

## Annex A. Agroclimatic indicators

**Table A.1 Apr 2020 - Jul 2020 agroclimatic indicators and biomass by global Monitoring and Reporting Unit (MRU)**

| 65 Global MRUs |                                    | RAIN<br>Current<br>(mm) | RAIN<br>15YA<br>dep.<br>(%) | TEMP<br>Current<br>(°C) | TEMP<br>15YA<br>dep.<br>(°C) | RADPAR<br>Current<br>(MJ/m <sup>2</sup> ) | RADPAR<br>15YA<br>dep. (%) | BIOMSS<br>Current<br>(gDM/m <sup>2</sup> ) | BIOMSS<br>15YA<br>dep.<br>(%) |
|----------------|------------------------------------|-------------------------|-----------------------------|-------------------------|------------------------------|---|----------------------------|--|-------------------------------|
| <b>C01</b>     | Equatorial central Africa          | 590                     | -4                          | 22.4                    | -0.1                         | 1131                                      | -1                         | 563  | -4                            |
| <b>C02</b>     | East African highlands             | 923                     | 23                          | 18.5                    | -0.5                         | 1131                                      | -5                         | 538  | -2                            |
| <b>C03</b>     | Gulf of Guinea                     | 506                     | -18                         | 27.5                    | 0.4                          | 1196                                      | 1                          | 776  | 3                             |
| <b>C04</b>     | Horn of Africa                     | 455                     | 54                          | 20.3                    | -0.3                         | 1124                                      | -3                         | 570  | -1                            |
| <b>C05</b>     | Madagascar (main)                  | 260                     | 7                           | 19.5                    | -0.1                         | 878                                       | -7                         | 414  | -10                           |
| <b>C06</b>     | Southwest Madagascar               | 69                      | 0                           | 21.1                    | -0.1                         | 962                                       | -1                         | 421  | -1                            |
| <b>C07</b>     | North Africa-Mediterranean         | 103                     | 10                          | 21.1                    | 0.3                          | 1534                                      | -2                         | 619  | -2                            |
| <b>C08</b>     | Sahel                              | 282                     | -5                          | 30.2                    | 0.1                          | 1288                                      | -2                         | 685  | 5                             |
| <b>C09</b>     | Southern Africa                    | 85                      | -26                         | 17.3                    | -0.3                         | 1002                                      | 0                          | 324  | -8                            |
| <b>C10</b>     | Western Cape (South Africa)        | 197                     | -12                         | 13.4                    | 0.1                          | 719                                       | 6                          | 255  | 4                             |
| <b>C11</b>     | British Columbia to Colorado       | 345                     | 7                           | 9.5                     | -0.5                         | 1342                                      | -3                         | 409  | -6                            |
| <b>C12</b>     | Northern Great Plains              | 405                     | 13                          | 16.1                    | -0.9                         | 1310                                      | -3                         | 593  | -4                            |
| <b>C13</b>     | Corn Belt                          | 416                     | -4                          | 15.2                    | -0.7                         | 1230                                      | -1                         | 533  | -1                            |
| <b>C14</b>     | Cotton Belt to Mexican Nordeste    | 477                     | 12                          | 22.7                    | -0.5                         | 1368                                      | -2                         | 807  | -1                            |
| <b>C15</b>     | Sub-boreal America                 | 436                     | 23                          | 9.1                     | -1.4                         | 1072                                      | -8                         | 343  | -11                           |
| <b>C16</b>     | West Coast (North America)         | 192                     | -1                          | 15.4                    | 0.2                          | 1446                                      | -3                         | 430  | -10                           |
| <b>C17</b>     | Sierra Madre                       | 715                     | 1                           | 21.1                    | 0.4                          | 1452                                      | -1                         | 662  | 5                             |
| <b>C18</b>     | SW U.S. and N. Mexican highlands   | 188                     | 5                           | 20.3                    | 0.4                          | 1567                                      | -1                         | 654  | 5                             |
| <b>C19</b>     | Northern South and Central America | 962                     | -11                         | 24.9                    | 0.5                          | 1249                                      | 1                          | 749  | 0                             |
| <b>C20</b>     | Caribbean                          | 506                     | -15                         | 26.6                    | 0.8                          | 1391                                      | -1                         | 934  | 0                             |
| <b>C21</b>     | Central-northern Andes             | 509                     | -11                         | 14.1                    | 0.2                          | 1045                                      | -1                         | 326  | -1                            |
| <b>C22</b>     | Nordeste (Brazil)                  | 279                     | 23                          | 23.6                    | -0.1                         | 1024                                      | -2                         | 628  | 0                             |
| <b>C23</b>     | Central eastern Brazil             | 259                     | -11                         | 21.2                    | 0.1                          | 974                                       | 1                          | 472  | 0                             |
| <b>C24</b>     | Amazon                             | 627                     | -3                          | 24.2                    | 0.4                          | 1061                                      | 0                          | 596  | 0                             |
| <b>C25</b>     | Central-north Argentina            | 129                     | -29                         | 15.7                    | 0.1                          | 777                                       | 8                          | 314  | 11                            |
| <b>C26</b>     | Pampas                             | 370                     | -9                          | 14.6                    | -0.1                         | 677                                       | 7                          | 258  | 7                             |
| <b>C27</b>     | Western Patagonia                  | 889                     | 12                          | 7.5                     | 0.2                          | 450                                       | -4                         | 105  | -5                            |
| <b>C28</b>     | Semi-arid Southern Cone            | 143                     | 24                          | 10.1                    | 0.0                          | 698                                       | -2                         | 173  | 3                             |

