

In-situ observational Plan to validate ATLID and CPR for oceanic aerosols and clouds

Members

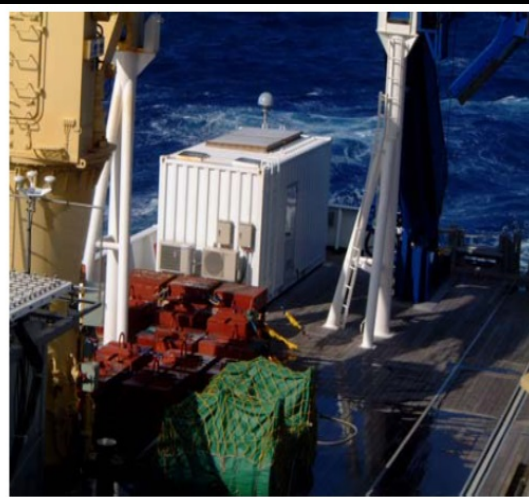
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Masaki Katsumata (JAMSTEC),
Tomoaki Nishizawa (NIES),
Toshiaki Takano (Chiba University), and
Kazuma Aoki (U.Toyama)

Our plan for the validation

- Observational campaign in JFY 2016 or JFY 2017.
 - Over the tropical ocean
 - At a remote island in the tropics
- Purpose

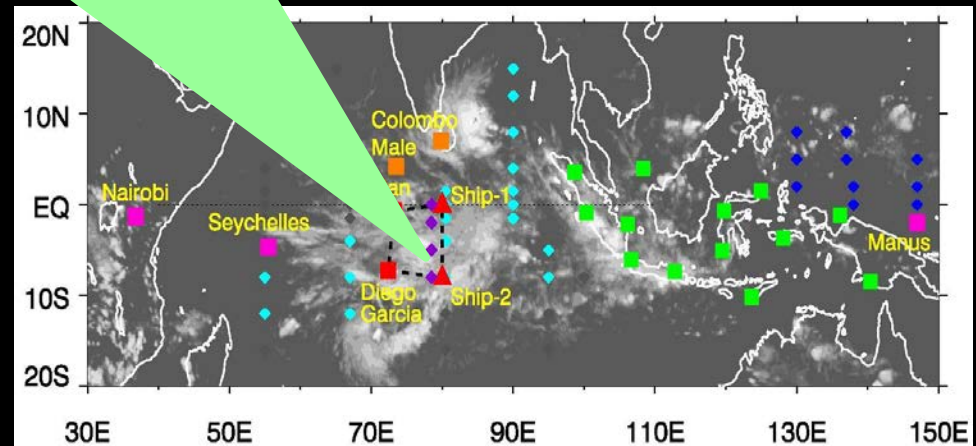
to evaluate EC products in the clean condition (over the oceanic regions)

Continental condition $\longleftrightarrow$ remote ocean condition
significantly different !!



For the validation rehearsal

- Overpass of CALIPSO in CINDY2011
 - 4 samples (09OCT, 31OCT, 10NOV, 16NOV)



CINDY2011 / DYNAMO Project (Oct.-Nov.2011)



