

Annex A. Agroclimatic indicators and BIOMSS

Table A.1. April-July 2017 agroclimatic indicators and biomass by global Monitoring and Reporting Unit

65 Global MRUs	RAIN Current(mm)	RAIN 15YA dep. (%)	TEMP Current (°C)	TEMP 15YA dep. (°C)	RADPAR Current(MJ/m ²)	RADPAR 15YA dep. (%)	BIOMSS Current (gDM/m ²)	BIOMSS 5YA dep. (%)
Equatorial central Africa	371	-1	24.9	0.1	1096	2	1100	0
East African highlands	465	-13	20.8	-0.2	1176	2	1309	-9
Gulf of Guinea	695	9	27.7	-0.7	1080	-1	1826	6
Horn of Africa	129	-32	23.6	-0.5	1150	0	453	-26
Madagascar (main)	221	6	22.2	-0.2	893	-3	670	10
Southwest Madagascar	59	-15	22.1	0.1	945	-2	245	-11
North Africa- Mediterranean	93	-1	22.4	0.8	1514	0	340	-6
Sahel	455	35	31.2	-0.9	1332	-2	1261	27
Southern Africa	106	12	19.9	-0.2	949	-3	305	-1
Western Cape (South Africa)	77	-54	13.3	0.4	704	3	305	-51
British Columbia to Colorado	220	6	10.6	0.1	1407	-1	858	7
Northern Great Plains	438	20	17.1	0.2	1341	0	1194	2
Corn Belt	490	13	16.2	-0.3	1177	-5	1453	5
Cotton Belt to Mexican Nordeste	542	20	23.1	-0.7	1277	-3	1478	10
Sub-boreal America	296	2	10.7	-0.1	1157	-3	1175	4
West Coast (North America)	119	1	15.4	0.2	1459	-2	426	2
Sierra Madre	372	-5	20.9	-0.5	1452	0	994	-5
SW U.S. and N. Mexican highlands	141	15	20.8	-0.1	1564	-1	535	13
Northern South and Central America	905	17	27.2	-0.6	1125	0	1879	9
Caribbean	797	17	26.4	-0.8	1285	-3	1748	3
Central-northern Andes	382	-4	15.2	0.1	984	1	819	-2
Nordeste (Brazil)	157	-26	26.4	0.3	957	-6	512	-21
Central eastern Brazil	222	-10	23.7	-0.5	928	-1	686	-9
Amazon	643	1	27.3	-0.4	980	3	1447	-4
Central-north Argentina	190	72	17.2	-0.3	623	-11	534	46
Pampas	515	25	16.4	0.6	625	-7	1099	5
Western Patagonia	328	-30	6.9	-0.1	460	-5	929	2
Semi-arid Southern Cone	129	83	9.6	-0.1	643	-4	429	50
Caucasus	197	-16	16.9	-0.1	1361	1	749	-14
Pamir area	225	7	17.9	0.1	1463	-1	744	4
Western Asia	107	17	23.4	0	1465	0	381	3
Gansu-Xinjiang (China)	262	83	18.1	0.2	1356	-3	816	57
Hainan (China)	931	30	27	-1.1	1109	-6	2042	22
Huanghuaihai (China)	454	15	23.1	0.5	1251	0	1216	3
Inner Mongolia (China)	319	17	17.1	0.8	1304	2	1020	2
Loess region (China)	334	19	18.5	0	1270	-1	1129	8
Lower Yangtze (China)	944	7	23.2	-0.6	1053	-1	1848	-4
Northeast China	352	0	16.5	0.3	1231	4	1120	-5
Qinghai-Tibet (China)	901	28	11.1	-0.5	1199	0	1211	1
Southern China	956	8	23.5	-1	988	-4	1925	0
Southwest China	639	3	20.2	-0.7	1015	-1	1610	-2
Taiwan (China)	1339	48	23.7	-1	1101	-3	1916	13
East Asia	353	-26	15.6	0.3	1166	2	1126	-15
Southern Himalayas	986	15	26.5	-0.7	1117	-3	1594	2

