

**Ehrhard
Raschke**



he should have been here

- **he wanted too but circumstances intervened**
 - personally (his wife passed away last Xmas)
 - health-wise (another new knee, lung infection)
- **still ... after four months of silence**
 - he was giving 'orders' again (good)
 - although he did offer me any help here (bad)
- **Ehrhard (like Bill) is (in sat. remote sensing)**
 - one of the more 'colorful' persons

colorful ?

- **‘knowing’ what is right**
 - opinionated (straight shooter)
 - stubborn (not just an age thing)
 - diverting directions are (largely) ignored
 - being rather ‘old-fashioned’ than ‘wrong’
- **demonstrating presence**
 - ready to question and complain
 - fear factor (taking some pleasure in identifying wrongs of others)
- **producing results**
 - getting things ‘done’

Ehrhard and Bill ?

- **it probably was never a smooth relationship ...**
 - **but there was / is mutual respect**

I do not remember the early years ... but
'clashes' were often quite fruitful ... e.g.

- **Ehrhard gave Bill a hard time with ISCCP and its surface radiative IR flux jump in Oct 2001**
 - **caused by changes in ancillary data**
- **and Bill responded !**
 - **with a careful setup of ancillary data for the new ISCCP processing !**

messages from Ehrhard

- **on satellite data products - based on the data analysis of CERES, ISCCP and SRB ...**
 - **especially for radiative flux products at the surface-
for the atmosphere**
- **... Ehrhard has three messages**
 - **check you ancillary data**
 - **document your modeling method / approach**
 - **establish ground truth references**

check your
ancillary data
in satellite products

Ehrhard Raschke's message 1

ancillary data ?

- **assumptions needed for derived properties**
 - Ehrhard focused many years on TSI (solar constant modeling) inconsistencies ...
 - ... but by being involved in the radiative flux assessment and model derived surface flux data, he recognized other and much larger **inconsistencies** between CERES, ISCCP and SRB
 - solar surface albedo
 - aerosol properties
 - surface temperature / surface emittance

diagnostic example

- **compare for ISCCP, CERES and SRB data-sets on ancillary (1x1 monthly) data diversity**
 - **aerosol (via clear-sky solar transmission data)**
range: **3.5% on average !**
 - » larger over biomass and snow regions
 - **albedo (via up/dn solar flux ratio at surface)**
range: **5.5% on average !**
 - » larger over snow/ice (.. and continents)
 - **temperature / emittance (surface up IR flux)**
range: **14 W/m² on average !**
 - » largest over desert regions

better

document

your satellite product

Ehrhard Raschke's message 2

missing or lost in action

- **when examining data-set differences it became apparent that many details were not available**
 - **difficulty to reproduce and to identify biases**
 - **ancillary diagnostics had to focus on final products (e.g. ratios, difference)**
 - **causes for biases often remained unclear**
- **ISCCP assumptions were better documented than those for CERES and SRB**
 - **thanks Bill**

establish
ground truth
for satellite products

Ehrhard Raschke's message 3
(repeating Tom Ackerman's lifetime requests)

surface networks

- **yes, they cost \$\$ to establish and maintain**
 - **longterm commitment needed (also for DQ)**
 - **ground network and retrieval development support is essential not just during a satellite mission and well beyond its mission**
- **some quality data networks already exist**
 - aerosol (AERONET, SKYNET)
 - radiation (BSRN, NOAA buoys?)
 - **still often too sparse / local**
 - **general lack of references over oceans**

(for more on surface needs talk to Tom)

finally

- “may be later this year I might be recovered for a fare well trip though the US ”

“Keep in touch”

