S1 Table. List of sites used in this study. DBF = Deciduous broadleaf forest, DNF = deciduous needleleaf forest, EBF = evergreen broadleaf forest, ENF = evergreen needleleaf forest, MF = mixed forest, WSA = woody savanna, and SAV = savanna. The PFT and climate classifications used here are coming from the ancillary data files provided by the La Thuile or the FLUXNET2015 datasets (`https://fluxnet.fluxdata.org`).

	Site ID	Lat [°N]	Long [°E]	Climate type	Vegetation type	Forest age	References
1	AR-SLu	-33.4648	-66.4598	Temperate	MF	50	-
2	AR-Vir	-28.2395	-56.1886	Temperate	ENF	8	-
3	AU-Ade	-13.0769	131.1178	Tropical	WSA	NA	-
4	AU-ASM	-22.2830	133.2490	Arid	ENF	NA	-
5	AU-Cpr	-34.0021	140.5891	Arid	SAV	NA	-
6	AU-Cum	-33.6133	150.7225	Temperate	EBF	>300	-
7	AU-DaS	-14.1593	131.3881	Tropical	SAV	NA	-
8	AU-Dry	-15.2588	132.3706	Tropical	SAV	NA	-
9	AU-Gin	-31.3764	115.7138	Temperate	WSA	NA	-
10	AU-GWW	-30.1913	120.6541	Arid	SAV	NA	-
11	AU-How	-12.4943	131.1523	Tropical	WSA	110	-
12	AU-Lox	-34.4704	140.6551	Arid	DBF	NA	-
13	AU-RDF	-14.5636	132.4776	Tropical	WSA	NA	-
14	AU-Rob	-17.1175	145.6301	Temperate	EBF	198	-
15	AU-Tum	-35.6566	148.1517	Temperate	EBF	83	[27]
16	AU-Wac	-37.4259	145.1878	Temperate	EBF	>300	-
17	AU-Whr	-36.6732	145.0294	Temperate	EBF	NA	-
18	AU-Wom	-37.4222	144.0944	Temperate	EBF	32	-
19	BE-Bra	51.3092	4.5206	Temperate	MF	78	[21]
20	BE-Jal	50.5639	6.0733	Temperate	MF	8	-
21	BE-Vie	50.3051	5.9981	Temperate	MF	94	[4]
22	BR-Ban	-9.8244	-50.1591	Tropical	EBF	>300	[19]
23	BR-Cax	-1.7197	-51.4590	Tropical	EBF	96	[14]
24	BR-Ji2	-10.0832	-61.9309	Tropical	EBF	>300	[88]

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	Site ID	Lat [°N]	Long [°E]	Climate type	Vegetation type	Forest age	References
25	BR-Ma2	-2.6091	-60.2093	Tropical	EBF	>300	[3]
26	BR-Sa1	-2.8567	-54.9589	Tropical	EBF	>300	[74]
27	BR-Sa3	-3.0180	-54.9714	Tropical	EBF	>300	[74]
28	BR-Sp1	-21.6195	-47.6499	Tropical	WSA	NA	-
29	BW-Ma1	-19.9155	23.5605	Arid	WSA	NA	-
30	CA-Ca1	49.8672	-125.3340	Temperate	ENF	60	[60]
31	CA-Ca2	49.8705	-125.2910	Temperate	ENF	3	[41]
32	CA-Ca3	49.5346	-124.9000	Temperate	ENF	16	[44]
33	CA-Gro	48.2167	-82.1556	Boreal	MF	78	[66]
34	CA-Man	55.8796	-98.4808	Boreal	ENF	161	[46]
35	CA-NS1	55.8792	-98.4839	Boreal	ENF	154	[32]
36	CA-NS2	55.9058	-98.5247	Boreal	ENF	73	[32]
37	CA-NS3	55.9117	-98.3822	Boreal	ENF	39	[32]
38	CA-NS4	55.9144	-98.3806	Boreal	ENF	39	[32]
39	CA-NS5	55.8631	-98.4850	Boreal	ENF	23	[32]
40	CA-Oas	53.6289	-106.1978	Boreal	DBF	80	[10]
41	CA-Obs	53.9872	-105.1178	Boreal	ENF	112	[43]
42	CA-Ojp	53.9163	-104.6920	Boreal	ENF	88	[5]
43	CA-Qcu	49.2671	-74.0365	Boreal	ENF	4	[28]
44	CA-Qfo	49.6925	-74.3421	Boreal	ENF	102	[7]
45	CA-SF1	54.4850	-105.8176	Boreal	ENF	28	-
46	CA-SF2	54.2539	-105.8775	Boreal	ENF	14	-
47	CA-SJ1	53.9080	-104.6560	Boreal	ENF	10	[40]
48	CA-SJ2	53.9450	-104.6490	Boreal	ENF	2	[18]
49	CA-SJ3	53.8758	-104.6450	Boreal	ENF	30	[33]
50	CA-TP1	42.6609	-80.5595	Boreal	ENF	9	[2]
51	CA-TP2	42.7744	-80.4588	Boreal	ENF	73	[2]
52	CA-TP3	42.7068	-80.3483	Boreal	ENF	37	[2]
53	CA-TP4	42.7102	-80.3574	Boreal	ENF	70	[2]

