

Pacific Islands - Ocean and Climate Outlook Forum (OCOF) No. 184

Country: Samoa

Part 1: Recent climate

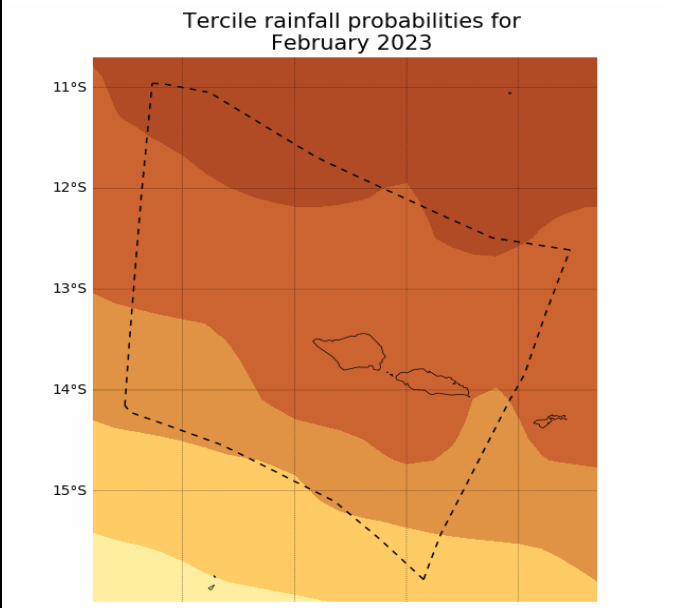
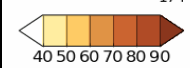
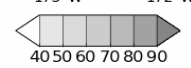
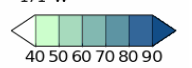
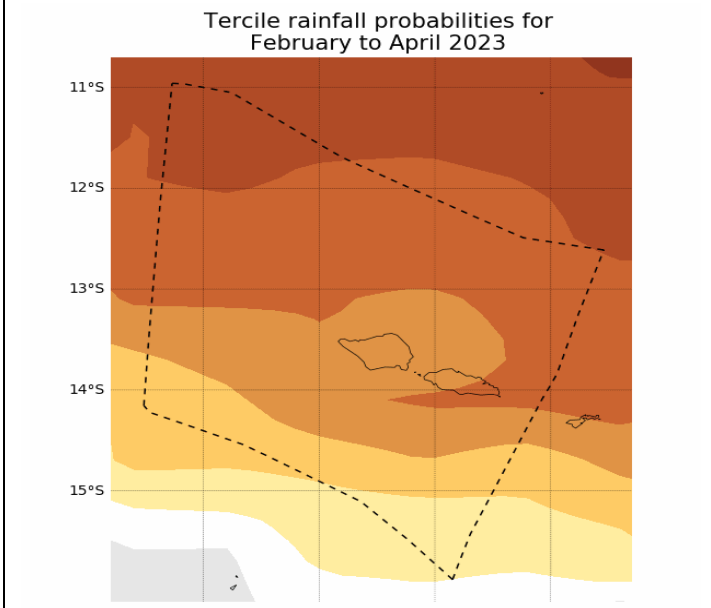
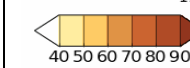
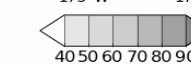
