

Annex A. Agroclimatic indicators and BIOMSS

Table A.1. April-July 2016 agroclimatic indicators and biomass by global Monitoring and Reporting Unit

65 Global MRUs	RAIN		TEMP		RADPAR		BIOMSS		
	Current (mm)	15YA dep. (%)	Current (°C)	15YA dep. (°C)	Current (MJ/m ²)	15YA dep. (%)	Current (gDM/m ²)	15YA dep. (%)	
1	Equatorial central Africa	357	-7	26.0	1.3	1122	4	1057	-2
2	East African highlands	500	-7	20.8	-0.2	1118	-3	1390	-1
3	Gulf of Guinea	598	-7	28.2	-0.3	1083	-1	1686	0
4	Horn of Africa	200	7	24.2	0.1	1158	1	572	-4
5	Madagascar (main)	149	-29	23.1	0.6	889	-4	515	-2
6	Southwest Madagascar	34	-52	22.9	0.7	956	-1	172	-14
7	North Africa-Mediterranean	79	-14	21.2	-0.3	1511	-1	319	-15
8	Sahel	459	39	31.5	-0.5	1339	-2	1231	26
9	Southern Africa	83	-13	21.9	1.8	968	0	249	-13
10	Western Cape (South Africa)	95	-46	16.0	3.0	675	-1	422	-23
11	British Columbia to Colorado	234	15	11.0	0.5	1392	-2	883	7
12	Northern Great Plains	468	31	17.1	0.2	1322	-1	1360	15
13	Corn Belt	383	-12	16.0	-0.6	1242	0	1231	-11
14	Cotton Belt to Mexican Nordeste	470	5	23.1	-0.7	1304	-2	1380	3
15	Sub-boreal America	306	5	11.2	0.4	1174	-2	1195	3
16	West Coast (North America)	93	-22	15.7	0.5	1481	-1	356	-10
17	Sierra Madre	403	3	20.8	-0.5	1446	0	1091	6
18	SW U.S. and N. Mexican highlands	128	6	20.7	-0.2	1564	-1	502	7
19	Northern South and Central America	797	4	27.8	0.1	1148	2	1747	4
20	Caribbean	798	19	26.6	-0.6	1311	-1	1744	3
21	Central-northern Andes	332	-18	17.0	1.9	1012	4	771	-8
22	Nordeste (Brazil)	93	-57	28.3	2.1	1058	4	318	-47
23	Central eastern Brazil	172	-31	25.9	1.7	964	3	522	-40
24	Amazon	574	-11	28.9	1.3	999	6	1366	-12
25	Central-north Argentina	116	5	18.2	0.5	633	-10	370	-13
26	Pampas	499	23	17.5	1.6	607	-10	1056	-6
27	Western Patagonia	279	-44	10.1	3.1	462	-4	855	-5
28	Semi-arid Southern Cone	104	45	11.8	2.0	582	-14	395	46
29	Caucasus	235	0	17.0	0.0	1333	-1	839	-1
30	Pamir area	286	42	17.4	-0.4	1427	-4	852	21
31	Western Asia	120	37	23.2	-0.2	1432	-3	461	35
32	Gansu-Xinjiang (China)	314	143	17.7	-0.2	1358	-3	899	49
33	Hainan (China)	867	23	27.8	-0.3	1276	10	1718	-4
34	Huanghuaihai (China)	446	14	22.2	-0.5	1200	-5	1253	20
35	Inner Mongolia (China)	382	46	16.1	-0.4	1282	0	1200	11
36	Loess region (China)	381	41	18.0	-0.6	1247	-3	1252	23
37	Lower Yangtze (China)	1346	60	23.2	-0.7	994	-7	2178	16
38	Northeast China	312	-11	15.7	-0.6	1156	-3	1138	-4
39	Qinghai-Tibet (China)	880	28	11.2	-0.4	1155	-4	1265	4
40	Southern China	1008	12	24.2	-0.3	1035	2	2087	12
41	Southwest China	793	31	20.5	-0.3	1006	-2	1783	14
42	Taiwan (China)	985	7	24.5	-0.2	1173	4	1928	15
43	East Asia	329	-32	15.2	-0.1	1117	-2	1203	-3
44	Southern Himalayas	998	17	26.7	-0.4	1119	-2	1648	4
45	Southern Asia	774	17	30.1	0.0	1133	-2	1445	7
46	Southern Japan and Korea	642	-15	19.6	0.2	1074	-3	1545	-9
47	Southern Mongolia	430	170	16.1	-0.3	1399	-3	1019	36

