



The global systematic acquisition strategy for ALOS-2

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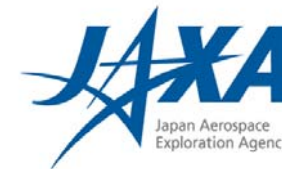


KC#20

Tokyo, Japan. 4-6 Dec 2013



ALOS-2 Basic Observation Scenario

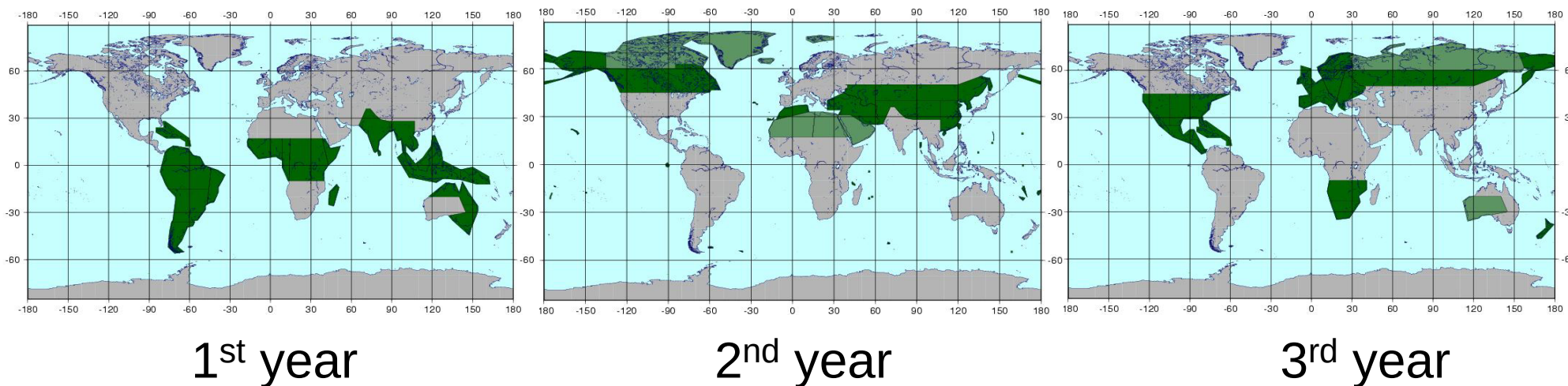


Global land areas – VHR baseline mapping

Temporal repeat: 1 cov/ 3 years

GSD: 3 m (off-nadir 29.1° - 38.2°)

Mode: Stripmap Single-pol (HH/84MHz)



* 3 m mode requires 3 years for global coverage

■ Prio 1
■ Prio 2



ALOS-2 Basic Observation Scenario

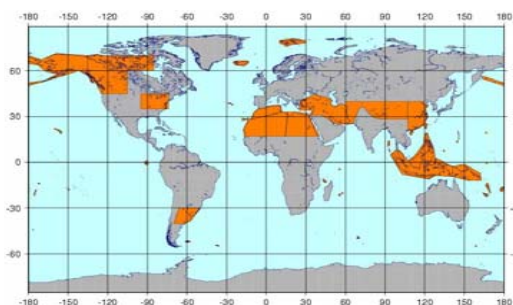


Global land areas – Quad-polarimetric baseline

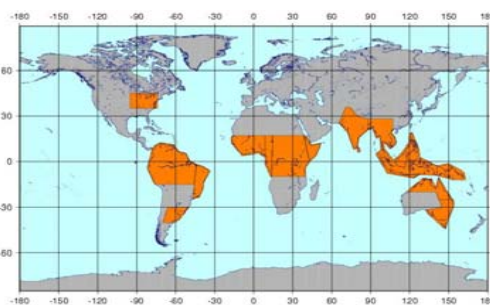
Temporal repeat: 1 cov/ 5 years

GSD: 6 m (off-nadir 25.0° - 34.9°)

