southern star sits 20° lower compared to Florida.

¶6.2

Florida's Deep Southern Advantage

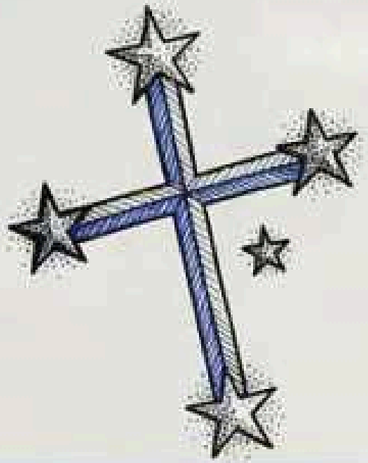


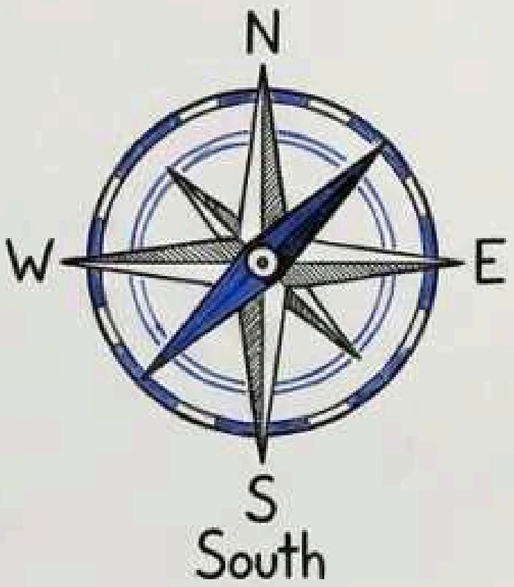


Omega Centauri: Largest star cluster in our galaxy. Visible as a fuzzy star low in the South during spring from Florida; entirely invisible from Seattle.

Chasing the Southern Cross

¶ 6.3





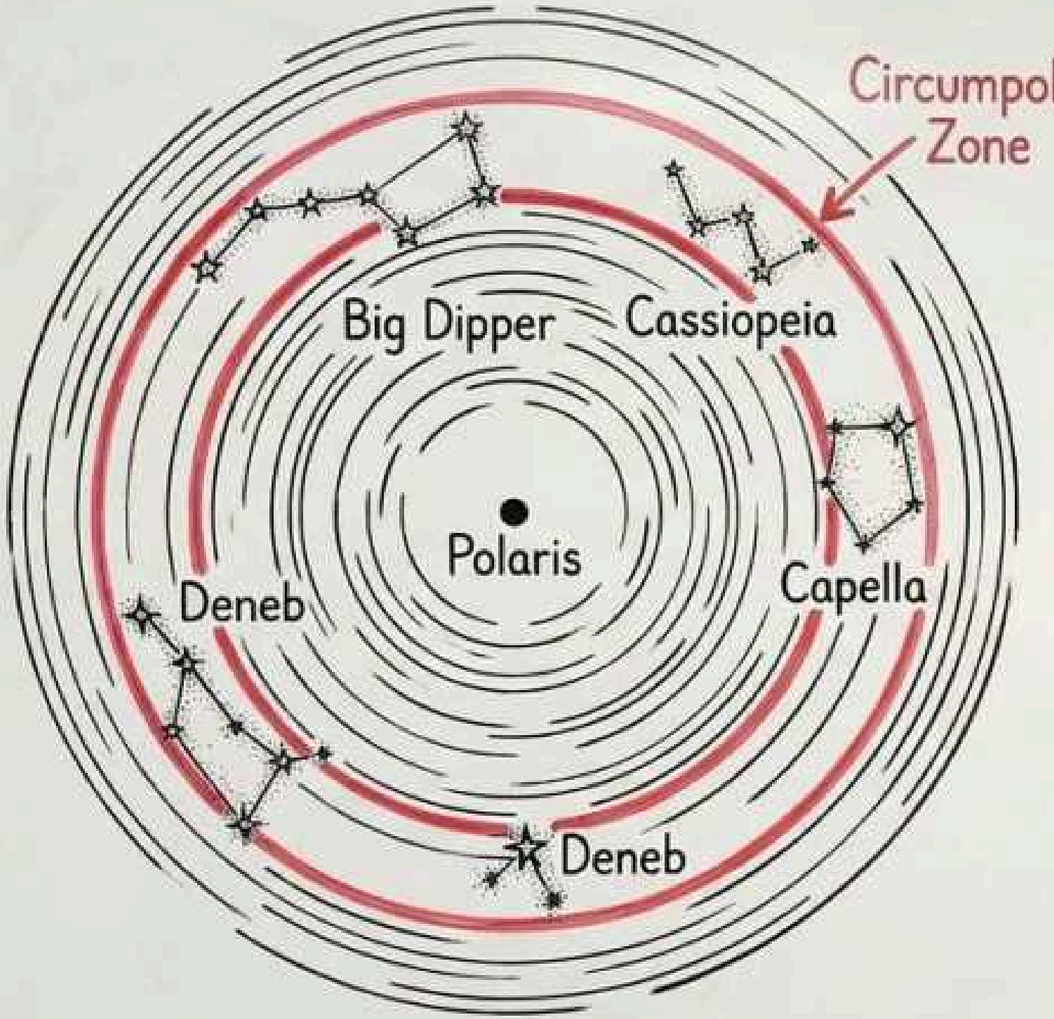
Visibility Matrix (Spring / April–May)	
Florida Keys	Whole cross clears the sea horizon.
Miami	Visible, but with extreme difficulty.
Central/North Florida	Only the uppermost stars clear the horizon.
Seattle	Mathematically impossible; far below the horizon.