Southern Asia	739	10	29.9	-0.3	1156	0	1382	3
Southern Japan and Korea	530	-30	19.4	0.1	1144	4	1463	-16
Southern Mongolia	411	126	17.7	1.3	1416	-2	1138	75
Punjab to Gujarat	559	72	31.8	-0.8	1306	-4	1071	47
Maritime Southeast Asia	1095	18	25.7	-0.6	930	-7	2175	7
Mainland Southeast Asia	1043	15	27.9	-0.9	1046	-4	2030	5
Eastern Siberia	252	6	10.1	0.3	1121	-3	1061	7
Eastern Central Asia	220	-6	11.8	0.9	1260	1	925	-4
Northern Australia	241	2	24.3	-0.3	963	-3	606	-5
Queensland to Victoria	115	-32	12.2	-0.5	691	2	488	-22
Nullarbor to Darling	94	-57	13.8	-0.2	668	0	365	-52
New Zealand	223	-29	8.9	-0.3	433	-9	804	-15
Boreal Eurasia	294	2	9.1	-0.2	1021	-5	1051	-1
Ukraine to Ural mountains	291	22	13.2	-2.2	1070	-6	1178	17
Mediterranean Europe and Turkey	144	-13	18.4	1.6	1421	1	583	-13
W. Europe (non Mediterranean)	284	-3	15.2	0.1	1140	-2	1109	-1
Boreal America	283	0	7	0.7	1018	-3	982	0
Ural to Altai mountains	228	6	14	-0.3	1194	-1	942	5
Australian desert	63	-35	13.9	-0.5	732	3	307	-29
Sahara to Afghan deserts	60	33	29.8	0.1	1536	-1	221	19
Sub-arctic America	146	62	-5	1.1	534	-4	554	132

Table A.2. April-July 2017 agroclimatic indicators and biomass by country

31 Countries	31 Countries	RAIN Current (mm)	RAIN 15YA Departure (%)	TEMP Current (°C)	TEMP 15YA Departure (°C)	RADPAR Current (MJ/m ²)	RADPAR 15YA Departure (%)	BIOMSS Current (gDM/m ²)	BIOMSS 5YA Departure (%)
ARG	Argentina	323	48	14.7	0.3	590	-10	802	29
AUS	Australia	113	-34	13.5	-0.4	715	1	455	-28
BGD	Bangladesh	2089	46	28.5	-1.1	946	-7	2477	15
BRA	Brazil	352	-3	24.4	-0.2	936	0	862	-9
KHM	Cambodia	908	7	28.6	-1.3	1080	-4	2121	3
CAN	Canada	277	-8	11.1	0.1	1170	-3	1073	-1
CHN	China	681	9	20.6	-0.3	1113	-1	1377	1
EGY	Egypt	14	110	24.1	-0.1	1593	0	71	101
ETH	Ethiopia	555	-4	21.7	-0.2	1180	1	1488	-4
FRA	France	210	-23	15.7	1.2	1217	1	874	-17
DEU	Germany	328	14	14.7	-0.4	1038	-5	1276	11
IND	India	784	17	29.8	-0.4	1185	-1	1328	8
IDN	Indonesia	1121	21	25.6	-0.7	898	-8	2123	7
IRN	Iran	58	-34	22.3	0.3	1506	1	230	-28
KAZ	Kazakhstan	197	12	15.9	-0.3	1272	0	807	8
MEX	Mexico	480	10	24.5	-0.5	1399	0	1047	4
MMR	Burma	1051	3	26.9	-0.5	1010	-3	1874	-1
NGA	Nigeria	674	9	28.5	-0.9	1147	-1	1717	9
PAK	Pakistan	309	44	28.1	-0.5	1411	-3	757	37
PHL	Philippines	1042	15	26.6	-0.7	1113	-3	2110	9
POL	Poland	322	21	13.9	-1.3	1025	-6	1313	19
ROU	Romania	316	-2	16.1	-0.8	1224	1	1202	2
RUS	Russia	284	19	13	-1.4	1105	-5	1123	13
ZAF	S. Africa	70	-21	14.3	0.4	843	0	285	-22
THA	Thailand	862	16	27.8	-1.1	1066	-3	2007	6
TUR	Turkey	194	2	17.1	0	1416	-1	745	-4
GBR	U.Kingdom	313	6	12.3	0.8	940	-7	1152	0
UKR	Ukraine	206	-17	16	-1.2	1167	-1	896	-11
USA	U. States	464	21	18.9	-0.3	1303	-3	1208	9
UZB	Uzbekistan	127	13	22.1	-0.1	1461	1	492	16
VNM	Vietnam	921	12	26.5	-0.8	1030	-6	1969	1

Table A.3. Argentina, April-July 2017 agroclimatic indicators and biomass (by province)