| 65 Global MRUs |                                       | RAIN<br>Current<br>(mm) | RAIN<br>15YA<br>dep.<br>(%) | TEMP<br>Current<br>(°C) | TEMP<br>15YA<br>dep.<br>(°C) | RADPAR<br>Current<br>(MJ/m <sup>2</sup> ) | RADPAR<br>15YA<br>dep. (%) | BIOMSS<br>Current<br>(gDM/m <sup>2</sup> ) | BIOMSS<br>15YA<br>dep.<br>(%) |
|----------------|---------------------------------------|-------------------------|-----------------------------|-------------------------|------------------------------|---|----------------------------|--|-------------------------------|
| C29            | Caucasus                              | 308                     | 2                           | 15.9                    | -0.3                         | 1435                                      | -2                         | 541  | 3                             |
| C30            | Pamir area                            | 432                     | 32                          | 16.0                    | -1.1                         | 1494                                      | -4                         | 561  | 7                             |
| C31            | Western Asia                          | 133                     | 36                          | 22.4                    | -0.3                         | 1514                                      | -3                         | 524  | 5                             |
| C32            | Gansu-Xinjiang<br>(China)             | 288                     | 20                          | 16.3                    | 0.0                          | 1402                                      | -3                         | 645  | 1                             |
| C33            | Hainan (China)                        | 486                     | -47                         | 27.3                    | 0.8                          | 1320                                      | 1                          | 871  | -1                            |
| C34            | Huanghuaihai<br>(China)               | 362                     | 10                          | 21.7                    | -0.5                         | 1267                                      | -5                         | 670  | -9                            |
| C35            | Inner Mongolia<br>(China)             | 223                     | 5                           | 16.1                    | -0.2                         | 1344                                      | -3                         | 572  | -4                            |
| C36            | Loess region<br>(China)               | 282                     | 2                           | 16.7                    | -0.6                         | 1332                                      | -2                         | 556  | -9                            |
| C37            | Lower Yangtze<br>(China)              | 1195                    | 8                           | 22.0                    | 0.1                          | 1089                                      | 0                          | 636  | 0                             |
| C38            | Northeast China                       | 336                     | 1                           | 15.1                    | -0.3                         | 1246                                      | -1                         | 525  | -2                            |
| C39            | Qinghai-Tibet<br>(China)              | 1251                    | 17                          | 9.3                     | -1.1                         | 1104                                      | -7                         | 296  | -13                           |
| C40            | Southern China                        | 1129                    | -16                         | 22.8                    | 0.2                          | 1174                                      | 5                          | 704  | 6                             |
| C41            | Southwest China                       | 997                     | 16                          | 18.3                    | -0.2                         | 993                                       | -8                         | 488  | -9                            |
| C42            | Taiwan (China)                        | 584                     | -43                         | 26.2                    | 1.0                          | 1353                                      | 8                          | 823  | 5                             |
| C43            | East Asia                             | 576                     | 9                           | 13.9                    | -0.4                         | 1137                                      | -5                         | 433  | -8                            |
| C44            | Southern<br>Himalayas                 | 1083                    | 8                           | 25.7                    | -0.7                         | 1226                                      | -2                         | 708  | 6                             |
| C45            | Southern Asia                         | 905                     | 17                          | 29.2                    | -0.3                         | 1246                                      | 1                          | 727  | 7                             |
| C46            | Southern Japan<br>and Korea           | 1100                    | 33                          | 17.6                    | -0.1                         | 1103                                      | -7                         | 507  | -10                           |
| C47            | Southern<br>Mongolia                  | 315                     | 59                          | 8.9                     | 1.0                          | 1460                                      | -1                         | 419  | 0                             |
| C48            | Punjab to Gujarat                     | 416                     | 14                          | 32.0                    | -0.4                         | 1410                                      | -2                         | 788  | 28                            |
| C49            | Maritime<br>Southeast Asia            | 1276                    | 5                           | 24.6                    | 0.3                          | 1109                                      | 1                          | 734  | 2                             |
| C50            | Mainland<br>Southeast Asia            | 908                     | -22                         | 27.3                    | 0.6                          | 1255                                      | 5                          | 810  | 4                             |
| C51            | Eastern Siberia                       | 320                     | -1                          | 10.0                    | 0.1                          | 1038                                      | -8                         | 339  | -8                            |
| C52            | Eastern Central<br>Asia               | 382                     | 50                          | 11.1                    | 0.3                          | 1249                                      | -4                         | 415  | -4                            |
| C53            | Northern<br>Australia                 | 332                     | -13                         | 23.9                    | 0.5                          | 1056                                      | 0                          | 564  | -4                            |
| C54            | Queensland to<br>Victoria             | 192                     | -1                          | 12.3                    | -0.4                         | 626                                       | -3                         | 212  | -4                            |
| C55            | Nullarbor to<br>Darling               | 188                     | -17                         | 14.5                    | 0.4                          | 616                                       | -2                         | 235  | -1                            |
| C56            | New Zealand                           | 331                     | -12                         | 9.2                     | 0.3                          | 442                                       | 1                          | 124  | 2                             |
| C57            | Boreal Eurasia                        | 371                     | 11                          | 9.5                     | -0.3                         | 1100                                      | 2                          | 345  | 2                             |
| C58            | Ukraine to Ural<br>mountains          | 370                     | 21                          | 13.1                    | -1.0                         | 1119                                      | -3                         | 444  | -7                            |
| C59            | Mediterranean<br>Europe and<br>Turkey | 223                     | 7                           | 17.1                    | 0.0                          | 1435                                      | -2                         | 581  | -2                            |
| C60            | W. Europe (non<br>Mediterranean)      | 337                     | -6                          | 14.2                    | -0.3                         | 1228                                      | 1                          | 474  | -4                            |
| C61            | Boreal America                        | 345                     | -1                          | 6.4                     | 0.2                          | 957                                       | -5                         | 241  | -3                            |
| C62            | Ural to Altai<br>mountains            | 347                     | 26                          | 14.0                    | 0.6                          | 1190                                      | -2                         | 493  | 2                             |
| C63            | Australian desert                     | 100                     | -30                         | 15.1                    | -0.2                         | 692                                       | 1                          | 249  | -3                            |
| C64            | Sahara to Afghan<br>deserts           | 51                      | 78                          | 27.9                    | 0.1                          | 1587                                      | -3                         | 456  | 22                            |