Continued on next page

	Site ID	Lat [°N]	Long [°E]	Climate type	Vegetation type	Forest age	References
54	CA-TPD	42.6353	-80.5577	Boreal	DBF	98	[2]
55	CG-Hin	-4.6811	12.0036	Tropical	EBF	NA	-
56	CG-Kis	-4.7914	11.9822	Tropical	EBF	NA	-
57	CG-Tch	-4.2892	11.6564	Tropical	SAV	NA	-
58	CH-Dav	46.8153	9.8559	Temperate	ENF	222	[92]
59	CH-Lae	47.4781	8.3650	Temperate	MF	184	[26]
60	CN-Anh	33.0000	117.0000	Temperate	DBF	13	-
61	CN-Bed	39.5306	116.2520	Boreal	EBF	12	-
62	CN-Cha	42.4025	128.0958	Boreal	MF	>300	[37]
63	CN-Din	23.1733	112.5361	Temperate	EBF	96	[91]
64	CN-Hny	29.3100	112.5100	Temperate	DBF	2	-
65	CN-Ku1	40.5383	108.6940	Arid	EBF	5	-
66	CN-Qia	26.7414	115.0581	Temperate	ENF	19	-
67	CZ-BK1	49.5021	18.5369	Boreal	ENF	31	[69]
68	DE-Bay	50.1419	11.8669	Temperate	ENF	54	[85]
69	DE-Hai	51.0792	10.4530	Temperate	DBF	254	[47]
70	DE-Har	47.9344	7.6010	Temperate	ENF	42	[9]
71	DE-Lkb	49.0996	13.3047	Temperate	ENF	2	[51]
72	DE-Lnf	51.3282	10.3678	Temperate	DBF	117	-
73	DE-Meh	51.2753	10.6555	Temperate	MF	2	-
74	DE-Obe	50.7836	13.7196	Temperate	ENF	76	-
75	DE-Tha	50.9636	13.5669	Temperate	ENF	118	[8]
76	DE-Wet	50.4535	11.4575	Temperate	ENF	54	[1]
77	DK-Sor	55.4859	11.6446	Temperate	DBF	85	[67]
78	ES-ES1	39.3460	-0.3188	Temperate	ENF	116	[75]
79	ES-LMa	39.9415	-5.7734	Temperate	SAV	148	-
80	FI-Hyy	61.8475	24.2950	Boreal	ENF	46	[77]
81	FI-Let	60.6418	23.9597	Boreal	ENF	NA	-
82	FI-Sod	67.3619	26.6378	Boreal	ENF	161	[81]

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	Site ID	Lat [°N]	Long [°E]	Climate type	Vegetation type	Forest age	References
83	FR-Fon	48.4764	2.7801	Temperate	DBF	150	[56]
84	FR-Hes	48.6742	7.0646	Temperate	DBF	37	[34]
85	FR-LBr	44.7171	-0.7693	Temperate	ENF	34	[6]
86	FR-Pue	43.7414	3.5958	Temperate	EBF	64	[68]
87	GF-Guy	5.2788	-52.9249	Tropical	EBF	>300	[11]
88	GH-Ank	5.2685	-2.6942	Tropical	EBF	NA	-
89	IL-Yat	31.3450	35.0515	Arid	ENF	39	[35]
90	IS-Gun	63.8333	-20.2167	Temperate	DBF	7	-
91	IT-Bon	39.4778	16.5347	Temperate	ENF	36	-
92	IT-CA1	42.3804	12.0266	Temperate	DBF	NA	-
93	IT-CA3	42.3800	12.0222	Temperate	DBF	NA	-
94	IT-Col	41.8494	13.5881	Temperate	DBF	180	[84]
95	IT-Cp2	41.7043	12.3573	Temperate	EBF	63	-
96	IT-Cpz	41.7052	12.3761	Temperate	EBF	56	[82]
97	IT-Isp	45.8126	8.6336	Temperate	DBF	NA	-
98	IT-Lec	43.3046	11.2706	Temperate	EBF	NA	-
99	IT-LMa	45.5813	7.1546	Temperate	DBF	71	[54]
100	IT-Non	44.6898	11.0887	Temperate	MF	10	[62]
101	IT-PT1	45.2009	9.0610	Temperate	DBF	13	[57]
102	IT-Ren	46.5869	11.4337	Boreal	ENF	188	[59]
103	IT-Ro1	42.4081	11.9300	Temperate	DBF	10	[70]
104	IT-Ro2	42.3903	11.9209	Temperate	DBF	19	[80]
105	IT-SR2	43.7320	10.2910	Temperate	ENF	64	-
106	IT-SRo	43.7279	10.2844	Temperate	ENF	54	[15]
107	IT-Vig	45.3167	8.8500	Temperate	DBF	15	-
108	JP-MBF	44.3869	142.3186	Boreal	DBF	NA	-
109	JP-SMF	35.2617	137.0788	Temperate	MF	NA	-
110	JP-Tak	36.1462	137.4230	Boreal	DBF	72	[90]
111	JP-Tef	45.0563	142.1062	Boreal	MF	121	[78]