65 Global MRUs		RAIN		TEMP		RADPAR		BIOMSS		
		Current	15YA	Cur	15YA	Current	15YA	Current	5YA	
		(mm)	dep. (%)	ren	dep.	(MJ/m ²)	dep.	(gDM/	dep.	
				t	(°C)	(%)		m ²)	(%)	
				(°C)						
48	Punjab to Gujarat	433	34	32.3	-0.3	1328	-2	875	17	
49	Maritime Southeast Asia	1001	9	27.0	0.6	981	-2	2112	5	
50	Mainland Southeast Asia	959	6	28.9	0.1	1141	5	1890	-3	
51	Eastern Siberia	224	-6	9.8	0.0	1123	-3	990	0	
52	Eastern Central Asia	251	8	10.5	-0.5	1232	-1	1009	5	
53	Northern Australia	288	24	26.8	2.3	984	-2	842	28	
54	Queensland to Victoria	200	21	16.5	3.8	648	-5	738	19	
55	Nullarbor to Darling	161	-28	15.9	1.8	620	-8	672	-7	
56	New Zealand	122	-63	13.5	4.3	468	-2	532	-43	
57	Boreal Eurasia	305	7	10.4	1.2	1034	-4	1151	7	
58	Ukraine to Ural mountains	270	13	15.5	0.2	1115	-2	1111	14	
59	Mediterranean Europe and Turkey	154	-7	17.9	1.2	1395	-2	609	-8	
60	W. Europe (non-Mediterranean)	309	6	14.9	-0.2	1120	-4	1166	5	
61	Boreal America	335	20	8.3	2.1	990	-6	1119	16	
62	Ural to Altai mountains	281	33	14.5	0.2	1165	-4	1087	22	
63	Australian desert	101	5	16.8	2.4	674	-6	473	4	
64	Sahara to Afghan deserts	70	68	29.1	-0.6	1538	-1	255	40	
65	Sub-arctic America	166	98	-4.5	1.8	534	-5	588	71	

Note: Departures are expressed in relative terms (percentage) for all variables, except for temperature, for which absolute departure in degrees Celsius is given. Zero means no change from the average value; relative departures are calculated as $(C-R)/R*100$, with C=current value and R=reference value, which is the five-year (5YA) or fifteen-year average (15YA) for the same period between April and July.

