

Annex A. Agroclimatic indicators and BIOMSS

Table A.1 January - April 2023 agroclimatic indicators and biomass by global Monitoring and Reporting Unit (MRU)

105 Global MRUs		RAIN Current(mm)	RAIN 15YA dep.(%)	TEMP Current (°C)	TEMP 15YA dep.(°C)	RADP AR Current (MJ/m ²)	RADP AR 15YA dep.(%)	BIOMSS Current (gDM/m ²)	BIOMSS 15YA dep.(%)
C01	Equatorial central Africa_zone1 (Cameron, Central African Republic, and South Sudan)	266	4	25.5	-0.3	1289	-1	753	-3
C02	Equatorial central Africa_zone2 (North DRC, Equatorial Guinea, Uganda, Republic of Congo)	739	2	23.9	-0.4	1173	-2	1186	-4
C03	Equatorial central Africa_zone3 (South DRC, Rwanda, Burundi, Gabon)	879	-11	22.3	-0.2	1174	-1	1356	-4
C04	Equatorial central Africa_zone4 (Angola, Zambia, and Malawi)	886	-16	20.2	0.1	1141	3	1197	-4
C05	East African highlands	258	-4	19.7	-0.2	1354	0	640	-3
C06	Gulf of Guinea zone1 (Nigeria, Benin, Togo, Ghana, Cote d'Ivoire, Guinea, and Guinea Bissau)	52	-33	27.3	-0.2	1304	-1	519	-9
C07	Gulf of Guinea zone2 (South Nigeria, Liberia, Sierra Leone, south Ghana, south Cote d'Ivoire, and west Genua)	271	-6	26.4	-0.1	1282	-1	867	-5
C08	Horn of Africa	354	-26	21.9	0.4	1313	2	859	-6
C09	Madagascar(main)	1189	1	22.1	-0.2	1166	-1	1394	0
C10	SW Madagascar	741	42	24.1	-1.0	1188	-5	1196	12
C11	North Africa Mediterranean	91	-57	11.0	0.4	1009	5	337	-30
C12	Sahel	29	24	27.2	-0.3	1349	-2	397	1
C13	Southern Africa_zone1 (West Angolan coast)	699	-7	23.7	-0.3	1181	-2	1205	0
C14	Southern Africa_zone10 (Middle part of South Africa)	51	-62	21.2	0.3	1368	6	514	-21
C15	Southern Africa_zone2 (southeastern Kenya, East Tanzania, and Mozambique)	918	8	23.4	0.0	1202	0	1320	1
C16	Southern Africa_zone3 (South Zambia)	610	-27	21.6	0.3	1242	1	1060	-12
C17	Southern Africa_zone4 (Zimbabwe)	551	-15	21.2	0.1	1226	0	960	-10
C18	Southern Africa_zone5 (Northeast of Namibia, Botswana, and south Zimbabwe and Mozambique)	300	-30	23.2	0.7	1233	0	795	-17
C19	Southern Africa_zone6 (West Namibia coast)	368	-14	23.7	0.6	1215	-5	854	-12
C20	Southern Africa_zone7 (Southeast Namibia, Southwest Botswana, and northeast of South Africa)	14	-78	23.9	-0.2	1436	2	501	-16
C21	Southern Africa_zone8 (South Africa and southwest Namibia)	55	-11	20.1	0.0	1341	-3	483	-5

