GOES-R High Impact Weather Research Theme

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Abstract: The CIMSS GOES-R High Impact Weather Research Theme will focus on two major high impact weather events: fires and severe storms. The objective of the fires component of the research is to improve NWS WFO and IMET situational awareness during wildfire events. The fires component will have three sub-topics focusing on fire detection and characterization, smoke forecasting and data assimilation, and development of probabilistic estimates of lightning wildfire ignition sources. The fires component will utilize GOES-R ABI baseline fire detection and characterization, aerosol optical depth and GLM lightning detection algorithms. The objectives of the severe storms component are to explore the applications of GOES-R information to storm-scale high-impact weather events. The severe storms component will have two sub-topics focusing on convective and winter storms, and tropical cyclones. The severe storms component will utilize GOES-R ABI baseline algorithms to retrieve atmospheric profiles and derive products such as layered moisture and Atmospheric Motion Vectors (AMVs) to assess their impact on improving the depiction of storm-scale parameters.