



Supplement of

Tracking vegetation phenology across diverse biomes using Version 3.0 of the PhenoCam Dataset

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Table S1: AmeriFlux site information, including dataset DOIs, for National Ecological Observatory Network (NEON) locations used to calculate *broadbandNDVI*.

Site ID	Site Name	Lat (deg)	Long (deg)	Elev (m)	IGBP Veg	Dataset DOI
PR-xGU	Guanica Forest (GUAN)	17.97	-66.869	143	EBF	https://doi.org/10.17190/AMF/1773393
PR-xLA	Lajas Experimental Station (LAJA)	18.021	-67.077	24	GRA	https://doi.org/10.17190/AMF/1773394
US-xAB	Abby Road (ABBY)	45.762	-122.33	363	ENF	https://doi.org/10.17190/AMF/1617726
US-xAE	Klemme Range Research Station (OAES)	35.411	-99.059	516	GRA	https://doi.org/10.17190/AMF/1671891
US-xBA	Barrow Environmental Observatory (BARR)	71.282	-156.619	6	WET	https://doi.org/10.17190/AMF/1671892
US-xBL	Blandy Experimental Farm (BLAN)	39.06	-78.072	183	DBF	https://doi.org/10.17190/AMF/1671893
US-xBN	Caribou Creek - Poker Flats Watershed (BONA)	65.154	-147.503	263	ENF	https://doi.org/10.17190/AMF/1617727
US-xBR	Bartlett Experimental Forest (BART)	44.064	-71.287	232	DBF	https://doi.org/10.17190/AMF/1579542
US-xCL	LBJ National Grassland (CLBJ)	33.401	-97.57	259	GRA	https://doi.org/10.17190/AMF/1671894
US-xCP	Central Plains Experimental Range (CPER)	40.816	-104.746	1654	GRA	https://doi.org/10.17190/AMF/1579720
US-xDC	Dakota Coteau Field School (DCFS)	47.162	-99.107	559	GRA	https://doi.org/10.17190/AMF/1617728
US-xDJ	Delta Junction (DEJU)	63.881	-145.751	529	ENF	https://doi.org/10.17190/AMF/1634884
US-xDL	Dead Lake (DELA)	32.542	-87.804	22	MF	https://doi.org/10.17190/AMF/1579721
US-xDS	Disney Wilderness Preserve (DSNY)	28.125	-81.436	15	CVM	https://doi.org/10.17190/AMF/1671895
US-xGR	Great Smoky Mountains National Park, Twin Creeks (GRSM)	35.689	-83.502	579	DBF	https://doi.org/10.17190/AMF/1634885

Site ID	Site Name	Lat (deg)	Long (deg)	Elev (m)	IGBP Veg	Dataset DOI
US-xHA	Harvard Forest (HARV)	42.537	-72.173	351	DBF	https://doi.org/10.17190/AMF/1562391
US-xHE	Healy (HEAL)	63.876	-149.213	705	OSH	https://doi.org/10.17190/AMF/1617729
US-xJE	Jones Ecological Research Center (JERC)	31.195	-84.469	44	ENF	https://doi.org/10.17190/AMF/1617730
US-xJR	Jornada LTER (JORN)	32.591	-106.843	1329	OSH	https://doi.org/10.17190/AMF/1617731
US-xKA	Konza Prairie Biological Station - Relocatable (KONA)	39.11	-96.613	1329	GRA	https://doi.org/10.17190/AMF/1579722
US-xKZ	Konza Prairie Biological Station (KONZ)	39.101	-96.563	381	GRA	https://doi.org/10.17190/AMF/1562392
US-xLE	Lenoir Landing (LENO)	31.854	-88.161	20	DBF	https://doi.org/10.17190/AMF/1773398
US-xMB	Moab (MOAB)	38.248	-109.388	1767	OSH	https://doi.org/10.17190/AMF/1671896
US-xML	Mountain Lake Biological Station (MLBS)	37.378	-80.525	1126	DBF	https://doi.org/10.17190/AMF/1671897
US-xNG	Northern Great Plains Research Laboratory (NOGP)	46.77	-100.915	578	GRA	https://doi.org/10.17190/AMF/1617732
US-xNQ	Onaqui-Ault (ONAQ)	40.178	-112.452	1685	OSH	https://doi.org/10.17190/AMF/1617733
US-xNW	Niwot Ridge Mountain Research Station (NIWO)	40.054	-105.582	3513	ENF	https://doi.org/10.17190/AMF/1671898
US-xPU	Pu'u Maka'ala Natural Area Reserve (PUUM)	19.553	-155.317	1685	EBF	https://doi.org/10.17190/AMF/1773399
US-xRM	Rocky Mountain National Park, CASTNET (RMNP)	40.276	-105.546	2743	ENF	https://doi.org/10.17190/AMF/1579723
US-xRN	Oak Ridge National Lab (ORNL)	35.964	-84.283	334	DBF	https://doi.org/10.17190/AMF/1773400