Gan ; Super site

Japan / Mirai



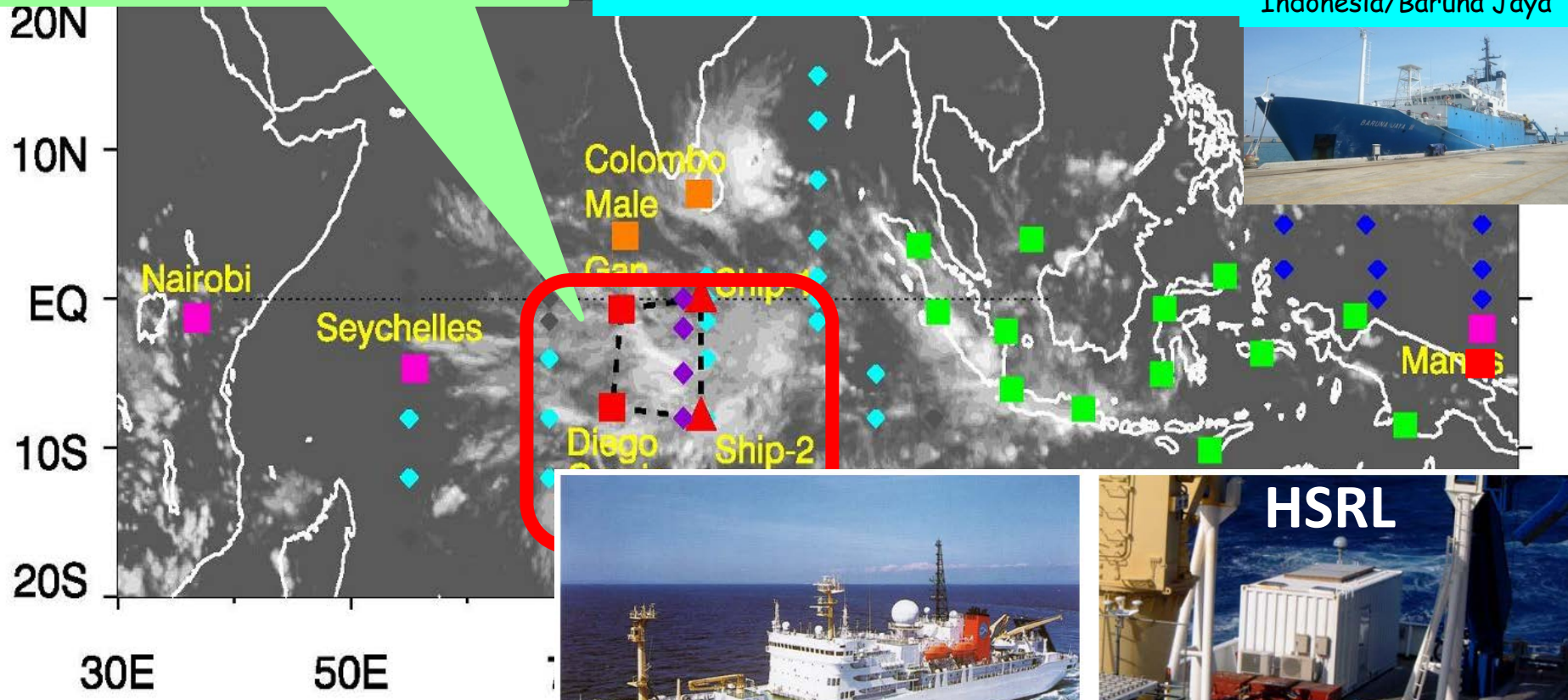
US / Roger Revelle



India / Sagar

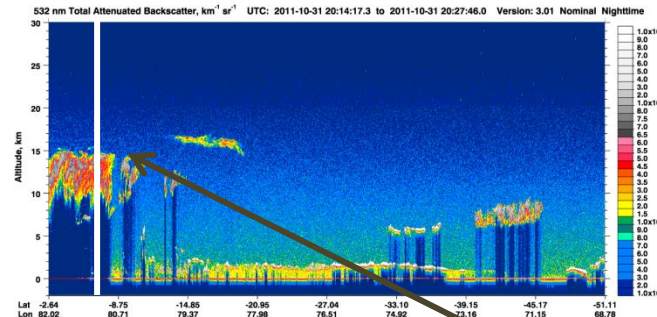
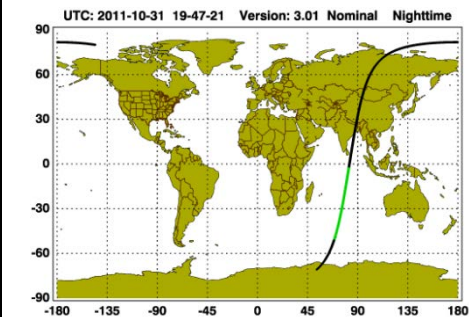
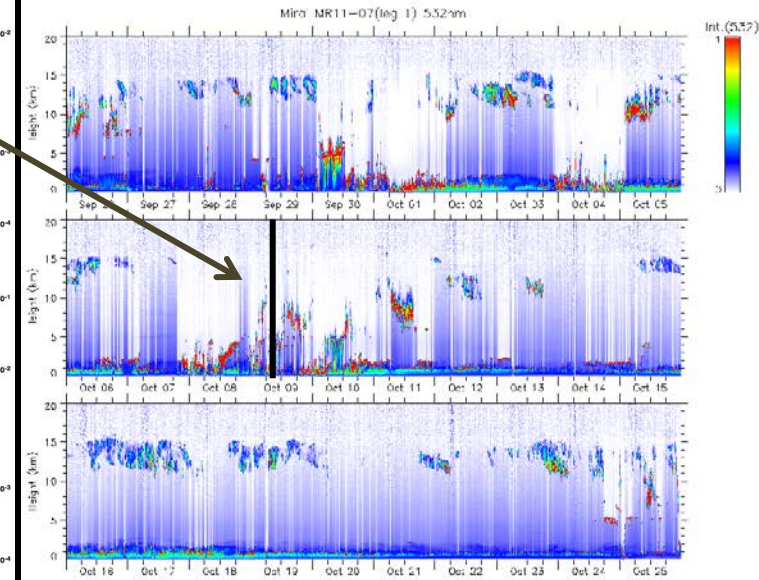
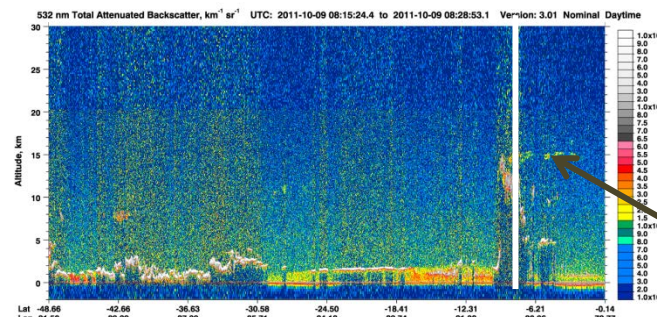
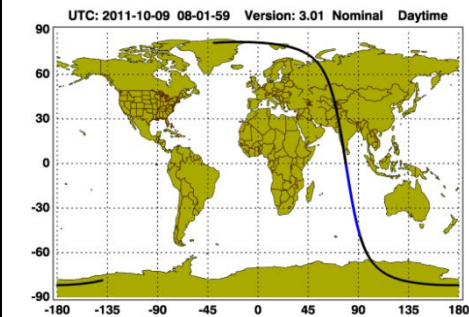