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	Site ID	Lat [°N]	Long [°E]	Climate type	Vegetation type	Forest age	References
112	JP-Tom	42.7395	141.5149	Boreal	MF	48	[38]
113	ML-Kem	15.2237	-1.5662	Arid	DBF	NA	-
114	MY-PSO	2.9730	102.3062	Tropical	EBF	106	[42]
115	NL-Loo	52.1666	5.7436	Temperate	ENF	106	[24]
116	PA-SPn	9.3181	-79.6346	Tropical	DBF	7	-
117	PT-Esp	38.6394	-8.6018	Temperate	EBF	12	-
118	PT-Mi1	38.5407	-8.0004	Temperate	EBF	88	[20]
119	RU-Fyo	56.4615	32.9221	Boreal	ENF	236	[48]
120	RU-SkP	62.2550	129.1680	Boreal	DNF	161	-
121	RU-Zot	60.8008	89.3508	Boreal	ENF	201	[79]
122	SD-Dem	13.2829	30.4783	Arid	SAV	NA	-
123	SE-Abi	68.3624	18.7948	Tundra	DBF	NA	[52]
124	SE-Fla	64.1128	19.4569	Boreal	ENF	37	[85]
125	SE-Nor	60.0865	17.4795	Boreal	ENF	105	[49]
126	SE-Sk1	60.1250	17.9181	Boreal	ENF	2	[29]
127	SE-Sk2	60.1297	17.8401	Boreal	ENF	33	[52]
128	SK-Tat	49.1208	20.1635	Boreal	ENF	0	-
129	SN-Dhr	15.4028	-15.4322	Arid	SAV	NA	-
130	UK-Gri	56.6072	-3.7981	Temperate	ENF	21	[55]
131	UK-Ham	51.1208	-0.8608	Temperate	DBF	64	[89]
132	UK-PL3	51.4500	-1.2667	Temperate	DBF	NA	-
133	US-Bar	44.0646	-71.2881	Boreal	DBF	128	[45]
134	US-Blo	38.8953	-120.6328	Temperate	ENF	13	[30]
135	US-Bn1	63.9198	-145.3780	Boreal	ENF	83	[53]
136	US-Bn2	63.9198	-145.3780	Boreal	DBF	16	[53]
137	US-Dk2	35.9736	-79.1004	Temperate	DBF	98	[25]
138	US-Dk3	35.9782	-79.0942	Temperate	ENF	21	[76]
139	US-Fmf	35.1426	-111.7273	Temperate	ENF	150	-
140	US-FR2	29.9495	-97.9962	Temperate	WSA	NA	-