Site ID	Site Name	Lat (deg)	Long (deg)	Elev (m)	IGBP Veg	Dataset DOI
US-xSB	Ordway-Swisher Biological Station (OSBS)	29.689	-81.993	45	ENF	https://doi.org/10.17190/AMF/1671899
US-xSC	Smithsonian Conservation Biology Institute (SCBI)	38.893	-78.14	361	DBF	https://doi.org/10.17190/AMF/1671900
US-xSE	Smithsonian Environmental Research Center (SERC)	38.89	-76.56	15	DBF	https://doi.org/10.17190/AMF/1617734
US-xSJ	San Joaquin Experimental Range (SJER)	37.109	-119.732	368	SAV	https://doi.org/10.17190/AMF/1671901
US-xSL	North Sterling, CO (STER)	40.462	-103.029	1364	CRO	https://doi.org/10.17190/AMF/1617735
US-xSP	Soaproot Saddle (SOAP)	37.033	-119.262	1160	ENF	https://doi.org/10.17190/AMF/1617736
US-xSR	Santa Rita Experimental Range (SRER)	31.911	-110.836	983	OSH	https://doi.org/10.17190/AMF/1579543
US-xST	Steigerwaldt Land Services (STEI)	45.509	-89.586	481	DBF	https://doi.org/10.17190/AMF/1617737
US-xTA	Talladega National Forest (TALL)	32.951	-87.393	135	ENF	https://doi.org/10.17190/AMF/1671902
US-xTE	Lower Teakettle (TEAK)	37.006	-119.006	2147	ENF	https://doi.org/10.17190/AMF/1617738
US-xTL	Toolik (TOOL)	68.661	-149.371	843	WET	https://doi.org/10.17190/AMF/1617739
US-xTR	Treehaven (TREE)	45.494	-89.586	472	DBF	https://doi.org/10.17190/AMF/1634886
US-xUK	The University of Kansas Field Station (UKFS)	39.04	-95.192	335	DBF	https://doi.org/10.17190/AMF/1617740
US-xUN	University of Notre Dame Environmental Research Center (UNDE)	46.234	-89.537	518	MF	https://doi.org/10.17190/AMF/1617741
US-xWD	Woodworth (WOOD)	47.128	-99.241	579	GRA	https://doi.org/10.17190/AMF/1579724

Site ID	Site Name	Lat (deg)	Long (deg)	Elev (m)	IGBP Veg	Dataset DOI
US-xWR	Wind River Experimental Forest (WREF)	45.821	-121.952	407	ENF	https://doi.org/10.17190/AMF/1617742
US-xYE	Yellowstone Northern Range (Frog Rock) (YELL)	44.954	-110.539	2116	ENF	https://doi.org/10.17190/AMF/1617743

