

Welcome to the SEAL Solar Eclipse Expert Webinar

Your Solar Eclipse Leaders



Andrew Fraknoi



Dennis Schatz

Thanks!

To the Gordon and Betty Moore
Foundation, for their generous
support of this program



About

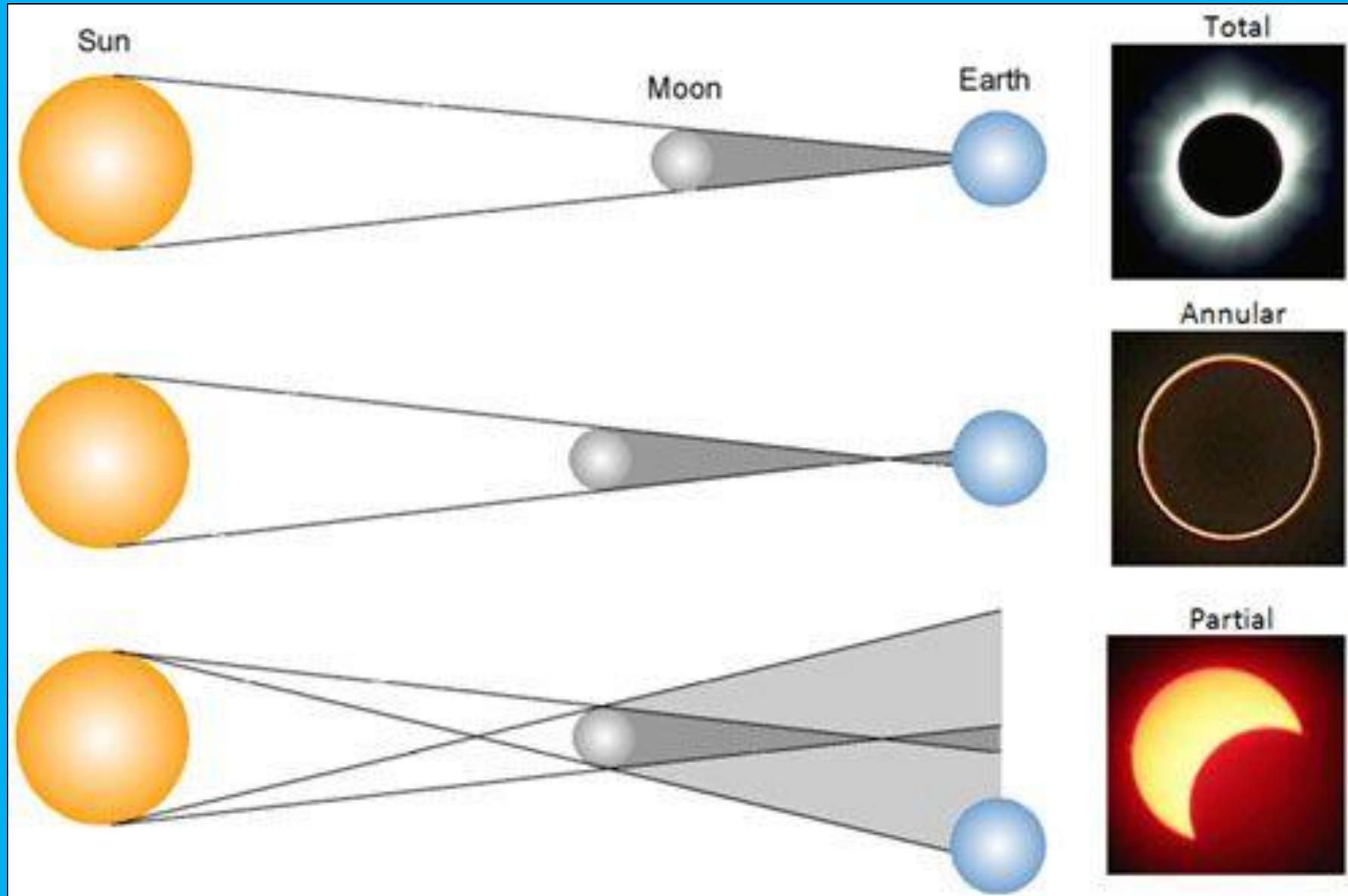


The 2023-2024 North American Eclipse Double-Header



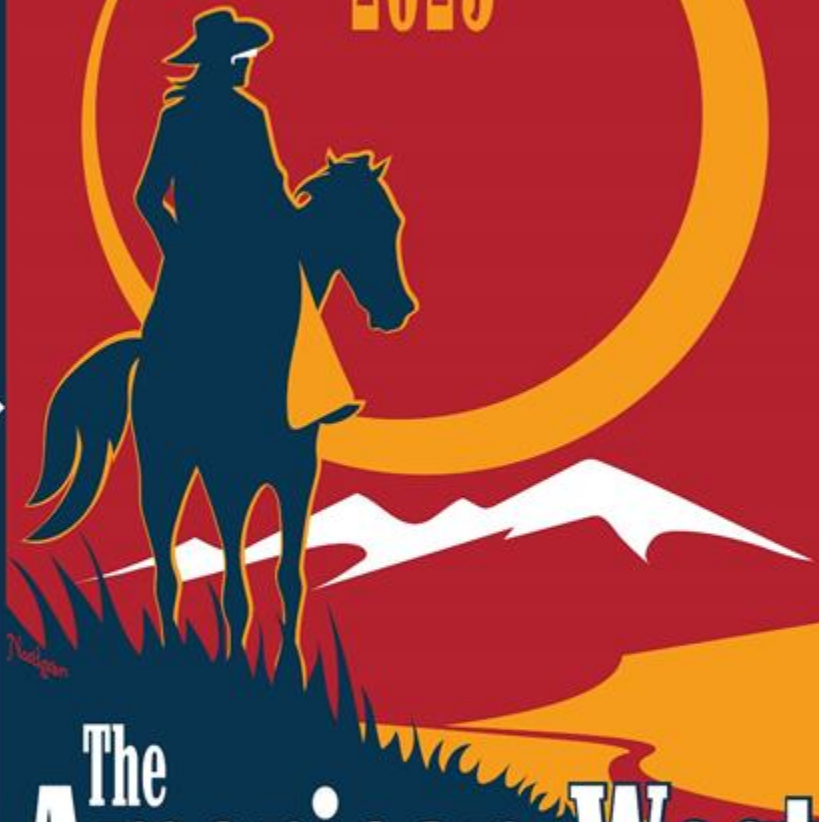
A Stellar Educational Opportunity

DIFFERENT TYPES OF SOLAR ECLIPSES





Oct. 14
2023



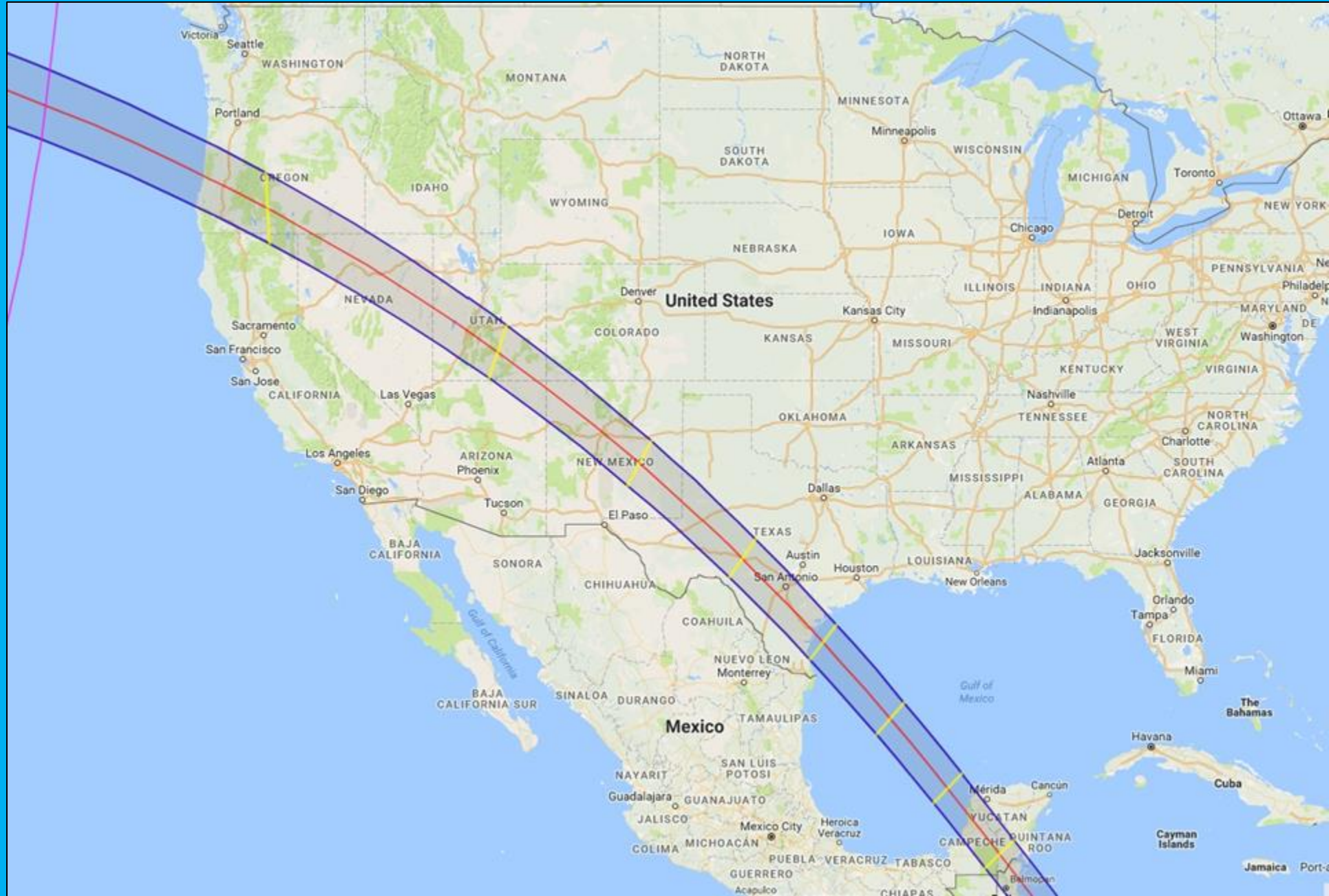
The American West

★ Ring of Fire Solar Eclipse ★

★ OR ★ CA ★ NV ★ UT ★ CO ★ AZ ★ NM ★ TX ★
With a Partial Solar Eclipse for the entire United States!