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	Site ID	Lat [°N]	Long [°E]	Climate type	Vegetation type	Forest age	References
141	US-Fuf	35.0890	-111.7620	Temperate	ENF	101	-
142	US-GBT	41.3658	-106.2397	Boreal	ENF	176	-
143	US-GLE	41.3665	-106.2399	Boreal	ENF	184	-
144	US-Ha1	42.5378	-72.1715	Boreal	DBF	96	[83]
145	US-Ha2	42.5393	-72.1779	Boreal	ENF	91	[83]
146	US-Ho1	45.2041	-68.7402	Boreal	ENF	206	[39]
147	US-Ho2	45.2091	-68.7470	Boreal	ENF	208	[39]
148	US-KS1	28.4583	-80.6709	Temperate	ENF	7	[13]
149	US-LPH	42.5419	-72.1850	Boreal	DBF	98	[12]
150	US-Me1	44.5794	-121.5000	Temperate	ENF	2	[50]
151	US-Me2	44.4523	-121.5574	Temperate	ENF	94	[50]
152	US-Me3	44.3154	-121.6078	Temperate	ENF	20	[87]
153	US-Me4	44.4992	-121.6224	Temperate	ENF	24	[50]
154	US-Me5	44.4372	-121.5668	Temperate	ENF	22	[50]
155	US-Me6	44.3233	-121.6078	Temperate	ENF	22	[73]
156	US-MMS	39.3232	-86.4131	Temperate	DBF	95	[71]
157	US-MOz	38.7441	-92.2000	Temperate	DBF	78	[36]
158	US-NC2	35.8031	-76.6679	Temperate	ENF	14	[64]
159	US-NR1	40.0329	-105.5464	Boreal	ENF	110	[58]
160	US-Oho	41.5545	-83.8438	Boreal	DBF	50	[65]
161	US-PFa	45.9459	-90.2723	Boreal	MF	150	[22]
162	US-Prr	65.1237	-147.4876	Boreal	ENF	98	[61]
163	US-SP1	29.7381	-82.2188	Temperate	ENF	63	[16]
164	US-SP2	29.7648	-82.2448	Temperate	ENF	4	[16]
165	US-SP3	29.7548	-82.1633	Temperate	ENF	12	[16]
166	US-SP4	29.8028	-82.2031	Temperate	ENF	0	[16]
167	US-SRM	31.8214	-110.8661	Arid	WSA	201	-
168	US-Syv	46.2420	-89.3477	Boreal	MF	>300	[23]
169	US-Ton	38.4316	-120.9660	Temperate	WSA	NA	-

Continued on next page

	Site ID	Lat [°N]	Long [°E]	Climate type	Vegetation type	Forest age	References
170	US-UMB	45.5598	-84.7138	Boreal	DBF	93	[31]
171	US-UMd	45.5625	-84.6975	Boreal	DBF	90	-
172	US-WBW	35.9588	-84.2874	Temperate	DBF	110	[86]
173	US-WCr	45.8059	-90.0799	Boreal	DBF	96	[23]
174	US-Wi0	46.6188	-91.0814	Boreal	ENF	7	[63]
175	US-Wi1	46.7305	-91.2329	Boreal	DBF	15	[63]
176	US-Wi3	46.6347	-91.0987	Boreal	DBF	66	[63]
177	US-Wi4	46.7393	-91.1663	Boreal	ENF	66	[63]
178	US-Wi5	46.6531	-91.0858	Boreal	ENF	9	[63]
179	US-Wi8	46.7223	-91.2524	Boreal	DBF	2	[63]
180	US-Wi9	46.6188	-91.0814	Boreal	ENF	16	[63]
181	US-Wrc	45.8205	-121.9520	Temperate	ENF	>300	[17]
182	VU-Coc	-15.4427	167.1920	Tropical	EBF	20	[72]
183	ZA-Kru	-25.0197	31.4969	Temperate	SAV	NA	-
184	ZA-Map	-23.8325	31.2144	Temperate	SAV	NA	-
185	ZM-Mon	-15.4378	23.2528	Tropical	WSA	88	-

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S2 Table. RMSE of the *LSTM* setup per PFT and climate region from the ensemble mean mean ±sd estimate of the 50 runs. Statistics for the anomalies were not calculated in the arid and tropical climate (i.e. NA) because there was no site with at least 2 years of complete data after data quality control.

	Seasonal cycle	Seasonal anomaly	Across-site	Interannual anomaly
Deciduous forest	**1.18** ±0.03	**0.61** ±0.01	**0.51** ±0.02	**0.27** ±0.007
Evergreen forest	**1.15** ±0.02	**0.58** ±0.006	**0.72** ±0.03	**0.31** ±0.006
Mixed forest	**1.10** ±0.05	**0.68** ±0.007	**0.50** ±0.08	**0.37** ±0.008
Savanna	**0.75** ±0.02	**0.58** ±0.007	**0.34** ±0.09	**0.19** ±0.01
Arid	**0.71** ±0.03	NA	**0.20** ±0.07	NA
Boreal	**1.02** ±0.02	**0.45** ±0.006	**0.52** ±0.03	**0.18** ±0.004
Temperate	**1.18** ±0.02	**0.71** ±0.006	**0.65** ±0.03	**0.38** ±0.006
Tropical	**1.40** ±0.08	NA	**1.03** ±0.12	NA

S3 Table. MAE of the *LSTM* setup per PFT and climate region from the ensemble mean mean ±sd estimate of the 50 runs. Statistics for the anomalies were not calculated in the arid and tropical climate (i.e. NA) because there was no site with at least 2 years of complete data after data quality control.