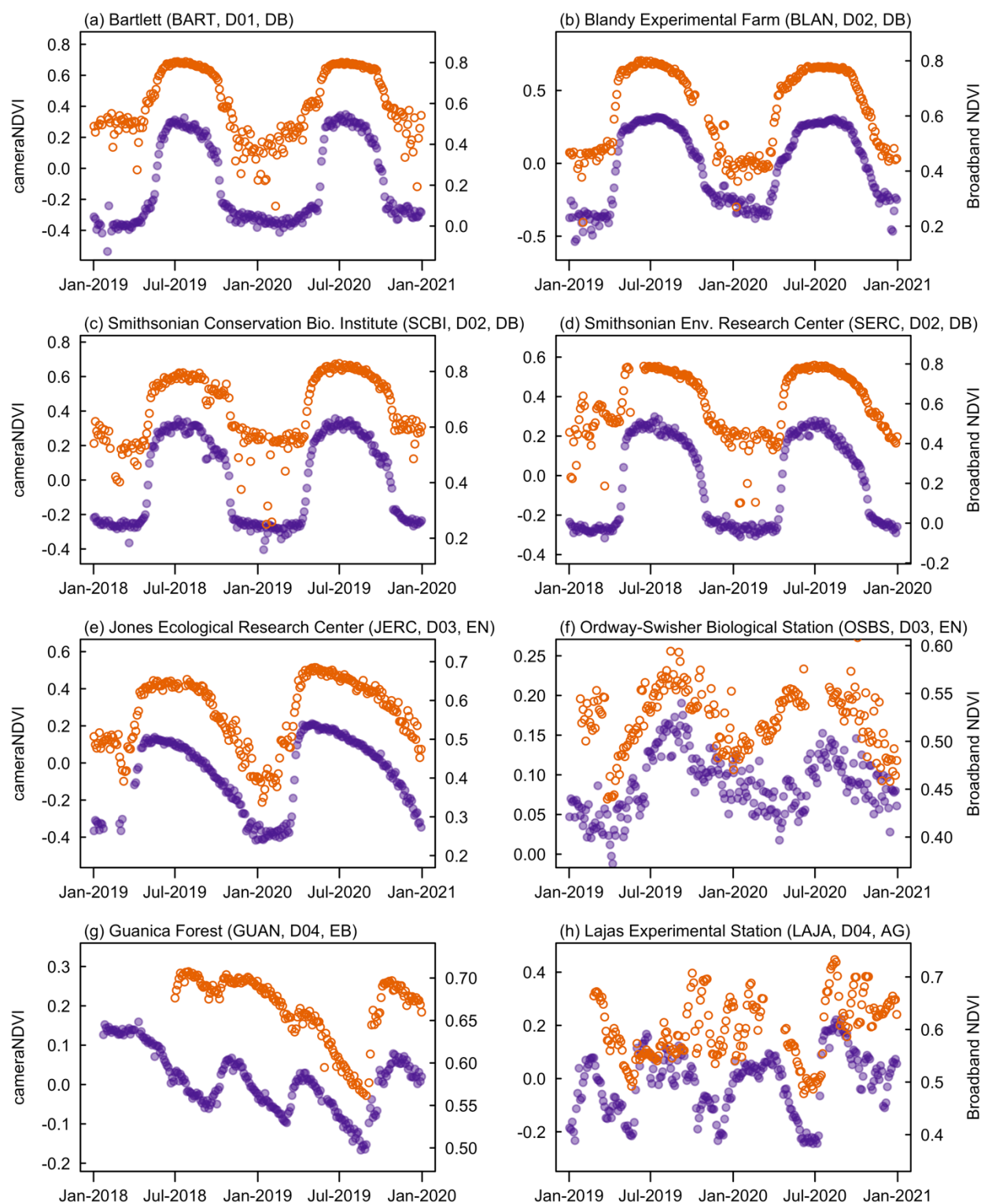


Figure S1. Comparison between cameraNDVI (closed circles) and broadbandNDVI (open circles) at Terrestrial Sites in NEON Domains D01-D04.