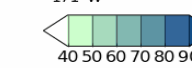
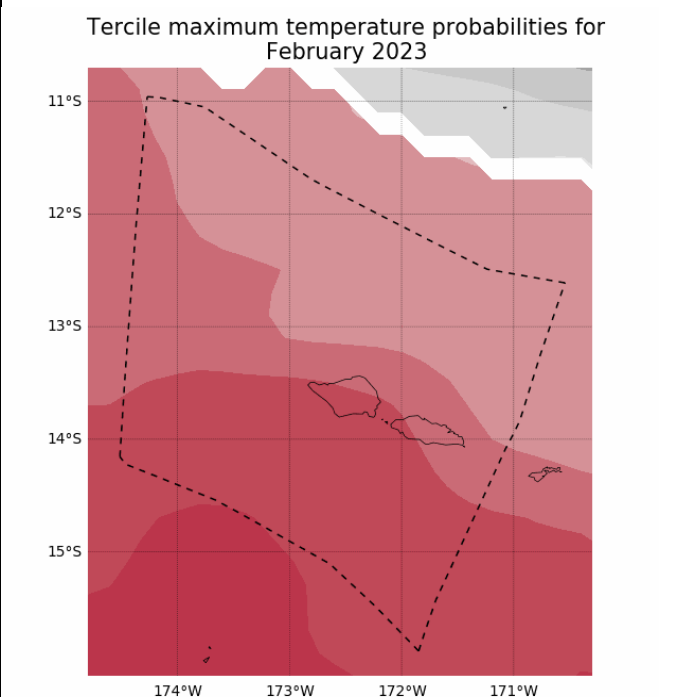
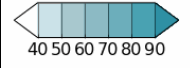
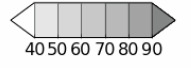
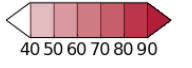
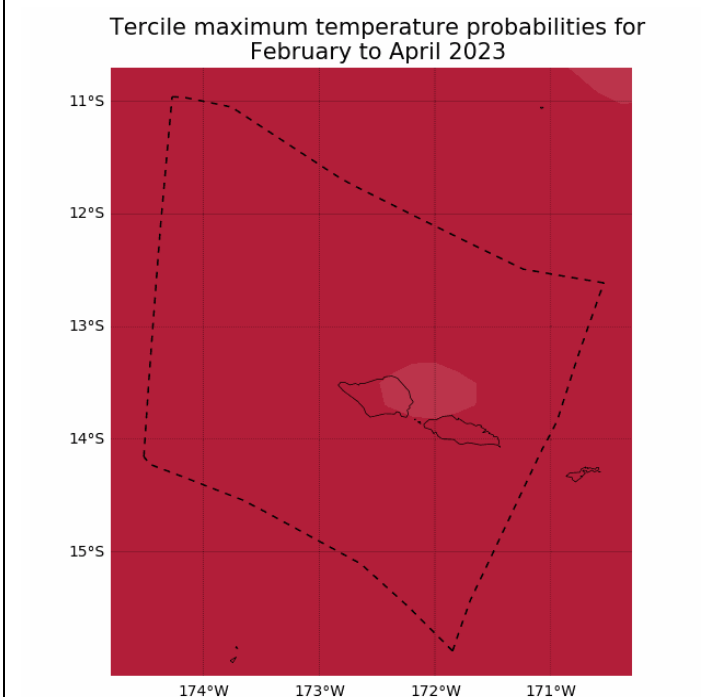
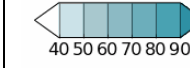
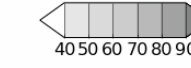
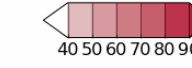
TABLE 1: Monthly Rainfall

