

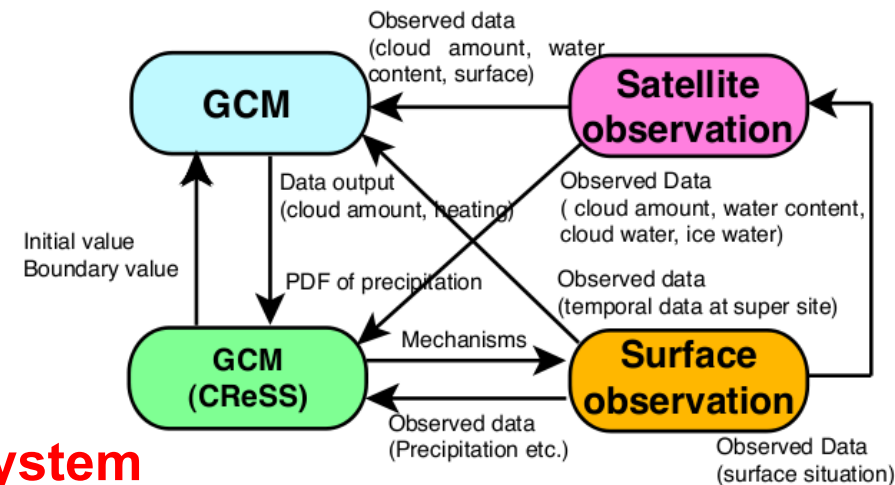
Formation of a Virtual Laboratory for Diagnosing the Earth's Climate System

In order to diagnose the earth's climate system under severe stress such as a global warming, the cooperative research centers (CCSR, HyARC, CAOS, and CEReS,) construct "Virtual Laboratory", and research climate and environmental studies cooperatively with properties of each center.

CEReS activities

- Geostationary satellites global data archives
- Satellite information data base
- Better quality by sensor calibration
- Atmospheric radiation budget products

We aim at the contribution to a climate model and the better understanding of the climate system



CEReS data archive system

VL-CEReS: <http://www.cr.chiba-u.jp/~4vl/>

CEReS wiki: <http://www.cr.chiba-u.jp/~database-jp/>
(with data link, now updating)

MTSAT-1R: <ftp://mtsatsat-1r.cr.chiba-u.ac.jp/>

FY2-C, D: <ftp://fy.cr.chiba-u.ac.jp/>

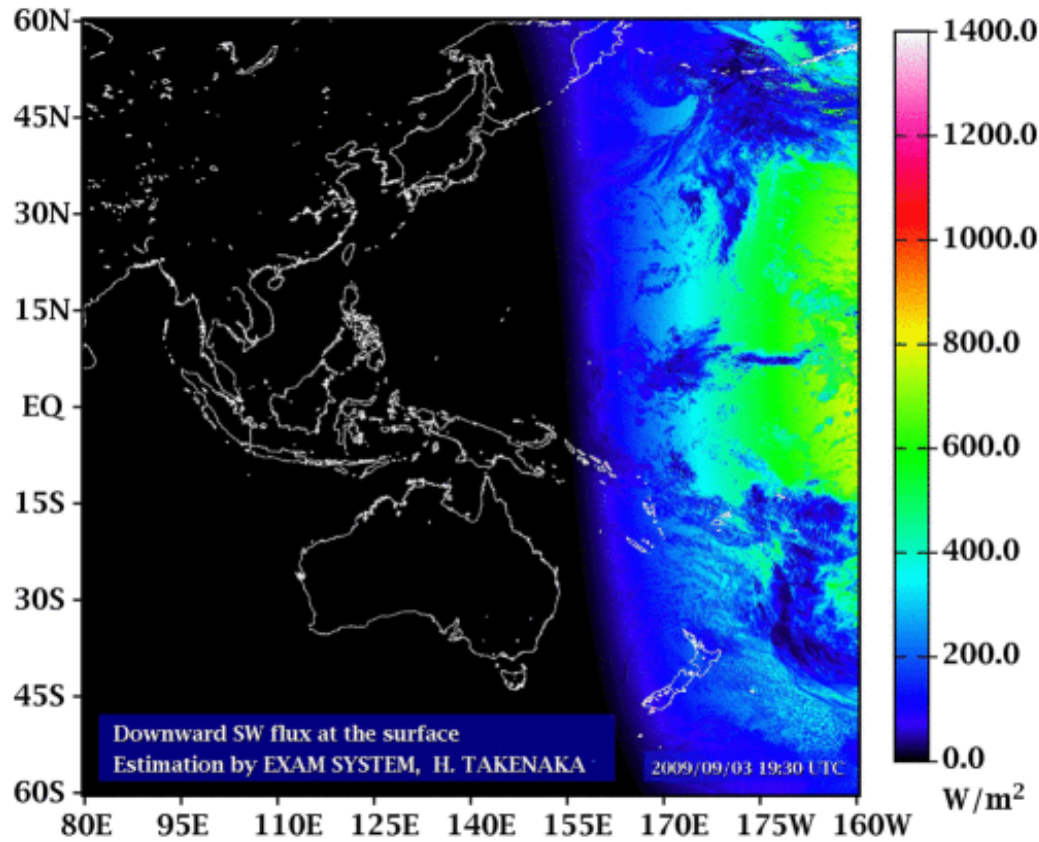
GOES-E,W: <ftp://goes.cr.chiba-u.ac.jp/>

