

LEBANON CAMERA CLUB

A Larger Moon

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1/4/2022

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A Larger Moon

September competition: “Moon Over Half Dome”



Judge: “Black and White might offer higher impact, along with a larger moon.”

A Larger Moon

Background

Note: Except for a couple of nights visiting a friend in Boulder, Colorado I spent the whole trip sleeping in a tent.

- 2007 cross country car trip → 8/3 – 9/15



National Parks

- Black Canyon of the Gunnison
- Arches
- Canyonlands
- Zion
- Yosemite
- Grand Teton
- Yellowstone
- Badlands

Other

- Coral Pink Sand Dunes
- Angel Lake
- Mount Rushmore

A Larger Moon

Background

- Lessons learned
 - ◆ Pick a better time of year
 - Late summer in the west is very dry, and skies too clear (no clouds!)



Yosemite Falls



Bridalveil Fall

A Larger Moon

Background

- Lessons learned
 - ◆ Learn how to use new equipment!
 - Panorama hardware setup was off → needed a lot of editing
 - ◆ You aren't likely to get great photos in a few day's visit
 - Weather is always unpredictable
 - Different seasons can present better opportunities
 - Knowing the time of day to get certain shots helps
 - ◆ I should have had more experience
 - I got some nice shots, but I think I could have done better if my “photographic eye” was better trained

A Larger Moon

Yosemite

- Yosemite → the most beautiful place for photography!
 - ◆ Visited there in 1991 → fell in love with the scenery
 - I'm also a huge Ansel Adams fan, which contributed to my feeling
 - ◆ Chose to spend 7 days there in 2007
 - More than any other location I visited