Pro-Tip

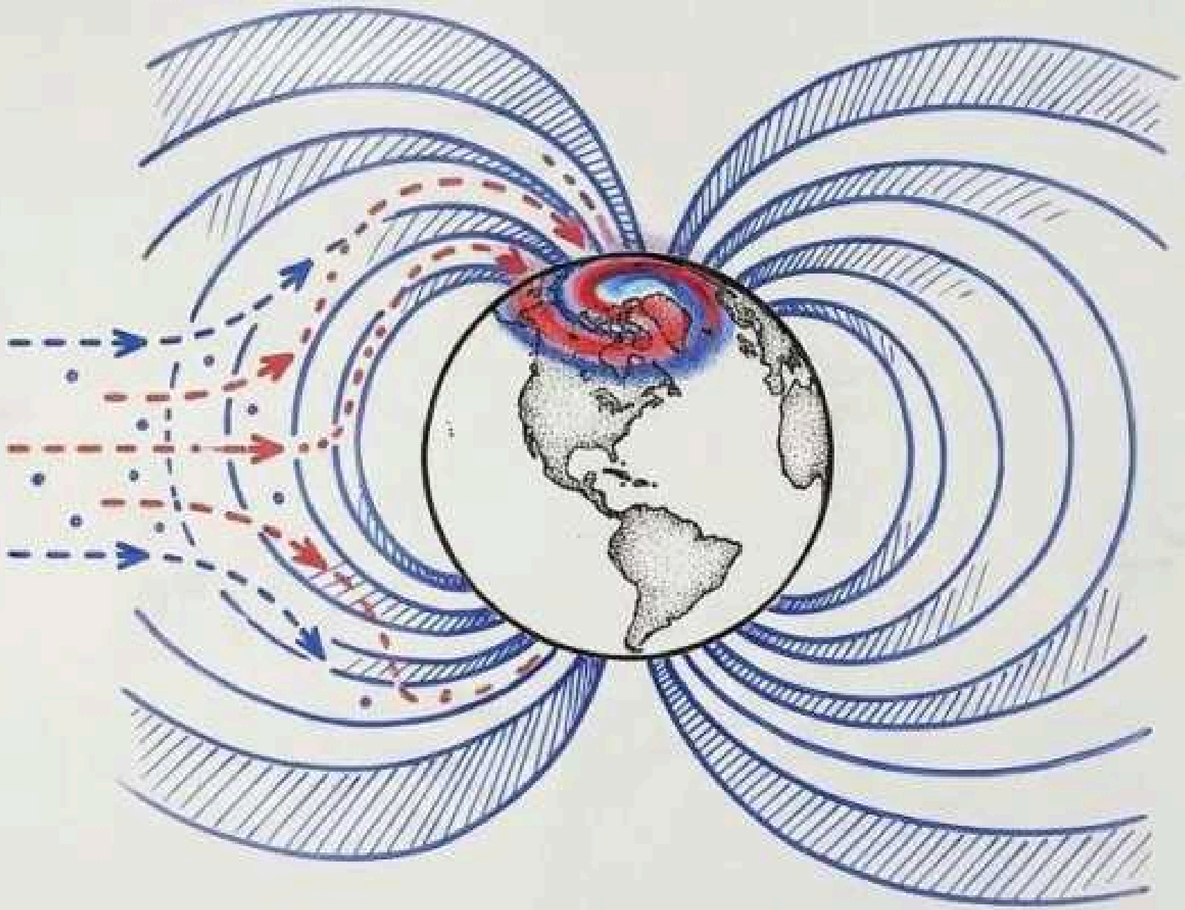
Requires a completely flat, unobstructed ocean view due south.

