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FIRE DETECTION WITH GOES-16/-17

Abstract

Fire detection has been a feature of the Geostationary Operational Environmental Satellite (GOES) series for about 20 years, but with better resolution in time and space the new Advanced Baseline Imager (ABI) on the GOES-16 and GOES-17 satellites has made the product more useful than ever. Recent major wildfires have brought a great deal of attention to early fire detection and monitoring, and the National Weather Service (NWS) offices are increasingly making use of GOES images to monitor fires in areas of concern, and stories about NWS offices finding structure fires like apartment buildings and barns appear with increasing frequency. The quantitative fire detection algorithm for the GOES series, the Fire Detection and Characterization Algorithm (FDCA), is the National Oceanic and Atmospheric Administration's (NOAA) operational fire detection algorithm. It provides fire detection and characterization from ABI data over the contiguous United States and the entire Western Hemisphere. Current examples of the algorithm's performance will be presented, along with cases exploring ABI's sensitivity to fires of all types, from raging wildfires to house fires and controlled burns, as well as examples of when the FDCA does and does not detect those fires.