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Combined Infrared and Hyperspectral Imagery in the Riverine Environment GEOFFREY B. SMITH, W. JOSEPH RHEA, Naval Research Laboratory, GEORGE O. MARMORINO, Naval Reasearch Laboratory — Results from a recent NRL field experiment will be discussed. The program was focused on the Pearl River, a fairly slow, meandering river, located in Mississippi, which empties into the Gulf of Mexico. Data from airborne infrared (IR) and hyperspectral imagers will be presented. The IR sensor is sensitive to radiation in the 3 - 5 μ m band; when imaging water, radiation in this band comes only from approximately the top 30μ m of the water column. This means that the imagery can be thought of as a temperature map of the water surface. The imager used is sensitive to temperature fluctuations of the order of 0.02K. This enables the visualization of very small disturbances to the water surface. The hyperspectral imager operates in the visible bands, and in the case of clear water can therefore see deeper into the water column. In this presentation the primary focus will be on using the color imagery to aid in interpretation of the IR data. Effects of look angle in the IR data will also be presented and discussed.

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