	Seasonal cycle	Seasonal anomaly	Across-site	Interannual anomaly
Deciduous forest	**0.86** ± 0.03	**0.42** ± 0.007	**0.45** ± 0.02	**0.20** ± 0.006
Evergreen forest	**0.83** ± 0.02	**0.40** ± 0.004	**0.54** ± 0.03	**0.20** ± 0.004
Mixed forest	**0.78** ± 0.05	**0.47** ± 0.006	**0.43** ± 0.05	**0.29** ± 0.006
Savanna	**0.57** ±0.02	**0.46** ±0.007	**0.22** ±0.06	**0.16** ±0.01
Arid	**0.50** ± 0.03	NA	**0.16** ±0.06	NA
Boreal	**0.68** ± 0.02	**0.30** ± 0.004	**0.37** ±0.02	**0.14** ±0.003
Temperate	**0.89** ± 0.02	**0.51** ± 0.005	**0.54** ±0.02	**0.28** ±0.005
Tropical	**1.12** ± 0.07	NA	**0.85** ±0.10	NA

S4 Table. Coefficient of determination of our proposed approach against the other model set-ups from the ensemble mean mean ±sd estimate of the 50 runs. $LSTM$ = LSTM model using the full depth of the Landsat time series and climate data; $LSTM_{perm} = LSTM$ model but the temporal patterns of both the predictive and the target variables were randomly permuted while instantaneous relationships between predictive and target variables were kept; $LSTM_{msc} = LSTM$ model but the Landsat time series for each band were replaced by their mean seasonal cycle, while using the actual values of air temperature (T_{air}), precipitation (P), global radiation (Rg), and vapor pressure deficit (VPD); $LSTM_{annual} = LSTM$ model but the Landsat time series for each band were replaced by their annual mean, while using the actual values of T_{air}, P, Rg, and VPD, RF = Random Forest model using the actual values of the Landsat time series and climate data.

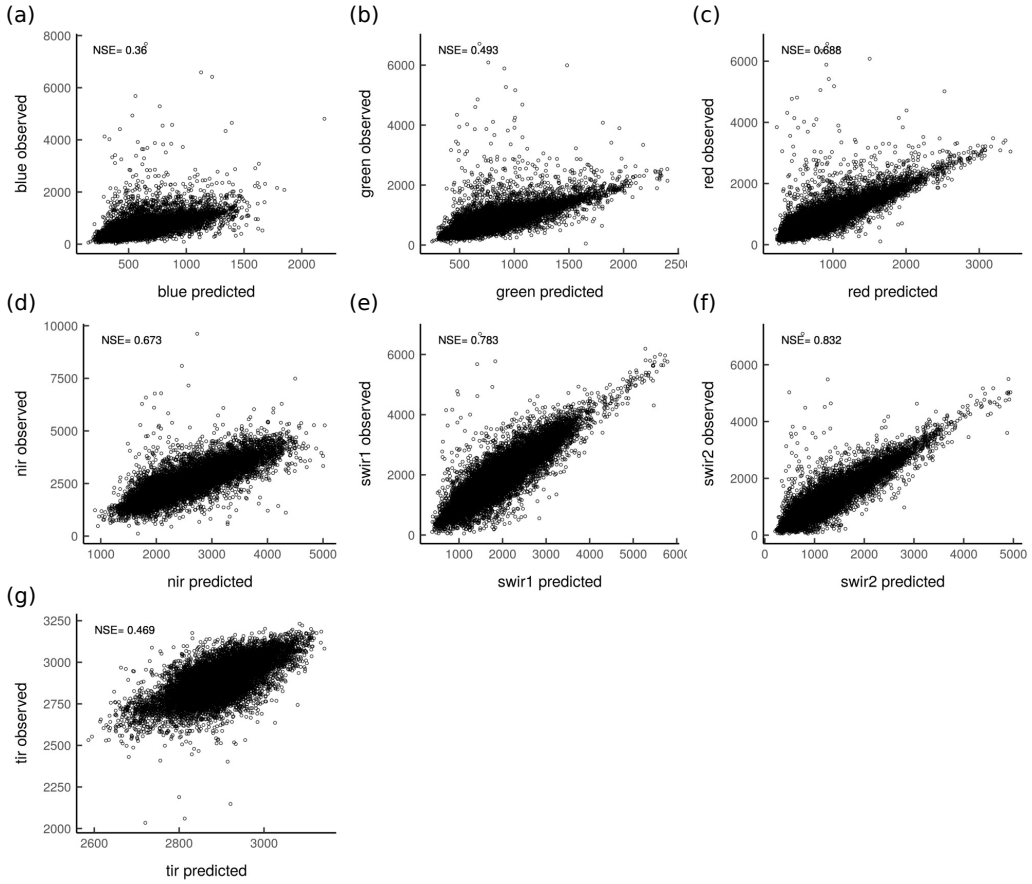
	Seasonal	Seasonal anomaly	Across-site	Interannual anomaly
LSTM	**0.66** ±0.01	**0.10** ±0.006	**0.43** ±0.04	**0.09** ±0.02
$LSTM_{msc}$	**0.64** ±0.01	**0.05** ±0.006	**0.40** ±0.04	**0.02** ±0.008
$LSTM_{annual}$	**0.60** ±0.02	**0.07** ±0.008	**0.37** ±0.04	**0.07** ±0.01
$LSTM_{perm}$	**0.62** ±0.01	**0.08** ±0.005	**0.39** ±0.04	**0.11** ±0.02
RF	**0.58** ±0.00003	**0.06** ±0.00003	**0.39** ±0.0001	**0.07** ±0.0004

