

# **JAXA plans to extract GCOM-C/SGLI data to support PICS**

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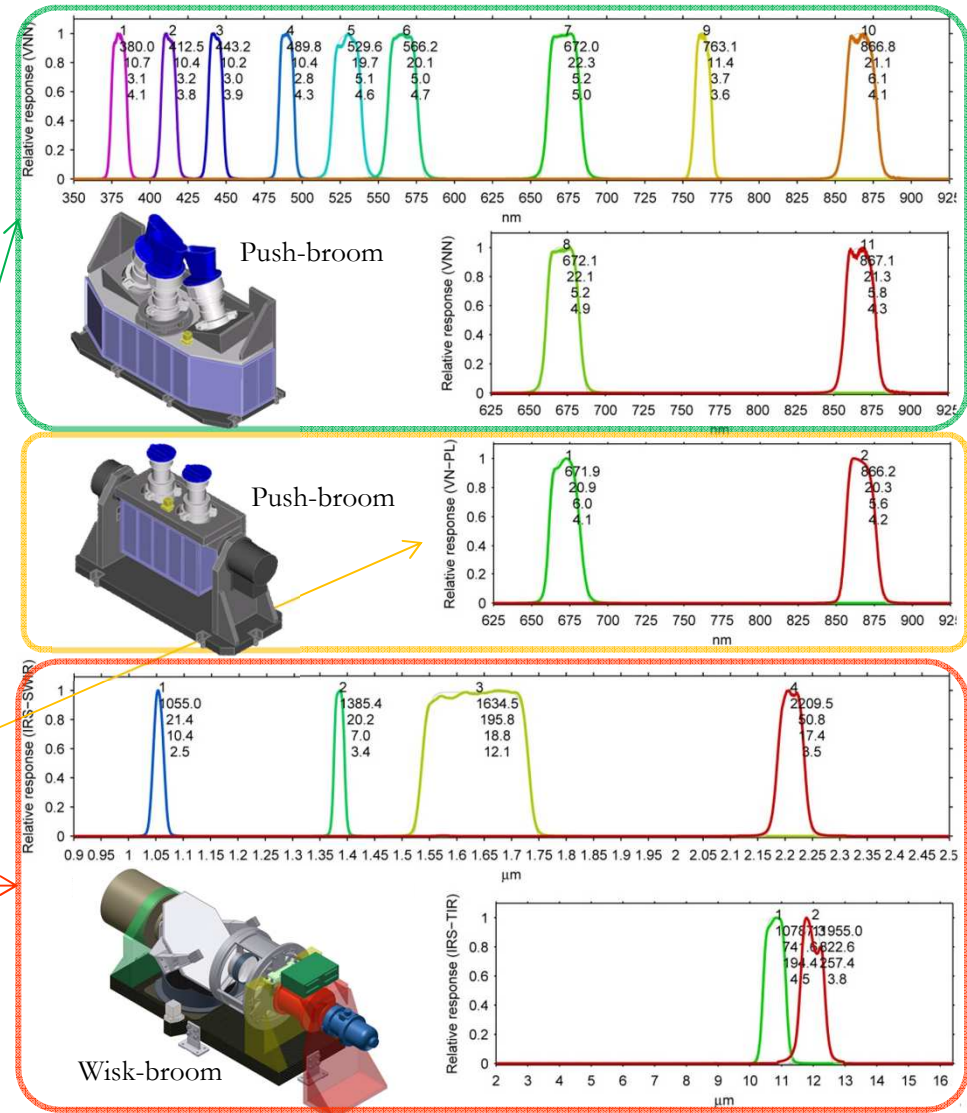
# GCOM-C/SGLI

[http://suzaku.eorc.jaxa.jp/GCOM\\_C/about/c\\_sgli\\_prod\\_01.html](http://suzaku.eorc.jaxa.jp/GCOM_C/about/c_sgli_prod_01.html)