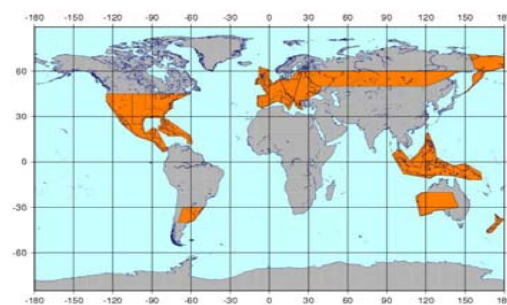
Mode: Stripmap Quad-pol (HH+HV+VV+VH/42MHz)



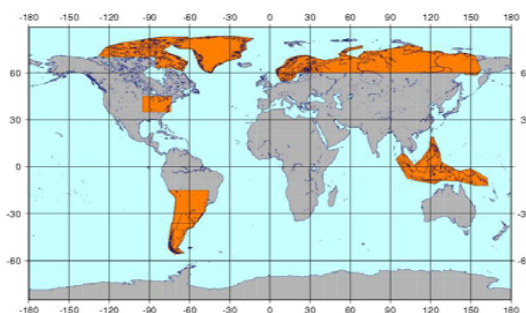
1st year



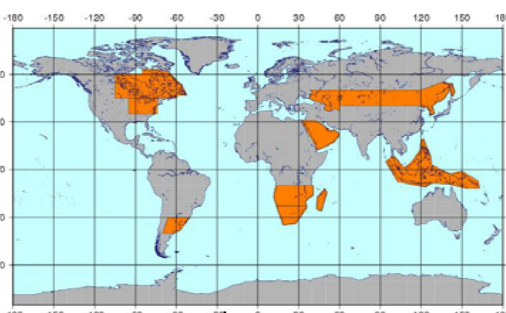
2nd year



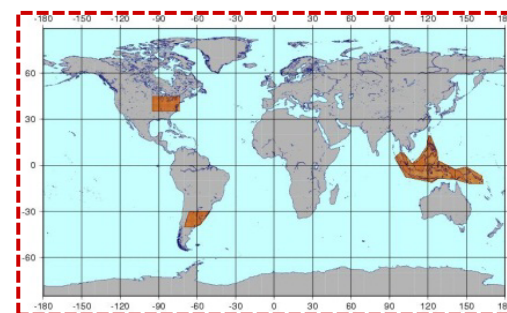
3rd year



4th year



5th year

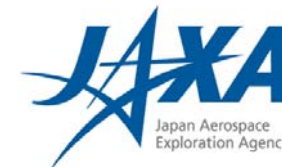


Areas observed every year

* 6 m QP mode requires 5 years for global coverage



ALOS-2 Basic Observation Scenario

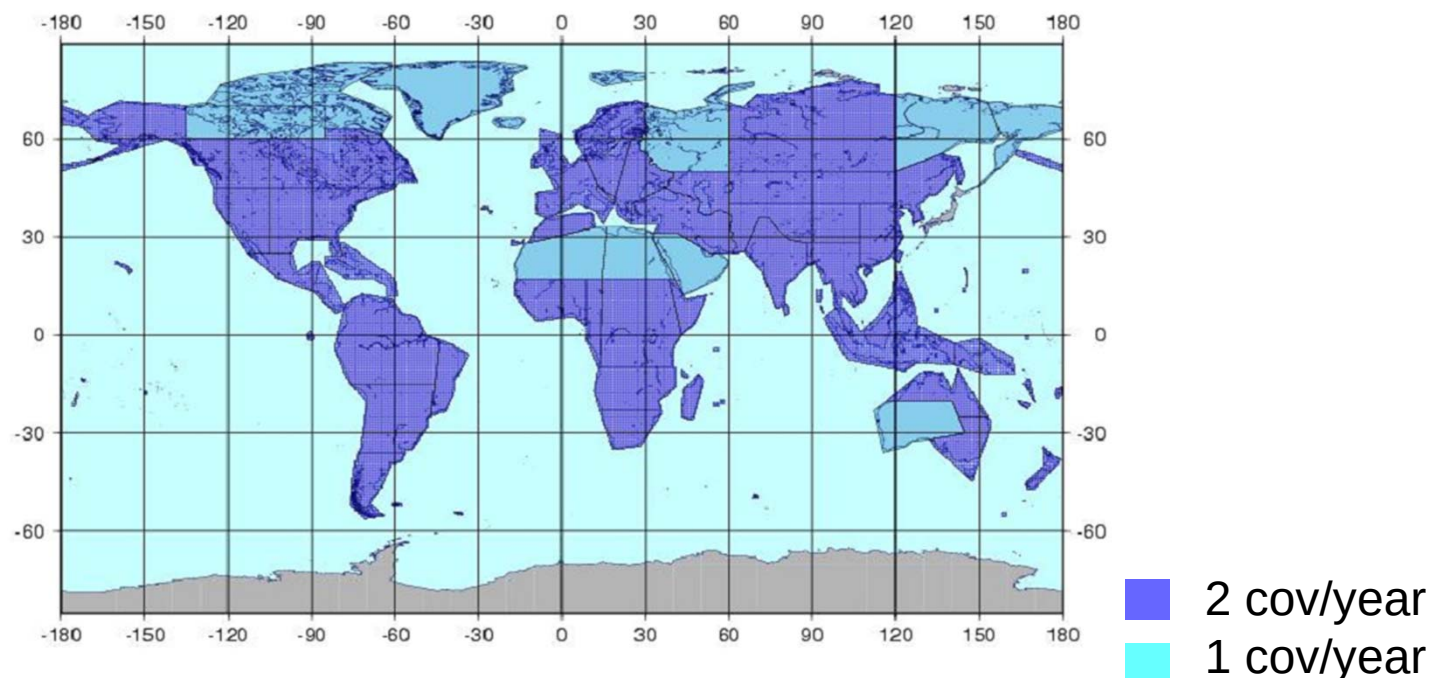


Global land areas – baseline mapping

Temporal repeat: 2 cov/year

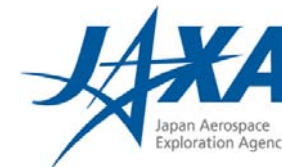
GSD: 10 m (off-nadir 28.2° - 36.2°)

Mode: Stripmap Dual-pol (HH+HV/28MHz)