Indonesia/Baruna Jaya

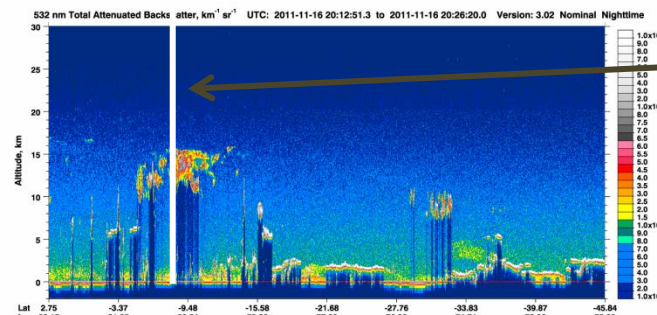
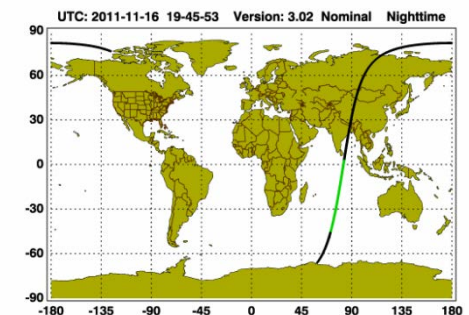
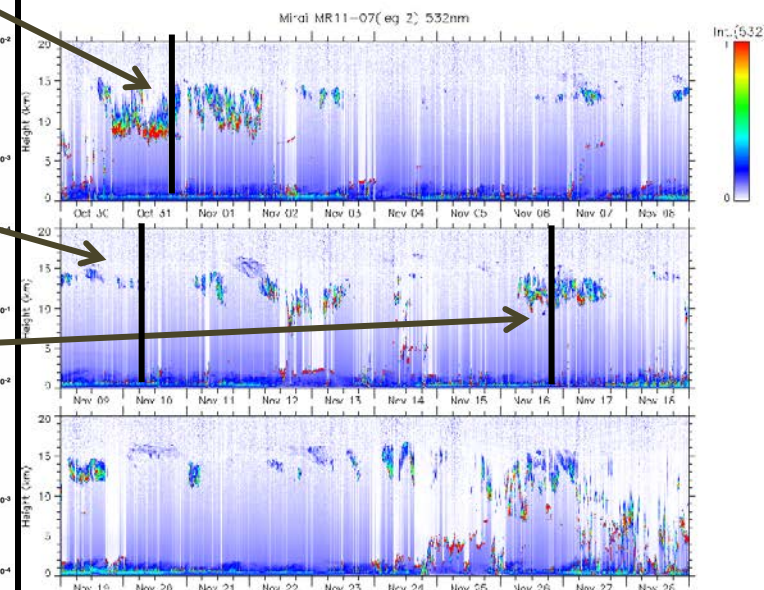
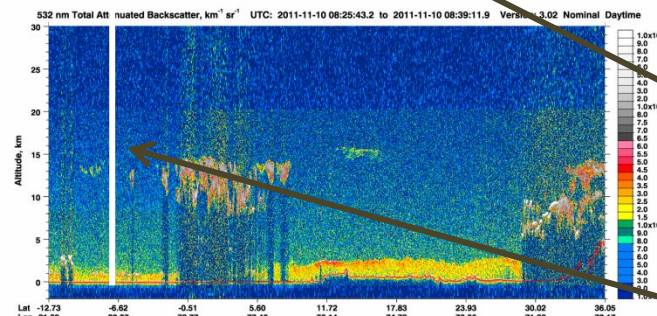
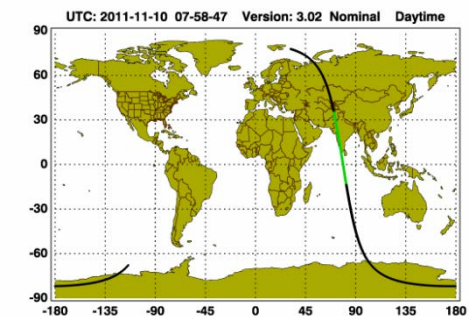


