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Land Surface Temperature Retrieval Using Satellite Remote Sensing (2nd Edition)

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Deadline for manuscript submissions:
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Message from the Guest Editors

Land surface temperature (LST) is a good indicator of energy partitioning at the land surface–atmosphere boundary, and is sensitive to changing surface conditions. Satellite remote sensing provides opportunities to estimate global and continuous LSTs. The key challenges to retrieve LST using satellite remote sensing are the removal of the atmospheric attenuation, the decoupling between LST and land surface emissivity (LSE), and topography. Over the past four decades, dozens of LST retrieval algorithms have been developed and expanded from the traditional thermal infrared and hyperspectral infrared remote sensing to microwave remote sensing. Meanwhile, to fill the gaps in the derived LSTs, many scientists are devoted to the extension of LST retrievals under all-weather conditions.

Topics of interest for this Special Issue include but are not limited to:

- Decoupling between LST and LSE;
- LST estimation from satellite infrared and microwave measurements;
- Temporal and angular normalization of LSTs;
- LST validation;
- Correlation between LST and surface air temperature.

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Message from the Editor-in-Chief

Continued developments in instrumentation and modeling have driven atmospheric science to become increasingly more complex with a deeper understanding of concepts, mechanisms, and interactions. This is the field that innovation built and it has led to a better appreciation for the complexity with atmosphere. Human life is intertwined in this complexity as we strive to better understand our atmosphere. Climate change is constantly stretching the limits of our thinking and forcing new ideas and concepts to be played out. Welcome to the Anthropocene!

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