

Brooke
Kotten

University of Wisconsin-Madison, Department of Astronomy, Madison, WI, NOAA National Centers for Environmental Information (NCEI), Boulder, CO, University of Colorado Boulder, Cooperative Institute for Research in Environmental Sciences (CIRES), Boulder

Courtney Peck, University of Colorado Boulder, Laboratory for Atmospheric and Space Physics (LASP), Boulder, CO

Janet Machol, NOAA National Centers for Environmental Information (NCEI), Boulder, CO, University of Colorado Boulder, Cooperative Institute for Research in Environmental Sciences (CIRES), Boulder, CO

Ann Marie Mahon, NOAA National Centers for Environmental Information (NCEI), Boulder, CO, University of Colorado Boulder, Cooperative Institute for Research in Environmental Sciences (CIRES), Boulder, CO

Laurel Rachmeler, NOAA National Centers for Environmental Information (NCEI), Boulder, CO

Stefan Codrescu, NOAA National Centers for Environmental Information (NCEI), Boulder, CO, University of Colorado Boulder, Cooperative Institute for Research in Environmental Sciences (CIRES), Boulder, CO

Poster

Solar flares impact high-frequency radio communications on Earth and can be correlated with geoeffective, or Earth-directed, coronal mass ejections which cause a variety of terrestrial space weather effects. To assess these risks, the X-Ray Sensors (XRS) instrument on Geostationary Operational Environmental Satellites - R Series (GOES-R) monitors solar X-ray irradiance to provide early warnings of solar flares. Additionally, XRS quadrant photodiode measurements are used to determine accurate real-time solar flare locations. Both the X-ray irradiance and the flare locations data products are used operationally by SWPC. This poster will discuss the flare location algorithm, which can locate C-class and larger flares on the solar disk within 1 arcminute for GOES-16 and -17. Multiple consecutive flares make up 12% of flare events; an upcoming revision to the algorithm's background correction will result in a 28% improvement in the location accuracy of the second or third consecutive flare after a C-class or above flare. The updated flare locations data product is available at www.ngdc.noaa.gov/stp/satellite/goes-r.html.



Poster PDF

[Kotten_Brooke.pdf](#)

Meeting homepage

[Space Weather Workshop 2023](#)

[Download to PDF](#)