Earth Radiation Budget

Guest Editor:

Dr. Steven Dewitte
Royal Meteorological Institute of Belgium, Ringlaan 3, 1180 Brussel, Belgium
steven.dewitte@meteo.be

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Message from the Guest Editor

Dear Colleagues,

The Earth Radiation Budget (ERB) at the top of the atmosphere describes how the Earth gains energy from the Sun and loses energy to space through reflection of solar radiation and the emission of thermal radiation. The ERB is measured from space with dedicated remote sensing instruments. Its long-term monitoring is of fundamental importance for understanding climate change.

The most fundamental quantity to be monitored is the Earth Energy Imbalance, which is closely related to Ocean Heat Content.

In periods of increasing atmospheric aerosol load, there appears to occur a shift in the natural El Nino/La Nina oscillation towards a preferred La Nina state. This corresponds to a decrease in the global temperature rise and regional shifts in the tropical precipitation.

For this Special Issue, original contributions are invited focusing on ERB remote sensing instruments for either

- the establishment of past and current ERB Climate Data Records (CDRs)
- the outlook for continued or improved future ERB monitoring
- insight in climate change gained from the analysis of ERB CDRs.

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