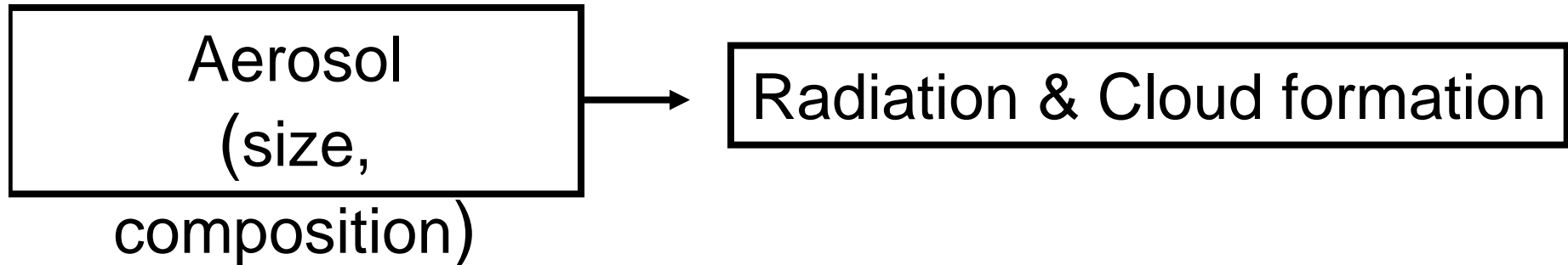


Some Japanese Projects for Aerosol Studies

Makoto Koike
University of Tokyo



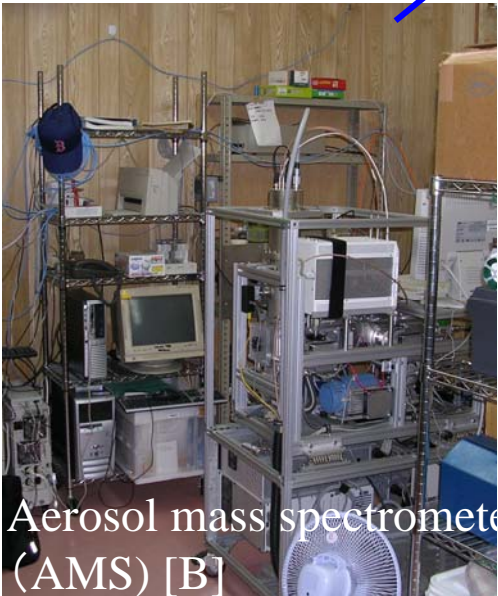
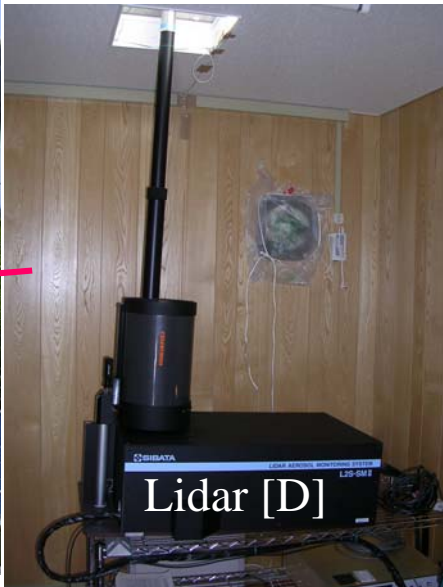
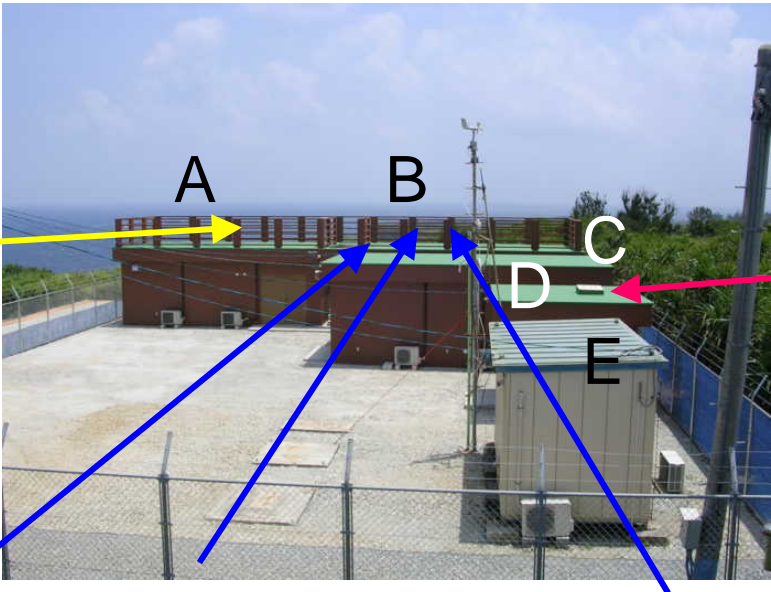
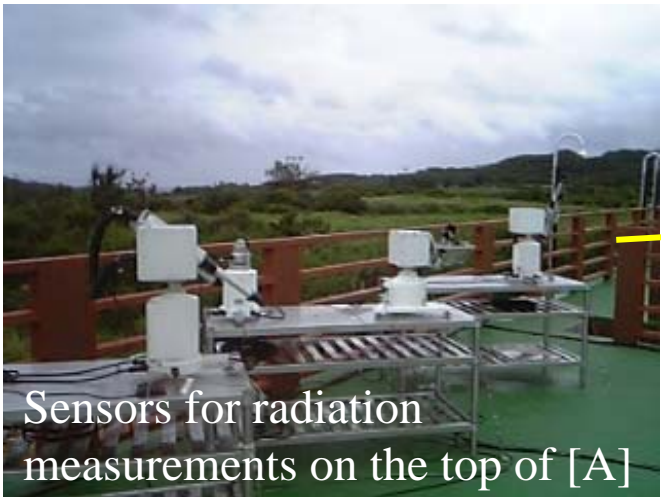
1. Long-term observation network
(aiming at 10-year data collection)
2. Campaign and short-term observations
(process oriented experiment)

