

# Pacific Islands - Ocean and Climate Outlook Forum (OCOF) No. 181

Country: Samoa

## Part 1: Recent climate

**TABLE 1: Monthly Rainfall**

Station (include data period)	Jul-2022	Aug-2022	Sep-2022				
			Total (mm)	33%tile	67%tile	Median	Rank
	Total (mm)	Total (mm)	Rainfall (mm)				
Apia (1890-2022)	158.5	156.2	110.5	86.3	172.3	118.6	59/133
Afiamalu (1903-2022)	131.0	259.9	111.2	124.0	219.3	172.0	23/70
Nafanua (1965-2022)	126.4	206.7	118.6	97.1	175.0	149.6	22/50
Faleolo (1956-2022)	69.4	69.7	41.1	54.8	112.3	80.3	14/60

**TABLE 2: Three-month Total Rainfall for July to September 2022**

Station	Three-month Total		33%tile	67%tile	Median	Rank
	Rainfall (mm)					
Apia (1890-2022)	425.2	Normal	280.0	440.0	385.0	89/133
Afiamalu (1903-2022)	502.1	Below normal	549.3	686.8	614.4	22/68
Nafanua (1965-2022)	451.7	Normal	334.9	504.5	404.0	28/50
Faleolo (1956-2022)	180.2	Below normal	202.6	335.3	271.2	18/58

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

Very Low:  $X < 0.0$

Low:  $0 \leq X < 5$

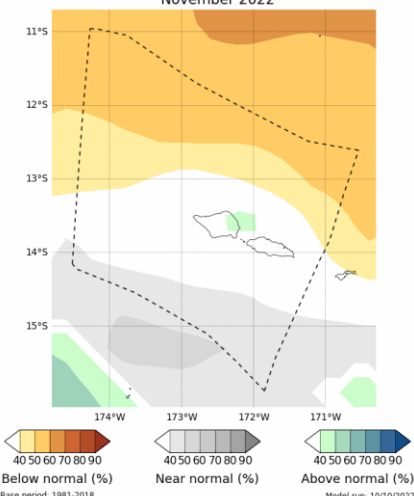
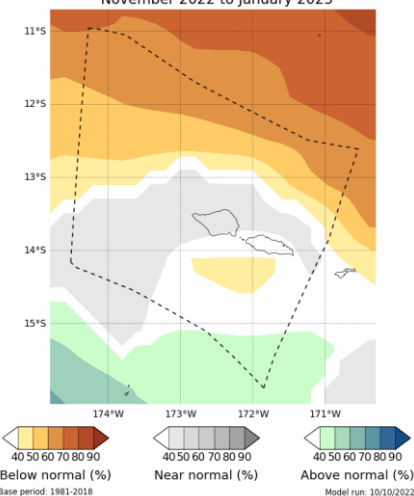
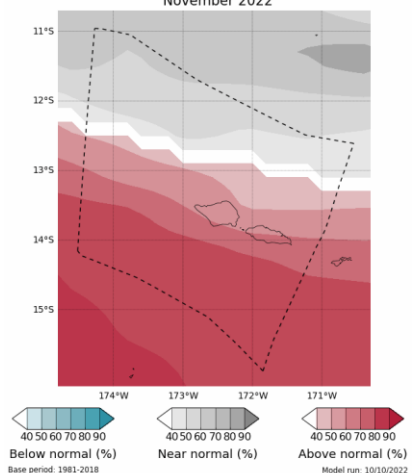
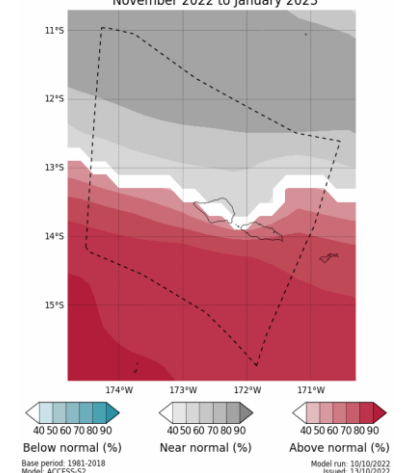
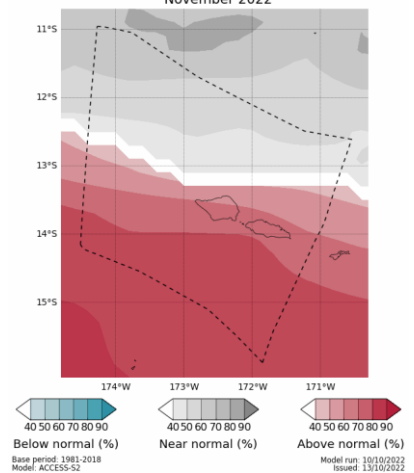
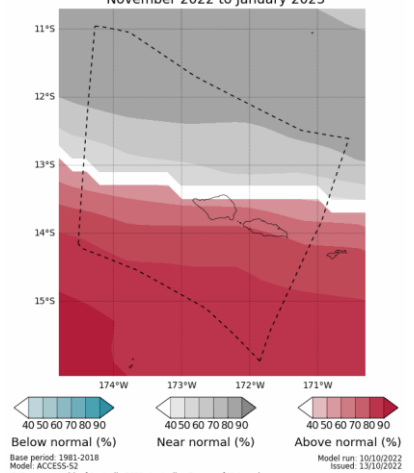
Moderate  $5 \leq X < 10$