Overpass of CALIPSO during CINDY2011

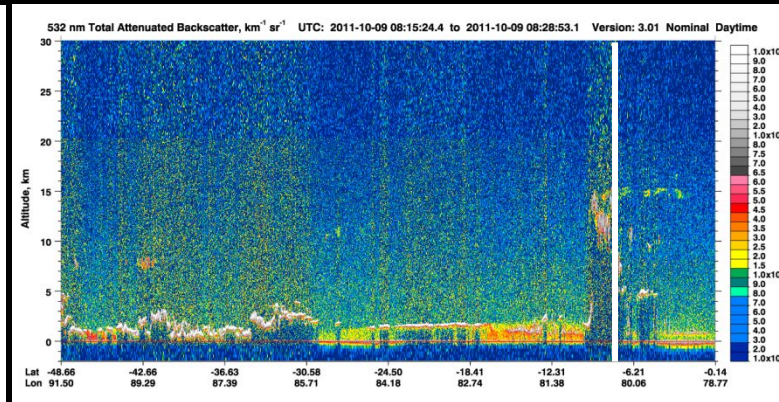
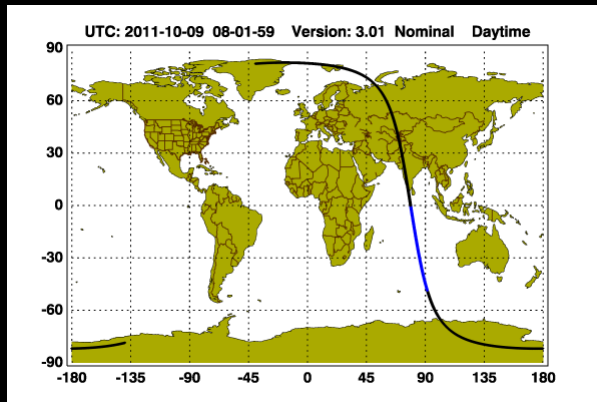
Lidar (R/V Mirai)



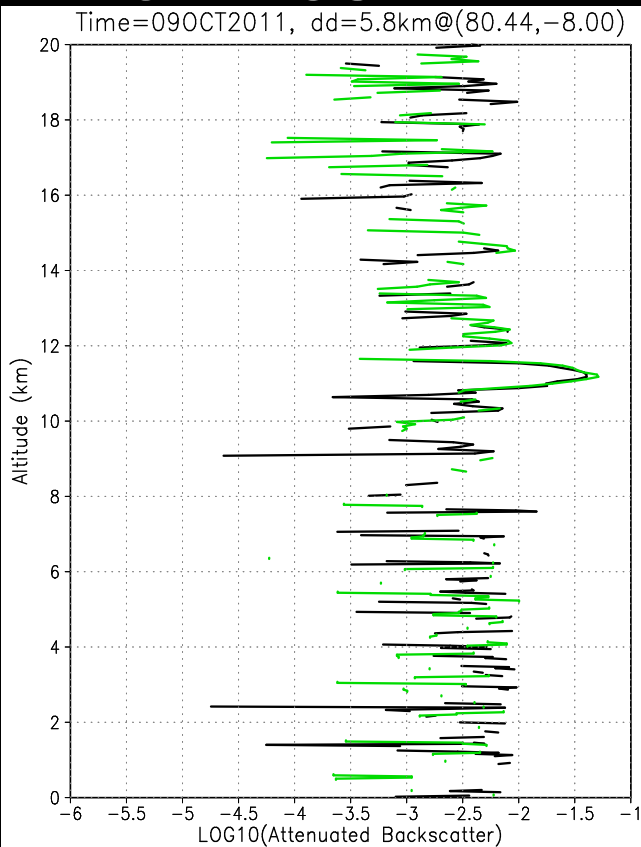
Light sections of backscatter intensity at 532nm from 26 September 2011 to