| Station (include data period) | Oct-2022 | Nov-2022 | Dec-2022 | | | | Rank |
|-------------------------------|------------|------------|---------------|---------|---------|--------|--------|
| | | | Total (mm) | 33%tile | 67%tile | Median | |
| | Total (mm) | Total (mm) | Rainfall (mm) | | | | |
| Apia (1890-2022) | 340.8 | 192.3 | 313.7 | 281.9 | 444.6 | 373.2 | 53/132 |
| Afiamalu (1903-2022) | 398.8 | 314.9 | 816.6 | 446.3 | 704.5 | 538.2 | 55/70 |
| Nafanua (1965-2022) | 298.7 | 218.5 | 365.1 | 353.4 | 507.3 | 427.7 | 18/48 |
| Faleolo (1956-2022) | 190.5 | 197.4 | 133.4 | 223.6 | 318.7 | 272.0 | 9/61 |

TABLE 2: Three-month Total Rainfall for October to December 2022

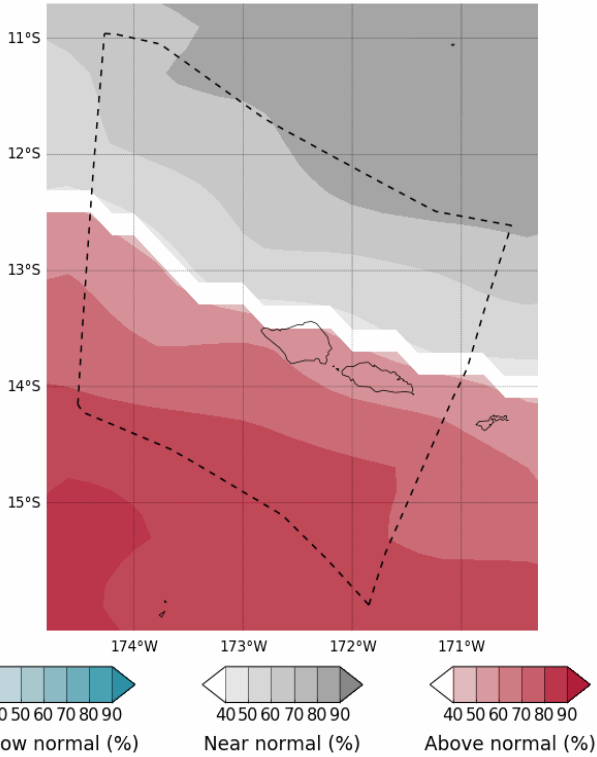
| Station | Three-month Total | | 33%tile | 67%tile | Median | Rank |
|----------------------|-------------------|--------------|---------|---------|--------|--------|
| | Rainfall (mm) | | | | | |
| Apia (1890-2022) | 846.8 | Normal | 722.7 | 909.7 | 819.8 | 77/132 |
| Afiamalu (1903-2022) | 1530.3 | Above normal | 1173.1 | 1486.7 | 1291.2 | 43/69 |
| Nafanua (1965-2022) | 882.3 | Normal | 829.7 | 1044.1 | 952.0 | 20/47 |
| Faleolo (1956-2022) | 521.3 | Below normal | 554.9 | 716.6 | 634.3 | 17/60 |

Part 1i. Monthly and Seasonal Outlooks for February and February to April 2023

| Monthly: February | Seasonal: February to April |
|---|--|
| <p>Rainfall (Image 1)</p> <p style="text-align: center;">Tercile rainfall probabilities for February 2023</p>  <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Below normal (%)</p> </div> <div style="text-align: center;">  <p>Near normal (%)</p> </div> <div style="text-align: center;">  <p>Above normal (%)</p> </div> </div> <p>Base period: 1981-2018 Model: ACCESS-S2 Model run: 02/01/2023 Issued: 05/01/2023</p> <p><small>© Commonwealth of Australia 2023, Australian Bureau of Meteorology Shapefile data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at http://www.marinerregions.org/.</small></p> | <p>Rainfall (Image 2)</p> <p style="text-align: center;">Tercile rainfall probabilities for February to April 2023</p>  <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Below normal (%)</p> </div> <div style="text-align: center;">  <p>Near normal (%)</p> </div> <div style="text-align: center;">  <p>Above normal (%)</p> </div> </div> <p>Base period: 1981-2018 Model: ACCESS-S2 Model run: 02/01/2023 Issued: 05/01/2023</p> <p><small>© Commonwealth of Australia 2023, Australian Bureau of Meteorology Shapefile data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at http://www.marinerregions.org/.</small></p> |
| <p>Monthly Maximum temperature (Image 3):</p> <p style="text-align: center;">Tercile maximum temperature probabilities for February 2023</p>  <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Below normal (%)</p> </div> <div style="text-align: center;">  <p>Near normal (%)</p> </div> <div style="text-align: center;">  <p>Above normal (%)</p> </div> </div> <p>Base period: 1981-2018 Model: ACCESS-S2 Model run: 02/01/2023 Issued: 05/01/2023</p> <p><small>© Commonwealth of Australia 2023, Australian Bureau of Meteorology Shapefile data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at http://www.marinerregions.org/.</small></p> | <p>Seasonal maximum temperature (Image 4):</p> <p style="text-align: center;">Tercile maximum temperature probabilities for February to April 2023</p>  <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Below normal (%)</p> </div> <div style="text-align: center;">  <p>Near normal (%)</p> </div> <div style="text-align: center;">  <p>Above normal (%)</p> </div> </div> <p>Base period: 1981-2018 Model: ACCESS-S2 Model run: 02/01/2023 Issued: 05/01/2023</p> <p><small>© Commonwealth of Australia 2023, Australian Bureau of Meteorology Shapefile data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at http://www.marinerregions.org/.</small></p> |