Long-term Observation Network related to ABC

ABC : Atmospheric Brown Cloud (UNEP/IGBP/NOAA project)
V. Ramanathan (Scripps Institute of Oceanography, Univ. of California)
<http://www-abc-asia.ucsd.edu/>



Cape Hedo, Okinawa (CHAAMS) S. Hatakeyama (NIES, Japan)



List of instruments at CHAAMS

Location	Cape Hedo, Okinawa (26.87 °N, 128.26 °E)	Clouds	Clouds
Instrument type & Manufacturer (Owner)			
Aerosols	Aerosols	Optical thickness	i-Sky radiometer, Prede, POM-02 (CEReS, CU)
Optical thickness	Sky radiometer, Prede, POM-01 (RIHN)	Cloud amount	Skyview, Prede, PSV-100 (CEReS, CU)
Angstrom coefficient	i-sky radiometer, Prede, POM-02 (CEReS, CU)	Water content	Microwave radiometer, Radiometrics, WVR-1100 (CEReS, CU)
Vertical distribution	Lidar, Shibata, L2S-SM II (NIES)	Cloud height Dist.	Cloud radar, FM-CW 94GHz (Chiba U. made) (CEReS, CU)
Scattering coefficient	Nephelometer, TSI, MODEL3563 (RIHN)	Radiation	Radiation
	Nephelometer, Radiance Research, M903 (CEReS, CU)		Pyrheliometer, Kipp & Zonen, CH-01 (CEReS, CU)
Absorption coefficient	Aethalometer, Magee Scientific, AE-31 (RIHN)		Pyranometer Kipp & Zonen, CM21 (CEReS, CU)
	PSAP, Radiation Research (Only for IFE) (CEReS, CU)		Pyrgeometer, Eppley Lab., PIR (CEReS, CU)
Particle number	OPC, Met One, Model 237 (CEReS, CU)	Gas	Gas
	OPC, Royco, LAS 236 (Only for IFE) (CEReS, CU)	Ozone	Ozone monitor, TEI, Model 49C (MOE)
Particle mass concentration	TEOM Particulate mass monitor, R&P, 1400 (NIES)	SO ₂	SO ₂ monitor, TEI, Model 43C (MOE)
aerosol chemical components	Aerosol mass spectrometer, AERODYNE (NIES)	NO _y and HNO ₃ (g)	NO _x monitor, TEI, Model 42C (modified) (Osaka Pref. U.)
	Nitrate monitor, R&P, 8400N (NIES)	HC	HC monitoring system, GC, Shimadzu (Meijo U)
	Hi-Vol sampler, Shibata (NIES)	CO	CO monitor, TEI, Model 48C (Tokyo Metr. U.)
	Hi-Vol sampler, Shibata (Ryukyu U.)	Weather	Weather
	PM10, PM2.5 sampler, Peking Geological Instruments (NIES)	Rain	Rain sampler, Ogasawara (MOE)
Black carbon	EC/OC monitor, R&P, 5400 (NIES)	Temp., Humidity, Press., Rain, Wind	Weather Trasmmitter, VISALA WXT510 (NIES)
	BC monitor, TEI, MAAP5012 (RIHN)	Temp. Humidity, Wind	Ultrasonic Anemometer, Gill Wind Sonic (RIHN)
		Temp., Humidity, Press., Wind	Temperature/RH sensor, VISALA HMP45A (RIHN)
			Temperature/RH/Pressure sensor MET3 (CEReS, CU)