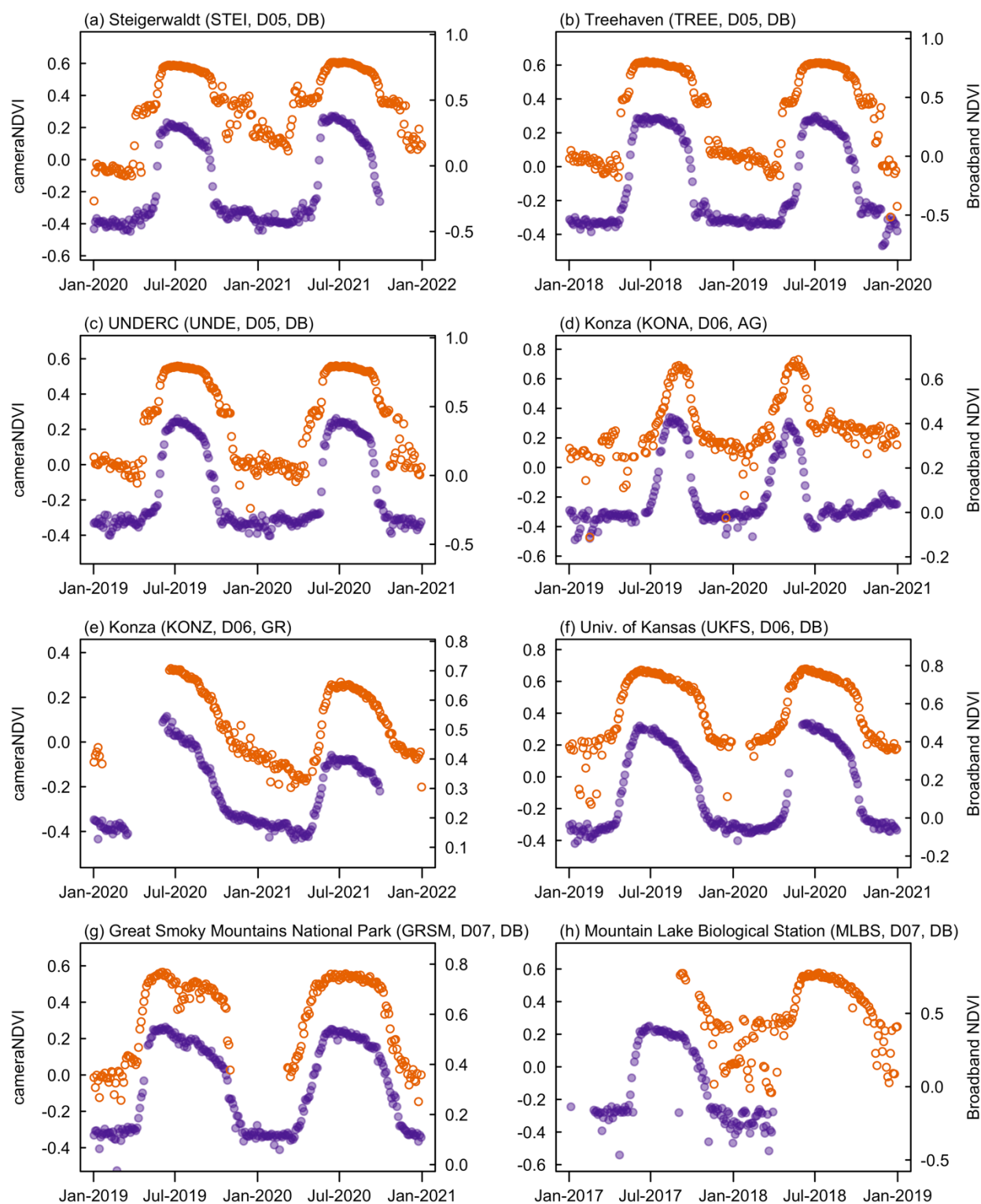


Figure S2. Comparison between cameraNDVI (closed circles) and broadbandNDVI (open circles) at Terrestrial Sites in NEON Domains D05-D07.