Monthly minimum temperature (Image 5):

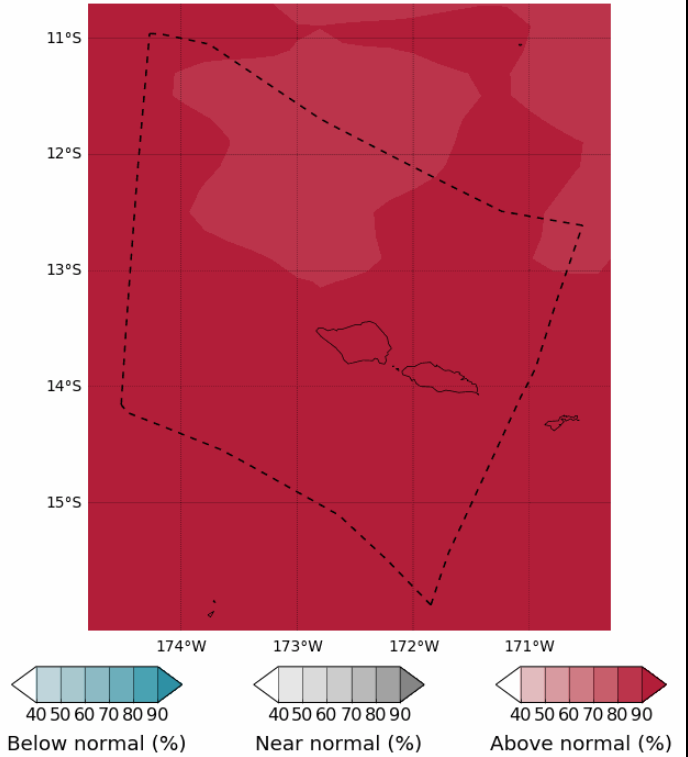
Tercile minimum temperature probabilities for February 2023



Base period: 1981-2018
 Model: ACCESS-S2
 Model run: 02/01/2023
 Issued: 05/01/2023
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 Shapefile data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at <http://www.marinerregions.org/>.

Seasonal minimum temperature (Image 6):

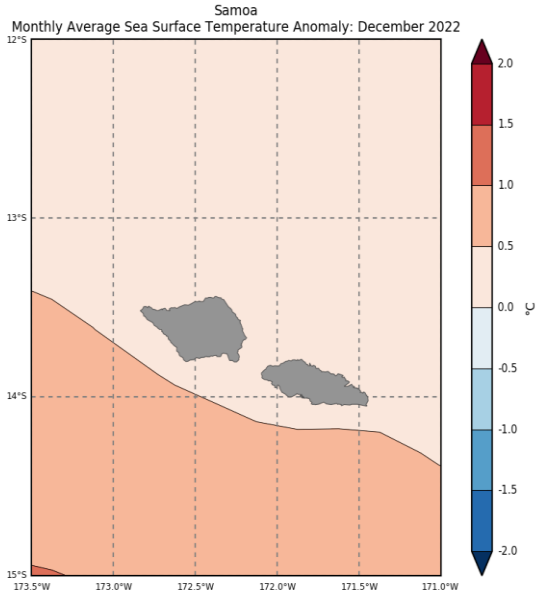
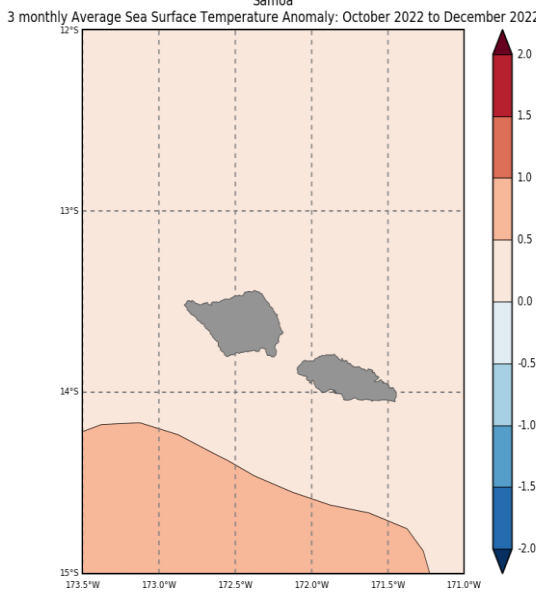
Tercile minimum temperature probabilities for February to April 2023

