



STARnet Webinar Series

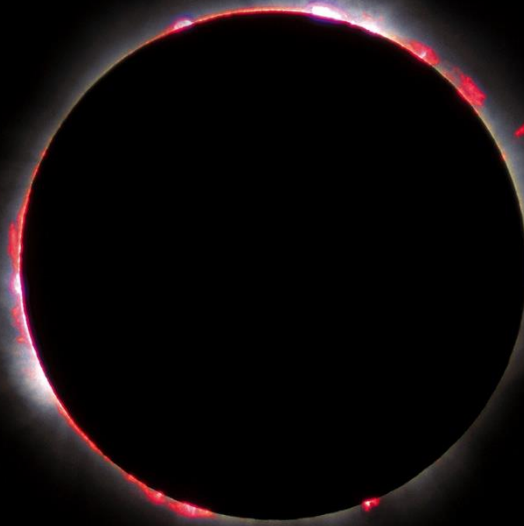
October 19th 2016

Total Eclipse 2017: The Outreach Event of the Decade

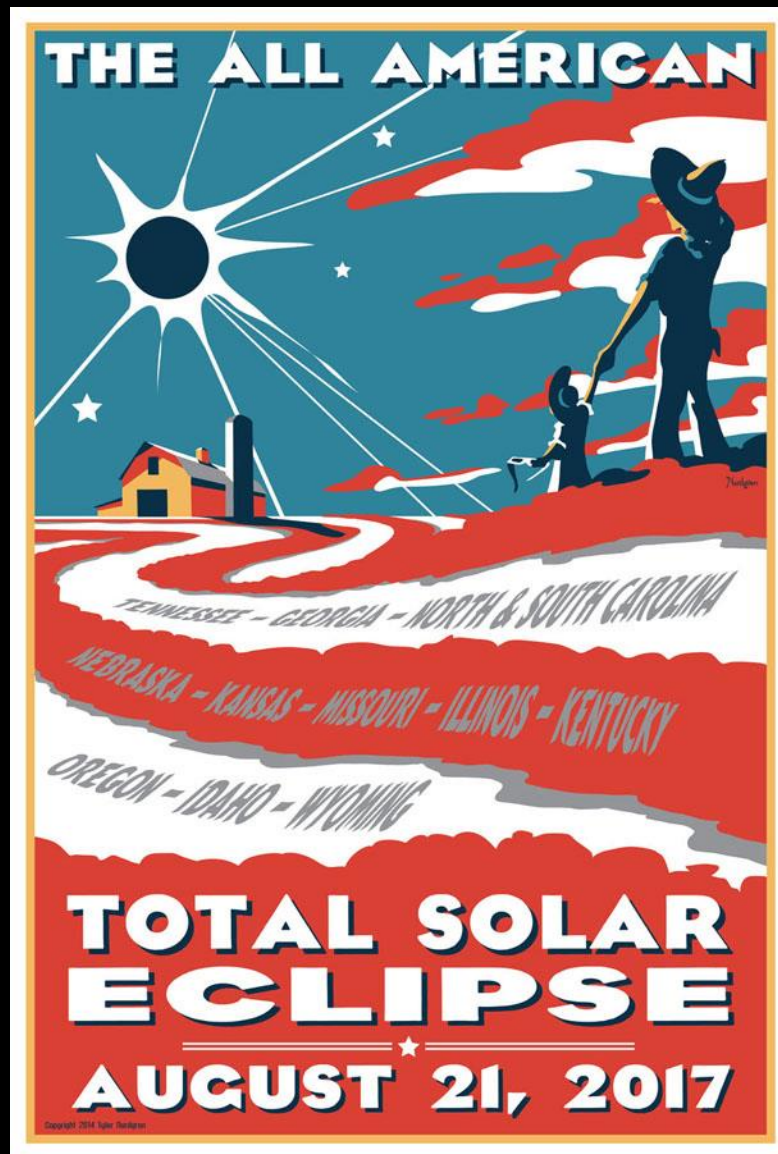
Hosts: Andrew Fraknoi and Dennis Schatz

If you are having audio problems, please click the “communicate” button at the top of your screen and then click “test audio”. Please indicate in the chat box if you need assistance. This webinar will be recorded.

