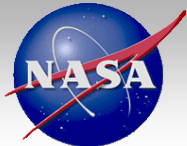


# Inland Water Temperature: An Ideal Indicator for the National Climate Assessment

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# Where can we see warming and by how much?

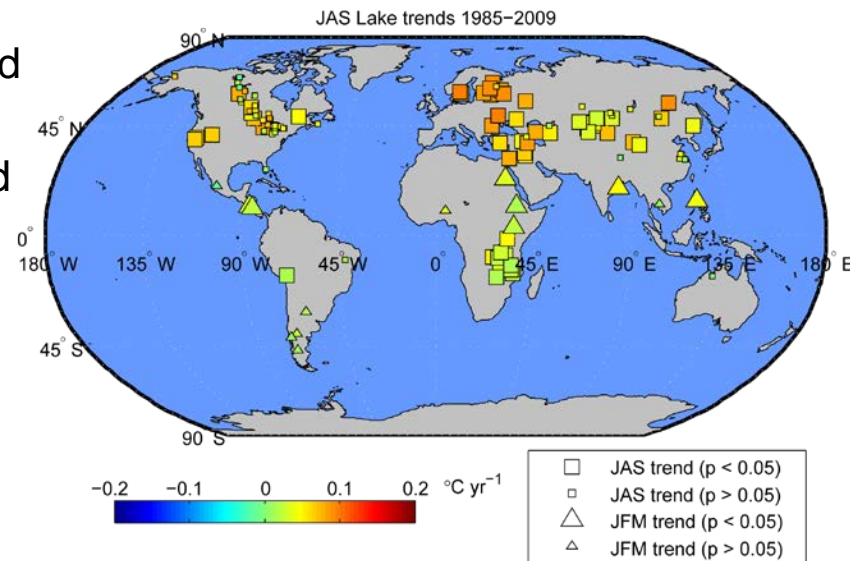


- The Idea

- Temperatures of lakes and reservoirs are good indicators of climate trends
- Existing in situ data is insufficient in space and time
- Nearly 30-year record of satellite thermal infrared imagery available
- People relate to changes in inland water temperatures

- Project Objectives

- Use satellite derived water surface temperatures to characterize the temporal thermal behavior of North American inland waters
- Relate changes in the thermal behavior of the water bodies to climate data (e.g. air temperatures) and model predictions
- Summarize results using ecologically relevant indicators



Previous study looked at largest inland waters in the world!

- Thermal infrared data from multiple sensor series
- Data extraction, Cloud masking, Atmospheric correction
- Computation of summer time (JAS) means, weighted linear regression analysis and uncertainty analysis
- Other indicators: 1) the onset date of spring/summer stratification (i.e., when the surface temperature first exceeds 4° C), 2) maximum summertime surface temperatures, and 3) the total duration of the summer stratified season (i.e., spring stratification to fall overturn).

