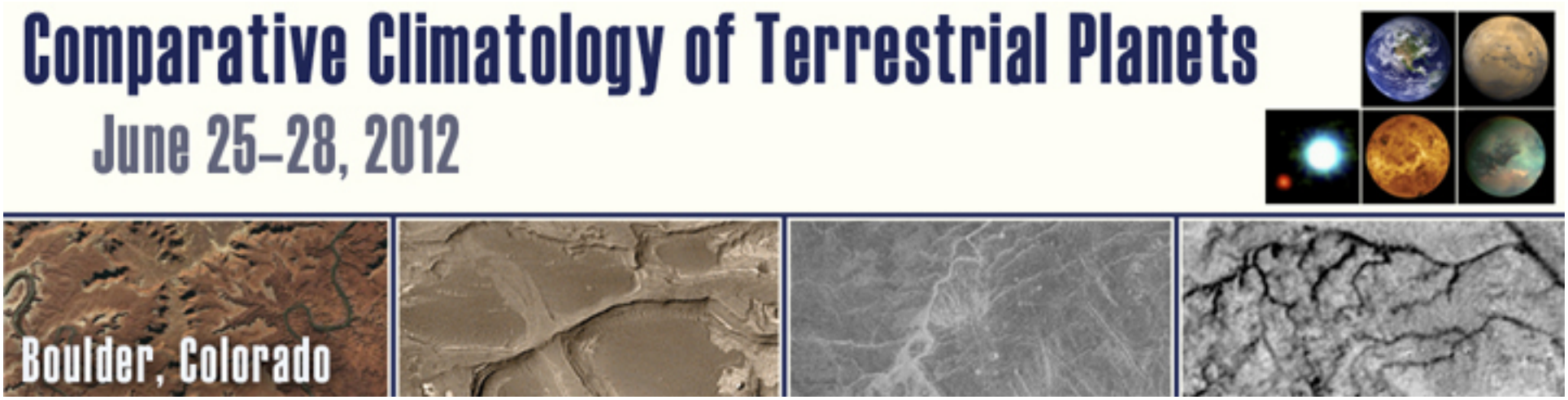
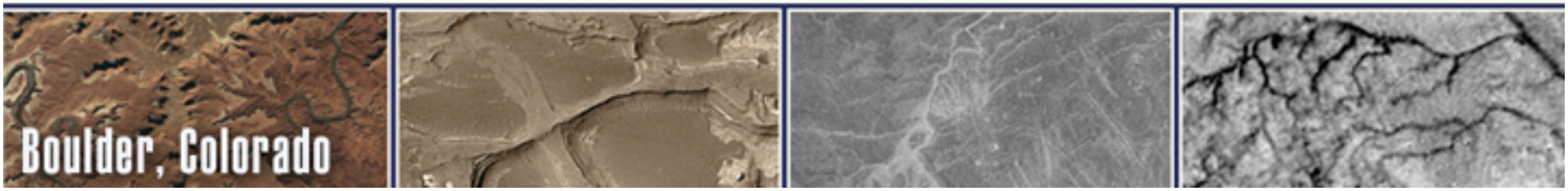


Major Themes

Climate Change on Earth and Terrestrial Planets
Earth Terrestrial Planet Climate Models
Exoplanet Atmospheres – Chemistry and Observations
Solar-Atmosphere Interactions
Interior-Atmosphere Interactions
Geology and Climate on Terrestrial Planets

