























Table S 1 Summary of the top performing TBVIs obtained with simple ratio (SR) of Band A and B. The spectral bands are color-coded as: **Blue** = Blue visible spectral range (420 nm – 499 nm), **Green** = Green visible spectral range (500 nm – 569 nm), **Orange** = Orange visible spectral range (580 nm – 629 nm), **Red** = Red visible spectral range (630 nm – 700 nm), **Darkred** = Red-edge spectral range (701 nm - 839 nm), **Lightgray** = NIR spectral range (840 nm – 1400 nm), **Gray** = SWIR spectral range (1401 nm – 2500 nm)

Sat.	Date	Cultiv. purpose	Calibr. field		Band A	Band B	Calibration			Test			Test field		
							R ²	p	RMSE	R ²	p	RMSE			
PRISMA	7.30	Grain maize	Kd		W699	W2276	0.54	0.01	*	0.06	0.21	0.21	0.06	Nm5	
			Nm5		W898	W909	0.83	0.00	*	0.03	0.00	0.84	0.08	Kd	
		Sweet maize	Nm1		W866	W1339	0.97	0.00	*	0.01	0.61	0.04	*	0.02	Nm2
			Nm2		W823	W1163	0.93	0.00	*	0.01	0.51	0.07		0.03	Nm1
	8.10	Grain maize	Kd		W571	W579	0.51	0.01	*	0.06	0.11	0.39		0.06	Nm5
			Nm5		W531	W571	0.73	0.00	*	0.04	0.02	0.66		0.08	Kd
		Sweet maize	Nm1		W515	W641	0.93	0.00	*	0.01	0.59	0.04	*	0.02	Nm2
			Nm2		W546	W2313	0.82	0.01	*	0.02	0.41	0.12		0.03	Nm1
Synthetized Sentinel	7.30	Grain maize	Kd		SSB12	SSB05	0.30	0.06		0.07	0.07	0.48		0.07	Nm5
			Nm5		SSB05	SSB02	0.22	0.21		0.06	0.18	0.17		0.08	Kd
		Sweet maize	Nm1		SSB05	SSB02	0.19	0.33		0.04	0.16	0.38		0.03	Nm2
			Nm2		SSB05	SSB03	0.52	0.07		0.03	0.02	0.74		0.04	Nm1
	8.10	Grain maize	Kd		SSB11	SSB07	0.23	0.11		0.07	0.01	0.81		0.07	Nm5
			Nm5		SSB8A	SSB07	0.44	0.05		0.05	0.16	0.20		0.08	Kd
		Sweet maize	Nm1		SSB05	SSB03	0.34	0.17		0.03	0.26	0.25		0.03	Nm2
			Nm2		SSB11	SSB07	0.36	0.15		0.03	0.10	0.48		0.04	Nm1
Sentinel	7.30	Grain maize	Kd		B03	B02	0.39	0.03	*	0.07	0.00	0.95		0.07	Nm5
			Nm5		B8A	B07	0.53	0.03	*	0.05	0.31	0.06		0.07	Kd
		Sweet maize	Nm1		B03	B02	0.72	0.02	*	0.02	0.54	0.06		0.02	Nm2
			Nm2		B03	B02	0.54	0.06		0.02	0.72	0.02	*	0.02	Nm1
	8.10	Grain maize	Kd		B11	B02	0.40	0.03	*	0.06	0.46	0.04	*	0.05	Nm5
			Nm5		B04	B03	0.57	0.02	*	0.04	0.01	0.80		0.08	Kd
		Sweet maize	Nm1		B07	B06	0.81	0.01	*	0.02	0.01	0.84		0.04	Nm2
			Nm2		B11	B05	0.27	0.23		0.03	0.35	0.16		0.03	Nm1