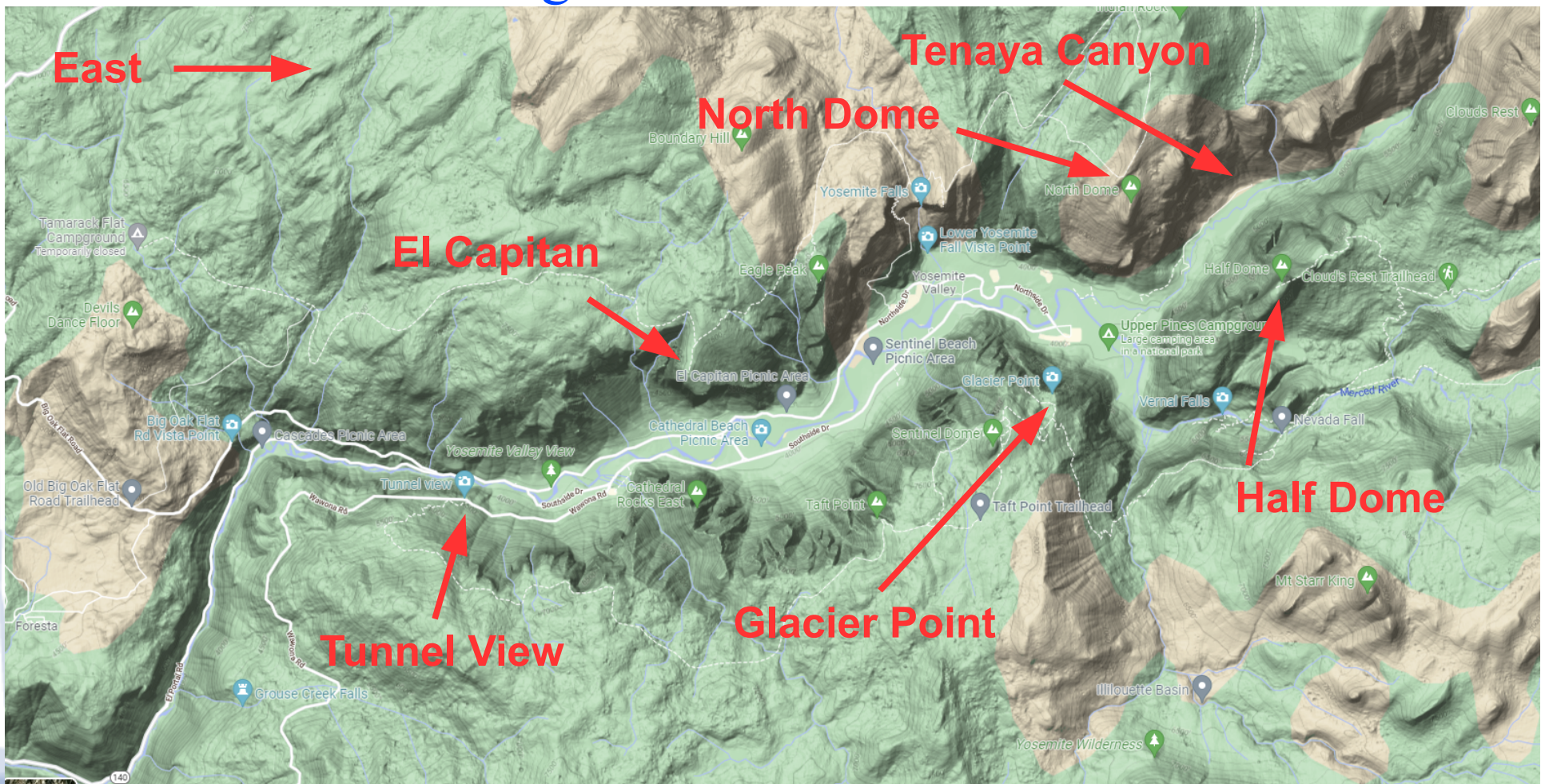


Clearing Winter Storm, 1942

A Larger Moon

Moon Over Half Dome

- On 8/23 I realized the moonrise opportunity for 8/24
 - ◆ Tried to think of a good location



A Larger Moon

Moon Over Half Dome