C2 2	Southern Africa_zone9 (western part of South Africa, Lesotho, and Eswatini)	145	-44	19.4	0.6	1320	6	583	-24
C2 3	S. Africa Western Cape	115	-3	18.8	-0.3	1226	-3	570	-2
C2 4	British Columbia To Colorado	349	-4	-3.4	-0.9	675	-5	277	-9
C2 5	America northern great plains_canada	147	-15	-5.0	0.1	582	-4	247	-9
C2 6	America northeastern great plains	294	3	1.4	0.8	682	-4	422	1
C2 7	America northwestern great plains	185	-5	-1.9	-1.0	726	-3	331	-9
C2 8	Nnorth of high plain	170	-18	6.3	0.3	870	-2	413	-10
C2 9	America corn belt	442	4	2.2	1.9	624	-5	440	12
C3 0	America cotton belt_Mexican coastal plain	344	18	13.9	1.1	833	-9	601	3
C3 1	America cotton belt_lower Mississippi	630	14	13.4	2.0	747	-8	925	9
C3 2	America cotton belt_high plain	422	-4	12.9	2.5	828	-3	813	8
C3 3	Sub_boreal North America	203	-7	-6.6	1.3	484	-8	208	2
C3 4	America West Coast	614	25	5.3	-1.9	713	-8	579	9
C3 5	Sierra Madre	49	-41	16.7	0.1	1279	-1	352	-16
C3 6	SW Mexico and N. Mexico highlands	147	22	8.3	-0.9	1013	-5	373	-1
C3 7	Northern South and Central America	342	-20	23.5	0.2	1174	1	725	-8
C3 8	Caribbean	138	-32	23.9	0.4	1180	2	653	-13
C3 9	Central_Northern Andes	904	60	16.1	-1.3	1050	-9	793	9
C4 0	Central_Northern Andes	901	-11	15.2	0.1	1021	-1	829	-3
C4 1	Brazil Nordeste	223	-45	26.5	1.0	1264	0	765	-24
C4 2	Central_Eastern Brazil	359	-61	25.5	2.0	1159	-3	888	-33
C4 3	Amazon	921	-28	24.7	0.4	1091	1	1319	-9
C4 4	Central_North Argentina	888	65	23.1	-0.1	1090	-5	1275	23
C4 5	SE Brazil_Concepcion_Bahia Blanca	450	-7	23.0	0.8	1155	-3	977	-2
C4 6	SW Southern Cone	217	-16	14.0	0.4	1199	0	541	-7
C4 7	Semi_arid Southern Cone	455	131	18.7	0.4	1219	-6	656	10
C4 8	Caucasus	322	-3	3.6	0.5	798	-1	464	1
C4 9	Central Asia Pamir mountains	327	-20	3.8	0.6	921	2	411	-5
C5 0	Western Asia (Kazakhstan,Uzbekistan,Turkm enistan,Iran et.al)	163	-10	7.8	1.0	908	1	409	-4
C5 1	Western Asia(Syrian, Jordan,Israel, et.al)	202	-22	11.2	0.5	939	2	464	-11
C5 2	Gansu-Xinjiang (China)	121	16	-2.7	-0.4	886	0	212	2
C5 3	Hainan (China)	262	-9	21.4	0.2	1012	5	736	-5
C5 4	Huanghuaihai (China)	117	21	7.3	1.4	910	0	340	12
C5 5	Inner Mongolia (China)	58	5	-3.6	1.1	895	-1	190	5
C5 6	Loess region (China)	122	35	2.9	0.8	964	-1	338	20

