Comparisons of the greenhouse effect, upper atmospheres, and climate evolution of the Earth and terrestrial planets

Chairs: Waleed Abdalati
Brian Drouin

8:15 a.m. Abdalati W. *
Introductory Remarks

8:30 a.m. Hansen J. * Kharecha P. Lacis A. Russell G. Sato M.
Venus Syndrome [#8070]
We use three alternative avenues to investigate climate sensitivity on Earth and the conditions that could lead to extermination of human life on the planet or even a Venus-like runaway greenhouse effect.

9:00 a.m. Goldblatt C. * Crisp D. Robinson T. Watson A. Zahnle K.
The Runaway Greenhouse: New Model Results and Implications for Planets and Anthropogenic Global Change [#8095]
The ultimate and final end for Earth as a habitable planet will be the transition to a “runaway greenhouse,” an apocalypse triggered by failure of the planet to maintain energy balance.

9:30 a.m. Crisp D. *
CO₂ Greenhouse Effects on Venus, Earth, and Mars [#8083]
Carbon dioxide (CO₂) is an efficient, long-lived greenhouse gas that has played a key role in the evolution of the climates of Venus, Earth, and Mars.

10:00 a.m. Solomon S. C. *
An Introduction to Terrestrial Ionospheres [#8009]
This presentation will briefly describe the ionospheres of Earth, Venus, and Mars; explain how ions are produced and destroyed; and offer a hypothesis for why these terrestrial planet ionospheres differ in fundamental aspects.

10:30 a.m. BREAK