| 65 Global MRUs |                       | RAIN<br>Current<br>(mm) | RAIN<br>15YA<br>dep.<br>(%) | TEMP<br>Current<br>(°C) | TEMP<br>15YA<br>dep.<br>(°C) | RADPAR<br>Current<br>(MJ/m <sup>2</sup> ) | RADPAR<br>15YA<br>dep. (%) | BIOMSS<br>Current<br>(gDM/m <sup>2</sup> ) | BIOMSS<br>15YA<br>dep.<br>(%) |
|----------------|-----------------------|-------------------------|-----------------------------|-------------------------|------------------------------|---|----------------------------|--|-------------------------------|
| <b>C65</b>     | Sub-arctic<br>America | 134                     | 6                           | -3.0                    | 0.7                          | 1192                                      | -3                         | 173  | 4                             |

Table A.2 Apr 2020 - Jul 2020 agroclimatic indicators by country

| Country<br>code | Country name   | RAIN<br>Current<br>(mm) | RAIN<br>15YA<br>Departure<br>(%) | TEMP<br>Current<br>(°C) | TEMP<br>15YA<br>Departure<br>(°C) | RADPAR<br>Current<br>(MJ/m <sup>2</sup> ) | RADPAR<br>15YA<br>Departure<br>(%) | BIOMSS<br>Current<br>(gDM/m <sup>2</sup> ) | BIOMSS<br>15YA<br>Departure<br>(%) |
|-----------------|----------------|-------------------------|----------------------------------|-------------------------|-----------------------------------|---|------------------------------------|--|------------------------------------|
| ARG             | Argentina      | 225                     | -14                              | 13.3                    | -0.2                              | 664                                       | 6                                  | 235  | 8                                  |
| AUS             | Australia      | 184                     | -6                               | 13.5                    | -0.2                              | 661                                       | -2                                 | 228  | -3                                 |
| BGD             | Bangladesh     | 1692                    | 14                               | 28.1                    | -0.6                              | 1248                                      | -1                                 | 818  | -2                                 |
| BRA             | Brazil         | 388                     | -4                               | 21.8                    | 0.1                               | 988                                       | 1                                  | 505  | -1                                 |
| KHM             | Cambodia       | 853                     | -19                              | 27.7                    | 0.8                               | 1202                                      | 4                                  | 819  | 5                                  |
| CAN             | Canada         | 414                     | 8                                | 9.8                     | -1.1                              | 1124                                      | -5                                 | 356  | -7                                 |
| CHN             | China          | 844                     | 4                                | 19.3                    | -0.1                              | 1152                                      | -2                                 | 576  | -4                                 |
| EGY             | Egypt          | 6                       | -24                              | 23.2                    | -0.3                              | 1561                                      | -2                                 | 365  | 24                                 |
| ETH             | Ethiopia       | 877                     | 14                               | 19.3                    | -0.4                              | 1170                                      | -5                                 | 570  | 0                                  |
| FRA             | France         | 342                     | -10                              | 15.2                    | 0.6                               | 1285                                      | 4                                  | 523  | 5                                  |
| DEU             | Germany        | 268                     | -22                              | 13.5                    | -0.4                              | 1214                                      | 2                                  | 442  | -4                                 |
| IND             | India          | 896                     | 15                               | 29.1                    | -0.5                              | 1260                                      | -1                                 | 723  | 11                                 |
| IDN             | Indonesia      | 1232                    | 6                                | 24.5                    | 0.2                               | 1071                                      | 0                                  | 699  | 1                                  |
| IRN             | Iran           | 117                     | 33                               | 21.0                    | -0.3                              | 1571                                      | -4                                 | 474  | 10                                 |
| KAZ             | Kazakhstan     | 321                     | 41                               | 15.8                    | 0.3                               | 1302                                      | -1                                 | 567  | 2                                  |
| MEX             | Mexico         | 635                     | 6                                | 24.0                    | 0.6                               | 1462                                      | -1                                 | 744  | 5                                  |
| MMR             | Myanmar        | 1149                    | -18                              | 25.5                    | 0.4                               | 1207                                      | 4                                  | 713  | 1                                  |
| NGA             | Nigeria        | 468                     | -24                              | 28.3                    | 0.5                               | 1225                                      | 2                                  | 728  | 1                                  |
| PAK             | Pakistan       | 270                     | 8                                | 24.6                    | -1.2                              | 1515                                      | -3                                 | 730  | 18                                 |
| PHL             | Philippines    | 1125                    | -16                              | 26.3                    | 0.5                               | 1356                                      | 6                                  | 913  | 6                                  |
| POL             | Poland         | 364                     | 13                               | 13.6                    | -1.0                              | 1164                                      | 0                                  | 436  | -7                                 |
| ROU             | Romania        | 397                     | 6                                | 15.3                    | -0.9                              | 1296                                      | -1                                 | 536  | -9                                 |
| RUS             | Russia         | 369                     | 20                               | 12.9                    | -0.3                              | 1127                                      | -4                                 | 440  | -4                                 |
| ZAF             | South Africa   | 69                      | -23                              | 12.1                    | -0.7                              | 898                                       | 2                                  | 212  | -17                                |
| THA             | Thailand       | 873                     | -7                               | 27.4                    | 0.7                               | 1224                                      | 4                                  | 818  | 5                                  |
| TUR             | Turkey         | 234                     | 1                                | 15.9                    | -0.4                              | 1472                                      | -1                                 | 521  | -5                                 |
| GBR             | United Kingdom | 319                     | -18                              | 11.5                    | 0.1                               | 991                                       | 2                                  | 321  | 0                                  |
| UKR             | Ukraine        | 356                     | 19                               | 15.0                    | -1.1                              | 1224                                      | -1                                 | 524  | -7                                 |
| USA             | United States  | 401                     | 6                                | 18.3                    | -0.5                              | 1341                                      | -2                                 | 622  | -2                                 |
| UZB             | Uzbekistan     | 203                     | 62                               | 21.9                    | -0.5                              | 1502                                      | -4                                 | 598  | 5                                  |
| VNM             | Vietnam        | 913                     | -19                              | 25.2                    | 0.3                               | 1248                                      | 6                                  | 799  | 5                                  |
| AFG             | Afghanistan    | 230                     | 39                               | 18.6                    | -0.8                              | 1561                                      | -3                                 | 424  | 9                                  |
| AGO             | Angola         | 174                     | -7                               | 19.7                    | -0.1                              | 1214                                      | 0                                  | 278  | -14                                |
| BLR             | Belarus        | 352                     | 11                               | 13.1                    | -1.0                              | 1082                                      | -3                                 | 415  | -7                                 |
| HUN             | Hungary        | 308                     | 17                               | 16.2                    | -1.2                              | 1288                                      | -2                                 | 539  | -14                                |
| ITA             | Italy          | 336                     | -10                              | 16.7                    | -0.2                              | 1413                                      | 0                                  | 583  | -5                                 |
| KEN             | Kenya          | 838                     | 41                               | 19.1                    | -0.5                              | 1071                                      | -4                                 | 550  | -4                                 |
| LKA             | Sri Lanka      | 969                     | 9                                | 27.1                    | 0.3                               | 1219                                      | -4                                 | 837  | 0                                  |
| MAR             | Morocco        | 115                     | 36                               | 20.6                    | 0.3                               | 1543                                      | -3                                 | 623  | -2                                 |
| MNG             | Mongolia       | 459                     | 93                               | 10.5                    | 0.1                               | 1313                                      | -5                                 | 409  | -7                                 |
| MOZ             | Mozambique     | 99                      | -24                              | 19.9                    | -0.1                              | 940                                       | -3                                 | 493  | -1                                 |
| ZMB             | Zambia         | 43                      | -39                              | 18.2                    | 0.0                               | 1117                                      | -2                                 | 323  | -9                                 |