GCOM-C SGLI characteristics	
Launch Date	<b>JFY 2016 (Q4)</b>
Mission Life	5 years (3 satellites; total 13 years)
Orbit	descending local time: <b>10:30</b> , Altitude: 798km, Inclination: 98.6deg
Scan width	<b>1150km</b> cross track (VNR: VN & P) <b>1400km</b> cross track (IRS: SW & T)
Polarization	<b>3 polarization angles for POL</b>
Along track tilt	POL: +/-45 deg, others: Nadir

Characteristics of SGLI spectral bands						
CH	$\lambda$	$\Delta\lambda$	$L_{std}$	$L_{max}$	SNR@ $L_{std}$	IFOV
	nm		W/m <sup>2</sup> /sr/ $\mu$ m K: Kelvin		- K: NEAT	m
VN1	380	10	60	210	250	250 /1000
VN2	412	10	75	250	400	250 /1000
VN3	443	10	64	400	300	250 /1000
VN4	490	10	53	120	400	250 /1000
VN5	530	20	41	350	250	250 /1000
VN6	565	20	33	90	400	250 /1000
VN7	673.5	20	23	62	400	250 /1000
VN8	673.5	20	25	210	250	250 /1000
VN9	763	12	40	350	1200*	250 /1000*
VN10	868.5	20	8	30	400	250 /1000
VN11	868.5	20	30	300	200	250 /1000
POL1	673.5	20	25	250	250	1000
POL2	868.5	20	30	300	250	1000
SW1	1050	20	57	248	500	1000
SW2	1380	20	8	103	150	1000
SW3	1630	200	3	50	57	250 /1000
SW4	2210	50	1.9	20	211	1000
TIR1	10800	700	300K	340K	0.2K	250/500/1000
TIR2	12000	700	300K	340K	0.2K	250/500/1000