Table A.2. April-July 2016 agroclimatic indicators and biomass by country

31 Countries		RAIN		TEMP		RADPAR		BIOMSS	
		Current	15YA	Current	15YA	Current	15YA	Current	5YA
		(mm)	Departur	(°C)	Departure	(MJ/m ²)	Depart	(gDM/	Departur
		e (%)	(°C)	(°C)	ure (%)		m ²)	e (%)	
[ARG]	Argentina	311	46	15.8	1.3	568	-14	653	-3
[AUS]	Australia	190	13	17.3	3.5	673	-5	711	15
[BGD]	Bangladesh	1520	7	29.0	-0.6	981	-4	2160	0
[BRA]	Brazil	293	-20	26.4	1.8	970	4	752	-26
[CAN]	Canada	290	-4	11.3	0.3	1195	-1	1124	2
[CHN]	China	828	36	20.5	-0.5	1087	-3	1519	13
[DEU]	Germany	323	13	14.7	-0.4	1063	-3	1243	8
[EGY]	Egypt	11	71	24.6	0.5	1610	1	54	26
[ETH]	Ethiopia	558	-5	21.7	-0.3	1124	-4	1508	0
[FRA]	France	255	-9	14.4	-0.2	1113	-8	998	-3
[GBR]	U. Kingdom	335	16	11.6	0.1	963	-6	1270	10
[IDN]	Indonesia	1047	15	27.0	0.7	947	-3	2138	8
[IND]	India	798	20	30.0	-0.2	1165	-3	1355	8
[IRN]	Iran	66	-23	21.6	-0.5	1480	-1	264	-9
[KAZ]	Kazakhstan	287	71	15.9	-0.3	1201	-6	1049	44
[KHM]	Cambodia	896	7	29.8	-0.1	1167	4	1997	-7
[MEX]	Mexico	452	4	24.5	-0.5	1403	0	1048	5
[MMR]	Myanmar	1120	9	27.0	-0.4	1038	0	1883	1
[NGA]	Nigeria	636	2	29.0	-0.5	1142	-1	1685	8
[PAK]	Pakistan	248	15	28.0	-0.7	1437	-1	589	2
[PHL]	Philippines	857	-6	27.3	0.0	1167	2	1832	-8
[POL]	Poland	298	11	15.1	-0.1	1092	0	1218	5
[ROU]	Romania	364	13	16.6	-0.2	1205	-1	1257	8
[RUS]	Russia	265	12	14.6	0.2	1135	-2	1078	12
[THA]	Thailand	783	6	29.1	0.2	1171	7	1858	-1
[TUR]	Turkey	192	1	17.8	0.7	1423	0	750	-8
[UKR]	Ukraine	259	3	17.2	0.0	1158	-1	1076	9
[USA]	United States	409	8	18.9	-0.3	1324	-1	1159	4

31 Countries	RAIN		TEMP		RADPAR		BIOMSS	
	Current (mm)	15YA Departure (%)	Current (°C)	15YA Departure (°C)	Current (MJ/m ²)	15YA Departure (%)	Current (gDM/m ²)	5YA Departure (%)
[UZB] Uzbekistan	188	82	21.9	-0.4	1382	-5	664	93
[VNM] Vietnam	876	7	27.4	0.1	1155	5	1941	0
[ZAF] South Africa	69	-25	16.9	3.1	830	-2	301	-10

See note table A.1.

Table A.3. Argentina, April-July 2016 agroclimatic indicators and biomass (by province)

	RAIN		TEMP		RADPAR		BIOMSS	
	Current (mm)	15YA Departure (%)	Current (°C)	15YA Departure (°C)	Current (MJ/m ²)	15YA Departure (%)	Current (gDM/m ²)	5YA Departure (%)
Buenos Aires	244	12	13.6	1.9	478	-20	770	-4
Chaco	390	55	18.9	0.6	667	-4	769	-14
Cordoba	149	24	14.8	1.1	537	-22	479	6
Corrientes	794	102	18.8	1.0	645	-6	1144	0
Entre Rios	652	111	16.3	1.1	541	-18	974	9
La Pampa	229	82	13.4	1.9	463	-26	800	48
Misiones	526	-21	20.2	1.9	705	-1	1418	-21
Santiago Del Estero	101	0	17.5	0.6	626	-10	351	-16
San Luis	159	61	13.2	1.2	530	-22	595	64
Salta	82	32	17.9	0.8	686	-9	270	9
Santa Fe	431	96	16.9	1.2	576	-15	676	-13

See note table A.1.

Table A.4. Australia, April-July 2016 agroclimatic indicators and biomass (by state)

	RAIN		TEMP		RADPAR		BIOMSS	
	Current (mm)	15YA Departure (%)	Current (°C)	15YA Departure (°C)	Current (MJ/m ²)	15YA Departure (%)	Current (gDM/m ²)	5YA Departure (%)
New South Wales	237	51	16.1	3.9	663	-6	812	35
South Australia	175	4	16.1	3.2	572	-5	721	8
Victoria	142	-32	14.8	3.9	508	-8	610	-16
W. Australia	157	-26	16.8	2.0	653	-7	651	-7

See note table A.1.

