



ADEOS-II & AMSR-E/Aqua Science Project Status

7-8 June, 2000
MODIS Science Team Meeting
Greenbelt, MD

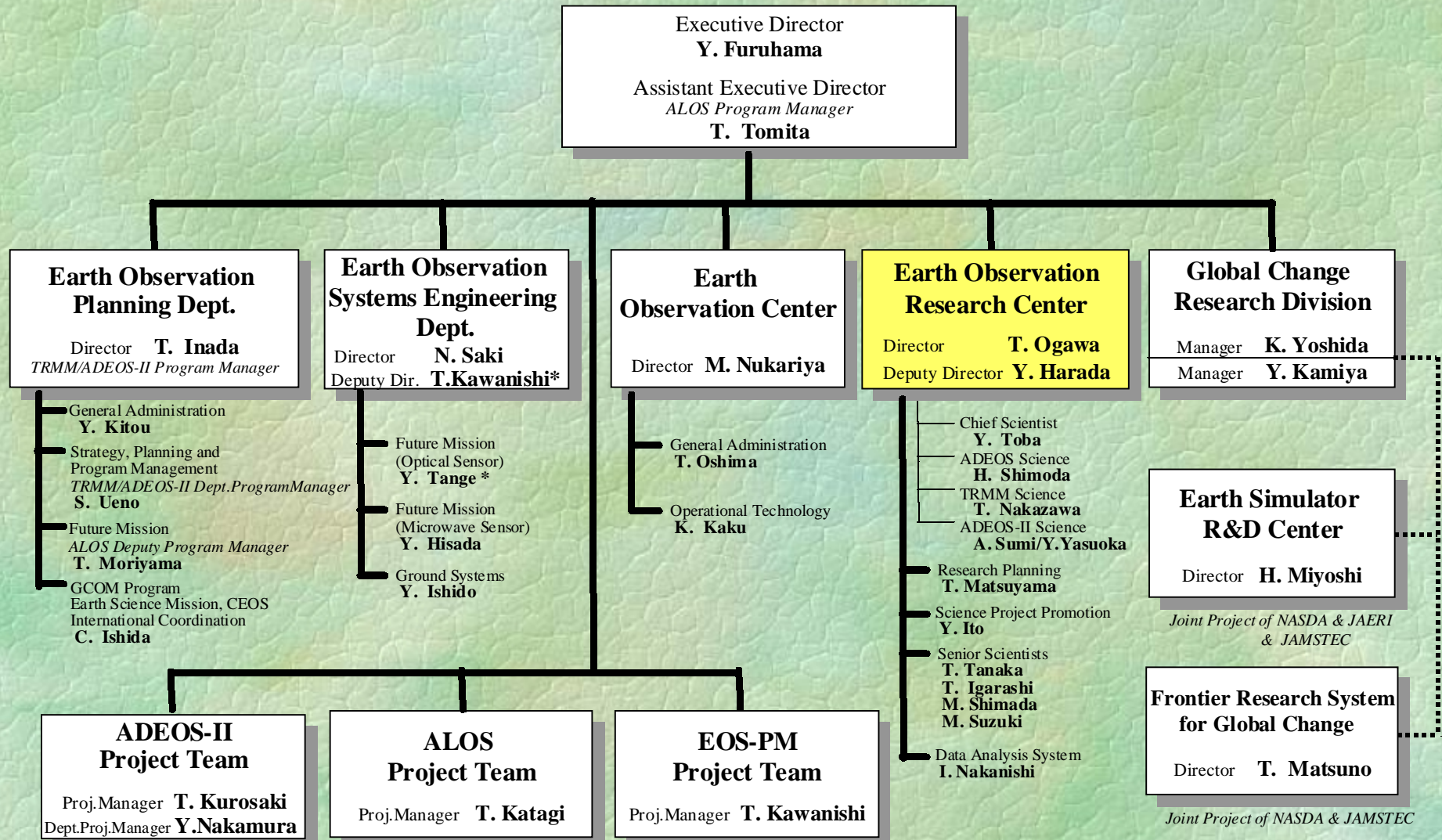
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Office of Earth Observation Systems

