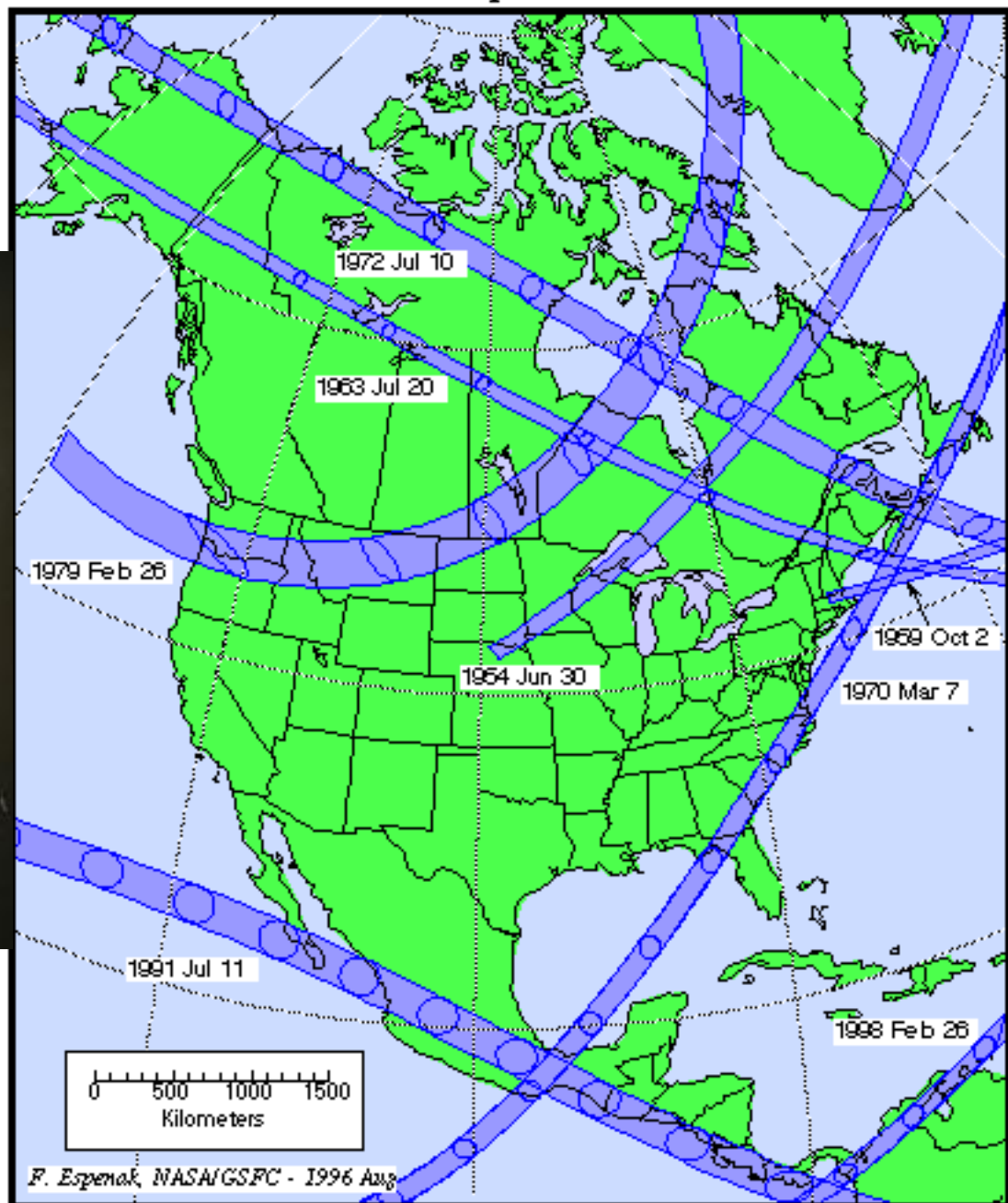


National Network of Space Grant
Total Eclipse High Altitude Balloon
Flights

National Space Grant Directors Meeting
February 28th, 2014

Total Solar Eclipses: 1951 - 2000



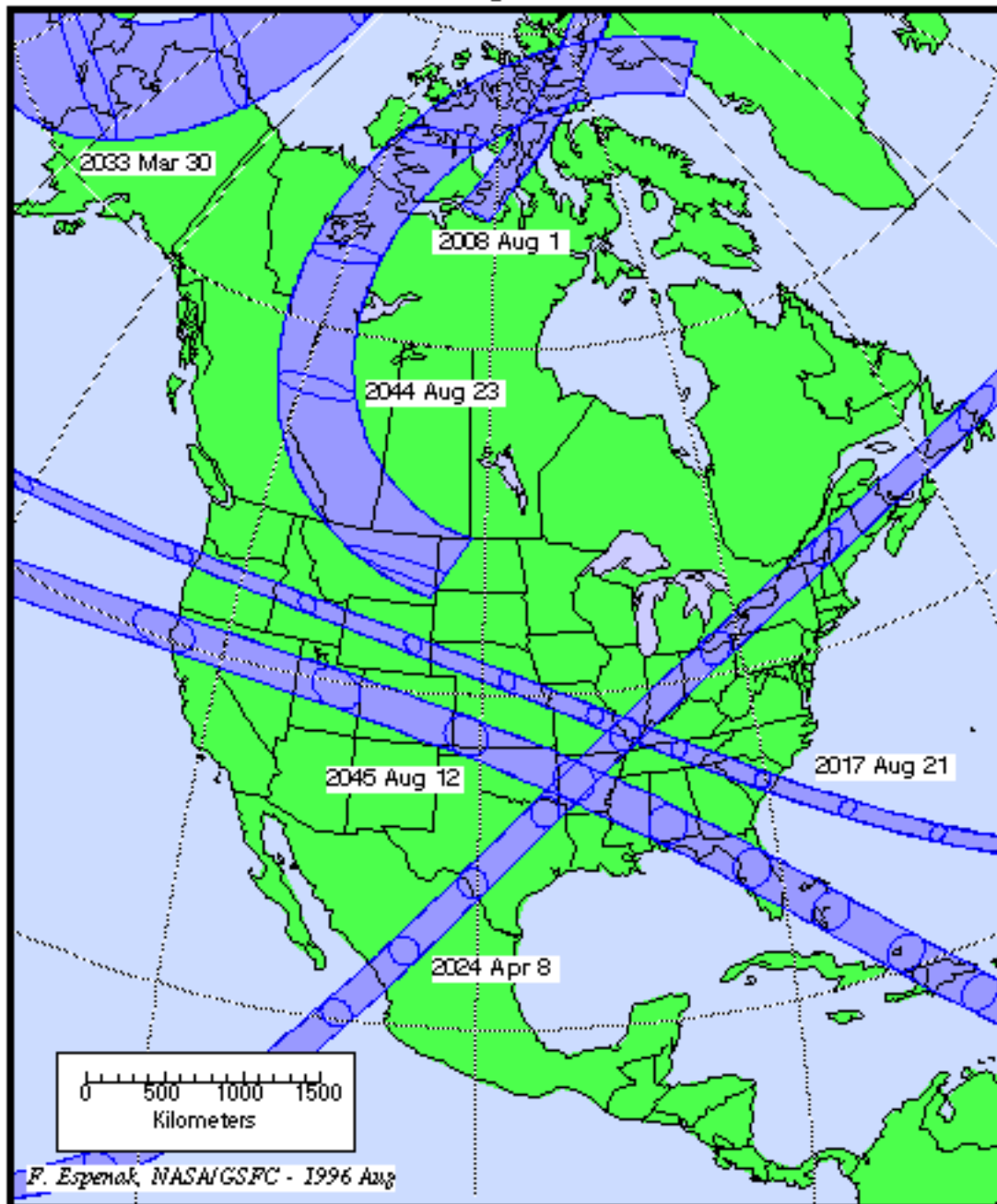
F. Espenak, NASA/GSFC - 1996 Aug



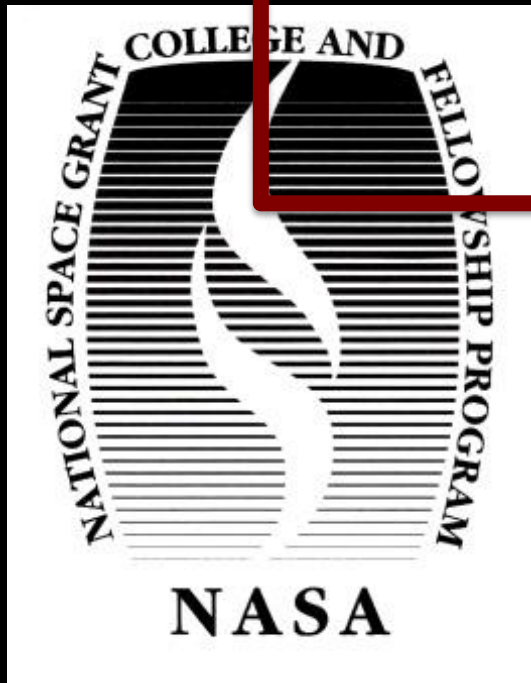
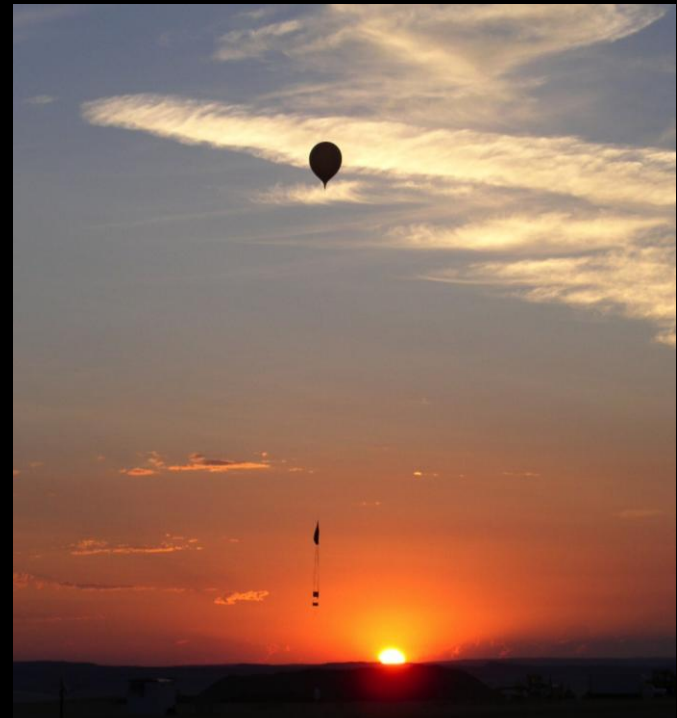
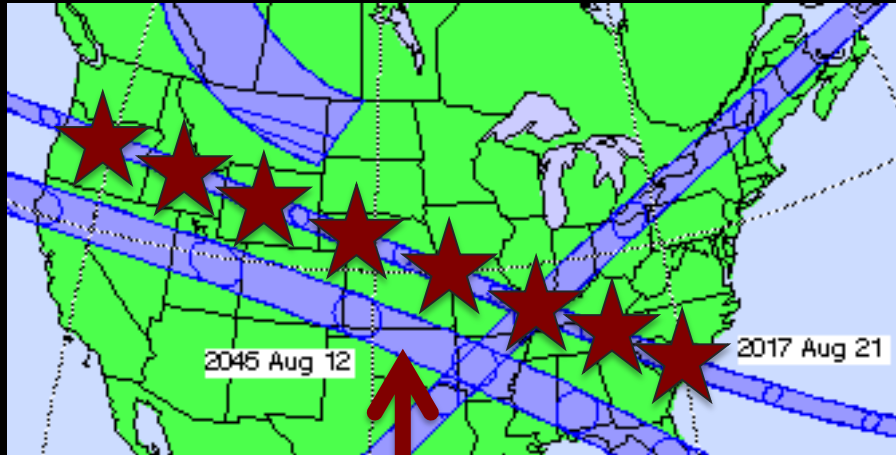




Total Solar Eclipses: 2001 - 2050



THE IDEA



A screenshot of the NASA website. The top navigation bar includes sections for NEWS, MISSIONS, MULTIMEDIA, CONNECT, and ABOUT NASA. Below the navigation bar is a search bar and a row of links: "For Public", "For Educators", "For Students", and "For Media". The main content area shows a large image of the Earth's horizon with the word "millions" written in white, slanted text across it.

WHY

- Public engagement
 - Incredible learning moment opportunity
