2017 Total Solar Eclipse – Final Report, NASA Digital Services
Event Date: August 21, 2017
Report Date: August 28, 2017

Image Credit: NASA/Bill Ingalls

Summary: Eclipse 2017 – NASA's Most-Watched and Most-Followed Event

- NASA's solar eclipse coverage was the agency's most-watched and most-followed event on social media to date, with the largest social media reach (**5.3 billion people**), most engagement, and highest NASA-driven reach.
- We estimate over **40 million viewers in total** watched the NASA TV live broadcast, "Eclipse 2017: Through the Eyes of NASA," carried on www.nasa.gov/eclipselive, Facebook Live, Periscope, Twitch, Ustream and other mobile apps and services.
- With between **2-3 million simultaneous viewers at peak**, the live broadcast on NASA's Eclipse Live web page appears to be in the realm of major news, sports and entertainment events.
- Teletrax estimates our television content was aired on more than 50 outlets in 8 states and 22 countries worldwide. Based on the outlets' reported audience reach, Teletrax estimates a ***potential maximum TV audience*** **of more than 600 million.** (Note: there is no way to accurately measure exactly how many people watched on television).
- Many viewers outside the path of totality turned to us for the live stream, helping to expand this to a national event. We had almost the same number of women as men viewing on nasa.gov/eclipselive, while our normal audience is closer to two-thirds male.
- On the web, two sites factored into NASA's eclipse coverage: eclipse2017.nasa.gov and www.nasa.gov. These sites had **over 90 million pageviews** on August 21 alone.
- On the web, the 2017 solar eclipse was seven times larger than our previous single event record (New Horizons flyby of Pluto). Traffic to our sites was driven by searches on Google and by direct links, which also brought the majority of users to the www.nasa.gov/eclipselive page.
- A high number of social media users tuned in to the live eclipse broadcast, particularly on Facebook Live, which had **568,000 simultaneous viewers** at peak, and **27 million unique viewers** of the video to date; our most popular eclipse-related Tweet and Facebook post were both live feeds of the broadcast.
- 221,000 'eclipse' media hits from Aug. 21-25, and about 17,000 of those mention NASA. 137,000 hits on Aug. 21 alone, with 10,700 mentioning NASA – about four times more than our biggest release of the year got in a full week.

NASA Digital Services – Streaming Video

Charleston, SC

Jefferson City, MO

2017 Total Solar Eclipse Streaming Video: Viewership Numbers of Main NASA Channels and Facebook Live Stream

We estimate **over 40 million viewers watched** the NASA TV live broadcast, "Eclipse 2017: Through the Eyes of NASA" which was carried on www.nasa.gov/eclipselive, Facebook Live, Periscope, Twitch, Ustream and other mobile apps and services.

<u>NASA TV Channel on www.nasa.gov/eclipselive</u>
The default channel on our Eclipse Live web page showed the complete live feed of "Eclipse 2017: Through the Eyes of NASA" beginning at noon EDT.

- **2-3 million simultaneous viewers at peak**
- **12.1 million total viewers**

<u>Facebook Live</u>
We scheduled and promoted a Facebook Live event for the NASA TV eclipse broadcast, allowing Facebook users to save the event and be alerted when the show was live.

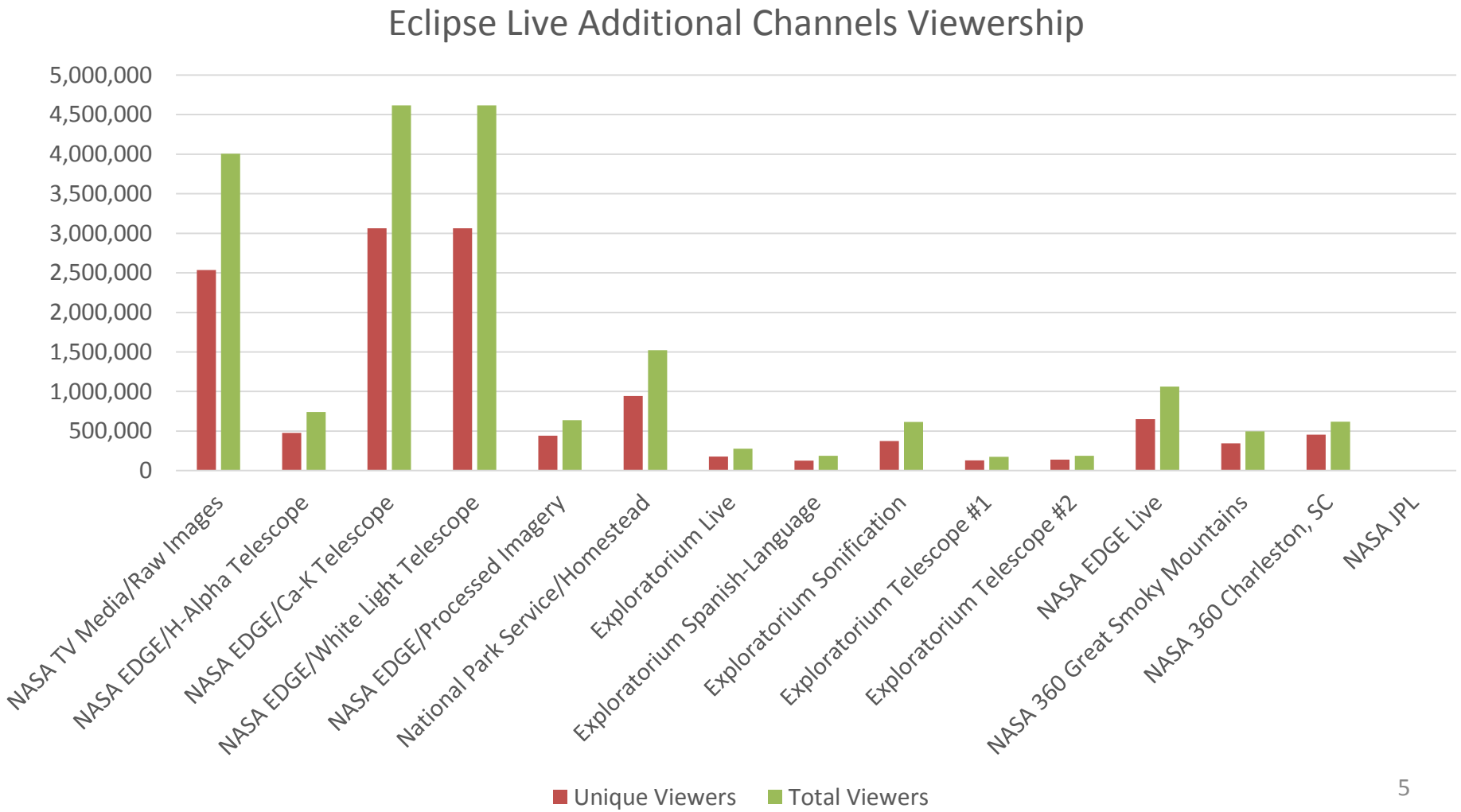
- **568,000 simultaneous viewers at peak**
- 31 million total viewers
- 27 million unique viewers

<u>NASA TV Media Channel - Raw Feed of Eclipse Images (Ustream)</u>
This was the second channel listed on our Eclipse Live page.

- **200,042 simultaneous viewers at peak**
- 4,004,997 total viewers for the day
- 2,536,627 unique viewers for the day

2017 Total Solar Eclipse Streaming Video: Viewers of Additional Channels Offered on www.nasa.gov/eclipselive (NASA EDGE, NASA 360, Exploratorium, Park Service)

Around **12 million unique viewers watched** these additional channels. Viewership was highest among the first channels listed on the player and lower for the players listed toward the bottom. Telescope views and the raw eclipse images performed best, each reaching 2.5-3.1 million unique viewers.



2017 Total Solar Eclipse Streaming Video: High Altitude Balloons

An additional channel offering eclipse views from high altitude balloons was included in the viewing options on our Eclipse Live page. A choice of 50 different balloon views was also available on eclipse.stream.live and embedded on other sites. 90% of the viewership of these feeds came from eclipse.stream.live and the NASA Eclipse Live player.

