

# iClips - for the Solar Eclipse 2017

Results of a survey of planetarians for content, length, and format of solar eclipse animations

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## Abstract

We ran an open “Survey Monkey” survey to see what is needed by the community for a series of fulldome animations describing solar (and lunar) eclipses. The community overwhelmingly approved the effort, and is eager to receive the clips as they are being created. Of 147 respondents, 123 were “very positive”, with only two negative responses. At the end, the respondents were asked to put in their email address if they wanted to receive more information and/or the finished clips, and 131 did so. Preliminary versions of some of the clips have now been generated and are available for download at <http://space.rice.edu/eclipse/>. An email server to disseminate eclipse information to teachers, informal educators and the public has been set up at <http://eepurl.com/cv68Qj>.

## Survey

The survey was run using the “survey monkey” platform. Respondents were solicited from various planetarium user lists, including the Yahoo groups “fulldome” and “small-planetarium” and the Rice “spacemus” and “Fulldome Users Network”. Here are the survey questions and the results:

Q1 measured interest in the project:

Very positive: 85.42%

Positive 11.81%

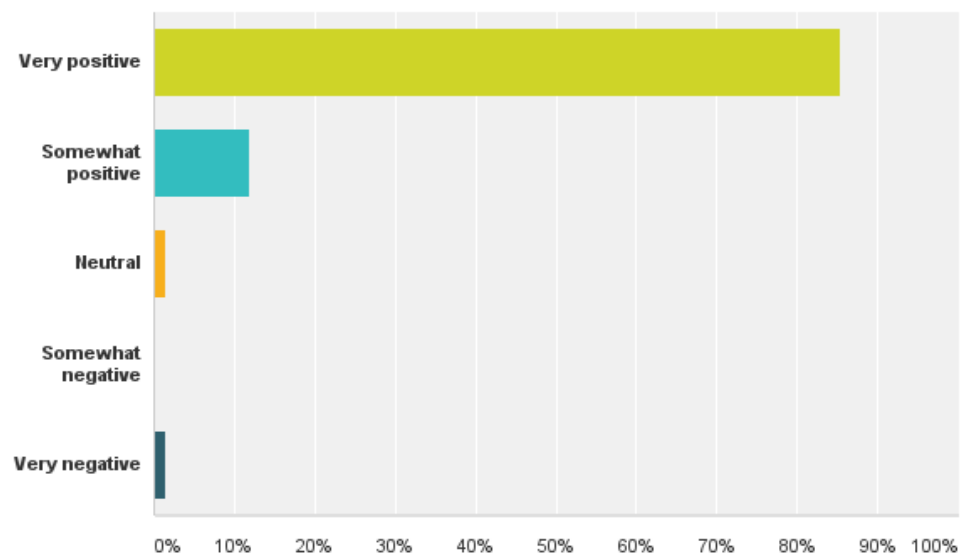
Neutral 1.39%

Negative 0

Very negative 1.39%

**Q1 Would you be interested in showing a 5-6 minute fulldome piece on the upcoming solar eclipse? This can be used as a filler between shows, or in public outreach events.**

Answered: 144 Skipped: 3



Q2 measured desired length (more than one answer allowed):

