



Eclipse Activity Report (EAR)

Nationwide Eclipse Ballooning Project

Issue #9
12/6/2016

<http://eclipse.montana.edu>

EAR Issue 9 Summary

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

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Next Telecom 12/08/2016 at 11AM MDT. 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

Action Items

- **Report to Shane your Milestones 1-5 (excluding Milestone 3)**
- **Send Shane your team website or blog to be added to the eclipse ballooning page**
- **Invite students to join the Eclipse Ballooning Project Student Communications Google Group here:**
<https://groups.google.com/forum/?hl=en#!forum/sgebpsc>
- **Next Telecom 12/8/2016 at 11AM MST!**

General Updates

T-Minus

As of this writing we are 36 weeks, 5 days, 21 hours, 52 minutes and 40 seconds away from the moon's shadow reaching Oregon's coast as the Great American Eclipse begins.

Help Wanted

We are looking for a student with some graphic design knowledge and an understanding of the systems of the Eclipse Ballooning Project and how they work to create an infographic for the project. The infographic must be completed by the end of January, 2017. Upon completion, \$1000 will be paid to the creator. If you are interested or know someone who would be interested, please contact Shane to receive additional details. Please be prepared to share a file/link which demonstrates your capabilities.

Stream.live Update

We are still working with Stream.live (formally Stre.am) to host our videos on the day of the eclipse. Stream.live is currently following up with NASA about how the stream.live/eclipse page will be linked to NASA (NASA requires 508 compliance and no advertising to be associated with their website). Stream.live may also be hosting NASA's live content during the eclipse as well! Once this all gets settled the ball will begin rolling again in preparation of our streaming page and getting the details to teams on how to stream to stream.live.

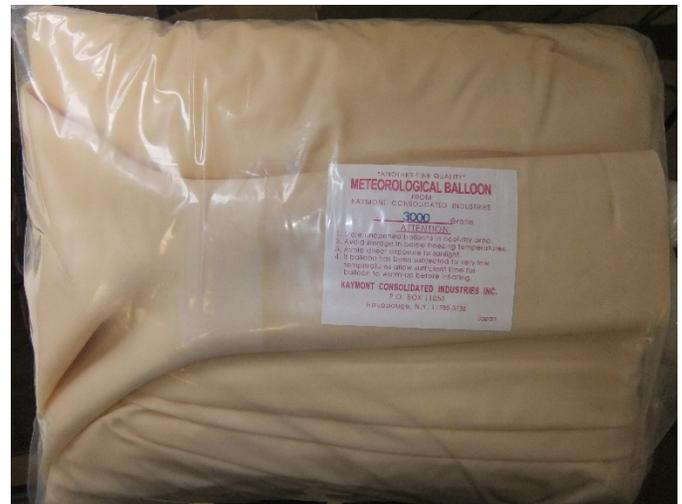
Upcoming Team Communications

On Thursday, December 8th we will have a telecom with project updates and general questions (please refrain from asking technical questions). At the end of January, we would like to have a technical telecom with the workshop "wizards" to answer any technical questions you would like to talk about.

We will also begin contacting individual teams via phone to get feedback about how things are going, what progress you have made and what issues you have that need to be addressed. Please contact Shane with a date/time that works for your team or we will reach out to you to set up a date/time to chat.

3000g Balloons Available

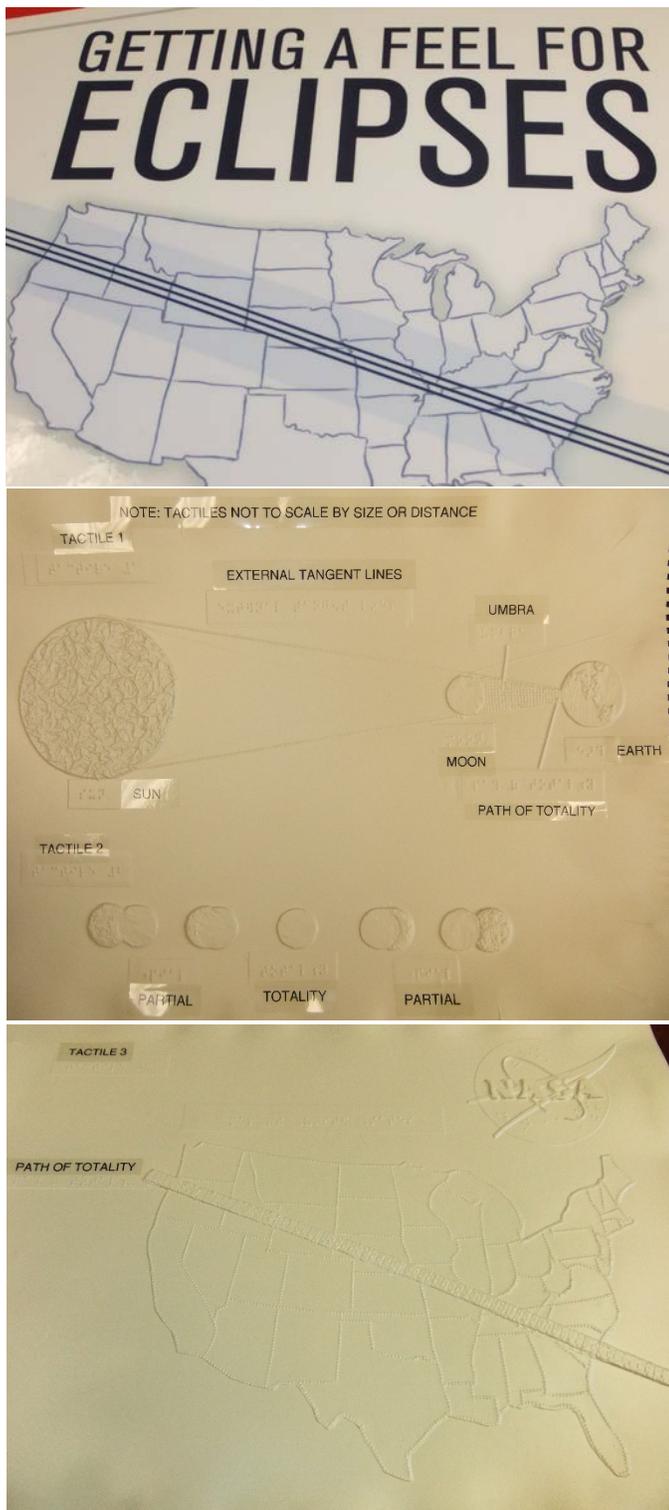
3000g balloons (the so called "Expired Google Balloons") are available to teams who are in need of practice balloons for the cost of shipping only. Max of two per team until we run out (we have about 25 left). Please contact Shane if you are interested. Once shipped a receipt will be provided for reimbursement.