Meteosat: <ftp://meteosat.cr.chiba-u.ac.jp/>

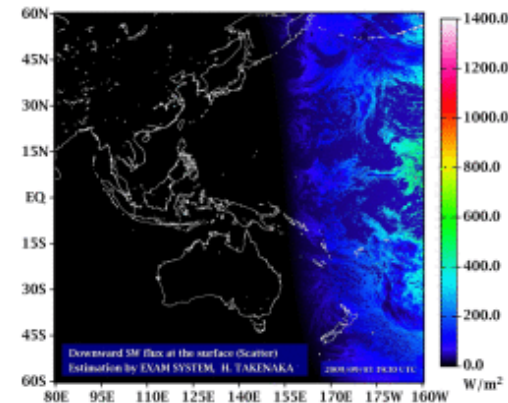
(It needs registration / Copyright by EUMETSAT)

Atmospheric radiation budget product samples

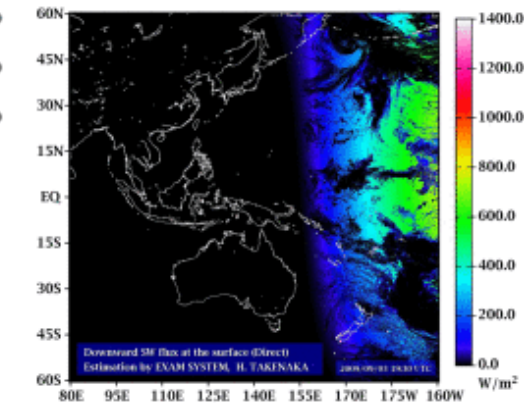
Downward SW flux at the surface



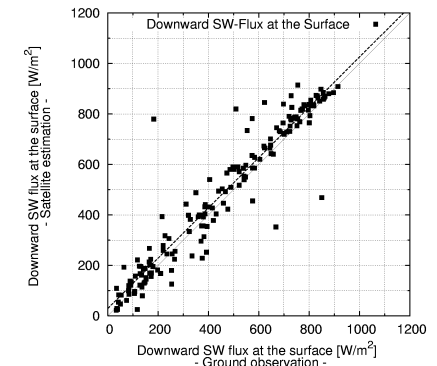
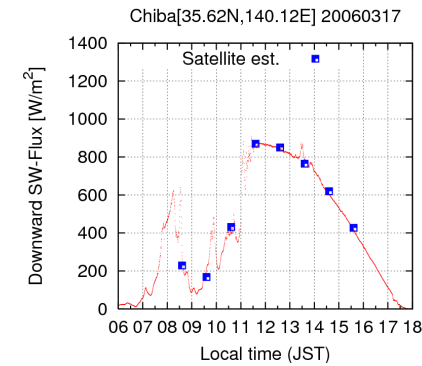
Diffuse SW