Table A.5. Brazil, April-July 2016 agroclimatic indicators and biomass (by state)

	RAIN		TEMP		RADPAR		BIOMSS	
	Current (mm)	15YA Departure (%)	Current (°C)	15YA Departure (°C)	Current (MJ/m ²)	15YA Departure (%)	Current (gDM/m ²)	5YA Departure (%)
Ceara	159	-55	29.0	1.7	1137	5	541	-40
Goiias	56	-64	26.4	2.0	1073	5	223	-66
Mato Grosso Do Sul	317	2	24.8	0.9	878	-2	832	-33
Mato Grosso	134	-38	29.1	2.2	1072	5	495	-43
Minas Gerais	79	-42	24.6	2.5	961	3	268	-50
Parana	575	3	21.1	2.0	772	-1	1412	-13
Rio Grande Do Sul	642	9	18.2	1.7	632	-6	1474	-4
Santa Catarina	533	-9	18.3	2.0	680	-2	1478	-8
Sao Paulo	277	-1	23.4	2.1	886	2	803	-25

See note table A.1.

Table A.6. Canada, April-July 2016 agroclimatic indicators and biomass (by province)

	RAIN		TEMP		RADPAR		BIOMSS	
	Current (mm)	15YA Departure (%)	Current (°C)	15YA Departure (°C)	Current (MJ/m ²)	15YA Departure (%)	Current (gDM/m ²)	5YA Departure (%)
Alberta	299	16	12.2	1.3	1229	-2	1165	8
Manitoba	374	23	12.4	0.2	1197	-3	1367	17
Saskatchewan	287	10	12.5	1.0	1242	-1	1147	7

See note table A.1.

Table A.7. India, April-July 2016 agroclimatic indicators and biomass (by state)

	RAIN		TEMP		RADPAR		BIOMSS	
	Current (mm)	15YA Departure (%)	Current (°C)	15YA Departure (°C)	Current (MJ/m ²)	15YA Departure (%)	Current (gDM/m ²)	5YA Departure (%)
Arunachal Pradesh	1813	13	20.7	-1.5	752	-14	2133	-1
Andhra Pradesh	624	54	31.2	-0.4	1164	-2	1382	19
Assam	1847	20	28.0	-0.6	832	-9	2604	6
Bihar	780	17	31.1	-1.1	1180	-4	1475	4
Chandigarh	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Chhattisgarh	643	-5	31.0	0.0	1161	0	1409	-7
Daman and Diu	398	-47	30.0	-0.1	1219	-1	874	1
Delhi	450	48	32.7	-0.4	1311	-4	1190	32
Gujarat	375	-18	31.8	0.1	1256	-3	792	16
Goa	948	-30	26.5	-0.3	1007	-1	1620	-3
Himachal Pradesh	600	3	15.6	-0.8	1336	-5	1287	1
Haryana	417	36	31.7	-0.5	1333	-3	1147	17
Jharkhand	677	2	30.7	0.0	1214	0	1534	0
Kerala	864	-26	27.0	0.4	949	0	1907	-7
Karnataka	661	3	27.4	-0.1	1083	-2	1436	10
Meghalaya	2326	0	24.9	0.1	869	-9	2457	3
Maharashtra	852	31	30.3	0.2	1147	-2	1353	15
Manipur	1421	43	22.9	-0.1	942	-6	2357	15
Madhya Pradesh	954	75	32.0	0.0	1208	-2	1280	10
Mizoram	1510	10	24.0	-0.5	1006	-3	2382	7
Nagaland	1516	25	21.9	-0.2	876	-11	2305	5
Orissa	622	-18	30.5	-0.1	1152	1	1582	-9
Puducherry	358	0	31.0	-0.6	1241	-2	802	0
Punjab	264	-20	30.6	-0.4	1347	-2	847	-10
Rajasthan	531	94	33.1	-0.3	1343	-2	957	26
Sikkim	1148	-1	12.8	-1.5	1077	-14	1293	-6
Tamil Nadu	453	36	30.1	0.0	1200	-2	1194	20
Tripura	1844	9	28.1	-0.3	941	-4	2585	7
Uttarakhand	865	24	20.4	0.1	1234	-6	1461	8
Uttar Pradesh	684	39	32.1	-0.3	1242	-4	1301	13
West Bengal	1099	5	30.4	-0.4	1112	-1	1808	-7

See note table A.1.