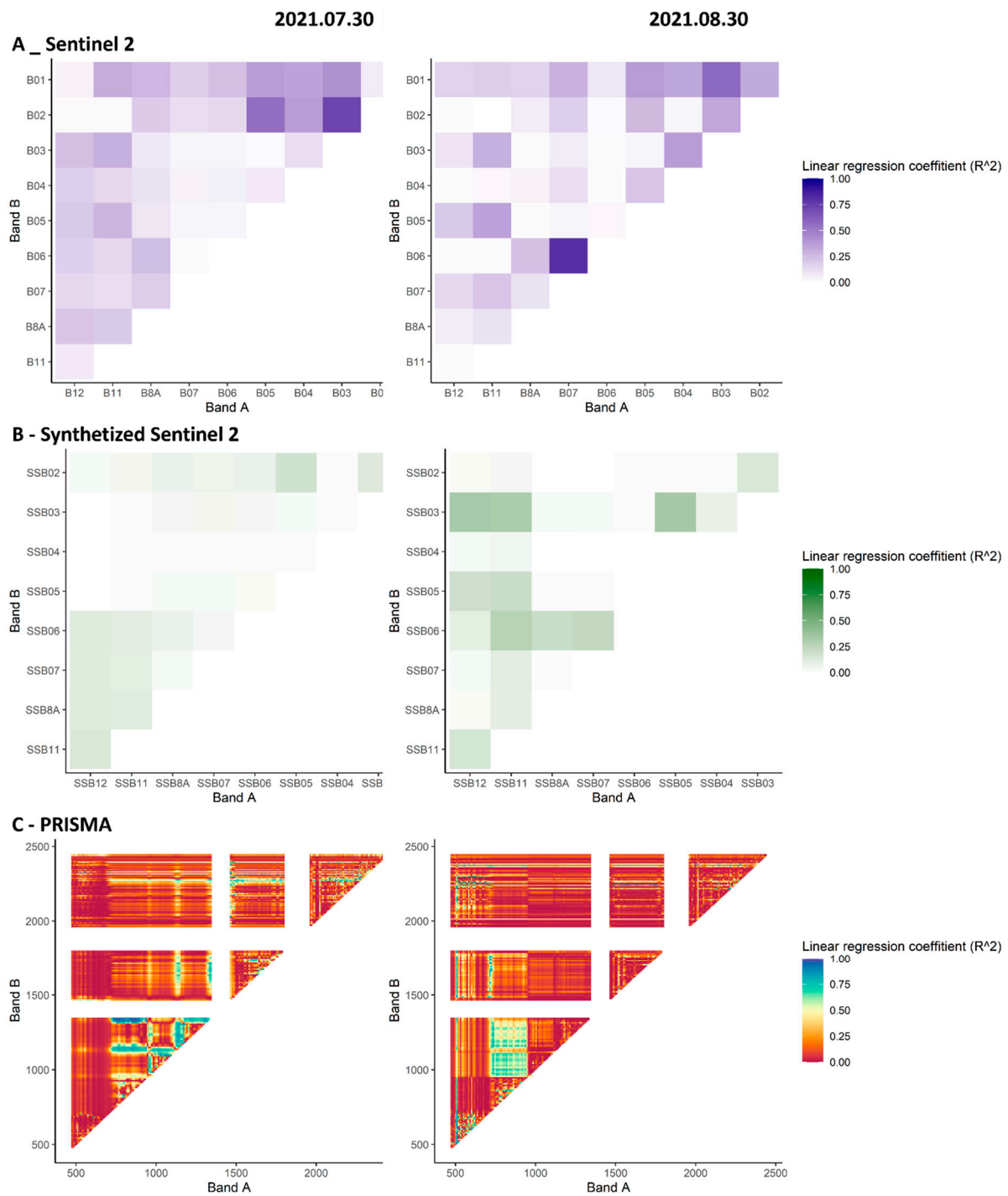


Figure S1 λ - λ Plots expressing the correspondence (R^2) of Nm1 sweet maize field's TBVIs to CBW larval damage in 07.30 2021 and 08.10.2021