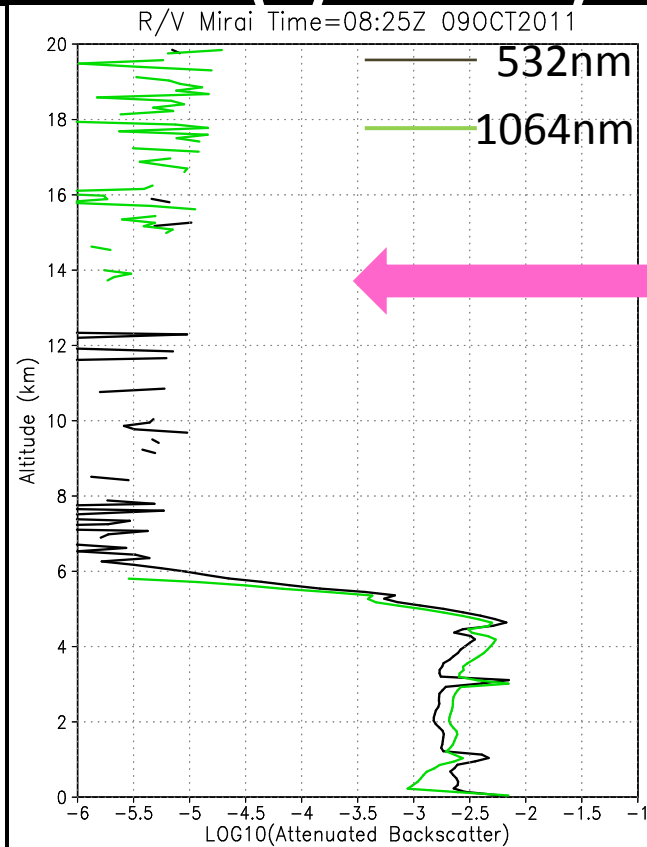
October 09



CALIPSO

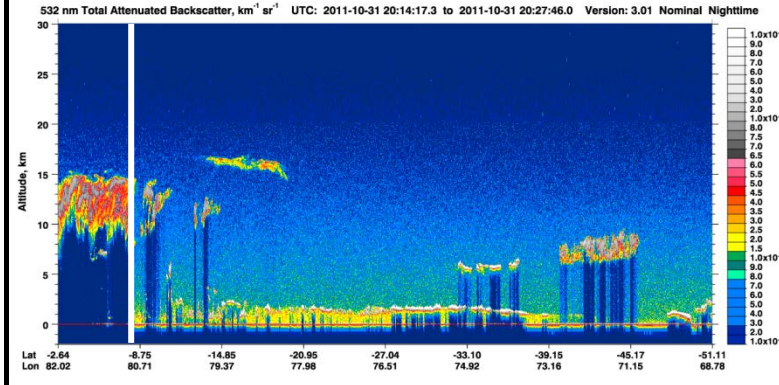
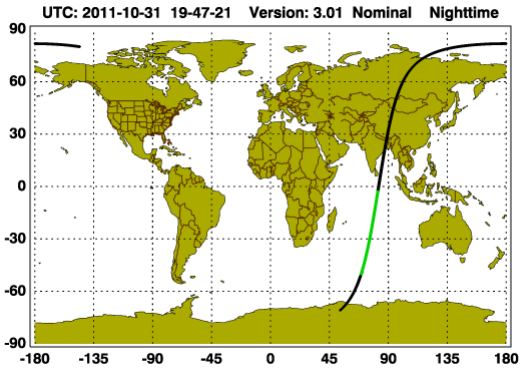


HSRL (R/V Mirai)



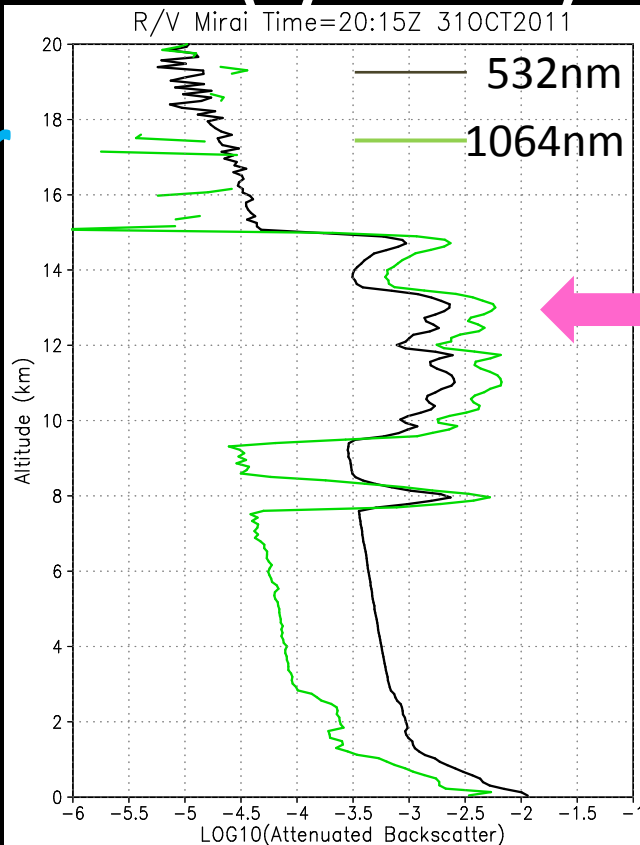
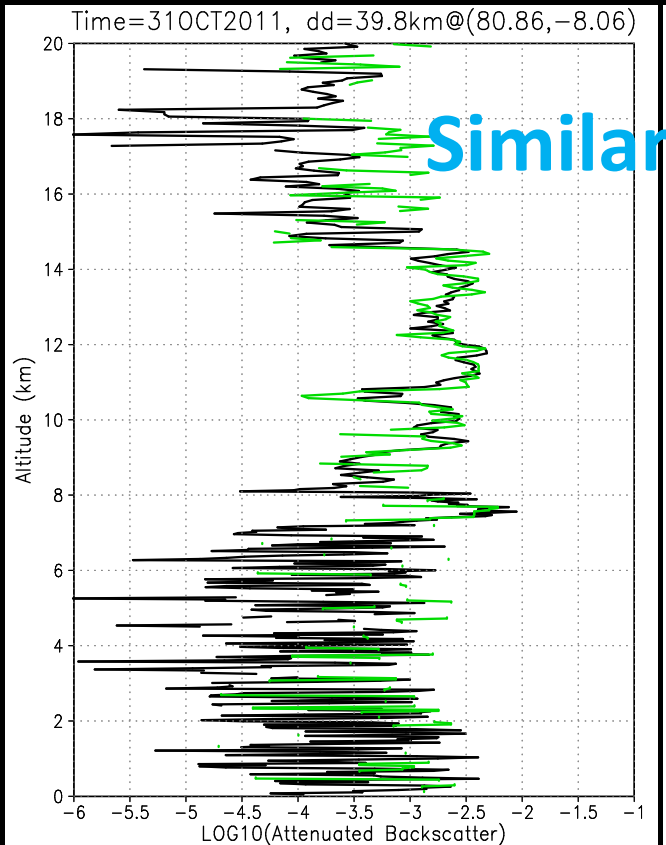
**Strong
Attenuation**