Saturday, Oct. 14, 2023 Annular Eclipse



APR. 8
2024

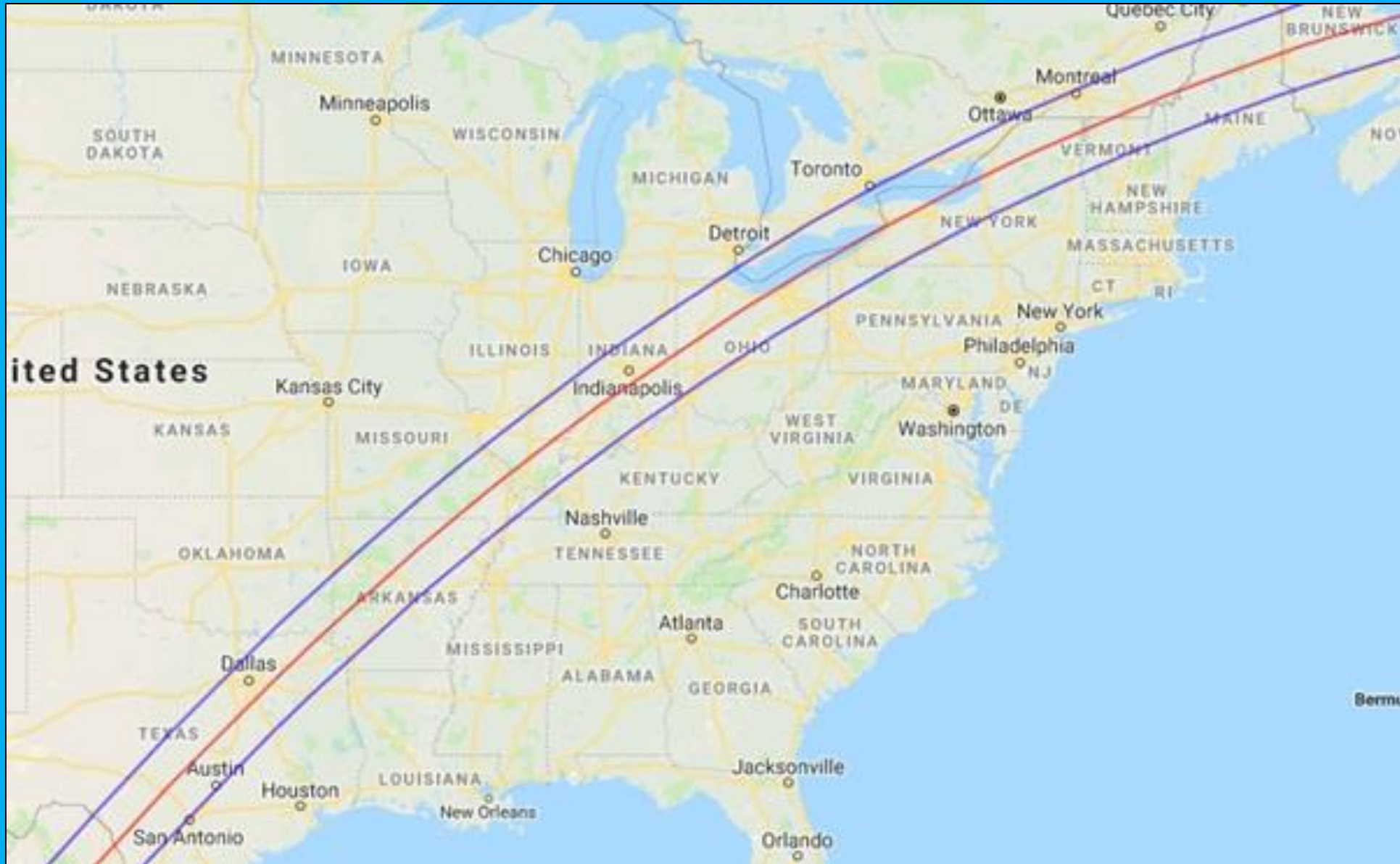


THE GREAT
NORTH AMERICAN
TOTAL SOLAR ECLIPSE

★ MEXICO ★ UNITED STATES ★ CANADA ★



Monday, April 8, 2024 Total Eclipse



Who will see some kind of eclipse in 2023-24?

U.S. = 332 million

Canada = 37 million

Mexico = 129 million

TOTAL = 498 million



**Contemplating
Eclipse Programming Challenges**

QUINCY PUBLIC LIBRARY


526

*Secondline
Passé*





**5 million glasses
distributed free
through 10,000 public
libraries**



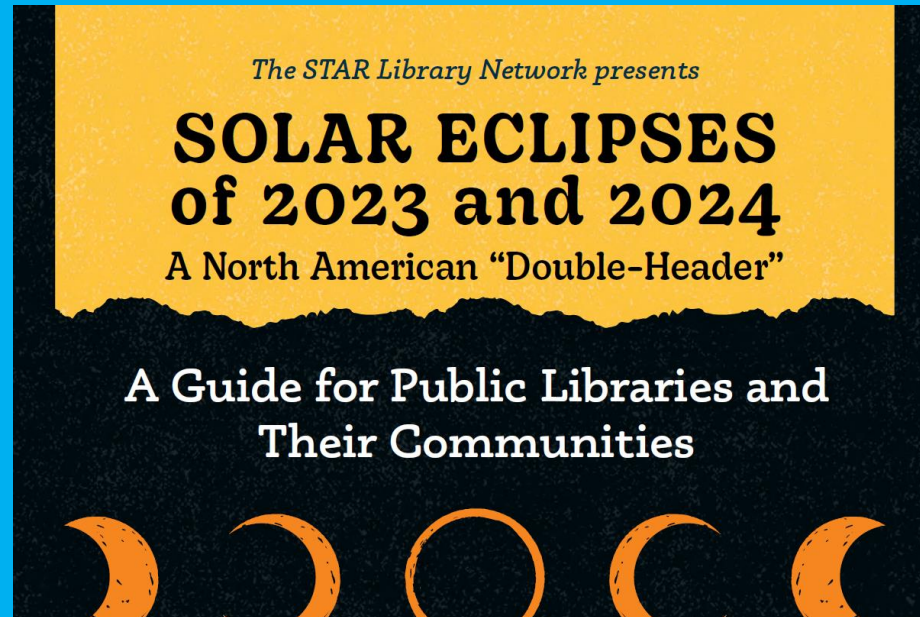
**We Solar Eclipse Experts
Have our Work Cut Out for Us**

Let's Get Started

Requirements for Being a SEAL Eclipse Expert

- Know or learn enough to comfortable with eclipse science and safe viewing
- Partner with local libraries to offer public programs, viewing sessions, and/or other engagements leading up to the 2023 and 2024 solar eclipses. Activities should include information about:
 - a) The time of the eclipses in your location
 - b) Safe eclipse viewing techniques.
 - c) An understanding of what causes the solar eclipses.
- Report back to SEAL on the community activities you have done using the “SEAL Report Form” we will provide.

Key Solar Eclipse Resources



<http://bit.ly/eclipsesforlibraries>



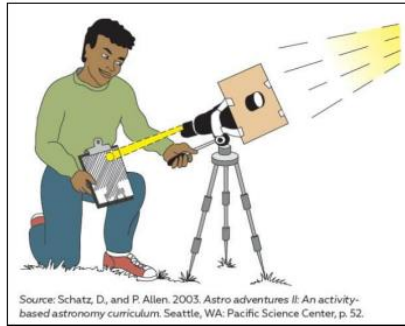
<http://bit.ly/spanishlibrariesbooklet>

Solar Eclipse Resources

SELECTED ECLIPSE ACTIVITIES FOR EDUCATORS

A Guide by Andrew Fraknoi (Jan. 2023)

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



Activities about Eclipses and Viewing them Safely

The Yardstick Eclipse: How Eclipses Work. From the Astronomical Society of the Pacific (requires a yardstick and other household items to model how eclipses happen):

https://astrosociety.org/file_download/inline/083a7833-c1a7-4270-aa5a-d48e036e424a An article discussing a student-centered version of this activity can be found at: <https://eclipse.aas.org/sites/eclipse.aas.org/files/Miranda-et-al-SS-Oct2016.pdf> An elegantly laid-out version of the yardstick activity is at: <https://nso.edu/wp-content/uploads/2018/10/YardstickEclipse.pdf>

Modeling Eclipses. From the Pacific Science Center & Dennis Schatz (use hula hoops and other easy material to teach about why eclipses are rare):