<u>High Altitude Balloons Feed (Stream.live)</u>

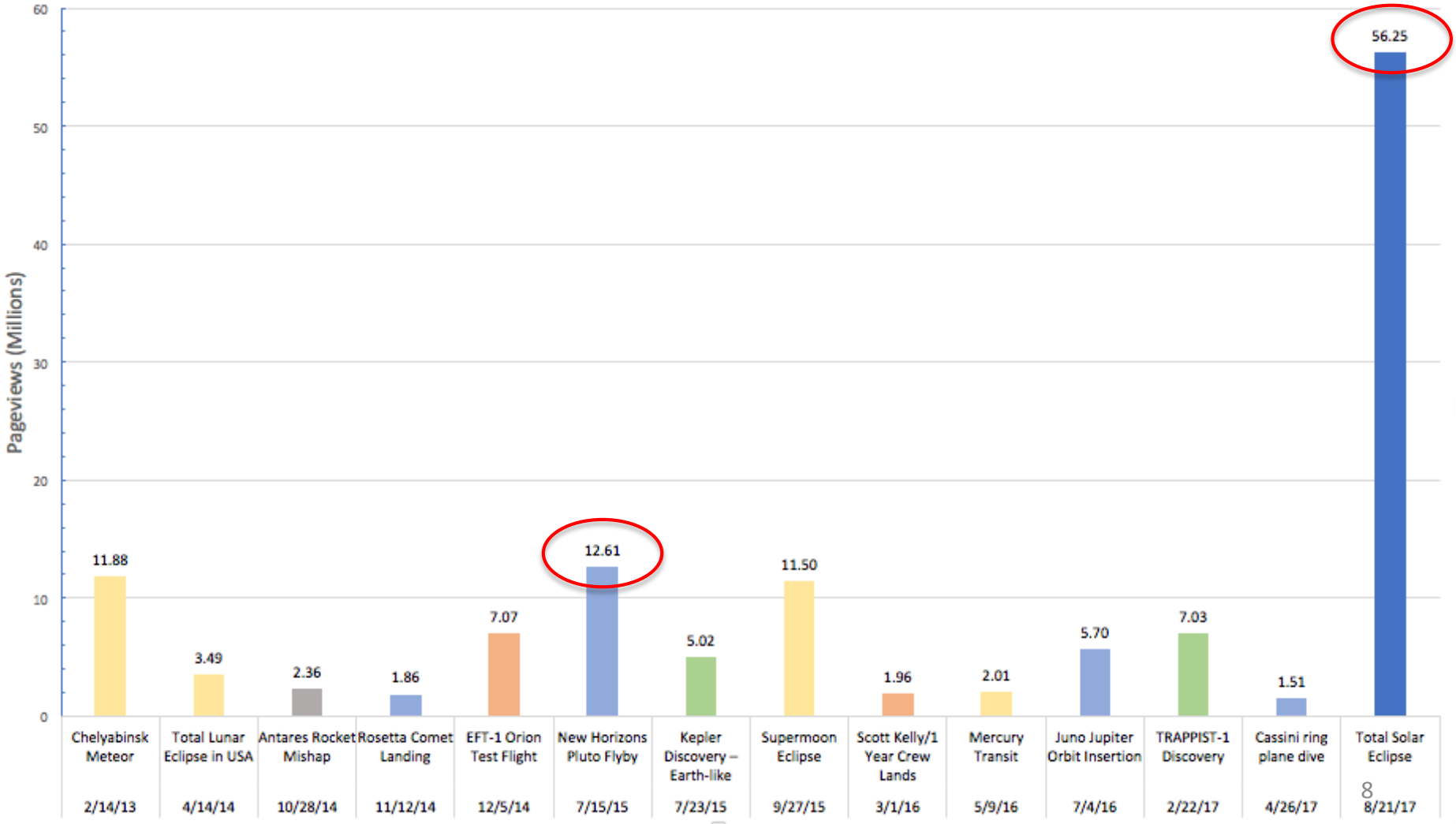
- **149,000 simultaneous viewers watched the Balloons stream at peak**
- 6.147 million total viewers watched different Balloons streams that day
- 2.4 million unique viewers watched Balloons streams

NASA Digital Services – Web
www.nasa.gov
eclipse2017.nasa.gov

Image Credit:NASA/Aubrey Gemignani

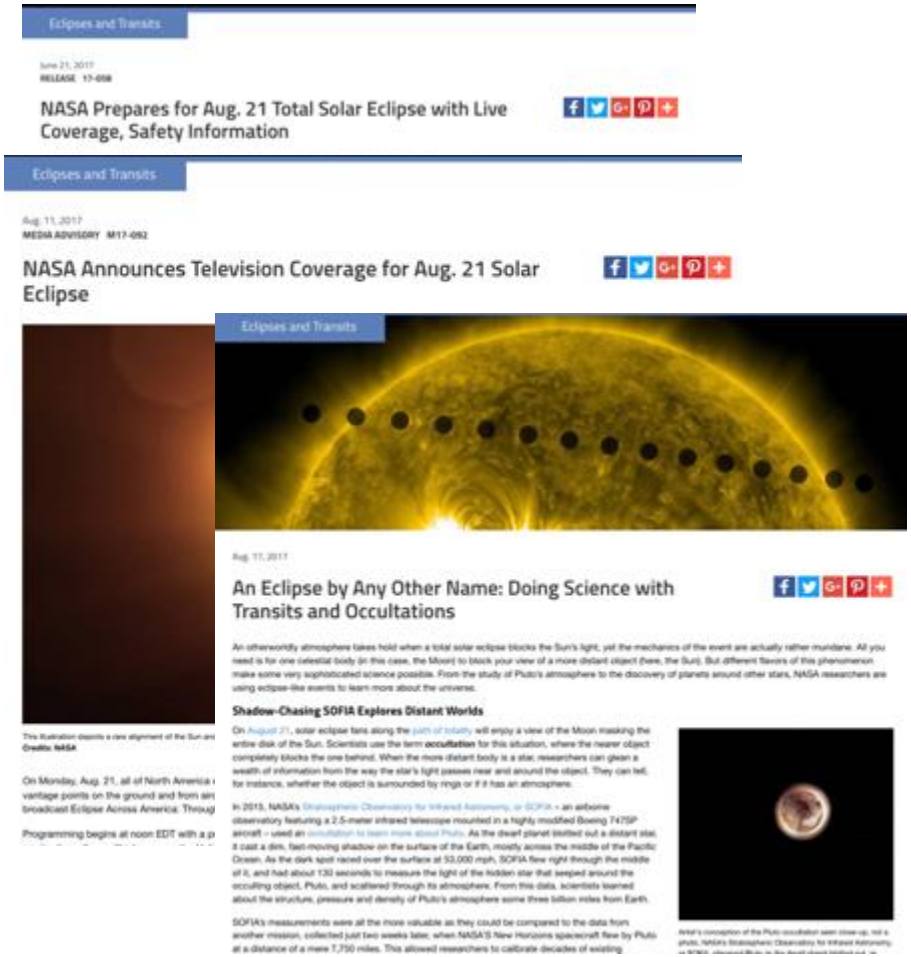
A Record-breaking Day – Eclipse 2017 Compared to Top Web Traffic Events on www.nasa.gov (2013-present)

Prior to August 21, 2017, the single-day traffic record for www.nasa.gov was 12.61 million pageviews during the New Horizons flyby of Pluto, followed closely by the Chelyabinsk meteor and the ”supermoon” eclipse. On Aug. 21, www.nasa.gov had 56.25 million pageviews – over four times higher than the previous record.



