

# Pacific Islands - Online Climate Outlook Forum (OCOF) No. 161

Country: Papua New Guinea

TABLE 1: Monthly Rainfall

| Station (include data period) | Nov-2020   | Dec-2020   | Jan-2021      |         |         |        |         |
|-------------------------------|------------|------------|---------------|---------|---------|--------|---------|
|                               |            |            | Total (mm)    | 33%tile | 67%tile | Median | Rank    |
|                               | Total (mm) | Total (mm) | Rainfall (mm) |         |         |        |         |
| Momase Region                 |            |            |               |         |         |        |         |
| Madang (1944-2021)            | 326.2      | 274.8      | 106.2         | 279.4   | 375.8   | 335.7  | 5/73    |
| Nadzab (1973-2021)            | 71.2       | 185.8      | 128.0         | 141.6   | 182.6   | 155.8  | 15/47   |
| Wewak (1956-2021)             | 350.8      | 116.6      | 145.2         | 110.5   | 161.6   | 135.8  | 37/66   |
| Vanimo (1918-2021)            | 277.4      | 299.2      | 250.0         | 211.3   | 341.6   | 283.0  | 32/70   |
| Highlands Region              |            |            |               |         |         |        |         |
| Goroka (1948-2021)            | 185.8      | 256.0      | 133.4         | 199.6   | 275.3   | 226.6  | 6/59    |
| New Guinea Islands Region     |            |            |               |         |         |        |         |
| Momote (1949-2021)            | 190.6      | 234.0      | 91.2          | 247.0   | 319.0   | 280.4  | 5/65    |
| Kavieng (1916-2021)           | 216.4      | 128.0      | 116.0         | 256.2   | 358.8   | 317.2  | 7/90    |
| Southern Region               |            |            |               |         |         |        |         |
| Misima (1917-2021)            | 341.8      | 134.0      | 163.0         | 197.9   | 307.4   | 271.5  | 25/93   |
| Port Moresby (1875-2021)      | 81.8       | 136.6      | 273.8         | 149.7   | 234.4   | 195.0  | 113/133 |

**TABLE 2: Three-month Rainfall for November 2020 to January 2021**

| Station                   | Three-month Total |              | 33%tile | 67%tile | Median | Rank   | SCOPIC forecast probabilities<br>based on NINO3.4 August-September 2020 |    |     |      | Verification:<br>Consistent, Near-<br>consistent,<br>Inconsistent? |
|---------------------------|-------------------|--------------|---------|---------|--------|--------|---|----|-----|------|--|
|                           | Rainfall (mm)     |              |         |         |        |        | B-N   | N  | A-N | LEPS |  |
| Momase Region             |                   |              |         |         |        |        |   |    |     |      |  |
| Madang (1944-2021)        | 707.2             | Below normal | 957.0   | 1123.6  | 1036.6 | 5/72   | 36  | 31 | 33  | -1   | Consistent   |
| Nadzab (1973-2021)        | 385.0             | Normal       | 376.3   | 474.5   | 406.6  | 20/46  | 36  | 32 | 32  | -2   | Near-consistent  |
| Wewak (1956-2021)         | 612.6             | Above normal | 440.2   | 551.7   | 481.4  | 51/63  | 23  | 34 | 43  | 9    | Consistent   |
| Vanimo (1918-2021)        | 826.6             | Normal       | 674.8   | 849.6   | 736.2  | 42/62  | 31  | 32 | 37  | -1   | Near-consistent  |
| Highlands Region          |                   |              |         |         |        |        |   |    |     |      |  |
| Goroka (1948-2021)        | 575.2             | Normal       | 528.0   | 641.8   | 597.0  | 25/51  | 34  | 31 | 35  | -2   | Near-consistent  |
| New Guinea Islands Region |                   |              |         |         |        |        |   |    |     |      |  |
| Momote (1949-2021)        | 515.8             | Below normal | 736.6   | 894.7   | 831.0  | 4/64   | 37  | 34 | 29  | 0    | Consistent   |
| Kavieng (1917-2021)       | 460.4             | Below normal | 780.0   | 963.7   | 848.8  | 4/88   | 38  | 29 | 33  | -1   | Consistent   |
| Southern Region           |                   |              |         |         |        |        |   |    |     |      |  |
| Misima (1917-2021)        | 638.8             | Normal       | 602.0   | 752.0   | 672.6  | 40/89  | 26  | 36 | 38  | 3    | Near-consistent  |
| Port Moresby (1875-2021)  | 492.2             | Above normal | 335.9   | 475.0   | 402.6  | 98/121 | 14  | 41 | 45  | 20   | Consistent   |