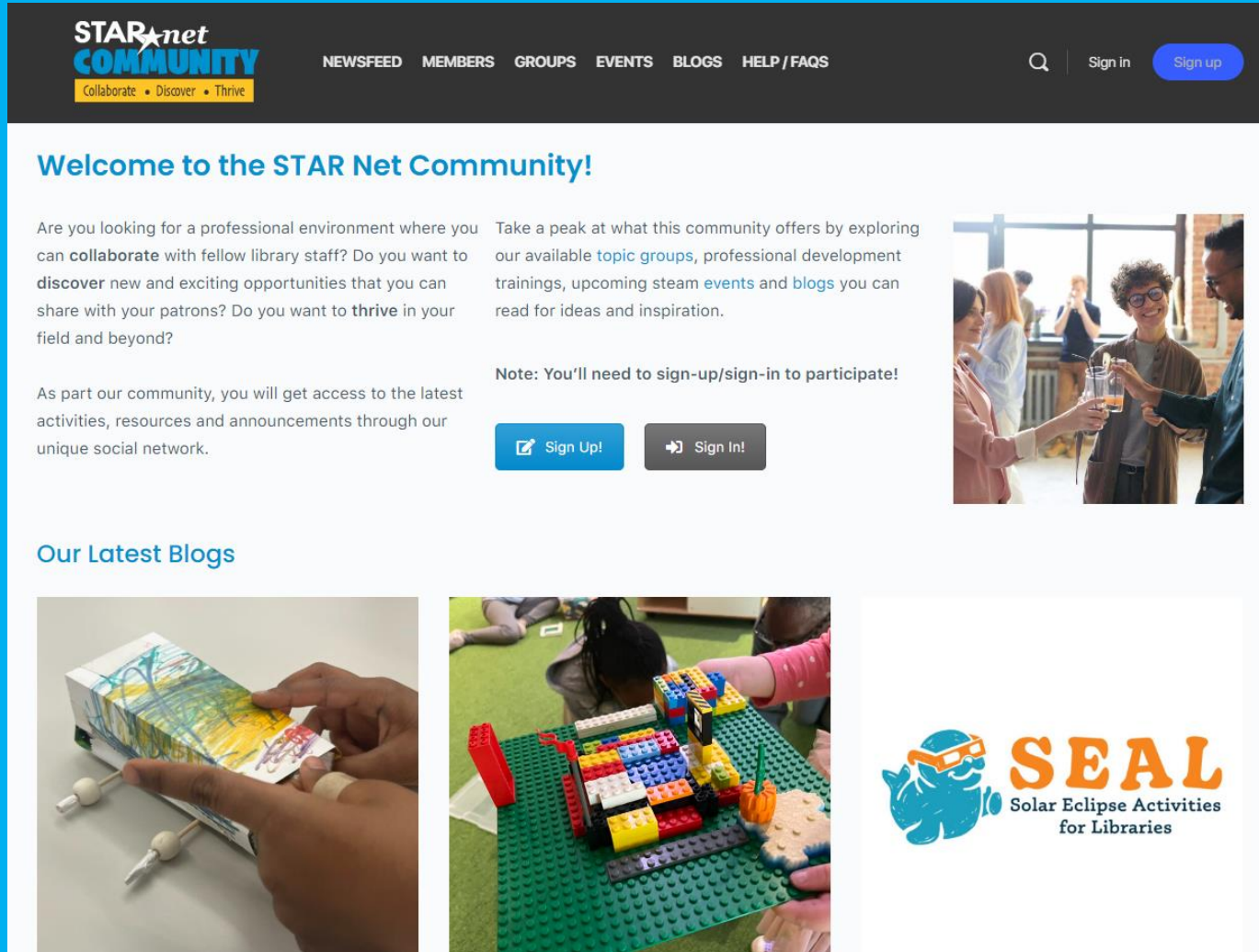
<http://bit.ly/teacheclipse>

Finding and Navigating the SEAL Community Site

- <http://community.starnetlibraries.org>
- You will be automatically registered with your provided email and a temporary password
- Check your spam folder
- If you haven't received an email in your inbox or spam folder reach out to Sky Reid-Mills
- sreidmills@spacescience.org



Finding and Navigating the SEAL Community Site



The screenshot shows the STARnet Community website homepage. At the top, there is a navigation bar with the STARnet Community logo (tagline: Collaborate • Discover • Thrive) on the left, and menu items: NEWSFEED, MEMBERS, GROUPS, EVENTS, BLOGS, HELP / FAQs. On the right of the navigation bar are a search icon, a 'Sign in' link, and a blue 'Sign up' button.

Welcome to the STAR Net Community!

Are you looking for a professional environment where you can **collaborate** with fellow library staff? Do you want to **discover** new and exciting opportunities that you can share with your patrons? Do you want to **thrive** in your field and beyond?

Take a peak at what this community offers by exploring our available **topic groups**, professional development trainings, upcoming steam **events** and **blogs** you can read for ideas and inspiration.

Note: You'll need to **sign-up/sign-in** to participate!

As part our community, you will get access to the latest activities, resources and announcements through our unique social network.

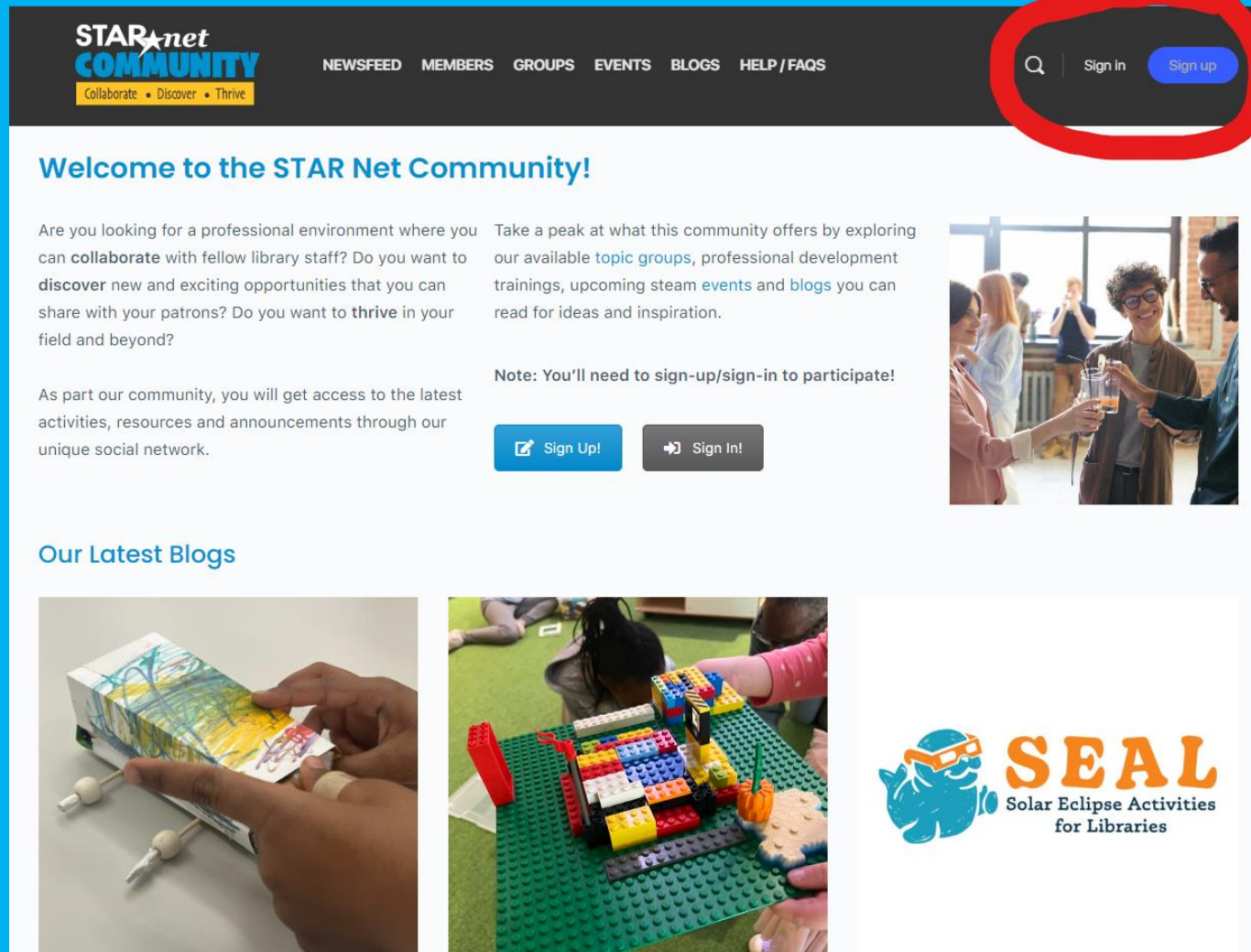
Below the welcome message are two buttons: a blue 'Sign Up!' button with a pencil icon and a dark grey 'Sign In!' button with a right-pointing arrow icon.

Our Latest Blogs

Below the 'Our Latest Blogs' heading are three images:

- A hand holding a small box with a colorful abstract design, next to two white pushpins.
- A child's hands building a colorful structure on a green LEGO baseplate.
- The SEAL logo, which features a stylized blue figure wearing orange goggles, followed by the text 'SEAL Solar Eclipse Activities for Libraries'.

Finding and Navigating the SEAL Community Site



STARnet
COMMUNITY
Collaborate • Discover • Thrive

NEWSFEED MEMBERS GROUPS EVENTS BLOGS HELP / FAQs

Q Sign in Sign up

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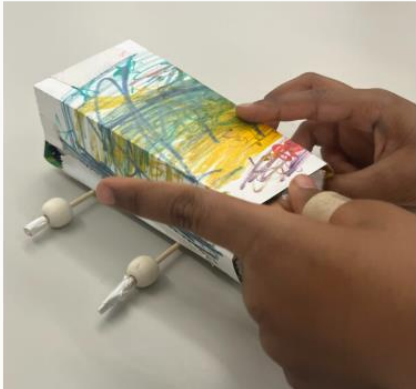
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[Sign Up!](#) [Sign In!](#)