Seattle's Northern Crown & The Aurora

¶6.4



Circumpolar Advantage: Greater latitude ⇒ larger radius of never-setting northern constellations.

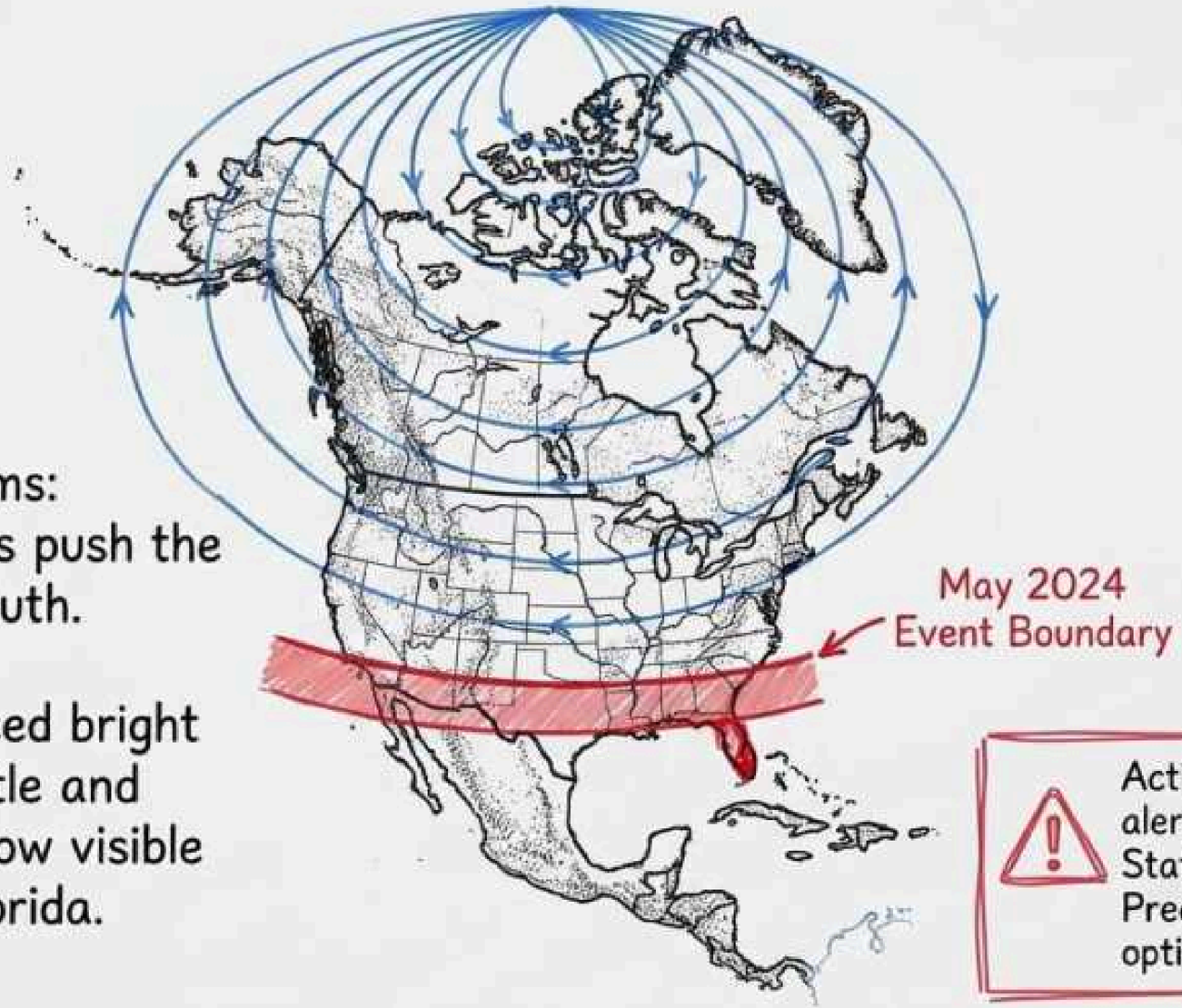


Aurora Borealis: Solar particles strike upper atmosphere. Seen several times a year in Seattle near peak solar cycle as a glow low in the North.