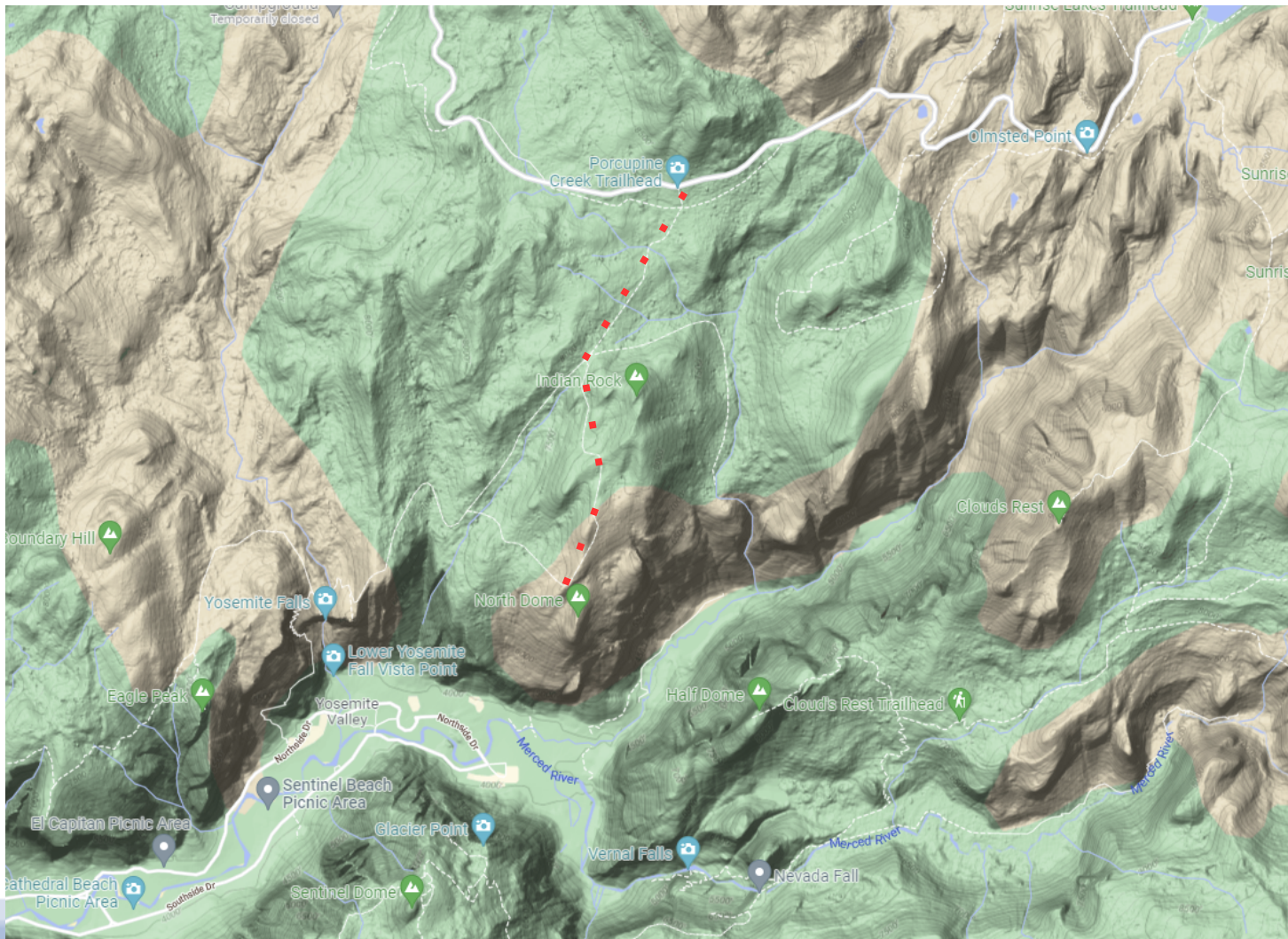
- On 8/23 I realized the moonrise opportunity for 8/24
 - ◆ Tried to think of a good location
 - ◆ I chose the face of Half Dome, with the Moon behind it
 - I had never seen it from that perspective, so I thought it might be good