	RAIN Current (mm)	RAIN 15YA Departure (%)	TEMP Current (°C)	TEMP 15YA Departure (°C)	RADPAR Current (MJ/m ²)	RADPAR 15YA Departure (%)	BIOMSS Current (gDM/m ²)	BIOMSS 5YA Departure (%)
Buenos Aires	289	34	12.3	0.7	524	-11	808	10
Chaco	475	83	18.1	-0.1	622	-10	1157	54
Cordoba	158	32	13.6	0	591	-13	558	29
Corrientes	763	81	18	0.4	635	-7	1440	25
Entre Rios	382	14	15.6	0.6	585	-10	1160	26
La Pampa	262	106	11.8	0.3	552	-10	832	78
Misiones	891	34	18.6	0.5	695	-2	1551	-3
Santiago Del Estero	149	53	16.9	0.1	608	-12	529	51
San Luis	230	138	11.6	-0.3	606	-10	810	116
Salta	158	153	16.5	-0.5	681	-9	366	61
Santa Fe	301	27	16	0.5	597	-11	924	30
Tucuman	93	50	14.9	-0.2	717	-3	366	67

Table A.4. Australia, April-July 2017 agroclimatic indicators and biomass (by state)

	RAIN Current (mm)	RAIN 15YA Departure (%)	TEMP Current (°C)	TEMP 15YA Departure (°C)	RADPAR Current (MJ/m ²)	RADPAR 15YA Departure (%)	BIOMSS Current (gDM/m ²)	BIOMSS 5YA Departure (%)
New South Wales	108	-34	11.6	-0.6	715	2	457	-23
South Australia	142	-16	12.2	-0.6	605	1	571	-14
Victoria	165	-19	10.3	-0.7	544	0	676	-11
W. Australia	89	-58	14.6	-0.2	700	0	355	-51

Table A.5. Brazil, April-July 2017 agroclimatic indicators and biomass (by state)

	RAIN Current (mm)	RAIN 15YA Departure (%)	TEMP Current (°C)	TEMP 15YA Departure (°C)	RADPAR Current (MJ/m ²)	RADPAR 15YA Departure (%)	BIOMSS Current (gDM/m ²)	BIOMSS 5YA Departure (%)
Ceara	215	-36	27.8	0.5	1037	-4	772	-22
Goias	125	-18	23.7	-0.6	1038	1	468	-9
Mato Grosso Do Sul	290	-8	22.9	-0.9	875	-3	925	-6
Mato Grosso	225	5	26.6	-0.3	1035	2	718	3
Minas Gerais	94	-31	21.8	-0.2	895	-4	359	-26
Parana	508	-10	19.2	0.1	751	-3	1276	-10
Rio Grande Do Sul	827	42	17.5	1.1	650	-3	1392	-9
Santa Catarina	592	2	17.2	1	657	-5	1123	-25
Sao Paulo	339	21	20.8	-0.5	847	-3	1033	12

Table A.6. Canada, April-July 2017 agroclimatic indicators and biomass (by province)

	RAIN Current (mm)	RAIN 15YA Departure (%)	TEMP Current (°C)	TEMP 15YA Departure (°C)	RADPAR Current (MJ/m ²)	RADPAR 15YA Departure (%)	BIOMSS Current (gDM/m ²)	BIOMSS 5YA Departure (%)
Alberta	268	3	11.6	0.5	1238	-1	1081	4
Manitoba	228	-25	12.2	0.1	1208	-2	1009	-14
Saskatchewan	202	-24	12.2	0.7	1255	1	894	-15

Table A.7. India, April-July 2017 agroclimatic indicators and biomass (by state)

	RAIN Current (mm)	RAIN 15YA Departure (%)	TEMP Current (°C)	TEMP 15YA Departure (°C)	RADPAR Current (MJ/m ²)	RADPAR 15YA Departure (%)	BIOMSS Current (gDM/m ²)	BIOMSS 5YA Departure (%)
Andhra Pradesh	505	19	31.3	-0.3	1191	0	1304	11
Assam	2225	42	28.2	-0.4	887	-3	2629	6
Bihar	748	11	30.7	-1.4	1183	-3	1482	4
Chhattisgarh	715	7	31	-0.1	1191	2	1328	-4
Daman and Diu	832	13	29.5	-0.6	1223	-1	955	2
Delhi	316	2	32.5	-0.7	1341	-2	1064	16
Gujarat	813	80	31.3	-0.5	1235	-5	1063	38
Goa	809	-39	26.7	0	1072	6	1545	-6
Himachal Pradesh	545	-6	15	-1.4	1300	-7	1177	-5
Haryana	337	9	31.5	-0.7	1341	-3	1106	19
Jharkhand	886	35	30.4	-0.4	1194	-2	1566	6
Kerala	817	-28	26.5	-0.2	938	-1	1913	-8
Karnataka	538	-17	27.3	-0.2	1125	2	1321	-2
Meghalaya	2741	16	24.8	0	873	-8	2489	3
Maharashtra	658	-2	30.1	-0.1	1204	3	1128	-5
Manipur	1160	15	22.6	-0.4	939	-6	2277	9
Madhya Pradesh	657	16	31.7	-0.4	1242	0	1165	7
Mizoram	2031	48	23.6	-0.9	998	-4	2412	8
Nagaland	1717	38	22.2	0.1	939	-4	2332	5
Orissa	814	11	30.3	-0.3	1145	0	1615	0
Puducherry	106	-71	31.3	0.1	1298	3	486	-39
Punjab	320	1	30.3	-0.8	1326	-4	1021	13
Rajasthan	497	76	32.5	-1	1325	-3	1081	51
Sikkim	1268	9	12.8	-1.5	1138	-8	1381	0
Tamil Nadu	347	4	30.2	0.2	1230	1	1119	3
Tripura	2685	58	27.6	-0.8	906	-7	2629	9
Uttarakhand	819	16	20	-0.3	1256	-4	1424	10
Uttar Pradesh	542	8	32.1	-0.4	1279	-1	1139	4
West Bengal	1307	24	30.2	-0.7	1098	-3	2068	9

