2026

State of the Aquifer

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Intentional Page

INTRODUCTION

The State of the Aquifer Report provides an assessment of the condition of the Northern Guam Lens Aquifer (NGLA). The report uses available groundwater quality and hydrologic data to identify concerns related to the quality and quantity of Guam's aquifer.

1 WATER QUALITY

Water quality is important to the NGLA. Continued development and activities above the aquifer can introduce contaminants into the freshwater lens and affect its quality. Maintaining quality while meeting drinking water standards is crucial to ensure a safe water supply for the island. Contaminants include dieldrin, per- and polyfluoroalkyl substances (PFAS), nitrates, and chloride.

1.1 Dieldrin

Dieldrin is a synthetic insecticide used in the 1950s to control agricultural pests. U.S. EPA banned most uses of dieldrin in 1974, although their use for termite control remained permitted until 1987. Dieldrin is highly persistent in the environment and exposure may pose health risks. Guam EPA established an Interim Action Level (IAL) of 0.20 µg/L (ppb) for dieldrin, which took effect on August 1, 2025. Information on the historical use of dieldrin in Guam is limited; however, monitoring data shown in Figure 1.1 indicate that dieldrin was detected in groundwater as early as 2008, with concentrations in production wells Y-15 and M-4 exceeding the current IAL.

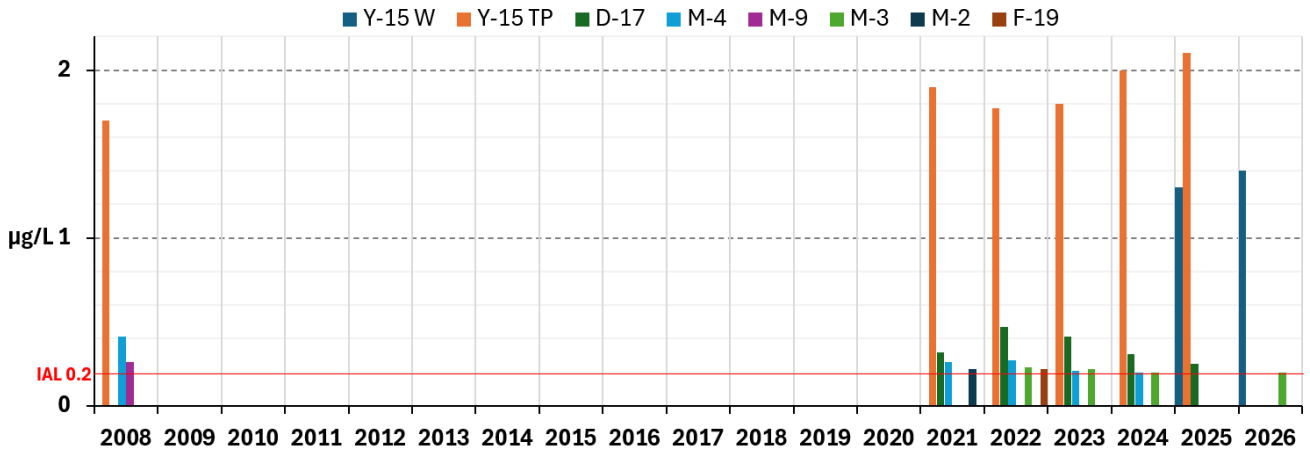


Figure 1.1 Dieldrin monitoring data for select production wells, 2008 – 2026. Red line is Guam EPA's IAL of 0.20 µg/L.

Figures 1.2-1.4 show recent mapped dieldrin concentrations, with little to no detection in the Finagua'yok Basin and part of the Hagåtña Basin near A-9, A-10, and A-13. Table 1 shows wells with elevated concentrations. Y-15 had a pre-treatment concentration of 1.3 µg/L, substantially above the IAL. Dieldrin was not detected after GAC treatment. Wells in the Tomhom and Mangilao basins (M-2, M-3, M-4, EX-11A, and D-18) had concentrations greater than 0.10 µg/L. Although these concentrations are below the IAL, continued monitoring and further investigation of potential sources are warranted.

Basin	Well	[D] ug/L	Date
Upi	Y-15 W	1.3	4/8/2026
Tomhom	D-18	0.14	4/8/2026
Mangilao	M-2	0.14	4/8/2026
	M-4	0.15	3/10/2026
	EX-11A	0.14	4/8/2026

Table 1 Wells with dieldrin concentrations >0.1 (orange) and >IAL (red).

Figure 1.2 Most recent dieldrin concentrations (µg/L) in production wells within the Machanao, Finagua'yok, and Upi Aquifer Basins, color-coded by concentration range.

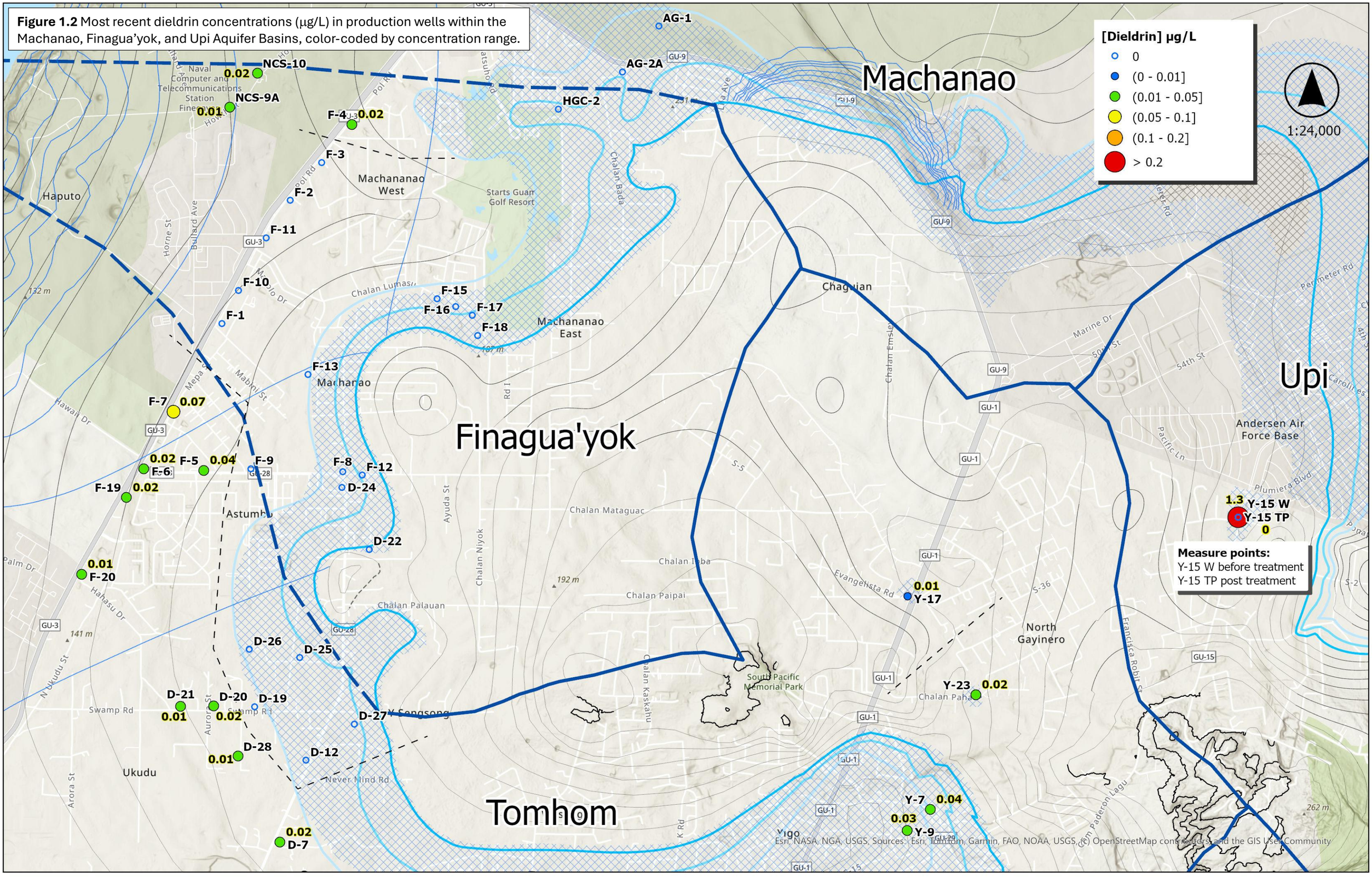


Figure 1.3 Most recent dieldrin concentrations (µg/L) in production wells within the Tomhom and Mangilao Aquifer Basins.