Table A.8. Kazakhstan, April-July 2016 agroclimatic indicators and biomass (by oblast)

	RAIN		TEMP		RADPAR		BIOMSS	
	Current (mm)	15YA Departure (%)	Current (°C)	15YA Departure (°C)	Current (MJ/m ²)	15YA Departure (%)	Current (gDM/m ²)	5YA Departure (%)
Akmolinskaya	227	37	14.6	-0.5	1158	-5	984	21
Karagandinskaya	258	50	14.2	-0.7	1194	-4	1084	36
Kustanayskaya	205	33	15.5	-0.6	1164	-5	865	23
Pavlodarskaya	258	59	15.7	0.0	1170	-4	1005	45
Severo	265	33	14.9	0.2	1122	-4	1099	16
Vostochno	369	82	13.8	0.0	1258	-4	1197	41
Zapadno	181	64	18.1	-0.4	1150	-8	820	95

See note table A.1.

Table A.9. Russia, April-July 2016 agroclimatic indicators and biomass (by oblast, kray and republic)

	RAIN		TEMP		RADPAR		BIOMSS	
	Current (mm)	15YA Departure (%)	Current (°C)	15YA Departure (°C)	Current (MJ/m ²)	15YA Departure (%)	Current (gDM/m ²)	5YA Departure (%)
Bashkortostan	164	-26	14.6	0.4	1160	-1	788	-14
Chelyabinskaya	201	-10	14.2	0.0	1131	-2	918	0
Gorodovikovsk	384	35	19.7	-0.2	1201	-3	1343	21
Krasnodarskiy	256	-6	15.2	-0.1	1194	0	1058	-1
Kurganskaya	253	18	14.5	0.2	1115	-4	1075	9
Kirovskaya	207	-15	13.9	0.5	1138	3	903	-12
Kurskaya	345	52	16.0	-0.3	1103	-4	1414	57
Lipetskaya	314	47	15.8	-0.2	1092	-5	1293	53
Mordoviya	287	31	15.4	0.1	1100	-4	1235	37
Novosibirskaya	265	22	14.0	0.8	1144	-2	1112	25
Nizhegorodskaya	227	-3	14.9	0.3	1112	-1	1036	6
Orenburgskaya	149	-6	16.0	-0.1	1151	-6	729	21
Omskaya	247	12	14.4	1.1	1107	-4	1054	7
Permskaya	182	-30	13.7	0.9	1150	4	843	-26
Penzenskaya	323	59	15.6	0.0	1088	-7	1317	63
Rostovskaya	264	30	18.7	-0.2	1175	-4	1038	21
Ryazanskaya	277	20	15.5	0.1	1079	-5	1185	26
Stavropolskiy	342	33	19.3	-0.1	1193	-2	1321	26
Sverdlovskaya	227	-11	13.9	0.9	1096	-1	1001	-7
Samarskaya	190	7	16.2	0.4	1133	-5	904	26
Saratovskaya	228	48	17.2	-0.1	1135	-6	972	62
Tambovskaya	348	71	16.0	0.0	1078	-7	1347	62
Tyumenskaya	269	14	14.3	0.9	1105	-3	1101	1
Tatarstan	177	-14	15.4	0.4	1163	0	849	0
Ulyanovskaya	223	14	15.8	0.3	1122	-4	1026	36
Udmurtiya	195	-18	14.2	0.6	1158	3	900	-11
Volgogradskaya	262	77	18.1	-0.6	1148	-6	1046	67
Voronezhskaya	292	53	17.0	0.2	1116	-5	1177	48

See note table A.1.