S5 Table. RMSE of our proposed approach against the other model set-ups from the ensemble mean mean ±sd estimate of the 50 runs. $LSTM$ = LSTM model using the full depth of the Landsat time series and climate data; $LSTM_{perm}$ = $LSTM$ model but the temporal patterns of both the predictive and the target variables were randomly permuted while instantaneous relationships between predictive and target variables were kept; $LSTM_{msc}$ = $LSTM$ model but the Landsat time series for each band were replaced by their mean seasonal cycle, while using the actual values of air temperature (T_{air}), precipitation (P), global radiation (Rg), and vapor pressure deficit (VPD); $LSTM_{annual}$ = $LSTM$ model but the Landsat time series for each band were replaced by their annual mean, while using the actual values of T_{air}, P, Rg, and VPD, RF = Random Forest model using the actual values of the Landsat time series and climate data.

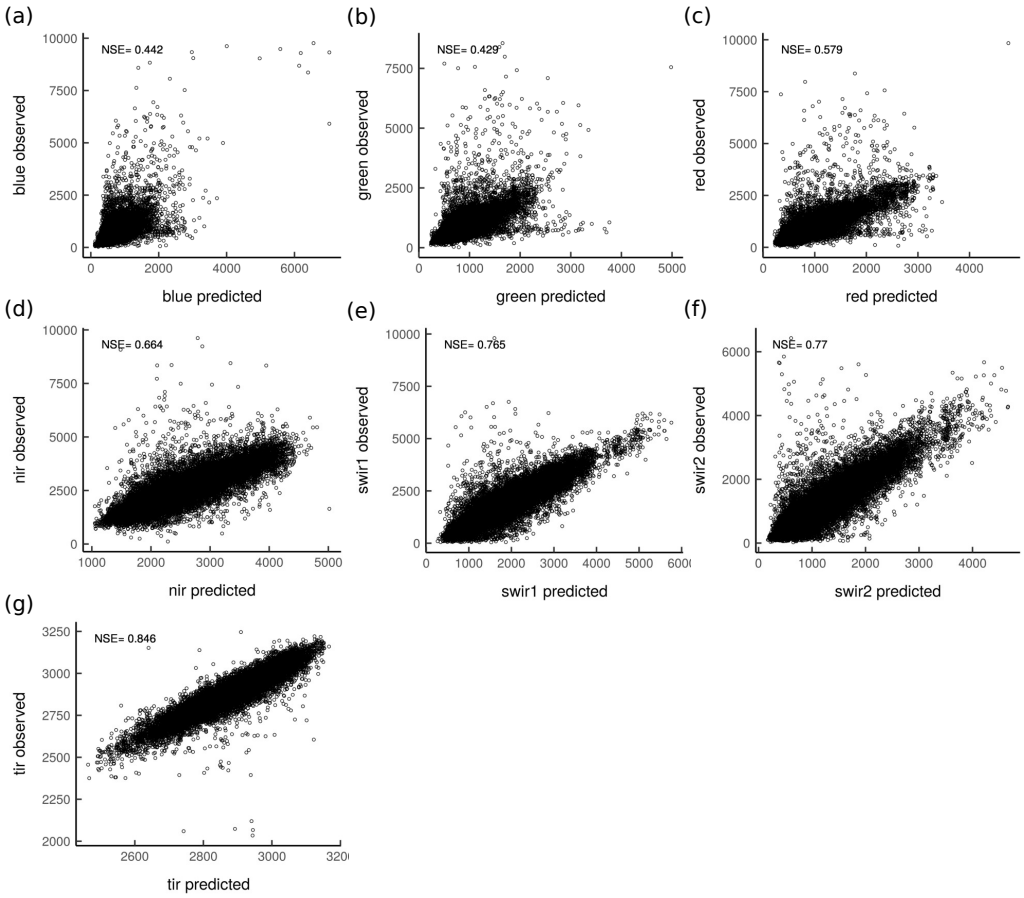
	Seasonal	Seasonal anomaly	Across-site	Interannual anomaly
LSTM	**1.12** ±0.02	**0.61** ±0.005	**0.63** ±0.02	**0.31** ±0.004
$LSTM_{msc}$	**1.15** ±0.01	**0.61** ±0.003	**0.65** ±0.02	**0.32** ±0.002
$LSTM_{annual}$	**1.23** ±0.03	**0.61** ±0.008	**0.66** ±0.02	**0.32** ±0.008
$LSTM_{perm}$	**1.19** ±0.02	**0.63** ±0.005	**0.65** ±0.03	**0.31** ±0.004
RF	**1.25** ±0.00006	**0.72** ±0.0002	**0.65** ±0.0001	**0.33** ±0.0001