C5 7	Lower Yangtze (China)	456	-11	11.5	1.2	779	9	760	1
C5 8	Northeast China	92	-4	-5.0	1.5	781	-1	231	8
C5 9	Qinghai-Tibet (China)	267	-30	1.6	1.1	1077	3	310	-2
C6 0	Southern China	263	-31	16.2	1.1	912	9	606	-18
C6 1	Southwest China	304	-4	9.3	0.8	814	3	569	-2
C6 2	Taiwan (China)	197	-33	18.8	-0.5	1087	11	599	-16
C6 3	East Asia	255	-12	-0.5	1.5	780	0	352	11
C6 4	Southern Himalayas_zone111 (Vietnam, Laos, Myanmar)	142	-49	18.5	1.0	973	10	539	-24
C6 5	Southern Himalayas_zone112 (Myanmar)	21	-82	18.6	0.7	1286	4	361	-27
C6 6	Southern Himalayas_zone12 (India, Myanmar, Bangladesh,Bhutan)	163	-39	18.2	0.3	1180	5	520	-11
C6 7	Southern Himalayas_zone222 (Nepal, India)	74	-24	19.6	0.2	1158	-1	412	-6
C6 8	Southern Asia	102	22	25.4	-0.2	1278	-1	590	7
C6 9	Southern Japan and Korea	486	-2	8.4	2.0	829	2	712	12
C7 0	Mongolia region (Western of Mongolia)	75	26	-11.4	0.9	801	-3	120	-3
C7 1	S. Asia Punjab to Gujarat	70	11	22.7	0.1	1157	-4	478	7
C7 2	SE Asia islands_zone1 (Indonesia, Malaysia)	1280	0	24.3	-0.1	1159	1	1490	2
C7 3	SE Asia islands_zone2 (Indonesia, Malaysia)	1178	2	24.4	0.0	1161	3	1439	4
C7 4	SE Asia islands_zone3 (Indonesia, Papua New Guinea)	1429	-10	23.8	0.2	1097	4	1389	-1
C7 5	SE Asia mainland_zone1 (Myanmar, Bangladesh)	23	-72	25.0	0.6	1322	2	467	-13
C7 6	SE Asia mainland_zone2 (Thailand, Myanmar, Laos)	167	-40	25.0	0.1	1279	4	683	-14
C7 7	SE Asia mainland_zone3 (Cambodia, Vietnam, Thailand, Laos)	203	-31	24.7	0.1	1180	4	719	-9
C7 8	Eastern Siberia	197	-5	-9.1	0.8	563	0	184	0
C7 9	Eastern Central Asia (Eastern of Mongolia)	103	18	-11.7	0.9	699	-1	151	0
C8 0	North Australia_zone1 (Timor_Leste, Indonesia, Papua New Guinea)	1204	4	25.8	0.0	1278	0	1488	0
C8 1	North Australia_zone2 (Northern Australia)	839	5	25.7	0.2	1228	2	1240	8
C8 2	Australia Queensland to Victoria_zone1 (Southeast Australia coast)	255	-18	19.6	0.1	1164	1	769	-4
C8 3	Australia Queensland to Victoria_zone21 (Southeast Australia Marrin Darling)	112	-33	23.2	0.2	1264	1	620	-8
C8 4	Australia Queensland to Victoria_zone22 (Southeast Australia Adelaide)	176	14	17.9	-0.3	1052	-3	647	9
C8 5	Australia Nullarbor_Darling_z one1 (Southwest Australia)	77	-27	20.7	-0.8	1283	4	530	-10
C8 6	Australia Nullarbor_Darling_z one2 (Southwest Australia)	94	-10	20.3	-0.6	1293	3	554	-5
C8 7	New Zealand	519	72	14.3	-0.2	905	-11	905	23
C8 8	Boreal Eurasia	336	10	-3.6	0.8	365	-6	251	0
C8 9	Ukraine to URAL Mountains	273	5	0.0	1.8	387	-11	375	12