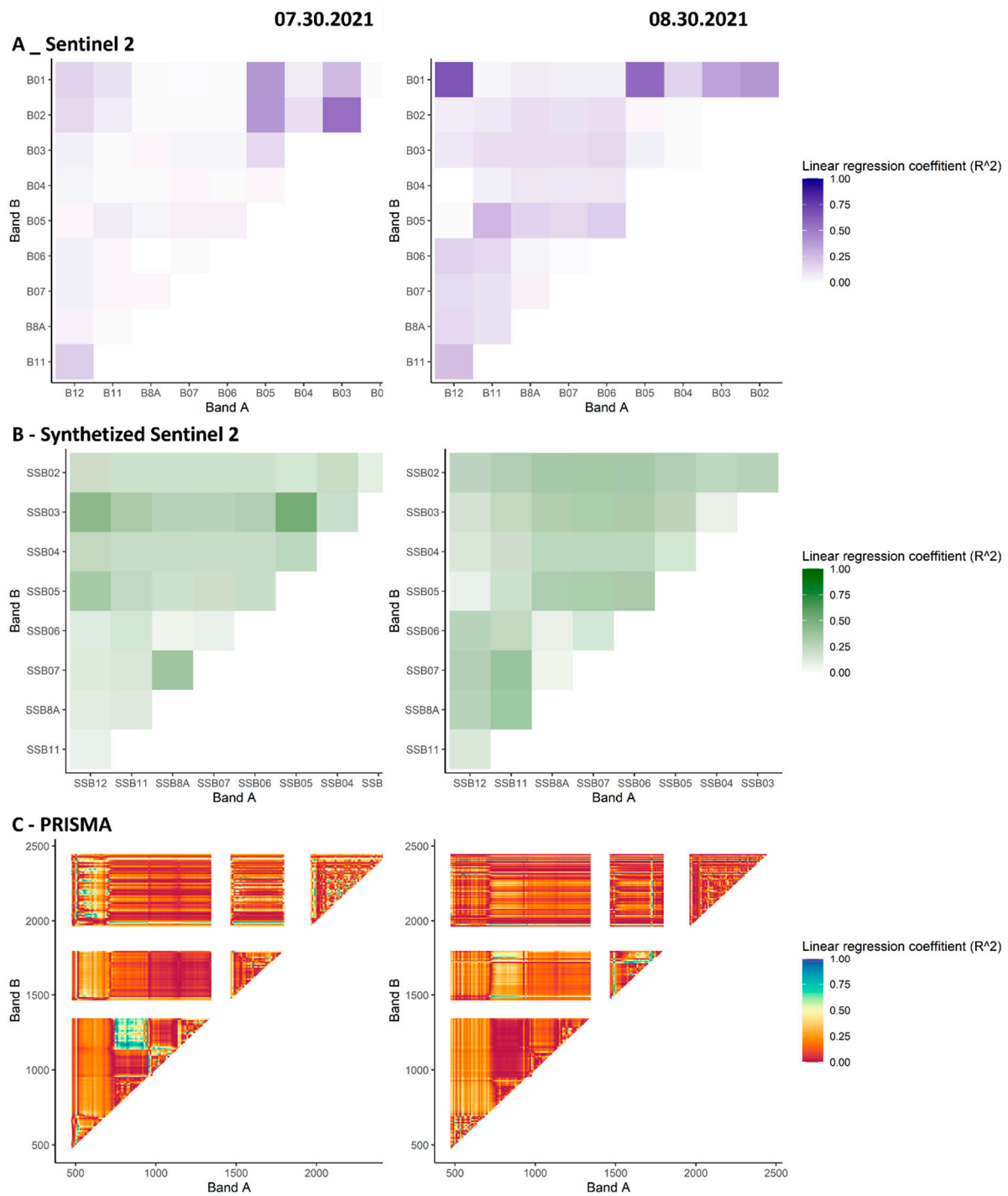


Figure S2 λ - λ plots expressing the correspondence (R^2) of Nm2 sweet maize field's TBVIs to CBW larval damage in 07.30.2021 and 08.10.2021