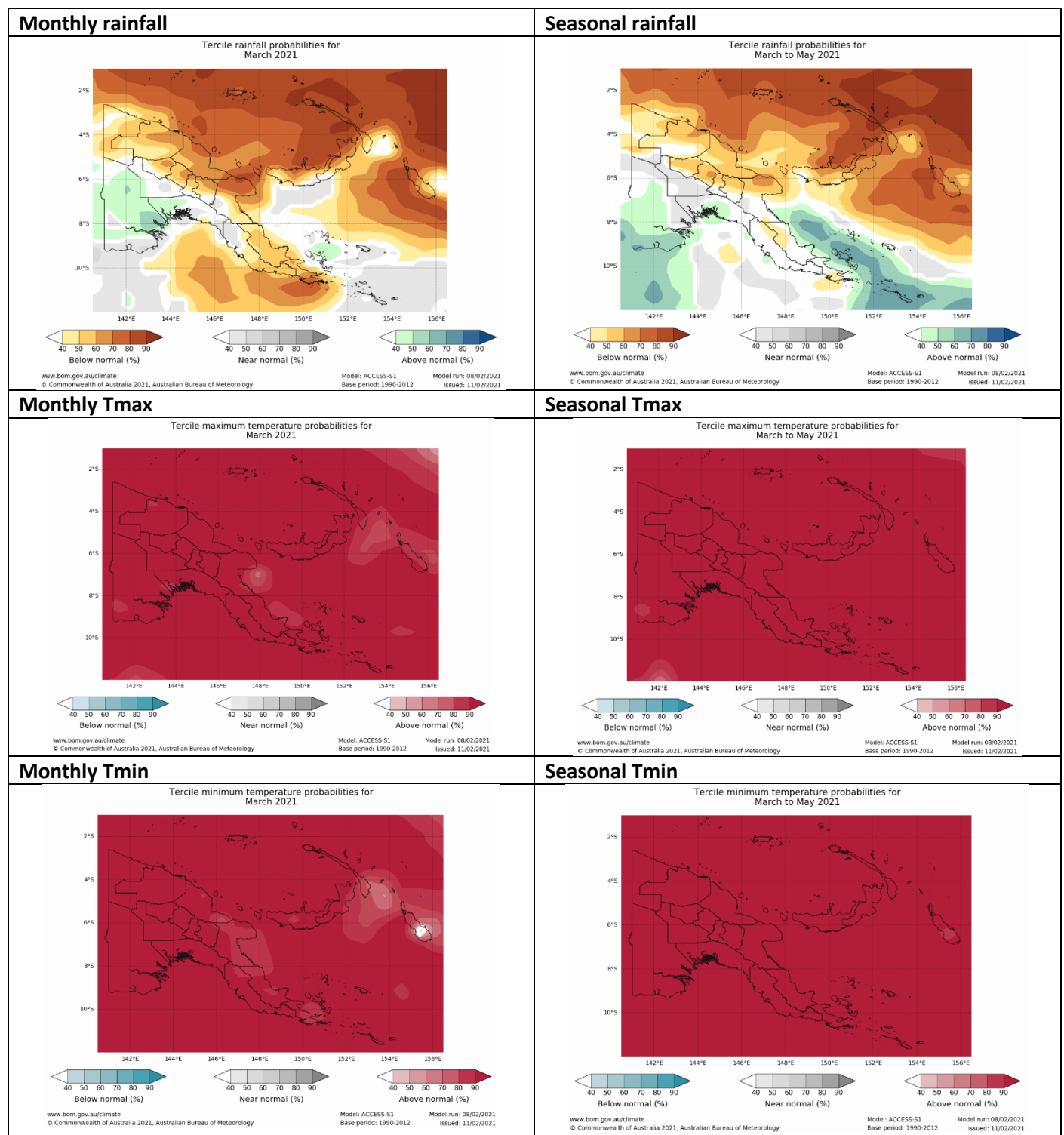
**TABLE 3: Seasonal Climate Outlooks using SCOPIC for March to May 2021**