 - Millions can view live from anywhere in world
- Workforce development
 - Highly collaborative, mission-like
 - Multidisciplinary
- Science (solar) and Technology (space communications)
- Collaborations and partnerships
 - Inter-agency
 - industry

TIMELINE

- AY 2014 – 2015: advertise and select teams
- Summer 2015: workshop to build camera/comm payloads (pre-developed and identical for each team)
- AY 2015 – 2016: test camera payloads, develop and test secondary payloads
- Summer 2016: full dry run
- AY 2016 – 2017: address issues brought out by dry run
- Summer 2017: Eclipse totality starts in Oregon at 1:20 PM Eastern on August 21st, 2017 and ends at 2:50 PM Eastern in South Carolina.
- Fall 2017: Students present at the national meeting

COSTS – very rough estimates

- Primary payload with camera, satellite modem/communication device: \$1,500 - \$2,500
 - Secondary payload: \$50 - \$1,000
 - Balloons, helium/hydrogen, basic flight supplies (times two including dry run): \$1,500 - \$3,000
 - Travel to 2015 workshop: \$5,000 – 7,000
 - Travel to launch and recovery sites (x2): \$2,000 – \$10,000
 - Data download fees: \$500 – \$5,000
- Total estimate for supplies, travel, and fees: \$15,000 - \$30,000 over two years.

NEXT STEPS... Who's in?

- Collaborators: indicate your initial interest NOW (one per state):
<http://tinyurl.com/mtq3ea4>
- Funding source(s)
- Partners
 - Space Grants
 - Science Mission Directorate
 - NSF heliophysics and education
 - Industry

Fall 2017 National Meeting

- Total solar eclipse theme with student presentations of ballooning results
- Invited talk by a solar physicist who observed the event
- Tours of solar telescopes
- In ...

Hawaii



Don't forget



- indicate your initial interest NOW
<http://tinyurl.com/mtq3ea4>
- Watch for updates as we move forward

8-21-2017