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 January and April.

Table A.3 Argentina, Apr 2020 - Jul 2020 agroclimatic indicators (by province)

|                     | RAIN<br>Current<br>(mm) | RAIN<br>15YA<br>Departure<br>(%) | TEMP<br>Current<br>(°C) | TEMP 15YA<br>Departure (°C) | RADPAR<br>Current<br>(MJ/m <sup>2</sup> ) | RADPAR<br>15YA<br>Departure<br>(%) | BIOMSS<br>Current<br>(gDM/m <sup>2</sup> ) | BIOMSS<br>15YA<br>Departure<br>(%) |
|---------------------|-------------------------|----------------------------------|-------------------------|-----------------------------|---|------------------------------------|--|------------------------------------|
| Buenos Aires        | 226                     | 8                                | 11.1                    | -0.5                        | 561                                       | -2                                 | 177  | -2                                 |
| Chaco               | 184                     | -43                              | 16.9                    | 0.2                         | 710                                       | 16                                 | 321  | 22                                 |
| Cordoba             | 73                      | -38                              | 12.7                    | -0.3                        | 714                                       | 5                                  | 235  | 6                                  |
| Corrientes          | 368                     | -24                              | 15.8                    | -0.1                        | 680                                       | 15                                 | 286  | 15                                 |
| Entre Rios          | 282                     | -18                              | 13.7                    | -0.2                        | 629                                       | 7                                  | 236  | 10                                 |
| La Pampa            | 159                     | 28                               | 11.0                    | -0.6                        | 588                                       | -2                                 | 182  | 0                                  |
| Misiones            | 687                     | 12                               | 16.2                    | -0.4                        | 728                                       | 12                                 | 314  | 9                                  |
| Santiago Del Estero | 118                     | -32                              | 15.4                    | -0.2                        | 746                                       | 10                                 | 298  | 15                                 |
| San Luis            | 66                      | -20                              | 11.3                    | -0.3                        | 700                                       | 0                                  | 212  | 6                                  |
| Salta               | 190                     | -2                               | 14.2                    | 0.3                         | 837                                       | 4                                  | 303  | 7                                  |
| Santa Fe            | 173                     | -31                              | 14.5                    | -0.2                        | 674                                       | 10                                 | 265  | 16                                 |
| Tucuman             | 95                      | -17                              | 12.6                    | 0.4                         | 835                                       | -1                                 | 264  | 2                                  |

Table A.4 Australia, Apr 2020 - Jul 2020 agroclimatic indicators (by state)

|                 | RAIN<br>Current<br>(mm) | RAIN<br>15YA<br>Departure<br>(%) | TEMP<br>Current<br>(°C) | TEMP 15YA<br>Departure (°C) | RADPAR<br>Current<br>(MJ/m <sup>2</sup> ) | RADPAR<br>15YA<br>Departure<br>(%) | BIOMSS<br>Current<br>(gDM/m <sup>2</sup> ) | BIOMSS<br>15YA<br>Departure<br>(%) |
|-----------------|-------------------------|----------------------------------|-------------------------|-----------------------------|---|------------------------------------|--|------------------------------------|
| New South Wales | 204                     | 17                               | 11.7                    | -0.5                        | 643                                       | -5                                 | 204  | -7                                 |
| South Australia | 174                     | -15                              | 12.9                    | -0.7                        | 551                                       | 0                                  | 200  | -4                                 |
| Victoria        | 271                     | 6                                | 10.2                    | -0.7                        | 461                                       | -4                                 | 146  | -9                                 |
| W. Australia    | 175                     | -17                              | 15.6                    | 0.5                         | 668                                       | -2                                 | 237  | -3                                 |