October 31

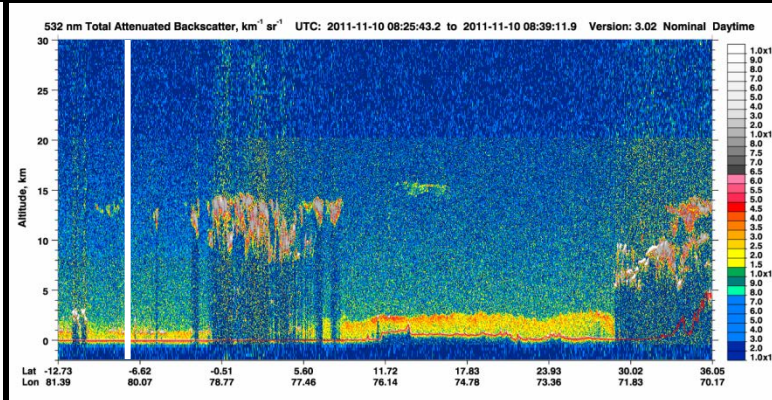
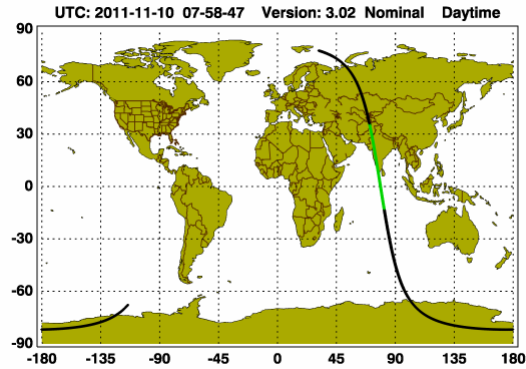


CALIPSO

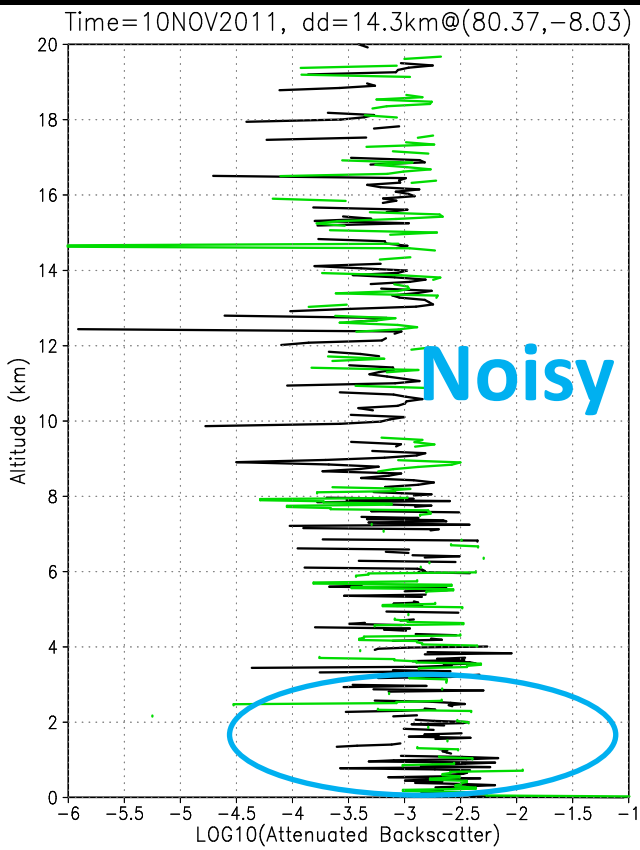
HSRL (R/V Mirai)