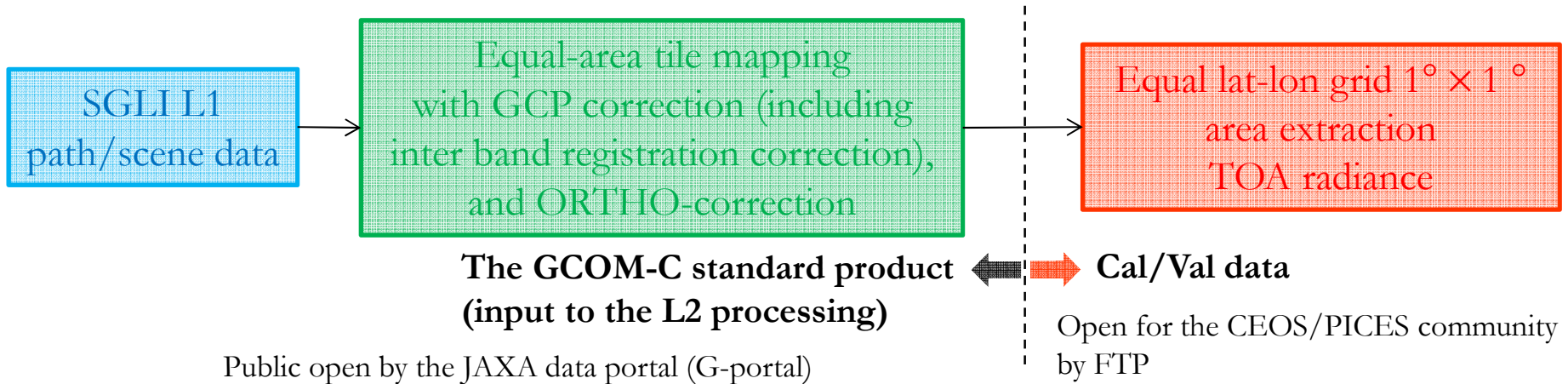
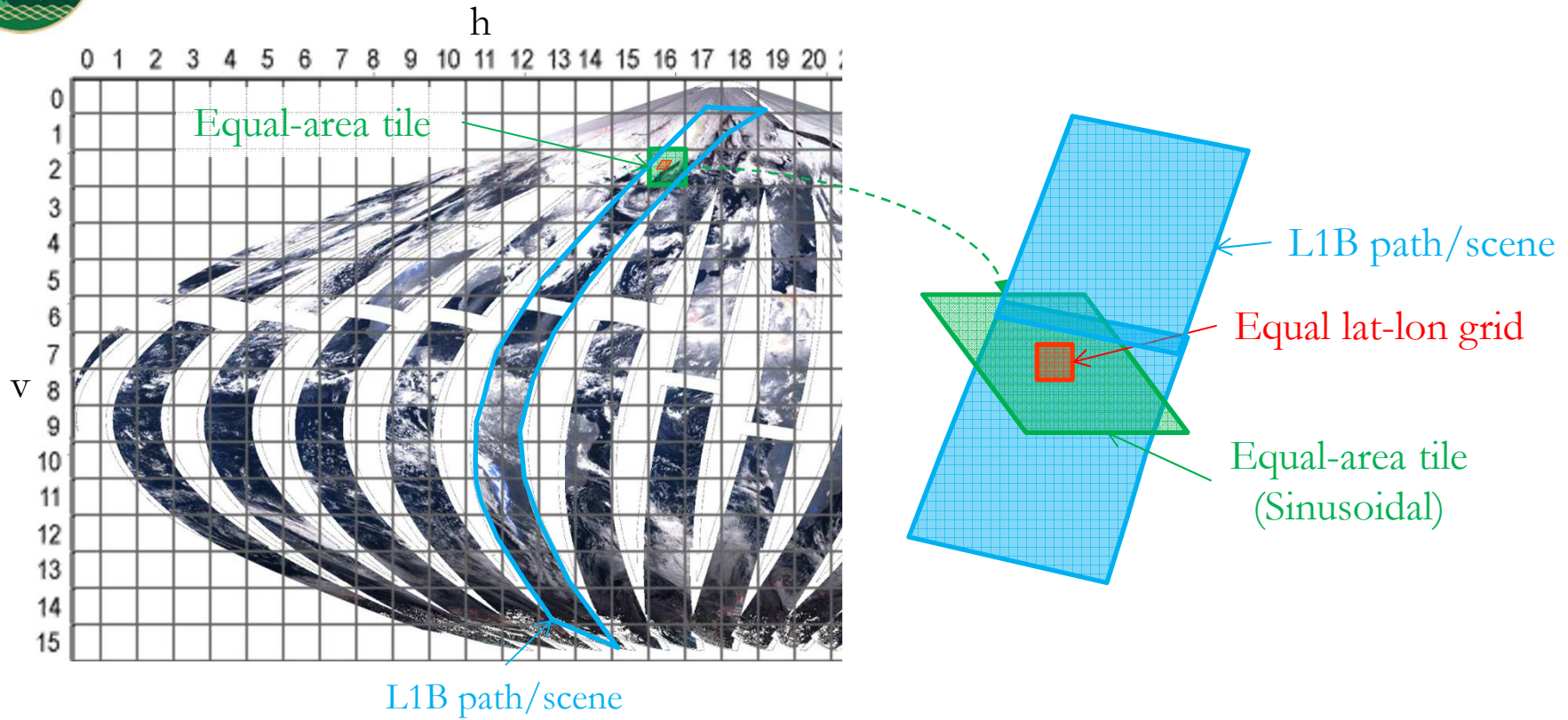
Multi-angle obs. for 674nm and 869nm



Approximation:  $RSR(W) = \exp(\log(1/2) * (abs(W - WLC)/(HW/2))^EX)$   
W: wavelength [nm]  
TransW: Transition width [nm] from 0.1 to 0.8