7 minutes or more: 58.9%

6 minutes 37.67%

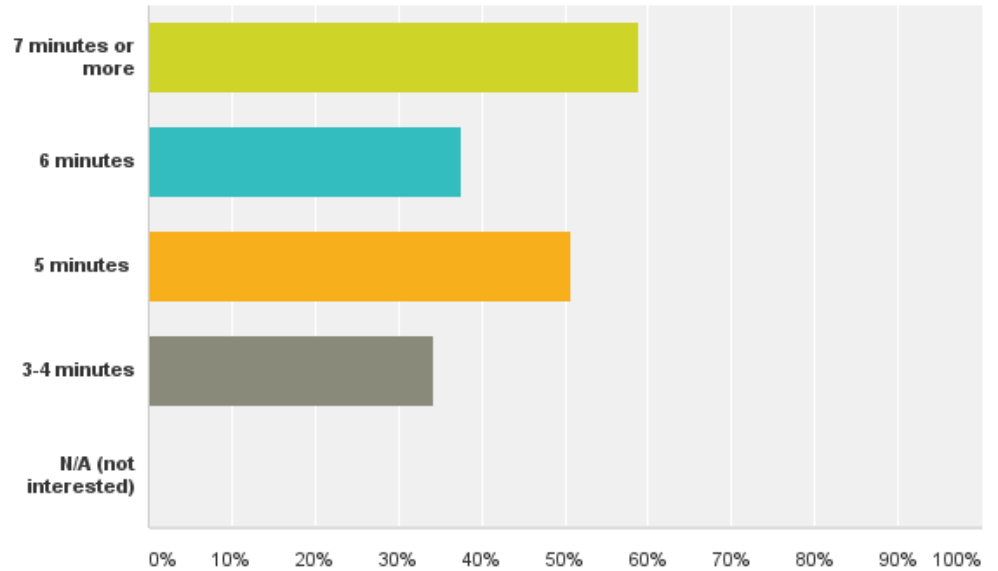
5 minutes 50.68%

3-4 Minutes 34.25%

Not interested 0%

### Q2 How long ideally should this piece be? Which length shows can you use? (check as many as you wish)

Answered: 146 Skipped: 1



Q3 asked what format was needed:

Fisheye movie: 58.5

Fisheye frames 40.1%

Prewarped movie 26.5%

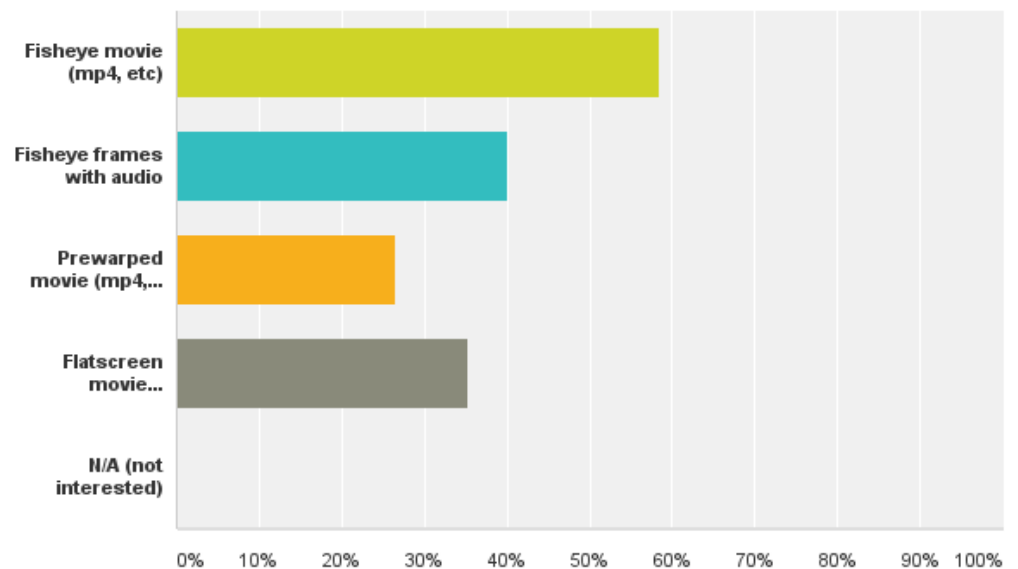
Flatscreen 35.4%

Not interested 0%

(note none skipped)

### Q3 What format would you be interested in? (answer as many as you like)

Answered: 147 Skipped: 0



**Q4** asked for **topics** we should cover, on a five-point scale:

5 = Yes, definitely include  
4 = Yes, include if you have room  
3 = Not sure  
2 = Probably do not include  
1 = Definitely do not include

**Results:**

Solar eclipse geometry: 4.66

Path of totality: 4.71

Safe Observing techniques: 4.62

Solar versus Lunar Eclipses 4.21

Corona at solar max versus solar min 3.79

Umbra versus penumbra 4.01

When/where the next US total eclipse 4.15

When/where the next world total eclipse 4.15

History and Culture 4.19

**Additional Topic Suggestions:**

(51 respondents added suggestions)  
(selected responses below)

What to observe during the eclipse: Diamond ring, Bailey's beads, Solar prominences, shadow bands, approach of the shadow...