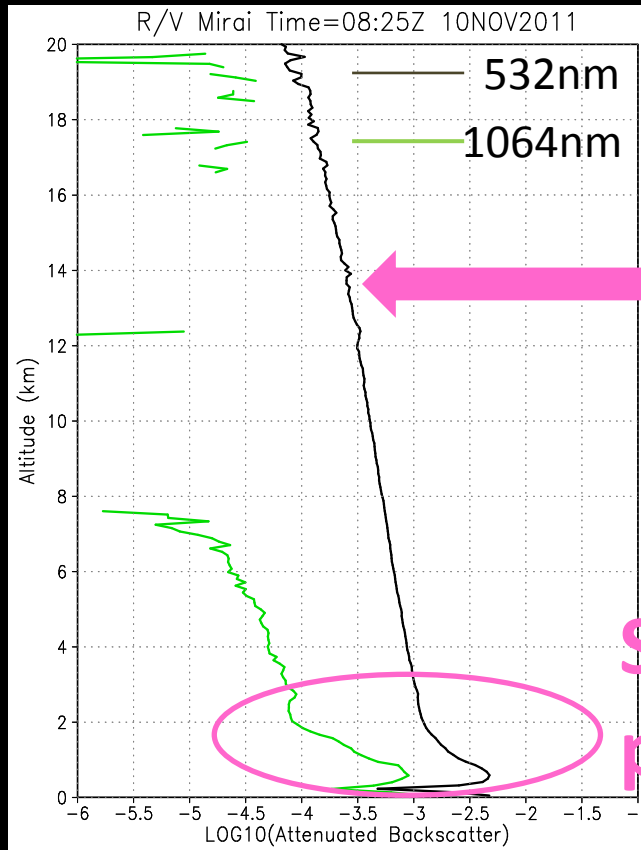
November 10



CALIPSO

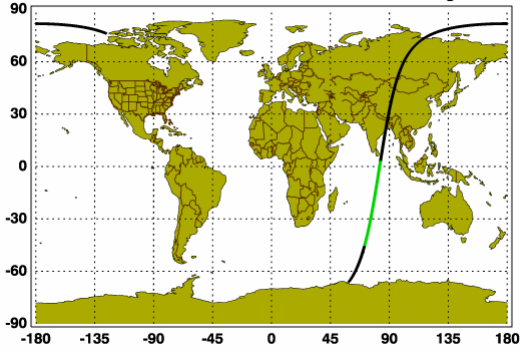


HSRL (R/V Mirai)

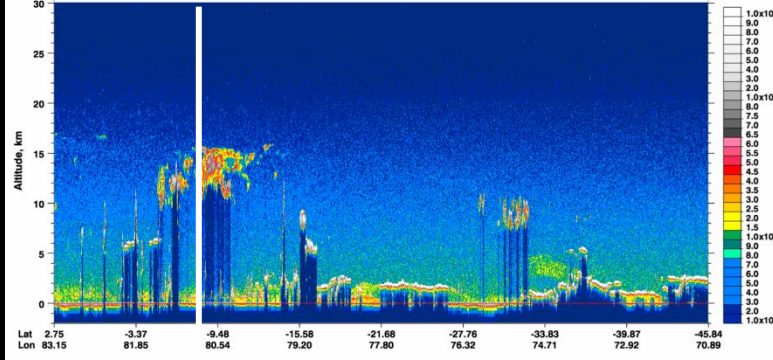


November 16

UTC: 2011-11-16 19:45:53 Version: 3.02 Nominal Nighttime

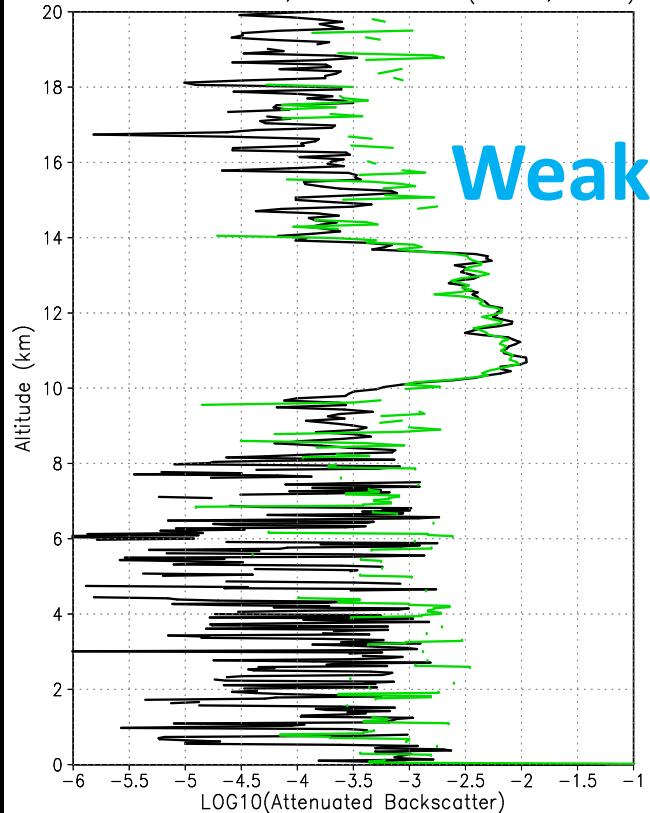


532 nm Total Attenuated Backscatter, $\text{km}^{-1} \text{sr}^{-1}$ UTC: 2011-11-16 20:12:51.3 to 2011-11-16 20:26:20.0 Version: 3.02 Nominal Nighttime