Our Latest Blogs





Finding and Navigating the SEAL Community Site



Email Address

Password

 I'm not a robot



Remember Me

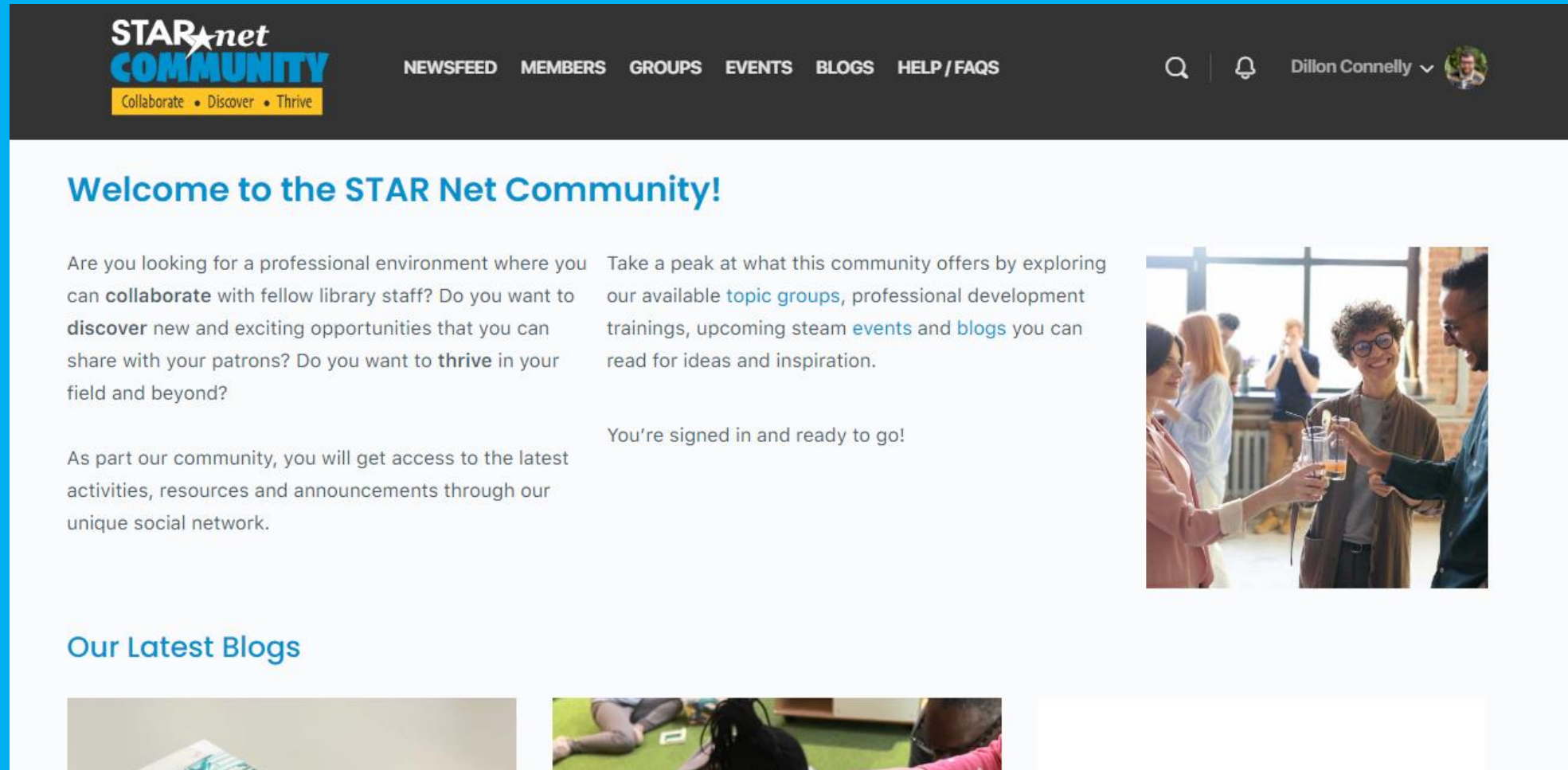
Log In

[Register](#) | [Lost your password?](#)

[← Go to STAR Net Community](#)

[Terms of Service](#)

Finding and Navigating the SEAL Community Site



The screenshot shows the top navigation bar of the STAR Net Community website. The logo on the left reads "STAR net COMMUNITY" with the tagline "Collaborate • Discover • Thrive". The navigation menu includes "NEWSFEED", "MEMBERS", "GROUPS", "EVENTS", "BLOGS", and "HELP / FAQs". On the right, there is a search icon, a notification bell, and a user profile for "Dillon Connelly" with a dropdown arrow and a profile picture.


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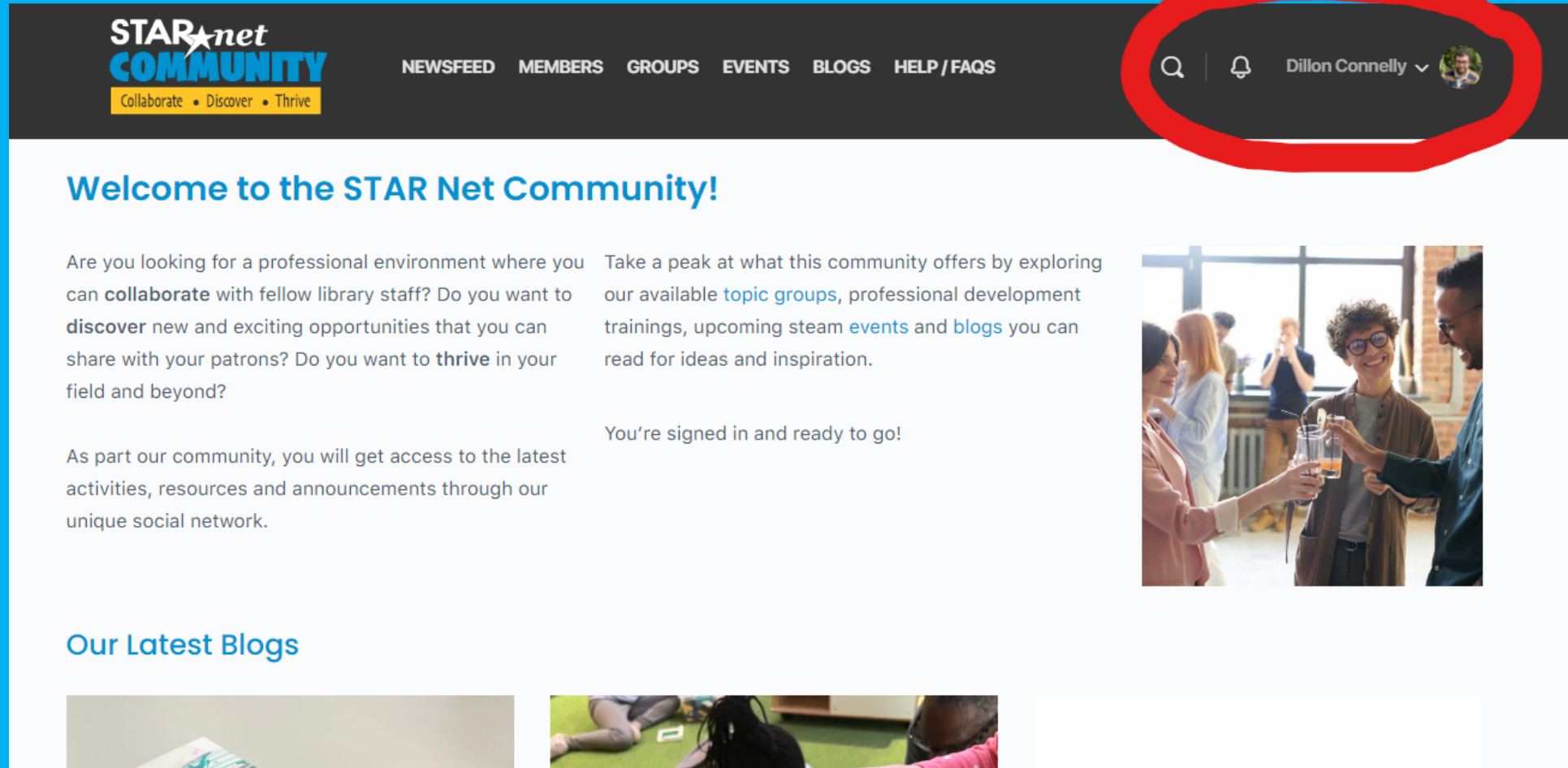
You're signed in and ready to go!



Our Latest Blogs




Finding and Navigating the SEAL Community Site



The screenshot shows the top navigation bar of the STAR Net Community website. The header is dark grey with the STAR Net Community logo on the left, which includes the tagline 'Collaborate • Discover • Thrive'. The navigation menu includes links for NEWSFEED, MEMBERS, GROUPS, EVENTS, BLOGS, and HELP / FAQs. On the right side of the header, there is a search icon, a notification bell, the user name 'Dillon Connelly' with a dropdown arrow, and a profile picture. This entire right-side area is circled in red. Below the header, the main content area is white. It features a large blue heading 'Welcome to the STAR Net Community!'. The text below the heading is split into two columns. The left column contains a paragraph about finding a professional environment and another paragraph about access to activities and resources. The right column contains a paragraph about exploring the community's offerings and a message 'You're signed in and ready to go!'. To the right of the text is a photograph of three people in a social setting, smiling and holding drinks. Below the main text is a section titled 'Our Latest Blogs' with three placeholder images for blog posts.

STAR^{net} COMMUNITY
Collaborate • Discover • Thrive

NEWSFEED MEMBERS GROUPS EVENTS BLOGS HELP / FAQs

🔍 🔔 Dillon Connelly ▾ 


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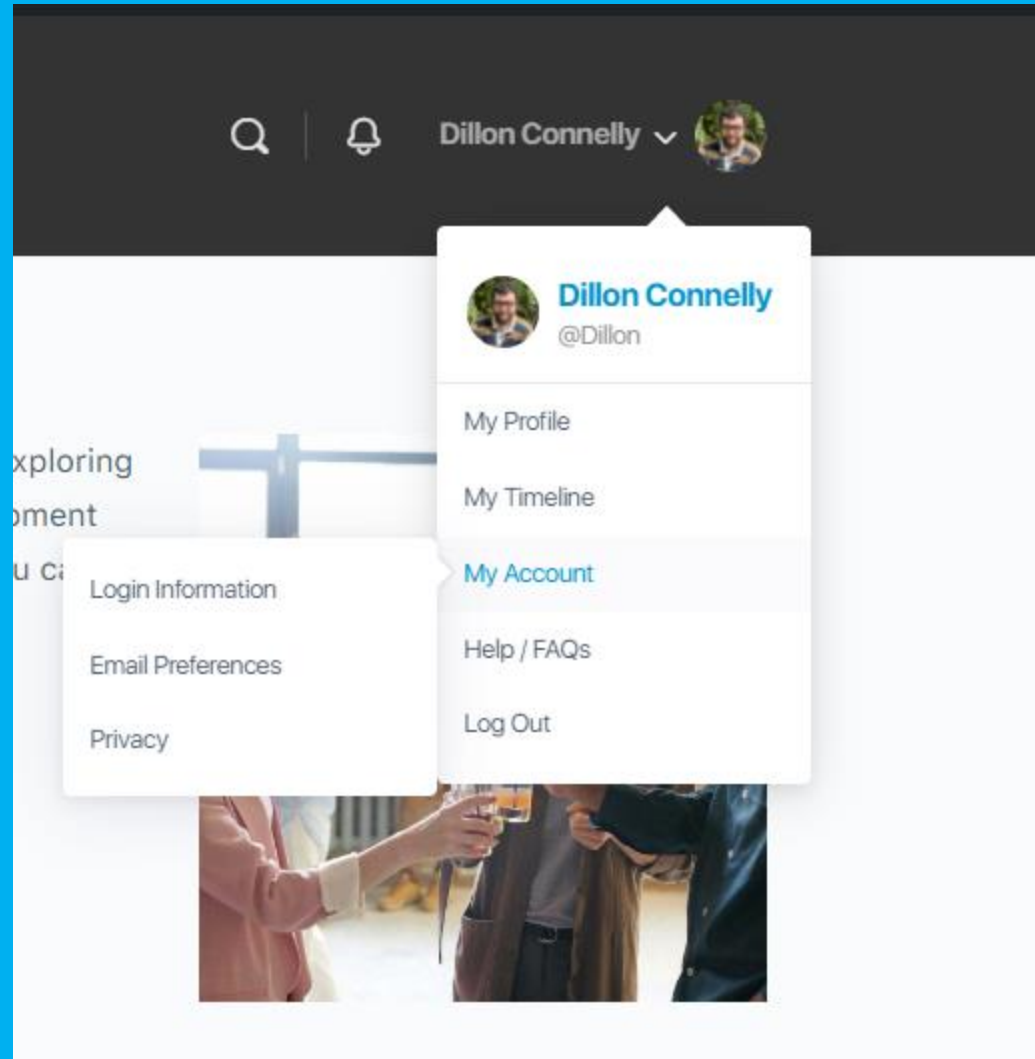
You're signed in and ready to go!