Famous total solar eclipses of the past (perhaps this is "history and culture")

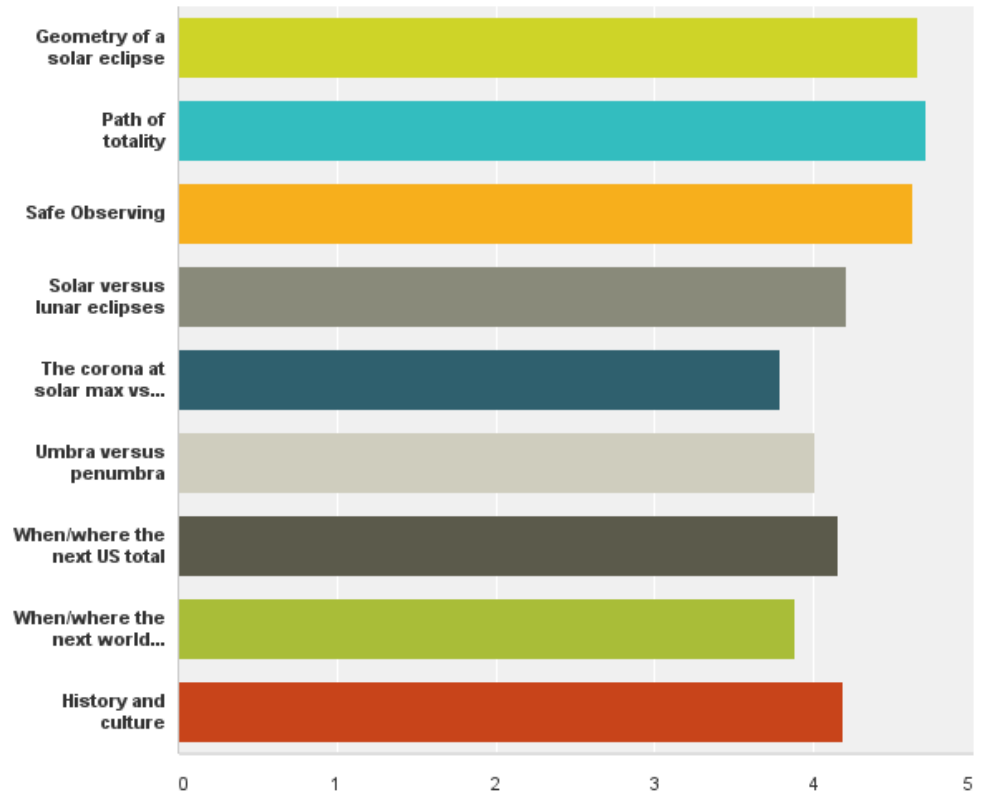
Rarity of a TSE from any one place - average of once every four centuries

Keep it simple, not technical. Audience is non-scientific.

I would suggest that in order to make this timeless you create a nice usable piece about

**Q4 Which topics should we include in the piece? (please rate each one)**

Answered: 145 Skipped: 2



solar eclipses that ignores the fact one is coming up. That way I can include this in shows/lessons about Eclipses without it feeling dated.

Why you should get yourself to the path of totality.

The path of the 2024 Total Eclipse in the US

Looks good!

Anything educational & informative but presented in an exciting, easy to understand format for the public but also for school students. (middle of the road)

Weather forecast for the 2017 eclipse

Why solar (lunar) eclipses don't happen every month.

Hands-on activities, such as the Moon ball activity done properly and professionally highlighting eclipses, both in the video and as an addition for live shows. Transcripts and closed captioning options as well. One of my favorite eclipse videos of all time for reference: <https://www.youtube.com/watch?v=kgbK2FZFFdw>

I think the range of topics offered is excellent.

The environmental effects during an eclipse - twilight around the horizon, temperature change, wildlife, planets become visible, etc.

I need Italian languages if possible, or only music.

