

# Making Solar Eclipse Events Accessible with LightSound



**Allyson Bieryla**

abieryla@cfa.harvard.edu

**Sóley Hyman**

soleyhyman@arizona.edu

CENTER FOR

**ASTROPHYSICS**

HARVARD & SMITHSONIAN

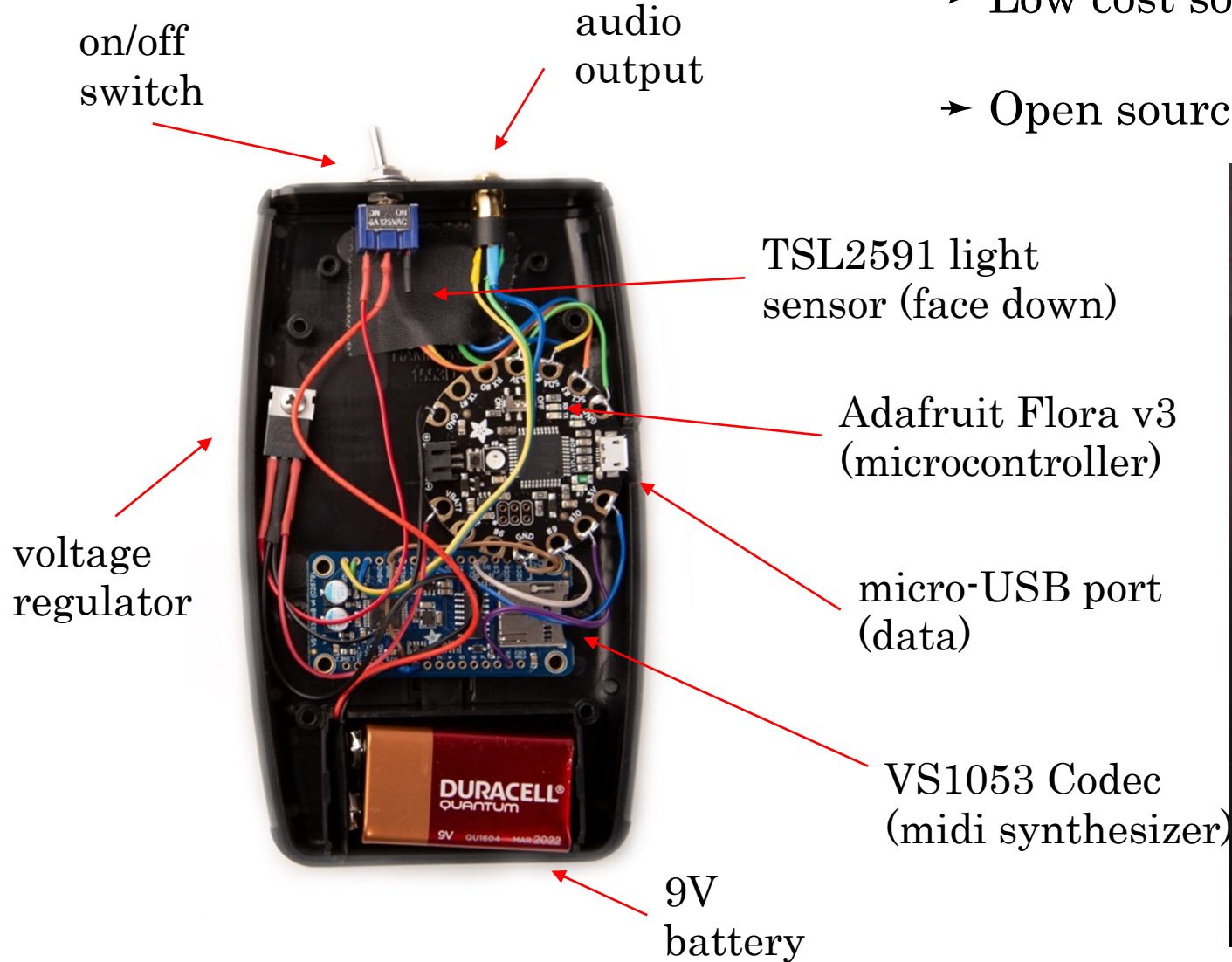


THE UNIVERSITY OF ARIZONA  
COLLEGE OF SCIENCE

**Astronomy  
& Steward Observatory**

# What is LightSound?

- Low cost sonification device designed for solar eclipse
- Open source code and instructions for building





# LightSound sound clip



## Video demonstration of simulated eclipse

The sound starts as a high flute tone in the bright sunlight, and as the circle covers the sensor, the sound drops to a low clarinet before becoming clicks as the circle completely covers the opening. As it continues passing over, the low clarinet sound returns and the pitch rises until the flute sound returns.