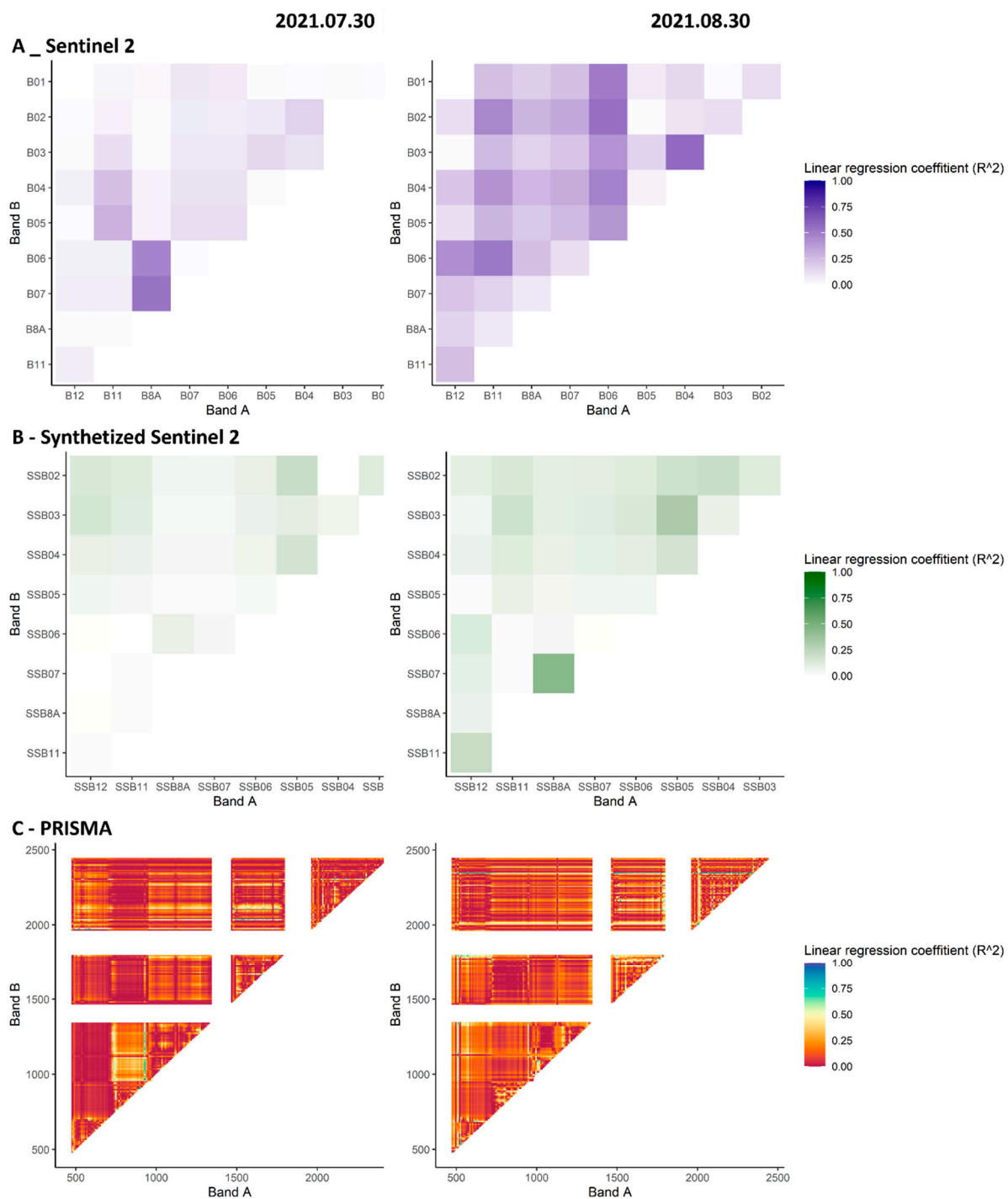


Figure S3 λ - λ Plots expressing the correspondence (R^2) of Nm5 grain maize field's TBVIs to CBW larval damage in 07.30.2021 and 08.10.2021