Broken Parts

Broken parts? We have a stockpile of parts that can be shipped out if a part is broken or lost. Please note that we do not have extras of all parts and once we run out, we will not be ordering more. Please contact Shane if you are in need of a new part.

August 21st 2017 Total Solar Eclipse Tactile Maps



Dr. Cassandra Runyon has developed and printed tactile maps of the 2017 Great American Eclipse with diagrams

of total solar eclipses. If your team is interested in one of these wonderfully crafted maps, please contact Cass at: RunyonC@cofc.edu.

EBP Website: The Teams

There are currently 54 teams participating in the Eclipse Ballooning Project! A list of the teams and their “reference number” (i.e. workshop registration number or identification number) can be found here:

<http://eclipse.montana.edu/teams/>

If you would like to link to your website, please email Shane with the website address.

EBP Website: Projected Airspace Impact

A page has been created which displays the potential impacted airspace for the Eclipse Ballooning Project using launch/GS locations teams have provided (<http://eclipse.montana.edu/ebp-airspace/>). This will be provided to the FAA as a “predicted area of operations” for our project on the day of the Eclipse. Below the map is a list of all the teams with their launch/GS location coordinates and description. Please take a moment to double check the information we have for your team. **If your launch location/description is blank, please provide your GS/launch location ASAP by emailing Shane.** If you see an error or if your location has been adjusted, please email Shane with the correct information.

Milestone 3

Milestone 3, set for 11/11/2016, has been postponed until further notice. The server has been moved and we are ironing out some final glitches. We are getting close!

Milestone 5 – First Full System Test 12/1/2017

Teams should be wrapping up their first full system test and reporting back to Shane with any

issues/comments/notes and along with their MilestonesChecklist_ReportingRevA form.

Milestone Spreadsheet

Please continue to update your spreadsheet (reporting version) and send it in as you complete project milestones. As your confidence in the systems change, please reflect that within your update.

Team Activity

What's Up?

Is your team doing something interesting you would like to share? Tell us what you are up to! Please send Shane any details, photos, diagrams, etc. of any activity you would like to share and we will feature it here!

Oregon Tornados North Medford HS Virtual Launch Report

2. We ran several simulations before the virtual launch varying balloon sizes, payload weights and ascent rates. We are still assuming that we are launching from the ground station location, i.e., Dayville High School in Oregon.

3. We split the team into sub-groups and have started developing tasks and check lists for each sub-group. The sub-groups are:

- (a) Balloon launch and retrieval
- (b) Ground station tracking including Iridium, Arduino, IMU and NASA cutdown system
- (c) Mobile tracking including SPOT Tracker and Tracksoar radio system
- (d) NASA RT still image and high-school camera payloads
- (e) NASA RT video payload, Stre.am and YouTube.
- (f) High-school metrics payload and cut-down system

4. We performed a virtual launch on 12/4/16 for sub-groups (a), (b), (d) and (e). Sub-group (b) did not test the NASA cutdown system. Sub-group (d) did not test the high-school camera payloads. Sub-group (e) did not

stream to the Internet, i.e., YouTube (we successfully tested this in a prior launch). For this launch the sub-groups worked in series so that we could document and time each set of tasks. In the future many of these tasks can be done in parallel. We are currently using two laptops, but we intend to move towards using three laptops: one for GS tracking, one for RT video and one for RT still images. This latter approach works with our team structure and support parallel working and problem solving.

5. In general, the ground station tracking system and Iridium worked well and we were able to see our data on the MSU website. However, the ground-station alignment failed because we had to do the launch indoors because of bad weather and as a result we couldn't get a ground station GPS lock. The NASA RT video and still image payloads worked fine.

Technical Activity

ProBoards

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

We have recently added additional "wizards" from University of Colorado to monitor the forum and help respond to technical questions. Keep posting questions and any feedback you have to current posts.

GitHub

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

Students – get involved in tinkering with the software!

New FAQs

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

Communication

- Points of Contact for eclipse path state hosts can be found from the FAQ page.
- The next group **telecom** will be Thursday December 8th 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
- We're putting together a **social media** team. Anyone interested in helping, please contact Shane or Angela.
- Facebook page:
<https://www.facebook.com/EclipseHighAltitudeBallooning/>
- Twitter:
https://twitter.com/Eclipse_HAB

Action items

- Report to Shane your Milestones 1-5 (excluding Milestone 3)
- Send Shane your team website or blog to be added to the eclipse ballooning page
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<https://groups.google.com/forum/?hl=en#!forum/sgebpsc>
- Telecom 12/8/16, 11 AM Mountain Standard Time