Good:  $10 \leq X < 15$

High:  $15 \leq X < 25$

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

## Part 1i. Monthly and Seasonal Outlooks for November and November to January 2023

Monthly: November	Seasonal: November to January
Rainfall (Image 1)	Rainfall (Image 2)
<p>Tercile rainfall probabilities for November 2022</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 Shapfile data extracted from Flinders Marine Institute (2019). Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at <a href="http://www.marineregions.org/">http://www.marineregions.org/</a> Model run: 10/10/2022 Issued: 13/10/2022</p>	<p>Tercile rainfall probabilities for November 2022 to January 2023</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 Shapfile data extracted from Flinders Marine Institute (2019). Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at <a href="http://www.marineregions.org/">http://www.marineregions.org/</a> Model run: 10/10/2022 Issued: 13/10/2022</p>
Monthly Maximum temperature (Image 3):	Seasonal maximum temperature (Image 4):
<p>Tercile maximum temperature probabilities for November 2022</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 Shapfile data extracted from Flinders Marine Institute (2019). Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at <a href="http://www.marineregions.org/">http://www.marineregions.org/</a> Model run: 10/10/2022 Issued: 13/10/2022</p>	<p>Tercile maximum temperature probabilities for November 2022 to January 2023</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 Shapfile data extracted from Flinders Marine Institute (2019). Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at <a href="http://www.marineregions.org/">http://www.marineregions.org/</a> Model run: 10/10/2022 Issued: 13/10/2022</p>
Monthly minimum temperature (Image 5):	Seasonal minimum temperature (Image 6):
<p>Tercile minimum temperature probabilities for November 2022</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 Shapfile data extracted from Flinders Marine Institute (2019). Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at <a href="http://www.marineregions.org/">http://www.marineregions.org/</a> Model run: 10/10/2022 Issued: 13/10/2022</p>	<p>Tercile minimum temperature probabilities for November 2022 to January 2023</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 Shapfile data extracted from Flinders Marine Institute (2019). Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 11. Available online at <a href="http://www.marineregions.org/">http://www.marineregions.org/</a> Model run: 10/10/2022 Issued: 13/10/2022</p>

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Low:  $0 \leq X < 5$

Moderate:  $5 \leq X < 10$

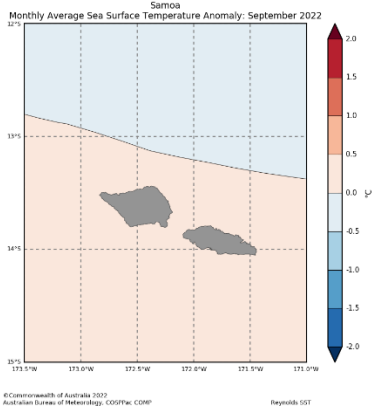
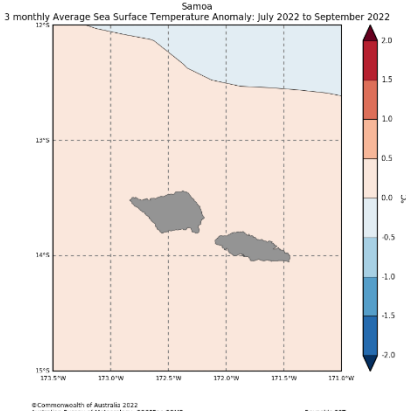
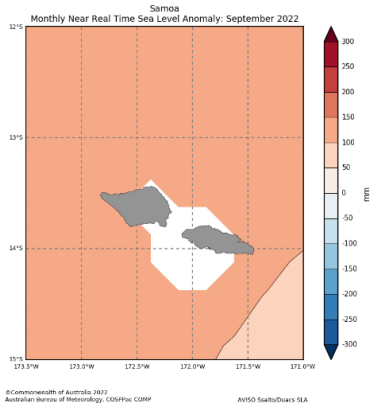
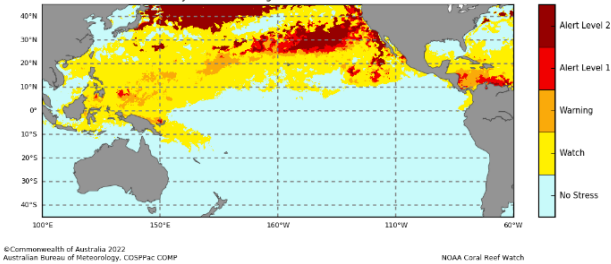
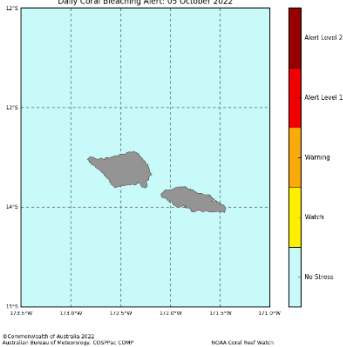
Good:  $10 \leq X < 15$

