

Pacific Islands - Online Climate Outlook Forum (OCOF) No. 75

Country Name: TONGA

TABLE 1: Monthly Rainfall

| Station (include data period) | November 2013 | | | | | | |
|-------------------------------|----------------------|--------------------|-------|-----------------------|-----------------------|----------------------|---------|
| | September 2013 Total | October 2013 Total | Total | 33%tile Rainfall (mm) | 67%tile Rainfall (mm) | Median Rainfall (mm) | Ranking |
| Northern Division | | | | | | | |
| Niuafoóu | 227.1 | 208.0 | 272.6 | 170.0 | 288.1 | 235.0 | 26/43 |
| Niuaatoputapu | 138.0 | 184.1 | 212.0 | 139.7 | 238.0 | 183.0 | 38/67 |
| Central Division | | | | | | | |
| Vavaú | 51.0 | 148.0 | 118.8 | 77.3 | 178.2 | 113.5 | 36/67 |
| Haápai | 22.7 | 43.1 | 32.9 | 69.0 | 134.0 | 96.5 | 16/67 |
| Southern Division | | | | | | | |
| Nukuálofa | 116.1 | 160.5 | 173.0 | 42.0 | 131.3 | 71.6 | 51/70 |
| Fuaámotu | 123.7 | 130.1 | 210.0 | 43.0 | 134.0 | 96.5 | 29/34 |

TABLE 2: Three-monthly Rainfall

September to November 2013

[Please note that the data used in this verification should be sourced from table 3 of OCOF #71]

| Station | Three-month Total | 33%tile Rainfall (mm) | 67%tile Rainfall (mm) | Median Rainfall (mm) | Ranking | Forecast probs.* (include LEPS) | Verification* (Consistent, Near-consistent, Inconsistent?) |
|--------------------------|-------------------|-----------------------|-----------------------|----------------------|---------|---------------------------------|--|
| Northern Division | | | | | | | |
| Niuafoóu | 707.7 | 448.0 | 637.0 | 556.0 | 30/43 | 27, 30, 43 (-0.7) | Consistent |
| Niuaatoputapu | 534.1 | 388.3 | 401.7 | 482.0 | 39/67 | 27, 32, 41 (1.9) | Near Consistent |
| Central Division | | | | | | | |
| Vavaú | 317.8 | 365.3 | 547.0 | 421.5 | 18/67 | 18, 14, 68 (12.8) | In Consistent |
| Haápai | 98.7 | 246.0 | 405.3 | 304.5 | 5/67 | 22, 22, 56 (4.9) | In Consistent |
| Southern Division | | | | | | | |
| Nukuálofa | 449.6 | 240.6 | 430.0 | 354.7 | 49/69 | 12, 32, 56 (14.1) | Consistent |
| Fuaámotu | 463.8 | 252.3 | 371.8 | 314.0 | 25/34 | 14, 29, 57 (11.1) | Consistent |

Period: *below normal/normal/above normal

* Forecast is consistent when observed and predicted (tercile with the highest probability) categories coincide (are in the same tercile).

Forecast is near-consistent when observed and predicted (tercile with the highest probability) differ by only one category (i.e. terciles 1 and 2 or terciles 2 and 3).

Forecast is inconsistent when observed and predicted (tercile with the highest probability) differ by two categories (i.e. terciles 1 and 3).

TABLE 3: Seasonal Climate Outlooks using SCOPIC for January 2014 to March 2014

Predictors and Period used: SSTa's 1@9 – September to November 2013

| Station | Below Median (prob) | Median Rainfall (mm) | Above Median (prob) | | LEPS | Hit-rate |
|--------------------------|---------------------|----------------------|---------------------|--|------|----------|
| Northern Division | | | | | | |
| Niuafoóu | 21 | 904.0 | 79 | | 8.5 | 62.2 |
| Niuaotoputapu | 40 | 813.0 | 60 | | 7.1 | 60.0 |
| Central Division | | | | | | |
| Vavaú | 42 | 854.8 | 58 | | 5.5 | 60.3 |
| Haápai | 28 | 660.0 | 72 | | 19.5 | 75.0 |
| Southern Division | | | | | | |
| Nukuálofa | 27 | 636.0 | 73 | | 28.5 | 75.0 |
| Fuaámotu | 6 | 603.5 | 94 | | 33.9 | 79.4 |

| Station | Below Normal (prob) | 33%ile rainfall (mm) | Normal (prob) | 66%ile rainfall (mm) | Above Normal (prob) | LEPS | Hit-rate |
|--------------------------|---------------------|----------------------|---------------|----------------------|---------------------|------|----------|
| Northern Division | | | | | | | |
| Niuafoóu | 10 | 757.0 | 27 | 969.5 | 63 | 9.1 | 48.6 |
| Niuaotoputapu | 23 | 655.0 | 41 | 932.3 | 36 | 12.9 | 36.7 |
| Central Division | | | | | | | |
| Vavaú | 22 | 688.7 | 34 | 937.3 | 45 | 9.9 | 47.6 |
| Haápai | 5 | 562.0 | 32 | 778.0 | 63 | 26.2 | 59.4 |
| Southern Division | | | | | | | |
| Nukuálofa | 14 | 490.7 | 51 | 814.6 | 35 | 15.9 | 50.0 |
| Fuaámotu | 7 | 460.0 | 23 | 783.0 | 70 | 22.3 | 55.9 |

TABLE 4: Seasonal Climate Outlooks using POAMA2 for January 2014 to March 2014

| Station | Lower Tercile (prob) | 33%ile rainfall (mm) | Middle Tercile (prob) | 66%ile rainfall (mm) | Upper Tercile (prob) | | |
|-----------|----------------------|----------------------|-----------------------|----------------------|----------------------|--|--|
| Nukuálofa | 23 | 453.0 | 23 | 723.0 | 54 | | |

Summary Statements

Rainfall for November 2013:

Northern Division: Normal.

Central Division: Normal for Vava'u and Below Normal for Ha'apai.

Southern Division: Above Normal.

Accumulated rainfall for September – November 2013, including outlook verification:

Northern Division: Normal to Above normal, forecast was Near consistent to Consistent.

Central Division: Below normal, forecast was In Consistent.

Southern Division: Above Normal, forecast was Consistent.

Outlooks for January 2014-March 2014:

1. SCOPIC:

Northern Division: Normal to Above normal with moderate to high skill.

Central Division: Above normal with moderate to very high skill.

Southern Division: Normal to Above normal with High to very high skill.

2. POAMA: Outlook Above Normal for Nuku'alofa.

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: $X \geq 35$