Comparative Climatology of Terrestrial Planets

June 25–28, 2012

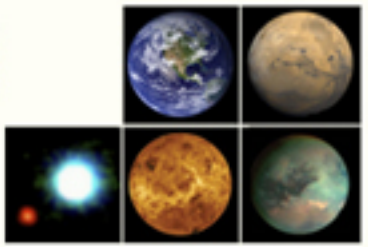


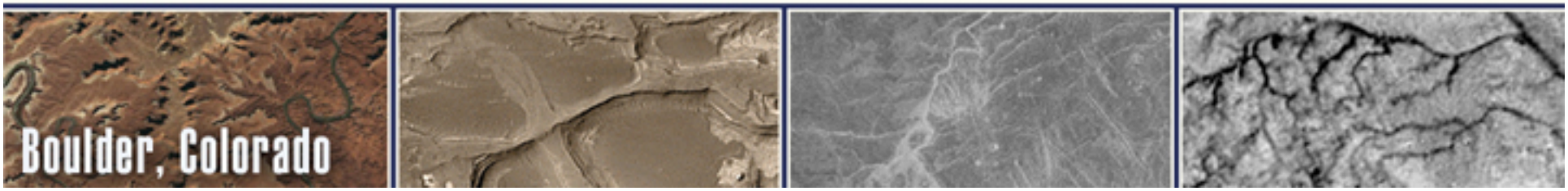
Purpose

- Identify and explore physical and chemical processes that are shared among rocky planets.
- Advance scientific progress through detailed, interdisciplinary comparisons between Earth, Mars, Venus, Titan, and planets around other stars.
- Compare energy balance, climate forcing, photochemistry, clouds and aerosols, exospheric processes, magnetic fields, surface-atmosphere interactions, atmospheric dynamics, geology, mantle convection, and impacts on terrestrial planets.
- Observation and modeling of physical processes operating in different contexts for a deeper understanding and improved predictive power.

Comparative Climatology of Terrestrial Planets

June 25–28, 2012





Scientific Organizing Committee

Mark Bullock	SwRI
Lori Glaze	NASA GSFC
Steve Bougher	U of Michigan
Brian Drouin	JPL
David Grinspoon	DMNS
Jeff Hollingsworth	NASA Ames
Sanjay Limaye	U of Wisconsin
Richard Eckman	NASA Earth Science
Adriana Ocampo	NASA Planetary Sciences
Madhulika Guhathakurta	NASA Heliophysics
Whaleed Abdalati	NASA Chief Scientist
Steve Mackwell	LPI
Doug Rabin	NASA Heliophysics
Sue Smrekar	JPL
Wes Traub	JPL
Doug Hudgins	NASA Astrophysics
Mario Perez	NASA Astrophysics

Comparative Climatology of Terrestrial Planets

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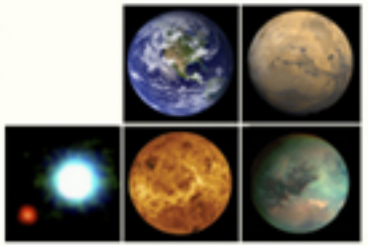
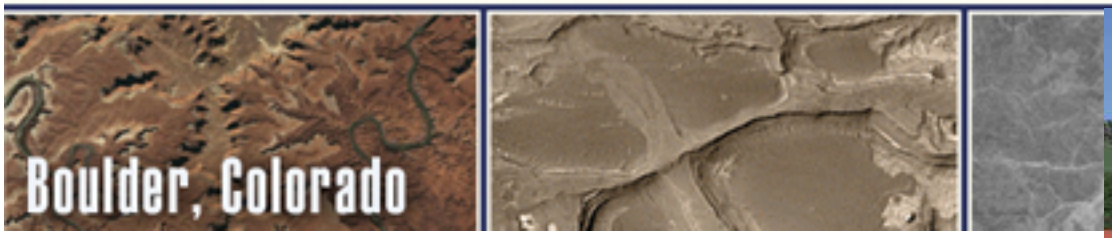
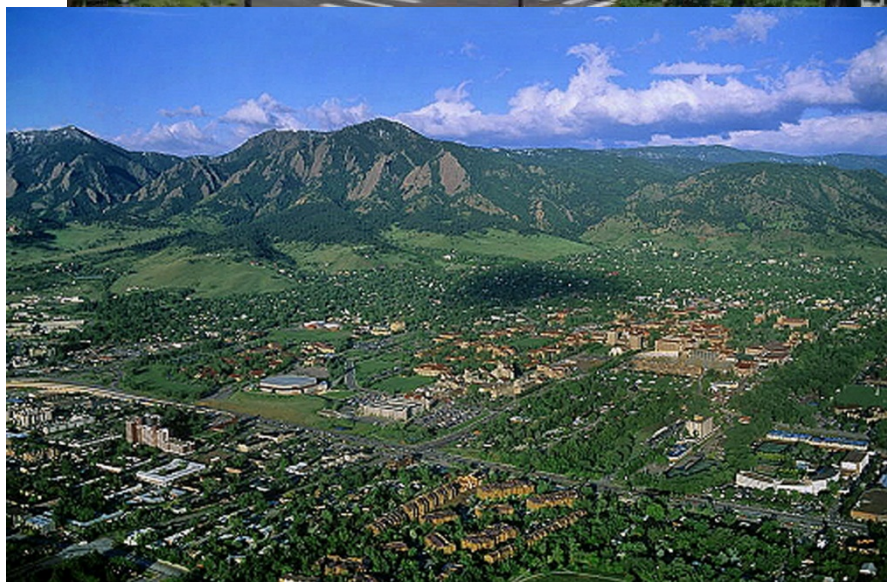


