

SABER Educational Outreach

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Presenters

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TITLE of Presentation:

It's About TIMED: Simulating the SABER Instrument in the Classroom

The SABER Mission

Understanding current atmospheric processes will enable more accurate prediction of future changes in order to assess the consequences as well as suggest corrective solutions for society. The NASA instrument called SABER will allow researchers to learn more about the upper atmosphere by helping produce the first comprehensive global measurements of Earth's upper atmosphere (60 to 100 km range - upper mesosphere & ionosphere). It is one of four instruments on the TIMED (Thermosphere, Ionosphere, Mesosphere, Energetics and Dynamics) spacecraft. SABER will view & measure the vertical distribution of infrared radiation emitted by various atmospheric gases (ozone, water vapor, nitrogen, and carbon dioxide) & provide measurements of the temperature and chemical structure of the atmospheric limb adding important information to what is known as the radiation budget.

Middle School Activity Presentation – How Do Greenhouse Gases Affect Global Warming?

Are you looking for a new way to teach your students about remote sensing? Our website and workshop will show you how to use an infrared thermometer to model the SABER instrument riding on the TIMED satellite. With this tool, students will take measurements to learn how CO₂ affects air in a confined, heated container.

The Acronyms

TIMED (Thermosphere, Ionosphere, Mesosphere, Energetics and Dynamics)
SABER (Sounding of the Atmosphere using Broadband Emission Radiometry)

University Roles

Hampton University, in partnership with John Hopkins University, is responsible for the Education and Outreach programs of the SABER mission. The TIMED satellite was launched December 7, 2001 from Vandenberg Air Force Base, California.

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