

Appendix 7-1

Projected Periodic Evaluation Project and Management Actions Scenario Results and Hydrographs



Projected Periodic Evaluation Project & Management Actions Scenario Results and Hydrographs

Technical Memorandum

July 13, 2026

BACKGROUND

Monthly simulated hydrographs for representative monitoring points (RMP) were developed to compare both the baseline and the PMA scenario, as shown attached.

Accordingly, average fall groundwater elevations (September through November) are plotted on these hydrographs for comparison, for each the Shallow and Deep Aquifer Systems. Measured data are plotted for the current timeframe for comparison. Since the model predictive simulation does not always match the starting point of the simulated water levels compared to the current measured levels, an adjustment was needed for better comparison against MTs. Hydrographs are adjusted by adding the average model bias in the 2018-2024 period to simulated groundwater level results.

The PMA scenario has the most beneficial effect on the deep aquifer, where it raises groundwater elevations by roughly 5-15 feet. These effects are not as dominant in the shallow aquifer, where water levels are generally more stable.

Figure 1 below shows the location of RMP wells where multiple consecutive MT exceedances are simulated and contribute to an undesirable result.

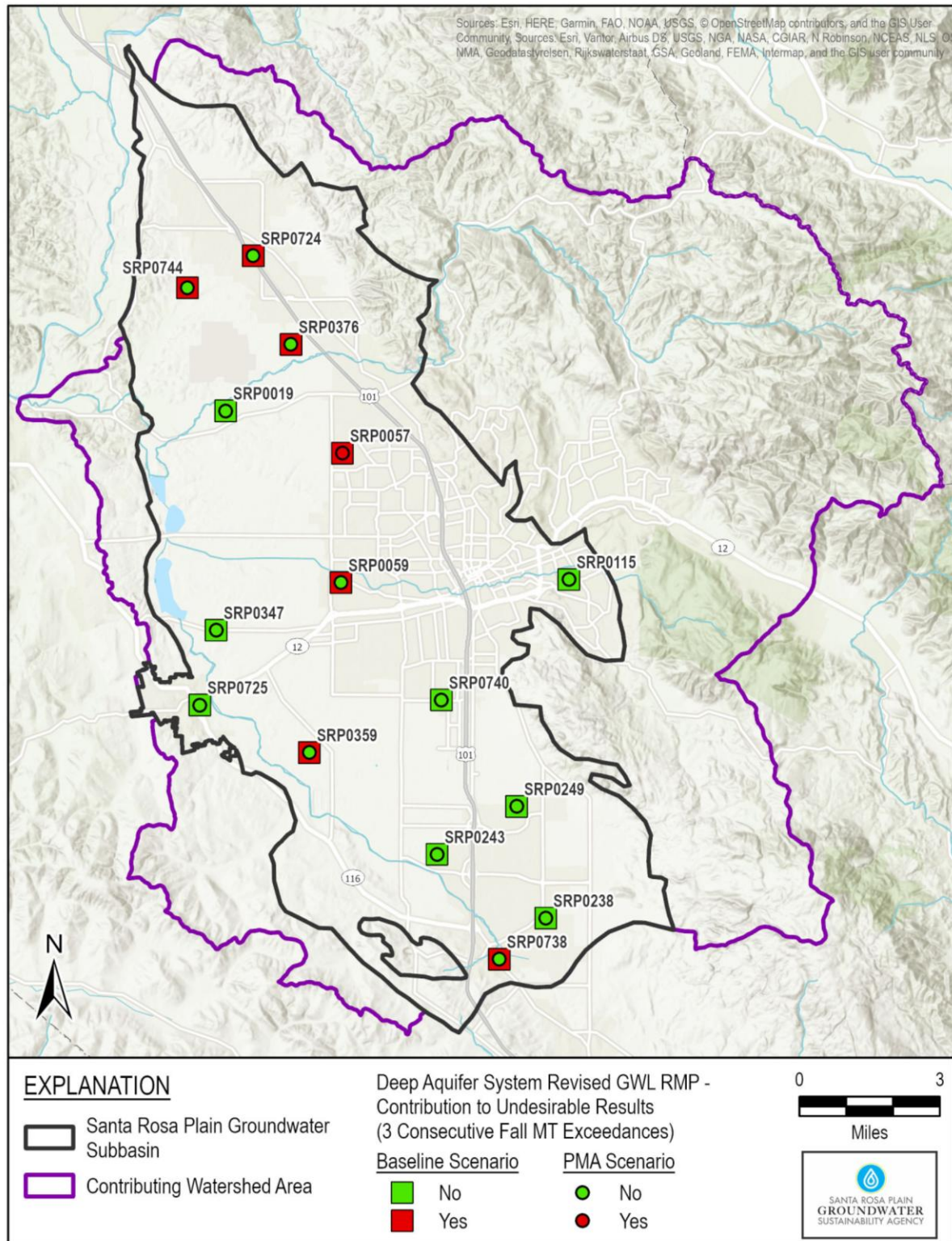
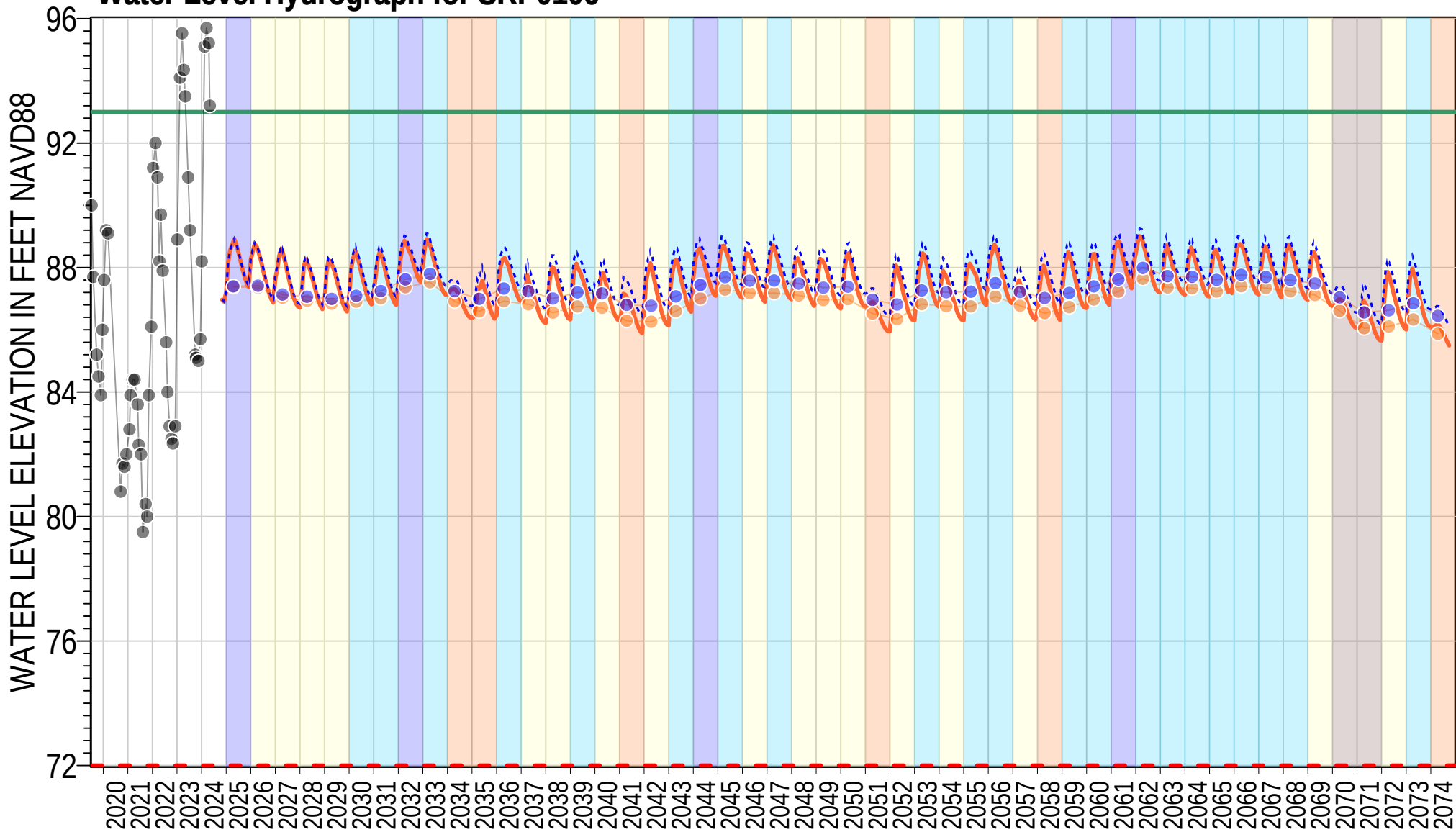


Figure 1: Deep RMPs with Contribution to Undesirable Results in Predictive Scenarios