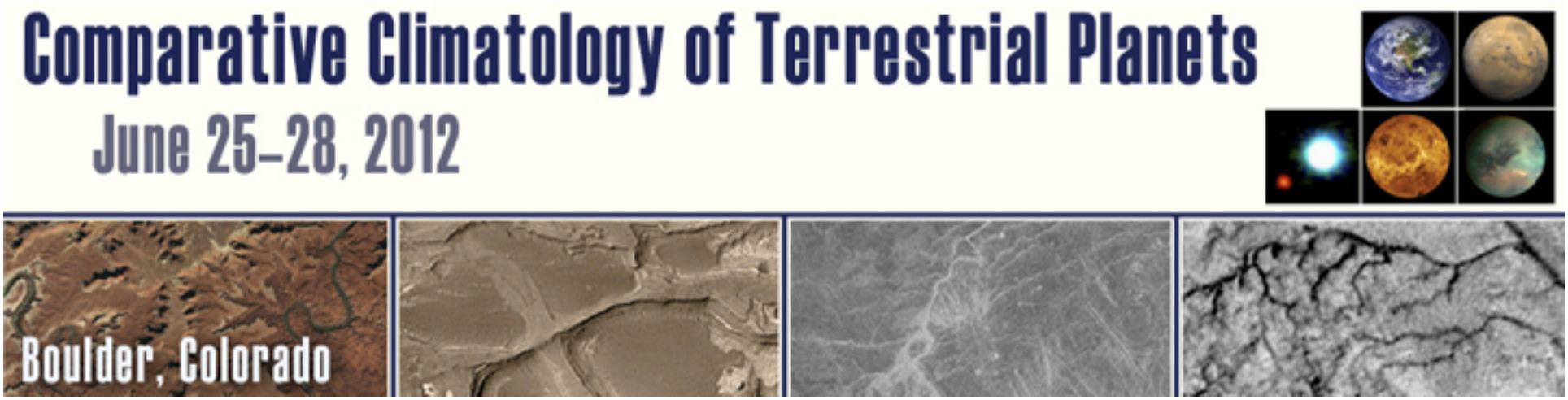


Location

Hotel Boulderado in Boulder, Colorado

- Centrally located for international participants.
- Regional center for atmospheric & planetary studies (NCAR, NOAA, InStarr, LASP, SwRI, CU).
- Poster session across the street in an art gallery.
- Poster previews running continuously in meeting lobby.
- Walking distance to public event on June 26 at the Boulder Theater.
- Walking distance to all amenities





Sponsors

- NASA
  - Planetary Science Division
  - Earth Sciences Division
  - Heliophysics Division
  - Astrophysics Division
  - Chief Scientist
- SwRI
- Lunar and Planetary Institute (USRA)
- LASP
- IUGG/IAMAS/ICPAE
- Planetary Society