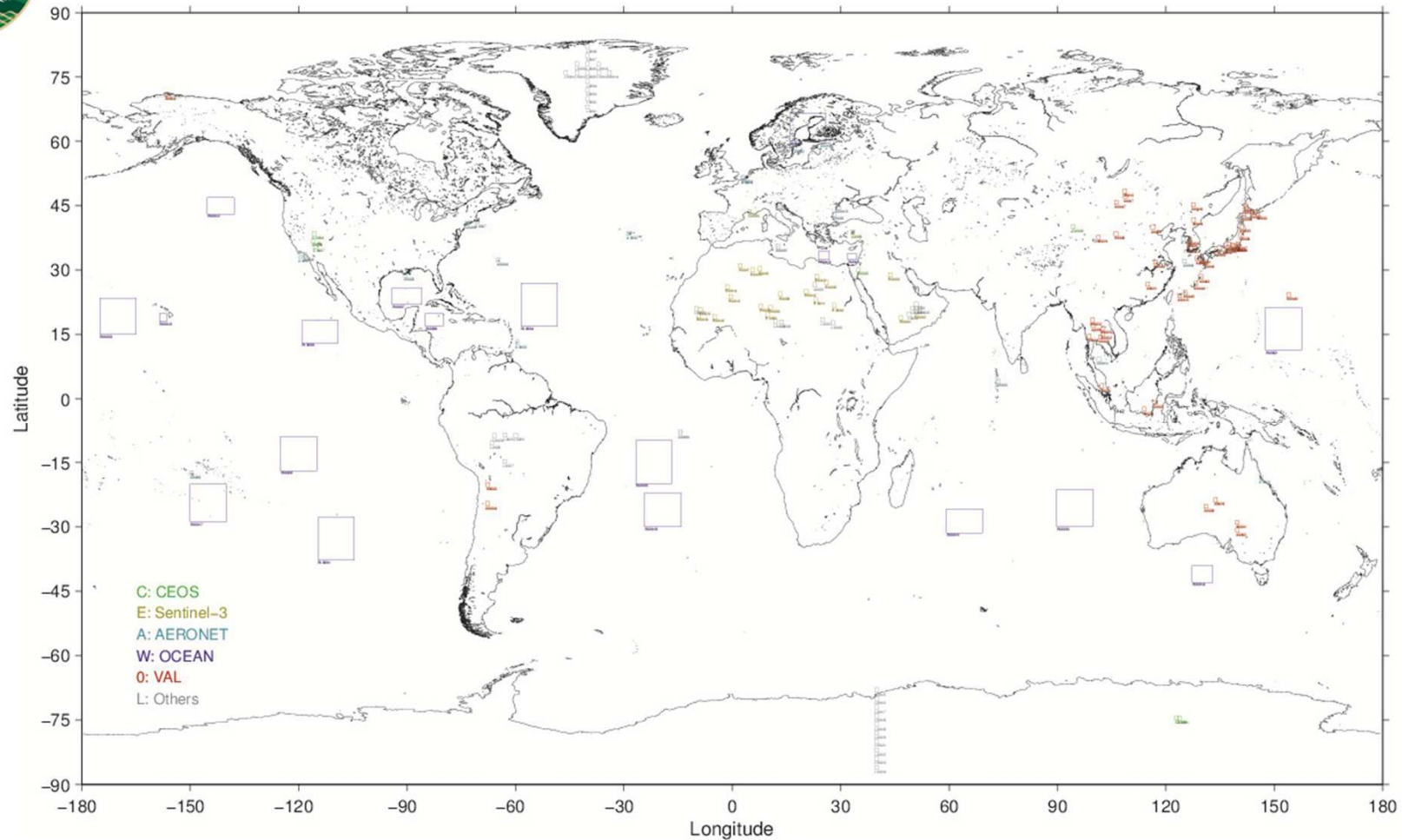


# Cal/Val: Fixed Area Extraction: GCOM-C data flow





# Cal/Val: Fixed Area Extraction: Area definition



- Equal lat-lon grid from GCOM-C LTOA tile data (250m and/or 1km resolution)
- 1deg x 1deg area (wide areas for the ocean stable areas)
- Site locations (TBD): CEOS sites, other Sentinel-3 sites, and some val sites in the Asia-Pacific
- Sites can be changed by modify list file: lut/cvsites.list
- Format: HDF5 (TBD)