High:  $15 \leq X < 25$

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

Part 2: Recent Ocean Observation

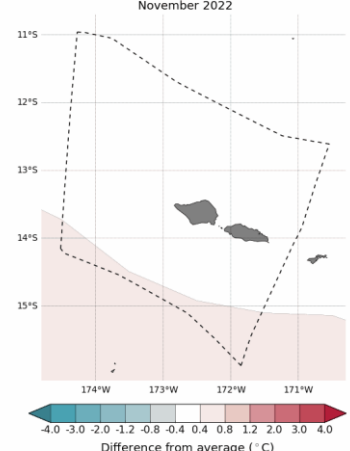
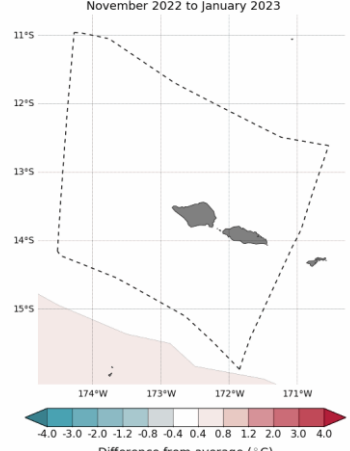
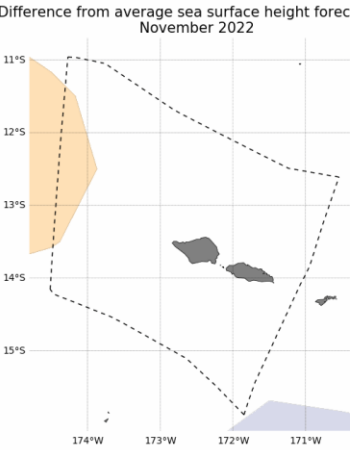
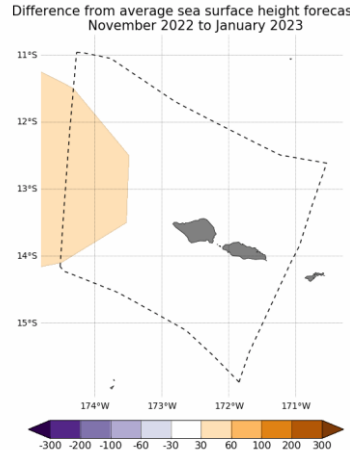
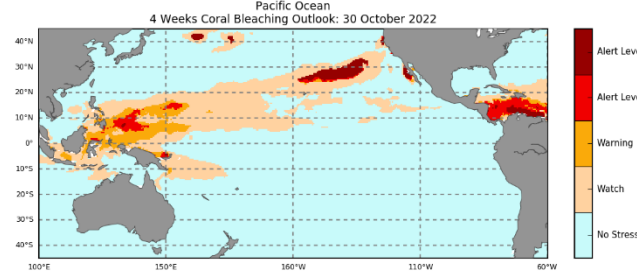
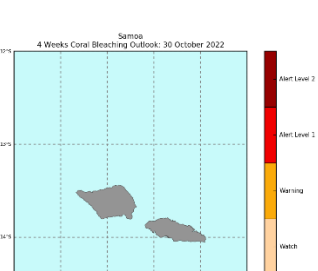
Monthly/Three months: September 2022 and July to September 2022

Monthly: September	Last three months: July to September 2022:
Sea Surface Temperature (Image 1): <div></div>	Sea Surface Temperature (Image 4): <div></div>
Sea level (Image 2): <div></div>	
Daily coral bleaching alert (Image 3): <div></div>	<div></div>

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## Part 2i. Monthly and Seasonal Outlooks for November and November to January 2023