Our Latest Blogs



Finding and Navigating the SEAL Community Site



Finding and Navigating the SEAL Community Site

Account Settings

[View Profile](#)

- Login Information
- Notification Settings
- Privacy
- Blocked Members
- Group Invites
- Export Data

Login Information

Account Email

i Leave password fields blank for no change

Add Your New Password

Repeat Your New Password

[Save Changes](#)

Find List of SEAL Libraries



NEWSFEED

MEMBER

GROUPS

EVENTS

BLOGS

HELP / FAQs



Dillon Connelly



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Find List of SEAL Libraries

STARnet
COMMUNITY
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NEWSFEED

Groups

All Groups **7** My Groups **3** Create a Group

Solar Eclipse Activities for Libraries Community (SEAL)
Private

Moderator

Daily Digest Change

Find List of SEAL Libraries

The screenshot displays the STARnet Community website interface. At the top, the logo for STARnet Community is visible with the tagline 'Collaborate • Discover • Thrive'. Navigation links include NEWSFEED, MEMBERS, GROUPS, EVENTS, BLOGS, and HELP/FAQS. A search bar and a user profile for Dillon Connelly are also present.

The main banner features a map of the United States with a yellow circle and a white sun icon, overlaid with the text 'ANNULAR SOLAR ECLIPSE' and 'OCTOBER 14, 2023' on the left, and 'TOTAL SOLAR ECLIPSE' and 'APRIL 8, 2024' on the right.

The group page for 'Solar Eclipse Activities for Libraries Community (SEAL)' is shown. It includes a group profile picture of a cartoon character wearing orange glasses. The group is identified as a 'Group' and the user is a 'Moderator'. The page indicates that the user's email status is 'Daily Digest' and the group is 'Private' and 'Active 19 minutes ago'. A welcome message states: 'Welcome to Solar Eclipse Activities for Libraries (SEAL). This is your place to discuss and get ready to... View more'. The organizers are listed as three individuals.

Navigation tabs at the bottom of the group page include: Feed, Discussions, Members (2,925), Send Messages, Send Invites, Documents, Photos (10), Albums, Email Options, and Manage.

Below the navigation tabs is a text input field for sharing content with the group, accompanied by a camera icon and a share icon. On the right side, there is a section titled 'ALL COMMUNITY GROUPS' with tabs for 'Newest', 'Active', and 'Popular'. The 'Solar Eclipse Activities for Libraries Community' group is listed at the bottom of this section.

Find List of SEAL Libraries

STARnet COMMUNITY
Collaborate • Discover • Thrive

NEWSFEED MEMBERS **GROUPS** EVENTS BLOGS HELP/FAQS

SEARCH NOTIFICATIONS Dillon Connelly

ANNULAR SOLAR ECLIPSE OCTOBER 14, 2024

TOTAL SOLAR ECLIPSE APRIL 8, 2024

Solar Eclipse Activities for Libraries Community (SEAL)

Group Moderator

Your email status is
Daily Digest [Change](#)

Private • Active 19 minutes ago

Welcome to Solar Eclipse Activities for Libraries (SEAL). This is your place to discuss and get ready to... [View more](#)

Organizers:


Feed **Discussions** Members 2,925 Send Messages Send Invites Documents Photos 10 Albums Email Options Manage

Share something with the group...

ALL COMMUNITY GROUPS
Newest **Active** Popular







Solar Eclipse Activities for Libraries Community

Find List of SEAL Libraries


Organizers: 

Feed Discussions Members **2,925** Send Messages Send Invites Documents Photos **10** Albums

All Discussions [New discussion](#)


-  **Fall 2023 Webinars**
↳ Charessa Sistek replied 1 day, 2 hours ago · 3 Members · 2 Replies
-  **Participating Libraries Map and Spreadsheet**
↳ Lisa Kelly replied 3 months ago · 7 Members · 12 Replies
-  **A Public Access TV Webinar and Some Written Eclipse Resources**
↳ Andrew Fraknoi replied 1 week, 6 days ago · 1 Member · 0 Replies
-  **Best Practices for Distribution**
↳ Andrew Fraknoi replied 3 weeks, 1 day ago · 3 Members · 2 Replies
-  **When the Sun Goes Dark Children's Book**
↳ Dennis Schatz replied 1 month, 1 week ago · 1 Member · 0 Replies
-  **A Nontechnical Talk about the Upcoming Eclipses for You or Your Patrons**


Find List of SEAL Libraries


Organizers: 


Feed Discussions Members **2,925** Send Messages Send Invites Documents Photos **10** Albums


All Discussions [New discussion](#)


 **Fall 2023 Webinars**
↳ Charessa Sistik replied 1 day, 2 hours ago · 5 Members · 2 Replies

 **Participating Libraries Map and Spreadsheet**
↳ Lisa Kelly replied 3 months ago · 7 Members · 12 Replies


 **A Fall 2023 Webinar on the Upcoming Eclipses Resources**
↳ Andrew Fraknoi replied 1 week, 6 days ago · 1 Member · 0 Replies

 **Best Practices for Distribution**
↳ Andrew Fraknoi replied 3 weeks, 1 day ago · 3 Members · 2 Replies

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Find List of SEAL Libraries



Collaborate • Discover • Thrive

NEWSFEED MEMBERS **GROUPS** EVENTS BLOGS HELP / FAQs

Participating Libraries Map and Spreadsheet

Posted by Evaldas Vidugiris on January 23, 2023 at 1:10 pm

This link directs you to the map of all registered libraries. This map contains ALL LIBRARY CONTACT INFORMATION. DO NOT SHARE OUTSIDE THIS GROUP:






<https://www.scigames.org/eclipse/map/?showcontacts=true>

(Don't worry if you don't see your library yet, we're still adding!).

You are welcome to share the below link outside this group to highlight your participation in this nationwide effort!

<https://www.scigames.org/eclipse/map/>


Excel version of participating library list.

This discussion was modified 5 months, 2 weeks ago by  Evaldas Vidugiris.
This discussion was modified 5 months, 2 weeks ago by  Evaldas Vidugiris.
This discussion was modified 3 months, 3 weeks ago by  Anne Holland.
This discussion was modified 1 month, 2 weeks ago by  Anne Holland.
This discussion was modified 30 minutes ago by  Dillon Connelly. Reason: Changed title to be clearer for eclipse experts

SCIGAMES.ORG

Eclipse Library Map

Eclipse Library Map

 **Full-Library-List-updated-July-2nd_Table.xlsx**

305 kb Excel Spreadsheet

Lisa Kelly replied 3 months ago · 7 Members · 12 Replies

Reply

Subscribe

Favorite


Start of Discussion

1 of 12 replies

February 2023

Now

Find List of SEAL Libraries



Collaborate • Discover • Thrive

[NEWSFEED](#) [MEMBERS](#) [GROUPS](#) [EVENTS](#) [BLOGS](#) [HELP / FAQs](#)

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SCIGAMES.ORG

[Eclipse Library Map](#)

Eclipse Library Map

 [Full-Library-List-updated-July-2nd_Table.xlsx](#)
305 kb Excel Spreadsheet

1 of 12 replies 3 months ago · 7 Members · 12 Replies

Reply

Subscribe

Favorite

Start of Discussion

1 of 12 replies
February 2023

Now

Find List of SEAL Libraries

AutoSave Off Full-Library-List-updated-July-2nd_Table + Saved to this PC Search

File Home Insert Draw Page Layout Formulas Data Review View Automate Help Table Design