Table A.5 Brazil, Apr 2020 - Jul 2020 agroclimatic indicators (by state)

|                    | RAIN<br>Current<br>(mm) | RAIN<br>15YA<br>Departure<br>(%) | TEMP<br>Current<br>(°C) | TEMP 15YA<br>Departure (°C) | RADPAR<br>Current<br>(MJ/m <sup>2</sup> ) | RADPAR<br>15YA<br>Departure<br>(%) | BIOMSS<br>Current<br>(gDM/m <sup>2</sup> ) | BIOMSS<br>15YA<br>Departure<br>(%) |
|--------------------|-------------------------|----------------------------------|-------------------------|-----------------------------|---|------------------------------------|--|------------------------------------|
| Ceara              | 462                     | 19                               | 25.0                    | -0.2                        | 1159                                      | 1                                  | 754  | 0                                  |
| Goiias             | 188                     | -7                               | 21.3                    | -0.2                        | 1059                                      | -1                                 | 420  | -8                                 |
| Mato Grosso Do Sul | 192                     | -29                              | 21.0                    | 0.2                         | 918                                       | 8                                  | 474  | 11                                 |
| Mato Grosso        | 219                     | -11                              | 23.6                    | 0.2                         | 1084                                      | 1                                  | 465  | -3                                 |
| Minas Gerais       | 182                     | -16                              | 19.0                    | -0.1                        | 911                                       | -1                                 | 420  | -6                                 |
| Parana             | 425                     | -17                              | 16.6                    | 0.0                         | 826                                       | 11                                 | 344  | 5                                  |
| Rio Grande Do Sul  | 603                     | 3                                | 14.9                    | -0.1                        | 662                                       | 5                                  | 266  | 4                                  |
| Santa Catarina     | 505                     | -15                              | 14.5                    | 0.1                         | 741                                       | 9                                  | 287  | 8                                  |
| Sao Paulo          | 174                     | -45                              | 18.8                    | 0.3                         | 899                                       | 7                                  | 412  | 5                                  |

**Table A.6 Canada, Apr 2020 - Jul 2020 agroclimatic indicators (by province)**

|              | RAIN<br>Current<br>(mm) | RAIN<br>15YA<br>Departure<br>(%) | TEMP<br>Current<br>(°C) | TEMP 15YA<br>Departure (°C) | RADPAR<br>Current<br>(MJ/m <sup>2</sup> ) | RADPAR<br>15YA<br>Departure<br>(%) | BIOMSS<br>Current<br>(gDM/m <sup>2</sup> ) | BIOMSS<br>15YA<br>Departure<br>(%) |
|--------------|-------------------------|----------------------------------|-------------------------|-----------------------------|---|------------------------------------|--|------------------------------------|
| Alberta      | 437                     | 27                               | 9.3                     | -1.6                        | 1165                                      | -8                                 | 368  | -14                                |
| Manitoba     | 438                     | 22                               | 11.2                    | -1.0                        | 1142                                      | -5                                 | 422  | -5                                 |
| Saskatchewan | 461                     | 42                               | 10.4                    | -1.8                        | 1147                                      | -7                                 | 397  | -13                                |

**Table A.7 India, Apr 2020 - Jul 2020 agroclimatic indicators (by state)**

|                  | RAIN<br>Current<br>(mm) | RAIN<br>15YA<br>Departure<br>(%) | TEMP<br>Current<br>(°C) | TEMP 15YA<br>Departure (°C) | RADPAR<br>Current<br>(MJ/m <sup>2</sup> ) | RADPAR<br>15YA<br>Departure<br>(%) | BIOMSS<br>Current<br>(gDM/m <sup>2</sup> ) | BIOMSS<br>15YA<br>Departure<br>(%) |
|------------------|-------------------------|----------------------------------|-------------------------|-----------------------------|---|------------------------------------|--|------------------------------------|
| Andhra Pradesh   | 751                     | 65                               | 30.2                    | -0.6                        | 1233                                      | 2                                  | 730  | 6                                  |
| Assam            | 2635                    | 16                               | 24.4                    | -0.6                        | 999                                       | -9                                 | 629  | -11                                |
| Bihar            | 1208                    | 59                               | 29.9                    | -1.9                        | 1231                                      | -8                                 | 721  | -6                                 |
| Chhattisgarh     | 680                     | 1                                | 29.9                    | -0.6                        | 1270                                      | 3                                  | 761  | 16                                 |
| Daman and Diu    | 1188                    | 9                                | 29.6                    | 0.4                         | 1413                                      | -2                                 | 474  | 0                                  |
| Delhi            | 214                     | -18                              | 32.8                    | -0.5                        | 1450                                      | 0                                  | 930  | 23                                 |
| Gujarat          | 850                     | 36                               | 31.2                    | 0.1                         | 1392                                      | 1                                  | 462  | 3                                  |
| Goa              | 1962                    | -6                               | 27.0                    | 0.4                         | 1185                                      | -5                                 | 563  | -13                                |
| Himachal Pradesh | 305                     | -50                              | 20.0                    | -1.2                        | 1492                                      | 3                                  | 628  | 3                                  |
| Haryana          | 132                     | -46                              | 32.6                    | -0.5                        | 1456                                      | 1                                  | 919  | 24                                 |
| Jharkhand        | 918                     | 38                               | 29.3                    | -1.4                        | 1244                                      | -2                                 | 739  | 6                                  |
| Kerala           | 1432                    | -15                              | 26.0                    | 0.4                         | 1179                                      | 1                                  | 788  | 2                                  |
| Karnataka        | 630                     | -11                              | 27.3                    | 0.4                         | 1140                                      | 1                                  | 710  | 5                                  |
| Meghalaya        | 1978                    | -4                               | 24.9                    | 0.1                         | 1083                                      | -3                                 | 673  | -5                                 |
| Maharashtra      | 1003                    | 30                               | 29.5                    | -0.1                        | 1275                                      | 3                                  | 658  | 10                                 |
| Manipur          | 1843                    | 7                                | 21.6                    | -0.5                        | 1058                                      | -6                                 | 603  | -8                                 |
| Madhya Pradesh   | 607                     | -1                               | 30.9                    | -0.5                        | 1312                                      | 2                                  | 698  | 26                                 |
| Mizoram          | 1353                    | -13                              | 24.1                    | -0.5                        | 1213                                      | -1                                 | 751  | -3                                 |
| Nagaland         | 2626                    | 41                               | 21.0                    | -0.8                        | 973                                       | -12                                | 531  | -15                                |
| Orissa           | 795                     | 8                                | 29.5                    | -0.6                        | 1231                                      | 2                                  | 754  | 6                                  |
| Puducherry       | 938                     | -14                              | 29.7                    | -0.1                        | 1310                                      | 3                                  | 838  | 5                                  |
| Punjab           | 201                     | -30                              | 31.5                    | -1.1                        | 1457                                      | 1                                  | 912  | 12                                 |
| Rajasthan        | 231                     | -24                              | 33.2                    | 0.1                         | 1371                                      | -2                                 | 835  | 44                                 |
| Sikkim           | 459                     | -26                              | 16.6                    | -0.7                        | 1317                                      | -2                                 | 520  | -1                                 |
| Tamil Nadu       | 478                     | -2                               | 28.5                    | 0.1                         | 1182                                      | -2                                 | 741  | -2                                 |
| Tripura          | 1532                    | -11                              | 26.9                    | -0.5                        | 1223                                      | 0                                  | 833  | 1                                  |
| Uttarakhand      | 260                     | -55                              | 22.5                    | -1.0                        | 1464                                      | 3                                  | 661  | 7                                  |
| Uttar Pradesh    | 611                     | 24                               | 31.5                    | -1.4                        | 1326                                      | -4                                 | 827  | 19                                 |
| West Bengal      | 1412                    | 32                               | 29.1                    | -1.1                        | 1255                                      | -2                                 | 770  | -3                                 |