ALOS-2 Basic Observation Scenario

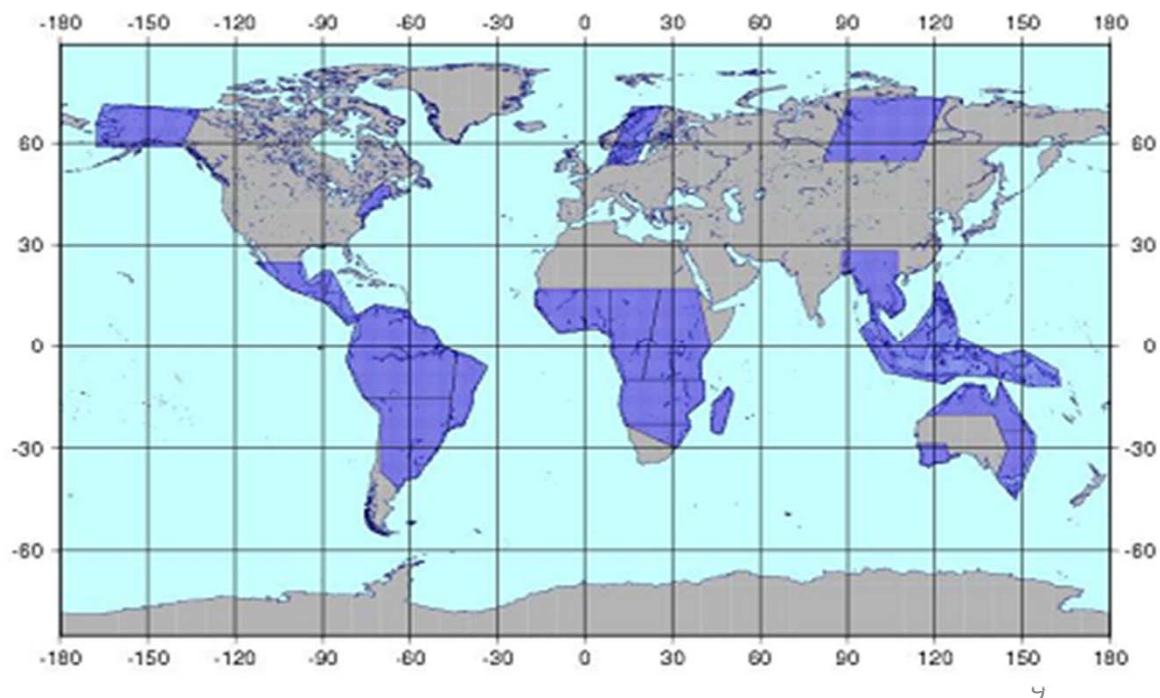


Forest monitoring

Temporal repeat: 2-6 cov/year (tropics 6 cov)

GSD: 10 m (off-nadir 28.2° - 36.2°)

Mode: Stripmap Dual-pol (HH+HV/28MHz)





ALOS-2 Basic Observation Scenario

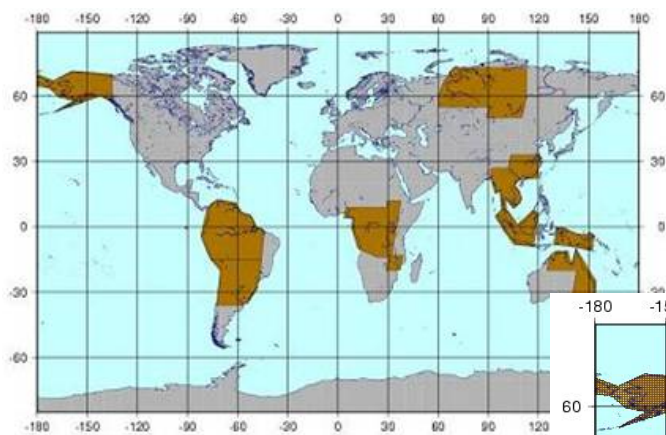