Clipboard Font Alignment Number Conditional Formatting Format as Table

A1 Library

	A	B	C	D	E	F
1	Library	Contact Name	Email	City	State	Zip
2	Kenai Community Library	Elizabeth Druay Kleweno	ekleweno@kenai.city	Kenai	AK	99611
3	Anchorage Public Library	Samantha Blanquart	samantha.blanquart@anchorageal	Anchorage	AK	99503
4	Seward Community Library & Museum	Bailey Saylor	bsaylor@cityofseward.net	Seward	AK	99664
5	Skagway Public Library	Rachel Dewan	r.dewan@skagway.org	Skagway	AK	99840
6	Innoko River School and Tribal Library	Joyanne Hamilton	innoko_bird@mac.com	SHAGELUK	AK	99665
7	Kuskokwim Consortium Library	Theresa Quiner	tquiner@alaska.edu	Bethel	AK	99559
8	Valdez Consortium Library	Molly Walker	mwalker@valdezak.gov	Valdez	AK	99686
9	Big Lake Public Library	Cassidy Drake	biglake.library@matsugov.us	Wasilla	AK	99623
10	Talkeetna Public Library	Geraldine Denkwalter	Talkeetna.library@matsugov.us	Talkeetna	AK	99676
11	Trapper Creek Public Library	Marita Crosby	marita.crosby@matsugov.us	Trapper Creek	AK	99683
12	Birmingham Public Library	Heather McWilliams	heather.mcwilliams@cobpl.org	Birmingham	AL	35203
13	Gadsden Public Library	Rachel Cole	rcole@gadsdenlibrary.org	Gadsden	AL	35901
14	Lineville City Library	catherine memmolo	linevillelibrary@gmail.com	Lineville	AL	36266
15	Scottsboro Public Library	Jared Dovers	director@scottsborolibrary.org	Scottsboro	AL	35768
16	Dothan Houston County Library System	Ashley Bynum	abynum@dhcls.org	Dothan	AL	36303
17	Arab Public Library	Tanya Alexander	library@arabcity.org	Arab	AL	35016
18	Abbeville Memorial Library	Paul McNamara	librarian.abbeville.library@gmail.c	Abbeville	AL	6310-2418
19	Cosby	Alyssa	publicw@bellsouth.net	Woodville	AL	35776
20	Center Point Public Library	Cara Wilhelm	cara.wilhelm@centerpointlibrary.o	Center Point	AL	35215
21	Ashland City Library	Bethany	ashlibrary4u@gmail.com	Ashland	AL	36251
22	Oxford Public Library	Amy Henderson	amy.henderson@oxfordal.gov	Oxford	AL	36203
23	Mobile Public Library	Emmie Powell	epowell@mplonline.org	Mobile	AL	36609
24	Huntsville Madison County Public Library	Jessica Lister	jliester@hmcpl.org	Huntsville	AL	35801
25	NEWBERN PUBLIC LIBRARY	BARBARA WILLIAMS	NEWBERNLIBRARYINC@GMAIL.COM	NEWBERN	AL	36765
26	Carl Elliott Regional Library	Stephen Underwood	sunderwood@carlelliottlibrary.org	Jasper	AL	35501
27	Colbert County High School Library	Elisea R. Hatton Smith	rsmith@colbert.k12.al.us	Leighton	AL	35646
28	Homewood Public Library	Cristina Castor	cristina.castor@homewoodpublicli	Birmingham	AL	35209
29	Cedarville Public Library	Michele Belk	mbelk@crawfordcountylib.org	Cedarville	AR	72932
30	Pope County Library System	Tammy Montjoy	tmontjoy@popelibrary.org	Russellville	AR	72801
31	Gentry Public Library	Linda Crume	lcrume@gentrylibrary.us	Gentry	AR	72734
32	Gravette Public Library	Karen Benson	kbenson@gravettear.com	Gravette	AR	72736
33	Fayetteville Public Library	Willow Fitzgibbon	wfitzgibbon@faylib.org	Fayetteville Publ	AR	72701
34	Arkansas River Valley Regional Library System	Misty Hawkins	arvrls.director@gmail.com ; <a href="mailto:directo</td> <td>DARDANELLE</td> <td>AR</td> <td>72834</td> </tr> <tr> <td>35</td> <td>Gattis Logan County Library</td> <td>Amber Mikles</td> <td>gattislogancntylib@gmail.com	Paris	AR	72855
36	Charleston Public Library	Hannah Gillean	chpublibrary.mgr@gmail.com	Charleston	AR	72933

Find List of SEAL Libraries

	A	B	C	D	E	F
1	Library	Contact Name	Email	City	State	Zip
2	Kenai Community Library	Elizabeth Druay Kleweno	ekleweno@kenai.city			99611
3	Anchorage Public Library	Samantha Blanquart	samantha.blanquart@			99503
4	Seward Community Library & Museum	Bailey Saylor	bsaylor@cityofsewar			99664
5	Skagway Public Library	Rachel Dewan	r.dewan@skagway.o			99840
6	Innoko River School and Tribal Library	Joyanne Hamilton	innoko_bird@mac.co			99665
7	Kuskokwim Consortium Library	Theresa Quiner	tquiner@alaska.edu			99559
8	Valdez Consortium Library	Molly Walker	mwalker@valdezak.g			99686
9	Big Lake Public Library	Cassidy Drake	biglake.library@mats			99623
10	Talkeetna Public Library	Geraldine Denkwalter	Talkeetna.library@m			99676
11	Trapper Creek Public Library	Marita Crosby	marita.crosby@mats			99683
12	Birmingham Public Library	Heather McWilliams	heather.mcwilliams@			35203
13	Gadsden Public Library	Rachel Cole	rcole@gadsdenlibrary			35901
14	Lineville City Library	catherine memmolo	linevillelibrary@gma			36266
15	Scottsboro Public Library	Jared Dovers	director@scottsborol			35768
16	Dothan Houston County Library System	Ashley Bynum	abynum@dhcls.org			36303
17	Arab Public Library	Tanya Alexander	library@arabcity.org			35016
18	Abbeville Memorial Library	Paul McNamara	librarian.abbeville.lib			6310-2418
19	Cosby	Alyssa	publicw@bellsouth.n			35776
20	Center Point Public Library	Cara Wilhelm	cara.wilhelm@center			35215
21	Ashland City Library	Bethany	ashlibrary4u@gmail.			36251
22	Oxford Public Library	Amy Henderson	amy.henderson@oxf			36203
23	Mobile Public Library	Emmie Powell	epowell@mplonline.org	Mobile	AL	36609
24	Huntsville Madison County Public Library	Jessica Lister	jlister@hmcpl.org	Huntsville	AL	35801
25	NEWBERN PUBLIC LIBRARY	BARBARA WILLIAMS	NEWBERNLIBRARYINC@GMAIL.COM	NEWBERN	AL	36765
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27	Colbert County High School Library	Elisea R. Hatton Smith	rsmith@colbert.k12.al.us	Leighton	AL	35646
28	Homewood Public Library	Cristina Castor	cristina.castor@homewoodpublicli	Birmingham	AL	35209
29	Cedarville Public Library	Michele Belk	mbelk@crawfordcountylib.org	Cedarville	AR	72932
30	Pope County Library System	Tammy Montjoy	tmontjoy@popelibrary.org	Russellville	AR	72801
31	Gentry Public Library	Linda Crume	lcrume@gentrylibrary.us	Gentry	AR	72734
32	Gravette Public Library	Karen Benson	kbenson@gravettear.com	Gravette	AR	72736
33	Fayetteville Public Library	Willow Fitzgibbon	wfitzgibbon@faylib.org	Fayetteville Publ	AR	72701
34	Arkansas River Valley Regional Library System	Misty Hawkins	arvrls.director@gmail.com; directo	DARDANELLE	AR	72834
35	Gattis Logan County Library	Amber Mikles	gattislogancntylib@gmail.com	Paris	AR	72855
36	Charleston Public Library	Hannah Gillean	chpubliclibrary.mgr@gmail.com	Charleston	AR	72933

Find List of SEAL Libraries

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Contact Name	Email	City	State	Zip	G	H	I
Elizabeth Druay Kleweno	ekleweno@kenai.city			99611			
Samantha Blanquart	samantha.blanquart@			99503			
Bailey Saylor	bsaylor@cityofsewar			99664			
Rachel Dewan	r.dewan@skagway.o			99840			
Joyanne Hamilton	innoko_bird@mac.co			99665			
Theresa Quiner	tquiner@alaska.edu			99559			
Molly Walker	mwalker@valdezak.g			99686			
Cassidy Drake	biglake.library@mats			99623			
Geraldine Denkwalter	Talkeetna.library@m			99676			
Marita Crosby	marita.crosby@mats			99683			
Heather McWilliams	heather.mcwilliams@			35203			
Rachel Cole	rcole@gadsdenlibrary			35901			
catherine memmolo	linevillelibrary@gma			36266			
Jared Dovers	director@scottsboro			35768			
Ashley Bynum	abynum@dhcls.org			36303			
Tanya Alexander	library@arabcity.org			35016			
Paul McNamara	librarian.abbeville.lib			6310-2418			
Alyssa	publicw@bellsouth.n			35776			
Cara Wilhelm	cara.wilhelm@center			35215			
Bethany	ashlibrary4u@gmail.			36251			
Amy Henderson	amy.henderson@oxf			36203			
Emmie Powell	epowell@mplonline.org	Mobile	AL	36609			
Jessica Lister	jlister@hmcpl.org	Huntsville	AL	35801			
BARBARA WILLIAMS	NEWBERNLIBRARYINC@GMAIL.COM	NEWBERN	AL	36765			
Stephen Underwood	sunderwood@carlelliottlibrary.org	Jasper	AL	35501			
Elisea R. Hatton Smith	rsmith@colbert.k12.al.us	Leighton	AL	35646			
Cristina Castor	cristina.castor@homewoodpublicli	Birmingham	AL	35209			

Find List of SEAL Libraries

	A	B	C	D	E	F
1	Library	Contact Name	Email	City	State	Zip
61	Maricopa Library and Cultural Center	Doug Fortunato	douglas.fortunato@maricopa-az.gov	Maricopa	AZ	85138
62	Yuma County Library District	Lisa Mendez	lisa.mendez@yumalibrary.org	Yuma	AZ	85364
63	Safford City - Graham County Library	Lesley Talley	ltalley@saffordaz.gov	Safford	AZ	85546
64	Tempe Public Library	Laurel Plapp	laurel_plapp@tempe.gov	Tempe	AZ	85282
65	Prescott Valley Public Library	Michele Hjorting	mhjorting@prescottvalley-az.gov	Prescott Valley	AZ	86314
66	Litchfield Park Library	Janelle Yoder	JanelleYoder@mclnaz.org	Litchfield Park	AZ	85340
67	Coolidge Public	Danielle Duran	danielle.duran@pinal.gov	Coolidge	AZ	85128
68	GateWay Community College Library	Betty Murphy	betty.murphy@gatewaycc.edu	Phoenix	AZ	85035
69	Apache Junction Public Library	Stephanie Greene	sgreene@apachejunctionaz.gov	Apache Junction	AZ	85119
70	Page Public Library	Debbie Winlock	dwinlock@pageaz.gov	Page	AZ	86040
71	Greenlee County Library System	Karen Soohy	ksoohy@greenlee.az.gov	Duncan	AZ	85534
72	The Copper Queen Library	Alison E. Williams	awilliams@bisbeeaz.gov	Bisbee	AZ	85603
73	Huachuca City Library	Stephanie Fulton	Sfulton@huachucacityaz.gov	Huachuca City	AZ	85616
74	White Tank Branch	Hanna Bozhko	hannabozhko@mclnaz.org	Waddell	AZ	85395
75	Cottonwood Public Library	Danielle Ave	dave@cottonwoodaz.gov	COTTONWOOD	AZ	86326
76	Douglas Public Library	Margaret White	margaret.white@douglasaz.gov	Douglas	AZ	85607
77	Camp Verde Community Library	Zack Garcia	zachary.garcia@campverde.az.gov	Camp Verde	AZ	86322
78	Mohave County Library	Wendy Wagner	wagnew@mohave.gov	Kingman	AZ	86409
79	Nogales Santa Cruz County Public Library	Denisse Ortega	dortega@nogalesaz.gov	Nogales	AZ	85621
80	Superior Public Library	Tony Solis	tony.solis@pinal.gov	Superior	AZ	85173
81	Pima County Public Library	Kendra Davey	kendra.davey@pima.gov	Tucson	AZ	85701
82	Eloy Santa Cruz Library	Vivianna Flores	vivianna.flores@pinal.gov	ELOY	AZ	85131
83	Colorado City Unified School District	Kelsey Speaks	mskelsey@ccschools.us	Colorado City	AZ	86021
84	Peoria Public Library - Main	Jenni Gordon	jgordon@peoriaaz.com	Peoria	AZ	85345
85	Winslow Public Library	Brandee Leary	bleary@winslowaz.gov	Winslow	AZ	86047
86	Northwest Regional Library	Dianna Manasse	diannamanasse@mclnaz.org	Surprise	AZ	85024
87	Maricopa County Library District	Jolene Bradley	servicesteam@mclnaz.org	Sun Lakes	AZ	85248
88	Maricopa County Library District (They're a du	Jolene Bradley	jolenebradley@mclnaz.org	Sun Lakes	AZ	85248
89	Phoenix Public Library	Wendy Resnik	wendy.resnik@phoenix.gov	Phoenix	AZ	85004
90	Payson Public Library	Sianee Hawkins	shawkins@paysonaz.gov	Payson	AZ	85541
91	Florence Community Library	Lisa Lewis	Lisa.Lewis@florenceaz.gov	Florence	AZ	85132
92	Beaver Creek Library	Elizabeth Franklin	beth.franklin@yavapaiaz.gov	Rimrock	AZ	86335
93	Globe Public Library	Rayel Starling	globepubliclibraryrs@gmail.com	Globe	AZ	85501
94	Chino Valley Public Library	Rebecca Laurence	rlaurence@chinoaz.net	Chino Valley	AZ	86323
95	Sedona Public Library	Jan Marc Quisumbing	janmarc@sedonalibrary.org	Sedona	AZ	86336