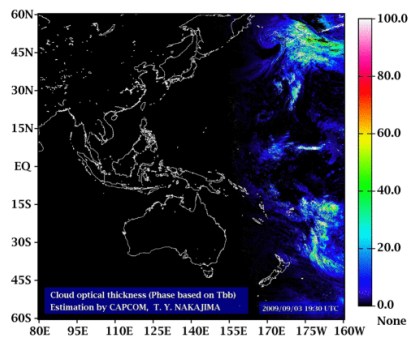
Direct SW



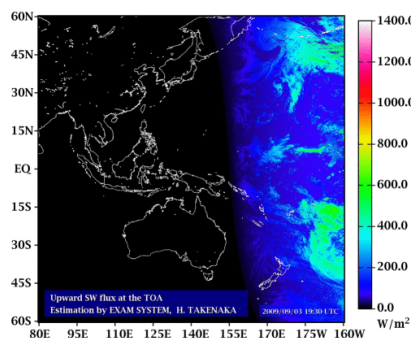
Ground validation of SW flux



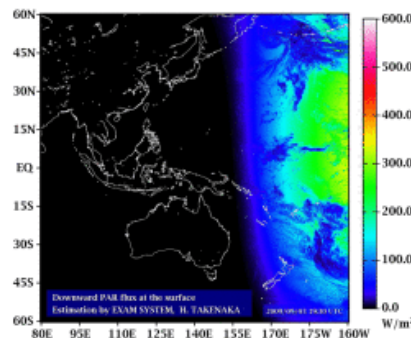
Cloud optical thickness



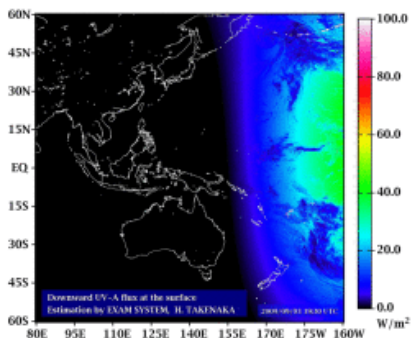
Upward SW flux at the TOA



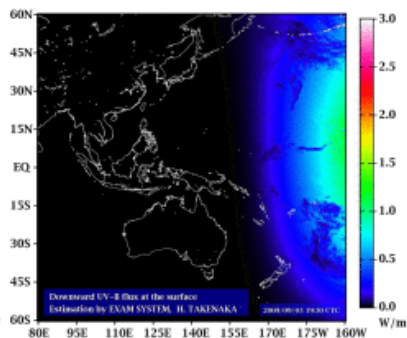
Downward PAR flux at the sfc



Downward UVA flux at the sfc



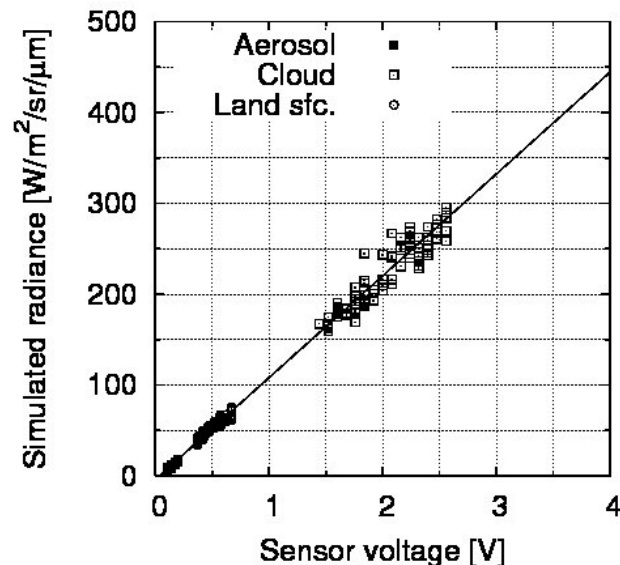
Downward UVB flux at the sfc



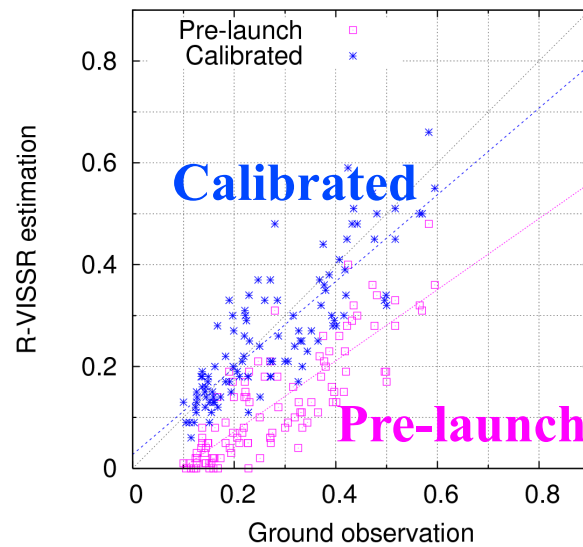
Development of vicarious calibration technique

We have a joint research with the Meteorological Satellite Center/Japan Meteorological Agency (MSC/JMA) to develop vicarious calibration and global synthesis techniques for geostationary satellites. Our activities are development of visible channel calibration technique and development of global data set of radiation budget products.

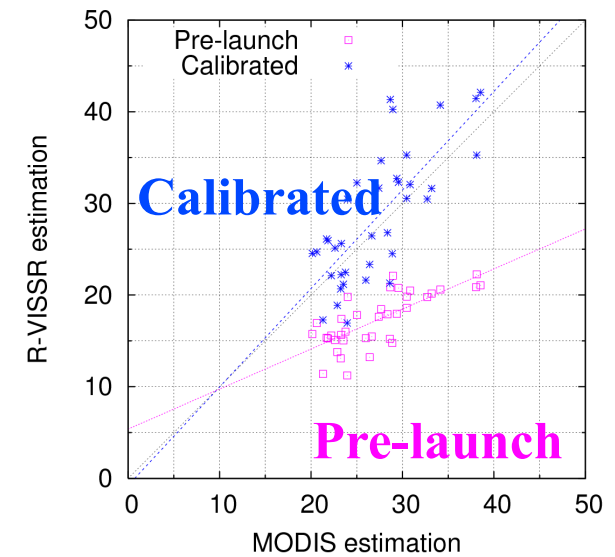
Vicarious calibration of Three components



Validation of Aerosol and cloud



Aerosol optical thickness



Cloud optical thickness

Comparison of calibration coefficient between ISCCP and New method