One LightSound device can impact thousands!!!



July 2, 2019  
South America (20 devices)



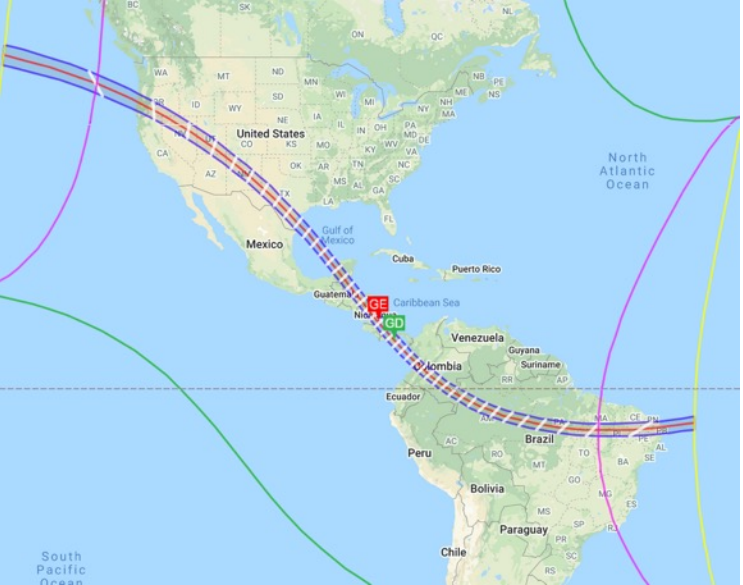


December 14, 2020  
South America (100+ devices)

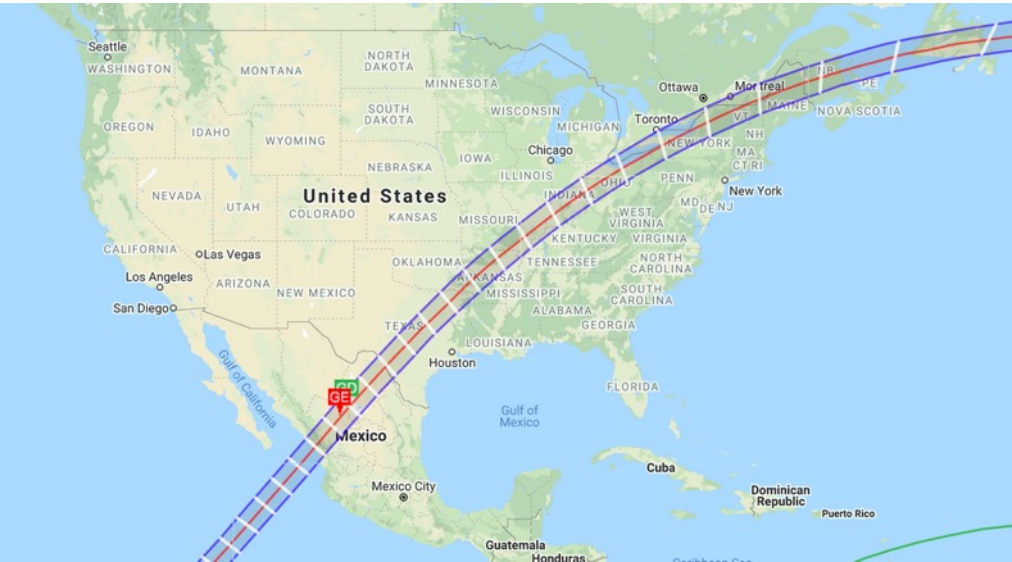
December 14, 2020  
Low-cost, high impact (\$50/device)



# North American Annular Eclipse October 14, 2023



# North American Total Eclipse April 8, 2024



## In Progress

Goal:  
100s of devices!!

We are looking for people and organizations to...

- ➔ Build LightSound devices
- ➔ Run Make-a-thons
- ➔ Donate LightSounds



Scan to request  
a device!





# Workshops and Make-a-thons



RMSC Make-a-thon



AAS 235 Workshop  
Photo credit: Todd Buchanan 2020



# LightSound

(eclipse sonification device)



<http://astrolab.fas.harvard.edu/LightSound-IAU100.html>



# Orchestar

(color sonification device)



<http://astrolab.fas.harvard.edu/orchestar.html>

Allyson Bieryla ([abieryla@cfa.harvard.edu](mailto:abieryla@cfa.harvard.edu))  
Sóley Hyman ([soleyhyman@email.Arizona.edu](mailto:soleyhyman@email.Arizona.edu))