

William Aydlett

Senior Meteorologist, NOAA National Weather Service

NON-COMPETITIVE DIVISION

Developing a Noteworthy Fire Weather Program for NWS Guam, Guam Fire Department and Guam's Forestry Agency

Guam is a tropical island in the northwest Pacific with two seasons: wet and dry. During the dry season, wildfires become an ever-growing threat to property and public safety. For years, the Weather Forecast Office (WFO) Guam had operated on a 4-tiered fire danger classification scale based solely on a drought index relating daily maximum temperature and 24-hour rainfall. The four levels of fire danger were low, moderate, high, and extreme. Inevitably, as dry season progressed, the daily fire danger rating remained in the extreme category. However, for the WFO to issue fire weather warnings—for the possibility of weather conditions promoting the rapid spread of wildfires—forecasters factored in the daily wind forecasts. As a result, when warnings were issued with no elevation of fire danger, public response was muted due to the apparent desensitization from long periods in the highest category of fire danger and no change in status from weather or fire officials.

WFO Guam sought to revise this classification so as to increase public sensitivity and response. They factored in daily forecast winds with the existing drought index and increased the fire danger classification scale to 5 tiers (low, moderate, high, very high, and extreme). As a result, the number days in the two higher categories has been reduced, and those days reaching the two higher categories are often in tandem with the issuance of fire warnings.

Through this process, WFO Guam developed a closer working relationship with Guam Forestry (GF) and Guam Fire Department (GFD) which led to increased data

sharing, improved monitoring of wildfires, and new public outreach opportunities. In addition to educating the public on fire danger, GF and GFD have used the new fire danger classification scale as a decision-making tool for operational posture and developed new and better signage to display around the island indicating the daily fire danger and key information.

Presentation Theme: A revised fire weather program by the National Weather Service in Guam is the product of an assessment researching multiple years of wildfire events and climate data. The research sought to revise the categorical fire danger thresholds to better serve the public and government partners to better identify weather conditions leading to an increased wildfire threat. The new program better communicates increased risk, leading to better operational posturing by the Guam Fire Department and Forestry Agency, and increased community preparedness.

Collaborators, Advisor(s) and Department(s) that assisted with this research:

Amanda Bowden, University of Georgia.

Funding: None