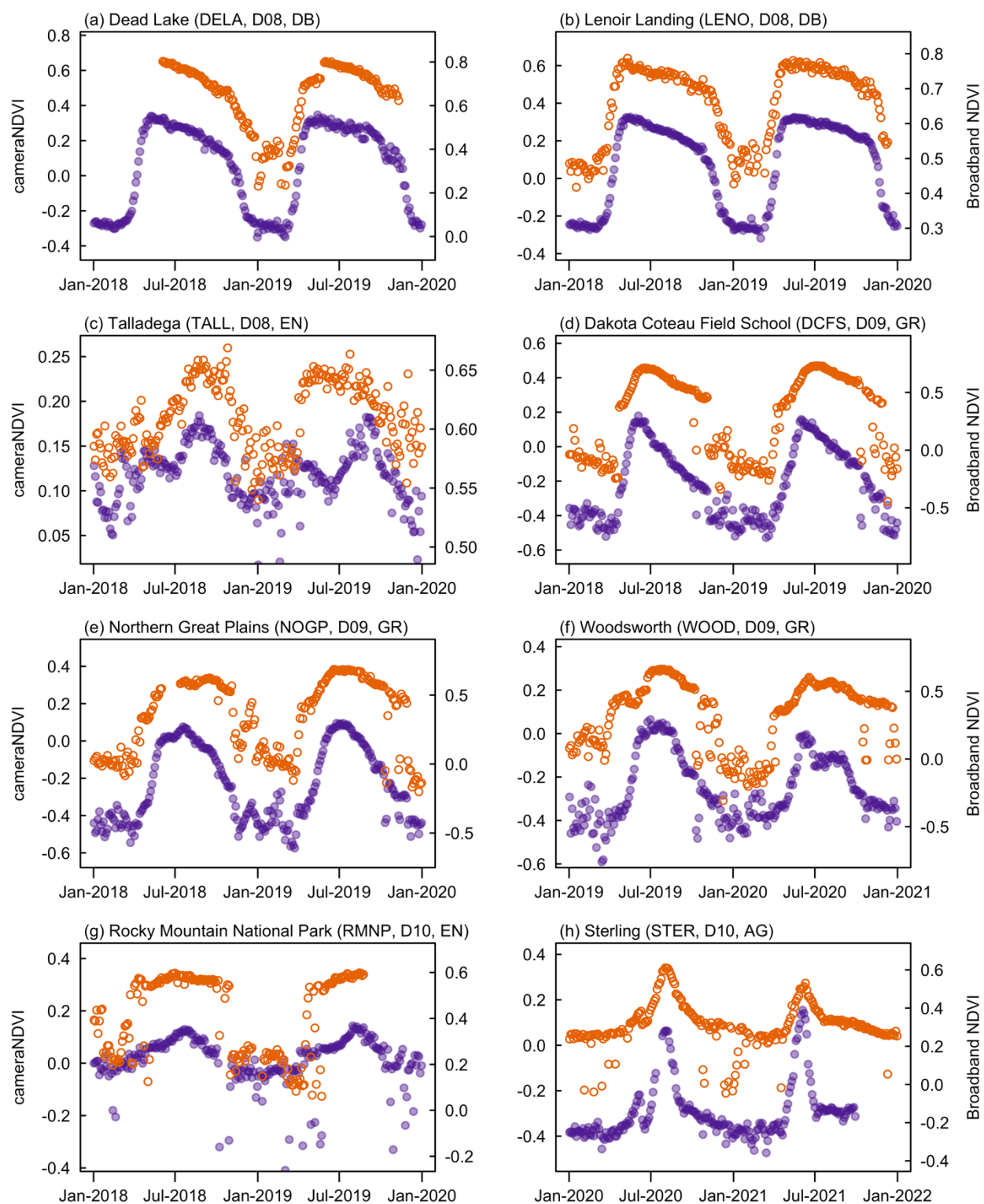


Figure S3. Comparison between cameraNDVI (closed circles) and broadbandNDVI (open circles) at Terrestrial Sites in NEON Domains D08-D10.