A Larger Moon

Moon Over Half Dome

- ◆ On 8/24 I hiked ~2.5 miles to North Dome



A Larger Moon

Moon Over Half Dome

- Arrived at North Dome later than I wanted
 - ◆ Moon had already risen, and sun lower than optimal
 - ◆ I did some normal and panorama shots



A Larger Moon

Moon Over Half Dome

- When I saw the images in 2007 I was disappointed
 - ◆ I thought a bigger Moon would have been more dramatic
 - I assumed the Moon would have been larger if it had been lower
 - Didn't think about it again until the judge wanted “a larger moon”



A Larger Moon

Why isn't the Moon bigger?

- Is the Moon really too small?
 - ◆ “Moonrise, Hernandez, New Mexico” by Ansel Adams
 - Possibly the most famous moonrise photograph of all time
 - Moon doesn't seem that large in comparison to my shot



A Larger Moon

Why isn't the Moon bigger?

Note: To me, the Moon looks huge here, but I have the experience of being there—what do you think?

- Is the Moon really too small?
 - ◆ But sometimes the Moon looks very big, why?
 - Is it height above the horizon, or something else?
 - If I want a bigger Moon, how do I get one?



A Larger Moon

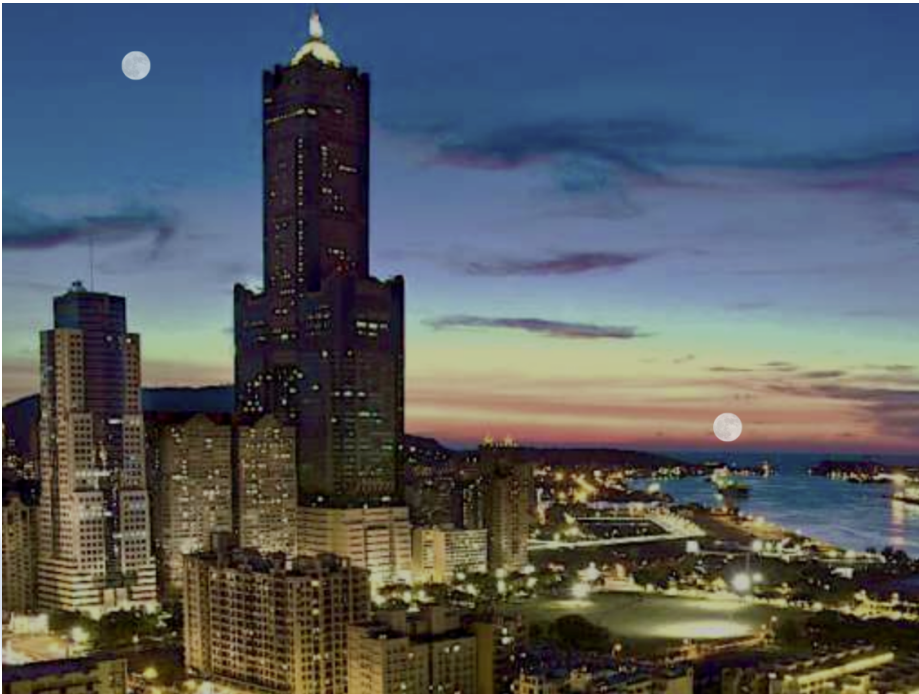
Why isn't the Moon bigger?

Note: I don't see a significant size difference in the city photo, so the illusion may only happen when a person is looking at the scene.

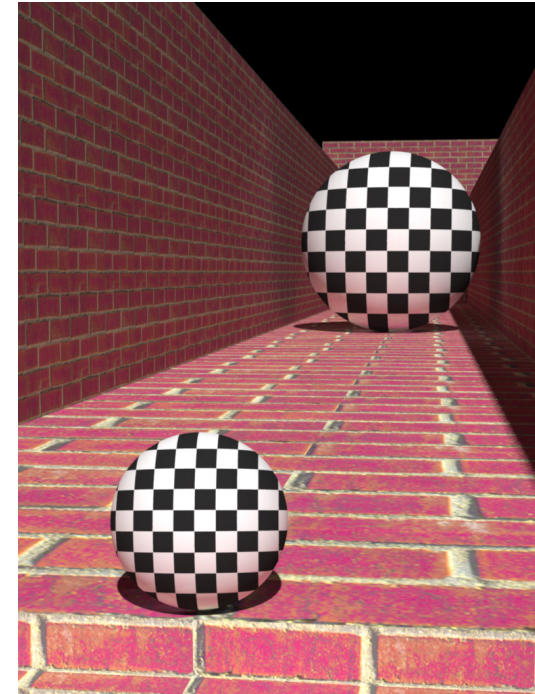
- The Moon illusion

- ♦ The Moon is the same size regardless of sky position

- The effect has been known since ancient times in many cultures
- It can be demonstrated by using your thumb, or taking photos
- The reason for the illusion is still debated!



“Sunset Over the City Centre of Kaohsiung, Taiwan”
by Cmglee Heeheemalu



optical illusion, balls are the
same size

A Larger Moon

Why isn't the Moon bigger?

Note: I still see the Middle Creek Moon as being larger than the Half Dome Moon in the context of the image—what do you think?

- The Moon illusion

- ♦ The Moon is the same size regardless of sky position

- The effect has been known since ancient times in many cultures
- It can be demonstrated by using your thumb, or taking photos
- **The reason for the illusion is still debated!**
- Relative size of Moon/trees and/or Moon/horizon proximity?



