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Abstract

NASA's New Wildland Fire Earth Observation Science & Applications Programmatic Developments †

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Abstract: In 2021, the U.S. National Aeronautics & Space Administration (NASA) initiated new programmatic elements within the Science Mission Directorate (SMD) and the Aeronautics Research Mission Directorate (ARMD) focused on supporting wildland fire science and applications improvements, employing the vast array of NASA scientific knowledge, airborne and space-borne Earth Observations (EO) capabilities, technology development (sensor systems, etc.), and large framework modeling efforts. Within the Science Mission Directorate, the NASA Earth Science Division (ESD) will focus on improving our understanding of wildland fire through EO tools and applying rigorous-tested modeling and results of that research into operational use. The ESD Wildfire strategy is to invest in new technology and to better integrate NASA's satellite, airborne, and ground-based observations with wildfire models to provide the wildfire stakeholders with the information they need to make informed decisions about the pre-, active-, and post-fire conditions. The Applied Science Program has restarted the Wildland Fire Applications Program with a focus on engaging wildland fire management and the fire science community in transitioning EO science efforts into routine use by land management entities at the local, state, national and international level. The NASA Aeronautics Research Mission Directorate will focus on arenas where their aeronautics science and engineering outcomes can benefit the fire management community as well, specifically in the innovative development of Uncrewed Aircraft systems, congested mixed-use platform airspace management issues, new platform configurations supporting wildland fire missions, and other aeronautics-related science/engineering capabilities which may benefit the fire management community. In total, these developments represent a major thrust forward, supporting the goals of utilizing NASA science to benefit humankind. This presentation will highlight the various wildland fire science focus areas identified through collaborations with the wildland fire science and management community and highlight the plans of this new NASA focus area.

Keywords: NASA; wildland fire program; Earth Observations; remote sensing; aeronautics

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