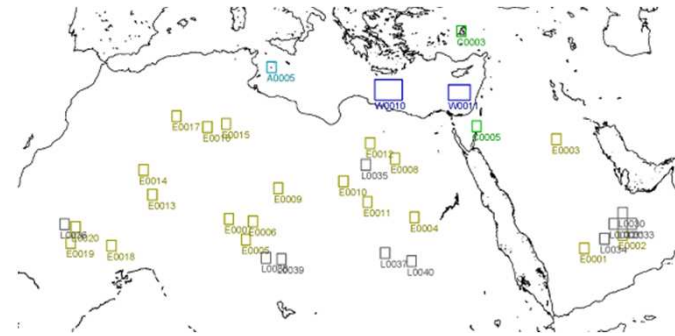
# Cal/Val: Fixed Area Extraction

## CEOS/LANDNET

Label, longitude, latitude,  $\pm\Delta x$ ,  $\pm\Delta y$ , name  
 C0001, 123.830, -74.630, 0.500, 0.500, DOME-C  
 C0002, 123.000, -74.500, 0.500, 0.500, DOME-C2 (Sentinel-3)  
 C0003, 33.330, 38.830, 0.500, 0.500, Tuz Golu TUBITAK UZAY  
 C0004, -115.690, 38.500, 0.500, 0.500, Railroad Valley Playa NASA/GSFC  
 C0005, 35.010, 30.110, 0.500, 0.500, Negev Ben Gurion University  
 C0006, 4.860, 43.560, 0.500, 0.500, La Crau CNES  
 C0007, -115.400, 35.570, 0.500, 0.500, Ivanpah Playa NASA/GSFC  
 C0008, -115.930, 36.810, 0.500, 0.500, Frenchman Flat NASA/JPL  
 C0009, 94.340, 40.130, 0.500, 0.500, Dunhuang

## Sentinel-3/Desert sites ([Sentinel-3-CalVal-Plan-V0.12.pdf](#))

Label, longitude, latitude,  $\pm\Delta x$ ,  $\pm\Delta y$ , name  
 E0001, 46.760, 18.880, 0.500, 0.500, Arabia1  
 E0002, 50.960, 20.130, 0.500, 0.500, Arabia2  
 E0003, 43.730, 28.920, 0.500, 0.500, Arabia3  
 E0004, 28.220, 21.740, 0.500, 0.500, Sudan1  
 E0005, 9.810, 19.670, 0.500, 0.500, Niger1  
 E0006, 10.590, 21.370, 0.500, 0.500, Niger2  
 E0007, 7.960, 21.570, 0.500, 0.500, Niger3  
 E0008, 26.100, 27.120, 0.500, 0.500, Egypt1  
 E0009, 13.350, 24.420, 0.500, 0.500, Libya1  
 E0010, 20.480, 25.050, 0.500, 0.500, Libya2  
 E0011, 23.100, 23.150, 0.500, 0.500, Libya3  
 E0012, 23.390, 28.550, 0.500, 0.500, Libya4  
 E0013, -0.400, 23.800, 0.500, 0.500, Algeria1  
 E0014, -1.380, 26.090, 0.500, 0.500, Algeria2  
 E0015, 7.660, 30.320, 0.500, 0.500, Algeria3  
 E0016, 5.590, 30.040, 0.500, 0.500, Algeria4  
 E0017, 2.230, 31.020, 0.500, 0.500, Algeria5  
 E0018, -4.850, 19.120, 0.500, 0.500, Mali1  
 E0019, -9.300, 19.400, 0.500, 0.500, Mauritania1  
 E0020, -8.780, 20.850, 0.500, 0.500, Mauritania2