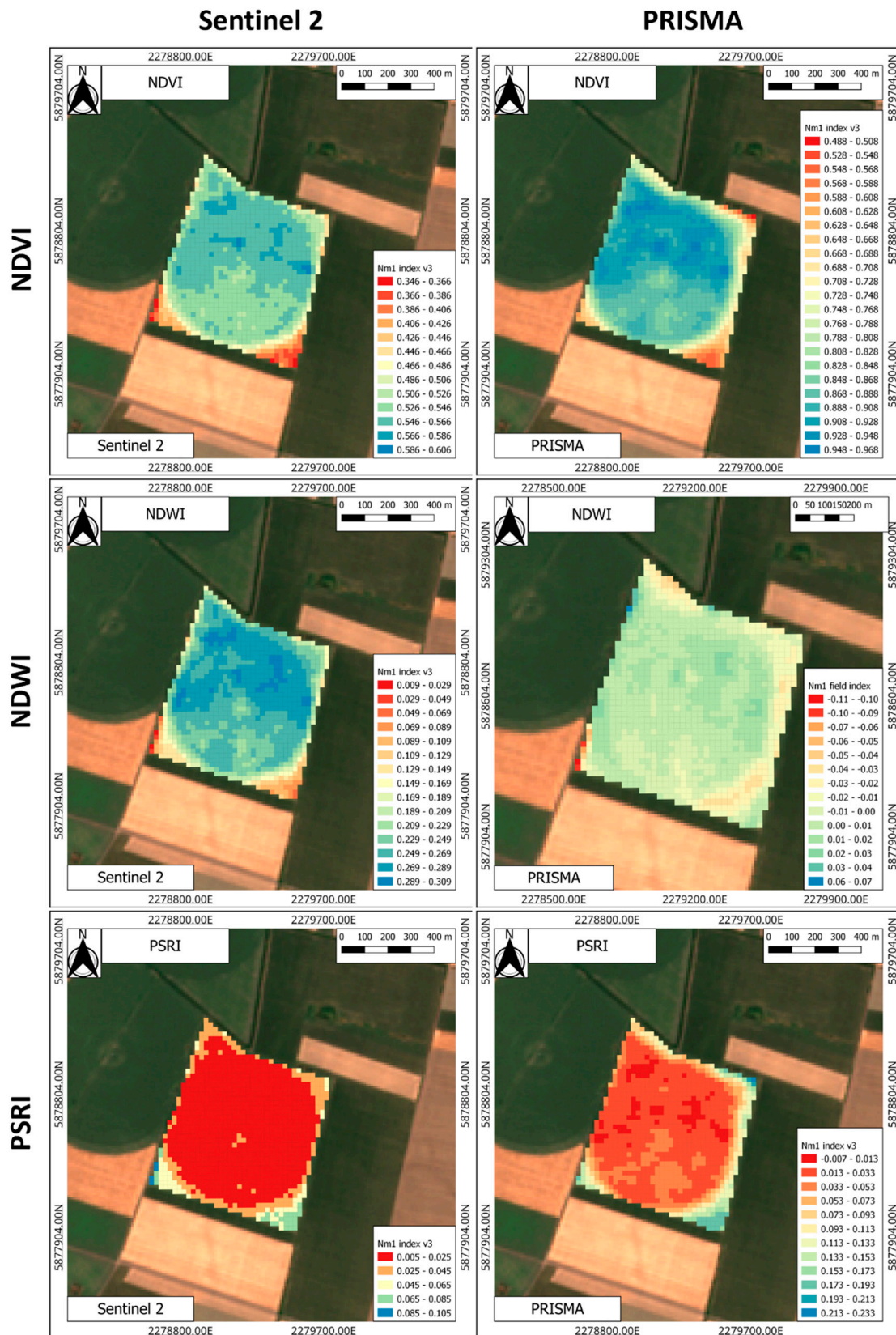


Figure S4 Existing vegetation index maps of Nm1 sweet maize field derived from PRISMA and Sentinel-2 images (imagery acquired on 07.30.2021)

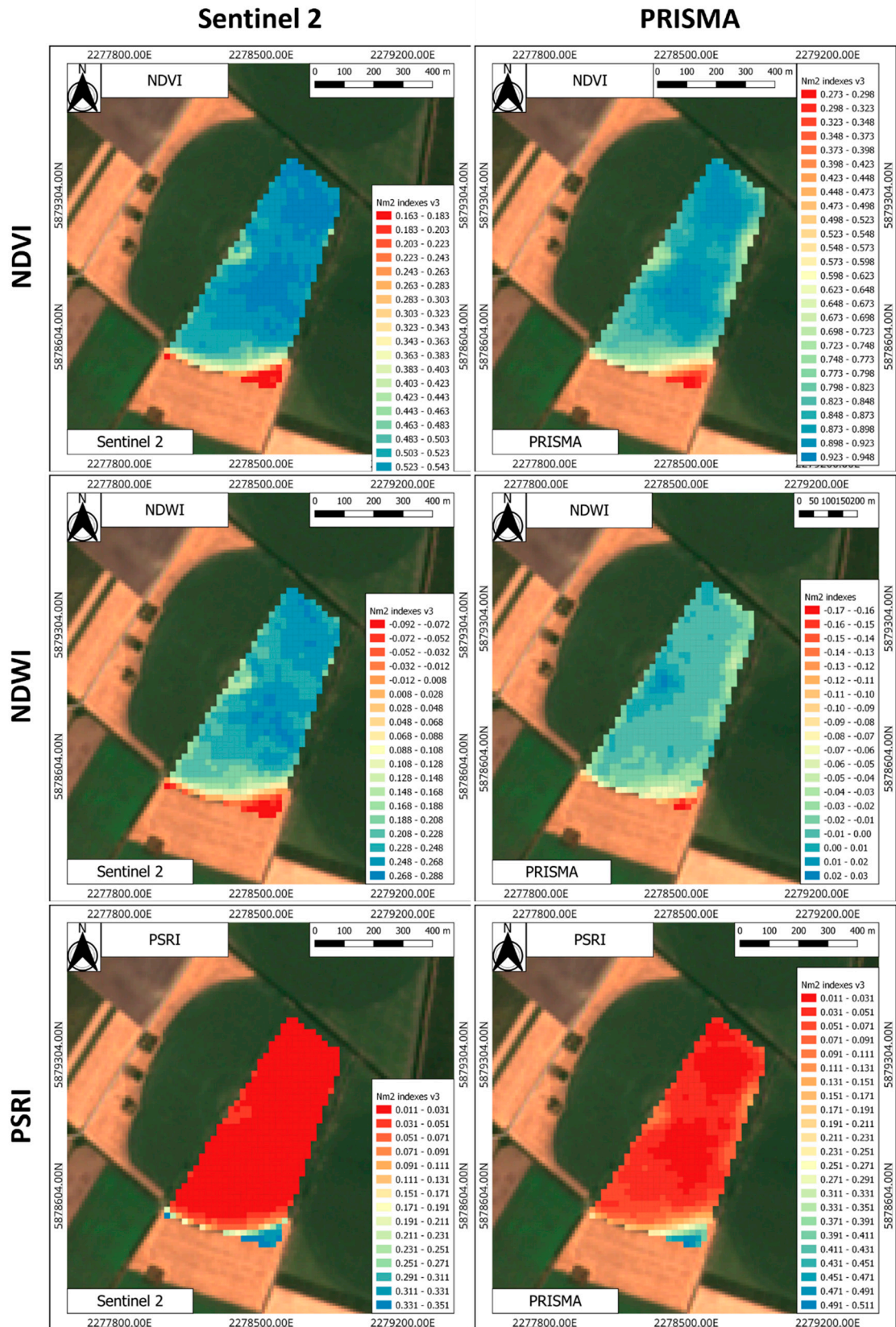


Figure S6 Existing vegetation index maps of Nm2 sweet maize field derived from PRISMA and Sentinel-2 images (imagery acquired on 07.30.2021)