IUGG/IAMAS/ICPAE

Comparative Climatology of Terrestrial Planets

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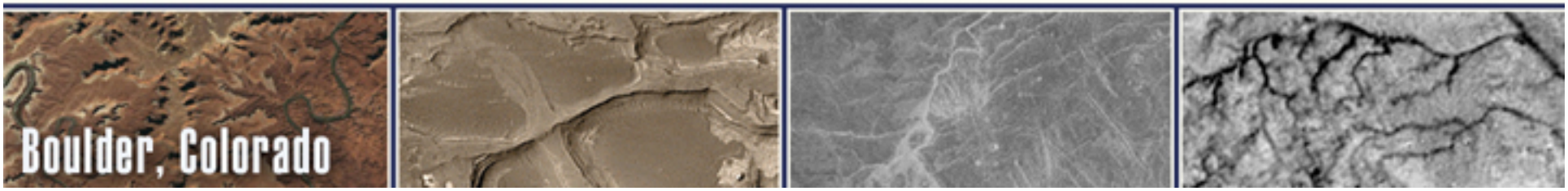


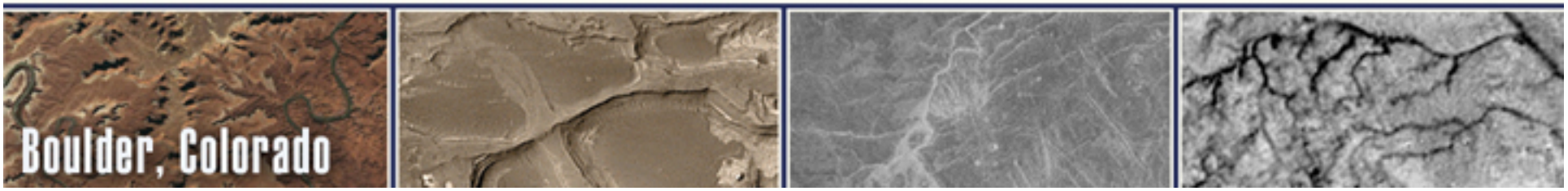
Lennart	Bengtsson
Stephen	Bougher
David	Brain
Mark	Bullock
Mike	Coffin
Curt	Covey
Tom	Cravens
David	Crisp
Lindy	Elkins-Tanton
Francois	Forget
Eric	Gaidos
Lori	Glaze
David	Grinspoon
James	Hansen
Jacob	Haqq-Misra
Joe	Harrington
Jefferey	Hollingsworth
Alan	Howard
Yohai	Kaspi
Sebastien	Lebonnois
Christopher	Lee
Franck	Montmessin
Jeff	Moore
David	Pawlowski
Ray	Pierrehumbert
Scot	Rafkin
V. (Ram)	Ramanathan
Peter	Read
Gavin	Schmidt
Jerry	Schubert
Adam	Showman
Suzanne	Smrekar

Over 40 Invited Speakers
and 60 Poster Presentations

Stanley	Solomon
Christophe	Sotin
Graeme	Stephens
Alan	Stern
Mark	Swain
Feng	Tian
Brian	Toon
Allan	Treiman
Channon	Visscher
Tom	Woods