Monthly: November	Seasonal: November to January
Monthly sea surface temperature (Image 5):	Seasonal sea surface temperature (Image 6):
<p>Difference from average sea surface temperature forecast for November 2022</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2022, Australian Bureau of Meteorology Shapfile data extracted from Fisheries Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (2004M), version 11. Available online at <a href="http://www.maritimerregions.org/">http://www.maritimerregions.org/</a></p> <p>Model run: 15/10/2022 Issued: 17/10/2022</p>	<p>Difference from average sea surface temperature forecast for November 2022 to January 2023</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2022, Australian Bureau of Meteorology Shapfile data extracted from Fisheries Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (2004M), version 11. Available online at <a href="http://www.maritimerregions.org/">http://www.maritimerregions.org/</a></p> <p>Model run: 15/10/2022 Issued: 17/10/2022</p>
Monthly sea level (Image 7):	Seasonal sea level (Image 8):
<p>Difference from average sea surface height forecast for November 2022</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2022, Australian Bureau of Meteorology Shapfile data extracted from Fisheries Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (2004M), version 11. Available online at <a href="http://www.maritimerregions.org/">http://www.maritimerregions.org/</a></p> <p>Model run: 15/10/2022 Issued: 17/10/2022</p>	<p>Difference from average sea surface height forecast for November 2022 to January 2023</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2022, Australian Bureau of Meteorology Shapfile data extracted from Fisheries Marine Institute (2019), Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (2004M), version 11. Available online at <a href="http://www.maritimerregions.org/">http://www.maritimerregions.org/</a></p> <p>Model run: 15/10/2022 Issued: 17/10/2022</p>
4-week Coral Bleaching (Image 9):	
<p>Pacific Ocean 4 Weeks Coral Bleaching Outlook: 30 October 2022</p>  <p>©Commonwealth of Australia 2022 Australian Bureau of Meteorology, COSPac: COMP</p> <p>NOAA Coral Reef Watch</p>	<p>Samoa 4 Weeks Coral Bleaching Outlook: 30 October 2022</p>  <p>©Commonwealth of Australia 2022 Australian Bureau of Meteorology, COSPac: COMP</p> <p>NOAA Coral Reef Watch</p>

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## Summary Statement

### Monthly and last three months: September 2022/July to September 2022 statement

The monthly rainfall for Afiamalu and Faleolo was *below normal*, with *normal* rainfall recorded for Apia and Nafanua stations. The three-monthly rainfall was also *below normal* at Afiamalu and Faleolo stations, whereas Apia and Nafanua registered *normal* rainfall.

## Part 1i. Monthly and Seasonal Outlooks for November and November to January 2023

### Monthly /Seasonal rainfall and temperature Outlook statements

The rainfall outlook for November offers little guidance for Samoa, as does the seasonal outlook for Upolu. For Savaii, on the other hand, November to January rainfall is likely to be *near-normal*.

Maximum and minimum temperatures during November are likely to be *above normal* for Samoa.

Maximum and minimum temperatures averaged over November to January are likely to be *above normal* for the southern region, and *normal* over the northern region of the Samoa islands.

## Part 2: Recent Ocean summary statement

### Monthly and last three months: September/July to September 2022

The sea surface temperatures for September and last three months, July to September, were near normal conditions for Samoa.

Sea level anomalies around Samoa were above normal with sea level height differences of utmost 150mm for September. Coral bleaching alerts reveals no thermal stress.

## Part 2i. Monthly and Seasonal Outlooks for September and September to January 2023

### Ocean Variable statement

The monthly SST outlook for November predicts *above normal* temperatures of utmost 0.8°C for the southern Samoa waters, while *normal* conditions is anticipated for the northern region.

The seasonal SST outlook for November to January predicts *normal* temperatures of utmost 0.4°C.

The monthly sea level anomaly outlook for November reveals *near normal* sea level height differences of -30mm to 30mm for the Samoa region.

For the upcoming three months, November 2022 to January 2023, significant sea level height difference of utmost 60mm over far western Samoa waters is forecasted, with remaining region predicted to experience near normal conditions.

Coral bleaching outlook for the next four weeks reveals no thermal stress over Samoa.

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

Product	Date: September 2022	Stakeholder	Total Number of Participants	Number of male	Number of female
Seasonal Climate Outlook	30th	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
EAR Watch	30th	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
Monthly Climate Briefing					
Ocean Outlook	30th	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

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Climate data request	07th, 14th, and 25th.	Private Consultants, China Harbour Engineering, National University of Samoa, SPREP.	5	3	2
<b>Total</b>			<b>70</b>	<b>30</b>	<b>40</b>

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