Predictor and Period used: NINO3.4 for December 2020 to January 2021

| Station                          | Below<br>Median<br>(prob) | Median<br>Rainfall<br>(mm) | Above<br>Median<br>(prob) |  | LEPS (%)<br>[whole<br>numbers] | Hit-rate<br>(%)<br>[whole<br>numbers] |
|----------------------------------|---------------------------|----------------------------|---------------------------|--|--------------------------------|---------------------------------------|
| <b>Momase Region</b>             |                           |                            |                           |  |                                |                                       |
| Madang (1944-2021)               | 43                        | 1130.2                     | 57                        |  | 1                              | 62                                    |
| Nadzab (1973-2021)               | 53                        | 389.0                      | 47                        |  | -2                             | 49                                    |
| Wewak (1894-2021)                | 43                        | 595.5                      | 57                        |  | 1                              | 65                                    |
| Vanimo (1918-2021)               | 50                        | 720.1                      | 50                        |  | -2                             | 24                                    |
| <b>Highlands Region</b>          |                           |                            |                           |  |                                |                                       |
| Goroka (1948-2021)               | 60                        | 553.5                      | 40                        |  | 2                              | 57                                    |
| <b>New Guinea Islands Region</b> |                           |                            |                           |  |                                |                                       |
| Momote (1949-2021)               | 52                        | 830.3                      | 48                        |  | -2                             | 40                                    |
| Kavieng (1916-2021)              | 51                        | 864.8                      | 49                        |  | -2                             | 41                                    |
| <b>Southern Region</b>           |                           |                            |                           |  |                                |                                       |
| Misima (1917-2021)               | 21                        | 791.8                      | 79                        |  | 30                             | 70                                    |
| Port Moresby (1875-2021)         | 43                        | 432.0                      | 57                        |  | 2                              | 53                                    |

| Station                          | Below<br>Normal<br>(prob) | 33%ile<br>Rainfall<br>(mm) | Normal<br>(prob) | 67%ile<br>Rainfall<br>(mm) | Above<br>Normal<br>(prob) | LEPS (%)<br>[whole<br>numbers] | Hit-rate<br>(%)<br>[whole<br>numbers] |
|----------------------------------|---------------------------|----------------------------|------------------|----------------------------|---------------------------|--------------------------------|---------------------------------------|
| <b>Momase Region</b>             |                           |                            |                  |                            |                           |                                |                                       |
| Madang (1944-2021)               | 34                        | 1000.2                     | 31               | 1202.2                     | 35                        | -2                             | 28                                    |
| Nadzab (1973-2021)               | 40                        | 362.0                      | 35               | 428.8                      | 25                        | 1                              | 19                                    |
| Wewak (1894-2021)                | 23                        | 511.5                      | 43               | 644.9                      | 34                        | 1                              | 42                                    |
| Vanimo (1918-2021)               | 33                        | 666.5                      | 37               | 839.5                      | 30                        | -2                             | 39                                    |
| <b>Highlands Region</b>          |                           |                            |                  |                            |                           |                                |                                       |
| Goroka (1948-2021)               | 42                        | 491.8                      | 37               | 600.8                      | 21                        | 5                              | 28                                    |
| <b>New Guinea Islands Region</b> |                           |                            |                  |                            |                           |                                |                                       |
| Momote (1949-2021)               | 32                        | 736.0                      | 37               | 928.3                      | 31                        | -2                             | 41                                    |
| Kavieng (1916-2021)              | 39                        | 799.0                      | 29               | 946.8                      | 32                        | -1                             | 38                                    |
| <b>Southern Region</b>           |                           |                            |                  |                            |                           |                                |                                       |
| Misima (1917-2021)               | 14                        | 639.5                      | 34               | 958.2                      | 52                        | 19                             | 46                                    |
| Port Moresby (1875-2021)         | 19                        | 364.8                      | 36               | 487.3                      | 45                        | 8                              | 49                                    |

**TABLE 4: Monthly and Seasonal Climate Outlooks using ACCESS-S for March to May 2021**



## **Summary Statements**

### **Rainfall for January 2021:**

Below normal rainfall was received across the country except for Wewak and Vanimo which received normal rainfall, while Port Moresby recorded above normal rainfall. Madang, Momote and Kavieng had rainfall totals below the 10th percentile, i.e. in the driest ten percent of the historical record.