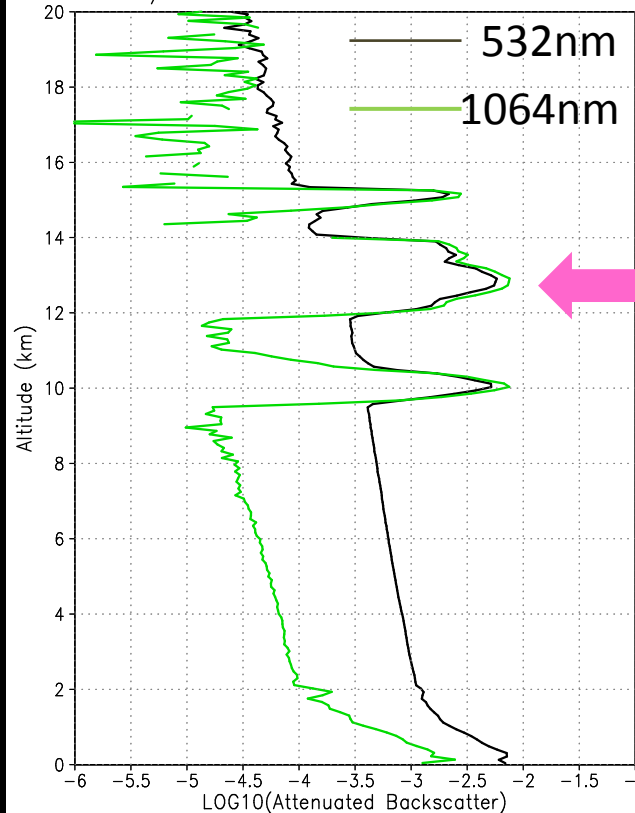
CALIPSO

Time=16NOV2011, dd=38.9km@(80.85,-8.06)



HSRL (R/V Mirai)

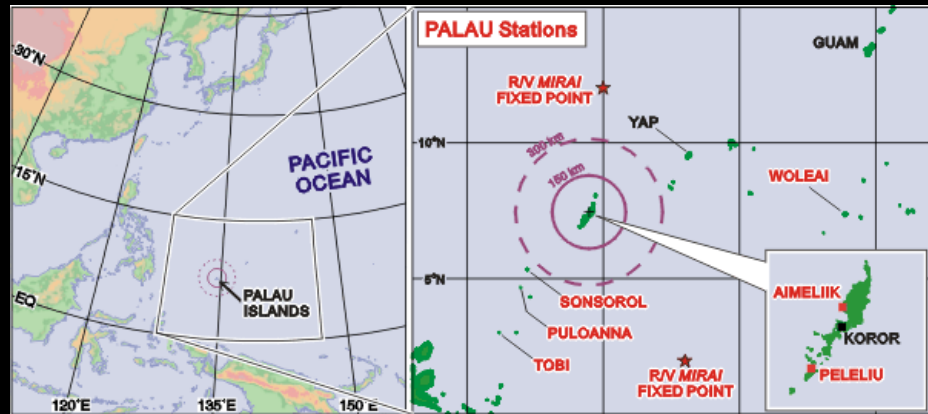
R/V Mirai Time=20:15Z 16NOV2011



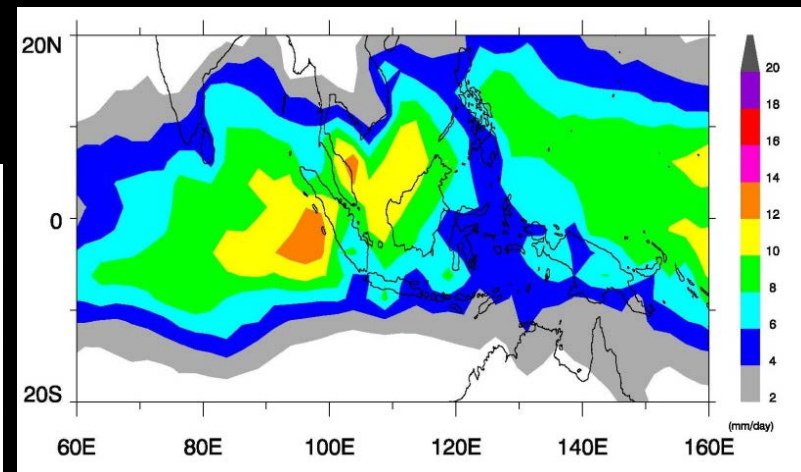
Multi-layered Cirrus

For the validation rehearsal

- Observational data in 2013 and 2015
 - Palau (Mie scattering Lidar)



- Field campaign over the IO
(R/V Mirai with HSRL and CR)



Summary

- For the validation

Plan of observational campaign in JFY 2016 or JFY 2017.

- Over the tropical ocean
- At a remote island in the tropics

- For the validation rehearsal

- 4 samples of CALIPSO overpass in CINDY2011
- Field campaigns data at Palau (2013) and over IO (2015)
- Issues

for the extension of Mie-lidar operation at Palau

for the installation of HSRL and Cloud-Radar to R/V Mirai