Table A.8. Kazakhstan, April-July 2017 agroclimatic indicators and biomass (by oblast)

	RAIN Current (mm)	RAIN 15YA Departure (%)	TEMP Current (°C)	TEMP 15YA Departure (°C)	RADPAR Current (MJ/m ²)	RADPAR 15YA Departure (%)	BIOMSS Current (gDM/m ²)	BIOMSS 5YA Departure (%)
Akmolinskaya	126	-25	15	-0.1	1244	2	600	-21
Karagandinskaya	180	2	14.9	0	1277	3	820	3
Kustanayskaya	145	-8	14.9	-1.2	1211	0	684	-4
Pavlodarskaya	163	-2	15.7	0	1236	2	763	3
Severo kazachstanskaya	184	-10	14.4	-0.3	1188	2	852	-5
Vostochno kazachstanskaya	270	27	14.5	0.6	1320	1	1039	22
Zapadno kazachstanskaya	126	10	16.6	-1.9	1198	-4	629	15

Table A.9. Russia, April-July 2017 agroclimatic indicators and biomass (by oblast, kray and republic)

	RAIN Current (mm)	RAIN 15YA Departure (%)	TEMP Current (°C)	TEMP 15YA Departure (°C)	RADPAR Current (MJ/m ²)	RADPAR 15YA Departure (%)	BIOMSS Current (gDM/m ²)	BIOMSS 5YA Departure (%)
Bashkortostan Rep.	311	40	12	-2.3	1093	-6	1210	26
Chelyabinskaya Oblast	205	-8	12.8	-1.5	1118	-3	923	-4
Gorodovikovsk Krasnodarskiy Kray	350	21	18.8	-1.2	1212	-2	1220	7
Kurganskaya Oblast	259	-4	15.1	-0.2	1181	-2	1088	-1
Kirovskaya Oblast	222	2	13.2	-1.1	1135	-2	980	4
Kurskaya Oblast	419	73	10.4	-3.1	963	-13	1413	36
Lipetskaya Oblast	204	-11	14.3	-2.1	1119	-2	934	-6
Mordoviya Rep.	203	-6	13.7	-2.3	1099	-4	952	0
Novosibirskaya Oblast	340	52	12.7	-2.6	1068	-7	1323	35
Nizhegorodskaya O.	235	8	13.2	0	1145	-2	1037	10
Orenburgskaya Oblast	360	53	11.8	-2.8	1006	-10	1376	36
Omskaya Oblast	196	24	14.1	-2.1	1177	-3	828	15
Permskaya Oblast	219	-1	13.6	0.2	1126	-2	946	-2
Penzenskaya Oblast	425	65	10.7	-2.2	988	-11	1455	32
Rostovskaya Oblast	321	52	13.1	-2.6	1091	-6	1335	42
Ryazanskaya Oblast	209	4	17.4	-1.5	1207	-1	940	8
Stavropolskiy Kray	289	25	12.8	-2.5	1028	-9	1220	21
Sverdlovskaya Oblast	291	11	18.5	-1	1198	-2	1147	9
Samarskaya Oblast	315	24	11.9	-1.1	1037	-6	1235	16
Saratovskaya Oblast	316	75	13.6	-2.3	1127	-5	1238	53
Tambovskaya Oblast	255	60	15	-2.4	1145	-5	1106	52
Tyumenskaya Oblast	243	15	13.7	-2.3	1098	-5	1087	16
Tatarstan Rep.	217	-9	13	-0.4	1106	-2	988	-2
Ulyanovskaya Oblast	325	58	12.2	-2.9	1068	-8	1250	37
Udmurtiya Rep.	306	53	13.2	-2.4	1098	-6	1255	40
Volgogradskaya O.	334	42	10.9	-2.8	1013	-10	1303	28
Voronezhskaya Oblast	218	42	16.5	-2.2	1159	-4	957	36
	202	5	15	-1.7	1118	-4	930	7