What did NASA do on the web to inform the public about the solar eclipse – and allow them to take part in this unique event? On www.nasa.gov:

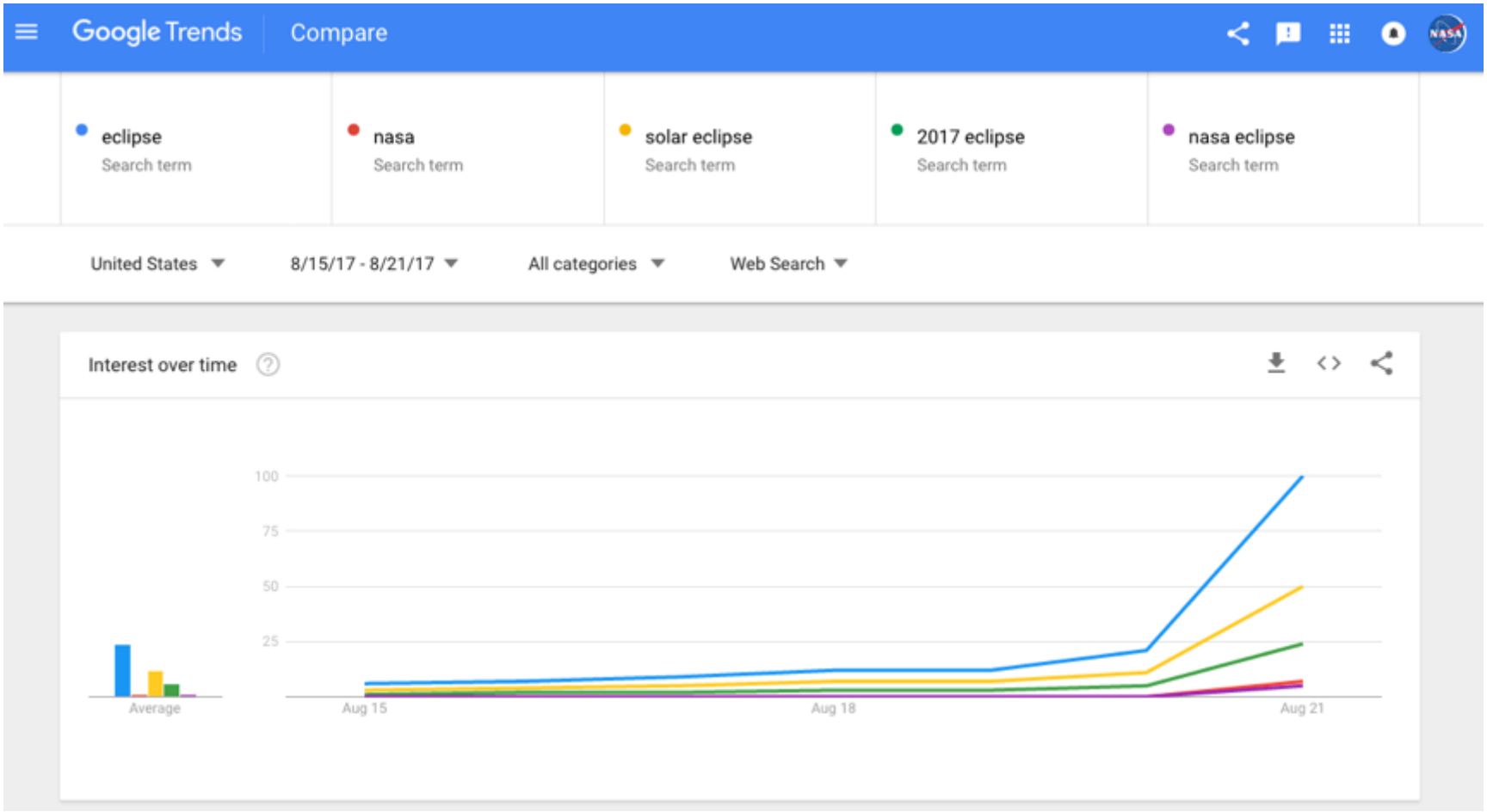
- On www.nasa.gov in 2017, 19 solar eclipse feature stories, 4 press releases and a podcast covered safety information, photography tips, ways to become a citizen scientist, how to watch NASA's eclipse programs, and all the ways NASA was doing science during the eclipse.
- Eclipse content on www.nasa.gov drew approximately 5.4 million pageviews in 2017 in the time prior to the eclipse (Jan. 1-Aug. 20, 2017).



What did NASA do on the web to inform the public about the solar eclipse – and allow them to take part in this unique event? On eclipse2017.nasa.gov:

- eclipse2017.nasa.gov highlighted topics including: Safety information, maps of totality nationwide and by state, the date, times and an overview (the "Who? What? When?").
- eclipse2017.nasa.gov surpassed www.nasa.gov on Aug. 6 in daily traffic and more than tripled its site traffic each month from April to August 2017, averaging 1.8 million pageviews/day from Aug. 1-20. <u>This traffic was built through search – specifically, people searching Google for eclipse information</u>.

How did people get to our NASA eclipse web pages? Mostly through Google search.
Generally, people searched for general terms: *eclipse, solar eclipse, 2017 eclipse* – illustrated by this Google Trends chart of search terms. Most did not search *specifically* for NASA eclipse coverage. But when they searched for any kind of information about the eclipse, they *found* our NASA sites in the top results.



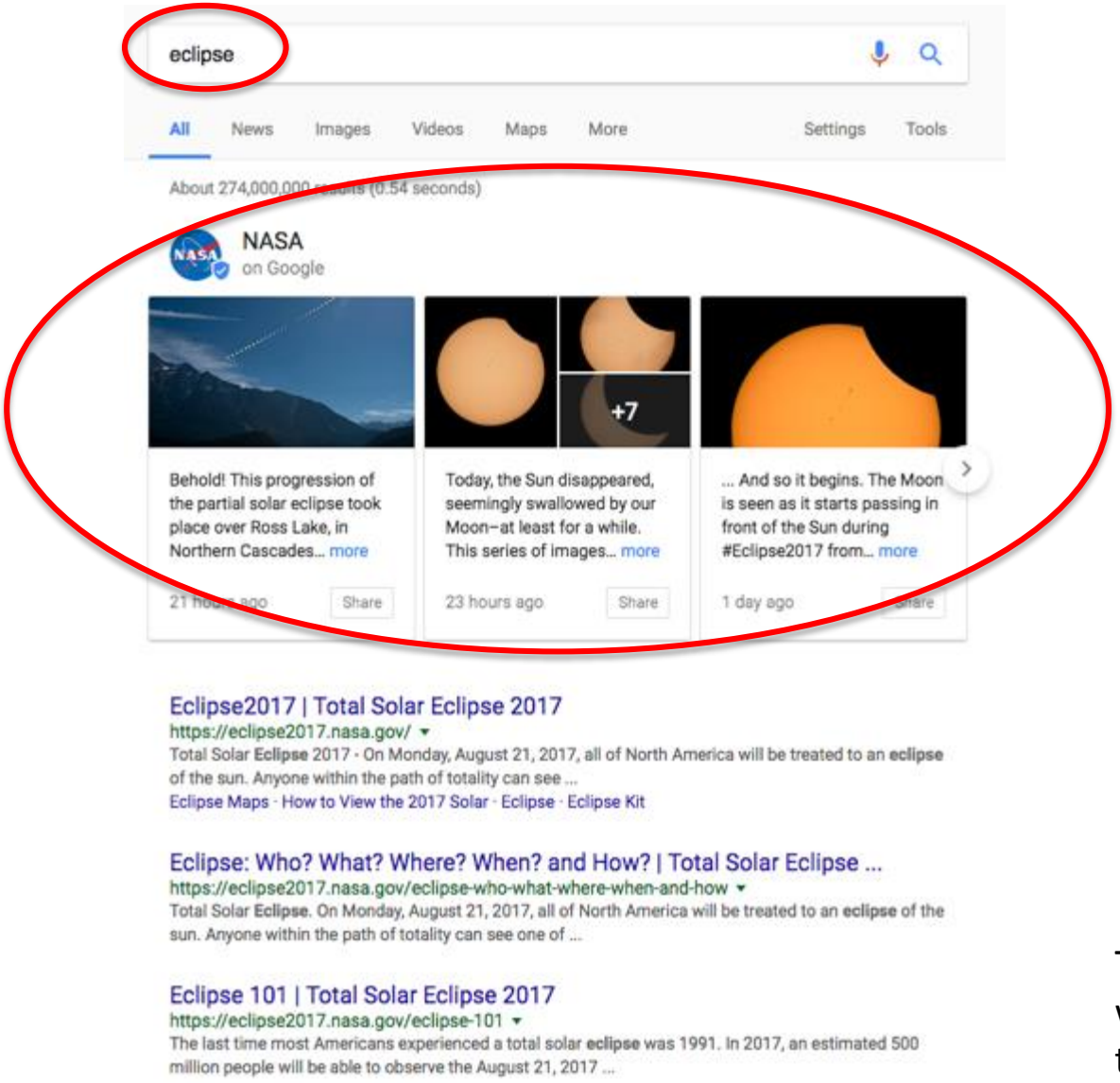
Source: Google Trends – search interest from Aug. 15-21, 2017
https://trends.google.com/trends/explore?date=2017-08-15%202017-08-21&geo=US&q=eclipse,nasa,solar%20eclipse,2017%20eclipse

In August 2017, the Google search page for mobile phone and tablet users listed eclipse2017.nasa.gov as the Official website for the event, sending millions to our site.