April 10, 2000



* : concurrent post

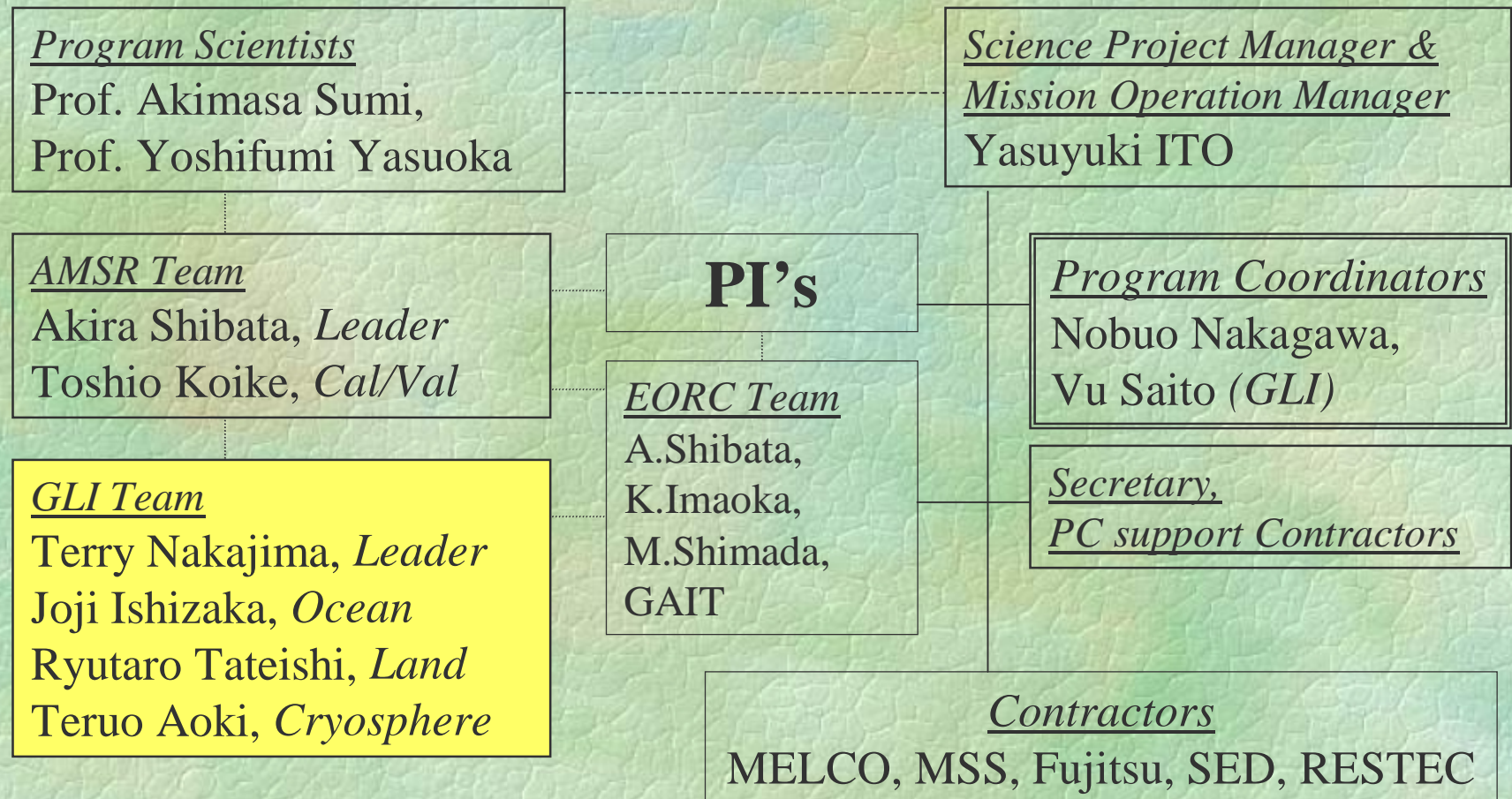
JAERI: Japan Atomic Energy Research Institute
JAMSTEC: Japan Marine Science and Technology Center

7-8 June 2000

MODIS Science Team Meeting @
Greenbelt

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Science Project Organization