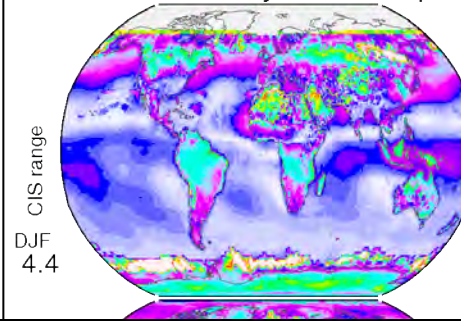
drraschke@aol.com



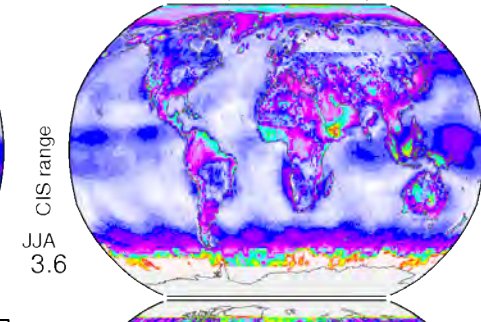


diagnosed seasonal range

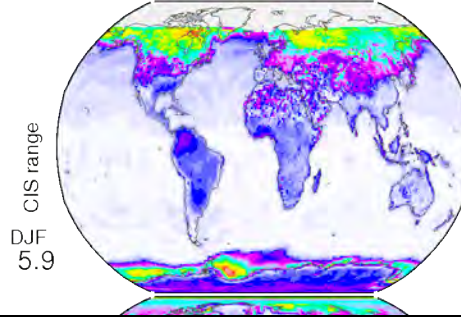
solar clear-sky transp spread



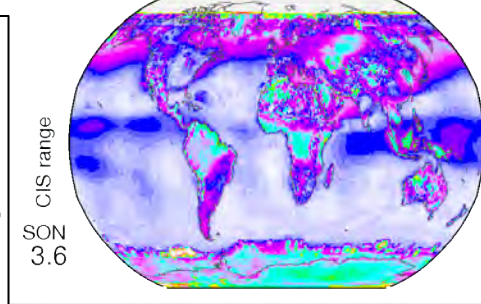
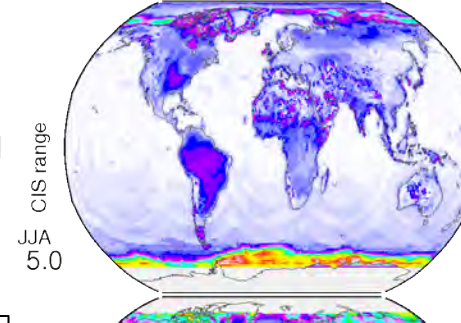
CIS (2000-2003)



solar surface albedo uncertainty

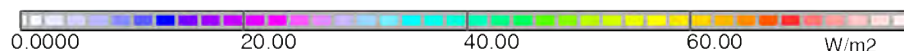
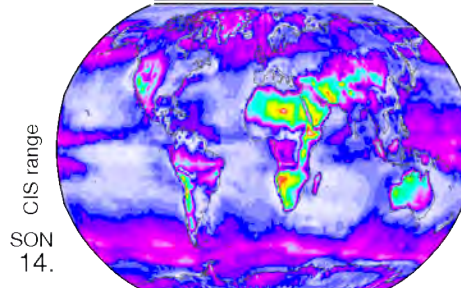
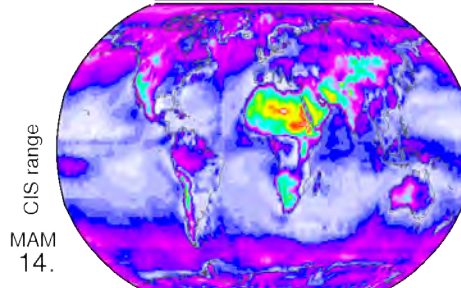
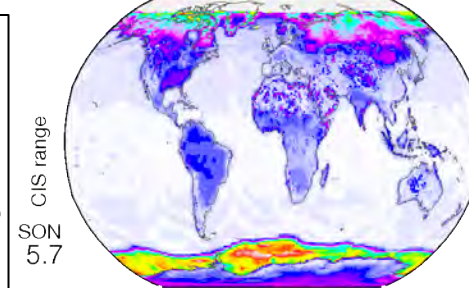
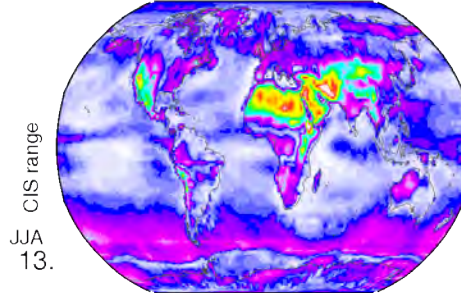
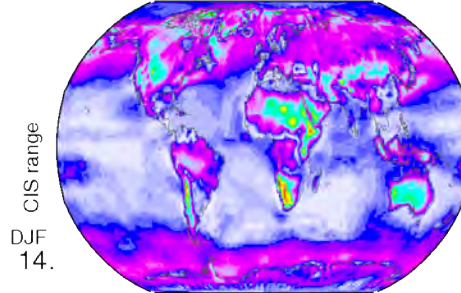


CIS (2000-2003)



upward LW flux spread at surf

CIS (2000-2003)



- CERES
- ISCCP
- SRB