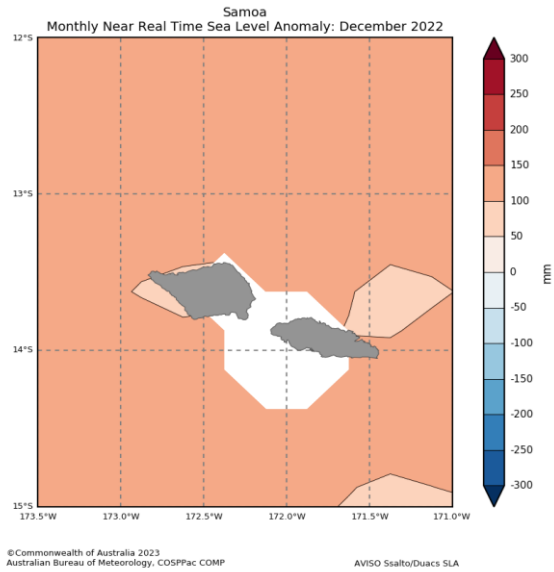


Base period: 1981-2018
 Model: ACCESS-S2
 Model run: 02/01/2023
 Issued: 05/01/2023
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 Shapefile data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at <http://www.marinerregions.org/>.

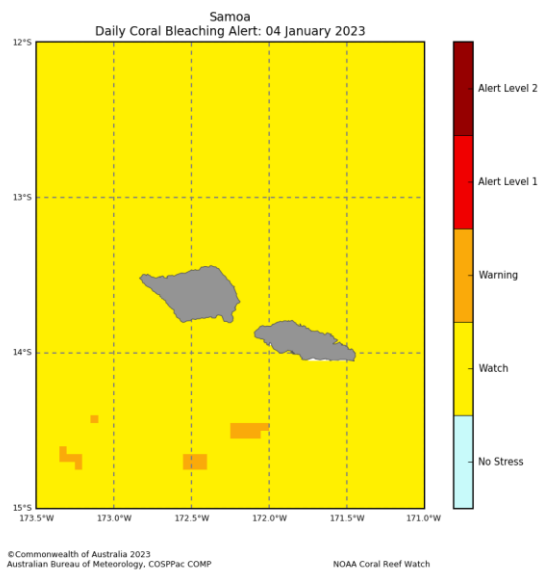
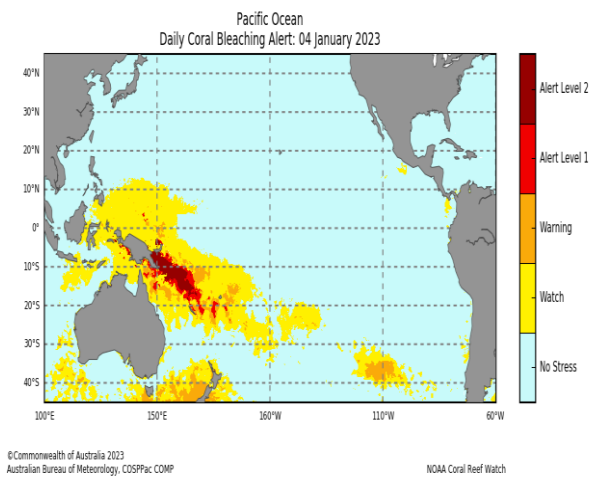
Part 2: Recent Ocean Observation