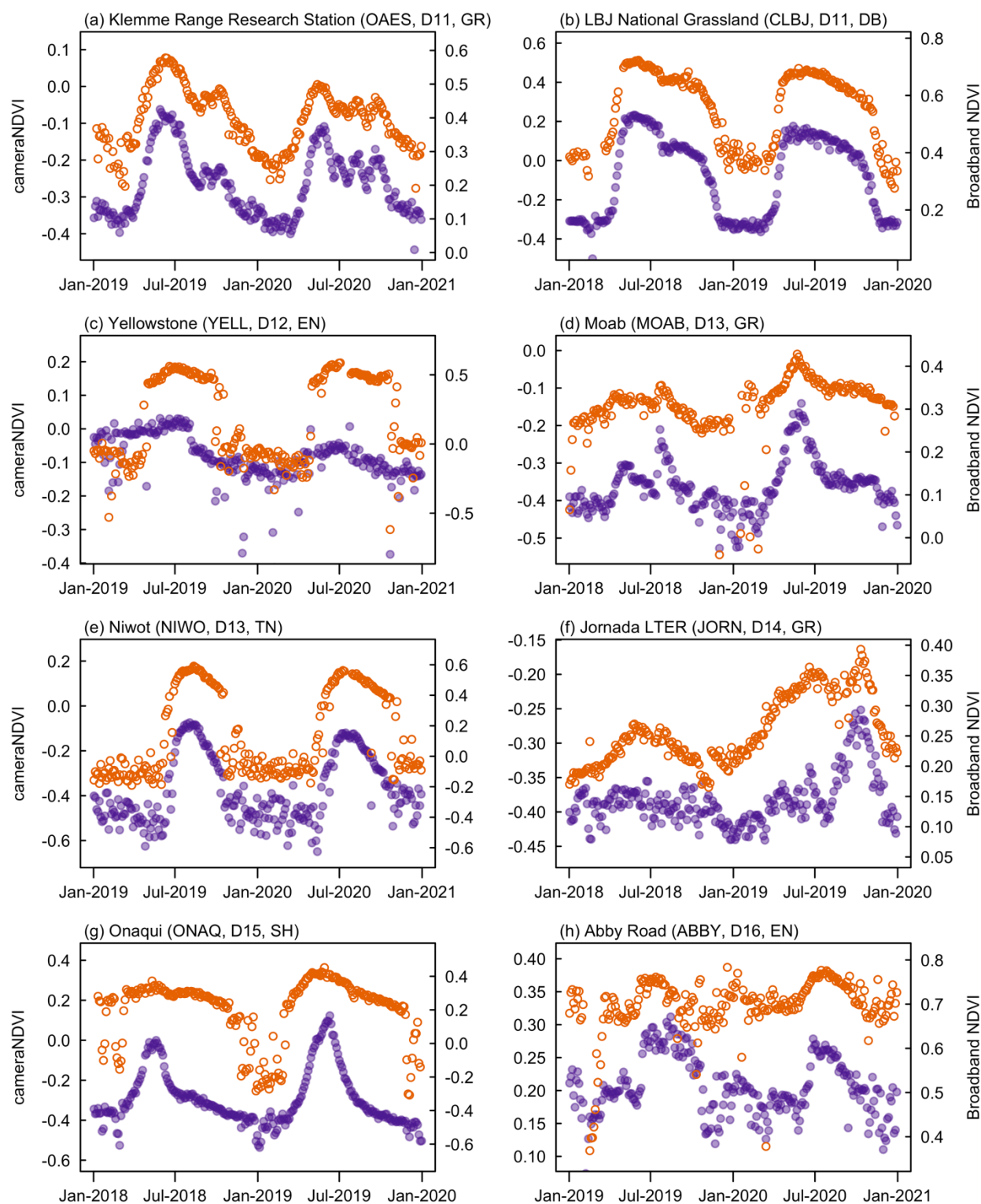


Figure S4. Comparison between cameraNDVI (closed circles) and broadbandNDVI (open circles) at Terrestrial Sites in NEON Domains D11-D16.