Table A.10. United States, April-July 2016 agroclimatic indicators and biomass (by state)

	RAIN		TEMP		RADPAR		BIOMSS	
	Current (mm)	15YA Departure (%)	Current (°C)	15YA Departure (°C)	Current (MJ/m ²)	15YA Departure (%)	Current (gDM/m ²)	5YA Departure (%)
Arkansas	538	11	22.8	-0.5	1262	-4	1507	2
California	89	14	17.0	0.4	1594	-1	297	6
Idaho	179	19	12.8	0.5	1496	0	750	17
Indiana	510	4	18.6	-0.9	1258	-2	1494	1
Illinois	524	10	19.3	-0.5	1279	-2	1574	7
Iowa	575	13	18.1	-0.3	1296	0	1580	5
Kansas	653	56	20.7	-0.5	1347	-3	1623	34
Michigan	263	-27	14.2	-0.6	1279	1	1013	-19
Minnesota	535	38	15.1	-0.2	1229	-2	1423	5
Missouri	604	15	20.7	-0.4	1300	-2	1673	9
Montana	268	21	13.8	0.6	1379	-1	1087	16
Nebraska	532	38	18.2	0.0	1353	-2	1544	18
North Dakota	450	55	14.8	0.4	1284	-1	1397	24
Ohio	347	-22	18.0	-0.6	1253	0	1236	-18
Oklahoma	641	40	22.5	-0.9	1332	-3	1633	18
Oregon	103	-30	14.2	0.7	1419	0	483	-15
South Dakota	447	37	17.2	0.6	1359	1	1393	11
Texas	472	45	24.4	-1.0	1325	-4	1213	26
Washington	112	-24	14.5	0.6	1351	-1	555	-6
Wisconsin	460	7	15.0	-0.5	1252	0	1388	0

See note table A.1.

Table A.11. China, April-July 2016 agroclimatic indicators and biomass (by province)

	RAIN		TEMP		RADPAR		BIOMSS	
	Current (mm)	15YA Departure (%)	Current (°C)	15YA Departure (°C)	Current (MJ/m ²)	15YA Departure (%)	Current (gDM/m ²)	5YA Departure (%)
Anhui	1093	58	22.5	-1.2	1027	-11	1897	16
Chongqing	941	46	21.0	-0.2	981	-2	1919	14
Fujian	1437	55	23.2	0.0	1002	-3	2241	9
Gansu	1276	19	25.7	-0.1	1015	2	2286	9
Guangdong	281	9	15.7	-0.2	1242	-2	991	1
Guangxi	1340	36	25.3	-0.1	983	1	2262	12
Guizhou	949	38	21.1	-0.1	945	-2	2030	26
Hebei	492	63	19.5	-0.5	1258	-1	1348	26
Henan	459	7	22.5	-0.7	1158	-6	1353	20
Heilongjiang	262	-18	14.9	-0.8	1122	-5	1065	-7
Hubei	1006	54	21.7	-1.0	1031	-7	1903	14
Hunan	1225	53	22.7	-0.9	959	-6	2247	22
Jilin	355	-4	16.3	-0.5	1169	-2	1222	1
Jiangsu	710	31	22.1	-0.7	1067	-10	1553	12
Jiangxi	1559	62	24.1	-0.5	994	-6	2395	16
Liaoning	412	3	18.2	-0.1	1206	-1	1320	10
Inner Mongolia	315	22	15.3	-0.4	1272	1	1096	2
Ningxia	164	2	17.4	-0.3	1343	-1	726	-3
Sichuan	713	28	19.2	-0.2	1030	-1	1643	8
Shandong	421	10	21.9	-0.2	1215	-4	1153	14
Shaanxi	425	23	19.0	-0.5	1187	-3	1338	15
Shanxi	481	82	17.4	-0.8	1261	-3	1399	36
Yunnan	629	5	19.5	-0.6	1066	-2	1666	15
Zhejiang	1363	74	22.5	-0.4	983	-9	2278	18

See note table A.1.