C90	Mediterranean Europe and Turkey	257	-29	7.6	0.6	836	6	478	-17
C91	W. Europe_zone1 (Germany, Poland, Switzerland, Czechia, Hungary, Austria, and Balkans countries)	332	13	3.8	0.8	518	-9	496	6
C92	W. Europe_zone10 (Northwestern Greece and southwestern of Albania)	564	0	7.4	0.2	816	5	681	2
C93	W. Europe_zone2 (Southeastern of Romania, Moldova, and southwestern Urania)	211	-2	5.7	1.6	572	-10	508	6
C94	W. Europe__zone3 (Ebro River, Zaragoza, Spain)	68	-68	7.4	0.8	875	11	271	-45
C95	W. Europe_zone4 (Northeastern of Italy and southwestern coast of France)	202	-42	8.4	1.6	752	4	451	-19
C96	W. Europe_zone5 (North Italy)	284	-28	7.0	0.9	668	-2	568	3
C97	W. Europe_zone6 (Switzerland, North Italy and west Austria)	392	-13	0.3	1.1	662	-2	362	5
C98	W. Europe_zone7 (Ireland, United Kingdom, France, Belgium, Netherland)	338	-6	6.0	0.5	498	-7	565	2
C99	W. Europe_zone8 (Northwest of turkey and northeast of Greece)	283	-27	8.5	1.8	737	1	613	-1
C100	W. Europe_zone9 (North Greece and North Macedonia)	294	-18	6.6	1.3	792	5	548	-3
C101	Boreal North America	280	-12	-7.1	0.5	433	-1	186	-1
C102	URAL to Altai Mountains	182	-2	-4.7	1.8	563	2	266	7
C103	Australian Desert (Central Australia)	111	-9	23.2	-0.3	1321	1	595	-4
C104	Old World Deserts	78	4	17.1	0.2	1130	-2	399	2
C105	Sub Arctic America (IceLand)	69	-10	-21.8	1.0	297	-7	40	14

Table A.2 January - April 2023 agroclimatic indicators and biomass by country

Country code	Country name	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 15YA Departure (%)
AFG	Argentina	461	14	23.0	1.1	1152	-3	933	5
AUS	Australia	246	-13	21.4	0.0	1215	1	697	-4
BGD	Bangladesh	109	-16	23.6	0.2	1208	1	579	1
BRA	Brazil	505	-49	25.2	1.5	1159	-1	988	-26
KHM	Cambodia	225	-31	26.6	0.0	1226	3	794	-8
CAN	Canada	287	-5	-4.8	1.1	520	-7	231	2
CHN	China	266	-12	7.5	1.1	851	4	430	0
EGY	Egypt	52	2	15.6	0.1	1005	-1	268	-9
ETH	Ethiopia	219	21	20.1	-0.3	1365	0	624	5
FRA	France	312	-13	6.1	0.4	584	-5	555	-1
DEU	Germany	355	20	4.0	0.5	446	-14	504	4
IND	India	79	-7	23.2	-0.2	1229	-1	503	3
IDN	Indonesia	1337	-5	24.3	0.0	1150	3	1480	1
IRN	Iran	194	-6	8.1	0.3	1012	1	440	-3
KAZ	Kazakhstan	182	2	-3.1	1.6	654	2	307	7
MEX	Mexico	93	-24	19.3	0.4	1223	-1	430	-11
MMR	Myanmar	44	-66	21.8	0.6	1290	3	443	-18
NGA	Nigeria	75	-41	26.5	-0.5	1334	0	491	-9

PAK	Pakistan	270	-11	13.7	0.7	1017	-2	478	2
PHL	Philippines	957	41	24.3	-0.3	1117	-3	1249	9
POL	Poland	305	19	3.3	1.0	409	-14	477	5
ROU	Romania	290	13	4.4	1.2	604	-7	503	7
RUS	Russia	224	0	-3.3	1.8	462	-5	288	10
SYR	Syria	127	-44	19.9	0.4	1320	5	572	-21
ZAF	South Africa	156	-45	25.5	0.2	1244	5	670	-15
THA	Thailand	351	-6	4.6	0.4	809	-1	504	-3
TUR	Turkey	361	-5	5.8	0.6	403	-7	568	5
GBR	United Kingdom	264	9	2.8	1.3	442	-16	451	5
UKR	Ukraine	376	5	6.1	1.0	747	-5	489	4
USA	United States	192	-24	6.9	0.6	888	6	359	-18
UZB	Uzbekistan	241	-23	21.2	0.5	1022	5	726	-8
VNM	Vietnam	186	-38	6.4	0.9	998	3	381	-19
AFG	Afghanistan	664	-19	22.2	0.3	1171	-1	1140	-8
AGO	Angola	326	24	1.6	1.7	348	-15	415	9
BLR	Belarus	263	18	5.4	1.0	596	-6	561	15
HUN	Hungary	310	-19	7.4	0.9	743	1	561	0
ITA	Italy	337	-24	21.2	0.2	1359	2	778	-11
KEN	Kenya	556	-2	25.2	-0.1	1269	1	1185	5
LKA	Sri Lanka	114	-48	11.5	0.7	1033	2	377	-23
MAR	Morocco	67	-3	-11.7	0.6	795	1	145	-3
MNG	Mongolia	911	16	23.2	-0.2	1177	-2	1310	3
MOZ	Mozambique	860	-14	20.8	0.0	1184	2	1189	-5
ZMB	Zambia	275	-13	-4.5	-0.9	882	5	262	-9
KGZ	Kyrgyzstan	189	-22	11.5	0.4	948	3	464	-13
		85	-65	9.4	0.3	995	10	314	-41