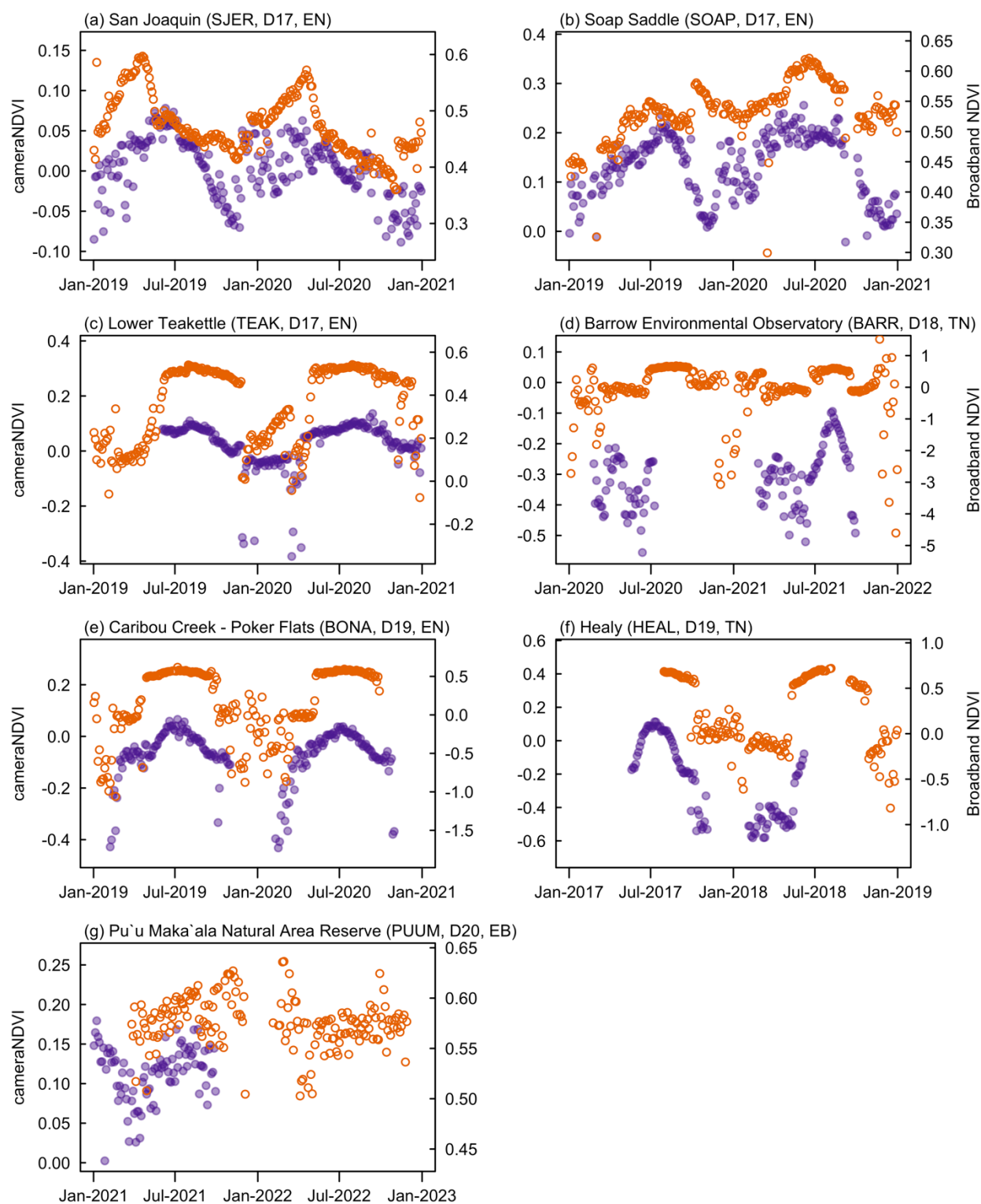


Figure S5. Comparison between cameraNDVI (closed circles) and broadbandNDVI (open circles) at Terrestrial Sites in NEON Domains D17-D20.

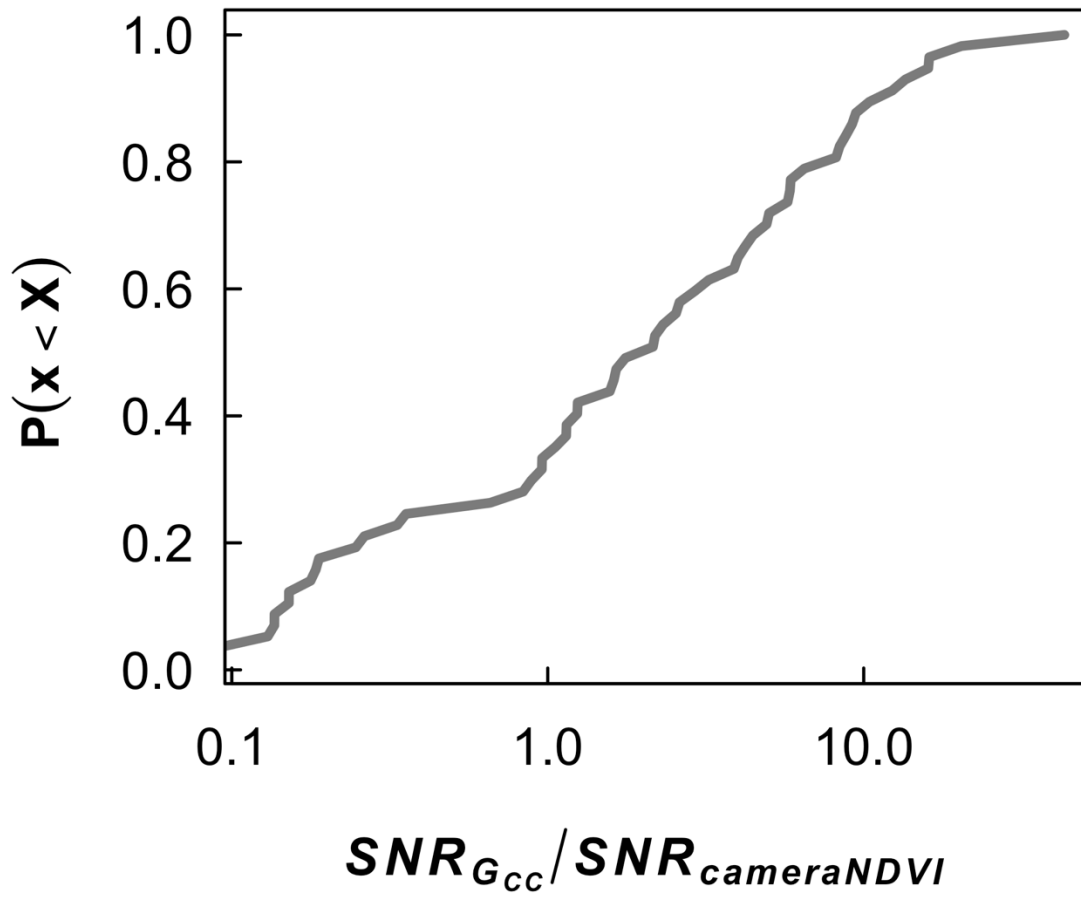


Figure S6. Summary for signal-to-noise ratio (SNR) analysis comparing cameraNDVI to broadbandNDVI. $SNR_{DIFF} < 1$ indicates that cameraNDVI produces a noisier signal, while $SNR_{DIFF} > 1$ indicates that cameraNDVI produces a less noisy signal relative to broadbandNDVI. Here, when evaluating all NEON Terrestrial Sites, we found that cameraNDVI produces a smoother or less-noisy phenological signal ~75% of the time.