Comparative Climatology of Terrestrial Planets

June 25–28, 2012

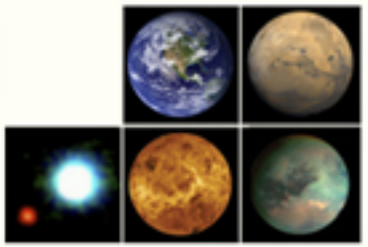


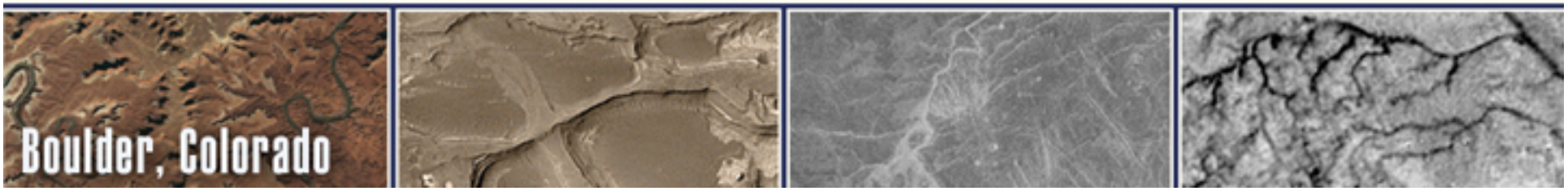
2012 Planetary Decadal Survey

- Comparative studies of climate change on the inner planets can provide context and deeper understanding of the history of Earth's climate.
- Need a better understanding of the dynamics of complex nonlinear climate systems.
- Need to better estimate the strengths of climate forcings and the sensitivity of the climate system to various feedback mechanisms.
- Understand the effects of outgassing (volcanic and other) fluxes on the climate balances of terrestrial planets.
- Validate the techniques and models used for terrestrial climate predictions by determining their ability to understand non-terrestrial climates.

Comparative Climatology of Terrestrial Planets

June 25–28, 2012 SCIENTIFIC PROGRAM





Monday, June 25, 2012

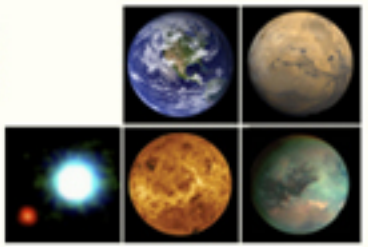
8:15 a.m.	Boulderado Ballroom	Climate Change on Earth and the Terrestrial Planets
11:00 a.m.	Boulderado Ballroom	Terrestrial Planet Climate Models
1:30 p.m.	Boulderado Ballroom	Exoplanet Atmospheres
4:00 p.m.	Boulderado Ballroom	NASA Perspectives on Comparative Climate Research

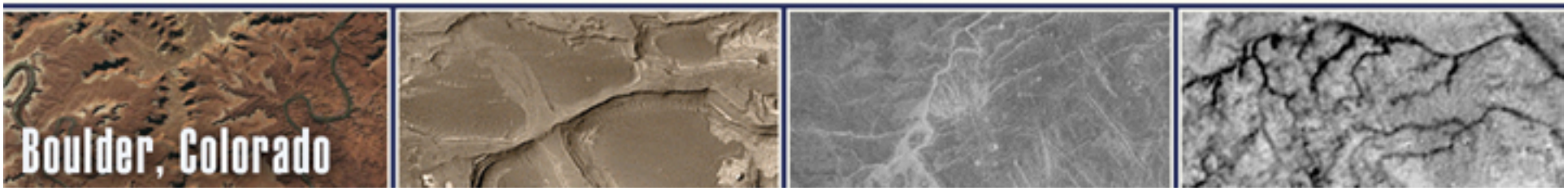
Tuesday, June 26, 2012

8:30 a.m.	Boulderado Ballroom	Earth and Terrestrial Planet Climate Models
11:00 a.m.	Boulderado Ballroom	Terrestrial Planet Atmospheres
3:30 p.m.	Boulderado Ballroom	Exoplanet Observations and Chemistry
4:30 p.m.	Boulderado Ballroom	Comparison of Radiative Effects of Clouds on Earth and the Terrestrial Planets
8:00 p.m.	Boulder Theater	Public Event with Bill Nye (“The Science Guy”) “Climate Change on Earth and Other Planets,” a public Q&A event with panelists Jim Hansen, Brian Toon, and David Grinspoon

Comparative Climatology of Terrestrial Planets

June 25–28, 2012 SCIENTIFIC PROGRAM





Wednesday, June 27, 2012

8:30 a.m.	Boulderado Ballroom	Solar-Atmosphere Interactions
11:00 a.m.	Boulderado Ballroom	Interior-Atmosphere Interactions
1:30 p.m.	Boulderado Ballroom	Geology and Climate on the Terrestrial Planets
5:30 p.m.	Rembrandt Yard	Poster Session and Reception