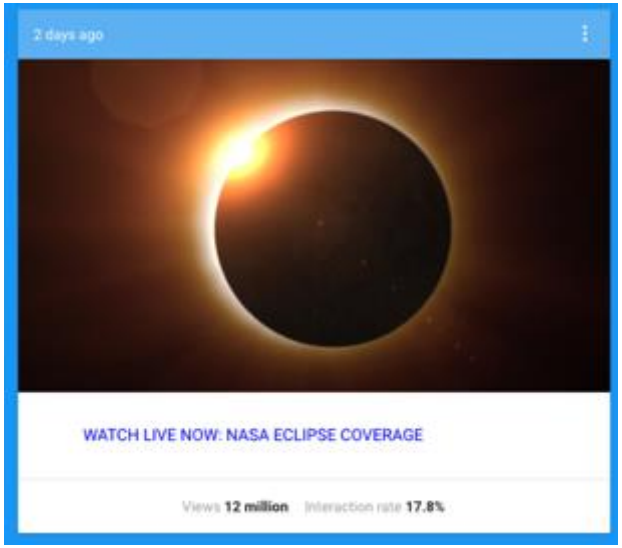
From August 1-21 2017, 62% of eclipse2017.nasa.gov traffic came from Google search. 39% of the traffic came from Google searches on a mobile phone or tablet.

urce / Medium	Mobile (Including Tablet)	Acquisition Sessions
clipse 2017		43,467,934 % of Total: 48.99% (88,731,217)
google / organic	Yes	16,971,783 (39.04%)
google / organic	No	9,628,842 (22.15%)
(direct) / (none)	Yes	3,943,944 (9.07%)
m.facebook.com / referral	Yes	1,768,272 (4.07%)
(direct) / (none)	No	1,621,660 (3.73%)
bing / organic	No	919,656 (2.12%)
nasa.gov / referral	No	806,441 (1.86%)
nasa.gov / referral	Yes	580,374 (1.34%)

Google search on desktop listed NASA sites as the top results for “eclipse,” “solar eclipse,” etc. The NASA digital services team also created Posts on Google which were displayed at the top of search results. These Posts included direct links to NASA’s eclipse content.



Posts by NASA were created by the Digital Services team and included links to NASA’s eclipse web pages, including /eclipselive once the broadcast started.

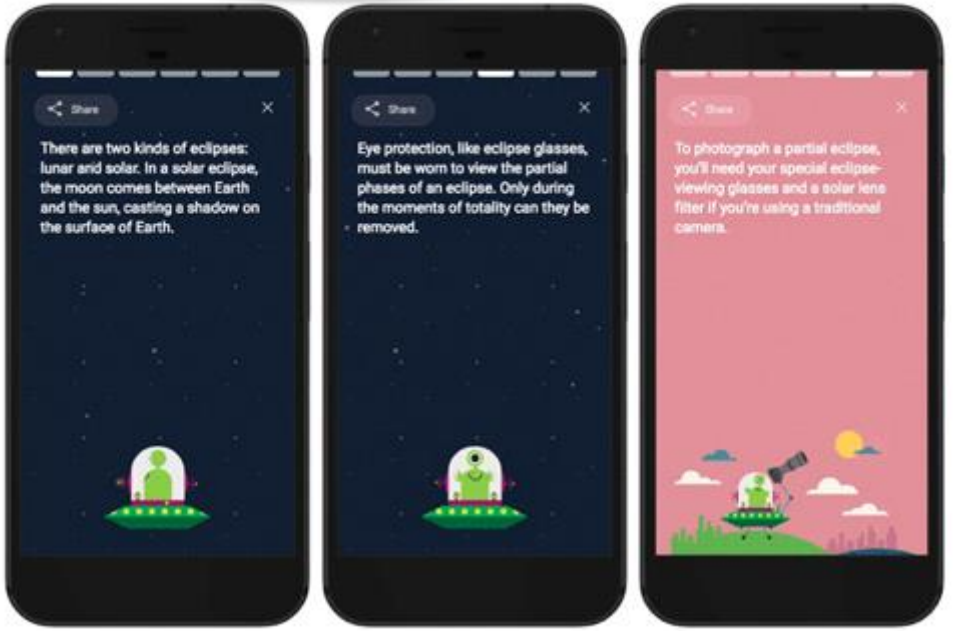


This Post had 12 million viewers, of which 17.6% (2.136 million) clicked through to www.nasa.gov/eclipselive.

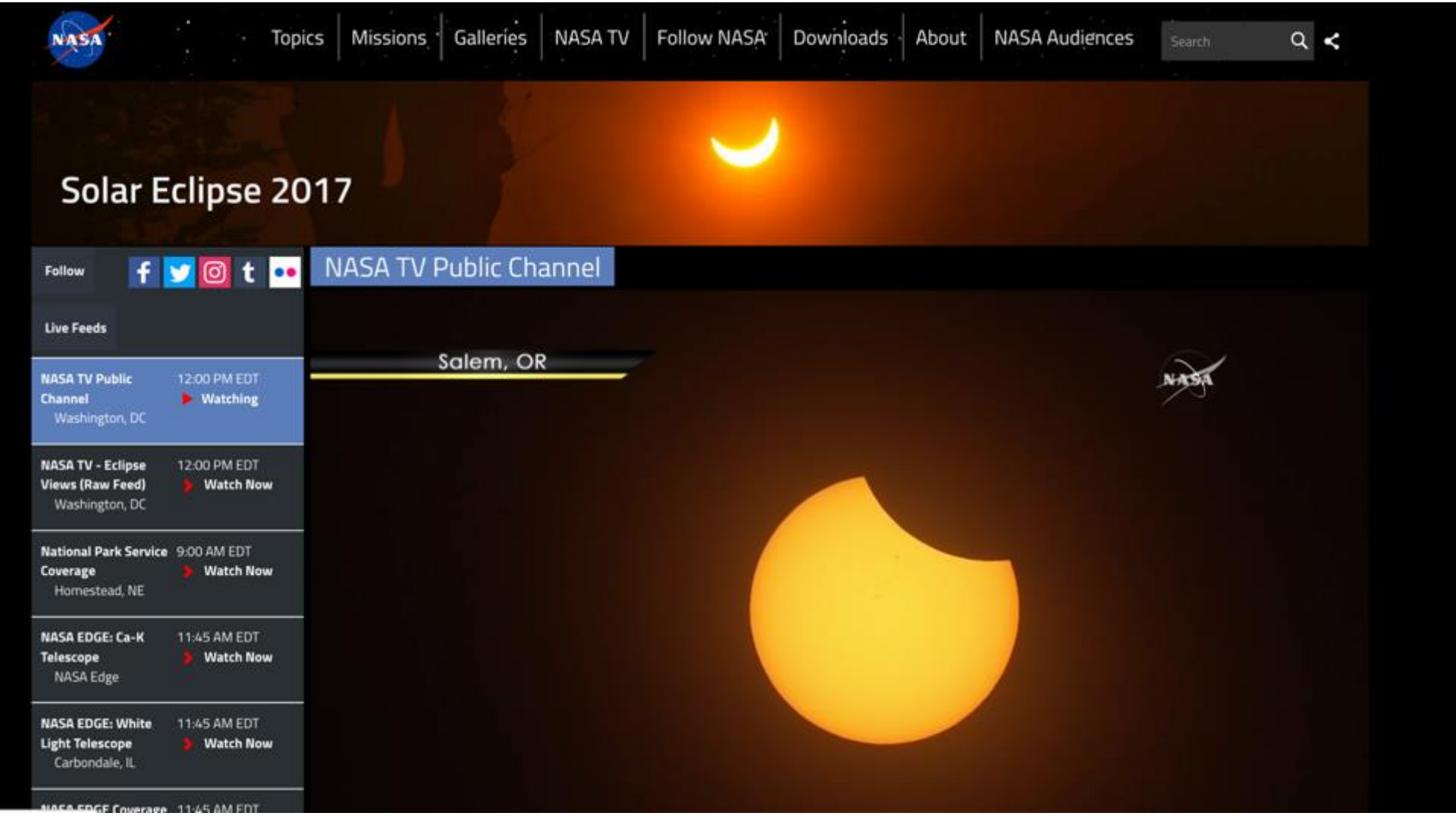
The eclipse2017.nasa.gov home page drew 71 million pageviews from August 1-21, 2017.
On Aug. 21, the site's home page was updated to promote our NASA TV broadcast and send users, with one click, to watch the broadcast on www.nasa.gov/eclipselive.