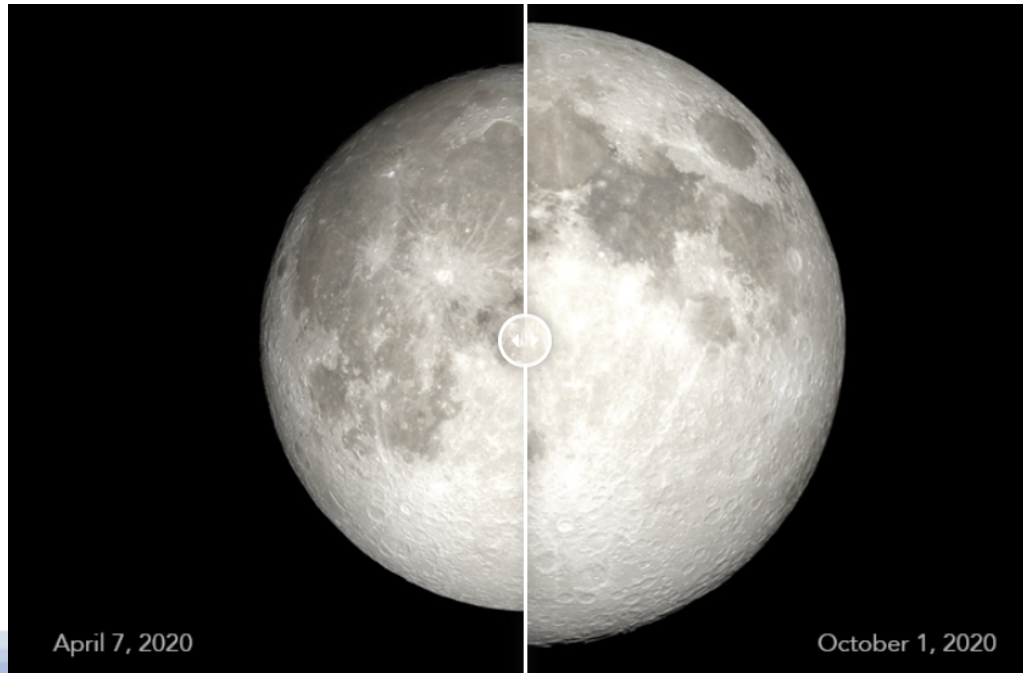
A Larger Moon

Why isn't the Moon bigger?

Note: Apogee and perigee distances vary over time due to various perturbations due to the sun and other planets.

- Does the Moon change size?
 - ◆ Yes, because its orbit around the Earth is elliptical
 - Farthest (apogee, absolute): 252,711 miles
 - Nearest (perigee, absolute): 221,456 miles → 14% bigger
 - ◆ Does this explain “Moon Over Half Dome”?
 - No, close to perigee (8/30) → distance = 226,285 miles

apogee,
absolute



perigee,
absolute

April 7, 2020

October 1, 2020

A Larger Moon

Making the Moon bigger

- Focal length: near & far
 - ◆ Bigger subject → move closer or use longer focal length lens
 - ◆ Longer focal length → more magnification → bigger Moon
 - Problem: near objects are too big with a longer focal length lens
 - Solution: move back → reduce near object size, Moon unaffected
 - Complication: moving back may affect composition, angle of view

Note: Moving back is obvious (duh!), but I couldn't tell before getting to the location, and then I was in a hurry because I was late.

A Larger Moon

Making the Moon bigger

- Focal length: near & far

- ◆ Example:

- MOHD focal length = 38.5mm (at my location I needed it for composition)
- MOHD panorama focal length = 57.4mm → ~50% enlargement
- Maximum zoom lens focal length = 71.5mm → ~86% enlargement
- 300mm focal length lens → ~700% enlargement

Note: Moving back is obvious (duh!), but I couldn't tell before getting to the location, and then I was in a hurry because I was late.



← 300mm

71.5mm

Apologies for the poor editing...