Terrestrial Planet Atmospheres and Climates: Observational Basis

Terrestrial Planet Atmospheres and Climates: Theory and Models

Photochemistry

Exoplanet Atmospheres

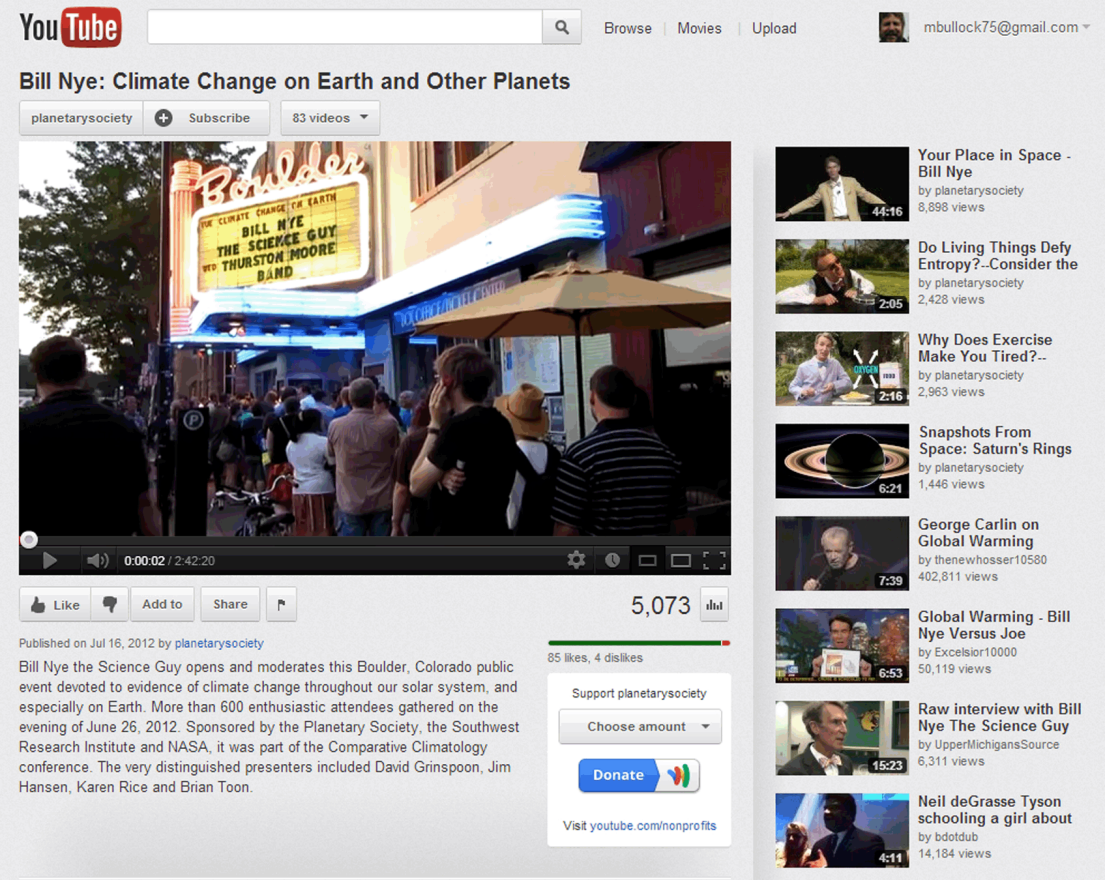
Solar-Atmosphere Interactions

Interior-Surface-Atmosphere Interactions

Thursday, June 28, 2012

8:30 a.m.	Boulderado Ballroom	Solar Effects on Terrestrial Planet Climates
10:30 a.m.	Boulderado Ballroom	Terrestrial Planet Exploration
1:30 p.m.	Boulderado Ballroom	Terrestrial Planet Climate
4:00 p.m.	Boulderado Ballroom	Plan Forward for Comparative Climatology