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 fifteen-year average (15YA) for the same period between Oct- Jan.

Table A.3 January - April 2023 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 15YA Departure (%)
Buenos Aires	134	-46	22.6	1.9	1191	-2	640	-16
Chaco	706	43	25.0	0.2	1106	-3	1253	17
Cordoba	415	44	23.1	1.0	1148	-6	981	16
Corrientes	485	-6	25.1	1.2	1165	-1	1105	3
Entre Rios	350	-11	24.6	1.8	1173	-2	905	-3
La Pampa	120	-33	23.3	1.5	1229	-2	645	-9
Misiones	570	-10	22.7	-0.1	1183	-2	1245	3
Santiago Del Estero	838	69	24.4	0.6	1082	-3	1302	25
San Luis	301	44	21.8	0.5	1177	-5	884	16
Salta	1270	35	20.5	0.4	1077	1	1307	12
Santa Fe	391	2	25.2	1.6	1155	-2	967	3
Tucuman	1121	72	19.8	0.6	1099	-3	1218	19

Table A.4 January - April 2023 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 15YA Departure (%)
New South Wales	206	-18	21.6	0.0	1252	3	700	-7
South Australia	118	6	20.1	-0.3	1174	-1	590	3
Victoria	178	-7	18.2	-0.3	1105	-2	627	-3
W. Australia	168	-4	21.3	-0.6	1292	3	597	-4

Table A.5 January - April 2023 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 15YA Departure (%)
Ceara	523	-15	26.3	0.3	1213	-3	1141	-7
Goias	60	-94	27.4	4.3	1200	-2	512	-63
Mato Grosso Do Sul	291	-65	26.2	1.6	1079	-11	830	-39
Mato Grosso	457	-64	26.1	2.0	1132	0	993	-33
Minas Gerais	269	-70	24.3	2.4	1208	0	777	-39
Parana	727	-12	21.6	0.2	1128	-4	1218	-6
Rio Grande Do Sul	369	-32	22.6	0.9	1171	-1	993	-9
Santa Catarina	777	2	19.7	0.0	1122	0	1255	3
Sao Paulo	282	-72	24.4	2.0	1126	-3	790	-42

Table A.6 Canada, January - April 2023 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 15YA Departure (%)
Alberta	146	-19	-4.7	0.8	545	-3	250	0
Manitoba	183	-7	-6.9	0.4	506	-11	202	-10
Saskatchewan	151	-13	-6.1	0.4	547	-4	224	-8

Table A.7 India, January - April 2023 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 15YA Departure (%)
Andhra Pradesh	147	255	26.1	-0.7	1300	-1	658	27
Assam	275	-32	18.3	-0.3	1096	5	659	-9
Bihar	22	-43	22.4	-0.2	1205	0	420	-8
Chhattisgarh	48	78	23.8	-0.4	1242	-2	484	4

