Master of Science Thesis Defense
Department of Meteorology, University of Utah

Remote Sensing of the Surface Temperature of the Great Salt Lake
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2-3:30 PM
Room 110 INSCC

The surface temperature of Utah's Great Salt Lake is investigated using imagery from the Advanced Very High Resolution Radiometer. The accuracy of these satellite-derived surface temperature estimates over the Great Salt Lake is potentially affected by a number of sources of error: poor estimates of atmospheric attenuation and the atmospheric state, unrepresentative corrections based on buoy-radiance comparisons at other locales, emissivity variations, and cloud contamination. The collective influence of these error sources on the accuracy of satellite-derived lake surface temperature (LST) is likely less than 1-2 ^{o}C, although dependence on standard global sea surface temperature algorithms may act to amplify these errors. Using real-time in situ observations to derive lake surface temperature algorithms with the addition of a salinity correction term may yield more accurate temperature retrievals, providing data suitable for studying spatial and temporal LST variability. Validation studies are needed to quantify the temporal variability and magnitude of errors in derived lake surface temperature under various atmospheric and lake surface conditions.

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• If lot is full, meters are available further east at north end of campus
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