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*Supplement of*

## **A systematic exploration of satellite radar coherence methods for rapid landslide detection**

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		Event		Hokkaido		Nepal		Lombok		Lombok 2					
		Satellite		S-1		A-2		S-1		S-1					
		Track number		068a	046d	116a	018d	085a	019d	157a	156a	032d	129a	156a	032d
1 post-event image	ARIA	0.103	0.099	0.179	0.296	0.005	0.002	0.045	0.002	0.001	0.009	0.002	0.004		
	Bx-S	0.120	0.116	0.103	0.084	0.008	0.009	-	0.002	0.001	0.009	0.010	0.004		
	Waiting time (days)	8	0	1	1	8	4	7	3	0	13	1	4		
2 post-event images	PECI	0.271	0.273	0.143	0.195	0.009	0.005	0.022	0.015	0.003	0.018	0.005	0.005		
	$\Delta C_{sum}$	0.180	0.191	0.179	0.257	0.006	0.002	0.057	0.003	0.002	0.016	0.004	0.005		
	$\Delta C_{max}$	0.206	0.211	0.143	0.295	0.007	0.002	0.051	0.014	0.002	0.014	0.004	0.005		
	Waiting time (days)	20	12	15	15	20	16	91	9	6	153	7	10		
	Landslide fraction	0.106	0.116	0.111	0.104	0.004	0.001	0.006	0.001	0.001	0.002	0.002	0.003		

Precision-recall values equivalent to the ROC AUC values given in Figure 2a of the main text. In each column, the colour scale runs from red (the landslide fraction) up to green (3x the landslide fraction). The landslide fraction represents the fraction of pixels in the validation dataset containing more than 25% landslide by area.

	Hokkaido				Nepal			Lombok-1			Lombok-2	
1%	S068a	S046d	A116a	A018d	S085a	S019d	A157a	S156a	S032d	A129a	S156a	S032d
ARIA	0.50	0.54	0.65	0.87	0.59	0.70	0.79	0.58	0.47	0.74	0.57	0.39
Bx-S	0.57	0.56	0.45	0.41	0.61	0.69	-	0.54	0.53	0.66	0.69	0.61
PECI	0.67	0.66	0.64	0.76	0.64	0.66	0.75	0.51	0.52	0.75	0.62	0.58
DC_sum	0.63	0.63	0.66	0.85	0.64	0.70	0.83	0.59	0.48	0.75	0.63	0.47
DC_max	0.64	0.64	0.60	0.85	0.61	0.71	0.81	0.60	0.48	0.76	0.65	0.49

10%												
ARIA	0.51	0.55	0.67	0.88	0.59	0.69	0.80	0.62	0.50	0.82	0.52	0.41
Bx-S	0.58	0.57	0.49	0.43	0.64	0.72	-	0.61	0.57	0.76	0.71	0.63
PECI	0.72	0.71	0.65	0.77	0.65	0.67	0.79	0.55	0.58	0.87	0.64	0.60
DC_sum	0.67	0.67	0.68	0.86	0.65	0.71	0.86	0.64	0.53	0.86	0.61	0.49
DC_max	0.68	0.69	0.62	0.87	0.61	0.70	0.84	0.65	0.52	0.86	0.63	0.51

25%												
ARIA	0.52	0.57	0.70	0.89	0.59	0.69	0.81	0.64	0.56	0.88	0.49	0.45
Bx-S	0.59	0.58	0.52	0.44	0.66	0.74	-	0.64	0.55	0.84	0.67	0.60
PECI	0.79	0.78	0.66	0.80	0.66	0.68	0.81	0.64	0.69	0.93	0.68	0.68
DC_sum	0.73	0.73	0.70	0.88	0.66	0.71	0.88	0.71	0.62	0.92	0.63	0.57
DC_max	0.74	0.75	0.64	0.89	0.62	0.71	0.85	0.72	0.62	0.92	0.65	0.59

50%												
ARIA	0.57	0.64	0.79	0.91	0.59	0.69	0.84	-	-	-	-	-
Bx-S	0.63	0.63	0.64	0.49	0.70	0.80	-	-	-	-	-	-
PECI	0.98	0.96	0.68	0.88	0.67	0.69	0.88	-	-	-	-	-
DC_sum	0.91	0.90	0.77	0.93	0.68	0.73	0.94	-	-	-	-	-
DC_max	0.92	0.92	0.71	0.95	0.63	0.73	0.90	-	-	-	-	-

Threshold used  
in generating  
binary landslide

Fraction of total landslide area included in analysis				
	Hokkaido	Nepal	Lombok-1	Lombok-2
1%	100	99	96	97
10%	94	74	45	47
25%	73	39	14	15
50%	30	15	2	3