Extreme Space Weather Events

¶ 6.5

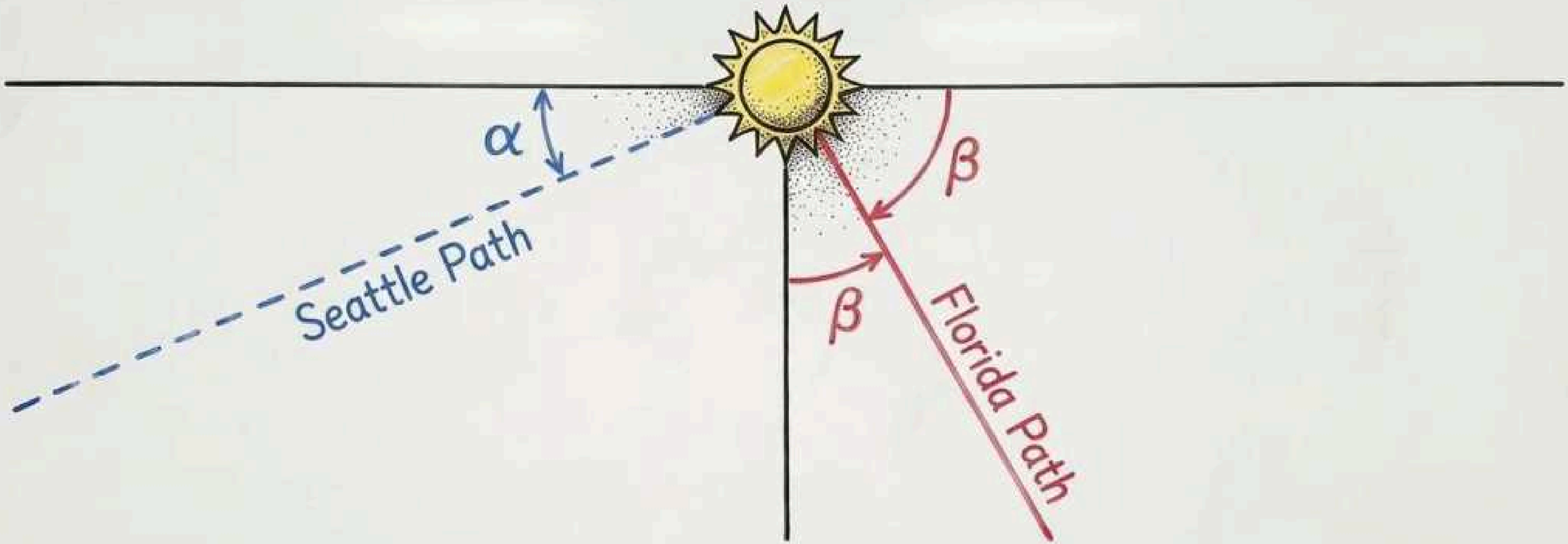
- Geomagnetic Storms: Strong solar events push the auroral oval far south.
- May 2024: Produced bright displays over Seattle and a rare, deep-red glow visible as far south as Florida.



Actionable Advice: Monitor alerts from the United States Space Weather Prediction Center for optimal viewing windows.

The Geometry of Twilight

¶ 6.6

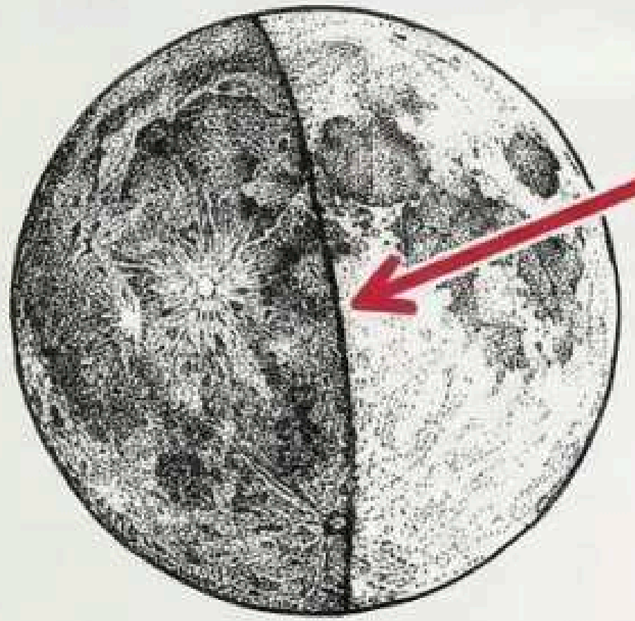


Prolonged twilight. Short summer nights stay bright until late; true darkness occurs only briefly around the June solstice. Long winter nights.