RIHN: Research Institute for Humanity and Nature, CEReS: Center for Environmental Remote Sencing, Chiba University, NIES: National Institute for Environmental Studies, MOE: Ministry of Environment

SKYNET (radiation and aerosol optical parameters)

T. Takamura (Chiba University, Japan) & T. Nakajima (Univ. of Tokyo)
<http://atmos.cr.chiba-u.ac.jp/>

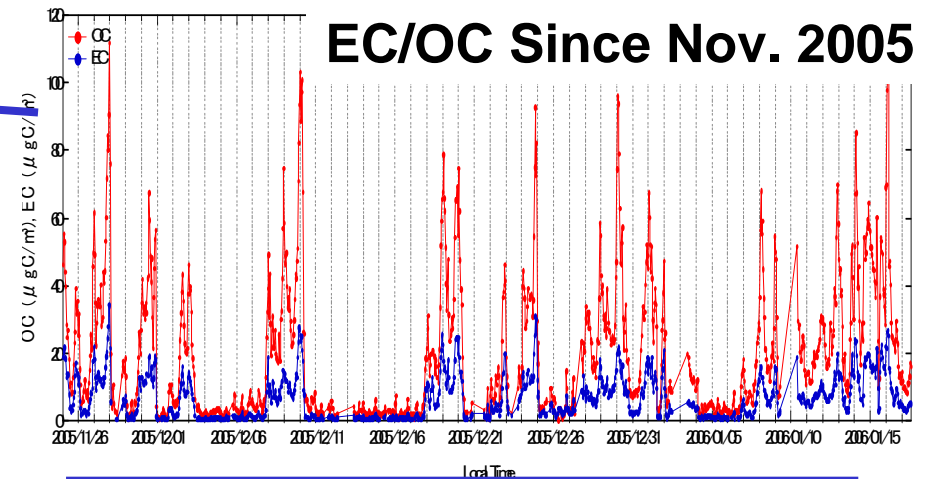
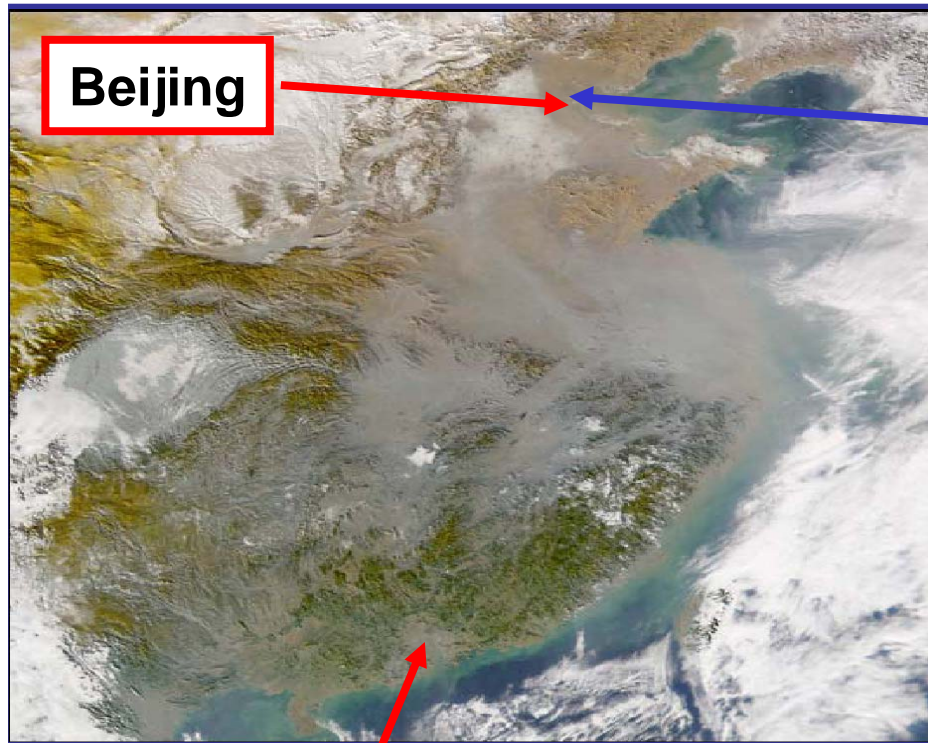
Pyranometer
Pyrgeometer
Sky Radiometer
Sun Photometer