Wetlands & Rapid deforestation monitoring

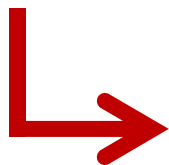
Temporal repeat: 9 cov/year

GSD: 100 m (off-nadir 26.2° - 41.8°)

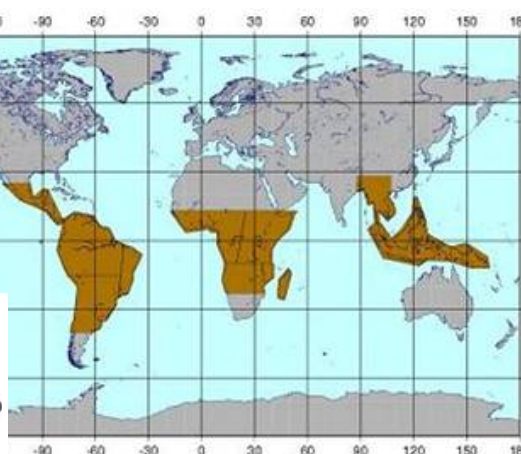
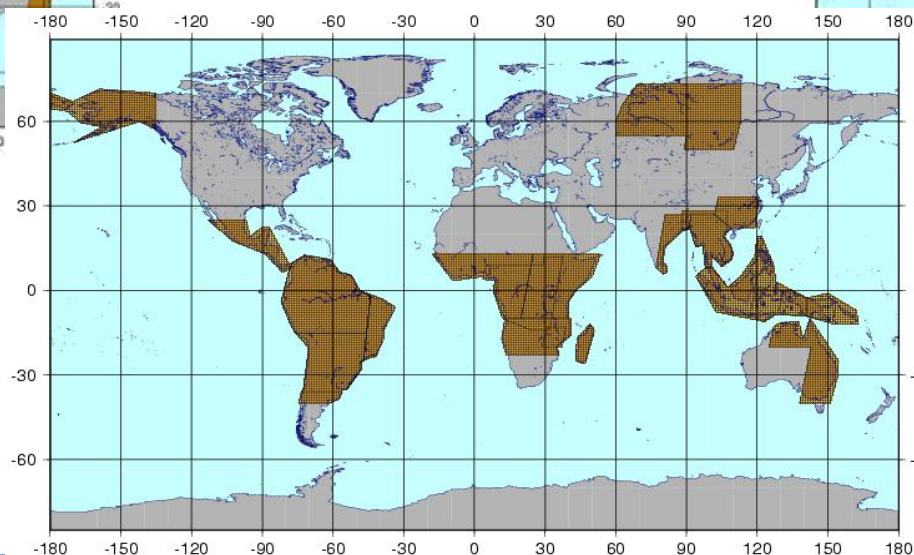
Mode: ScanSAR 350km Dual-pol (HH+HV/14MHz)