Total Eclipse 2017: The Outreach Event of the Decade

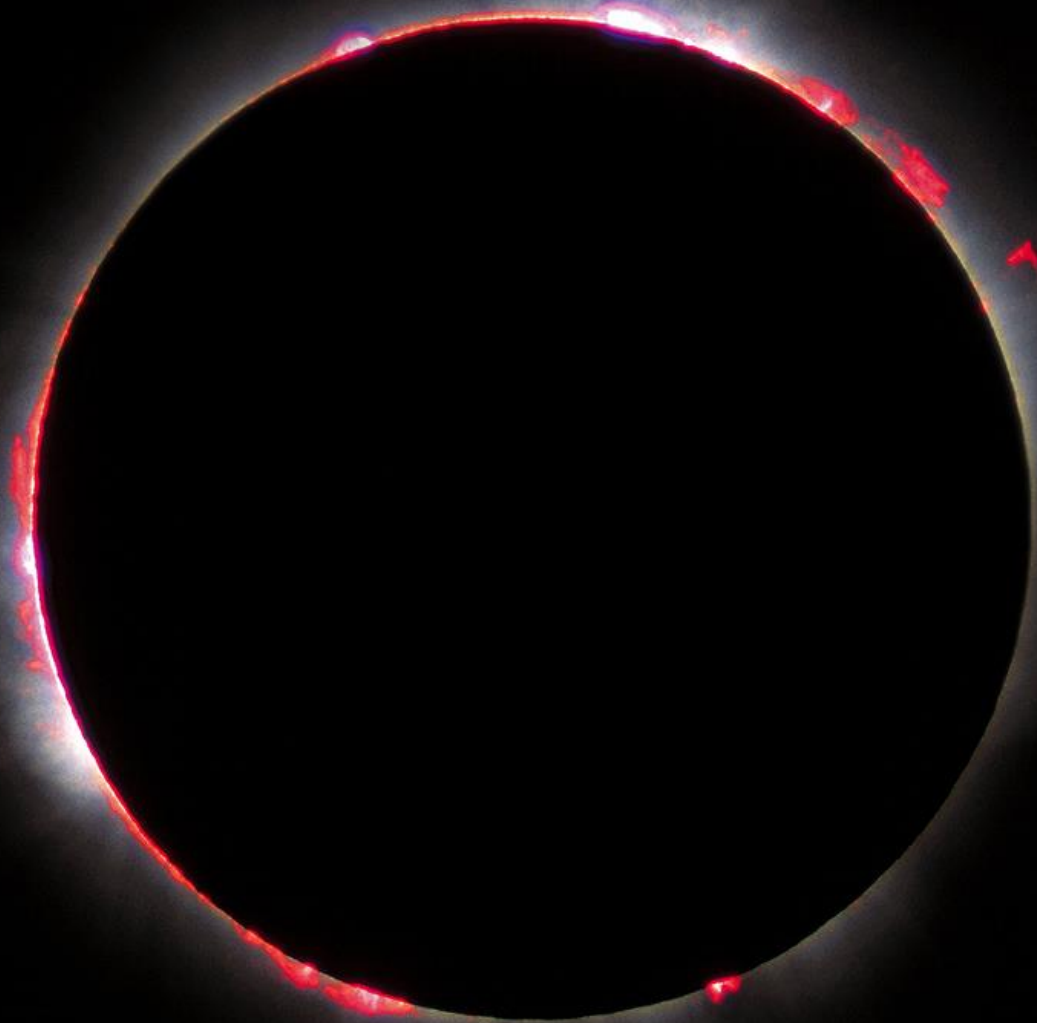


**Resources and Partnerships
Andrew Fraknoi and Dennis Schatz**

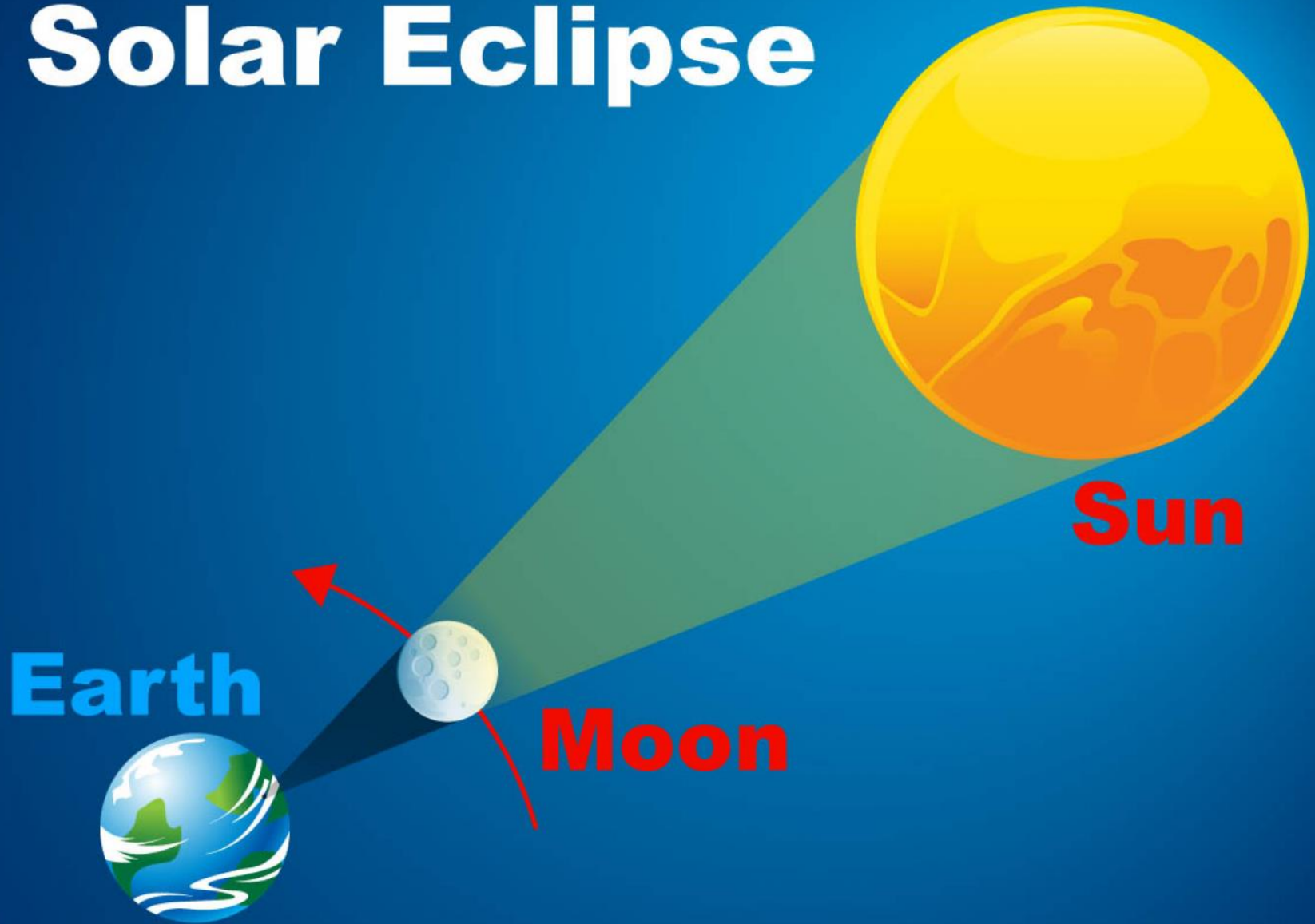


The All American Eclipse





Solar Eclipse





"eEcliser by Xavier Jubier (http://http://xjubier.free.fr/en/site_pages/solar_eclipses/5MCSEixSE_Five_Millennium_Canon.php)"

States Where the 2017 Eclipse is Total:

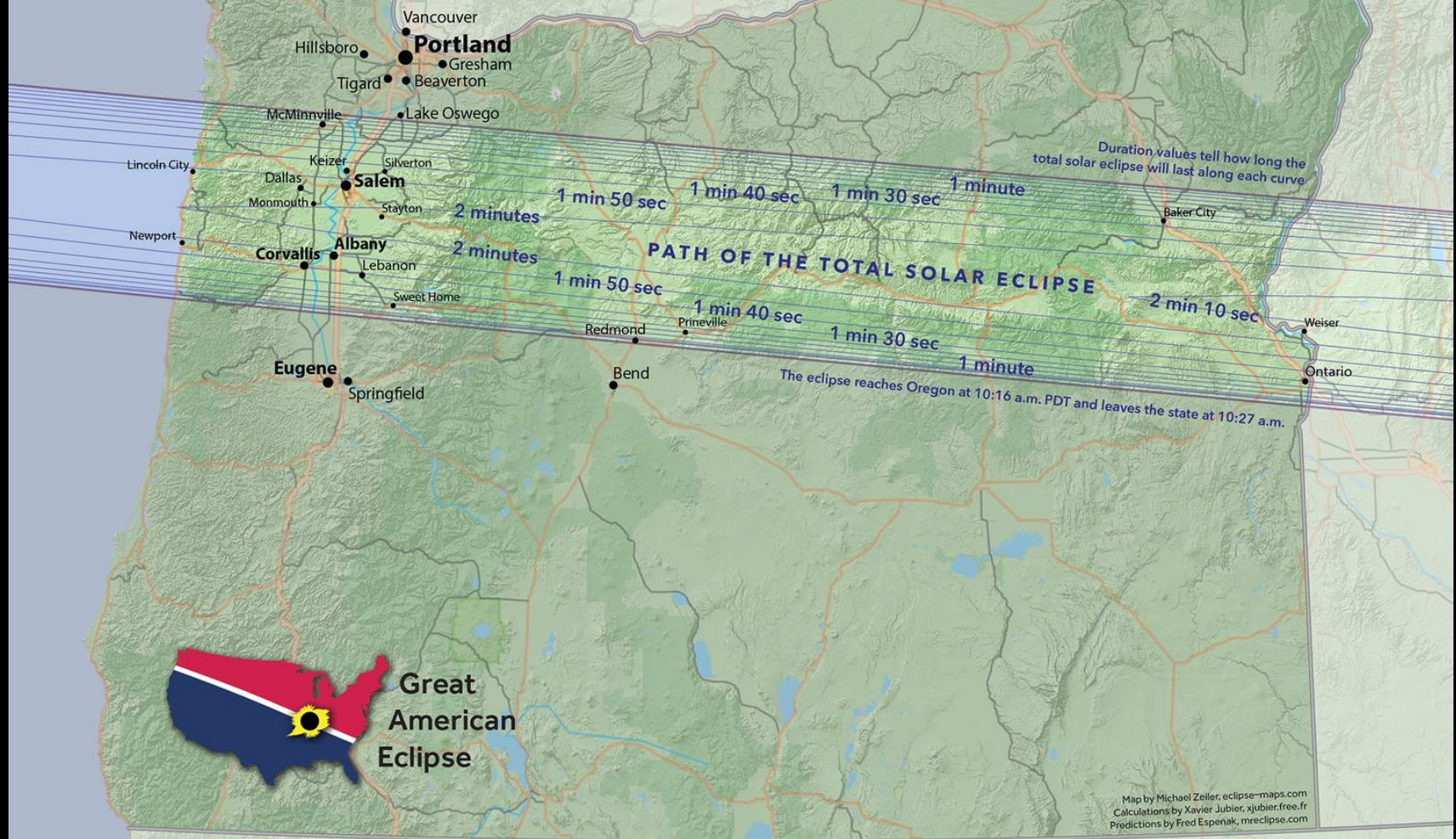


Oregon	Illinois
Idaho	Kentucky
Wyoming	Tennessee
Nebraska	Georgia
Kansas	North Carolina
Missouri	South Carolina

Total solar eclipse over Oregon

A total solar eclipse will cross the United States from Oregon to South Carolina on **August 21, 2017**. This is the grandest spectacle in the sky and you should see this at least once in your life. To see day turn to night and the majesty of the Sun's corona, travel to a location inside the path of the eclipse.

Learn more at GreatAmericanEclipse.com





CHRIS COOK PHOTOGRAPHY

Population Statistics



U.S. = 319 million

Canada = 35 million

Mexico = 119 million

TOTAL = 473 million



We'll need lots of eclipse glasses...



Eclipse Glasses:

American Paper Optics:

<http://www.eclipseglasses.com/>

Rainbow Symphony:

<http://www.rainbowsymphony.com/eclipse-glasses>

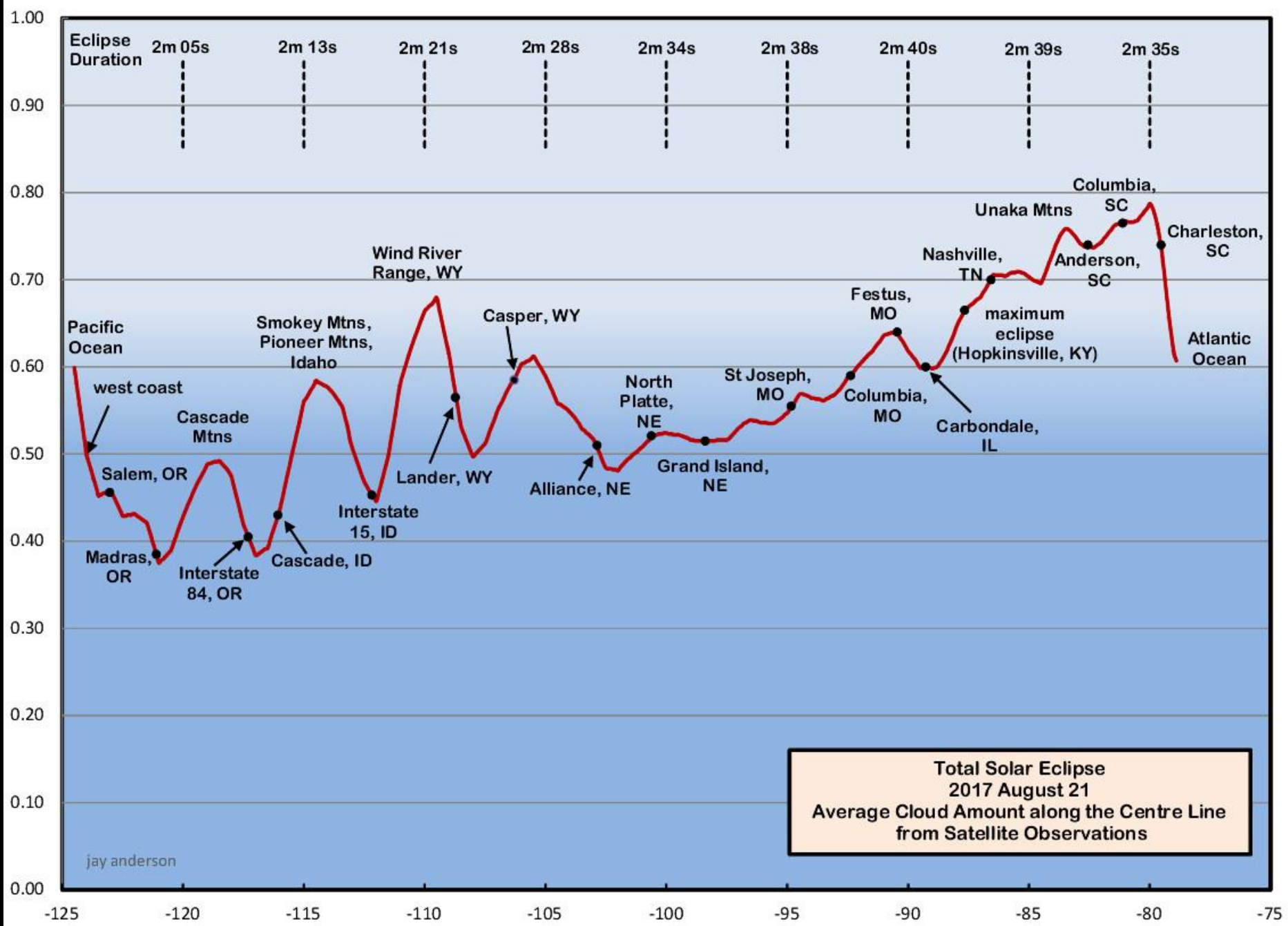
Bulk rates available on 100's and 1000's

Circumstances of the Aug. 21, 2017 Partial Eclipse for the Largest Cities in the U.S.