S6 Table. MAE of our proposed approach against the other model set-ups from the ensemble mean mean ±sd estimate of the 50 runs. $LSTM$ = LSTM model using the full depth of the Landsat time series and climate data; $LSTM_{perm}$ = $LSTM$ model but the temporal patterns of both the predictive and the target variables were randomly permuted while instantaneous relationships between predictive and target variables were kept; $LSTM_{msc}$ = $LSTM$ model but the Landsat time series for each band were replaced by their mean seasonal cycle, while using the actual values of air temperature (T_{air}), precipitation (P), global radiation (Rg), and vapor pressure deficit (VPD); $LSTM_{annual}$ = $LSTM$ model but the Landsat time series for each band were replaced by their annual mean, while using the actual values of T_{air}, P, Rg, and VPD, RF = Random Forest model using the actual values of the Landsat time series and climate data.

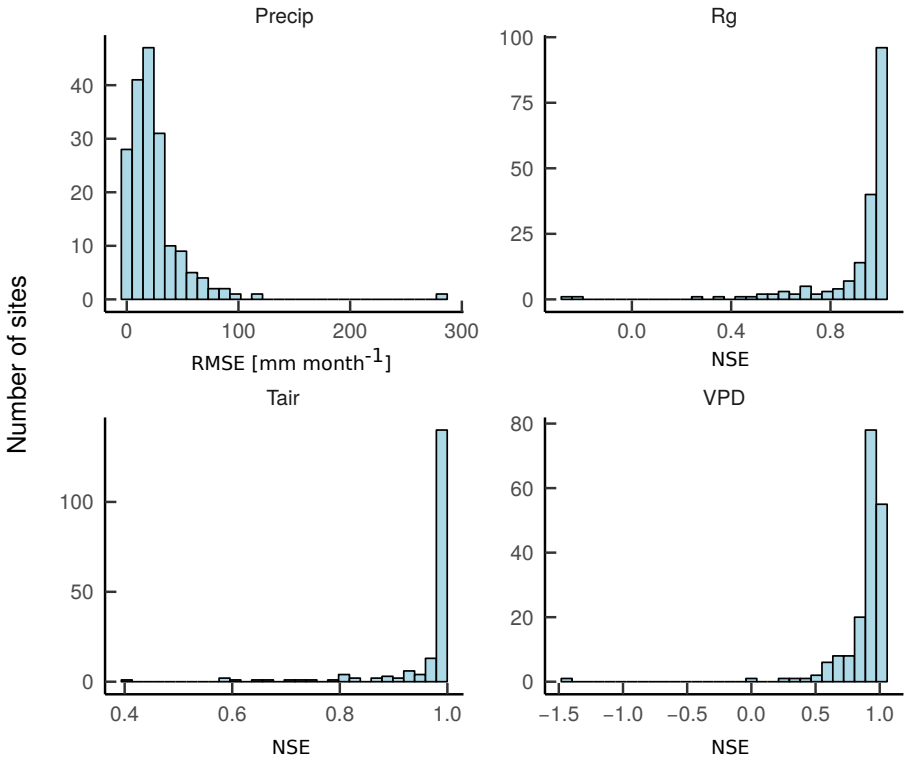
	Seasonal	Seasonal anomaly	Across-site	Interannual anomaly
LSTM	**0.81** ±0.01	**0.42** ±0.003	**0.48** ±0.02	**0.22** ±0.003
$LSTM_{msc}$	**0.83** ±0.01	**0.42** ±0.002	**0.50** ±0.02	**0.22** ±0.002
$LSTM_{annual}$	**0.89** ±0.02	**0.42** ±0.006	**0.51** ±0.02	**0.22** ±0.006
$LSTM_{perm}$	**0.86** ±0.01	**0.43** ±0.003	**0.50** ±0.02	**0.22** ±0.003
RF	**0.91** ±0.00004	**0.51** ±0.00008	**0.51** ±0.0001	**0.24** ±0.00009