Wetlands



observed at the same time

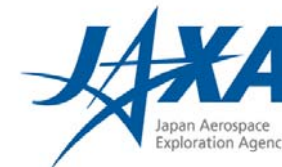


Rapid deforestation
monitoring





ALOS-2 Basic Observation Scenario

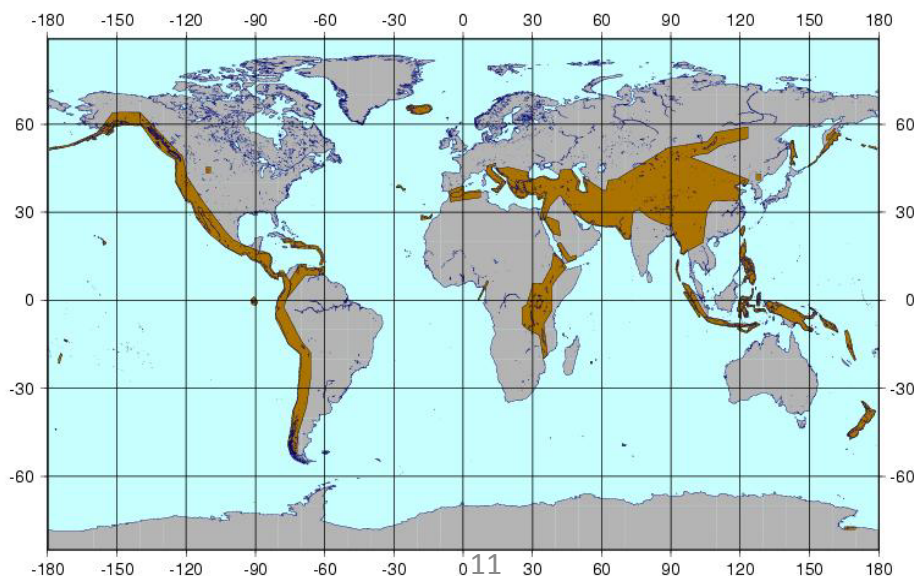
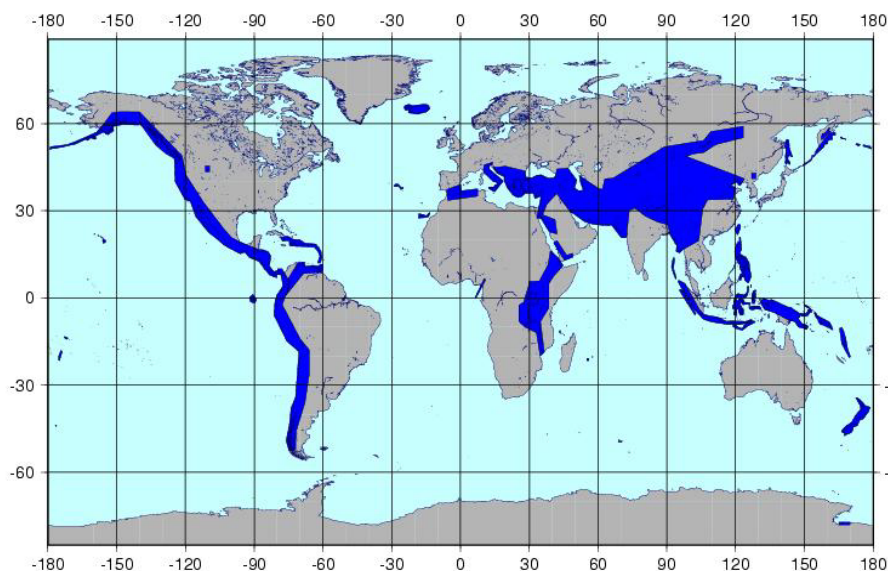


