



Eclipse Activity Report (EAR)

Nationwide Eclipse Ballooning Project

Issue #15

5/4/2017

<http://eclipse.montana.edu>

EAR Issue 15 Summary

This and all previous issues of EAR can be found at:
<http://eclipse.montana.edu/news/>

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T-minus

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Eclipse Group Telecom 5/11/2017 at 11AM MDT.

- Call toll free 855-797-9485
- Pass code 921-692-445# then # again

Technical Telecom 5/18/2017 at 11am MDT

- Call toll free 855-797-9485
- Pass code 921-692-445# then # again

Action Items

- Send Shane your June 20th Dry Run Launch Site Spreadsheet by May 5, 2017
- Send Shane your Launch sites and POcb spreadsheet if you have not already done so
- Send Shane your team website or blog to be added to the eclipse ballooning page
- Next Telecom 5/11/2017 at 11AM MDT
- Technical Telecom 5/18/2017 at 11AM MDT

General Updates

T-minus

As of this writing, we are 15 weeks, 3 days, 23 hours, 05 minutes and 11 seconds away from the Moon's shadow reaching Oregon's coast and the Great American Eclipse begins.

Tracking Server Update

The tracking server has officially moved! While the server is substantially more robust than the old server, it cannot withstand hundreds of thousands of hits. We therefore ask that you do not share the website outside of your flight team. The new website address is <http://eclipse.rci.montana.edu/> The old server will be turned off on May 12th, 2017. In order for your ground stations to track using the new server, you must update your ground station software. This will be the first of two proprietary ground station/server updates that teams will need to implement.

Updating the Ground Station Tracking Software and Other Software Updates with GitHub

When the old server is turned off on May 12 your ground station will not be able to track until you have updated your ground station tracking software. A video detailing how to update the tracking software and other software via GitHub can be found here: <http://eclipse.montana.edu/software-updates/>

Make sure you save your code after you update your IMEI number.

As additional software updates roll out additional videos will be made available at the website provided above. This is the first of two major software updates each team will need to make to their ground station software.

Important Dates Leading up to the June Dry Run

Please see EAR15 email attachment for details.

June 20th Launch Sites

The June 20, 2017 project dry run is less than 7 weeks away! It is important for teams to participate in the event whether that be a flight (preferred), tethered launch, or bench test. Not only is the dry run a test/practice of the systems, websites and coordination, but also a practice of coordinating/communicating with the FAA and NASA . **All teams** must fill out the attached spreadsheet titled "**June 20 Dry Run Launch Sites**" and **email the spreadsheet back to Shane by Friday, May 5** so we may organize our communication and coordination with the FAA for the dry run.

Dry Run – A Flight with Support from Leadership Teams

On eclipse day, leadership teams will not be able to provide support – they will be busy with their own balloons launches. Take advantage of the dry run flight to troubleshoot issues and have leadership team members available if you reach a roadblock you cannot navigate alone. Details on the support network will be shared before the event.

Proboards Forum Reminder

Please continue to use and post questions on the Proboards forum

(<http://eclipsedesign.proboards.com/>). Posting on the forum allows the answers to benefit a larger group of people who may have already, or will in the future, run into the same issue. As teams gain experience, we have an even larger support network available to help answer questions.

Setting Up Wireless Priority Service (WPS) for Eclipse Day

Introduction: In order for our team primary points of contact (POC) to be able to make or receive cell phone calls on eclipse day (when cell phone towers along the path of totality are expected to be overloaded), we will be granted access to the Wireless Priority Service (WPS). WPS is coordinated by Homeland Security but NASA will act as the liaison for us; our WPS requests will be submitted by NASA. In order for NASA to submit the requests, a GETS/WPS Request Form must be filled out by each individual POC. Instructions are given below.

Email completed forms to Shane Mayer-Gawlik (shane.mayergawlik [at] montana.edu) no later than May 31st, 2017.