City	Eclipse Starts	Max Eclipse	Eclipse Ends	Fraction of Sun's Diameter Covered	Percent of Sun's Area Covered
New York City	1:23 pm	2:45 pm	4:01 pm	0.77	71%
Los Angeles	9:06 am	10:21 am	11:45 am	0.69	62%
Chicago	11:54 am	1:20 pm	2:43 pm	0.89	87%
Houston	11:47 am	1:17 pm	2:46 pm	0.73	67%
Philadelphia	1:21 pm	2:44 pm	4:01 pm	0.8	75%
Phoenix	9:14 am	10:34 am	12:00 n	0.7	63%
San Antonio	11:41 am	1:09 pm	2:38 pm	0.69	61%
San Diego	9:07 am	10:23 am	11:47 am	0.66	58%
Dallas/Ft Worth	11:40 am	1:10 pm	2:39 pm	0.8	75%
San Francisco	9:01 am	10:15 am	11:37 am	0.8	76%
Indianapolis	12:58 pm	2:25 pm	3:49 pm	0.93	91%
Washington DC	1:18 pm	2:43 pm	4:02 pm	0.84	81%
Miami	1:27 pm	2:59 pm	4:21 pm	0.82	78%

Eclipse Information for Selected Cities Where the Eclipse Will be Total

City	Partial Eclipse Starts	Total Eclipse Starts	Total Eclipse Ends	Partial Eclipse Ends	Sun's Altitude At Totality
Salem, OR	9:05 am	10:17 am	10:19 am	11:38 am	40 degrees
Casper, WY	10:22 am	11:43 am	11:45 am	1:09 pm	54 degrees
St. Joseph, MO	11:41 am	1:06 pm	1:09 pm	2:34 pm	62 degrees
Carbondale, IL	11:52 am	1:20 pm	1:23 pm	2:48 pm	64 degrees
Nashville, TN	11:58 am	1:27 pm	1:29 pm	2:54 pm	64 degrees
Columbia, SC	1:13 pm	2:42 pm	2:44 pm	4:06 pm	62 degrees

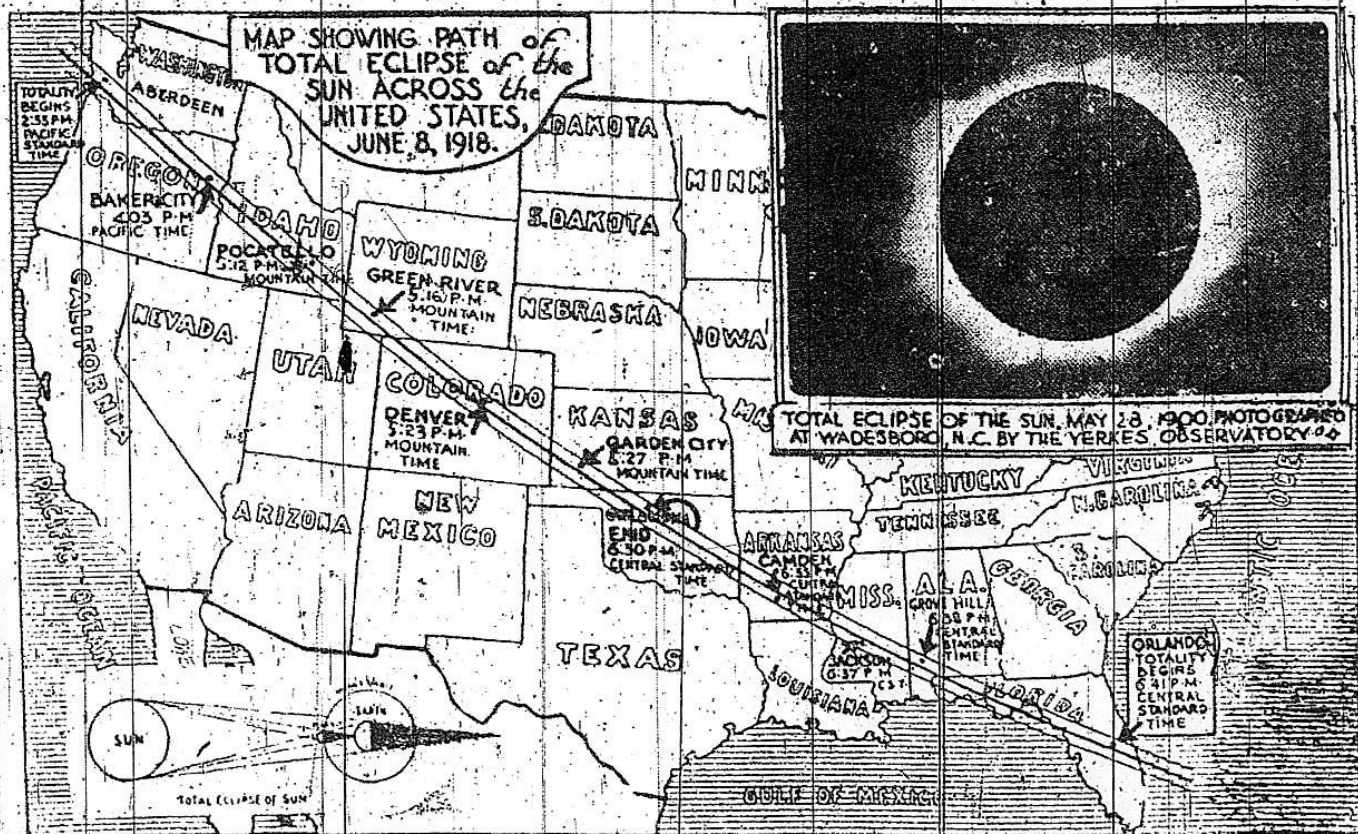




© 2010 American Border Patrol

E DENVER POST—FIRST IN EVERYTHING

THOUSANDS POINT GLASSES AT SUN TO WATCH ECLIPSE



Police Enforce Quiet So Astronomers at University
May Make Priceless Observations—Movies to
Be Taken—Throngs Seek Vantage Points.

AMERICANS PUSH GERMANS BACK IN



**Resource
Guide to
Eclipses in General
and the 2017
Eclipse:**

www.astro society.org/eclipse



AN OBSERVER'S GUIDE TO VIEWING THE ECLIPSE

SOLAR SCIENCE

ALL-AMERICAN TOTAL SOLAR ECLIPSE

AUGUST 21, 2017

By Andrew Fraknoi and Dennis Schatz

On Monday, August 21, 2017, a total eclipse of the Sun will be visible in the continental United States for the first time in almost 40 years. A total eclipse is when the Sun is completely hidden by the Moon, the sky becomes dark, and the Sun's faint atmosphere (corona) becomes visible—looking like a beautiful halo (Figure 1). This total eclipse will *only* be visible on a narrow track stretching across the United States from Oregon to South Carolina. No other country will get to see the total eclipse this time.

The rest of the United States and other parts of North and Central America will see a *partial* eclipse, in which the Moon covers only a portion of the Sun. A partial eclipse is interesting, but nowhere near as awe-inspiring and memorable as a total eclipse. A partial eclipse is also dangerous to look at without something to protect your eyes from the Sun's damaging rays.

What Exactly Is a Total Eclipse of the Sun?

A total eclipse of the Sun occurs when the Moon gets between the Sun and the Earth and covers up the Sun. It just so happens that the Moon, as seen from Earth, and the Sun, as seen from Earth, are the same size in the sky. So if the two are exactly lined up, the Moon can hide the Sun from our sight. This allows us to see the Sun's corona,

FIGURE 1

During a total eclipse, the Sun is covered by the Moon, and the faint light of its corona becomes visible.