More Solar Eclipse Resources

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Eclipse

Guides, Resources, and More

Two Beautiful Eclipses Coming to North America!

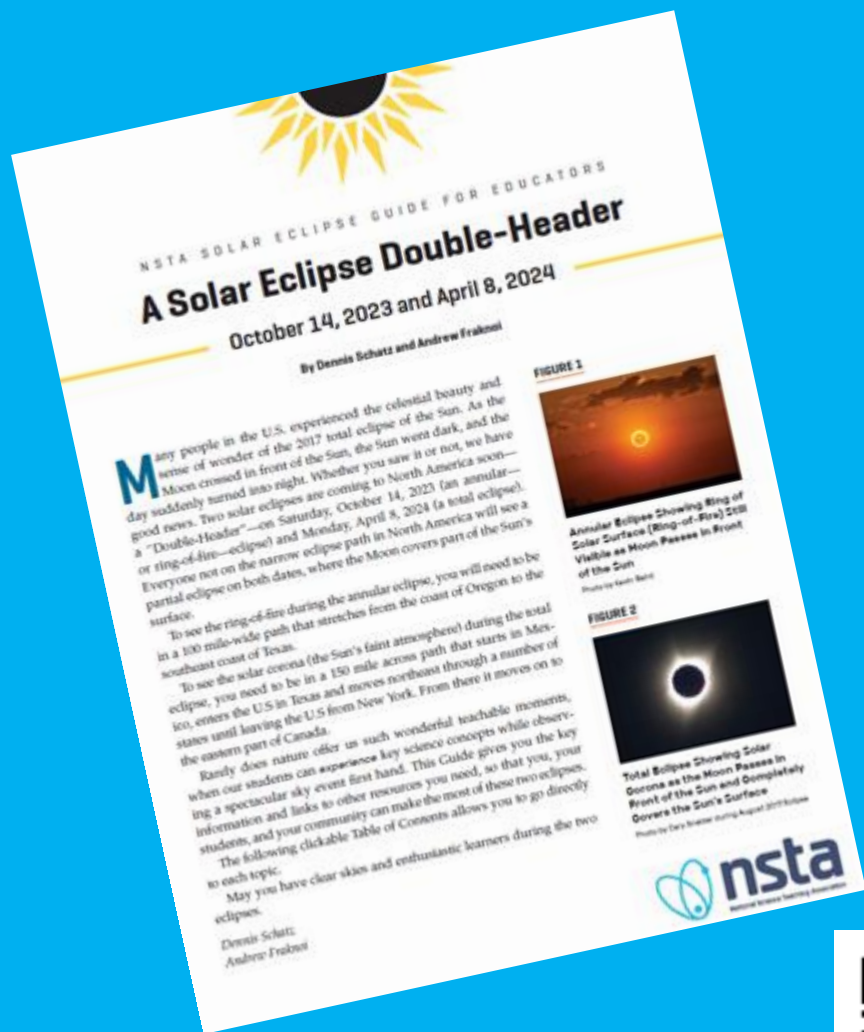
An Annular Eclipse in 2023 and a Total Eclipse in 2024

Kick-start your planning for the upcoming eclipse events. Solar Eclipses are exciting astronomical events that can provide a great opportunity for teachers and students to learn about the science of astronomy and explore the beauty of the natural world. Check out the following collection of resources and teaching materials to use in the classroom.

<https://www.nsta.org/eclipse>



Educator and Administrator Guides



NSTA SOLAR ECLIPSE GUIDE FOR EDUCATORS
A Solar Eclipse Double-Header
October 14, 2023 and April 8, 2024
By Dennis Schatz and Andrew Fraknoi

Many people in the U.S. experienced the celestial beauty and sense of wonder of the 2017 total eclipse of the Sun. As the Moon crossed in front of the Sun, the Sun went dark, and the day suddenly turned into night. Whether you saw it or not, we have good news. Two solar eclipses are coming to North America soon—a “Double-Header”—on Saturday, October 14, 2023 (an annular—or ring-of-fire—eclipse) and Monday, April 8, 2024 (a total eclipse). Everyone not on the narrow eclipse path in North America will see a partial eclipse on both dates, where the Moon covers part of the Sun’s surface.

To see the ring-of-fire during the annular eclipse, you will need to be in a 100-mile-wide path that stretches from the coast of Oregon to the southeast coast of Texas.

To see the solar corona (the Sun’s faint atmosphere) during the total eclipse, you need to be in a 150-mile across path that starts in Mexico, enters the U.S. in Texas and moves northeast through a number of states until leaving the U.S. from New York. From there it moves on to the eastern part of Canada.

Rarely does nature offer us such wonderful teachable moments, when our students can experience key science concepts while observing a spectacular sky event first hand. This Guide gives you the key information and links to other resources you need, so that you, your students, and your community can make the most of these two eclipses. The following clickable Table of Contents allows you to go directly to each topic.

May you have clear skies and enthusiastic learners during the two eclipses.

Dennis Schatz
Andrew Fraknoi

FIGURE 1
Annular Eclipse Showing Ring of Solar Surface (Ring-of-Fire) Still Visible as Moon Passes in Front of the Sun
Photo by Keith Berk

FIGURE 2
Total Eclipse Showing Solar Corona as the Moon Passes in Front of the Sun and Completely Covers the Sun’s Surface
Photo by Gary Brainer during August 2017 Eclipse

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American Astronomical Society
Annular solar eclipse
October 14, 2023
Total solar eclipse
April 8, 2024

Solar Eclipse Double-Header
in October 2023 and April 2024
What School Administrators and Other
Education Leaders Need to Know

Many people in the U.S. experienced the beauty and sense of wonder of the 2017 total solar eclipse—when the Moon crossed in front of the Sun. The Sun went dark, and the day turned into night. Now is the time to prepare for the next solar eclipses in North America—a “Double-Header” on Saturday, October 14, 2023 (an annular—or ring-of-fire—eclipse) and Monday, April 8, 2024 (a total eclipse). Rarely does nature offer us such clear teachable moments, when our students can experience key science concepts while observing a spectacular celestial event first hand.

In 2017, many administrators were unprepared when their science teachers asked to take students outside to view the eclipse. So, for the upcoming eclipses, we’ve prepared this document to give you the background you need to help your teachers make the two eclipses an unforgettable learning experience.

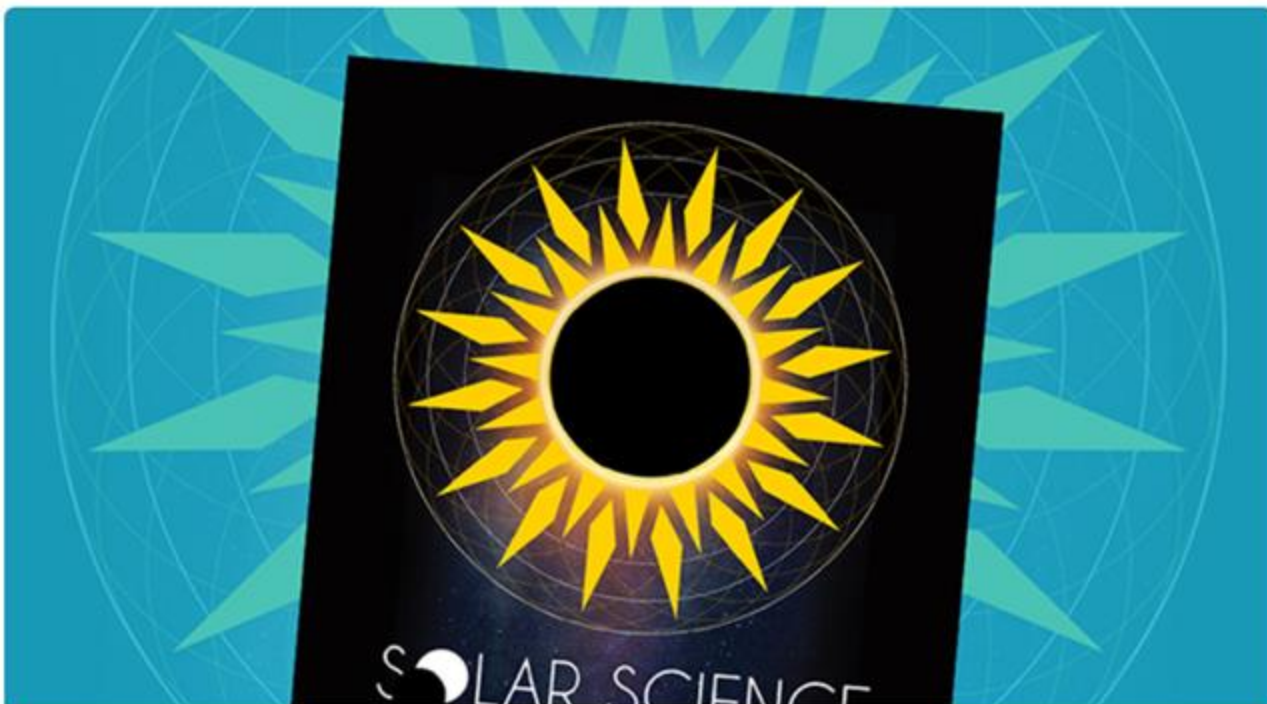
FIGURE 1
Annular eclipse showing ring of solar surface (ring-of-fire) still visible as Moon passes in front of the Sun
Photo by Keith Berk