Table A.10. United States, April-July 2017 agroclimatic indicators and biomass (by state)

	RAIN Current (mm)	RAIN 15YA Departure (%)	TEMP Current (°C)	TEMP 15YA Departure (°C)	RADPAR Current (MJ/m ²)	RADPAR 15YA Departure (%)	BIOMSS Current (gDM/m ²)	BIOMSS 5YA Departure (%)
Arkansas	729	47	22.5	-0.8	1273	-3	1851	24
California	111	38	16.9	0.3	1574	-2	361	25
Idaho	185	20	12.2	-0.1	1454	-2	786	19
Indiana	613	24	19.2	-0.1	1263	-1	1631	8
Illinois	624	29	19.6	-0.1	1293	-1	1542	5
Iowa	631	23	18.2	-0.1	1295	0	1654	9
Kansas	645	48	20.4	-0.6	1355	-2	1535	16
Michigan	340	-4	14.5	-0.2	1207	-5	1211	-3
Minnesota	424	8	14.9	-0.4	1205	-4	1376	5
Missouri	871	65	20.8	-0.2	1311	-1	1715	9
Montana	204	-10	14.1	0.9	1416	2	877	-6
Nebraska	494	26	18.2	0.1	1362	-1	1490	16
North Dakota	235	-21	15	0.6	1344	4	949	-14
Ohio	569	29	18.4	-0.1	1229	-2	1681	15
Oklahoma	717	51	22.2	-1	1339	-2	1562	14
Oregon	109	-25	13.7	0.1	1385	-2	521	-12
South Dakota	446	35	17.1	0.5	1374	2	1406	20
Texas	391	14	24.5	-0.8	1359	-1	1158	13
Washington	139	-4	13.8	-0.2	1358	0	602	5
Wisconsin	664	55	14.9	-0.5	1181	-5	1660	19

Table A.11. China, April-July 2017 agroclimatic indicators and biomass (by province)

	RAIN Current (mm)	RAIN 15YA Departure (%)	TEMP Current (°C)	TEMP 15YA Departure (°C)	RADPAR Current (MJ/m ²)	RADPAR 15YA Departure (%)	BIOMSS Current (gDM/m ²)	BIOMSS 5YA Departure (%)
Anhui	685	-6	23.6	0	1153	0	1581	-8
Chongqing	716	6	20.7	-0.6	994	0	1836	2
Fujian	931	-3	22.5	-0.7	1038	0	1924	-4
Gansu	254	-4	15.8	-0.1	1265	1	961	5
Guangdong	1176	11	24.8	-1	973	-3	2248	9
Guangxi	1211	21	24.4	-1.1	943	-4	2139	5
Guizhou	711	1	20.6	-0.6	932	-3	1673	-5
Hebei	401	27	20.4	0.5	1268	0	1189	9
Heilongjiang	358	12	15.8	0.2	1213	4	1166	3
Henan	470	8	23.2	0.1	1219	0	1292	-1
Hubei	710	3	22.1	-0.5	1098	-1	1751	-1
Hunan	991	19	22.6	-1	1001	-2	1902	-2
Jiangsu	495	-11	23.4	0.6	1187	1	1259	-15
Jiangxi	1141	13	23.7	-0.8	1028	-3	2044	-2
Jilin	414	12	17	0.3	1245	5	1156	-5
Liaoning	311	-23	19	0.7	1264	4	1014	-20
Inner Mongolia	265	-1	16.4	0.8	1302	3	945	-3
Ningxia	135	-16	17.9	0.2	1341	-1	579	-13
Shaanxi	370	4	19.5	0	1218	0	1229	5
Shandong	459	20	22.6	0.6	1264	0	1228	5
Shanxi	414	46	18.2	0.2	1273	-2	1269	21
Sichuan	562	-1	18.8	-0.6	1053	1	1522	-1
Yunnan	537	-8	19.1	-1.0	1034	-5	1418	-10
Zhejiang	932	13	22.5	-0.3	1065	-1	1856	-3