ADEOS-II Science Project

ADEOS-II Program

- ✧ ADEOS-II Spacecraft Development Project
- ✧ H-IIA Launch Vehicle Development Project
- ✧ Satellite Tracking & Control Project
- ✧ Ground Data System Development Project
- ✧ Ground Data System Operation Project
- ✧ **ADEOS-II Science Project**
- ✧ Data Utilization Promotion Project

Science Project Scope of Work

ADEOS-II Science Project

- ❧ Higher-order Algorithm Development
- ❧ Calibration & Validation
 - In-situ data collection, Campaign
 - Match-up Dataset generation
- ❧ Processing System Development
 - Computer Procurement
 - Software Development & Integration
- ❧ Science Team Management

ADEOS-II Geophysical Products

AMSR < same for AQUA/AMSR-E >

- Water Vapor
- Cloud Water
- Precipitation
- Sea Surface Wind Speed
- Sea Surface Temperature
- Sea Ice
- Snow Depth
- Soil Moisture (Research Product)

ADEOS-II Geophysical Products

GLI <overview>

- Aerosol parameters
- Cloud parameters
- Chlorophyll-a
- Colored Dissolved Organic Matter
- Suspended Solid weight
- Sea Surface Temperature
- Vegetation Index
- Snow Grain Size & Impurities

ADEOS-II Geophysical Products

SeaWinds

- Sea Surface Wind Vector

POLDER

- Cloud and Aerosols parameters

ILAS-II

- Ozone, HNO_3 , etc.

(ARGOS-DCS)

Science Projects at EORC

- ❧ JERS-1 : data 92-98
- ❧ ADEOS : data 96-97
- ❧ TRMM : data 98-
- ❧ ***AQUA/AMSR-E : Launch Dec. 2000***
- ❧ ***ADEOS-II : Launch Nov. 2001***
- ❧ ALOS : Launch 2002
- ❧ *GCOM : data 2001 - 2015 (TBD)*

ADEOS-II JRA Results

Sensor	AMSR	GLI	Multiple
Research Algorhythm	8	6	0
CAL/VAL	2	9	3
Earth Science	6	14	2
Total	16	29	5

Contract/Agreement process in progress.

ADEOS-II JRA Results

ILAS-II	Multiple
31	0

Sea Winds	Others
21	34

POLDER	Multiple
29	0

Algorithm Development Status

- ❖ Standard algorithms from PI have been received, tested and integrated at EORC environment.
- ❖ Ver.1.0 algorithm/software, to be used for the initial products for public from EOC +12 months after launch, will be delivered from EORC to EOC +6 months.

Calibration & Validation

- ❖ EORC is responsible for (Cal)/Val.
- ❖ Basic Cal/Val plan completed.
 - (PI's web ; having network security issue)
- ❖ Cal/Val implementation plan to be defined more in detail.
- ❖ Needs cooperation with many organizations / researchers worldwide for validation.