Table A.8 Kazakhstan, Apr 2020 - Jul 2020 agroclimatic indicators (by oblast)

|                           | RAIN Current (mm) | RAIN 15YA Departure (%) | TEMP Current (°C) | TEMP 15YA Departure (°C) | RADPAR Current (MJ/m <sup>2</sup> ) | RADPAR 15YA Departure (%) | BIOMSS Current (gDM/m <sup>2</sup> ) | BIOMSS 15YA Departure (%) |
|---------------------------|-------------------|-------------------------|-------------------|--------------------------|-------------------------------------|---------------------------|--------------------------------------|---------------------------|
| Akmolinskaya              | 337               | 73                      | 15.4              | 0.6                      | 1260                                | 0                         | 549                                  | 5                         |
| Karagandinskaya           | 274               | 52                      | 15.2              | 0.7                      | 1319                                | -1                        | 555                                  | 4                         |
| Kustanayskaya             | 345               | 64                      | 15.1              | 0.0                      | 1220                                | -1                        | 544                                  | 1                         |
| Pavlodarskaya             | 290               | 39                      | 16.3              | 1.3                      | 1264                                | 1                         | 576                                  | 8                         |
| Severo kazachstanskaya    | 320               | 26                      | 14.6              | 1.0                      | 1170                                | 0                         | 495                                  | 6                         |
| Vostochno kazachstanskaya | 314               | 15                      | 14.1              | 0.2                      | 1364                                | -1                        | 535                                  | -1                        |
| Zapadno kazachstanskaya   | 248               | 44                      | 17.2              | -0.6                     | 1310                                | -1                        | 640                                  | 0                         |

Table A.9 Russia, Apr 2020 - Jul 2020 agroclimatic indicators (by oblast, kray and republic)

|                       | RAIN Current (mm) | RAIN 15YA Departure (%) | TEMP Current (°C) | TEMP 15YA Departure (°C) | RADPAR Current (MJ/m <sup>2</sup> ) | RADPAR 15YA Departure (%) | BIOMSS Current (gDM/m <sup>2</sup> ) | BIOMSS 15YA Departure (%) |
|-----------------------|-------------------|-------------------------|-------------------|--------------------------|-------------------------------------|---------------------------|--------------------------------------|---------------------------|
| Bashkortostan Rep.    | 366               | 10                      | 12.3              | -0.4                     | 1135                                | -1                        | 432                                  | -3                        |
| Chelyabinskaya Oblast | 333               | 16                      | 12.8              | -0.2                     | 1159                                | 1                         | 453                                  | 1                         |
| Gorodovikovsk         | 339               | 23                      | 17.8              | -0.8                     | 1298                                | -3                        | 635                                  | -5                        |
| Krasnodarskiy Krai    | 379               | 4                       | 14.7              | 0.1                      | 1222                                | -2                        | 491                                  | -3                        |
| Kurganskaya Oblast    | 259               | -4                      | 13.3              | 0.4                      | 1098                                | -1                        | 441                                  | 2                         |
| Kirovskaya Oblast     | 440               | 40                      | 11.0              | -0.8                     | 965                                 | -8                        | 351                                  | -10                       |
| Kurskaya Oblast       | 414               | 40                      | 13.4              | -1.3                     | 1129                                | -4                        | 448                                  | -10                       |
| Lipetskaya Oblast     | 378               | 30                      | 13.3              | -1.4                     | 1113                                | -5                        | 440                                  | -11                       |
| Mordoviya Rep.        | 452               | 47                      | 12.4              | -1.3                     | 1053                                | -8                        | 406                                  | -12                       |
| Novosibirskaya Oblast | 365               | 32                      | 13.7              | 1.3                      | 1069                                | -4                        | 434                                  | 3                         |
| Nizhegorodskaya O.    | 405               | 32                      | 11.8              | -1.3                     | 1010                                | -9                        | 377                                  | -13                       |
| Orenburgskaya Oblast  | 312               | 25                      | 14.6              | -0.5                     | 1241                                | -1                        | 541                                  | -1                        |
| Omskaya Oblast        | 328               | 20                      | 14.0              | 1.5                      | 1056                                | -3                        | 441                                  | 6                         |
| Permskaya Oblast      | 394               | 22                      | 11.3              | -0.2                     | 976                                 | -6                        | 358                                  | -6                        |
| Penzenskaya Oblast    | 440               | 51                      | 12.9              | -1.2                     | 1095                                | -6                        | 433                                  | -9                        |
| Rostovskaya Oblast    | 269               | 0                       | 17.0              | -0.8                     | 1299                                | -1                        | 621                                  | -3                        |
| Ryazanskaya Oblast    | 430               | 42                      | 12.7              | -1.5                     | 1024                                | -10                       | 399                                  | -14                       |
| Stavropolskiy Krai    | 422               | 0                       | 17.2              | -0.4                     | 1327                                | 0                         | 637                                  | 0                         |
| Sverdlovskaya Oblast  | 284               | -10                     | 12.0              | 0.3                      | 1043                                | -1                        | 397                                  | 3                         |
| Samarskaya Oblast     | 326               | 10                      | 13.8              | -0.8                     | 1202                                | 1                         | 493                                  | -2                        |
| Saratovskaya Oblast   | 340               | 38                      | 14.8              | -1.0                     | 1239                                | -1                        | 544                                  | -3                        |