Daman and Diu	3	109	26.7	0.4	1345	-2	467	44
Delhi	112	104	20.1	-0.4	1114	-2	538	25
Gujarat	6	74	26.2	0.1	1274	-4	448	11
Goa	1	-91	27.1	0.5	1427	2	445	-10
Himachal Pradesh	278	-13	11.0	0.7	1045	0	505	1
Haryana	106	59	20.1	-0.1	1095	-2	519	19
Jharkhand	18	-48	23.0	0.1	1202	-2	418	-8
Kerala	237	-21	25.7	-0.2	1339	2	722	-15
Karnataka	53	-14	25.5	-0.5	1373	3	550	2
Meghalaya	274	-3	18.5	-0.7	1129	3	647	-1
Maharashtra	33	156	26.3	-0.3	1301	-3	509	9
Manipur	140	-43	15.6	0.1	1208	4	490	-18
Madhya Pradesh	14	-17	23.5	-0.4	1218	-3	417	-4
Mizoram	95	-46	17.7	-0.6	1264	3	460	-17
Nagaland	283	-37	13.5	-1.1	1107	3	609	-18
Orissa	41	15	24.4	0.0	1230	-2	488	1
Puducherry	146	21	27.1	0.0	1392	1	747	10
Punjab	163	14	19.2	0.1	1040	-1	584	13
Rajasthan	31	85	23.0	-0.1	1170	-4	436	6
Sikkim	12	-83	14.0	3.9	1267	1	255	-16
Tamil Nadu	209	-1	25.8	-0.1	1334	1	764	6
Tripura	136	-41	22.0	0.1	1209	4	599	-7
Uttarakhand	92	-25	14.4	1.1	1129	-1	395	-4
Uttar Pradesh	17	-59	21.6	-0.3	1158	-2	381	-14
West Bengal	43	-32	24.3	0.6	1195	-1	485	-4

Table A.8 Kazakhstan, January - April 2023 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 15YA Departure (%)
Akmolinskaya	151	3	-4.5	2.0	626	4	284	9
Karagandinskaya	123	-3	-5.0	1.5	704	2	276	5
Kustanayskaya	163	0	-3.6	2.7	546	-2	309	18
Pavlodarskaya	113	-4	-4.7	2.1	612	3	276	8
Severo kazachstanskaya	132	-15	-4.6	2.3	549	5	274	12
Vostochno kazachstanskaya	237	29	-5.0	1.2	719	1	265	3
Zapadno kazachstanskaya	211	3	-0.2	2.5	518	-9	407	20

Table A.9 Russia, January - April 2023 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 15YA Departure (%)
Bashkortostan Rep.	197	-18	-4.0	2.3	457	1	289	20

Chelyabinskaya Oblast	122	-27	-4.5	2.4	487	-1	277	18
Gorodovikovsk	275	17	4.1	1.3	553	-7	531	11
Krasnodarskiy Krai	289	13	-1.4	0.9	542	-4	334	1
Kurganskaya Oblast	129	-25	-4.6	2.5	469	5	269	16
Kirovskaya Oblast	265	-7	-3.3	2.6	299	-10	282	23
Kurskaya Oblast	276	3	0.3	1.4	378	-14	384	8
Lipetskaya Oblast	260	-1	-0.4	1.6	392	-11	371	11
Mordoviya Rep.	224	-17	-1.4	2.3	387	-5	349	21
Novosibirskaya Oblast	181	-4	-6.1	2.1	461	2	228	4
Nizhegorodskaya O.	239	-13	-1.8	2.4	350	-6	328	21
Orenburgskaya Oblast	213	-6	-2.8	2.4	508	-3	331	19
Omskaya Oblast	156	-15	-5.3	2.5	461	7	248	12
Permskaya Oblast	224	-19	-4.3	2.5	339	-3	266	22
Penzenskaya Oblast	237	-13	-1.4	2.1	397	-8	352	18
Rostovskaya Oblast	273	9	2.9	1.5	491	-13	482	10
Ryazanskaya Oblast	243	-12	-0.7	2.0	379	-6	361	16
Stavropolskiy Krai	242	-5	3.5	0.8	590	-6	492	5
Sverdlovskaya Oblast	159	-23	-4.9	2.4	390	2	256	18
Samarskaya Oblast	216	-14	-1.8	2.6	435	-6	351	23
Saratovskaya Oblast	237	-6	-0.6	2.3	445	-10	384	19
Tambovskaya Oblast	267	-2	-0.5	1.8	389	-13	371	14
Tyumenskaya Oblast	165	-14	-5.0	2.5	420	6	250	14
Tatarstan Rep.	204	-22	-2.4	2.7	373	-5	322	26
Ulyanovskaya Oblast	213	-14	-1.7	2.5	411	-4	346	23
Udmurtiya Rep.	220	-21	-3.3	2.8	328	-6	289	26
Volgogradskaya O.	229	-1	0.9	1.9	463	-14	424	13
Voronezhskaya Oblast	295	13	0.1	1.5	416	-16	390	8

