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P-11 GOES Evapotranspiration and Drought Product
System (GET-D)

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Monitoring evapotranspiration (ET) and the extent and severity of agricultural drought is an important component of food and water security and world crop market assessment. We have developed an operational ET and drought monitoring system using a surface energy balance model specifically adapted for Geostationary Operational Environmental Satellite (GOES) data. The system uses GOES micron channel brightness temperature data to compute the land-surface temperature (LST). The LST and other remote sensing inputs (downwelling short and long-wave radiation, and leaf area index) are input into the Atmosphere-Land Exchange Inverse (ALEXI) model to calculate the daily ET and potential ET (PET). An Evaporative Stress Index (ESI) will be computed based on the daily ET and PET. This system will provide the daily ET product and 2, 4, 8, 12 weeks composite ESI over North America at a spatial resolution of 10 km.