

MASTER IN AEROSPACE SCIENCE AND TECHNOLOGY CONFERENCE

Vincent G. Ambrosia

NASA - AMES Research Center

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Room 001 EPSC
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Innovative Solutions for Airborne Fire Monitoring: UAS, Intelligent Sensors, and Data Visualization Systems... the Future is Now!!

The U.S. National Aeronautics and Space Administration (NASA) and the U.S. Department of Agriculture-Forest Service (USFS) are exploring and investing in innovative solutions and technologies to improve airborne observations of fire events. Those technologies include Unmanned Aircraft Systems (UAS) platforms, innovative multispectral / thermal sensor systems with onboard, autonomous data processing capabilities, and a geospatial data visualization package (the Collaborative Decision Environment (CDE)), based Google Earth to utilize the fire information in real-time.

These capabilities were operationally demonstrated during the western United States fire season in summer 2007, during the devastating southern California firestorms of late October, 2007, in 2008 over the northern California wildfires, and in late 2009 for post-fire assessment work over the Los Angeles County, California "Station Fire".

The presentation will highlight the enabling technologies and describe the efforts underway to realize the efficient integration of these capabilities into operational status within the US fire management community. The presentation will also describe objectives and operations planned for 2010 and 2011.



WRAP

Wildfire Research and Applications Partnership

<http://geo.arc.nasa.gov/sge/WRAP/>

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Vince Ambrosia is a Senior Research Scientist and Adjunct Faculty member of California State University, working at NASA-Ames Research Center, Moffett Field, California. He has been at NASA's Ames Research Center since 1980 working in remote sensing systems for ecosystem studies and he has been involved in wildfire imaging capabilities, most recently utilizing sensors on Unmanned Airborne Systems. He is the principal investigator / lead scientist on a NASA effort to design improved fire characteristic monitoring capabilities with UAS and thermal-infrared imaging systems.

In 2009, Vince received the NASA Exceptional Public Service Medal, given for exceptional contributions to NASA's mission, primarily in employing imaging systems on UAS platforms to serve the wildfire management community during the firestorms of 2007 and 2008 in the United States.

Vince has authored or co-authored over 125 papers, journal articles, and book chapters on the topic of remote sensing from both satellite and airborne platforms. He received the BS in Geography from Carroll University (Waukesha, Wisconsin), and the MS from the University of Tennessee in 1980.



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