Monthly/Three months: December 2022 and October to December 2022

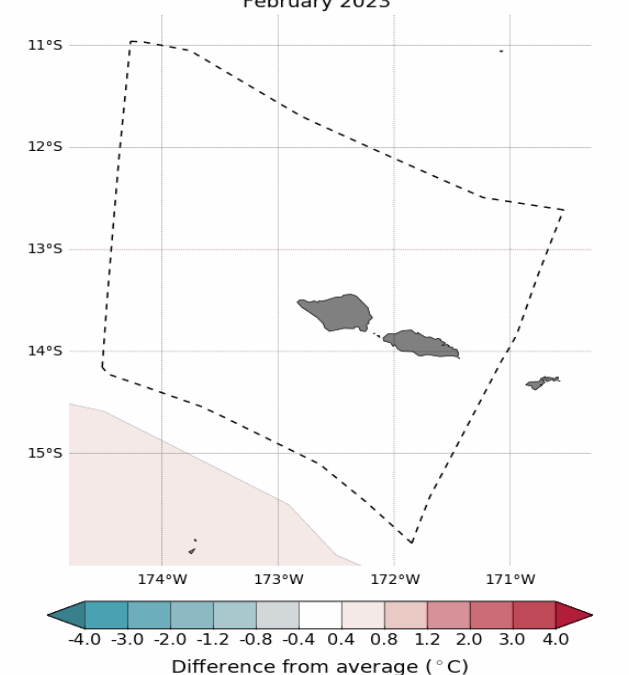
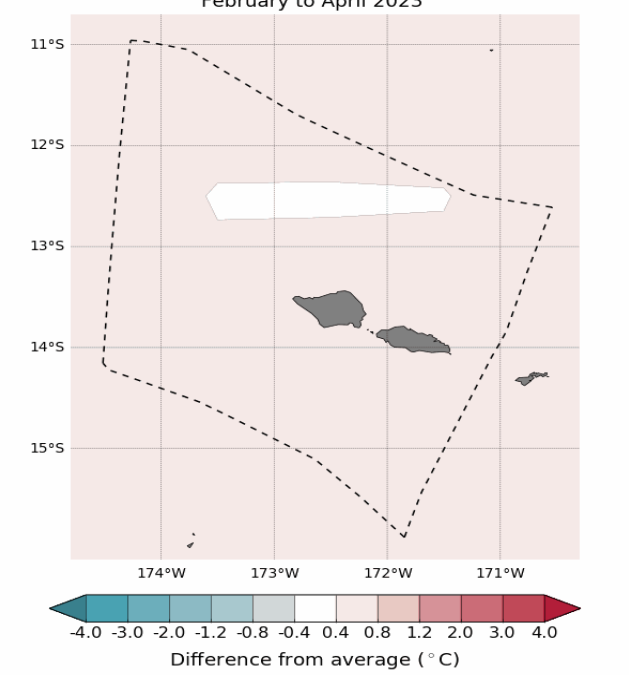
| Monthly: December | Last three months: October to December 2022: |
|---|--|
| Sea Surface Temperature (Image 1): | Sea Surface Temperature (Image 4): |
|  <p>Samoa Monthly Average Sea Surface Temperature Anomaly: December 2022</p> <p>©Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac COMP Reynolds SST</p> |  <p>Samoa 3 monthly Average Sea Surface Temperature Anomaly: October 2022 to December 2022</p> <p>©Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac COMP Reynolds SST</p> |
| Sea level (Image 2): | |



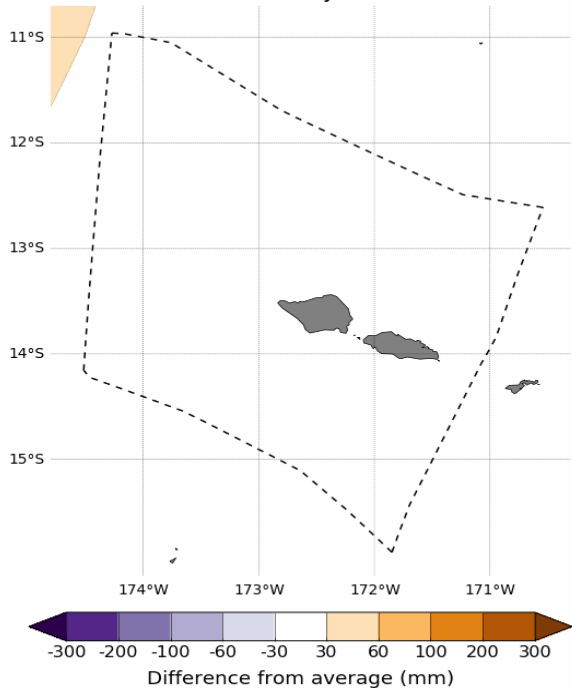
Daily coral bleaching alert (Image 3):



