

Plans for EclipseMob 2024

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During the 2017 solar eclipse, the EclipseMob project conducted a collaborative effort to crowdsource a large-scale geographically distributed measurement of LF radio wave propagation. Do-it-yourself antenna and receiver kits were distributed to libraries, schools, and citizen scientists across the United States, paired with a smartphone app that provided data recording and software-defined radio functionality. While the data collection was ultimately not successful because of a problem with the receiver-smartphone interface, the EclipseMob crowdsourced measurement model still has the potential to make a valuable contribution to the study of the ionosphere. The availability of low-cost electronic components and modern GPS-based location services presents an opportunity to coordinate nationwide radio measurements that can be performed by hobbyists, students, educators and other citizen scientists.

At present, EclipseMob is actively planning for the 2024 eclipse in the eastern United States. The EclipseMob kit will be redesigned for the 2024 eclipse, both to address the previous kit's issues and to accommodate recent changes in smartphone technology such as the elimination of the headphone jack on many newer phone models. EclipseMob also envisions a much larger data collection effort in 2024, so outreach, recruitment, and training efforts will need to be conducted on a much larger scale. In addition to the EclipseMob web presence, which was the primary mode of participant engagement in 2017, the EclipseMob 2024 project will hold workshops and camps to train educators who can support local EclipseMob efforts. This talk will discuss how we plan to address some of the logistical and outreach challenges faced by the new, expanded incarnation of EclipseMob.