### **Accumulated rainfall for November 2020 to January 2021, including outlook verification:**

Accumulated rainfall was generally below normal or normal across the country, except for Wewak and Port Moresby that received above normal rainfall. Momote and Kavieng recorded their fourth lowest November to January rainfall on record.

The forecast issued in October was verified consistent at five sites and near-consistent at four sites.

### **Outlooks for March to May 2021:**

#### **1. SCOPIC:**

**Misima:** The outlook favours above normal rainfall.

**Nadzab and Goroka:** Below normal is the most likely outcome, with normal the next most likely. Above normal is the least likely.

**Port Moresby:** Above normal is the most likely outcome, with normal the next most likely. Below normal is the least likely.

**Wewak:** Normal rainfall is the most likely outcome, with above normal the next most likely. Below normal is the least likely.

**Other stations:** The outlook offers little guidance as the chances of below normal, normal and above normal are similar.

Confidence ranges from very low to high skill.

#### **2. ACCESS-S:**

##### **Monthly rainfall:**

**Northern half of the PNG mainland, PNG Islands, Oro Province and most of Milne Bay Province:** Below normal rainfall is favoured in March for the region.

**Western Province including West of Gulf Province:** Above normal rainfall is the most likely outcome for this area.

##### **Monthly maximum and minimum temperatures:**

Above normal temperatures are favoured across the country in March.

##### **Seasonal rainfall:**

**MOMASE, Highlands and New Guinea Islands region:** Below normal rainfall for March to May is favoured for these areas, except for the Southern Highlands where normal rainfall is the most likely, and southern parts of Morobe where there is little guidance.

**Southern Region:** Normal to above normal rainfall is the most likely in the west of Gulf Province, but there's little guidance for other areas for the coming season.

##### **Seasonal maximum and minimum temperature:**

Above normal temperatures are favoured across the country for March to May.

**NB: The X LEPS % score has been categorised as follows:**

Very Low:  $X < 0.0$

Low:  $0 \leq X < 5$

Moderate  $5 \leq X < 10$

Good:  $10 \leq X < 15$

High:  $15 \leq X < 25$

Very High:  $25 \leq X < 35$  Exceptional:  $X \geq 35$

**TABLE 5: Stakeholder Engagement- Evaluations of how effective NMS engage with stakeholders**

| Product                        | Date:<br>January<br>2021 | Stakeholder   | Total<br>Number of<br>Participants | Number<br>of male | Number<br>of female |
|--------------------------------|--------------------------|---|------------------------------------|-------------------|---------------------|
| Climate<br>Bulletin            | NIL                      |   |                                    |                   |                     |
| EAR<br>Watch                   | 15th Jan                 | Govt: National Disaster Centre, Dept. Of Transport, National Agriculture Research Institute, Dept. Of Agriculture and Livestock, Provincial Disaster Coordinators, Civil Aviation Safety Authority, Climate Change Development Authority, Dept. Of Mineral Policy and Geohazard Managment, PNG DFAT, Centre of Environmental Protection Authority, National Capital District Commission, Dept. of Education. UN Agencies : UNDP, FAO, IOM, Oxfam. NGOs : Childfund, WVI, PNGRC. Private: Pacific Hydo Services, PNG Power, Ok Tedi Mining Ltd, Media. Aus DFAT, DAL Provincial Officers | 140                                | 91                | 49                  |
| Monthly<br>Climate<br>Briefing | N/A                      |   |                                    |                   |                     |
| Ocean<br>Bulletin              | N/A                      |   |                                    |                   |                     |
| <b>Total</b>                   |                          |   | 140                                | 91                | 49                  |