

## Discussion – Issues and recommendations

### **PALSAR-2 25m FBD mosaics:**

- Geolocation errors up to several pixels reported. Magnitude vary depending on observation dates and geographical locations [J. KelIndorfer]
- Residual radiometric artefacts after Radiometric Terrain Correction, possibly caused by alignment error between DEM and SAR in SigmaSAR processor [J. KelIndorfer].
- Additional temporal and geometric artefacts as previously reported by email (see 2.1.4 and Attachment 2b above) [M. Santoro]

### **PALSAR-2 ScanSAR mosaics:**

- Geolocation errors up to several pixels reported. Magnitude vary depending on observation dates and geographical locations (Figure 4) [K. McDonald, J.KelIndorfer]
- ScanSAR mosaics considered of very high value. Continuation of mosaic generation during PALSAR-2 operations suggested [K&C team].
- Consider generating mosaics of all ScanSAR data that have been acquired (such as Siberia), not only over the tropical zone [K&C team]

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### **ALOS-2 BOS:**

- There was great concern that PALSAR-2 BOS reduction of 10m FBD global observations to once/year at high priority will have serious impact on PALSAR-2 data utilisation. It was emphasised that dense consistent time-series of data is the key to SAR data analysis and that 10m FBD data are a key complement to ScanSAR 42-day observations (which are not global) [K&C team]
- It was further a concern that with JAXA's aim of only one single global coverage at high priority would result in gaps in the coverage [K&C team]

### **Antarctica:**

- Important to continue InSAR observations over Antarctic Super Sites, in particular during ongoing Left-looking cycles over Ross and Ronne glaciers [B. Scheuchl]

### **Polarimetric Super Sites:**

- Continue with POL observations over 6 selected Super Sites (Mexico, Canada, Sweden, USA) also after April 2019 (all Post-KC members)

## K&C polarimetric super sites

### KC Super Site(Canada &Greenand)



Figure

KC Super Site	Mode	A/D	Beam	Polarization	R/L
C13	SM 2	Descending	FP6-7	HH+HV+VH+VV	R
C14	SM 2	Descending	FP6-7	HH+HV+VH+VV	R
C15	SM 3	Descending	F2-5	HH+HV	R
C16	SM 2	Ascending	FP6-6	HH+HV+VH+VV	R

### Polarimetric Super Sites

- Proposed last year. About half selected.
- Continue with Kiuc, Mexico, during March-April
- Continue with remaining selected super sites (Arkansas, Stordalen, Alberta, CB Arctic Watershed, Alaska)
- Joao to propose new BIOMASS site for JAXA's consideration (consider bilateral ESA/JAXA)

Descending	Conflicting World polygon	2018																						
		Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct				
Full-Pol Super Sites		91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	
Thai Binh, Vietnam	Wet-Def-1																							
Arkansas, USA	—												FP		FP	FP	FP	FP		FP				
Stordalen, Sweden	—									FP		FP		FP		FP		FP		FP				
Kruger National Park, South Africa	Wet-Def-2																							
Kiuc, Mexico	Wet-Def-1						FP		FP	FP		FP												
Kedah-Perak, Malaysia	Wet-Def-2																							
Negro-Solimoes, Brazil	Wet-Def-2																							
Pacaya Samaria Reserve, Peru	Wet-Def-2																							
Ontario, Canada	—																							
Alberta, Canada	NISAR(?)						FP		FP			FP			FP			FP			FP			
CB Arctic Watershed, Canada	—						FP		FP						FP			FP			FP			
Alaska (same as Area 60 above)	Wet-Def-2, NISAR						FP		FP	FP		FP	FP		FP		FP		FP	FP		FP		

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K&C Special issue:

- Inquiries sent to *Ecologica*, *Remote Sensing of Ecology and Conservation* and *AGU journal for Earth and Space Science*.
- *Positive reply from Remote Sensing of Ecology and Conservation (RSEC)*
- *Potential contributors:*
  - Kyle/Jessica – Amazon inundation
  - Kyle/Brian Lam - coastal?
  - Lisa - Myanmar, KC overview
  - Josef - scansar time series signals - dual pol time series for forest and wetland dynamics
  - Maurizio - biomass/carbon changes in sweden (maybe another journal).
  - Misha - deforestation mapping time series
  - Humberto - selective logging detection
  - Dirk - ecological mapping of amazon, flood freq mapping
  - Pete Bunting - global mangrove watch
  - Bruce - boreal wetlands with L-band SAR
  - Richard, CESBIO, AGS, Thiago, others -?



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### RECOMMENDATIONS

- Correction of errors in SigmaSAR processor.
- Reprocessing of PALSAR-2 25m global mosaics by either SigmaSAR or alternative processor.
- Reprocessing of PALSAR-2 ScanSAR mosaics by either SigmaSAR or by alternative processor.
- Generation of low resolution (100-250 m) FBD ‘mosaics per cycle’ mosaics to avoid seasonal discontinuities.
- Include flag in metadata to indicate data that were seriously affected by ionospheric artefacts (e.g. scalloping).
- Continue Left-looking InSAR observations over key Antarctica glaciers.
- Assess actual 30% duty cycle capacity and keep PALSAR-2 BOS 10m FBD global observations as frequent as possible.