Crustal Deformation

Temporal repeat: 2-6 cov/year & 9 cov/year

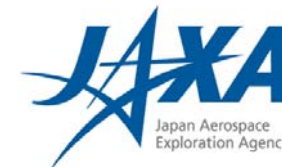
GSD: 10 m (off-nadir $28.2^{\circ} - 36.2^{\circ}$)
& 100 m (off-nadir $26.2^{\circ} - 41.8^{\circ}$)

Mode: Stripmap Dual-pol (HH+HV/28MHz)
& ScanSAR 350km (HH+HV/14MHz)





ALOS-2 Basic Observation Scenario

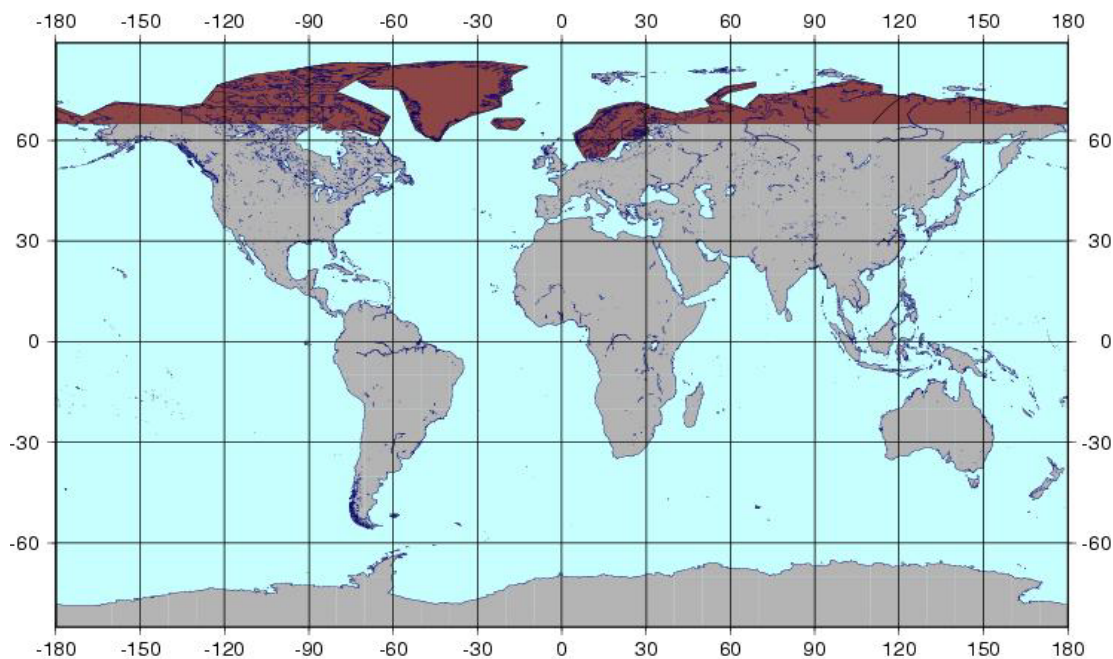


Boreal and sub-Arctic

Temporal repeat: 3 cov/year

GSD: 100 m (offnadir 34.9° - 51.5°)

Mode: ScanSAR 490km (HH+HV/14MHz)