FIGURE 2
Total eclipse showing solar corona as the Moon passes in front of the Sun and completely covers the Sun’s surface
Photo by Gary Brainer during August 2017 Eclipse

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NSTA Press books



Solar Science: Exploring Sunspots, Seasons, Eclipses, and More

by: Dennis Schatz and Andrew Fraknoi



When The Sun Goes Dark

by: Andrew Fraknoi and Dennis Schatz

 Help

<https://www.nsta.org/eclipse>



WHEN THE SUN GOES DARK

Andrew Fraknoi
Dennis Schatz

**NSTA Kids**
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[http://bit.ly/
sungoesdark](http://bit.ly/sungoesdark)



Now Grandma told us to move the balls around our heads a little bit at a time, going from right to left. As I slowly took the ball around, the side facing me started getting lit up a bit by the lamp's light.

Grandma told us to stop moving the tennis balls for a minute, then said, "That's what happens to the Moon. As it goes around the Earth, we see different amounts of sunlight reflecting off its surface."

As I moved the tennis ball Moon farther around my head, the ball showed more and more light. When the ball was on the opposite side of my head from the lamp, I held it high and could see it all lit up.

"What do we call it when the lit-up side of the Moon is facing the Earth?" Grandma asked.

Sammy didn't know, but after I thought about it for a minute, I thought I knew. "Is that a full Moon?" I asked.

Grandma gave me a thumbs-up, but out of a corner of my eye, I could see Sammy sticking his tongue out at me. He didn't like it when I got an answer faster than he did. But it's not my fault I'm older.

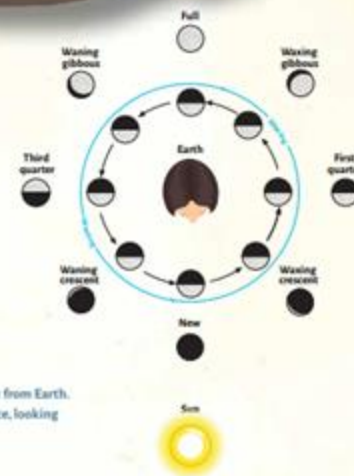
Grandma told us that the time it took for the Moon to go from new Moon to full Moon and back to new Moon is close to what we call a month. I was used to connecting months to events on Earth, like vacations, but I thought it was OK for months to be connected to something in space, too.

We moved the balls around our heads and saw different portions of the Moon lit up in different

locations. In two places, the Moon was half lit up and half dark; in other places, we just saw a sliver of light, which Grandma called a *crescent Moon*.

After Sammy and I had explored for a while, Grandma said, "The different portions of the Moon lit up by reflected sunlight are called the *phases of the Moon*."

That was a good new word to know, but even after Sammy and I had taken the tennis ball Moon around the Earth about five times, I still wasn't sure how this was connected to eclipses.



RIGHT: The outer circle of Moon diagrams shows what is visible in the sky from Earth. The inner circle of Moon diagrams shows what would be visible from space, looking down from above the Earth-Moon system.

How Can You Plan to Support
Libraries & Other Community Groups?

***Write Your Ideas
in the Chat Window***

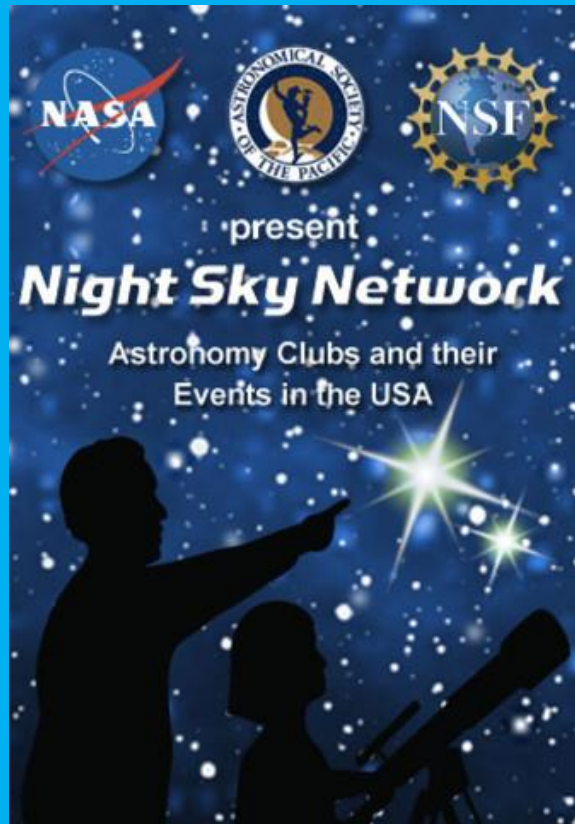
Strategies to Support Libraries We Saw in 2017

1. Give a public eclipse talk at the library or community center
2. Help librarians set up eclipse activity tables for families
3. Provide safe solar observing opportunities
(perhaps with help from local amateurs)
4. Do a training workshop for library staff
5. Hold eclipse office hours on Zoom to answer questions

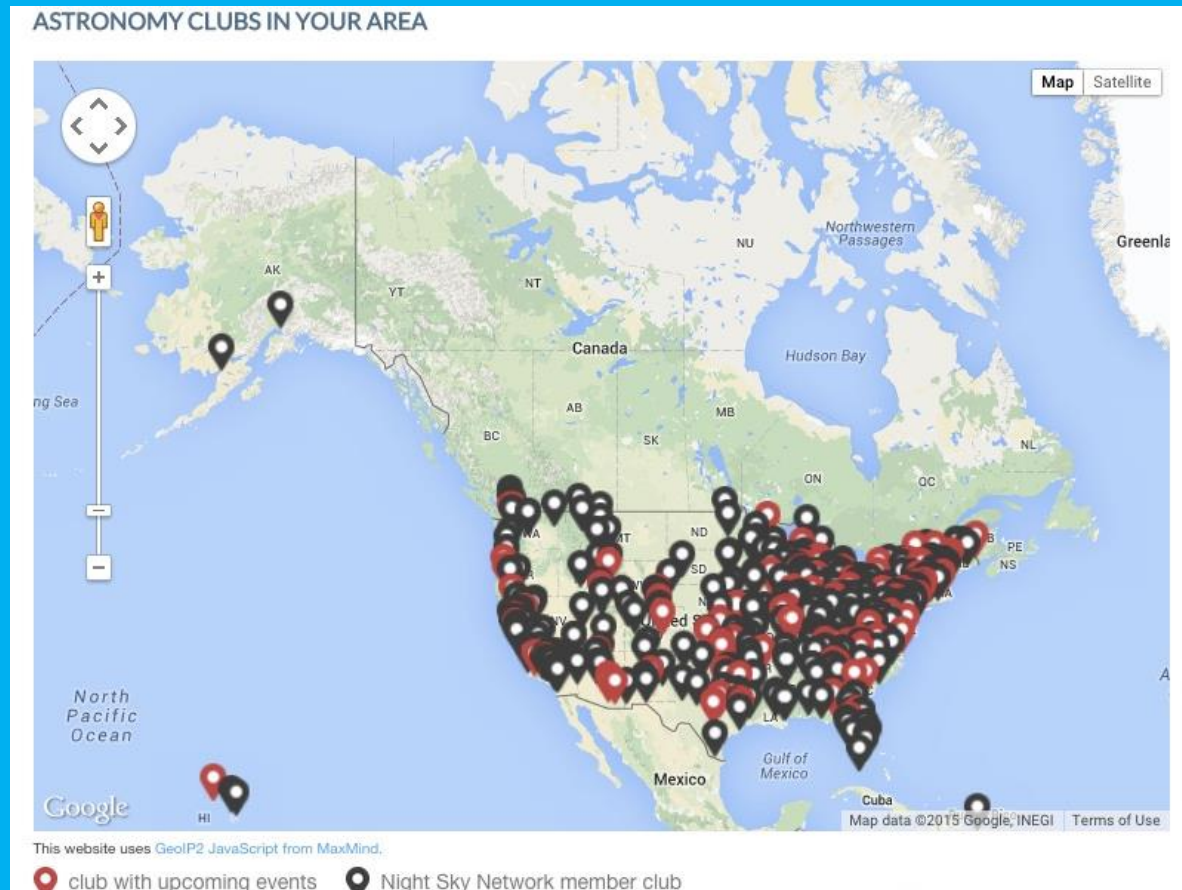


**WHO CAN
HELP YOU?**

HELP



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





astroleague.org

Over 240 clubs
around the US

**If you are an amateur astronomer,
check to see what astronomy instructors
at your local community college, or
4-year college or university
are doing for the eclipse**



What Would You Like Covered in Future
Webinars?

***Please Write Your Requests in the Chat
Window***

Time For Questions



What's Next in the Program?

- Explore the SEAL Community Page
- Communicate with Librarians and other Experts on the SEAL Community Page
- Contact Libraries You Wish to Partner With
- Stay Tuned for Upcoming Solar Eclipse Expert Webinars

**Thank You Again for Being Willing to Support
Libraries to Make the Most of the Upcoming
Solar Eclipse Double-Header**

HAVE
A
SWEET
TIME
PLANNING
FOR
THESE
SKY
SPECTACLES