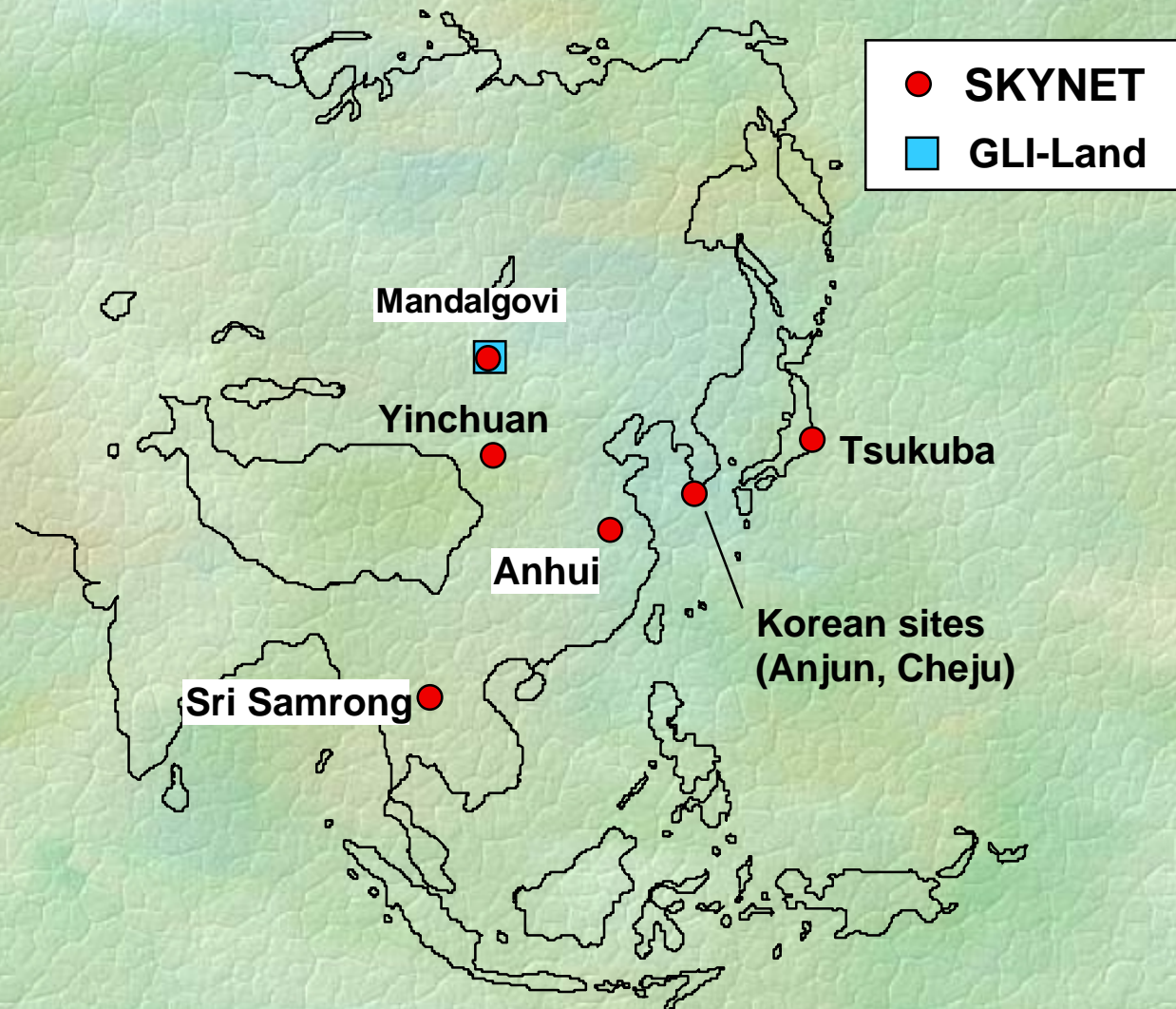
Calibration & Validation

Collaboration for attaining world-wide area coverage
e.g. Data exchange: GLI Mongolian site; MODIS Land sites

Standardization of instrumentation

Studies of validation instrumentation in various missions seem to generate a similar strategy
e.g. Sky radiometer: NASA-AERONET, NASDA-SKYNET (Asia, Pacific rim)