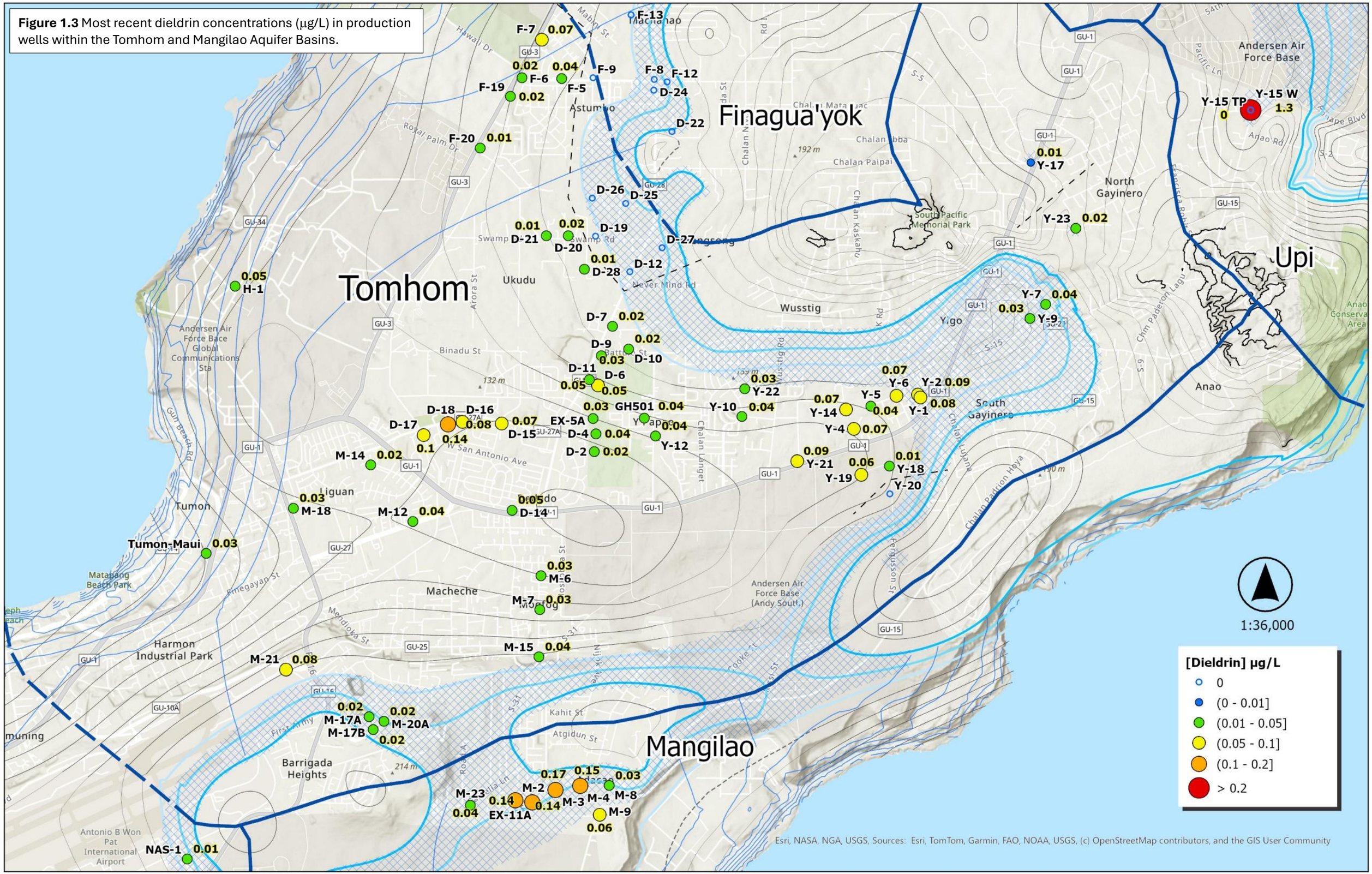
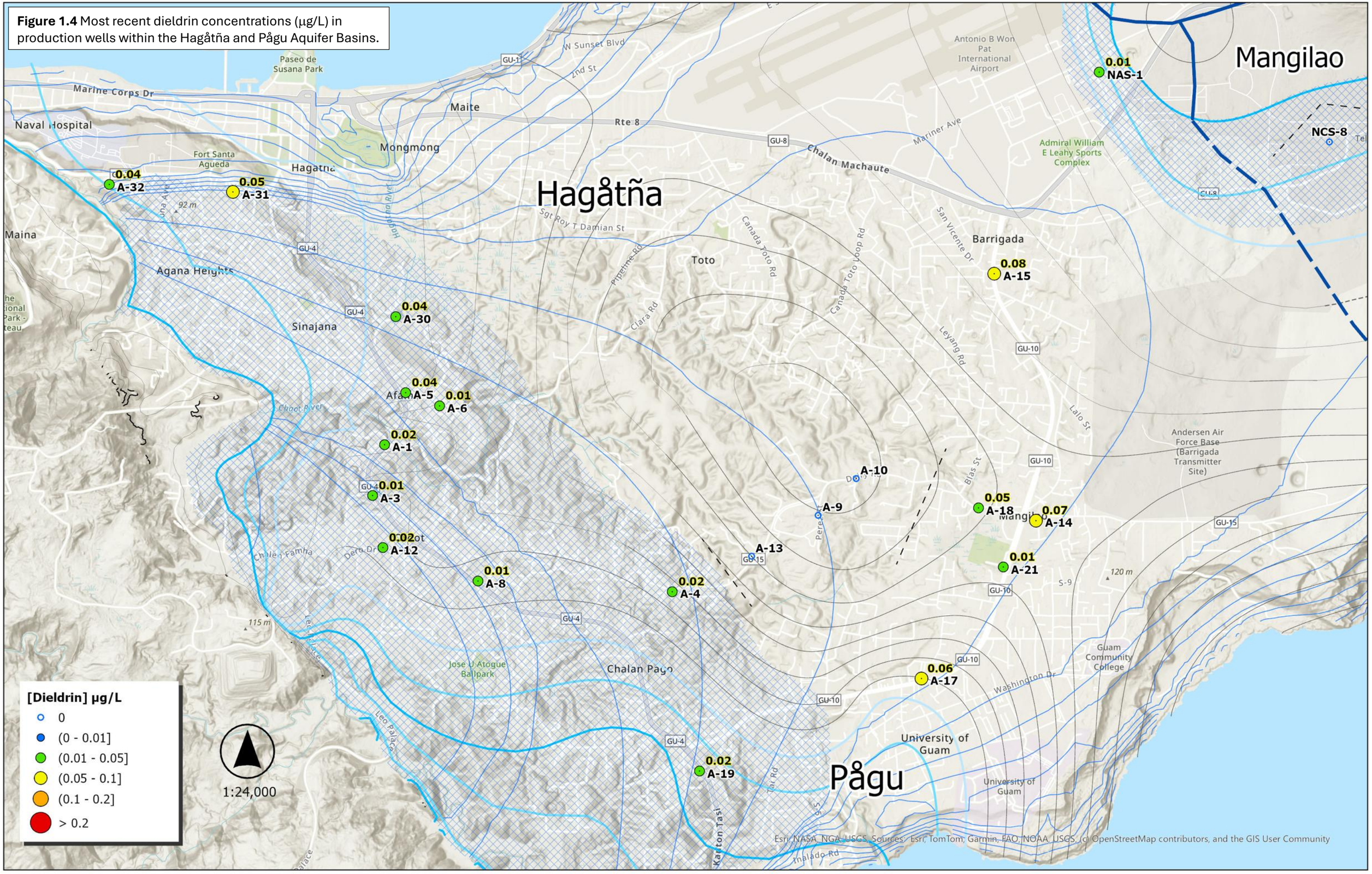


Figure 1.4 Most recent dieldrin concentrations (µg/L) in production wells within the Hagåtña and Pågu Aquifer Basins.