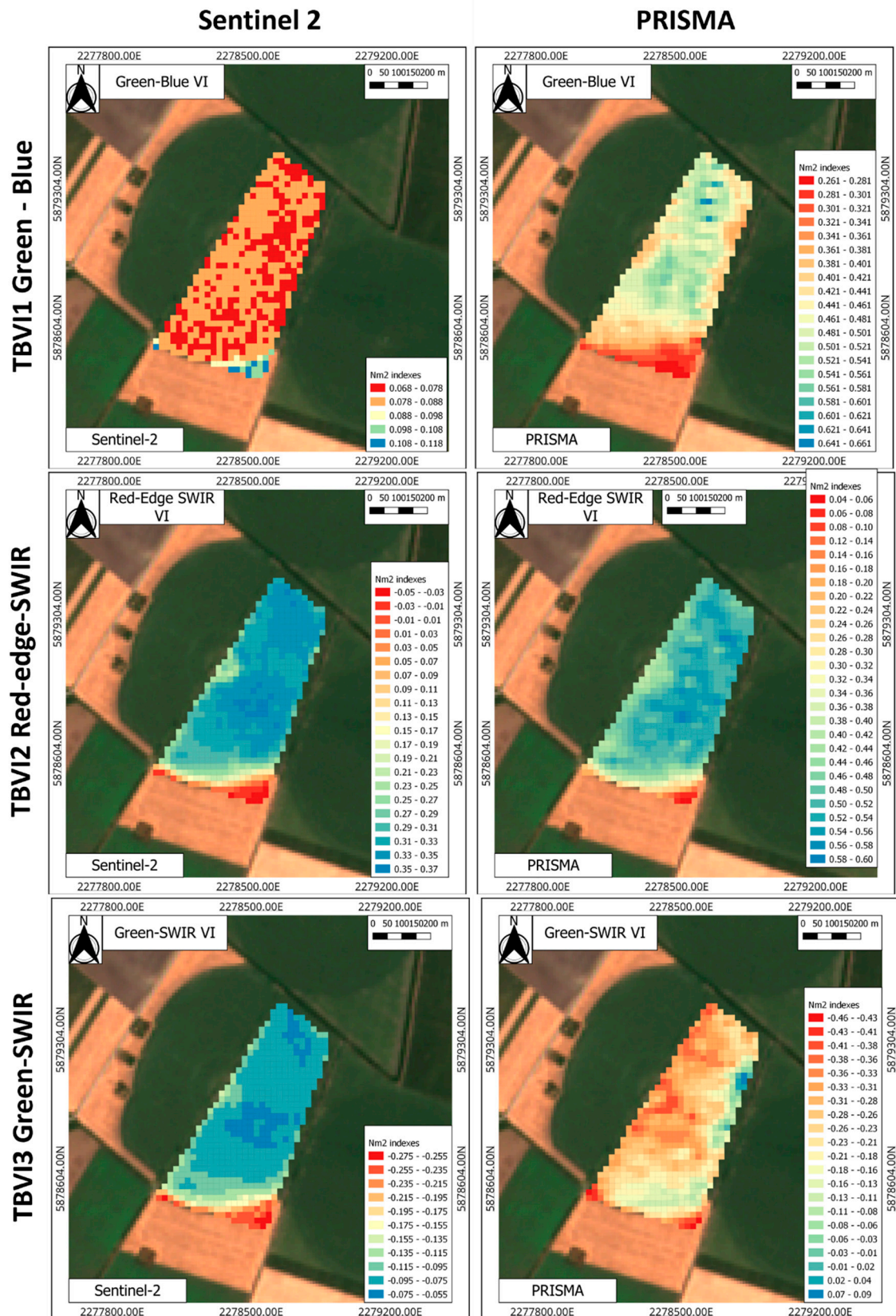


Figure S7 Newly developed two-band vegetation index maps of Nm2 sweet maize field derived from PRISMA and Sentinel-2 images (imagery acquired on 07.30.2021)