ALOS-2 Basic Observation Scenario

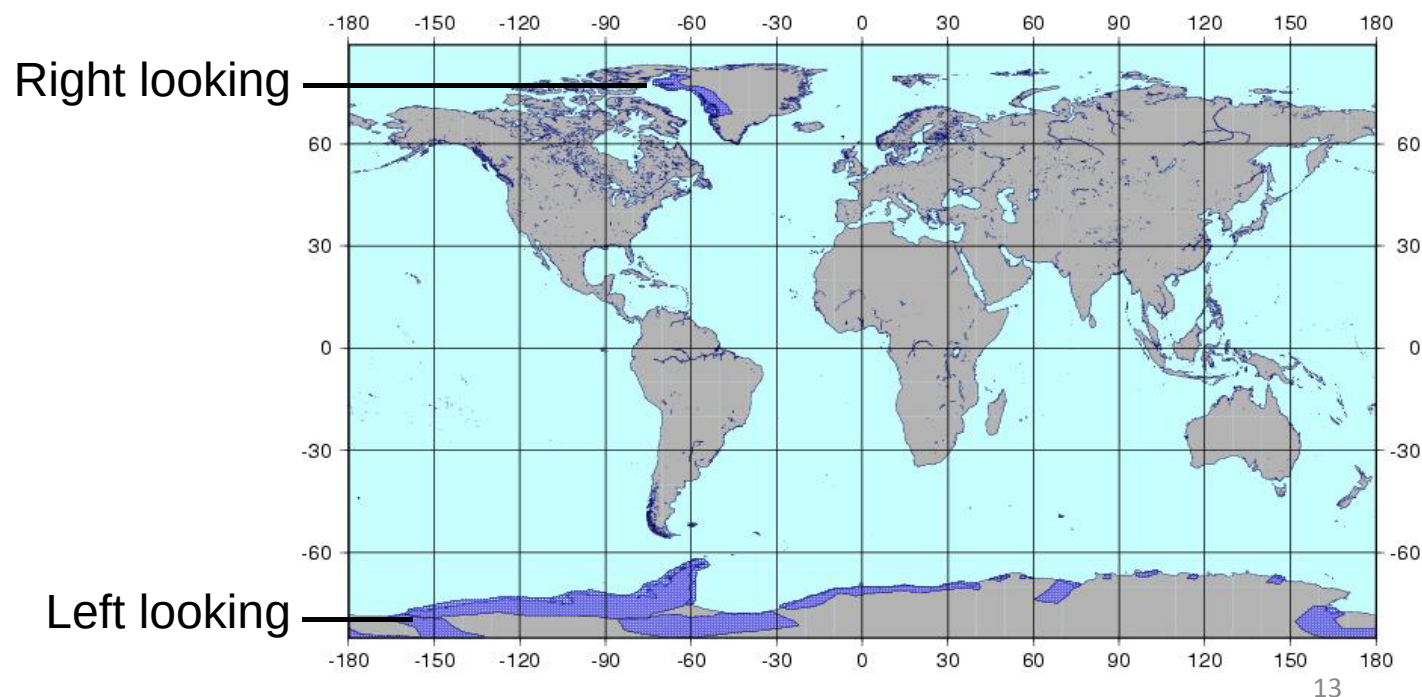


Polar Ice

Temporal repeat: 3 cov/year

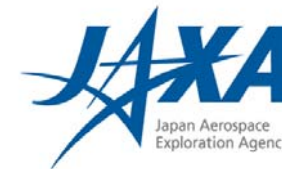
GSD: 10 m (off-nadir 32.5°)

Mode: Stripmap Dual-pol (HH/28MHz)