1.2 PFAS – Per- and Polyfluoroalkyl Substances

PFAS have been used for decades in aqueous film-forming foam (AFFF), nonstick cookware, water-repellent fabrics, food packaging, and cosmetics (Mashima, 2025). Often called "forever chemicals," PFAS resist degradation and persist in the environment. PFAS studies on Guam include research by Dr. Barry Kim and an M.S. Environmental Science thesis by Ms. Mallary Duenas. Monitoring under the fifth cycle of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR 5) included testing for 29 PFAS from January 2023 through December 2025, several of which are subject to federal drinking-water standards (Appendix 2).

Figures 1.5–1.8 show the distribution of PFAS across the NGLA. A total of 48 facilities (production wells and booster stations) had at least one PFAS result at or above its respective minimum reporting level (MRL) (Appendix 3). PFHxS was widely detected in production wells across the Upi, Finagua'yok, Hagåtña, Pågu, Mangilao, and Tomhom basins. Among the 48 facilities, 21 wells had at least one regulated PFAS concentration above their respective maximum contaminant level (MCL). PFOA, PFOS, and PFHxS exceeded their respective MCLs, with most exceedances occurring in the Hagåtña, Pågu, Tomhom, and Mangilao basins.

Hazard Index (HI) values and total PFAS concentrations were also calculated for each well. The HI accounts for the combined potential health effects of PFHxS, PFNA, HFPO-DA, and PFBS. An HI greater than 1 indicates that the combined contribution of these PFAS exceeds EPA's health-based benchmark for the mixture. Wells with HI (>1) included A-4, A-13, and A-30 (Hagåtña); M-8 and M-9 (Mangilao); and D-17A, F-7, M-12, M-17A, and M-21 (Tomhom).

1.3 Nitrates

Nitrate, a common indicator of wastewater discharge, may enter the aquifer from leaking sewer lines, septic systems, and pits. The U.S. EPA maximum contaminant level (MCL) for Nitrate-N is 10 mg/L, with increased monitoring required when concentrations reach 50% of the MCL. Previous studies (McDonald (2002) and Bulaklak et al. (2020) identified potential nitrate sources and evaluated nitrate-N trends. Subsequently, Valerio et al. (2023) developed MAppFx: Production Well Nitrates Northern Guam Lens Aquifer, an interactive tool that integrates nitrate time-series data with statistical and trend analyses. Table 2 lists ten production wells with increasing linear nitrate-N trends. Three wells (M-2, M-4, and EX-11) are projected to reach or exceed 5 mg/L, equivalent to 50% of the MCL.

	Recent Sample Date	Recent Concentration	1/1/2027 Projected
M-4	2/18/2026	4.5	5.27
EX-11	5/6/2026	4.7	5.26
M-2	2/18/2026	4.4	5.03
F-18	12/4/2025	4.3	4.95
M-3	2/18/2026	4.6	4.90
M-8	2/17/2026	4.3	4.86
M-15	2/17/2026	3.1	4.82
F-12	5/6/2026	4.5	4.74
M-9	2/17/2026	4.1	4.54
F-8	12/3/2025	3.7	4.37

Table 2 Top 10 production wells with increasing nitrate-N trends (mg/L), ranked based on sampling recency, projected nitrate-N concentration at the beginning of 2027, error analysis, and sample count.

Figure 1.5 Most recent PFAS detections (ng/L) in production wells within the Machanao, Finagua'yok, and Upi Aquifer Basins. Green indicates all PFAS below MRLs; blue indicates at least one PFAS reported at or above its MRL. Total concentrations and hazard index values are labeled where applicable. Red outlines indicate an MCL exceedance.

< MRL
≥ MRL
Hazard Index
∑ PFAS
PFAS Contaminants
> MCL
PFOA
PFOS
PFHxS
PFBS
Regulated
6-2FTS
PFBA
PFHpA
PFHxA
PFPeA
PFPeS
Unregulated
Sum of selected Fields
52
20
3
1:24,000
Machanao
Finagua'yok
Tomhom
Upi
NCS-10 Clr
0.31
3.1
NCS-9A Clr
HGC-2
4
F-3
NCS-B1 Clr
F-10
3.7
0.37
F-15
0.53
5.3
F-7
1.15
42.6
F-8
0.40
4
F-12
3.3
0.002
F-19
0.44
4.4
D-22
0.38
3.8
D-25
0.49
4.9
D-21
0.46
4.6
D-27
0.43
4.3
D-8
Y-15
0.59
96
Y-17
0.58
9.5
Y-23
0.30
33.9
Y-9
0.86
87.3
Naval Computer and Telecommunications Station Finegayan
Haputo
Machananao West
Starts Guam Golf Resort
Machananao East
Chaguian
Andersen Air Force Base
North Gayinero
Astumbo
Ukudu
Wusstig
Chalan Palauan
Chalan Mataguac
Chalan Paipai
Chalan Kaskahu
South Pacific Memorial Park
Y Sengsong
GU-9
GU-3
GU-1
GU-28
GU-15
Pol Rd
Chalan Luma
Chalan Niyok
Ayuda St
Bullard Ave
Horne St
Marine Dr
Pacific Ln
Perimeter Rd
Swamp Rd
Never Mind Rd
Hahasu Dr
Hawan Dr
Mabni St
Aurora St
Arora St
Ahao Rd
Evangelista Rd
Francisca Robit St
187 m
192 m
141 m
262 m
32 m
Esri, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community

Figure 1.6 Most recent PFAS detections (ng/L) in production wells within the Tomhom and Mangilao Aquifer Basins.