|                      | RAIN<br>Current<br>(mm) | RAIN<br>15YA<br>Departure<br>(%) | TEMP<br>Current<br>(°C) | TEMP 15YA<br>Departure<br>(°C) | RADPAR<br>Current<br>(MJ/m <sup>2</sup> ) | RADPAR<br>15YA<br>Departure<br>(%) | BIOMSS<br>Current<br>(gDM/m <sup>2</sup> ) | BIOMSS<br>15YA<br>Departure<br>(%) |
|----------------------|-------------------------|----------------------------------|-------------------------|--------------------------------|---|------------------------------------|--|------------------------------------|
| Tambovskaya Oblast   | 384                     | 34                               | 13.5                    | -1.3                           | 1115                                      | -7                                 | 450  | -11                                |
| Tyumenskaya Oblast   | 289                     | 5                                | 13.3                    | 1.2                            | 1035                                      | -2                                 | 419  | 5                                  |
| Tatarstan Rep.       | 376                     | 22                               | 12.3                    | -0.8                           | 1105                                      | -1                                 | 420  | -4                                 |
| Ulyanovskaya Oblast  | 398                     | 31                               | 12.9                    | -1.0                           | 1144                                      | -1                                 | 452  | -4                                 |
| Udmurtiya Rep.       | 419                     | 38                               | 11.6                    | -0.6                           | 1002                                      | -6                                 | 371  | -8                                 |
| Volgogradskaya O.    | 274                     | 23                               | 16.2                    | -0.9                           | 1257                                      | -3                                 | 585  | -3                                 |
| Voronezhskaya Oblast | 358                     | 23                               | 14.5                    | -1.1                           | 1200                                      | -3                                 | 507  | -7                                 |

Table A.10 United States, Apr 2020 - Jul 2020 agroclimatic indicators (by state)

|              | RAIN<br>Current<br>(mm) | RAIN<br>15YA<br>Departure<br>(%) | TEMP<br>Current<br>(°C) | TEMP 15YA<br>Departure<br>(°C) | RADPAR<br>Current<br>(MJ/m <sup>2</sup> ) | RADPAR<br>15YA<br>Departure<br>(%) | BIOMSS<br>Current<br>(gDM/m <sup>2</sup> ) | BIOMSS<br>15YA<br>Departure<br>(%) |
|--------------|-------------------------|----------------------------------|-------------------------|--------------------------------|---|------------------------------------|--|------------------------------------|
| Arkansas     | 440                     | 3                                | 21.8                    | -0.9                           | 1361                                      | -2                                 | 776  | -3                                 |
| California   | 100                     | -8                               | 17.6                    | 0.3                            | 1604                                      | -1                                 | 415  | -14                                |
| Idaho        | 280                     | 14                               | 11.4                    | -0.8                           | 1422                                      | -3                                 | 450  | -11                                |
| Indiana      | 392                     | -15                              | 17.9                    | -0.7                           | 1276                                      | -3                                 | 653  | -3                                 |
| Illinois     | 492                     | 12                               | 18.2                    | -1.0                           | 1264                                      | -5                                 | 651  | -6                                 |
| Iowa         | 475                     | 14                               | 17.2                    | -0.6                           | 1258                                      | -4                                 | 631  | -3                                 |
| Kansas       | 359                     | 6                                | 20.8                    | -0.7                           | 1372                                      | -4                                 | 763  | -4                                 |
| Michigan     | 362                     | -5                               | 13.7                    | -0.3                           | 1239                                      | 0                                  | 524  | 4                                  |
| Minnesota    | 386                     | -4                               | 14.4                    | -0.4                           | 1251                                      | 2                                  | 549  | 3                                  |
| Missouri     | 455                     | 15                               | 19.6                    | -1.0                           | 1298                                      | -5                                 | 700  | -7                                 |
| Montana      | 352                     | 7                                | 11.8                    | -0.9                           | 1356                                      | -2                                 | 500  | -6                                 |
| Nebraska     | 415                     | 21                               | 18.0                    | -0.5                           | 1368                                      | -2                                 | 696  | -2                                 |
| North Dakota | 370                     | 4                                | 14.0                    | -0.8                           | 1302                                      | 1                                  | 558  | 1                                  |
| Ohio         | 413                     | -4                               | 16.9                    | -0.7                           | 1257                                      | -3                                 | 621  | -2                                 |
| Oklahoma     | 335                     | -4                               | 22.8                    | -0.5                           | 1403                                      | -1                                 | 828  | 1                                  |
| Oregon       | 232                     | -3                               | 12.9                    | 0.0                            | 1348                                      | -2                                 | 464  | -6                                 |
| South Dakota | 351                     | -1                               | 16.3                    | -0.6                           | 1350                                      | 0                                  | 647  | 0                                  |
| Texas        | 356                     | 14                               | 25.2                    | 0.0                            | 1426                                      | -1                                 | 877  | 2                                  |
| Washington   | 287                     | 10                               | 12.8                    | -0.4                           | 1269                                      | -5                                 | 442  | -10                                |
| Wisconsin    | 435                     | 7                                | 14.2                    | -0.5                           | 1250                                      | 1                                  | 542  | 2                                  |