## Sentinel-3/Rayleigh and Glitter sites ([area size is reduced due to data volume](#))

Label, longitude, latitude,  $\pm\Delta x$ ,  $\pm\Delta y$ , name  
 W0001, -109.600, -32.800, 5.000, 5.000, PacSE South-East of Pacific  
 W0002, 152.550, 16.350, 5.000, 5.000, PacNW North-West of Pacific  
 W0003, 190.000, 19.250, 5.000, 4.250, PacN North of Pacific  
 W0004, -53.350, 22.000, 5.000, 5.000, AtlN North of Atlantic  
 W0005, -21.650, -14.900, 5.000, 5.000, AtlS South of Atlantic  
 W0006, 94.800, -25.550, 5.000, 4.350, IndS South of Indian  
 W0007, -90.000, 23.950, 4.100, 1.950, GuMex Gulf of Mexico  
 W0008, -82.500, 18.450, 2.500, 1.450, GuYuc Yucatan Strait  
 W0009, -114.000, 15.650, 5.000, 2.650, DoCoRi Costa Rica Dome  
 W0010, 25.400, 33.450, 1.500, 0.950, MedCr Mediterranean South Crete  
 W0011, 33.100, 33.200, 1.200, 0.700, MedCy Mediterranean South Cyprus  
 W0012, -141.550, 44.950, 3.650, 1.950, GuAlas Gulf of Alaska  
 W0013, -157.500, 18.950, 1.000, 0.950, Hawaii Hawaii near MOBY  
 W0014, 130.150, -40.950, 2.850, 1.950, AustS South Australia  
 W0015, 64.300, -28.600, 5.000, 2.800, MadE East of Madagascar  
 W0016, 21.000, 63.250, 5.000, 3.250, BothS Bothnia Sea  
 W0017, -145.000, -24.400, 5.000, 4.400, PacTropS South Tropical Pacific  
 W0018, -120.000, -13.000, 5.000, 4.000, PacEqS South Equatorial Pacific  
 W0019, -19.250, -26.000, 5.000, 4.000, AtlSE South-East of Atlantic



# Cal/Val: Fixed Area Extraction

## AERONET sites

Label	longitude	latitude	$\pm\Delta x$	$\pm\Delta y$	name
A0001	-14.410	-7.976	0.500	0.500	AERONET_Ascension_Island
A0002	-28.630	38.530	0.500	0.500	AERONET_Azores
A0003	-59.500	13.167	0.500	0.500	AERONET_Barbados
A0004	-64.700	32.370	0.500	0.500	AERONET_Bermuda
A0005	12.630	35.517	0.500	0.500	AERONET_Lampedusa
A0006	73.530	4.192	0.500	0.500	AERONET_MALE
A0007	-119.490	33.257	0.500	0.500	AERONET_San_Nicolas
A0008	-149.610	-17.577	0.500	0.500	AERONET_Tahiti
A0009	28.193	43.045	0.500	0.500	Galata_Platform
A0010	29.360	44.600	0.500	0.500	Gloria
A0011	101.412	9.286	0.500	0.500	GOT_Seaprisms
A0012	17.467	58.594	0.500	0.500	Gustav_Dalen_Tower
A0013	24.926	59.949	0.500	0.500	Helsinki_Lighthouse
A0014	125.182	32.123	0.500	0.500	Ieodo_Station
A0015	-73.342	40.955	0.500	0.500	LISCO
A0016	146.386	-18.520	0.500	0.500	Lucinda
A0017	-70.550	41.300	0.500	0.500	MVCO
A0018	13.152	58.755	0.500	0.500	Palgrunden
A0019	124.738	37.423	0.500	0.500	Socheongcho
A0020	2.955	51.533	0.500	0.500	Thornton_C-power
A0021	-118.118	33.564	0.500	0.500	USC_SEAPRISM
A0022	12.508	45.314	0.500	0.500	Venise
A0023	-90.483	28.867	0.500	0.500	WaveCIS_Site_CSI_6
A0024	3.120	51.362	0.500	0.500	Zeebrugge-MOW1

They were used for the ALOS-MODIS cross calibration

L0035	22.900	26.550	0.500	0.500	Sahara1
L0036	-10.000	21.100	0.500	0.500	Sahara2
L0037	25.000	18.450	0.500	0.500	Sahara3
L0038	12.000	18.000	0.500	0.500	Sahara4
L0039	13.700	17.900	0.500	0.500	Sahara5
L0040	27.900	17.700	0.500	0.500	Sahara6