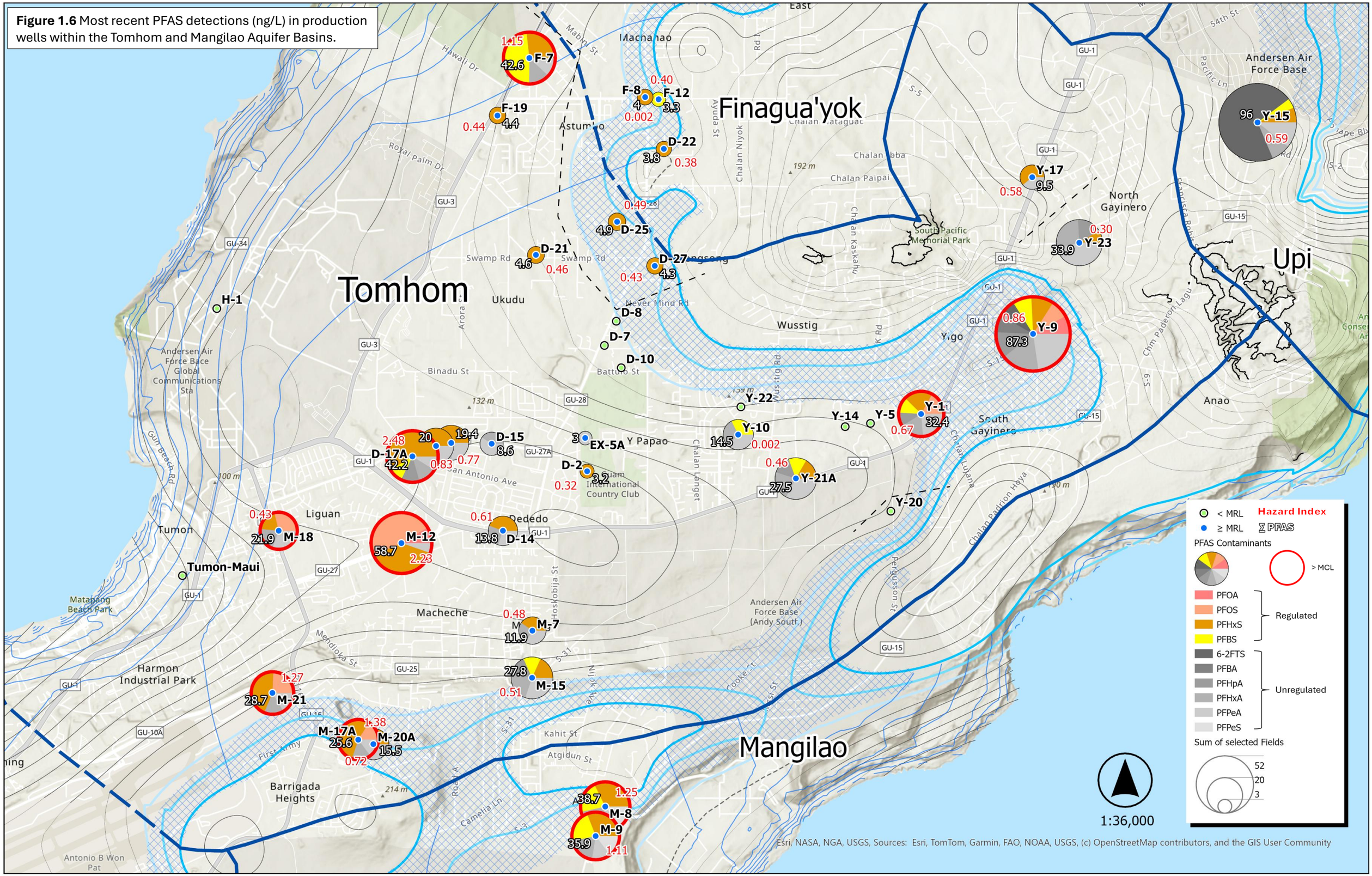


Figure 1.7 Close-up view of PFAS detections (ng/L) within the Tomhom and Mangilao Aquifer Basins.

Tomhom

Mangilao

D-8
D-7
D-10
Y-22
Y-10
14.5
0.002
Y-14
Y-5
0.67
32.4
Y-1
EX-5A
3
D-18B
20
D-16
19.4
0.77
D-15
8.6
D-17A
2.48
42.2
0.83
D-2
3.2
0.32
0.46
Y-21A
27.5
Y-20
0.43
21.9
M-18
M-12
58.7
2.23
0.61
13.8
D-14
Tumon-Maui
0.48
M-7
11.9
0.51
27.8
M-15
28.7
M-21
1.27
1.38
M-17A
25.6
0.72
M-20A
15.5
1.25
38.7
M-8
1.11
35.9
M-9

Never Mind Rd
Wusstig
Vigo
Binadu St
Battulo St
Wusstig Rd
159 m
132 m
Lada Ave
Y Papao
Guam International Country Club
Chalan Langet
Gun Beach Rd
100 m
W San Antonio Ave
Liguan
Tumon
Dededo
W Marine Corps Dr
S Ukudu St
Hoskobija St
Macheche
Andersen Air Force Base (Andy South)
Finegayan St
Mendioka St
Uhang St
Nimitz Hill
Jabara St
Cooke St
Harmon Industrial Park
N Rt 1
Rt 16
First Army
N Sabana Barrigada Dr
Barrigada Heights
214 m
Kahit St
Atgidun St
Adacao Rd
Camelia Ln
Road A
Ferguson St
Chalan Lujana

GU-1
GU-3
GU-14
GU-25
GU-26
GU-27
GU-27A
GU-28
GU-10A
GU-15
GU-16

< MRL
≥ MRL
Hazard Index
∑ PFAS
PFAS Contaminants
> MCL
PFOA
PFOS
PFHxS
PFBS
Regulated
6-2FTS
PFBA
PFHpA
PFHxA
PFPeA
PFPeS
Unregulated
Sum of selected Fields
52
20
3

1:24,000

Esri, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community

Figure 1.8 Most recent PFAS detections (ng/L) in production wells within the Hagåtña and Pågu Aquifer Basins.

Hagåtña
Mangilao
Pågu
Agana Heights
Sinajana
Afame
Ordot
Chalan Pago
Toto
Barrigada
Maite
Mongmong
Hagatna
Fort Santa Agueda
Paseo de Susana Park
Marine Corps Dr
Hospital
Rte 8
Chalan Machaute
W Sunset Blvd
2nd St
Mariner Ave
Antonio B Won Pat International Airport
Admiral William E Leahy Sports Complex
Sgt Roy T Damian St
Pipeline Rd
Canada Toto Rd
Canada Toto Loop Rd
San Vicente
Clara Rd
Leyang Rd
Chaot River
Dero Dr
Jose U Atogue Ballpark
Lalo St
Blas St
Andersen Air Force Base (Barrigada Transmitter Site)
Guam Community College
Washington Dr
University of Guam
Tai Rd
Leo Palace
GU-1
GU-4
GU-8
GU-10
GU-15
92 m
115 m
120 m
S-9

NAS-1
NCS-8 Clr

26 A-32 0.81
0.80 A-31 33.5
78.9 A-30 1.31
0.64 A-15 37.5
GU-4 A-3
0.58 A-8 19.2
61.9 A-4 3.52
A-13 92.1 1.19
144.9 A-9 0.81
0.65 A-14 18.2
0.30 A-17 14.9
0.64 A-19 40.8

< MRL
≥ MRL
Hazard Index
∑ PFAS
PFAS Contaminants
> MCL
Regulated
PFOA
PFOS
PFHxS
PFBS
Unregulated
6-2FTS
PFBA
PFHpA
PFHxA
PFPeA
PFPeS
Sum of selected Fields
52
20
3

1:24,000

Esri, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community

2 RELATIVE OCEANIC NINO INDEX (RONI) AND RAINFALL

NOAA uses the Relative Oceanic Niño Index (RONI) to measure ENSO. In Figure 2.1, the upper graph shows RONI values from 2000 to July 2026. Values of +0.5 or greater indicate El Niño, while values of −0.5 or lower are La Niña events. The lower graph is annual and seasonal (wet-dry) rainfall from the NWS GIAA rain gage. ENSO can influence rainfall and drought, which may affect rainfall recharge to the aquifer.

3 CHLORIDE AND PRODUCTION

The NGLA is vulnerable to saltwater intrusion and overpumping. WERI Technical Reports 98, 143, and 188 analyzed pumping rates and chloride concentrations in production wells over time to support well operation and pumping management. MAppFx: Chloride and Production provides a view of updated production and chloride data. Table 3 summarizes NGLA production. As of June 2026, GWA production was ~38 MGD, with Tomhom being the most productive basin at 20.4 MGD. Military production totaled ~2.4 MGD, including 0.98 MGD from the USAF and 1.44 MGD from the USN. Table 4 shows the production-weighted average chloride concentrations, with Finagua'yok and Hagåtña having the highest values at 108.9 mg/L and 110.4 mg/L, respectively.

NGLA Production

(as of June 2026)

		2020	2021	2022	2023	2024	2025	2026
GWA	Upi	1.4	1.6	1.7	1.4	1.3	1.3	1.2
	Finagua'yok	3.9	3.9	4.0	4.0	5.2	5.3	5.7
	Tomhom	19.2	19.3	19.1	19.4	19.8	19.6	20.4
	Machanao	1.1	1.1	1.0	1.0	0.9	0.9	0.9
	Mangilao	2.0	2.0	1.9	1.6	1.7	1.7	1.2
	Hagåtña	7.4	8.5	8.7	7.9	8.6	8.6	8.4
		35.0	**36.5**	**36.4**	**35.2**	**37.5**	**37.3**	**37.9**
DOD	USAF				**1.03**	**0.84**	**0.91**	**0.98**
	USN				**1.27**	**1.34**	**1.22**	**1.44**

Table 3 NGLA production summary (MGD) for GWA and DOD, 2020 to June 2026.