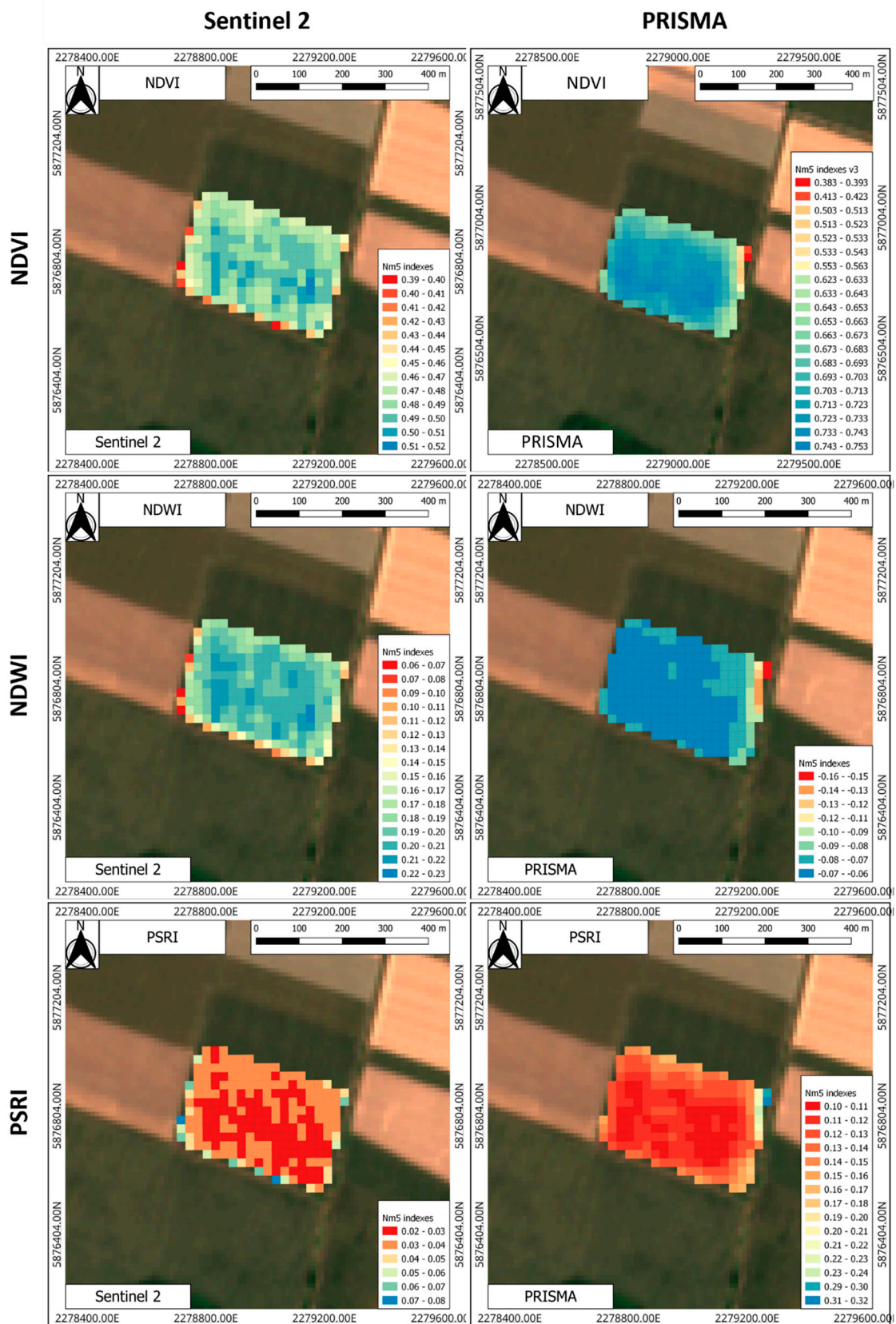


Figure S8 Existing vegetation index maps of Nm5 grain maize field derived from PRISMA and Sentinel-2 images (imagery acquired on 07.30.2021)