The Aug. 21 Google Doodle for users in the United States featured the eclipse and – for those who clicked through – included a direct link to /eclipselive:

To learn more about solar eclipse science, you can click beyond the Doodle to Google Search and get some fun facts courtesy of our friendly space aliens. You can learn about a crowd-sourced photo project to capture images of the eclipse as it traverses North America even follow NASA's live, streaming video of the event.



On www.nasa.gov/eclipselive, people could watch 18 channels of eclipse views, with the NASA TV "Eclipse Live: Through the Eyes of NASA" broadcast at the top.
On Aug. 21, there were 34 million pageviews (20 million unique visitors) for this page.
12.1 million unique viewers watched the NASA TV live broadcast on this page.



NASA Digital Services – Social Media

Image Credit: NASA/Joel Kowsky

Reach & Posts on Social Media

NASA's solar eclipse coverage was the agency's most-watched and most-followed event on social media to date, with the largest social media reach (**5.3 billion people**), most engagement, and highest NASA-driven reach.

Our most popular Instagram image ever was posted on eclipse day and received over 1.4 million likes. Our second most-liked post ever was also from eclipse day, showing the stages of the eclipse and receiving over 1.1 million likes.

NASA's flagship social media accounts gained a high number of followers on Twitter (+73K), Facebook (+563K) and Instagram (+133K) on eclipse day. Adding new followers means that NASA's content will continue to show up in their social media feeds in the future.

NASA's most popular Instagram story ever came the day after the eclipse, and was focused around the astronaut candidates' first day of duty. It received more than 1.9 million views.

- The potential reach of all social media posts across 21 different social media platforms using one of the following keywords between Aug. 19-25, 2017: (#eclipse OR eclipse OR "solar eclipse" OR #eclipse2017 OR #SolarEclipse2017)AND(nasa):

  5,307,255,215

- Number of social media posts across 21 different social media platforms using one of the following keywords between Aug. 19-25, 2017: (#eclipse OR eclipse OR "solar eclipse" OR #eclipse2017 OR #SolarEclipse2017)AND(nasa):

  500,335

  Of these, 974 came from NASA accounts.

Social Media Trending Topics – Eclipse Day, 4 p.m. EDT

Twitter Trends

NASA worked with Twitter to conceptualize this emoji to highlight #Eclipse2017 and #SolarEclipse2017 content across the platform.

Facebook Trends

Top Facebook Posts

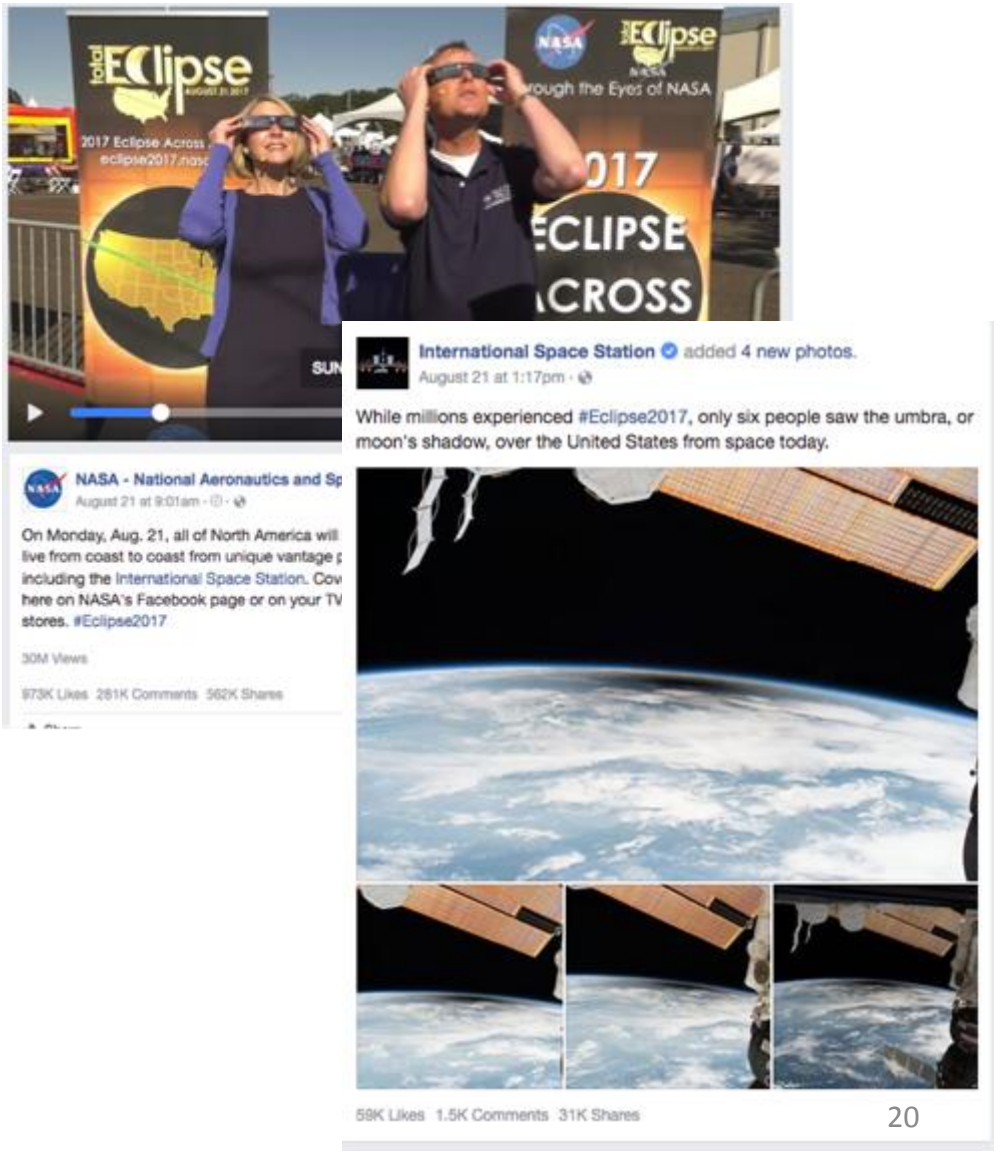
Top Flagship Post (NASA):

This post featured the live video of the NASA TV eclipse broadcast.

- 80,955,119 People Reached
- Total Engagement (Likes, Shares, Comments): 2,236,922
- 568,000 simultaneous viewers at peak
- 31 million total video viewers
- 27 million unique video viewers

Top Non-Flagship Post (International Space Station):

- 5,549,930 People Reached
- Total Engagement (Likes, Shares, Comments): 91,500



Facebook Live Events and Camera Filters

Aug. 9 NASAEarth Facebook Live on citizen science:

- 650,006 People Reached
- 169,116 Video Views
- 1,966 Total Engagement

Aug. 11 ISS Facebook Live with Randy Bresnik on eclipse photography:

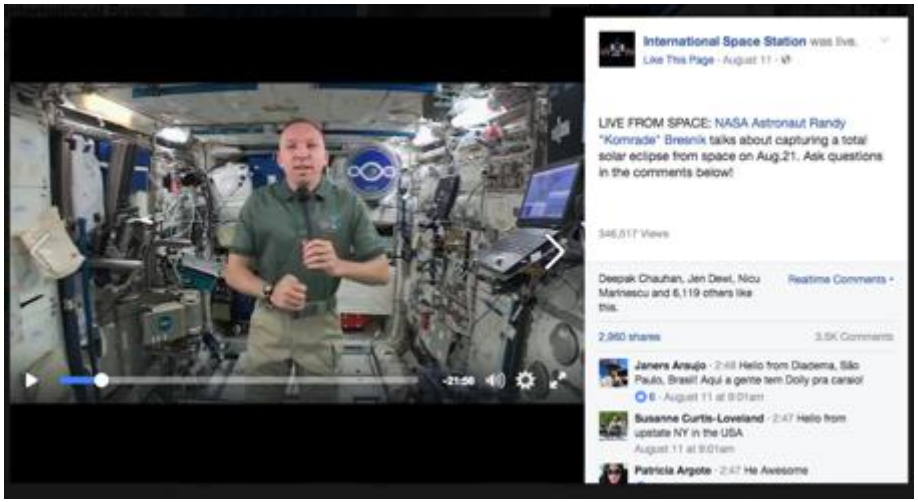
- 2,124,939 People Reached
- 346,517 Video Views

Aug. 14 NASA Facebook Live with NASA scientists:

- 1,707,368 People Reached
- 315,000 Video Views
- 12,298 Total Engagement

“Selfie Filters” produced by NASA for Facebook:

- 10,400 people took pictures using the eclipse glasses frame
- 19,200 people took pictures using the sun frame



Top NASA Twitter Posts

Top Flagship Post (@NASA):

This post featured a live Periscope feed of the NASA TV eclipse broadcast.

