Eclipse Activity Report (EAR)

Nationwide Eclipse Ballooning Project

Issue #11
1/18/2017

http://eclipse.montana.edu

EAR Issue 11 Summary

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

General Updates

Happy Eclipse Year – T-minus

Shipping Papers – Helium Transportation > 440 lbs

Technical Telecom

Individual Team Communications

Final Call-Out for Balloons

Totality Maps of Shadow at 80K ft

Stabilizing Payloads for the Eclipse

Testing the Tracking Payload Reminder

EBP Website: Projected Airspace Impact

Milestone 7 – System Experts

Milestone Spreadsheet

Team Activity

What's Up?

Oregon Tornados North Medford HS Virtual Launch Report

Technical Activity

New FAQs

Communication

Next Telecom 1/19/2017 at 11AM MST. 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

Technical Telecom 1/26/2017

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Action Items

- **Report to Shane your Milestones 1-7 (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 1/19/2017 at 11AM MST!**
- **Technical Telecom 1/26/2017 at 10:30AM MST**

General Updates

Happy Eclipse Year – T-minus

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

Shipping Papers – Helium Transportation > 440 lbs

With help from the Motor Carrier Captain of the DOT, we have finalized the practices for the transportation of Helium for high altitude ballooning activities. To summarize (see FAQ or HAB Resources pages for more details), we may transport up to 440 lbs gross weight of helium tanks in a vehicle **with balloons** under the "Materials of Trade" exemption without the requirement of any documentation (although it is recommended that you carry the regulations and an invoice in the transporting vehicle). Should you require to transport more than 440 lbs gross weight of helium tanks (but less than 1000 lbs) you must carry shipping papers within the transporting vehicle.

We have created an example shipping paper which you can easily fill out each time you need to transport helium with a gross weight of over 440 lbs (but less than 1000 lbs). The form is fairly straight forward, with the only catch being the Hazardous Materials Emergency Contact Number. This is a contact who is "on call" and available anytime the helium is being transported in case of an accident and the occupants of the transporting vehicle are incapacitated. There are some suggestions within the "Transporting Helium" guide, but in a nutshell it can simply be someone made available with the Emergence Response Guidebook and can inform first responders of the hazards of the material and proper first aid measures (Inert gasses are under Guide Number 121) in case of an accident. If you have any questions, please contact Shane.

Technical Telecom

A technical telecom will be held 1/26/2017 at 10:30am MST. Please come prepared with questions that can be address in 2-4 minutes so that we may get to as many questions as possible.

Individual Team Communications

We would like to contact individual teams via phone starting early February to get feedback about how things are going, what progress you have made and what issues you have that need to be addressed. We will be emailing you to find a time that works best for your team.

Final Call-Out for Balloons

A few 3000g balloons (the so called "Expired Google Balloons") are still available to teams who are in need of practice balloons for the cost of shipping only. Please contact Shane if you are interested. Once shipped a receipt will be provided for reimbursement.

Totality Maps of Shadow at 80K ft

Michael Zeiler, of GreatAmericanEclipse.com has created some amazing maps of the shadow path at 80,000 ft which we have made available to everyone here: http://eclipse.montana.edu/path-at-80000-feet/. It is a surprising large adjustment (shadow path shifts to the south) which teams may want to be aware of,

especially if they are hoping for video or photos of the eclipsed sun. Each state has between 1-4 maps detailing the path. Clicking a particular map will take you to the full res image located on the project Google drive which can then be downloaded for your teams' use.

You can find an eclipse information interactive map here: http://arcg.is/2k4zOH0 Clicking the layer icon in the top right corner will allow you to turn on/off layers including the "Path of totality lines at 80000 feet high" layer (which is by default off). We strongly encourage you to check out and share these incredible resources!

Stabilizing Payloads for the Eclipse

Check out this youtube video of an eclipse from a well-stabilized perspective of passengers in a plane. This and similar videos may lead to ideas for optimized camera settings, camera filters, and goals for camera/payload stabilization. Keep in mind having an altitude goal of ~90,000 feet during totality may leave your balloon vulnerable to bursting during or before the event.

Testing the Tracking Payload Reminder

Keep in mind when testing the tracking payloads that in order for the system to work properly it must be outside and/or have a clear unobstructed view to the south in order to get a GPS lock.

Milestone 7 – System Experts

Teams should have an idea who their "system experts" are and be planning a second "launch simulation."

Milestone Spreadsheet

Please continue to update your spreadsheet (reporting version) and send it to Shane 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!

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 January 19th at 11 AM Mountain standard 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 January 26th at 10:30am MST. Please come prepared with question that can be addressed in 3-4 minutes so we may get to as many questions as possible.
  - 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 1-7 (excluding Milestone 3)
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