NGLA Production Weighted Average Chloride

		2020	2021	2022	2023	2024	2025	2026
GWA	Upi	35.5	27.9	21.0	27.2	46.9	26.8	28.7
	Finagua'yok	81.3	69.0	57.8	72.6	84.5	93.3	108.9
	Tomhom	72.6	73.3	75.5	75.2	77.3	60.3	71.3
	Machanao	35.9	46.3	30.1	42.6	44.7	35.7	37.1
	Mangilao	55.7	56.7	57.9	74.8	68.9	57.1	67.6
	Hagåtña	128.2	124.3	126.1	110.3	128.0	116.3	110.4

Table 4 NGLA production weighted average chloride summary (mg/L) for GWA, 2020 to 2026.

4 DEEP OBSERVATION WELLS (DOWs)

Long-term conductivity, temperature, and depth (CTD) data from DOWs were analyzed to study the freshwater lens within the NGLA (Figure 4.1). WERI Technical Report No. 189 evaluated changes in freshwater (FW) lens thickness and its response to recharge, drought, sea-level, and ENSO. Figure 4.2 shows the GHURA Dededo phreatic hydrograph developed in the study. Since 2023, six recently installed DOWs have expanded observation in the Machanao, Finagua'yok, Tomhom, and Mangilao basins (Figure 4.3). Table 5 summarizes FW lens thickness across 13 DOWs.

	FW lens thickness (July 2026)	**from previous**	**from average**	**avg thickness**
EX-8	121.2'	+1.62'	+1.71'	119.5'
NWF-1	64.0'	+46.73'	+40.80'	23.2'
AAFB-1	83.4'	-1.84'	+1.25'	82.1'
NCSF-1	78.0'	+0.21'	-2.01'	80.0'
NCSF-2				
GHURA-Dededo	128.8'	+8.08'	+6.40'	122.4'
EX-10	107.5'	+0.58'	+4.56'	102.9'
EX-7A	4.9'			
Marbo-1	27.7'			
NCSB-1	78.3'	+49.09'	+36.00'	42.3'
EX-9	108.7'	+7.64'	+12.24'	96.4'
EX-1	236.1'	+164.10'	+137.33'	98.7'
EX-4	248.7'	+60.41'	+178.97'	69.7'

Table 5 FW lens thickness of 13 DOWs, difference from previous collection and average thickness (ft).

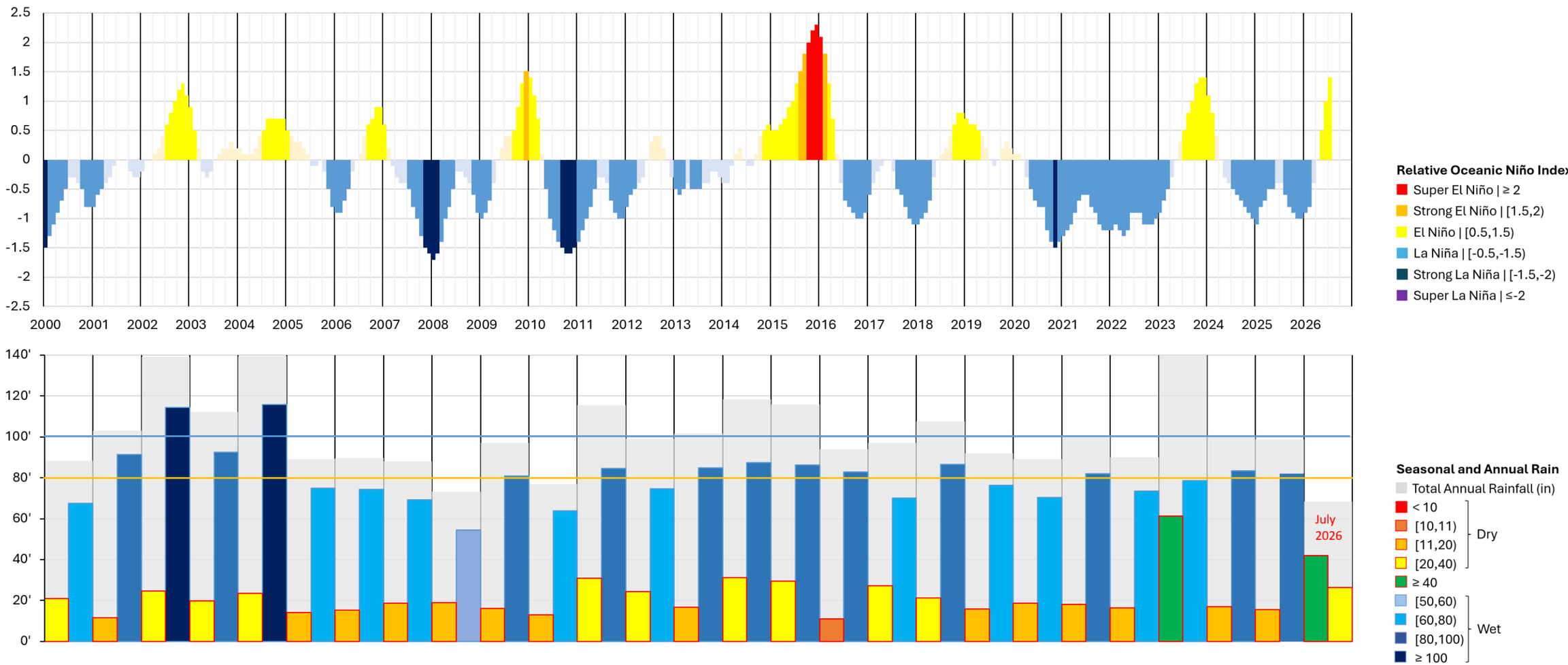
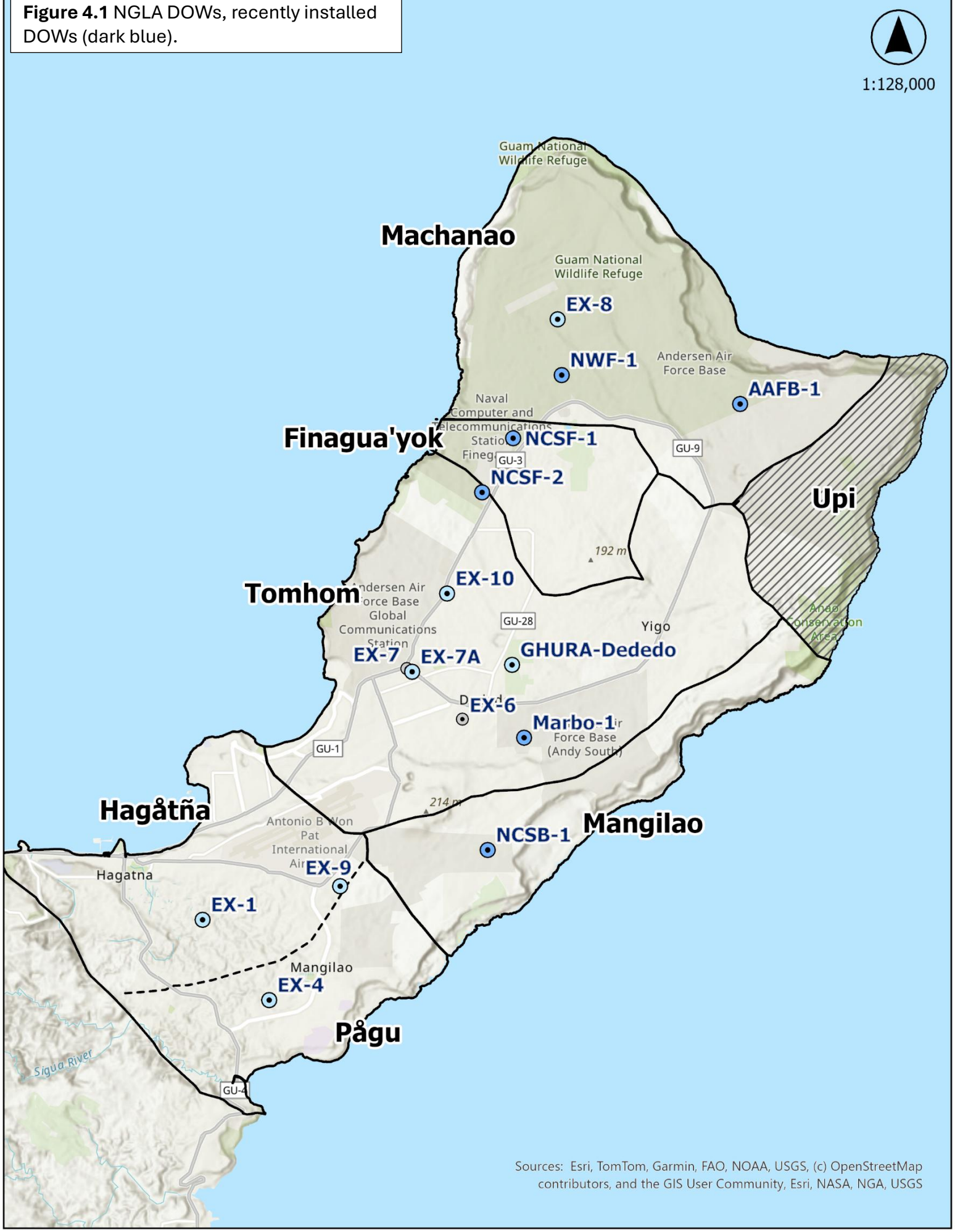