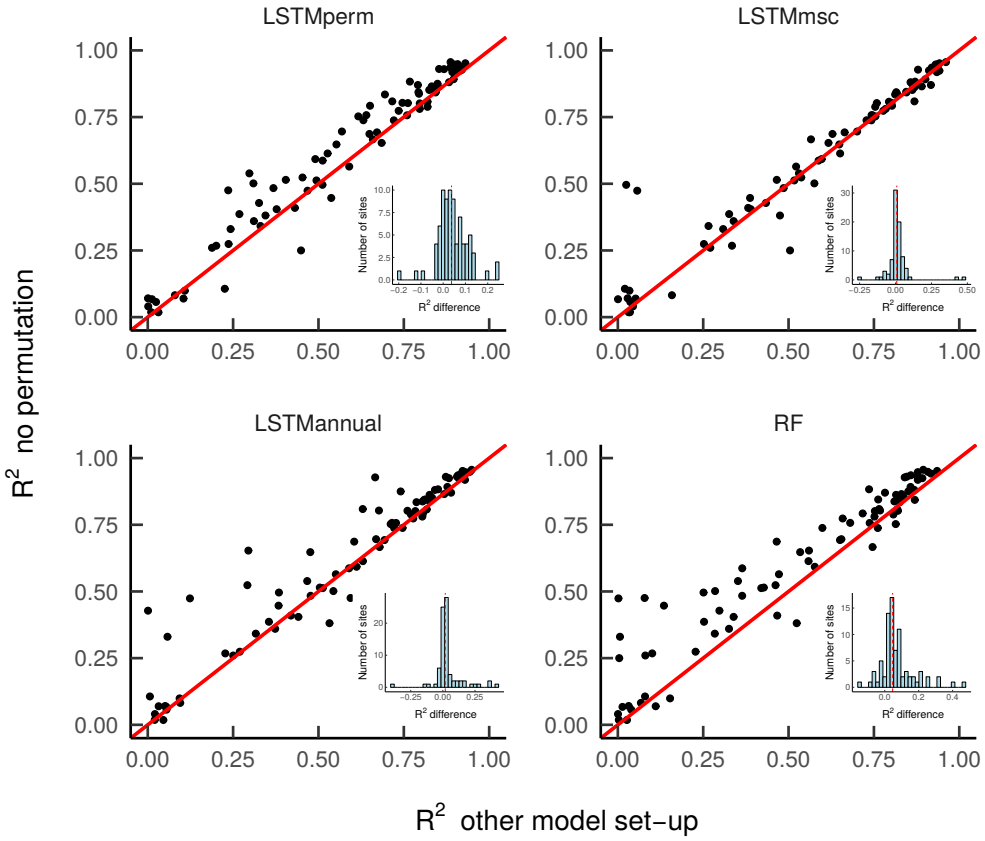
S1 Fig. Performance of the gap-filling procedure of each Landsat band using a Random Forest model and the MODIS bands as predictive variables. The model was trained on 70% of the data and evaluated on 30% of the left out data. nir = near-infrared, swir1 = shortwave infrared 1, swir2 = shortwave infrared 2, and tir = thermal infrared.



S2 Fig. Performance of the gap-filling procedure of each Landsat band using a Random Forest model and climate variables (i.e. T_{air}, Precip, Rg, VPD, rpot), PFT, month of the year, and latitude as predictive variables. The model was trained on 70% of the data and evaluated on 30% of the left out data. nir = near-infrared, swir1 = shortwave infrared 1, swir2 = shortwave infrared 2, and tir = thermal infrared.



S3 Fig. Performance of the gap-filling procedure for the differtent climate variables. Assessment of the gap-filling procedure was done for T_{air}, Precip, Rg, and VPD. For T_{air}, Rg, and VPD, the Nash-Sutcliffe efficiency (NSE) is reported, while the root mean squared error (RMSE) is reported for Precip.



S4 Fig. Scatterplots of the coefficient of determination of the proposed approach against the other model set-ups at site level. The coefficient of determination was computed using monthly observed and predicted NEE estimates for each site. Each point represents one site and only the sites with at least one complete year of good quality data (n site = 81) are shown.