- Total Potential Reach: 60,610,640 unique users
- Total Actual Impressions: 1,374,845
  Total Engagements (replies, retweets, favorites): 86,713

Top Non-Flagship Post (@NASAMoon):

This had the highest reach and number of engagements out of all eclipse Tweets across all of NASA's accounts.

- Total Potential Reach: 76,378,457 unique users
- Total Actual Impressions: **26,151,915**
  Total Engagements (replies, retweets, favorites): **3,773,161**

Top Instagram Posts

Both of the most popular Instagram posts featured images taken by NASA HQ photographers.

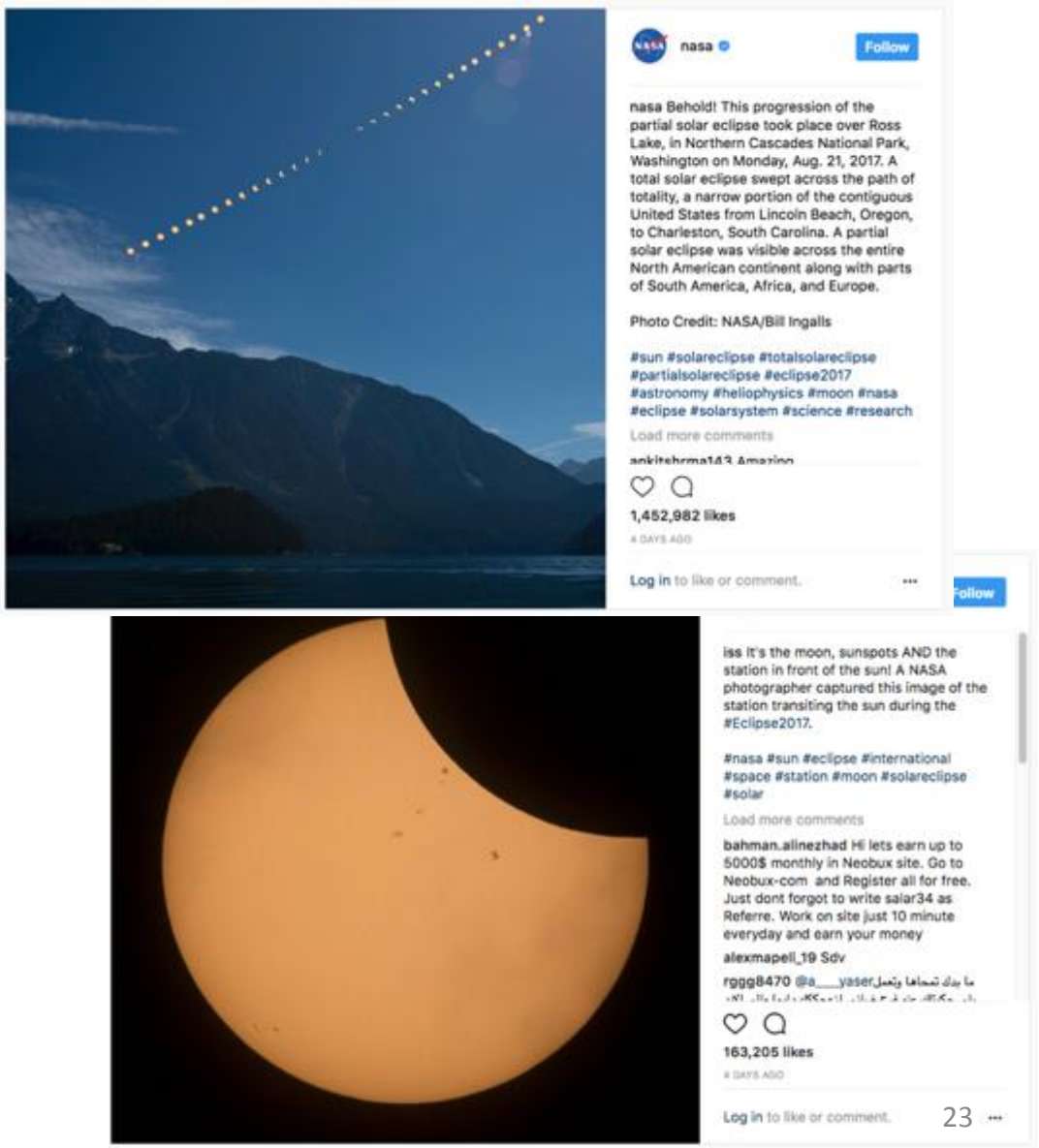
Top Flagship (NASA):

This was NASA's most-liked Instagram post ever.

- Total Engagements: 1,456,219 shares, likes
- Impressions: 14,000,000

Top Non-Flagship (ISS):

- Total Engagements: 168,693 shares, likes

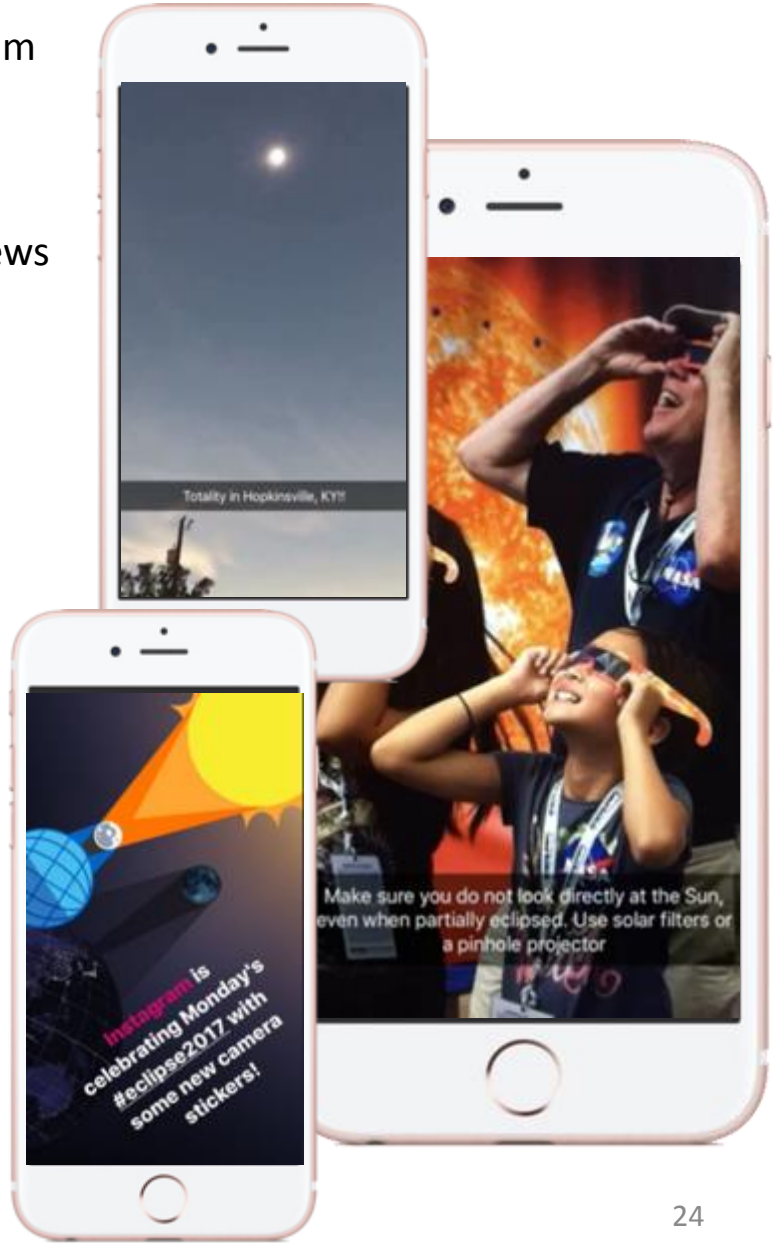


Snapchat/Instagram Stories

NASA flagship Snapchat and Instagram stories:
1,834,000 total viewers

NASA Instagram Story: 1,600,000 views (first slide)
832,000 views (last slide)
Completion Rate: 52%

NASA Snapchat:
234,000 views (First slide)
140,000 views (last slide)
Completion rate: 59.83%



NASA Digital services worked with Instagram on the design of **eclipse ”stickers” based on NASA products**. Stickers were available for all users of Instagram Stories in the U.S., Mexico and Canada from Aug. 18-21.