Sun sets at a steeper angle ⇒ shorter twilight. Smaller variance between summer and winter nights allows observers to begin sooner after sunset.

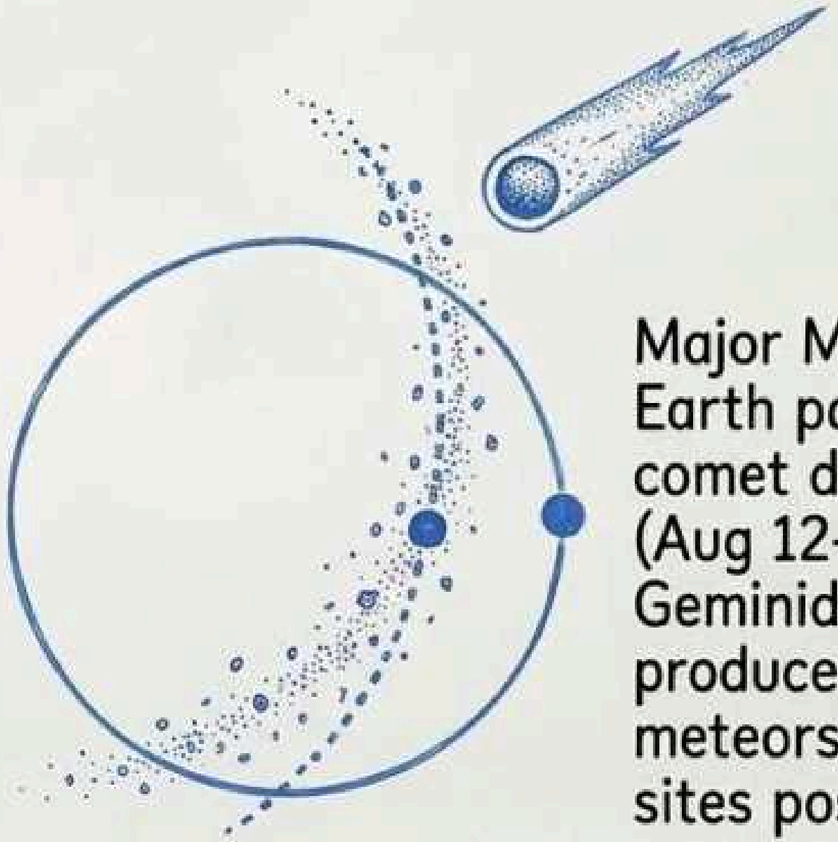
Lunar Topography & Meteor Streams

¶ 6.7



The Terminator:
Max Shadow = Max Relief

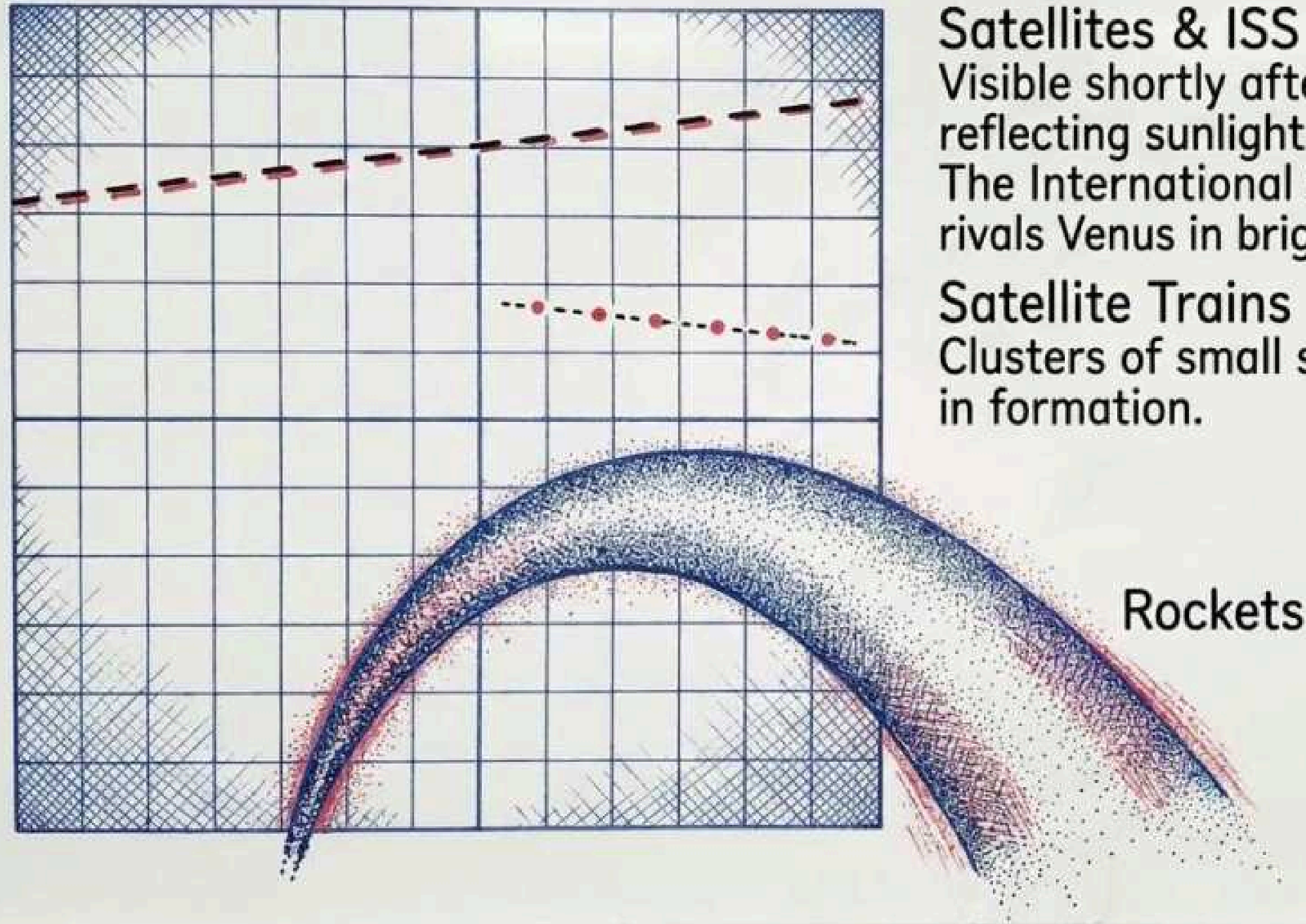
- The Moon: Best viewed with binoculars along the terminator line to reveal craters and mountains.
- The Dark Sky Rule: A bright Moon washes out faint stars. Plan deep-sky viewing around the New Moon.



Major Meteor Showers: Earth passing through comet debris. Perseids (Aug 12-13) and Geminids (Dec 13-14) produce dozens of meteors/hour at dark sites post-midnight.