Validation sites over Asian land

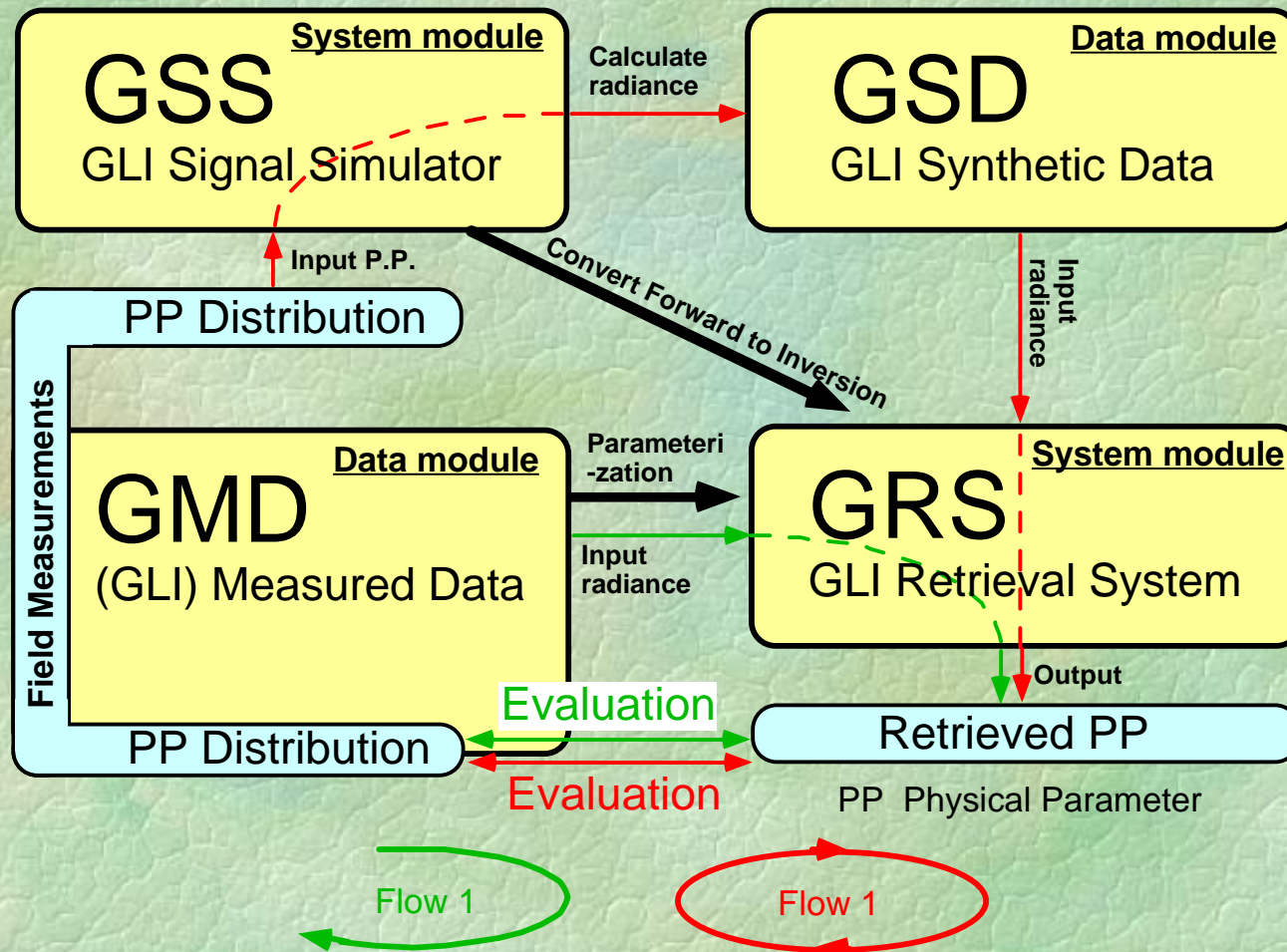


MODIS data utilization

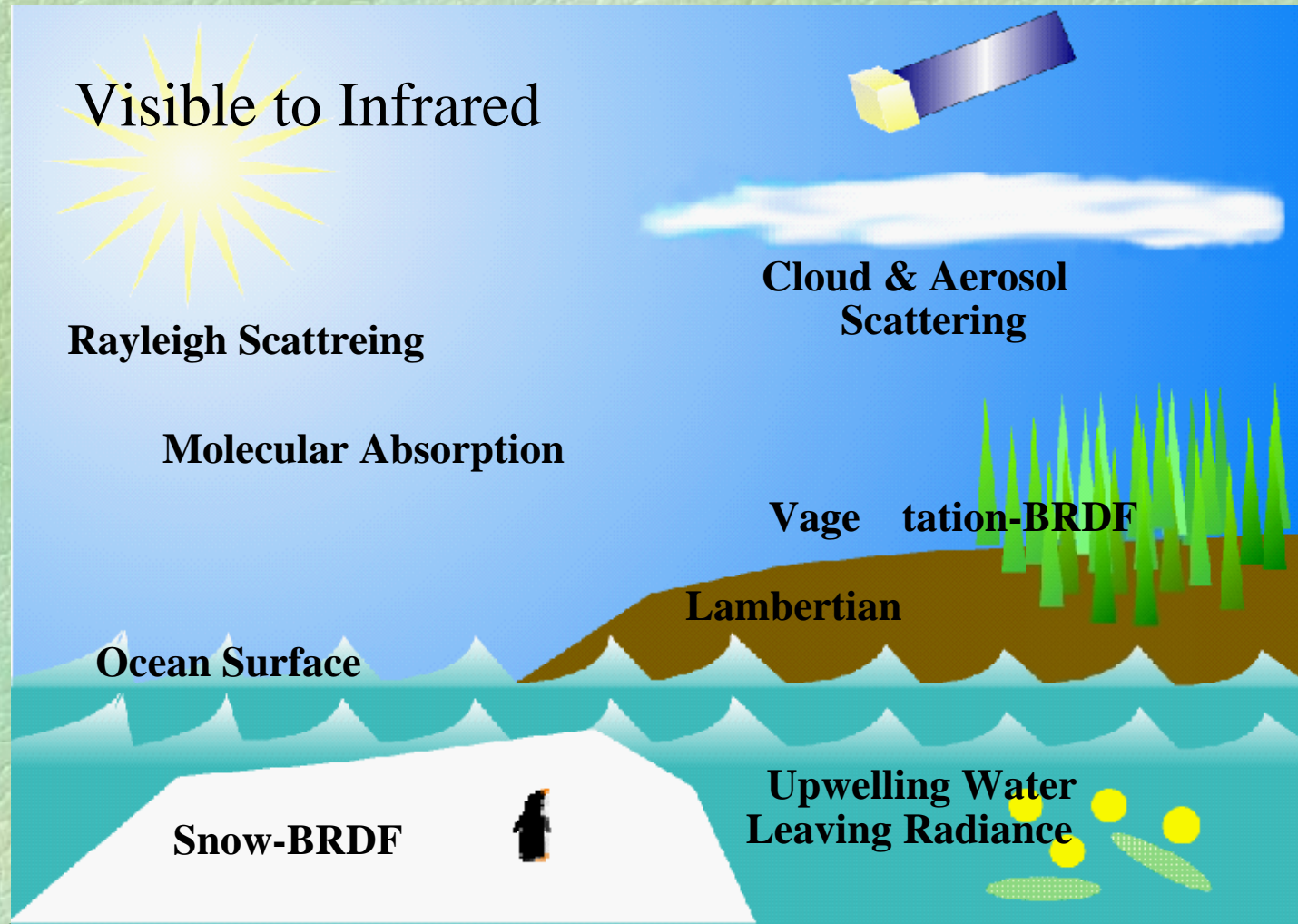
Plans to use MODIS data :

- ❖ As simulated GLI data as a part of pre-flight algorithm validation activities.
 - < by ADEOS-II science project >
- ❖ To receive DBS and create LAC for Asian ocean studies. < by Ocean science project >
- ❖ for Earth Science studies.
 - < by individual researchers >

GLI Algorithm Development Tools



GLI Signal Simulator (GSS)



GLI 250m resolution data

- ❖ Data acquisition analysis in progress.
- ❖ Data availability heavily depends on the Data Relay Satellite utilization.
- ❖ ESA's "ARTEMIS" and NASDA's DRTS launch schedule (TBD).
- ❖ ARTEMIS Link budget at Ka-band to be confirmed in the test operation.
- ❖ Thermal design margin for X-band Tx to be confirmed in the initial check-out.

GLI PFM Dynamic Range Issue

- ❖ Inappropriate specification at some of the ocean channels found in PFT data analysis.
- ❖ Utilizing the launch delay, planning for PFM modification under study.
- ❖ Realistic candidate modification method would to decrease input light energy to all the visible and near IR channels.

Joint Workshop 2001 (JFY2000)

❧ Individual Sensor Team Meetings

- US-AMSR-E team meeting, July @ IGARSS
- Standard Algorithm PI meeting, Oct (TBD)

❧ Joint Symposium/Workshop

- Dec'99 Kyoto ; Success with ADEOS
- Mar'01 Hawaii ; Planning with TRMM, ADEOS and Aqua
 - Model researchers participation also planned