shortwave &
longwave flux
(down & up),
scattering coeff. etc

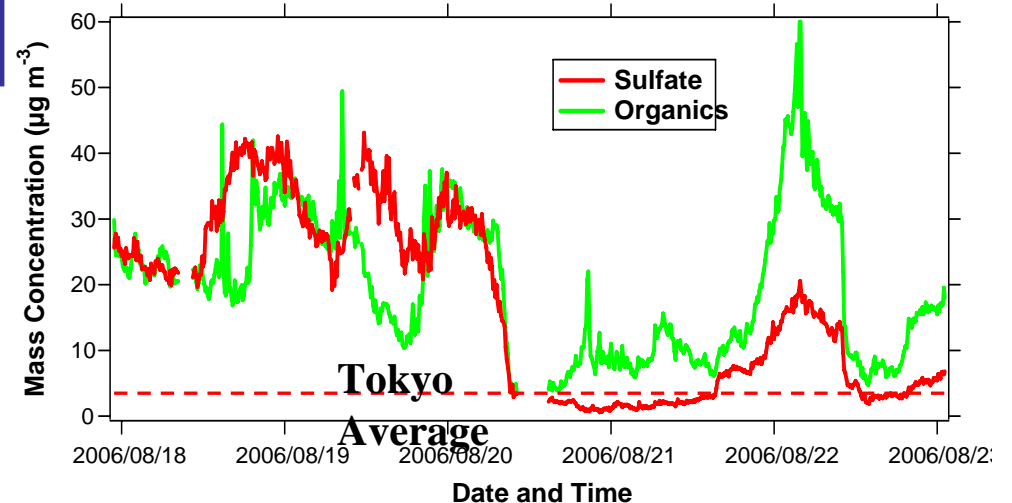


Campaign and Short-term Observations

Mega-cities Asia (IGBP/IGAC)



Japan (Y. Kondo) & China
(Y. Zhang & T. Zhu)



PRD: Pearl River Delta

Campaign: China (Y. Zhang & T. Zhu at Peking Univ., Japan (Y. Kondo at Univ. of Tokyo), Germany, and Korea
July – September 2006

	2008 ?	Data availability
ABC	Yes	1-3 years
SKYNET	Yes	Yes
Campaign	?	1-3 years