Source: Luc Viatour, Wikimedia Commons, CC BY-SA 3.0. https://en.wikipedia.org/wiki/File:Solar_eclipse_1999_4_NR.jpg

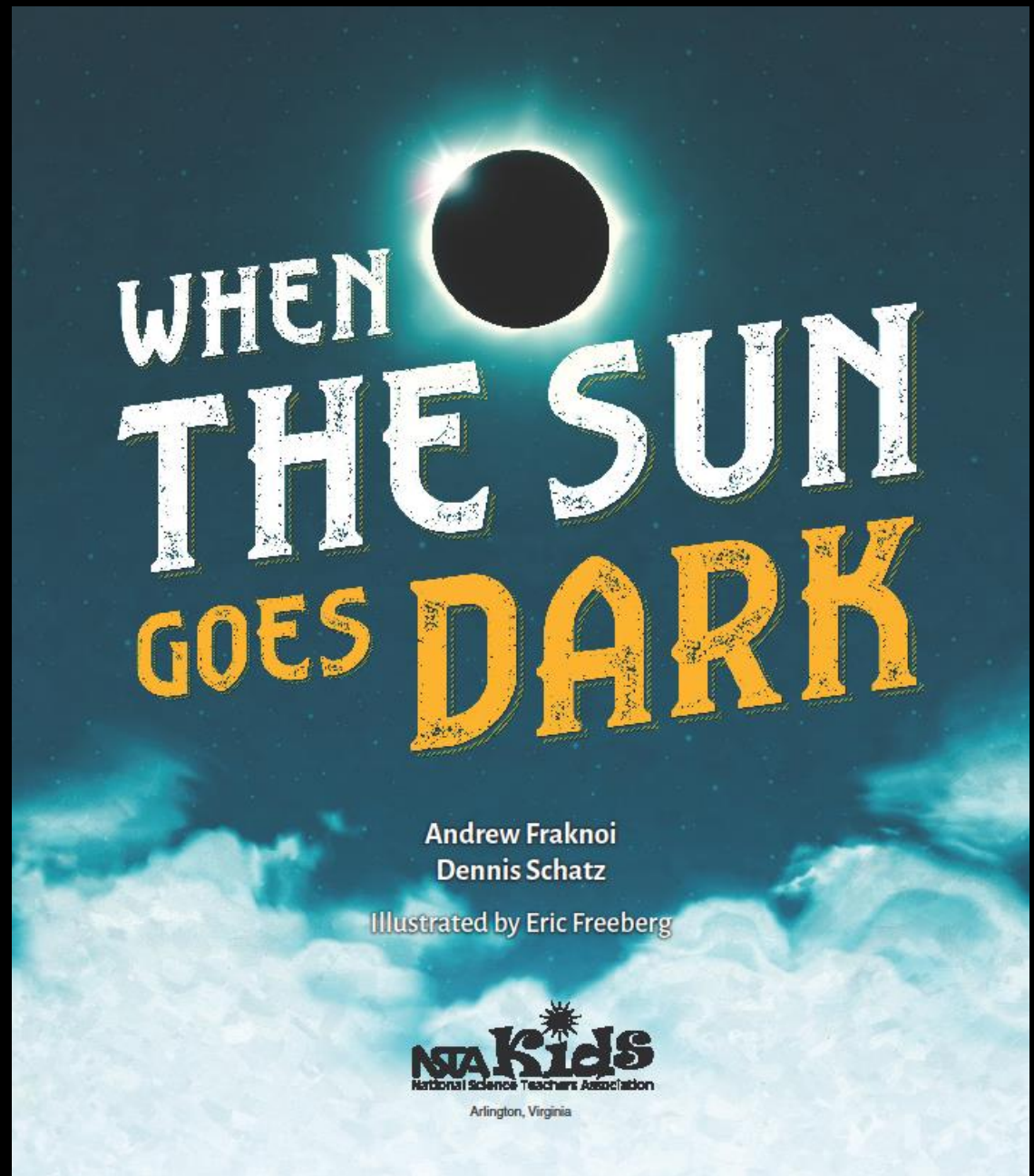
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Association

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free
distribution
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An 8-page
summary of the
booklet in *Solar
Science*:

<http://bit.ly/2bkGSvA> or www.nsta.org/solarscience

Coming in
early 2017:





Afterschool
Alliance

STAR_Net Eclipse Resources

Once you've registered, you'll gain access to the Eclipse Resource Center specifically for public libraries with:

- Royalty-free images and videos for use in programming/promotion
- Media Template Package (Press Release, PSA, Community Letter, and Media Alert templates)
- Printable posters from SSI space science exhibits, and much more



Please take a few minutes to watch the following videos which provide some basic information on the 2017 Eclipse and the Earth-Sun connection. We hope that viewing these videos will help provide your library more insight on how the resources below relate to each other and how they can be used in your promotional and educational materials.

2017 ECLIPSE OVERVIEW

Length: 1 minute, 19 seconds
Credit: NASA's GSFC

2017 ECLIPSE PREVIEW

Length: 29 minutes, 31 seconds
Credit: NASA's GSFC

INTRO TO HELIOPHYSICS

Length: 3 minutes, 10 seconds
Credit: NASA's GSFC

For additional videos and animations, [click here](#)

Media Template Package

These resources will be available soon!

- Press Release Template
- PSA Template
- Community Letter Template
- Media Alert Template

2017 Solar Eclipse FAQs

[Click here](#) for a few basic questions and their answers from NASA's official 2017 Eclipse website.

NEW STAR_Net Eclipse Forum

Available to all, but you must sign-in to the STAR_Net Online Community to comment (anyone can read though!) Head to <http://www.starnetlibraries.org/forums/forum/eclipse-resources-forum/> to join in the discussion!

Viewing 2 topics - 1 through 2 (of 2 total)

Topic	Voices	Posts	Freshness
What to do if you're clouded out :(Started by: admin	1	2	5 hours, 9 minutes ago admin
Event Logistics Started by: admin	2	2	7 hours, 50 minutes ago Anne Holland

Viewing 2 topics - 1 through 2 (of 2 total)

> Log In

Online Forums

> Conferences & Workshops

> Eclipse Resources Forum

> National & Regional Events

> Local Networking

> Grant Opportunities

⚙️ YOU MUST BE LOGGED IN TO CREATE NEW TOPICS.