Public Panel Discussion



Climate Change on Earth and Other Planets

Moderated by Bill Nye

Sponsored by The Planetary Society at the Boulder Theater June 26, 2012

Panel Discussion with

- James Hansen
- Brian Toon
- David Grinspoon
- Karen Rice

- Entire event video archived at
- http://www.youtube.com/watch?v=CVcoEP8z2Q0&feature

EVENTS

CLIMATE CHANGE ON EARTH AND OTHER PLANETS FEAT. BILL NYE THE SCIENCE GUY

26 TUE JUN

BUY TICKETS »

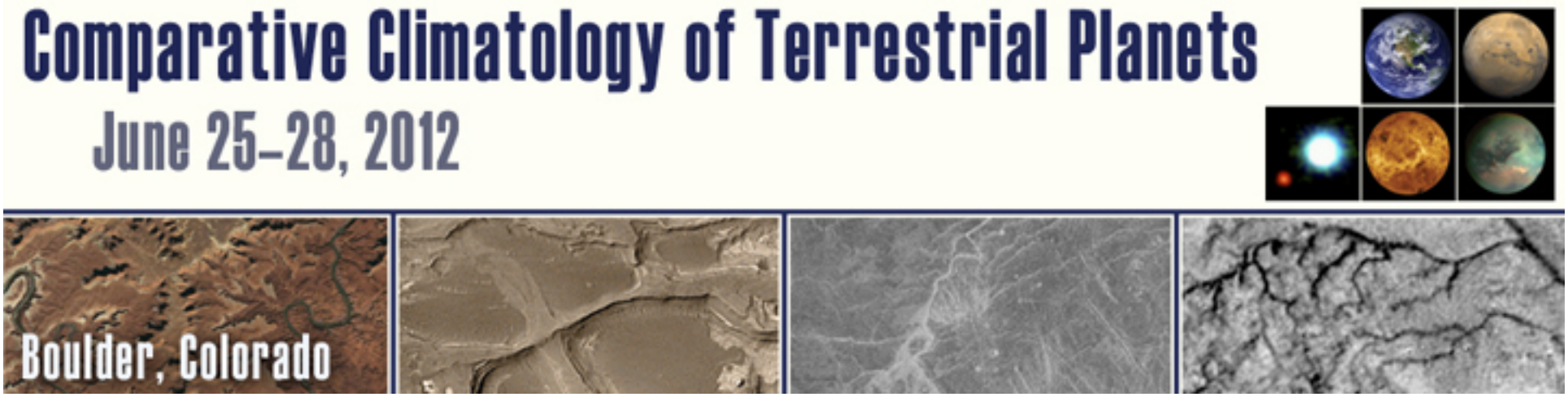
BOULDER THEATER

Price: ..... $10 General Admission Seated
Doors: ..... 7:30 PM
Show: ..... 8:00 PM
Age Policy: ..... All Ages
Status: ..... On Sale

****tax and service charges will apply*
****prices are the same on the web, phone & box office*

"Climate Change on Earth and Other Planets" will feature a keynote address from Bill Nye and short presentations from a panel of distinguished climate scientists, including Dr. Jim Hansen (Goddard Institute for Space Studies), Dr. David Grinspoon (Denver Museum of Nature and Science), and Dr. Brian Toon (Laboratory for Atmospheric and Space Physics). The panel, moderated by Bill Nye, will answer questions from the audience and lead a discussion on Earth's climate and comparisons with other solar system planets.

Weblink: http://www.lpi.usra.edu/meetings/climatology2012/



The Future of Comparative Climatology of Terrestrial Planets

- CCTP Executive Summary
  http://www.lpi.usra.edu/meetings/climatology2012/CCTPExecutiveSummary.pdf
- CCTP White Paper – end of 2012
- University of Arizona Press, *Comparative Climatology of Terrestrial Planets*, editors Stephen Mackwell, Mark Bullock, Jerry Harder. To be published Fall 2013
- CCTP Steering Committee from conference SOC remains active (e.g. this talk)
- CCTP Steering Committee – provide input to use CCTP approach for addressing challenging multidisciplinary problems in Planetary, Earth Sciences, Heliophysics and Exoplanet research.