Part 2i. Monthly and Seasonal Outlooks for February and February to April 2023

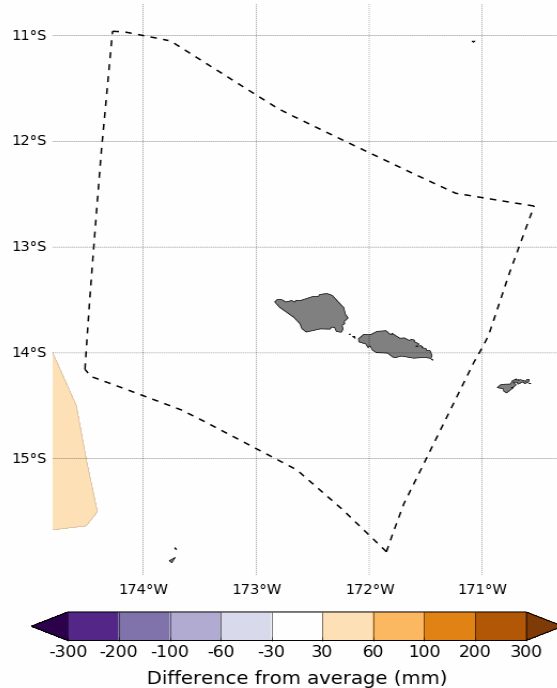
| Monthly: February | Seasonal: February to April |
|--|--|
| Monthly sea surface temperature (Image 5): | Seasonal sea surface temperature (Image 6): |
| <p>Difference from average sea surface temperature forecast for February 2023</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2023, Australian Bureau of Meteorology Shapefile data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at http://www.marinerregions.org/</p> <p>Model run: 02/01/2023 Issued: 04/01/2023</p> | <p>Difference from average sea surface temperature forecast for February to April 2023</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2023, Australian Bureau of Meteorology Shapefile data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at http://www.marinerregions.org/</p> <p>Model run: 02/01/2023 Issued: 04/01/2023</p> |
| Monthly sea level (Image 7): | Seasonal sea level (Image 8): |

Difference from average sea surface height forecast for February 2023



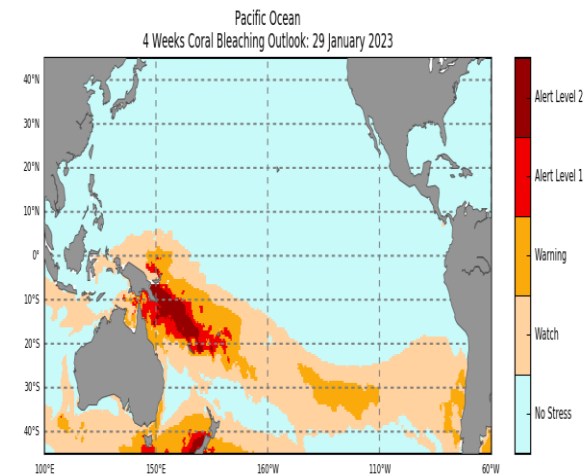
Base period: 1981-2018
 Model: ACCESS-S2
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 Shapefile data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at <http://www.marinerregions.org/>
 Model run: 02/01/2023
 Issued: 04/01/2023