Recently Active Members



SOLAR SCIENCE

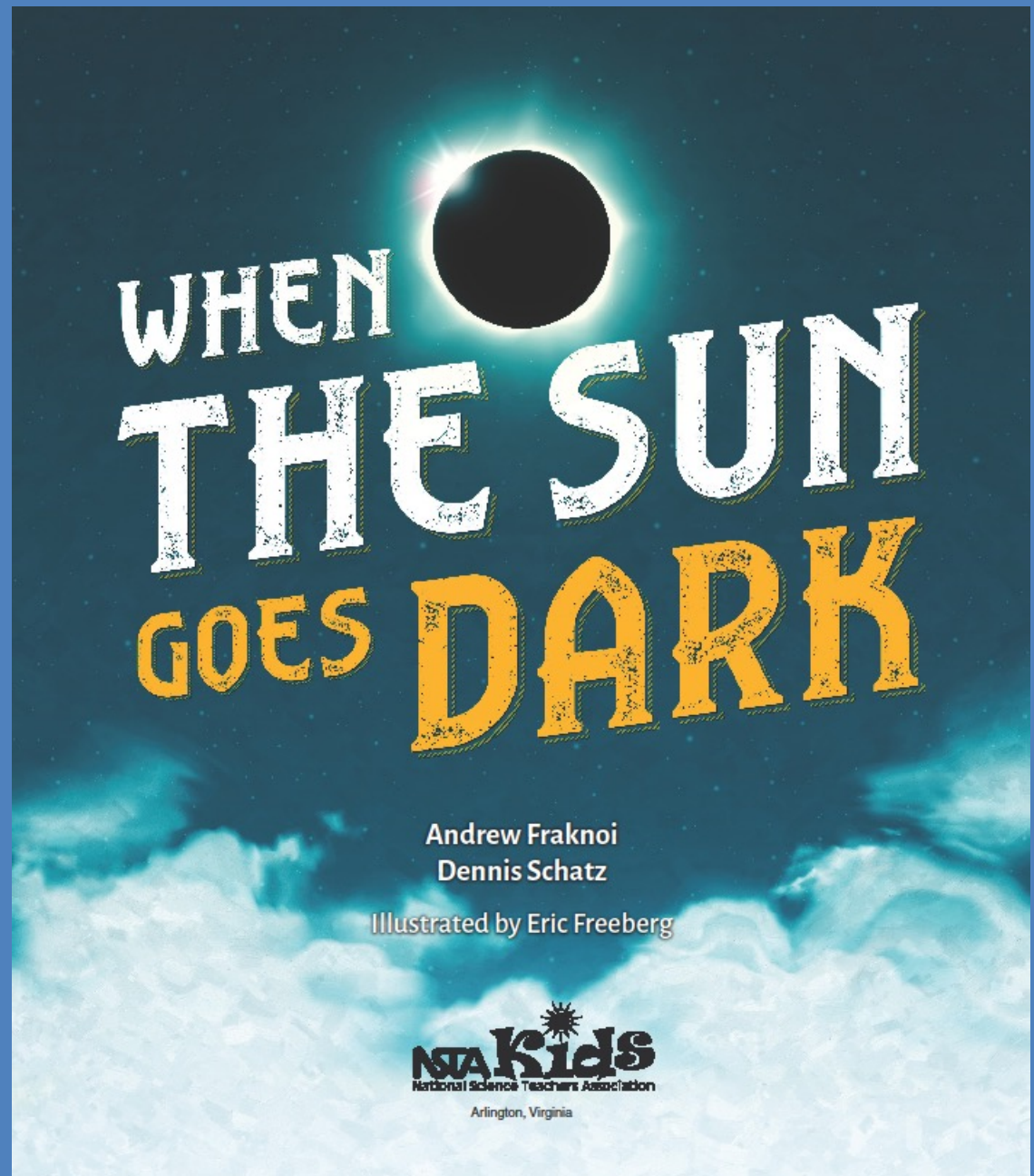
EXPLORING SUNSPOTS, SEASONS, ECLIPSES, AND MORE

Dennis Schatz
Andrew Fraknoi



NSTApress
National Science Teachers Association

Coming In early
2017:





Eclipse Related Learning Experiences

- 4.1 – Predicting What the Moon Will Look Like**
- 4.3 – Observing the Moon**
- 4.4 -- Modeling the Moon**
- 4.5 – Modeling Eclipses**

CHAPTER 4 271

The Sun, the Moon, and the Earth Together: Phases, Eclipses, and More

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ENGAGE

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EXPLORE

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EXPLAIN

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ELABORATE

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EVALUATE

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AN OBSERVER'S GUIDE TO VIEWING THE ECLIPSE

SOLAR SCIENCE

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FIGURE 1

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Source: Luc Viatour, Wikimedia Commons, CC BY-SA 3.0. https://en.wikipedia.org/wiki/File:Solar_eclipse_1999_4_NR.jpg

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Association

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An 8-page
summary of the
booklet in *Solar
Science*:

<http://bit.ly/2bkGSvA> or www.nsta.org/solarscience

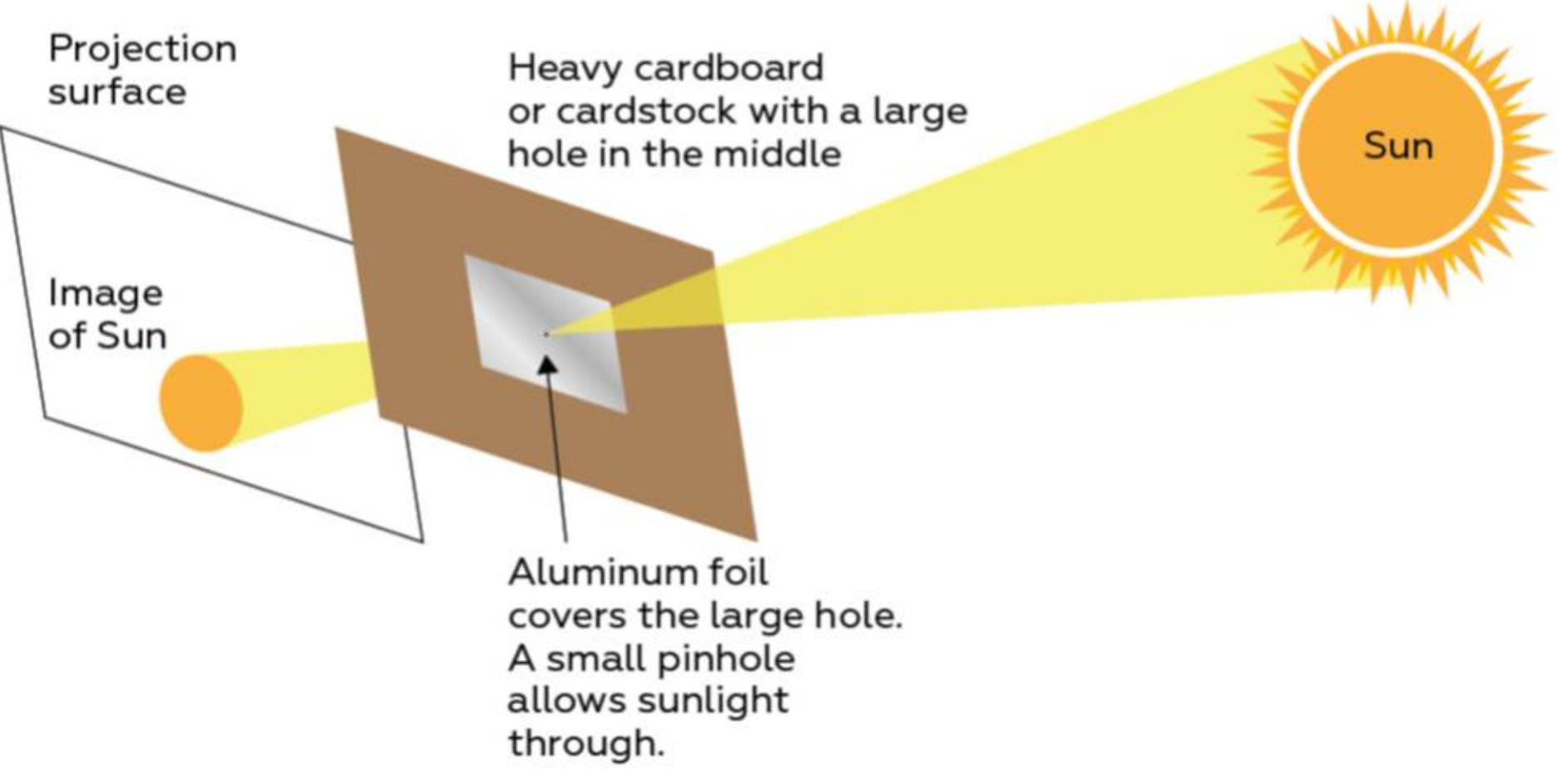
Projection
surface

Heavy cardboard
or cardstock with a large
hole in the middle

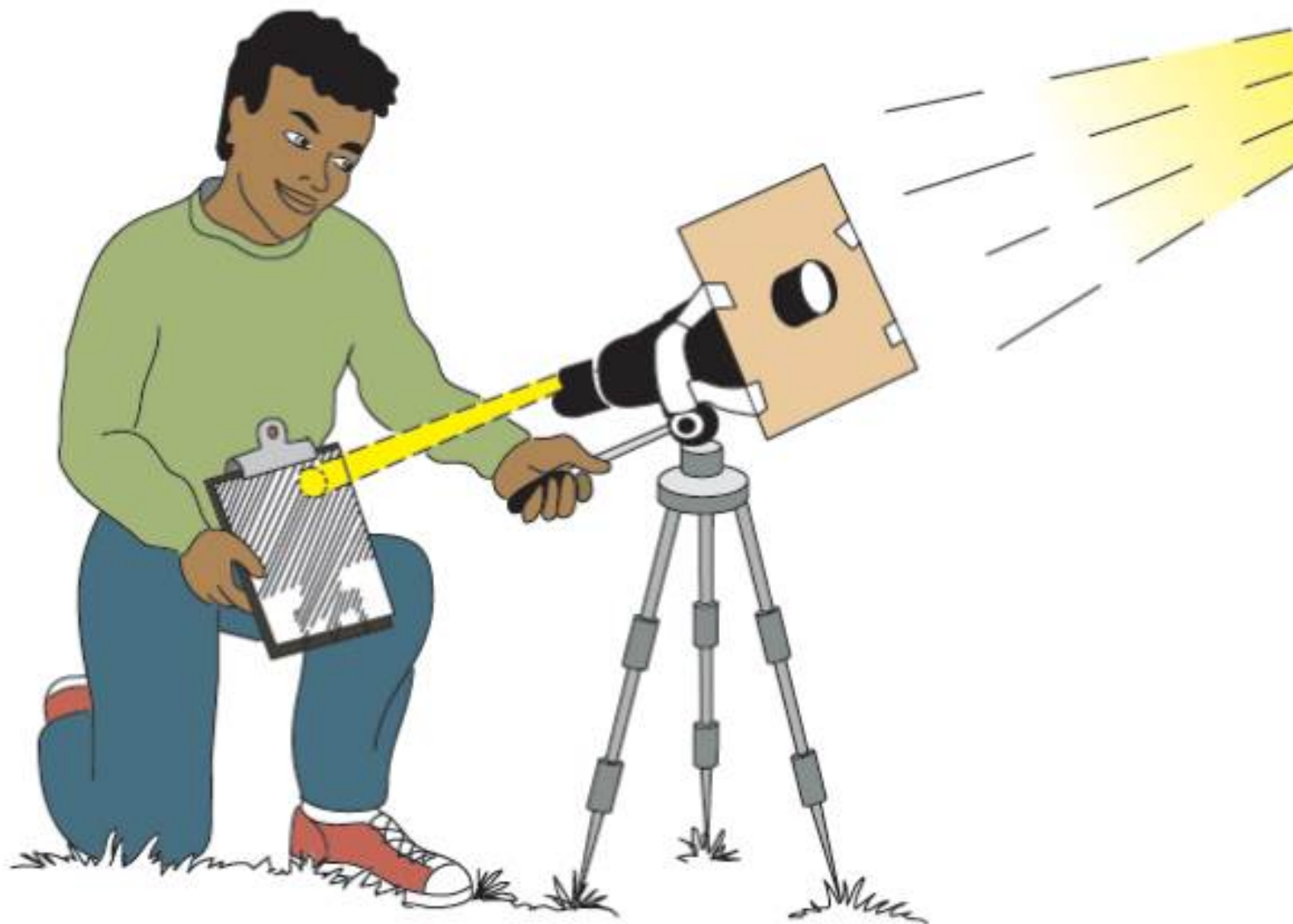
Image
of Sun

Sun

Aluminum foil
covers the large hole.
A small pinhole
allows sunlight
through.



The diagram illustrates a pinhole camera setup. On the right, a bright yellow sun with rays is labeled 'Sun'. A wide, yellow cone of light originates from the sun and points towards a brown rectangular block representing 'Heavy cardboard or cardstock with a large hole in the middle'. The front face of this block is covered by a piece of silver 'Aluminum foil' which has a tiny 'small pinhole' in its center. A narrower yellow cone of light passes through this pinhole. To the left of the cardboard block is a white trapezoidal 'Projection surface'. The light cone from the pinhole strikes this surface, creating a small orange circle labeled 'Image of Sun'. An arrow points from the text 'Aluminum foil covers the large hole. A small pinhole allows sunlight through.' to the pinhole in the foil.



Source: Schatz, D., and P. Allen. 2003. *Astro adventures II: An activity-based astronomy curriculum*. Seattle, WA: Pacific Science Center, p. 52.