Figure 2.1 Relative Oceanic Nino Index (RONI) (top) and total and seasonal rainfall (bottom), NWS GIAA rain gage, 2000 to July 2026.

Figure 4.1 NGLA DOWs, recently installed DOWs (dark blue).



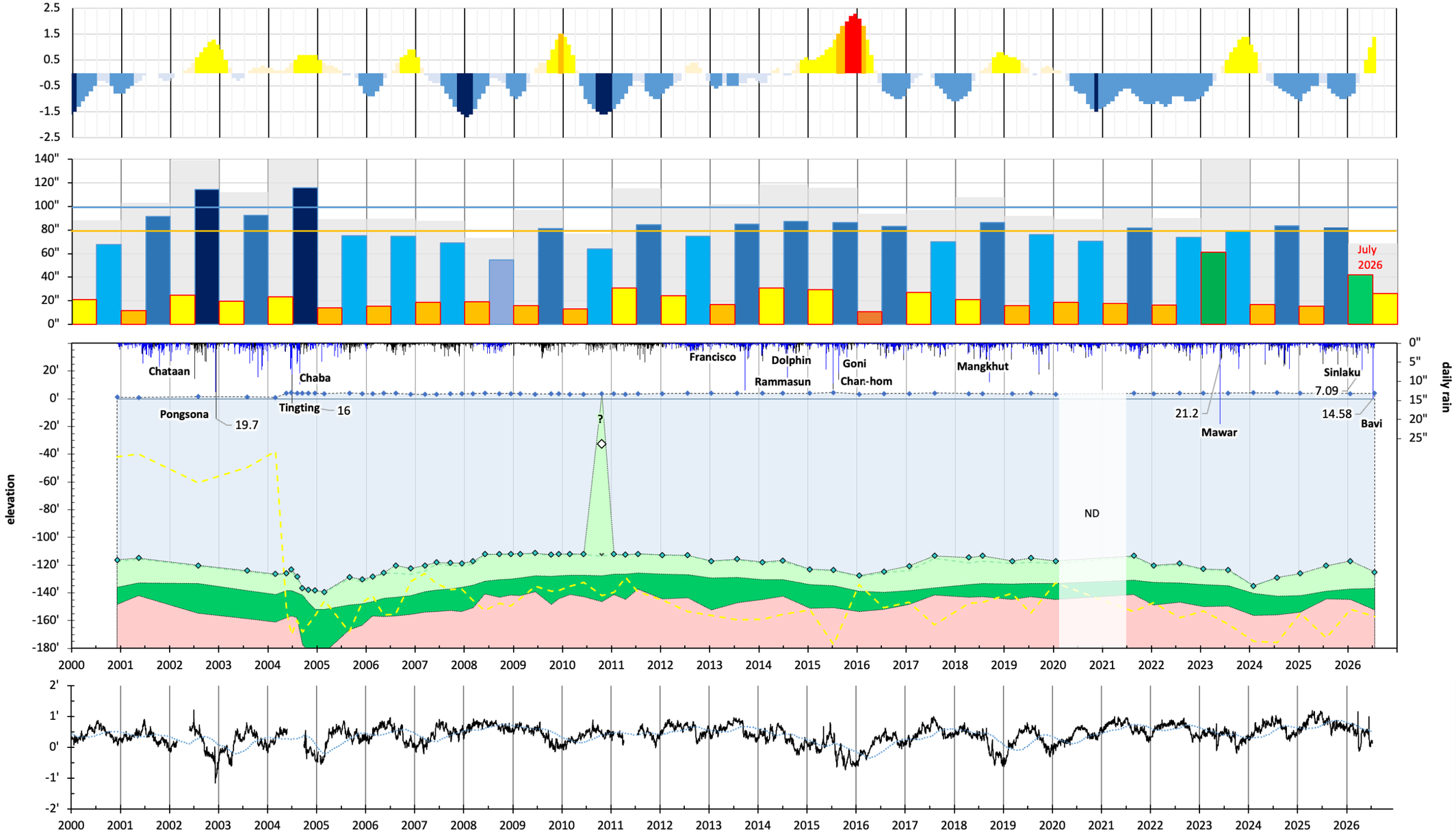


Figure 4.2 GHURA-Dededo Phreatic Hydrograph, 2000 to July 2026.