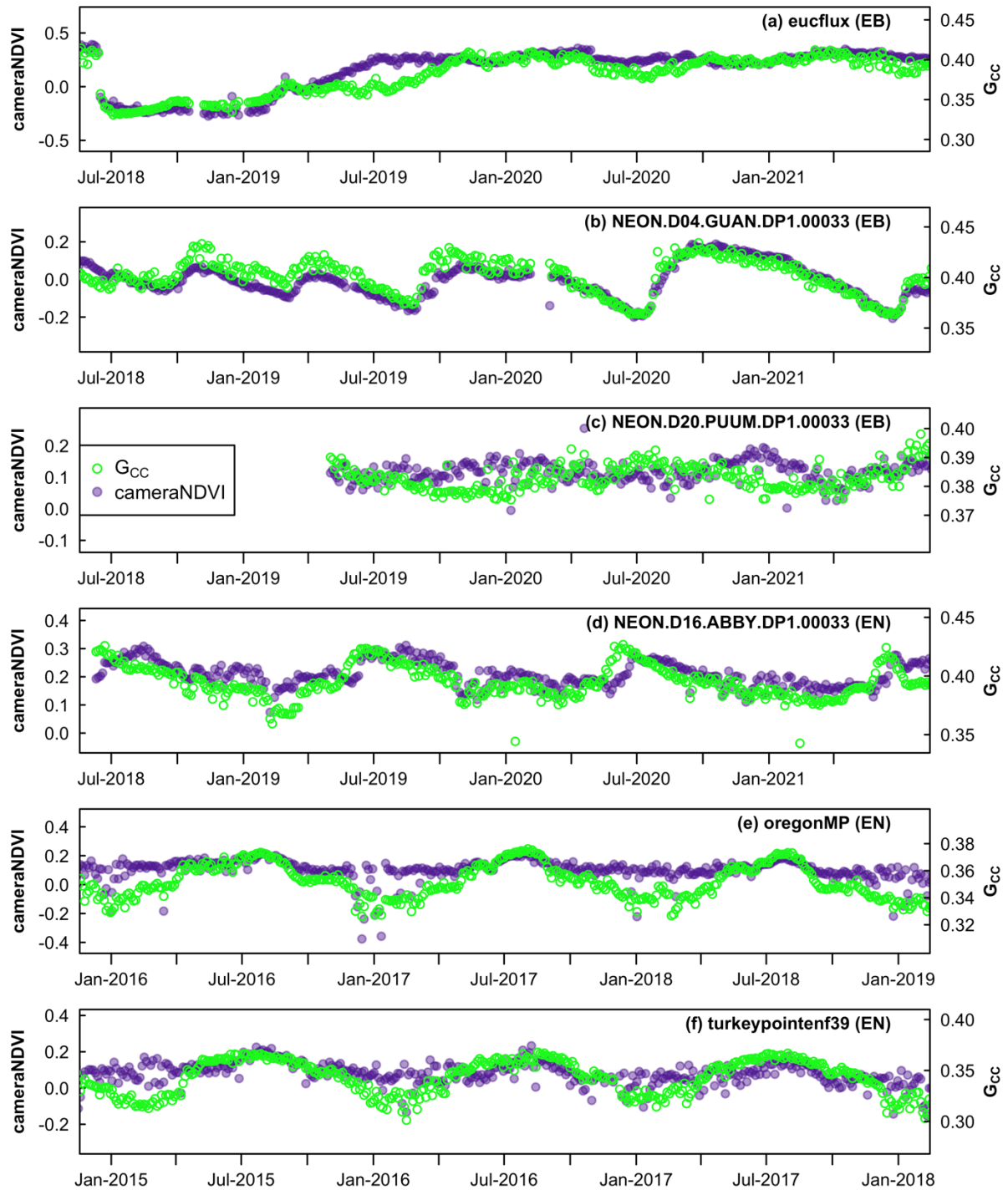


Figure S7. Comparison between GCC and cameraNDVI among (a-c) evergreen broadleaf sites and (d-f) evergreen needleleaf sites.