ALOS-2 Basic Observation Scenario

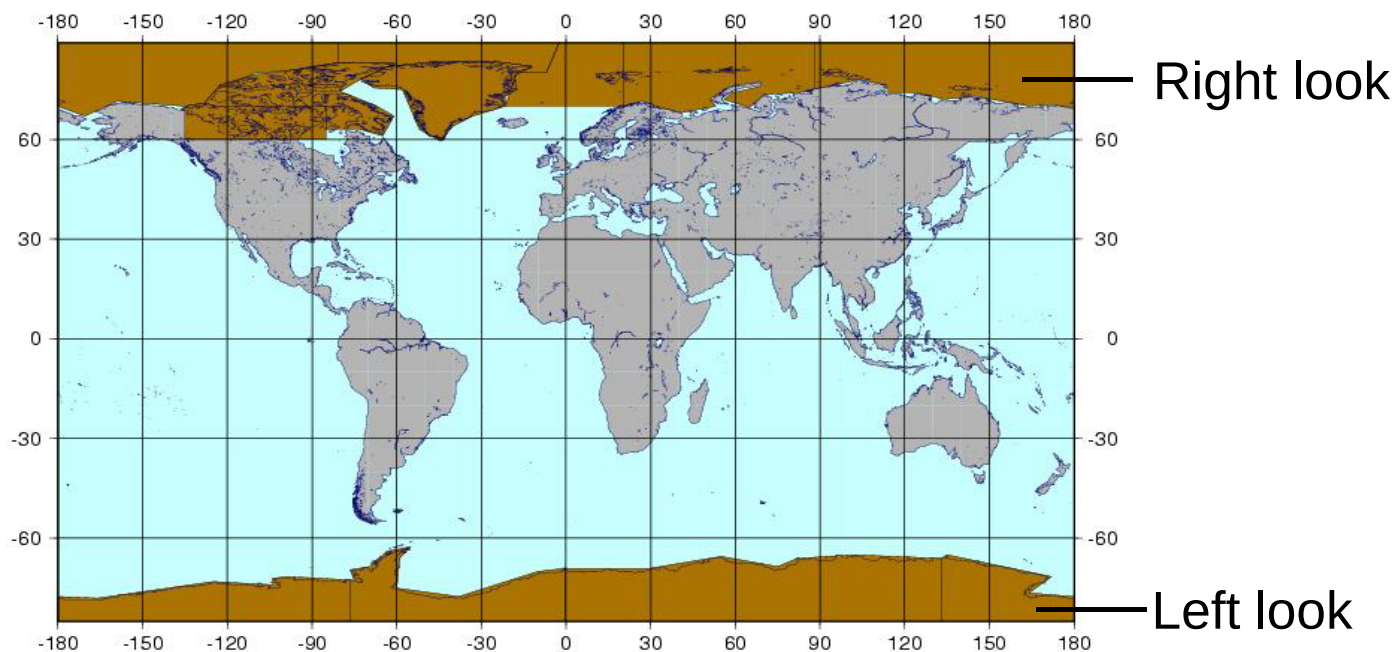


Polar Ice

Temporal repeat: 3 cov/year

GSD: 100 m (off-nadir 26.2° – 41.8°)

Mode: ScanSAR 350km (HH+HV/14MHz)





ALOS-2 Basic Observation Scenario



Observation pattern for annual acquisitions *

Season	N:Winter/S:Summer				N:Spring/S:Autum						N:Summer/S:Winter						N:Autum/S:Spring									
Week of year	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31-32	33-34	35-36	37-38	39-40	41-42	43-44	45-46	47-48	49-50	51-52
Desc	D+W+F		Arctic	D+W+F	14-day InSAR		D+W+F	14-day InSAR		D+W+F	14-day InSAR		D+W+F	Arctic	D+W+F	Glacier Antarctica		D+W+F	Glac. Antarc	Arctic	D+W+F	Global (1/3)		D+W+F	Global (1/3)	
	WB 350km		WB490	WB 350km	DP(5) 10m	DP(5) 10m	WB 350km	DP(6) 10m	DP(6) 10m	WB 350km	DP(7) 10m	DP(7) 10m	WB 350km	WB490	WB 350km		DP(6)L DP(6)L	WB 350km	DP(6)L WB490	WB 350km		WB 350km	SP(6) 3m	SP(7) 3m	WB 350km	SP(8) 3m
Asc	North Pole	World 1			Glacier Greenland		Global (1/5)					World 2			South Pole	N + S Pole	World 1					World 2			N + S Pole	
	WB350	DP(7) 10m	DP(5) 10m	DP(6) 10m	DP(6) 10m		QP(6) 6m	QP(5) 6m	QP(4) 6m	QP(3) 6m	QP(7) 6m		DP(7) 10m	DP(5) 10m	DP(6) 10m		WB350 WB350L	DP(7) 10m	DP(5) 10m	DP(6) 10m			DP(7) 10m	DP(5) 10m	DP(6) 10m	WB350 WB350L



10m(HH+HV)28MHz Right



ScanSAR350km(HH+HV)14MHz Right



3m(HH)84MHz Right



ScanSAR350km(HH+HV)14MHz Left



6m(HH+HV+VH+VV)42MHz Right



ScanSAR490km(HH+HV)14MHz Right

(*) *Beam No.



Super sites (TBD)



10m(HH+HV)28MHz Left

* 3m SP and 6m QP modes require 3 and 5 years for global coverage