August 2017

Calendar

pedia
Your source for calendars

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
30	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	1	2



Possible Partners:

Science centers

Nature centers

Teachers

Amateur Astronomy Clubs

Park Rangers

Community colleges

University astronomy
departments

Planetariums

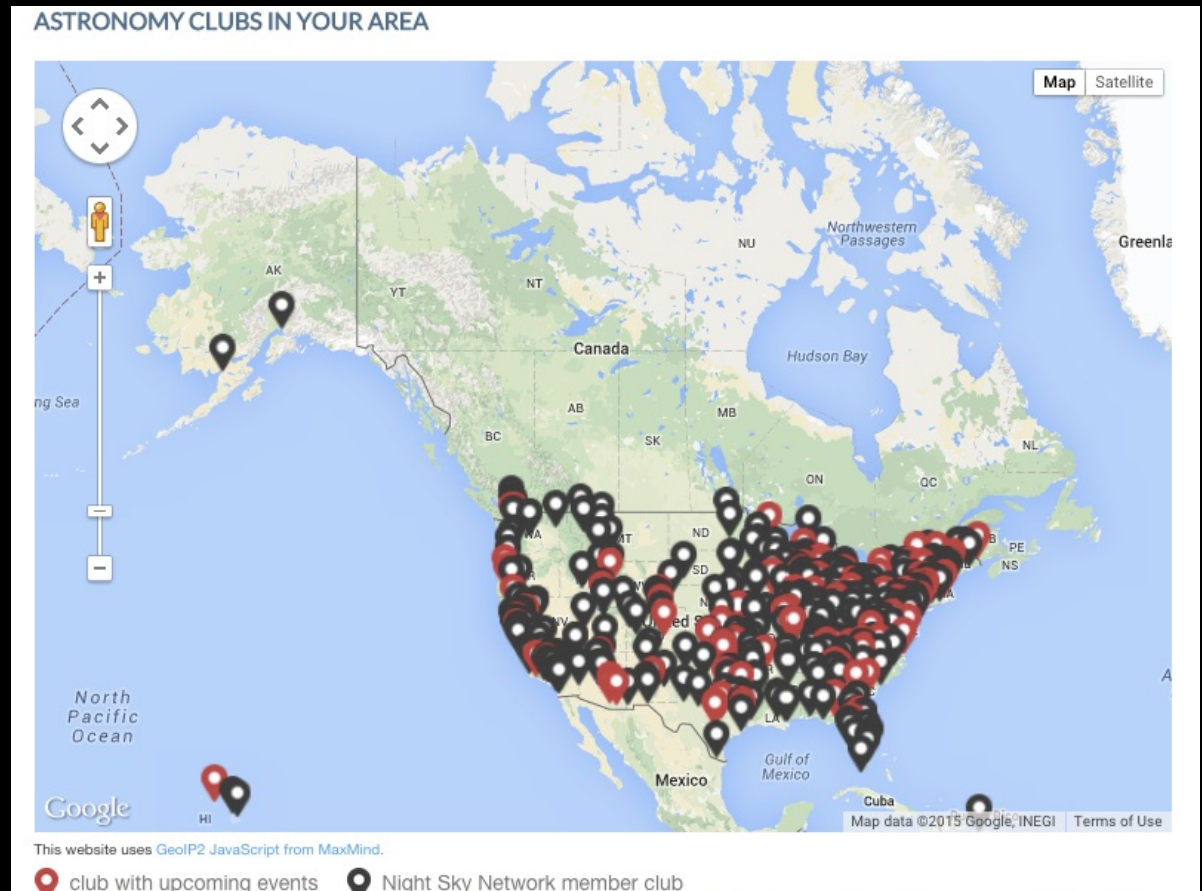
AAS Ambassadors

Girl scouts

Science cafes

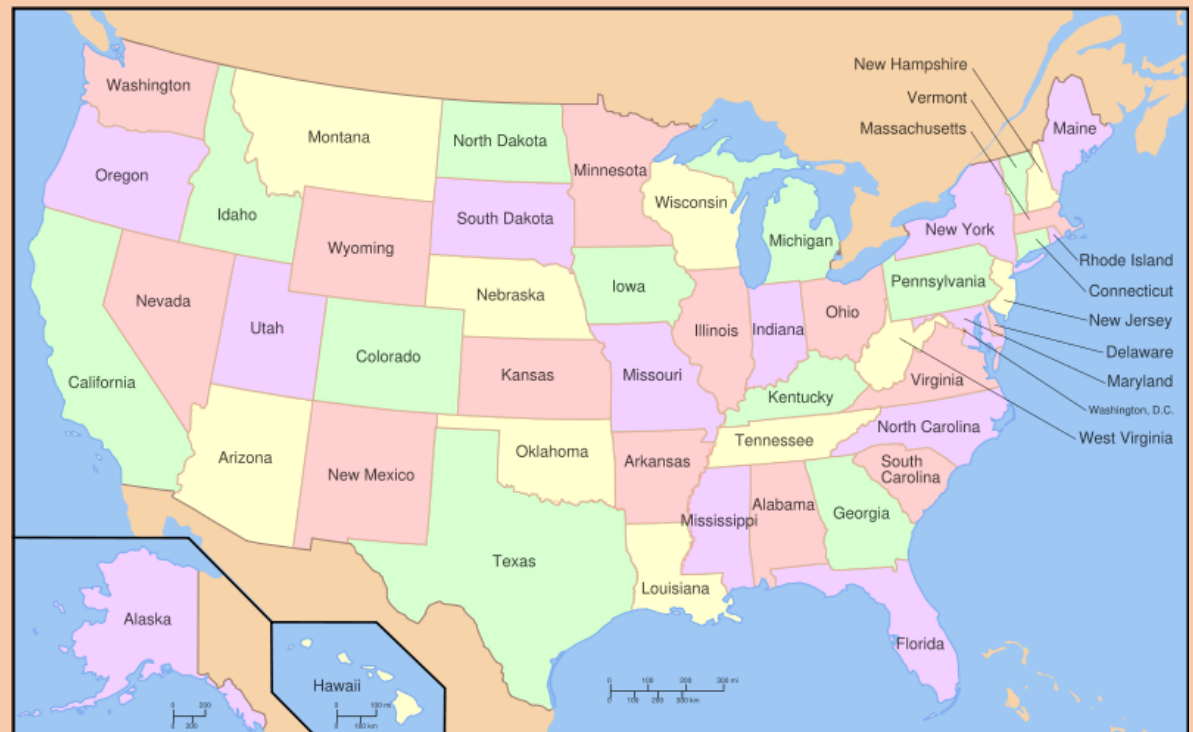


Over 400 astronomy clubs around U.S. doing community & school outreach





<http://astc.org>



<http://www.aacc.nche.edu/pages/ccfinder.aspx>

Community College Finder

Map Search

City Search

Zip Search

Attribute Search



<https://aas.org/outreach/roster-aas-astronomy-ambassadors>



Engage Every Child in the 2017 Solar Eclipse:

Working Together with Diverse and Underserved Communities Across America

December 8–9, 2016

Moonrise Hotel • St. Louis, Missouri



Julena Steinheider Duncombe Mini-Grants Program

Call for Proposals — Engaging the Public with the Solar Eclipse

<https://eclipse.aas.org>

Site not yet active. Keep trying it every few days

A photograph of a clear night sky. A bright, circular celestial body, likely a planet or a star, is positioned in the upper-middle section of the frame. To its upper left, a smaller, fainter star is visible. The sky transitions from a deep blue at the top to a lighter blue and then to a dark orange glow near the horizon. The horizon line is visible at the bottom, showing silhouettes of land and water.

**We wish you clear skies
on August 21!**

Questions?

Contact Anne Holland:

aholland@spacescience.org

www.starnetlibraries.org/2017eclipse

www.astrosociety.org/eclipse

www.nsta.org/solarscience

<https://eclipse.aas.org>

Make sure to head over to our Forum if you have ideas after this discussion!