WPS cost:

Using the WPS service does require a few minimal charges to individual POC cell phone accounts by their cell phone provider (i.e. Verizon). The *maximum* amounts of these charges are regulated by Homeland Security but are typically lower and vary by provider.

- \$10 maximum one-time activation fee (typically \$1 to \$2)
- \$4.50 maximum monthly service fee (for us will be one time only as the service will only be activated for us for a period of about two weeks)
- \$.75 per minute maximum for WPS calls (*272) (only charged if the service is used)

Instructions for fill out the GETS/WPS Request Form for our group:

Please save a copy of the form with your team name appended, filling in each section as instructed below.

- Requesting: no change
- Organization: no change. Group/component within organization: your team name (and institution if not clear from team name)
- GETS NS/EP...: no change
- WPS NS/EP...: no change
- NS/EP User Type: no change

- For WPS Requests Only: This is the most important area of the form. Service Provider is the provider for your cell phone – i.e. Verizon – select one. Account # is your account number that appears on your cell phone bill (so the provider can identify you). WPS Phone # is your cell phone number tied to the account # given and is the number that you want to be able make calls from on eclipse day.
- Name: your name. NS/EP Title or Function: no change
- Work Address: your work address
- Contact Information: your contact info
- If you have...: no change in this whole section.

Instructions for WPS use will be communicated when the service is activated.

Implementing the Updated Video Payload Code on the Micro SD Cards

With the upcoming release of the updated streaming code for the ground station and video payload, please take a moment to consider how you would best like to update your video payload. You have two options for updating your video payload code: Option 1, replace the image on your current “video payload” SD card with the new image for streaming to Stream.Eclipse.live – or – Option 2, purchase a new SD card and put the new image for streaming to Stream.Eclipse.live. If you would like to use a new SD card, we recommend using the same kind of micro SD card as before to avoid any compatibility issues. A link to the recommended micro SD card can be found below:

https://www.amazon.com/gp/product/B010Q588D4/ref=oh_aui_detailpage_o05_s00?ie=UTF8&psc=1

Instructions for updating the payload code will be shared with its release (which will differ slightly from the “Making a New SD Card” instructions).

Eclipse Ballooning Website Updates

FAQ page is now under “Resources” dropdown tab:



System resources, documents, instructions, etc. can be found by clicking “Resources”



Educational resources and opportunities (such as the Eclipse Megamovie or Eclipse Subject Matter Experts) can be found under the “Education” drop down menu:



The “Media” drop down menu will house links to news stories about the project, the project social media page, and soon, the press package page, which teams can

refer media requests to for information and photos about the project.



Eclipse Ballooning Project Survey Implementation

Advisors and Mentors to Eclipse Ballooning Project

Teams: You should have received an email from Irene Grimberg titled “Eclipse Ballooning Project Survey Implementation.” It is very important that we get this data to aid opportunities similar projects in the future.

- Please devote 15 minutes of a class or session to have the students complete the online survey. Completion rate increases enormously when participants complete the survey in class.
- Each participant completes the pre-launch survey only once. Students can chose to complete the survey in English or Spanish by going to the respective link.
- Please ask your students to complete the survey between April 20 and May 12. In order to get meaningful results we want the teams to be at a similar stage in their project development.
- Link to English _ Eclipse Ballooning Pre-launch Survey (please copy and paste the link in your browser page): https://montana.qualtrics.com/jfe/form/SV_86b7pGjH4qKzbdH
- Link to Spanish _ Eclipse Ballooning Pre-launch Survey (please copy and paste the link in your browser page): https://montana.qualtrics.com/jfe/form/SV_b107p88k6pyo6YB

If you have any questions please do not hesitate to contact Irene at b.grimbergdemenalled@montana.edu.

Thank you very much for taking the time to help us gather this data!

More Balloons to be Shipped Out

Each team will be receiving two 2000g Kaymont balloons for your eclipse day launches in early August.