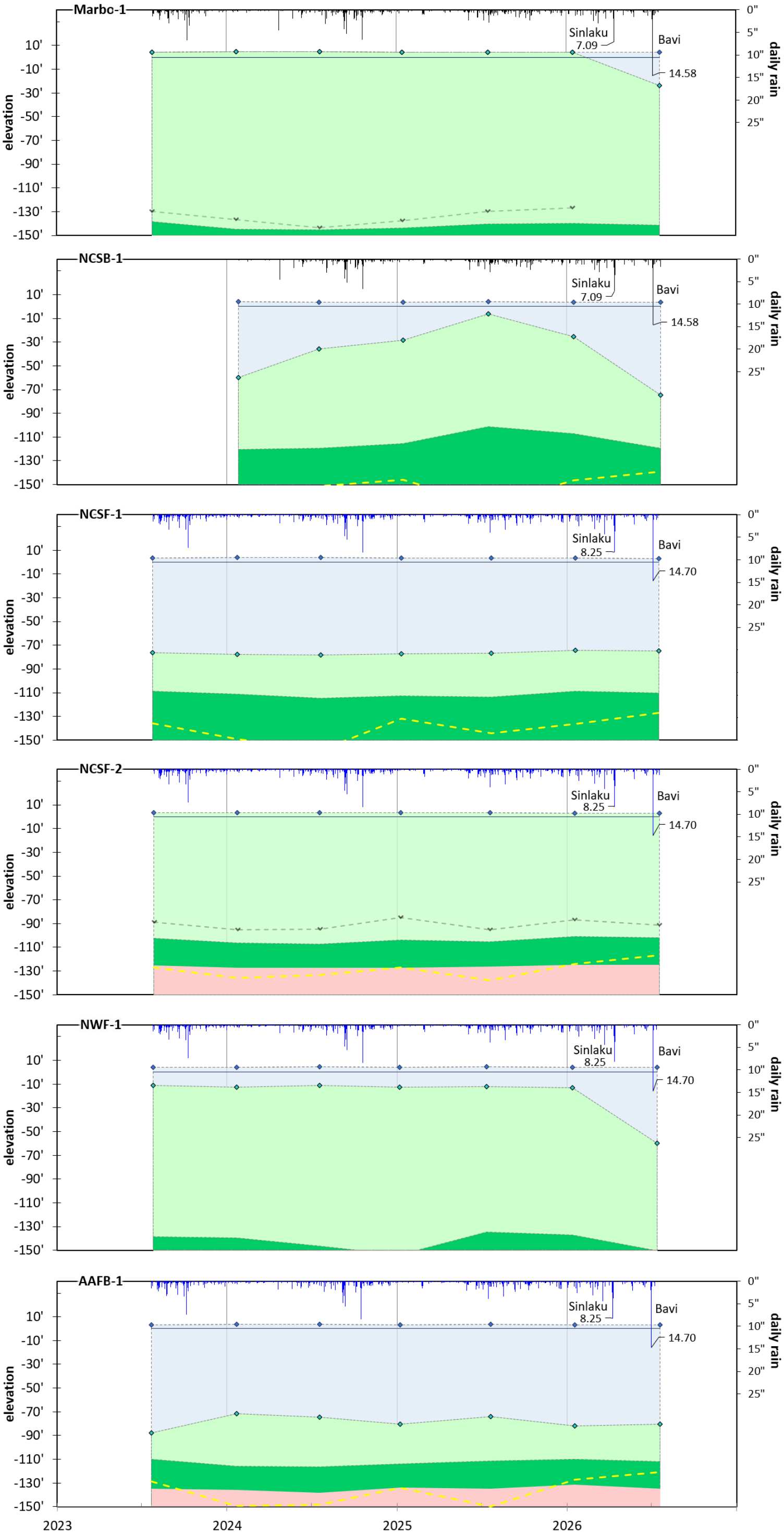


Figure 4.3 Historic phreatic profiles of six recently installed DOWs, 2023 to July 2026. Daily rainfall (secondary axis) from the USGS Dededo (black lines) and Geomag (blue) rain gages.

Appendix 1. Most current dieldrin data (GEPA, 2026).

Basin	Well	[D] ug/L	Date
Upi	Y-15 TP	0	4/8/2026
	Y-15 W	1.3	4/8/2026
Machanao	AG-1	0	3/11/2026
	AG-2A	0	3/11/2026
Finagua'yok	D-22	0	2/25/2026
	D-24	0	2/25/2026
	F-1	0	3/11/2026
	F-2	0	3/11/2026
	F-3	0	3/11/2026
	F-4	0.023	3/11/2026
	F-8	0	3/12/2026
	F-10	0	3/11/2026
	F-11	0	3/11/2026
	F-12	0	3/12/2026
	F-13	0	3/12/2026
	F-15	0	3/12/2026
	F-16	0	3/12/2026
	F-17	0	3/12/2026
	F-18	0	3/12/2026
	F-2	0	3/11/2026
	F-3	0	3/11/2026
	F-4	0.023	3/11/2026
	F-8	0	3/12/2026
	HGC-2	0	3/11/2026
	NCS-10	0.017	9/25/2025
	NCS-9A	0.015	9/25/2025

Basin	Well	[D] ug/L	Date
Tomhom	D-2	0.024	2/26/2026
	D-4	0.038	2/26/2026
	D-6	0.053	2/26/2026
	D-7	0.02	2/26/2026
	D-9	0.03	2/26/2026
	D-10	0.022	2/26/2026
	D-11	0.049	2/26/2026
	D-12	0	2/26/2026
	D-14	0.05	2/26/2026
	D-15	0.066	2/26/2026
	D-16	0.084	2/26/2026
	D-17	0.095	3/10/2026
	D-18	0.14	4/8/2026
	D-19	0	2/25/2026
	D-20	0.016	2/25/2026
	D-21	0.013	2/25/2026
	D-25	0	2/25/2026
	D-26	0	2/26/2026
	D-27	0	2/25/2026
	D-28	0.014	2/25/2026
	EX-5A	0.028	2/26/2026
	F-5	0.038	3/12/2026
	F-6	0.017	3/12/2026
	F-7	0.07	3/11/2026
	F-9	0	3/12/2026
	F-19	0.021	3/11/2026
	F-20	0.014	3/11/2026
	GH501	0.041	3/4/2026
	H-1	0.046	2/18/2026
	M-6	0.034	2/17/2026
	M-7	0.029	2/17/2026
	M-12	0.036	2/17/2026
	M-14	0.016	2/18/2026
	M-15	0.036	2/17/2026
	M-17A	0.022	2/17/2026
	M-17B	0.02	2/17/2026
	M-18	0.026	2/17/2026
	M-20A	0.017	2/17/2026
	M-21	0.083	2/17/2026
	Tumon-Maui	0.027	3/20/2026
	Y-1	0.08	3/5/2026
	Y-2	0.086	3/5/2026
	Y-4	0.071	3/5/2026
	Y-5	0.04	3/5/2026
	Y-6	0.073	3/5/2026
	Y-7	0.035	3/5/2026
	Y-9	0.033	3/5/2026
	Y-10	0.041	3/5/2026
	Y-12	0.042	3/4/2026
	Y-14	0.069	3/5/2026
	Y-17	0.01	3/17/2026
	Y-18	0.012	3/17/2026
	Y-19	0.059	3/5/2026
	Y-20	0	3/5/2026
	Y-21	0.088	3/5/2026
	Y-22	0.03	3/5/2026
	Y-23	0.016	3/5/2026

Basin	Well	[D] ug/L	Date
Hagåtña	A-1	0.023	1/29/2026
	A-3	0.012	1/29/2026
	A-4	0.019	1/29/2026
	A-5	0.042	1/28/2026
	A-6	0.014	1/28/2026
	A-8	0.014	1/29/2026
	A-9	0	1/28/2026
	A-10	0	1/28/2026
	A-12	0.02	2/12/2026
	A-13	0	1/29/2026
	A-15	0.08	1/29/2026
	A-30	0.045	1/28/2026
	A-31	0.052	1/28/2026
	A-32	0.037	1/28/2026
	NAS-1	0.011	1/29/2026
Pågu	A-14	0.065	1/29/2026
	A-17	0.057	1/29/2026
	A-18	0.047	1/28/2026
	A-19	0.02	1/29/2026
	A-21	0.015	1/29/2026

Appendix 2. UCMR 5 PFAS contaminants, regulatory status, minimum reporting levels (MRLs), maximum contaminant levels (MCLs), health-based water concentrations (HBWCs), and brief descriptions. Regulatory status reflects the U.S. EPA's 2024 PFAS National Primary Drinking Water Regulation.