Artificial Constellations

¶ 6.8



Satellites & ISS

Visible shortly after dusk or before dawn, reflecting sunlight as a steady moving point. The International Space Station (ISS) often rivals Venus in brightness (trackable via apps).

Satellite Trains

Clusters of small satellites moving smoothly in formation.

Rockets

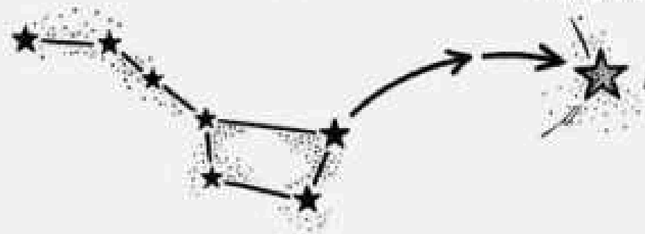
Florida Exclusive

Nighttime rocket launches from Cape Canaveral create massive exhaust plumes visible across much of the state.

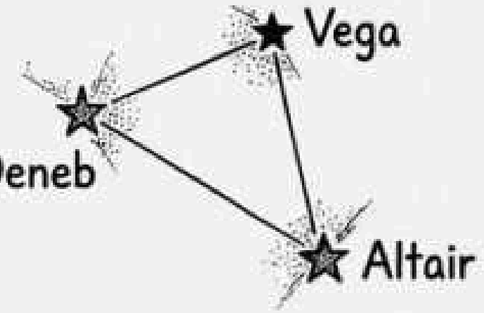
The Observer's Blueprint

¶ 6.9

Spring: Big Dipper → follow the arc to Arcturus.