Table A.11 China, Apr 2020 - Jul 2020 agroclimatic indicators (by province)

|              | RAIN<br>Current<br>(mm) | RAIN<br>15YA<br>Departure<br>(%) | TEMP<br>Current<br>(°C) | TEMP 15YA<br>Departure<br>(°C) | RADPAR<br>Current<br>(MJ/m <sup>2</sup> ) | RADPAR<br>15YA<br>Departure<br>(%) | BIOMSS<br>Current<br>(gDM/m <sup>2</sup> ) | BIOMSS<br>15YA<br>Departure<br>(%) |
|--------------|-------------------------|----------------------------------|-------------------------|--------------------------------|---|------------------------------------|--|------------------------------------|
| Anhui        | 1137                    | 57                               | 21.8                    | -0.3                           | 1060                                      | -10                                | 613  | -9                                 |
| Chongqing    | 1183                    | 42                               | 19.7                    | -0.4                           | 932                                       | -14                                | 498  | -16                                |
| Fujian       | 901                     | -34                              | 21.9                    | 0.5                            | 1172                                      | 13                                 | 696  | 15                                 |
| Gansu        | 348                     | -1                               | 13.7                    | -0.3                           | 1294                                      | -2                                 | 493  | -6                                 |
| Guangdong    | 1083                    | -33                              | 24.6                    | 0.5                            | 1250                                      | 13                                 | 805  | 13                                 |
| Guangxi      | 1252                    | -12                              | 23.4                    | 0.2                            | 1127                                      | 5                                  | 707  | 6                                  |
| Guizhou      | 1180                    | 12                               | 19.0                    | 0.0                            | 899                                       | -8                                 | 465  | -8                                 |
| Hebei        | 192                     | -17                              | 19.1                    | -0.3                           | 1362                                      | -2                                 | 631  | -6                                 |
| Heilongjiang | 364                     | 15                               | 14.5                    | -0.5                           | 1228                                      | -1                                 | 509  | -3                                 |

|                           | RAIN<br>Current<br>(mm) | RAIN<br>15YA<br>Departure<br>(%) | TEMP<br>Current<br>(°C) | TEMP 15YA<br>Departure (°C) | RADPAR<br>Current<br>(MJ/m <sup>2</sup> ) | RADPAR<br>15YA<br>Departure<br>(%) | BIOMSS<br>Current<br>(gDM/m <sup>2</sup> ) | BIOMSS<br>15YA<br>Departure<br>(%) |
|---------------------------|-------------------------|----------------------------------|-------------------------|-----------------------------|---|------------------------------------|--|------------------------------------|
| <b>Henan</b>              | 472                     | 24                               | 21.8                    | -0.6                        | 1200                                      | -7                                 | 650  | -10                                |
| <b>Hubei</b>              | 1107                    | 46                               | 20.4                    | -0.5                        | 1015                                      | -12                                | 553  | -14                                |
| <b>Hunan</b>              | 1269                    | 14                               | 21.6                    | 0.1                         | 1037                                      | -2                                 | 602  | -2                                 |
| <b>Jiangsu</b>            | 850                     | 38                               | 21.5                    | -0.4                        | 1106                                      | -8                                 | 616  | -9                                 |
| <b>Jiangxi</b>            | 1344                    | 5                                | 22.6                    | 0.4                         | 1125                                      | 7                                  | 674  | 8                                  |
| <b>Jilin</b>              | 350                     | -4                               | 15.4                    | -0.4                        | 1257                                      | -2                                 | 550  | -2                                 |
| <b>Liaoning</b>           | 248                     | -25                              | 17.1                    | -0.1                        | 1285                                      | -2                                 | 594  | -3                                 |
| <b>Inner<br/>Mongolia</b> | 238                     | 11                               | 15.5                    | -0.1                        | 1320                                      | -3                                 | 560  | -3                                 |
| <b>Ningxia</b>            | 182                     | 5                                | 16.6                    | -0.3                        | 1430                                      | 2                                  | 613  | -5                                 |
| <b>Shaanxi</b>            | 415                     | -6                               | 17.7                    | -0.4                        | 1231                                      | -5                                 | 570  | -10                                |
| <b>Shandong</b>           | 326                     | 3                                | 21.1                    | -0.8                        | 1287                                      | -5                                 | 659  | -11                                |
| <b>Shanxi</b>             | 224                     | -4                               | 17.0                    | -0.6                        | 1364                                      | -2                                 | 570  | -10                                |
| <b>Sichuan</b>            | 970                     | 19                               | 16.9                    | -0.4                        | 1040                                      | -9                                 | 463  | -10                                |
| <b>Yunnan</b>             | 1134                    | 20                               | 18.0                    | -0.2                        | 1036                                      | -4                                 | 488  | -4                                 |
| <b>Zhejiang</b>           | 1078                    | 3                                | 21.0                    | 0.3                         | 1039                                      | -2                                 | 573  | -2                                 |