Top Tumblr Posts

[Post: Everything You Need to Know About the 2017 Eclipse]

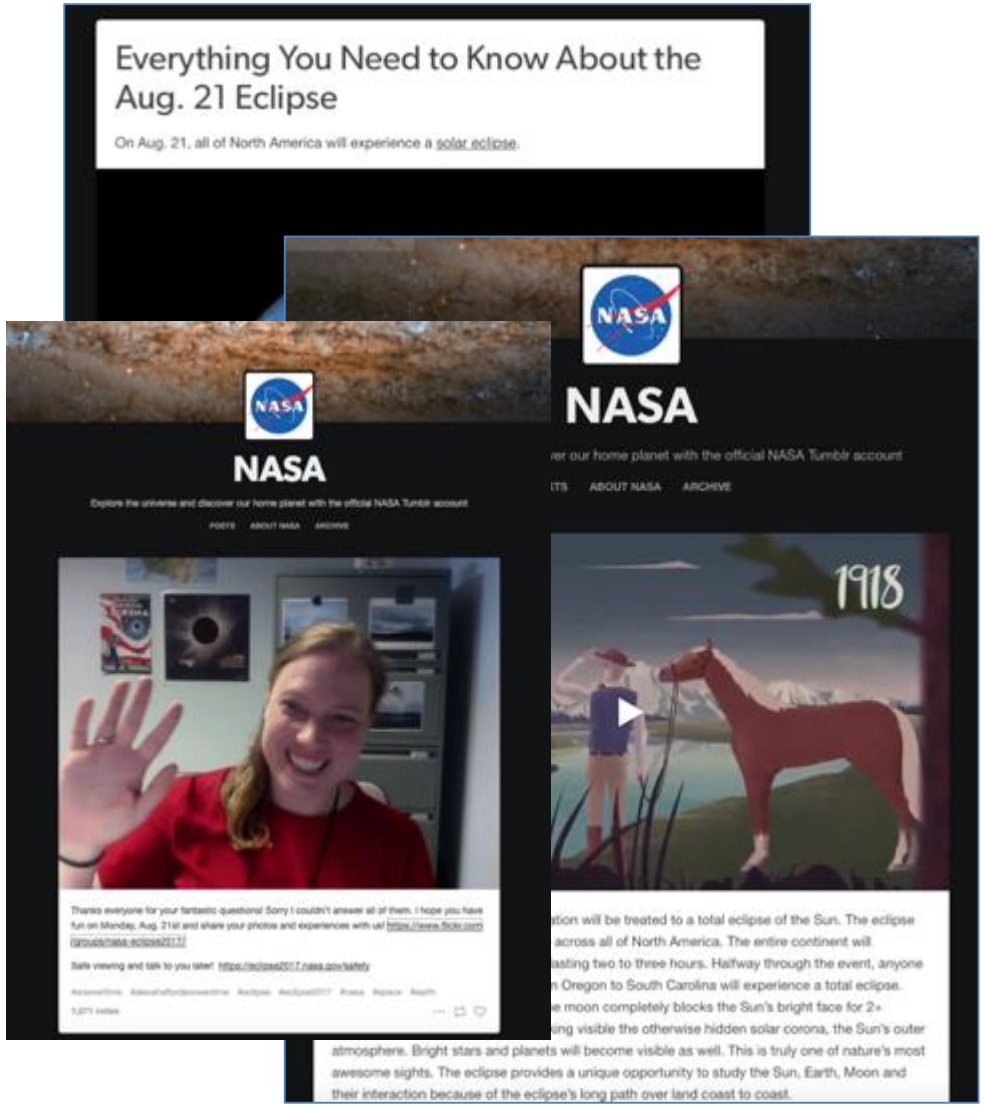
- Engagements: 20,756
- Clicks: 7,337
- Likes: 8,409
- Reblogs: 4,663
- Impressions: 293,522

[Video Post: Get Ready for the Solar Eclipse]

- Views: 23,480
- Impressions: 2,903,487
- Engagements: 20,536
- Clicks: 15,155
- Likes: 3,142
- Reblogs: 1,189

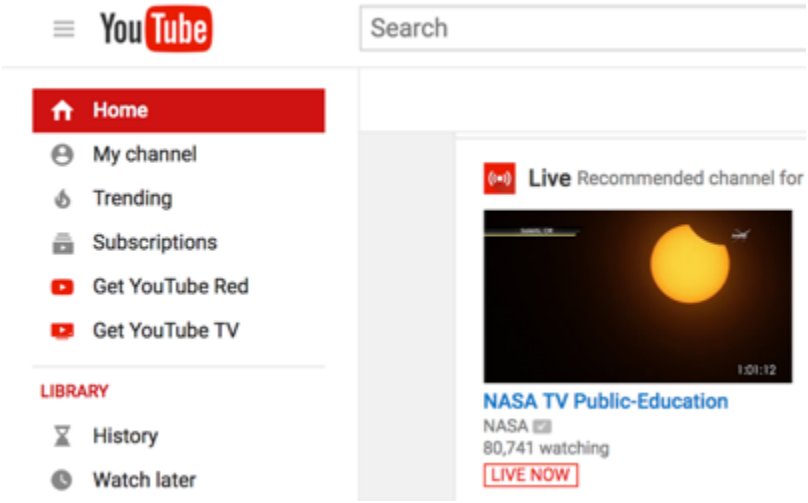
Aug. 17 Tumblr Answer Time with Alexa Halford

- 4,596 Questions
- 25 Questions Answered
- **31,781,305 Impressions**
- 164,251 Engagements



Top YouTube Videos

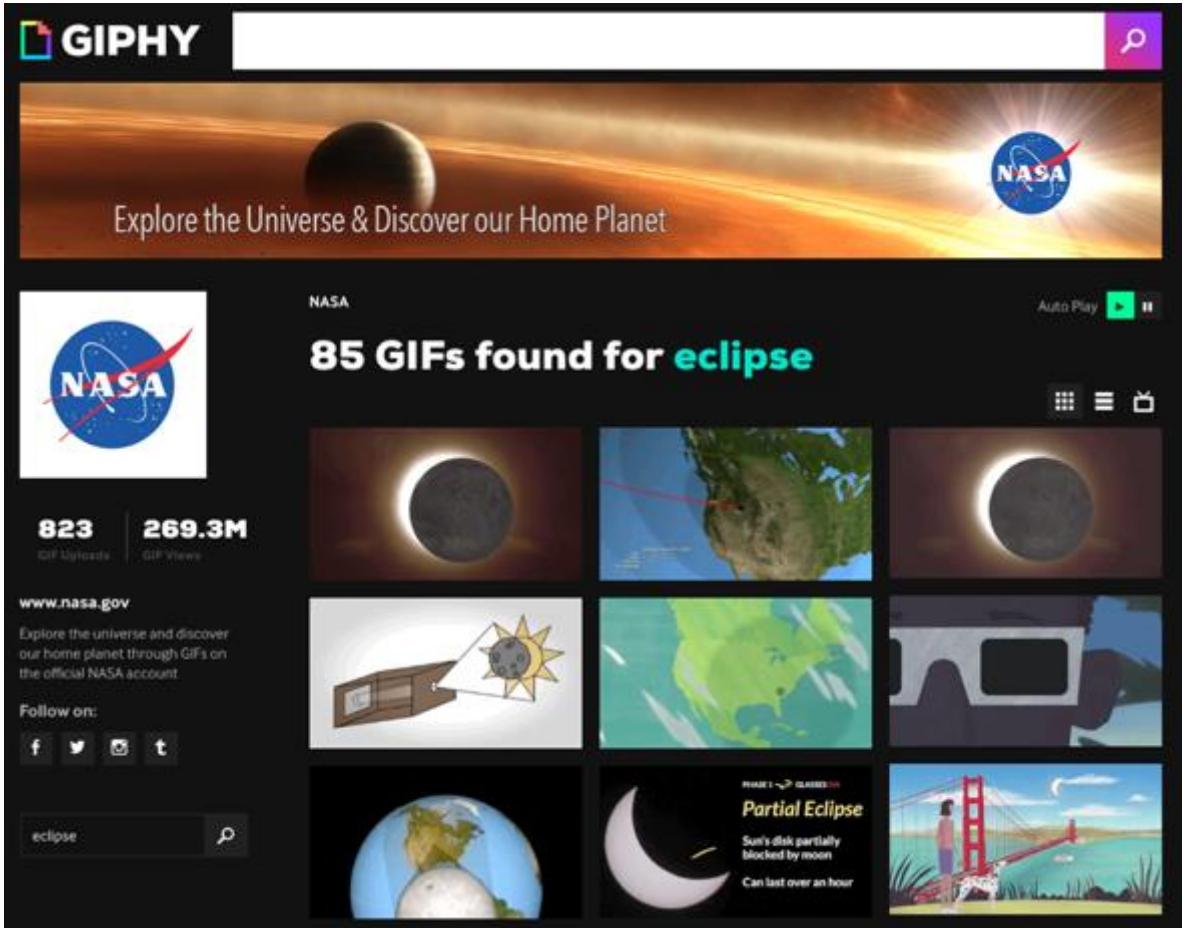
- How to Make a Pinhole Projector: NASA Goddard, 3,442,890 views
- How to Safely Watch a Total Solar Eclipse: NASA Goddard, 619,272 views
- Tracing the Total Solar Eclipse: NASA Goddard, 618,658 views
- Transit of Space Station During the Solar Eclipse: 411,141 views



NASA's live eclipse broadcast also trended on YouTube, reaching over 80,000 simultaneous live viewers.