PFAS	Regulatory Status	MRL (ng/L)	MCL (ng/L)	HBWC (ng/L)	Brief Description
PFOA	Individual MCL	4	4	-	C8 long-chain PFCA historically used as a **surfactant** and processing aid in **fluoropolymer manufacturing** and in some **AFFF** formulations.
PFOS	Individual MCL	4	4	-	C8 long-chain PFSA historically used in **AFFF, stain- and water-resistant treatments, coatings, and other surfactant** applications.
HFPO-DA / GenX	Individual MCL + Hazard Index	5	10	10	C6 perfluoroether carboxylic acid developed as a **PFOA replacemen**t for fluoropolymer and perfluoropolyether manufacturing.
PFHxS	Individual MCL + Hazard Index	3	10	10	C6 long-chain PFSA used as a **surfactant** and associated with **AFFF, carpet treatments, nonstick products, and surface coatings**.
PFNA	Individual MCL + Hazard Index	4	10	10	C9 long-chain PFCA associated with **surfactants, fluoropolymer processing, and stain- and grease-resistant coatings**.
PFBS	Hazard Index	3	-	2000	C4 short-chain PFSA used as a **surfactant and as a replacement for longer-chain PFAS such as PFOS**.
11Cl-PF3OUdS	Unregulated	5	-	-	C10 chlorinated polyfluoroether sulfonate and minor component of F-53B, a **PFOS-replacement** chemistry used in metal-plating applications.
4:2 FTS		3			4:2 fluorotelomer sulfonate used as a **surfactant and associated with some AFFF formulations**; can **transform** into PFCAs.
6:2 FTS		5			6:2 fluorotelomer sulfonate used as a **surfactant, wetting agent, and PFOS replacement** in some AFFF formulations.
8:2 FTS		5			8:2 fluorotelomer sulfonate associated with **surfactants, AFFF, and fuel-repellent applications**; can act as a **PFCA precurso**r.
9Cl-PF3ONS		2			C8 chlorinated polyfluoroether sulfonate and major component of F-53B used as a **PFOS replacement** in chrome-plating mist suppressants.
ADONA		3			C7 perfluoroether carboxylic acid developed as a **PFOA-alternative** processing aid in fluoropolymer manufacturing.
NEtFOSAA		5			C8-based PFOS precursor historically associated with **cleaning products, polishes, carpets, cookware, and food-packaging** applications.
NFDHA		20			C5 perfluoroether carboxylic acid belonging to a group of **alternative or replacement-type** ether PFAS.
NMeFOSAA		6			C8-based PFOS precursor associated with **surfactants and surface-treatment products** and can **transform** into PFOS.
PFBA		5			C4 short-chain PFCA used as a **surfactant** and **associated with stain-resistant products**; may also form from fluorotelomer degradation.
PFDA		3			C10 long-chain PFCA associated with **surfactants**, **fluoropolymer processing, floor polishes, and food-packaging** treatments.
PFDoA		3			C12 long-chain PFCA associated with fluorochemical applications and characterized by **high environmental persistenc**e.
PFEESA		3			C4 perfluoroether sulfonic acid belonging to the ether-based PFAS group.
PFHpA		3			C7 short-chain PFCA associated with **surfactants, coatings, and surface treatments** and may form from **fluorotelomer precursors**.
PFHpS		3			C7 long-chain PFSA used as a **surfactant** and structurally related to PFOS.
PFHxA		3			C6 short-chain PFCA associated with **surfactants, coatings, surface treatments**, and fluorotelomer degradation.
PFMBA		3			C5 perfluoroether carboxylic acid belonging to the ether-based PFAS group.
PFMPA		4			C4 perfluoroether carboxylic acid belonging to the ether-based PFAS group.
PFPeA		3			C5 short-chain PFCA associated with **stain- and grease-resistant coatings** and may form from fluorotelomer degradation.
PFPeS		4			C5 short-chain PFSA used as a **surfactant** and related to other sulfonate PFAS.
PFTA		8			C14 long-chain PFCA associated with fluorochemical applications and characterized by **high environmental persistence**.
PFTrDA		7			C13 long-chain PFCA that is **persistent** and may form through degradation of fluorotelomer compounds.
PFUnA		2			C11 long-chain PFCA that may form from fluorotelomer degradation and is **persistent in the environment**.

Appendix 3. Most recent PFAS data with reported values under UCMR 5 (GEPA, 2026). Total PFAS is the sum of all detected PFAS concentrations, while total regulated PFAS is the sum of PFOA, PFOS, HFPO-DA, PFHxS, PFNA, and PFBS. The Hazard Index (HI) is the sum of hazard quotients for PFHxS, PFNA, HFPO-DA, and PFBS. Hazard quotient is calculated by dividing the PFAS concentration in water by its respective health-based water concentration (HBWC). Red values indicate PFAS concentrations that exceed their respective maximum contaminant levels (MCLs).

Basin	Well/Booster	Date	[PFAS] ng/L										Σ PFAS	Σ Regulated PFAS	Hazard Index
			PFOA	PFOS	PFHxS	PFBS	6:2 FTS	PFBA	PFHpA	PFHxA	PFPeA	PFPeS			
Upi	Y-15	3/26/2024			5.9	3.9	68.3			7.6	10.3		96	9.8	0.59
Finaguay'ok	D-22	3/21/2024			3.8								3.8	3.8	0.38
	F-8	3/28/2024			4								4	4	0.40
	F-10	11/11/2024			3.7								3.7	3.7	0.37
	F-12	3/28/2024				3.3							3.3	3.3	0.002
	F-15	3/28/2024			5.3								5.3	5.3	0.53
	HGC-2	3/28/2024							4				4	0	0
	NCS-10 Clr	8/19/2024			3.1								3.1	3.1	0.31
Hagåtña	A-4	3/23/2024	7.2	15.1	35.2					4.4			61.9	57.5	3.52
	A-8	3/23/2024		13.4	5.8								19.2	19.2	0.58
	A-9	3/26/2024	10.6	10.6	8	29.8		12.1	12.9	27.1	33.8		144.9	59	0.81
	A-13	3/23/2024		61.3	11.9	5.4			3.4	5	5.1		92.1	78.6	1.19
	A-15	3/23/2024		15.9	6.4	3.6				4.9	6.7		37.5	25.9	0.64
	A-30	3/23/2024		16.2	13	14.5		6.1	4.6	10	14.5		78.9	43.7	1.31
	A-31	3/23/2024		10.2	8	5.6				3.8	5.9		33.5	23.8	0.80
	A-32	3/23/2024		14.2	8.1	3.7							26	26	0.81
Pågu	A-14	3/23/2024		11.7	6.5								18.2	18.2	0.65
	A-17	3/25/2024		8.7	3						3.2		14.9	11.7	0.30
	A-19	3/23/2024		11.7	6.4	4.4			3.8	6.1	8.4		40.8	22.5	0.64
Mangilao	M-8	3/27/2024			12.5	8.2				7.3	5.1	5.6	38.7	20.7	1.25
	M-9	3/27/2024			11.1	8.1				6.8	4.6	5.3	35.9	19.2	1.11
Tomhom	D-2	11/11/2024			3.2								3.2	3.2	0.32
	D-14	4/10/2024			6.1					3.5	4.2		13.8	6.1	0.61
	D-15	3/21/2024								3.5	5.1		8.6	0	0
	D-16	3/21/2024			7.7	3.3				3.6	4.8		19.4	11	0.77
	D-17A	3/21/2024			24.8	3.8			4.9	5	3.7		42.2	28.6	2.48
	D-18B	3/21/2024			8.3	4.1				3.2	4.4		20	12.4	0.83
	D-21	11/11/2024			4.6								4.6	4.6	0.46
	D-25	3/21/2024			4.9								4.9	4.9	0.49
	D-27	3/21/2024			4.3								4.3	4.3	0.43
	EX-5A	3/21/2024									3		3	0	0
	F-7	3/28/2024			11.4	20.5				5.6	5.1		42.6	31.9	1.15
	F-19	3/28/2024			4.4								4.4	4.4	0.44
	M-7	3/27/2024			4.8					3.1	4		11.9	4.8	0.48
	M-12	9/24/2023	5	28.3	22.3						3.1		58.7	55.6	2.23
	M-15	3/27/2024			5.1	3.7			4.3	6.3	8.4		27.8	8.8	0.51
	M-17A	3/27/2024		4.1	13.8					3.9	3.8		25.6	17.9	1.38
	M-18	3/27/2024		6.3	4.3					4.6	6.7		21.9	10.6	0.43
	M-20A	3/27/2024			7.2					4	4.3		15.5	7.2	0.72
	M-21	4/4/2024		7	12.7					4.3	4.7		28.7	19.7	1.27
	Y-1	4/4/2024		5.5	6.7	3.7			3.2	5.6	7.7		32.4	15.9	0.67
	Y-9	3/26/2024	7	6.9	8.6	7.2	6.8	6.5	10	14.5	19.8		87.3	29.7	0.86
	Y-10	4/24/2024				4.7				4.4	5.4		14.5	4.7	0.002
	Y-17	3/28/2024			5.8						3.7		9.5	5.8	0.58
	Y-21A	4/24/2024			4.6	3.8			4	6.1	9		27.5	8.4	0.46
	Y-23	3/28/2024			3				5.8	9.5	15.6		33.9	3	0.30
	1620-B2	11/18/2024								4.9		4.6	9.5	0	0
	680-B3	11/18/2024			3.2								3.2	3.2	0.32