Difference from average sea surface height forecast for February to April 2023

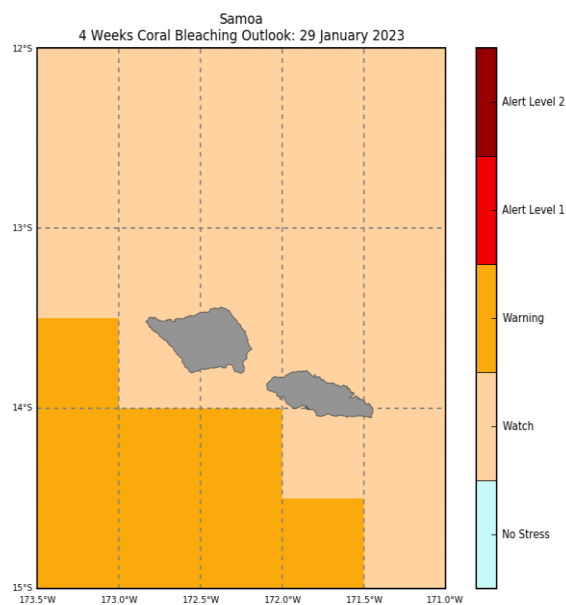


Base period: 1981-2018
 Model: ACCESS-S2
 © Commonwealth of Australia 2023, Australian Bureau of Meteorology
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 Model run: 02/01/2023
 Issued: 04/01/2023

4-week Coral Bleaching (Image 9):



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 NOAA Coral Reef Watch



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 NOAA Coral Reef Watch

Summary Statement

Monthly and last three months: December 2022/October to December 2022 statement

Normal rainfall was recorded at the Apia and Nafanua stations in December 2022, while Afiamalu registered *above normal* rainfall and Faleolo *below normal*.

The three-monthly October to December rainfall was *above normal* at Afiamalu, *normal* at Apia and Nafanua, and *below normal* at Faleolo.

Part 1i. Monthly and Seasonal Outlooks for February and February to April 2023

Monthly /Seasonal rainfall and temperature Outlook statements

Samoa's February and February to April rainfall totals are likely to be *below normal*.

Maximum and minimum temperatures during February are likely to be above normal for most parts of Samoa, except for the far northern side of Savaii where the outlook offers little guidance.

Maximum and minimum temperatures averaged over February to April are very likely to be above normal over Samoa.

Part 2: Recent Ocean summary statement

Monthly and last three months: December/October to December 2022

December ocean temperatures around Samoa's main islands were up to 0.5°C *above normal*, while temperatures across the southwest and southern parts of the EEZ were between 0.5 and 1.0°C *above normal*.

Averaged over October to December, ocean temperatures around Samoa were very similar to those observed in December.

December sea levels around Samoa were 100 mm to 150 mm above normal.

There is a coral bleaching *watch* for Samoa.

Part 2i. Monthly and Seasonal Outlooks for February and February to April 2023

Ocean Variable statement

February ocean temperatures around Samoa are predicted to be near-normal.

Averaged over February to April, ocean temperatures around Samoa are predicted to be 0.4°C to 0.8°C above normal.

Sea levels around Samoa during February and averaged over February to April, are predicted to be near-normal.

There is a coral bleaching *watch* for Samoa's main islands, and a warning for the southwest of the EEZ.

TABLE 3: Stakeholder Engagement- Evaluations of how effective NMS engage with stakeholders

| Product | Date: December 2022 | Stakeholder | Total Number of Participants | Number of male | Number of female |
|----------------|------------------------------------|--|---|---------------------------|-----------------------------|
| EAR Watch | 19th | RED Cross, Water Authority (SWA), Media, Health, Works & Infrastructure, Land & Transport Authority, Agriculture & Fisheries, Fire Services, Ministry of Women, National University of Samoa, Tourism, Foreign Affairs, Communication and Information Technology, Disaster Managers, Marines | 65 | 27 | 38 |
| Ocean Outlook | 19th | RED Cross, Water Authority (SWA), Media, Health, Works & Infrastructure, Land & Transport Authority, Agriculture & Fisheries, Fire Services, Ministry of Women, National University of Samoa, Tourism, Foreign Affairs, Communication and Information Technology, Disaster Managers, Marines | 65 | 27 | 38 |
| Total | | | 65 | 27 | 38 |