## Other stable sites

Label	longitude	latitude	$\pm\Delta x$	$\pm\Delta y$	name
L0001	-40.000	68.000	0.500	0.500	R08 Greenland01
L0002	-40.000	70.000	0.500	0.500	R08 Greenland02
L0003	-40.000	72.000	0.500	0.500	R08 Greenland03
L0004	-40.000	74.000	0.500	0.500	R08 Greenland04
L0005	-40.000	76.000	0.500	0.500	R08 Greenland05
L0006	-40.000	78.000	0.500	0.500	R08 Greenland06
L0007	-40.000	80.000	0.500	0.500	R08 Greenland07
L0008	-40.000	82.000	0.500	0.500	R08 Greenland08
L0009	-43.000	78.000	0.500	0.500	GreenLand09
L0010	-37.000	78.000	0.500	0.500	GreenLand10
L0011	-46.000	76.000	0.500	0.500	GreenLand11
L0012	-43.000	76.000	0.500	0.500	GreenLand12
L0013	-37.000	76.000	0.500	0.500	GreenLand13
L0014	-34.000	76.000	0.500	0.500	GreenLand14
L0015	40.000	-68.000	0.500	0.500	R09 Antarctica01
L0016	40.000	-70.000	0.500	0.500	R09 Antarctica02
L0017	40.000	-72.000	0.500	0.500	R09 Antarctica03
L0018	40.000	-74.000	0.500	0.500	R09 Antarctica04
L0019	40.000	-76.000	0.500	0.500	R09 Antarctica05
L0020	40.000	-78.000	0.500	0.500	R09 Antarctica06
L0021	40.000	-80.000	0.500	0.500	R09 Antarctica07
L0022	40.000	-82.000	0.500	0.500	R09 Antarctica08
L0023	40.000	-84.000	0.500	0.500	R09 Antarctica09
L0024	40.000	-86.000	0.500	0.500	R09 Antarctica10
L0025	-59.900	-8.650	0.500	0.500	Amazon1
L0026	-62.850	-8.600	0.500	0.500	Amazon2
L0027	-62.950	-14.750	0.500	0.500	Amazon3
L0028	-65.850	-8.800	0.500	0.500	Amazon4
L0029	-66.550	-10.400	0.500	0.500	Amazon5
L0030	50.960	22.130	0.500	0.500	RAKhali Des.1
L0031	50.960	21.130	0.500	0.500	RAKhali Des.2
L0032	49.960	21.130	0.500	0.500	RAKhali Des.3
L0033	51.960	21.130	0.500	0.500	RAKhali Des.4
L0034	48.960	19.750	0.500	0.500	RAKhali Des.5