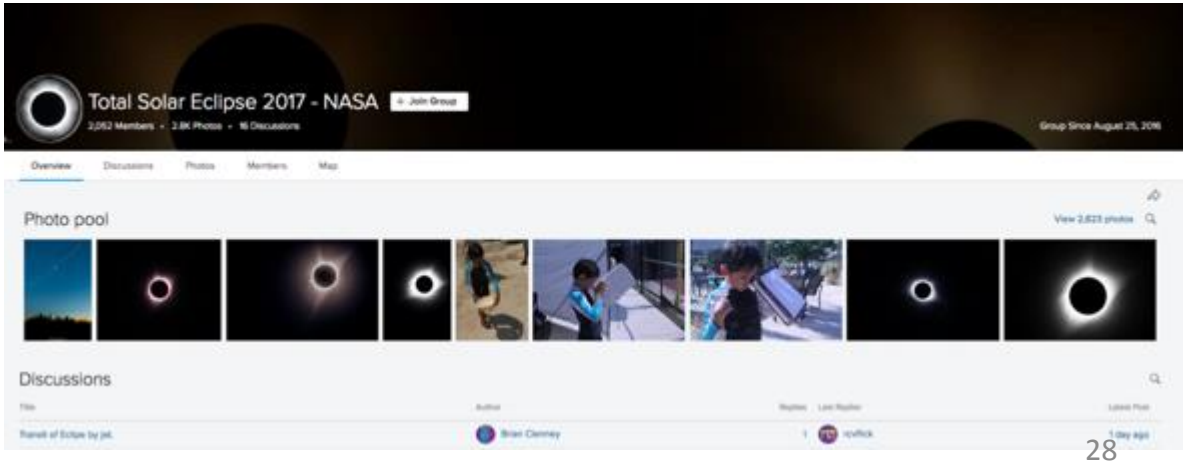
Giphy #eclipse GIFs

85 eclipse GIFs created from NASA imagery were posted to NASA's Giphy account – making them available to search and share by all users on Giphy and Twitter.



Flickr Photos

- NASA HQ photographers **posted 70 photos** from locations across the U.S. to the 2017 Total Solar Eclipse album, which had **27,472 views**.
- 2,052 members of the public joined NASA's Total Solar Eclipse Flickr group, where they **shared 2,800 of their own photos** of the eclipse.



Reddit AMAs Previewing the Eclipse

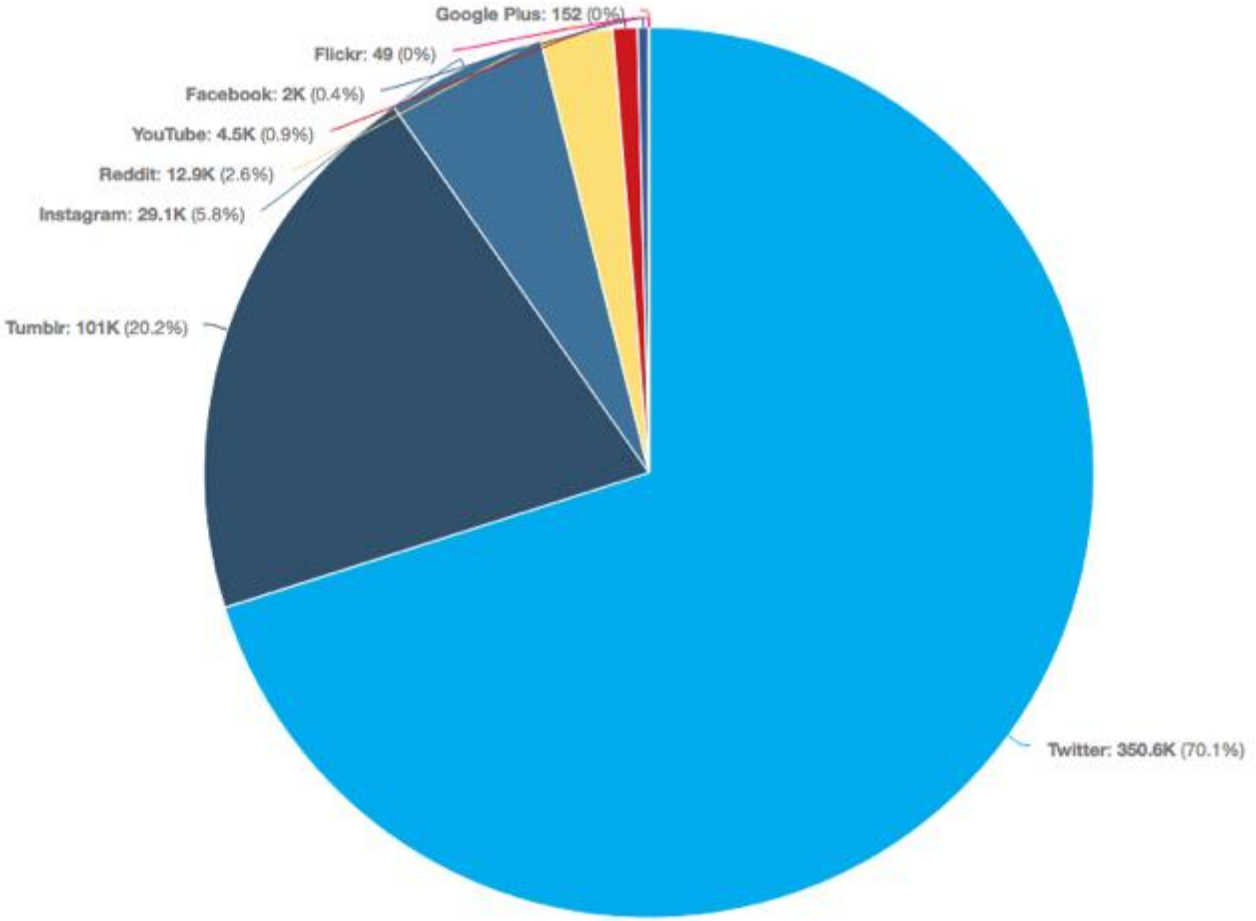
We're NASA Scientists. Ask us anything about tomorrow's total solar eclipse!
3,752 comments
187 answers from the NASA Sun-Earth team

Science AMA Series: We're NASA scientists. Ask us anything about the science of the Aug. 21 total solar eclipse!
1,487 comments
143 answers from the NASA science team

Science AMA series: We're scientists at NASA studying the sun, planets and solar system; ask us (happening today), the sun and the total solar eclipse in August 2017!
487 comments
72 answers from the NASA Goddard and NASA Marshall team

Platforms People Used to Talk About The Eclipse

Approximately 70% of the social media conversation on the eclipse took place on Twitter, while the Tumblr audience also had a strong interest and wrote many eclipse-related comments, particularly in the Aug. 17 Tumblr Answer Time with a NASA scientist. Contents of Facebook comments aren't tracked, accounting for its small percentage in this chart.



NASA Social Media Follower Growth on August 21

- Twitter: 73,634 (+0.29%)
- Facebook: 563,561 (+2.84%)
- Instagram: 132,824 (+0.5%)
- Tumblr: 3,417 (+0.71%)
- LinkedIn: 692 (+0.18%)
- Pinterest: 182 (+0.29%)