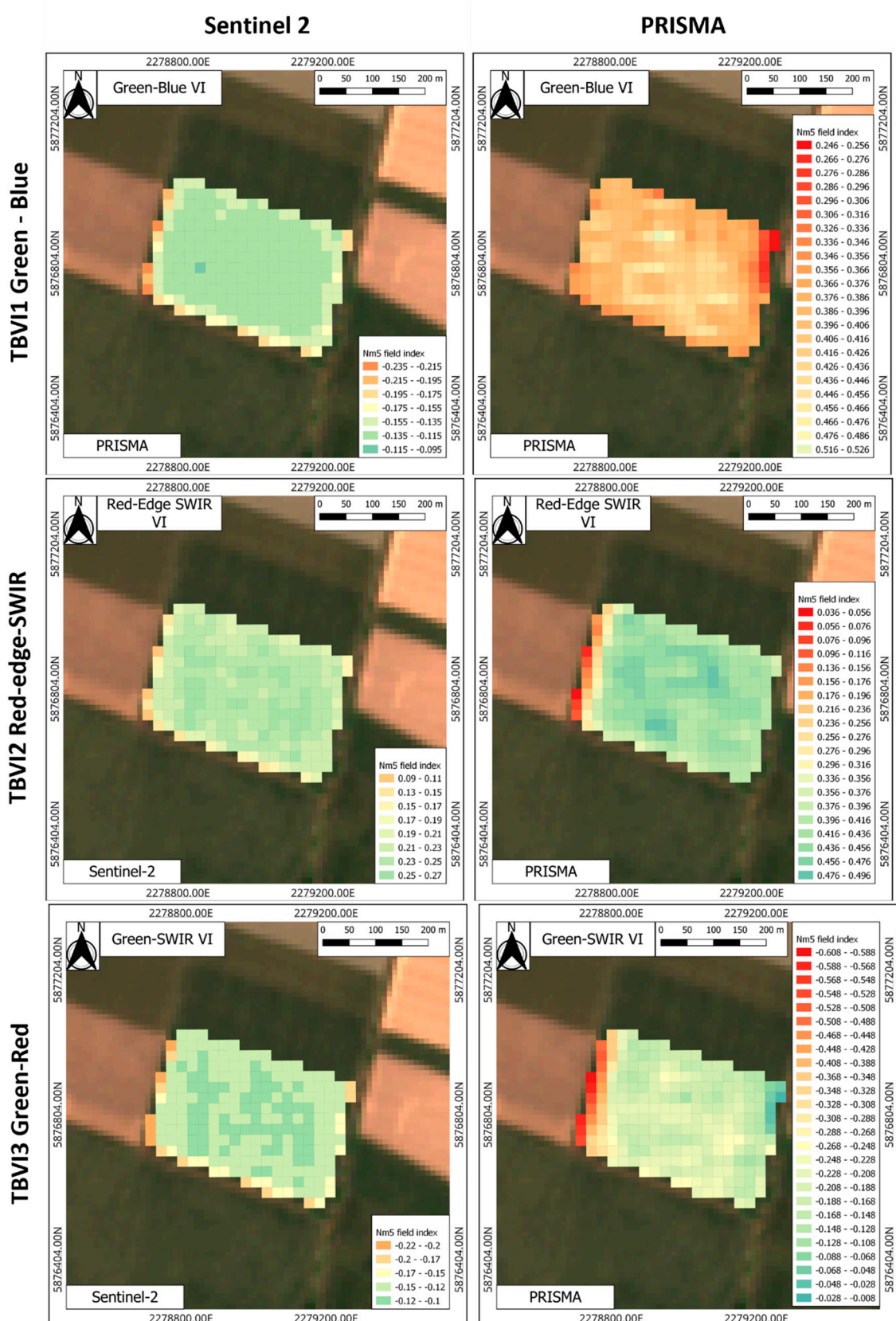


Figure S9 Newly developed two-band vegetation index maps of Nm5 grain maize field derived from PRISMA and Sentinel-2 images (imagery acquired on 07.30.2021)

Table S2 Cross-sensor agreement between the different vegetation indices of Nm5 grain maize field and Nm1 and Nm2 sweet maize fields derived from PRISMA and Sentinel-2 bands (based on imagery acquired on 07.30.2021)

Index	Field	R ²	<i>p</i>		Intercept	Slope
NDVI	Nm2	0.90	<0.01	*	-0.01	0.63
	Nm1	0.71	<0.01	*	0.18	0.41
	Nm5	0.14	<0.01	*	0.37	0.15
NDWI	Nm2	0.80	<0.01	*	0.64	4.19
	Nm1	0.57	<0.01	*	0.65	4.34
	Nm5	0.07	<0.01	*	0.23	0.53
PSRI	Nm2	0.89	<0.01	*	-0.01	0.73
	Nm1	0.64	<0.01	*	0.01	0.28
	Nm5	0.19	<0.01	*	0.02	0.14
TBVI1 Green-Blue	Nm2	0.12	<0.01	*	0.09	-0.02
	Nm1	0.26	<0.01	*	0.09	-0.03
	Nm5	0.01	0.17		0.08	-0.01
TBVI2 Red-edge-SWIR	Nm2	0.86	<0.01	*	0.05	-1.56
	Nm1	0.56	<0.01	*	0.08	1.02
	Nm5	0.08	<0.01	*	0.08	0.47
TBVI3 Green-Red	Nm2	0.70	<0.01	*	-0.25	-1.06
	Nm1	0.37	<0.01	*	-0.06	0.10
	Nm5	0.01	0.10		-0.07	0.07