Total Eclipse of the Sun Stamps

Check out these stamps using thermochromic ink:

http://about.usps.com/news/national-releases/2017/pr17_020.htm

Consider flying some of these stamps for promotional use.

Eclipse Subject Matter Experts

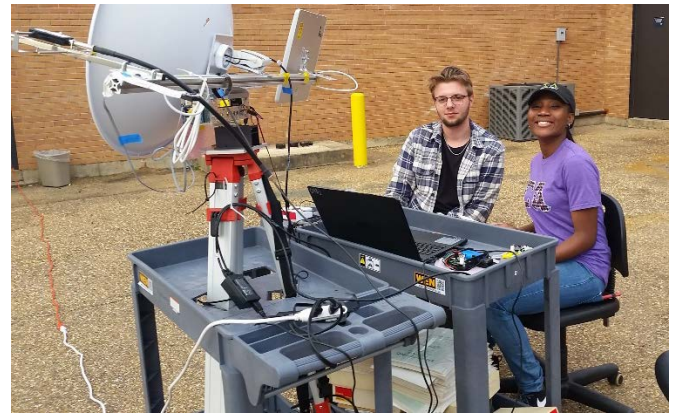
“Join us in our efforts to engage the public about the August 21, 2017 total solar eclipse by volunteering as a subject matter expert!

We welcome scientists, engineers, science writers, amateur astronomers, and science educators to identify themselves as subject matter experts, or SMEs, available and interested in supporting programs around the nation on the 2017 eclipse. By signing up here, groups seeking an expert speaker can reach out to you to join their event.”

<https://eclipse2017.nasa.gov/subject-matter-expert>

Team Activity

Muleriders of Southern Arkansas University: Mobility of Ground Station



Nebraska Near Space Science HAB Tethered Flight

Check out this blog post about their recent testing of the NASA Eclipse Ballooning equipment during a tethered flight:

<http://nearspace-science.com/nasa-eclipse-ballooning-tethered-flight/>

Oregon Tornados Earth Day Tethered Launch

The video and still image payloads worked fine. Iridium and cutdown also worked fine except the cutting wheel came off the servo after the cutdown.

We tested out our new packaging system and it worked great. We added a camera payload with three GoPro cameras and got good images.





Communication

- The next group **telecom** will be Thursday May 11 at 11 AM mountain daylight time. At the telecoms, we will spend about 20 minutes on updates then open the floor for questions.
 - Call toll free 855-797-9485
 - Pass code 921-692-445# then # again
- A technical Telecom will be held Thursday May 18 at 11 AM MDT.
 - Call toll free 855-797-9485
 - Pass code 921-692-445# then # again
- Facebook page: <https://www.facebook.com/EclipseHighAltitudeBallooning/>
- Twitter: https://twitter.com/Eclipse_HAB

Action items

- The June 20, 2017 project dry run is less than two months away! It is important for teams to participate in the event whether that be a flight (preferred), tethered launch, or bench test. Not only is the dry run a test/practice of the systems, websites and coordination, but also a practice of coordinating/communicating with the FAA. **All teams**, please fill out the attached spreadsheet titled “**June 20 Dry Run Launch Sites**” and email the spreadsheet back to Shane by Friday, May 5 so we may organize our communication and coordination with the FAA for the dry run.
- If you have not filled out the eclipse “Launch Sites and POcb” spreadsheet (your team registration number will **not** be highlighted green and you will have yellow highlighted boxes for information that needs updated or completed) please fill out the attached spreadsheet and email it back to Shane ASAP along with the June 20 spreadsheet.
- Send Shane your team website or blog to be added to the eclipse ballooning page
- Next Telecom 5/11/2017 at 11AM MST
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Technical Activity

ProBoards

<http://eclipsedesign.proboards.com/>

New troubleshooting tips/solutions and ideas are being shared on a near daily basis. Check out the discussions!

GitHub

<https://github.com/MSU-BOREALIS>

New FAQs

See answers at <http://eclipse.montana.edu/faq/>