Table A.10 United States, January - April 2023 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 15YA Departure (%)
Arkansas	689	27	10.7	1.7	704	-9	839	10
California	597	63	7.0	-2.1	835	-8	615	18
Idaho	339	-6	-2.3	-1.5	683	-5	316	-12
Indiana	459	-2	5.3	2.1	677	-1	586	13
Illinois	443	4	5.1	2.0	690	-1	578	11
Iowa	332	9	1.4	1.2	657	-5	440	4

Kansas	161	-23	6.5	0.6	853	-1	428	-10
Michigan	397	11	0.1	1.7	559	-7	377	11
Minnesota	341	31	-3.4	0.7	549	-11	281	-6
Missouri	430	5	6.7	1.6	753	0	657	11
Montana	219	-6	-3.3	-1.2	699	-2	295	-12
Nebraska	177	-11	2.0	-0.4	806	-1	423	-4
North Dakota	203	7	-4.3	-0.5	604	-9	264	-14
Ohio	405	-8	5.0	2.4	670	0	571	16
Oklahoma	339	14	10.0	0.8	819	-6	585	0
Oregon	463	-4	1.4	-2.0	630	-4	402	-13
South Dakota	209	-1	-1.4	-0.7	705	-4	350	-7
Texas	291	15	14.6	1.0	842	-9	567	1
Washington	472	-6	1.7	-1.1	545	-7	421	-5
Wisconsin	410	31	-1.2	1.7	572	-9	342	7

Table A.11 China, January - April 2023 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 15YA Departure (%)
Anhui	325	-5	9.6	1.2	822	2	632	5
Chongqing	431	18	9.6	0.5	700	-2	696	8
Fujian	509	-16	13.2	1.1	801	11	815	-3
Gansu	159	21	0.8	0.4	952	-2	331	12
Guangdong	470	-14	17.1	1.2	807	12	806	-8
Guangxi	353	-24	15.6	1.4	697	12	704	-13
Guizhou	317	-23	10.0	0.7	665	8	670	-5
Hebei	65	25	2.0	1.2	911	-2	233	15
Heilongjiang	92	-9	-6.8	1.5	737	-1	230	9
Henan	182	25	8.7	1.3	903	1	456	17
Hubei	389	10	9.4	1.2	796	2	679	8
Hunan	456	-15	11.1	1.3	728	13	765	-1
Jiangsu	224	-5	9.2	1.3	873	2	574	6
Jiangxi	587	-6	11.9	1.1	763	13	850	3
Jilin	100	-2	-3.7	1.8	818	-1	243	9
Liaoning	84	8	-0.8	1.2	865	-1	245	10
Inner Mongolia	54	-8	-5.5	1.3	859	0	168	-1
Ningxia	76	14	0.7	0.1	991	-1	257	10
Shaanxi	178	28	4.9	0.8	916	-1	410	23
Shandong	86	4	7.1	1.5	929	1	300	3
Shanxi	99	51	1.8	1.0	939	-1	300	27
Sichuan	376	26	7.7	0.8	845	-1	565	8
Yunnan	102	-55	12.1	0.8	1108	7	384	-29
Zhejiang	405	-22	10.3	1.2	803	9	764	1