# Cal/Val: Fixed Area Extraction

## Validation (and cross-cal with Himawari-8) sites

Label, longitude, latitude,  $\pm\Delta x$ ,  $\pm\Delta y$ , name

00001, 142.107, 45.056, 0.500, 0.500, Teshio experiment site (TSE) 70m  
 00002, 143.770, 43.454, 0.500, 0.500, Rikubetsu-NIES  
 00003, 145.501, 43.159, 0.500, 0.500, Ochiishi-misaki-NIES  
 00004, 141.518, 42.735, 0.500, 0.500, Tomakomai (TMK)  
 00005, 140.939, 40.022, 0.500, 0.500, Appi forest meteorology res. (API)  
 00006, 137.423, 36.146, 0.500, 0.500, Takayama (TKY)  
 00007, 140.130, 36.068, 0.500, 0.500, Tsukuba-JAXA  
 00008, 138.335, 35.909, 0.500, 0.500, Yatsugatake  
 00009, 139.756, 35.670, 0.500, 0.500, Kasumigaseki-NIES  
 00010, 138.765, 35.444, 0.500, 0.500, Fuji-hokuroku-NIES (FHK)  
 00011, 137.079, 35.262, 0.500, 0.500, Seto Mixed Forest (SMF)  
 00012, 135.996, 34.962, 0.500, 0.500, Kiryu  
 00013, 133.930, 34.535, 0.500, 0.500, Yahama  
 00014, 131.014, 31.735, 0.500, 0.500, Kumamoto  
 00015, 123.811, 24.054, 0.500, 0.500, Hateruma-NIES  
 00016, 108.654, 48.352, 0.500, 0.500, Southern Khentei Taiga (SKT) 1630m  
 00017, 108.737, 47.214, 0.500, 0.500, Kherlenbayan Ulaan (KBU) 1235m  
 00018, 127.578, 45.280, 0.500, 0.500, Laoshan (LSH) 340m  
 00019, 127.716, 41.695, 0.500, 0.500, Changbai mountains (CBS)  
 00020, 101.332, 37.607, 0.500, 0.500, Haibei Flux Research Site (QHB) 3250m  
 00021, 115.066, 26.734, 0.500, 0.500, Qianyanzhou China (QYZ)  
 00022, 99.718, 18.423, 0.500, 0.500, MaeMoh plantation (MMP) 380m  
 00023, 102.533, 16.450, 0.500, 0.500, Khon Kaen  
 00024, 98.844, 14.590, 0.500, 0.500, Mae Klong (MKL) 231m  
 00025, 101.916, 14.492, 0.500, 0.500, Sakaerat (SKR) 543m  
 00026, 102.300, 2.973, 0.500, 0.500, Pasoh Forest Reserve (PSO) 112m  
 00027, 117.045, -0.861, 0.500, 0.500, Bukit Soeharto (BKS) 20m

00028, 114.038, -2.329, 0.500, 0.500, Palangkaraya (PDF)  
 00029, 133.800, -23.700, 0.500, 0.500, Australia Alice Springs  
 00030, 131.020, -25.210, 0.500, 0.500, Australia Uluru  
 00031, 139.750, -29.000, 0.500, 0.500, Australia Tinga Tingana  
 00032, 139.833, -30.750, 0.500, 0.500, Australia Lake Frome  
 00033, -67.600, -20.200, 0.500, 0.500, SAmerica Salar de Uyuni (Bolivia)  
 00034, -67.700, -24.572, 0.500, 0.500, SAmerica Arizaro  
 00035, 116.381, 39.977, 0.500, 0.500, Beijing\_AERONET  
 00036, 126.330, 36.539, 0.500, 0.500, Anmyon\_AERONET  
 00037, 126.843, 35.228, 0.500, 0.500, Gwangju GIST\_AERONET  
 00038, 142.261, 44.366, 0.500, 0.500, Moshiri 288.0m SKYNET  
 00039, 140.840, 38.260, 0.500, 0.500, Sendai 153m SKYNET  
 00040, 140.124, 35.622, 0.500, 0.500, Chiba Univ SKYNET  
 00041, 129.867, 32.783, 0.500, 0.500, Nagasaki SKYNET  
 00042, 128.682, 32.752, 0.500, 0.500, Fukue-jima SKYNET(FUJ)  
 00043, 129.697, 28.444, 0.500, 0.500, Amami-oshima SKYNET  
 00044, 128.249, 26.867, 0.500, 0.500, Hedo-misaki SKYNET(CHD)  
 00045, 125.317, 24.733, 0.500, 0.500, Miyako-jima SKYNET(MMY)  
 00046, 153.970, 24.300, 0.500, 0.500, Minami-Torishima SKYNET  
 00047, 106.264, 45.743, 0.500, 0.500, Mongolia\_Mandalgovi SKYNET  
 00048, 106.213, 38.478, 0.500, 0.500, China\_Yinchuan SKYNET  
 00049, 117.173, 31.897, 0.500, 0.500, China\_Hefei SKYNET  
 00050, 126.592, 37.160, 0.500, 0.500, Seoul SKYNET 300m  
 00051, 99.867, 17.157, 0.500, 0.500, Thailand Sri-samrong SKYNET  
 00052, 102.565, 15.184, 0.500, 0.500, Thailand Phimai SKYNET (PMI)  
 00053, -156.500, 71.000, 0.500, 0.500, Alaska Barrow

AsiaFLUX sites, SKYNET..