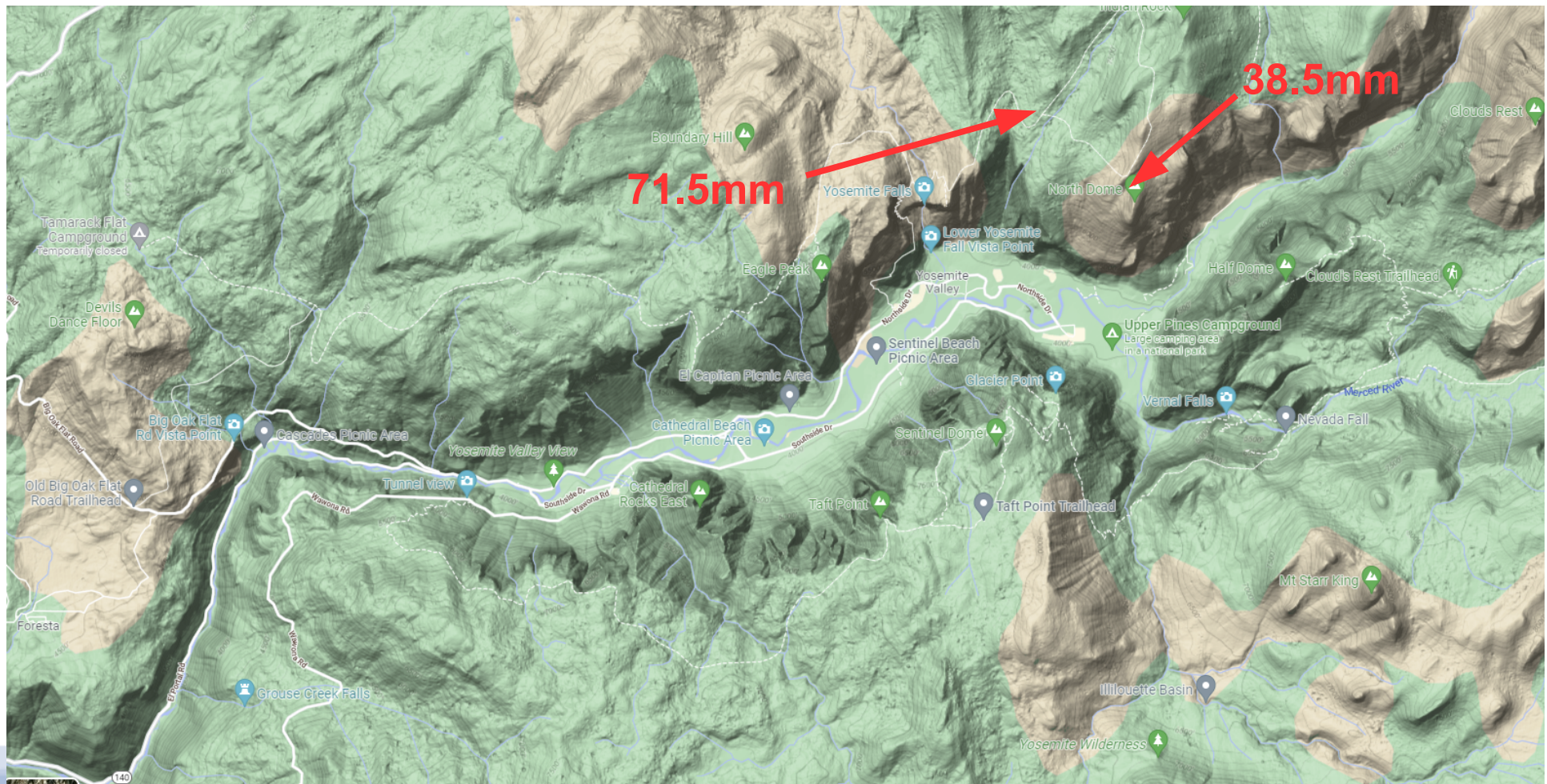
300mm

A Larger Moon

Making the Moon bigger

- Focal length: near & far
 - ◆ Could I have moved back?

Note: North Dome to Half Dome = ~1.6 miles. 71.5mm lens → distance = ~3 miles. 300mm lens → distance = ~12.5 miles, unlikely to be a clear view from there (and atmospheric effects).



A Larger Moon

Making the Moon bigger

- Can I 'cheat'?
 - ◆ Shoot the Moon separately from North Dome @ max zoom, combine with wide angle shot in editor
 - Would this be ethical?
 - Depends on whether it has to be 'realistic' (Nature division), or can be 'unrealistic' (Artistic & Special Effects division)
 - Realistic: Unethical if the image is 'impossible' → for example, if the Moon is impossibly large or in an impossible location
 - Realistic: May be ethical if the image is 'plausible' → there is some location where it could be seen, even though I wasn't there
 - Does it matter if the image is 'theoretically' possible, but could never happen in real life due to terrain?

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