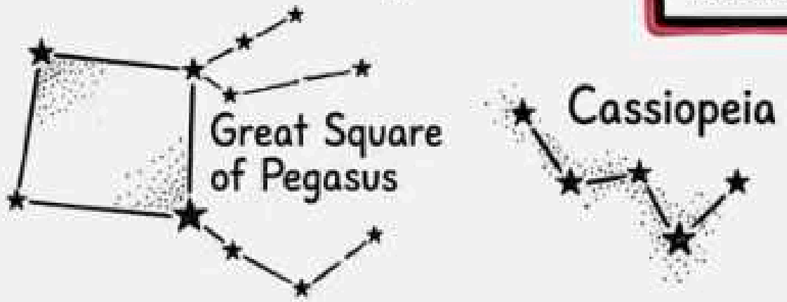
Summer: The Summer Triangle.



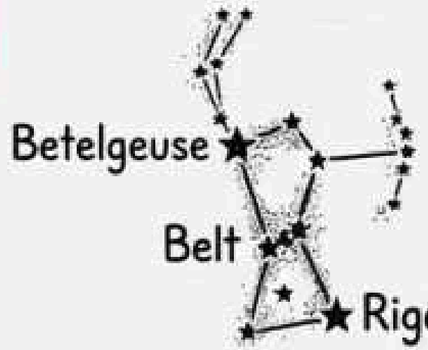
Preparation

Choose a clear night near New Moon. Find a dark site. Allow 20 minutes for strict eye adaptation. Locate Polaris to verify your latitude.

Autumn: The Great Square & Cassiopeia.



Winter: Orion.