The frames showing the path of the shadow moving across Earth in "Earth's Wild Ride" are excellent.

Shadow bands because of rarity

DISPEL MISCONCEPTIONS - Some people believe in "urban legends" like invisible "eclipse rays" that can blind even during a lunar eclipse.

It would be nice if there were both full-length movie version and modularized version (in 5sec-30sec modules) for use with live presentations.

Effect on Earth i.e. temperature during eclipse Effect on observers i.e. how your eyes adapt to the change in light.

Eclipse shadow bands how to observe partial eclipses with stenope or through the holes formed by the leaves

Check the weather in advance for totality path and be ready to travel.

View of the eclipse from moon looking back at Earth

I think it's important that the physics of the event is the focus so that the film has some longevity. If you just focus on the August 21 event solely, it would to me be poor use of resources. There is the opportunity to explore how solar eclipses happen, why viewing opportunities are rare, and the cultural significance of events like these. This will ensure that the film has solid educational value and will be useful long after August 21, 2017.

This covers all of what I am looking for! Thanks.

Things to watch for: Bailey's beads, diamond ring, shadow bands.

Methods of safe observation, an eclipse from another world, myths about eclipses

Cool cultural stories used to explain eclipses throughout history

Views of the eclipse from space even if not in full-dome format.

Please make it friendly for young audiences! That's why I said I wasn't sure about including the geometry. Thanks for soliciting our input!

Any Native American mythology or historical accounts of eclipses crossing America in the past?

Thank you so much for doing this!

IF you have room, perhaps you could mention the Eddington expedition? I know that it really wasn't definitive, but it shows that eclipses are used for things that may eventually affect us (e.g. the GPS satellite system).

When and where and why there will be the next total eclipse. Our Sun is our star!

Please, Please, Please, make a flat screen HD version for the folks, like me, who do not have full dome video. Thank you

Thanks!

Einstein and the 1919 eclipse

What can one expect to see during totality, including stars and planets and how animals react during. How the length of totality and what you see is based on one's location.

Why the US doesn't experience a solar eclipse every year - could be part of geometry.

Historic or famous eclipses Baily's beads

Solar activity around the corona

What one will see in the sky (bright planets) and other effects during totality. We are at 98% partial, so what the sky will look like during a deep partial eclipse and how you can tell that there really is an eclipse going on.

Significance of the apparent angular size of the Sun and the Moon. Note that the Sun and Moon are same angular size whether high in sky or at horizon.

Why they're important, even if only for aesthetic reasons

if possible on night sky objects

Mention distances and relative sizes of Sun & Moon.

Is possible to include the red moon scene like another example to eclipse?

History of eclipses

I think a VERY important aspect is missing, which is 60 % of our in-house production.

That is history. Early people and eclipses, examples of how we reacted to them and examples from the historical record. It makes it more human and not just a science show.

Show the line of the ecliptic. Good for teaching

### **Our response to the survey**

We have created the first few clips which are "evergreen" and modular and show the geometry of lunar and solar eclipses from various locations in space. We are tweaking them now but you can see the first seven animations on our website

[http://space.rice.edu/eclipse/eclipse\\_animations.html](http://space.rice.edu/eclipse/eclipse_animations.html)

These are still being improved but are available in 700 pixel, 1000, 2000, and 4000 pixel fisheyes. Warped and flatscreen versions coming soon.

### **Rules of the Road**

You may use these clips in a show that you make for your own theater. You may charge for tickets for the show you create. You may share that show with others but only if you do not charge them for it. If you wish to make a full show to be distributed for a fee, you must work with us. The credits for these first animations are:

"Animations created by Don Davis for NASA under the Rice University iClips program, as part of the Heliophysics Education Consortium. © Rice University 2017"

License is given for educational use in live programming and in programming in and for a single planetarium. No paid distribution of these scenes without first getting approval from Prof. Patricia Reiff at Rice University: [reiff@rice.edu](mailto:reiff@rice.edu) . We would especially want to get a rough estimate of the number of people who have seen these animations this year.

To get on our email list for additional information and links, please sign up at

<http://eepurl.com/cv68Qj>