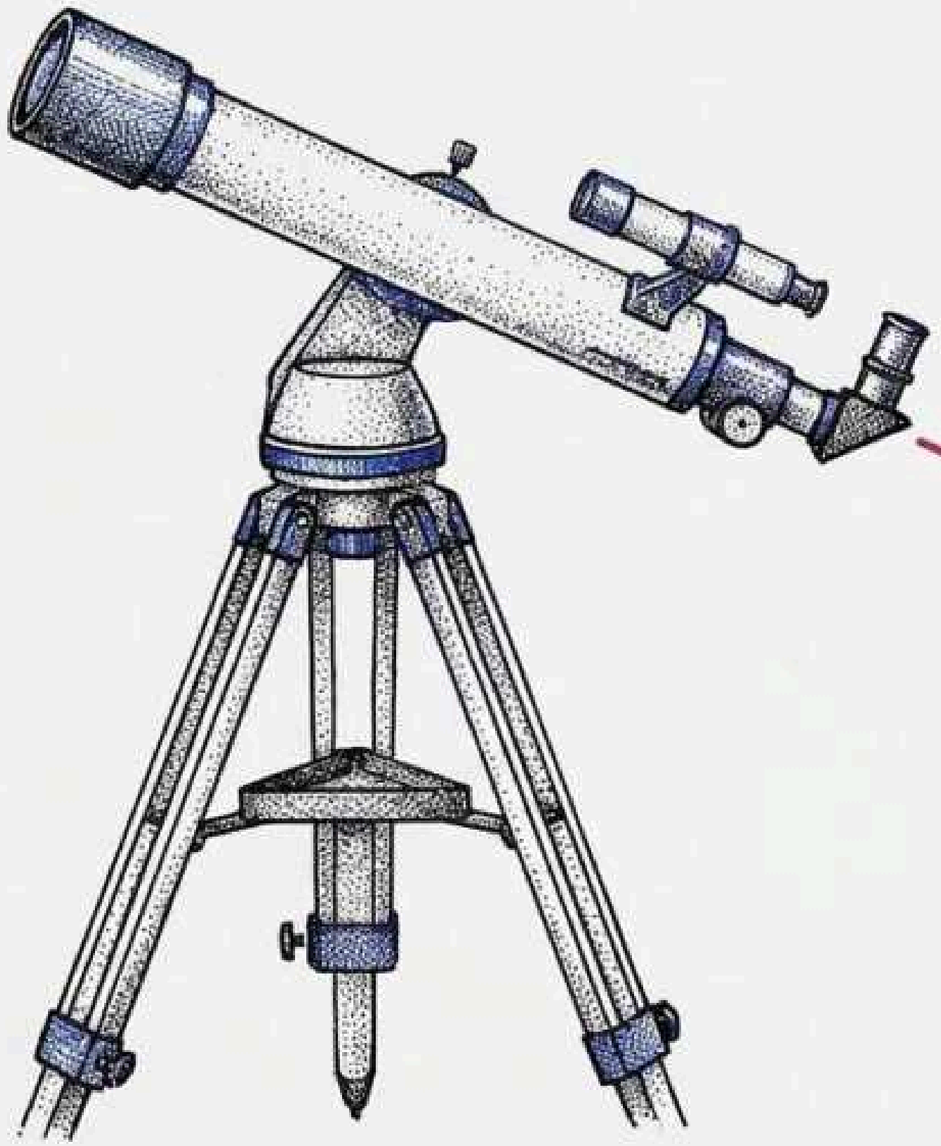




Planet Rule: Check apps for planetary positions. Identify them by their steady, non-twinkling light along the ecliptic plane.

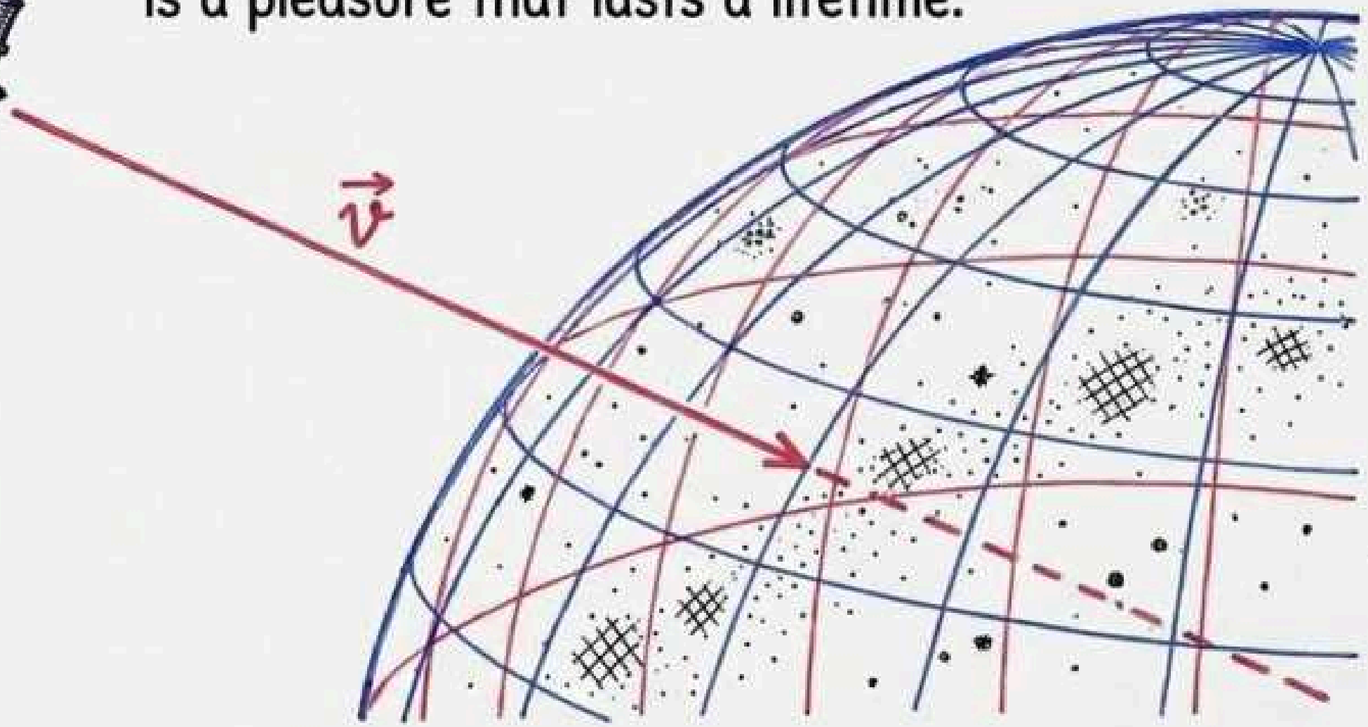
One Sky, Different Angles

¶ 6.10



Whether observed from a Florida beach or a Washington mountainside, it is the exact same sky, merely tilted at a different angle.

Learning the architecture of the night sky is a pleasure that lasts a lifetime.



Astronomy 150 B, Anderson Academy. Clear skies.