7-1. Shallow Aquifer Hydrographs

Water Level Hydrograph for SRP0106



EXPLANATION

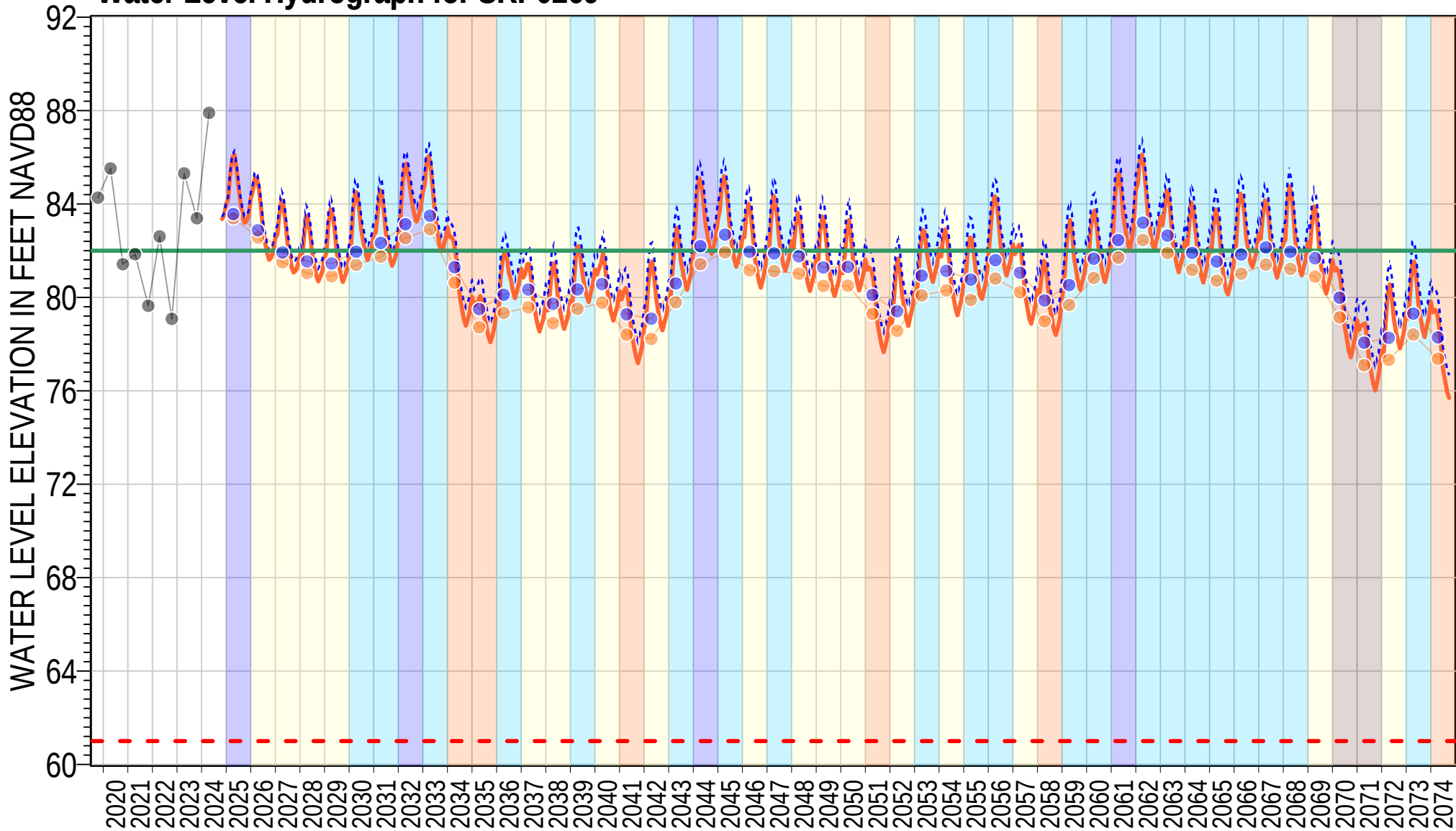
- Baseline Scenario Groundwater Level
- PMA Scenario Groundwater Level
- Minimum Threshold
- Measurable Objective
- Recent Observations
- Baseline Fall Average
- PMA Fall Average

Reference Point Elevation (feet NAVD88) | 101.6 | Well Depth (ft) | 90
Model Layering (%) | L1: 100%

- Climate Classification
- Very Dry
 - Dry
 - Normal
 - Wet
 - Very Wet



Water Level Hydrograph for SRP0269



EXPLANATION

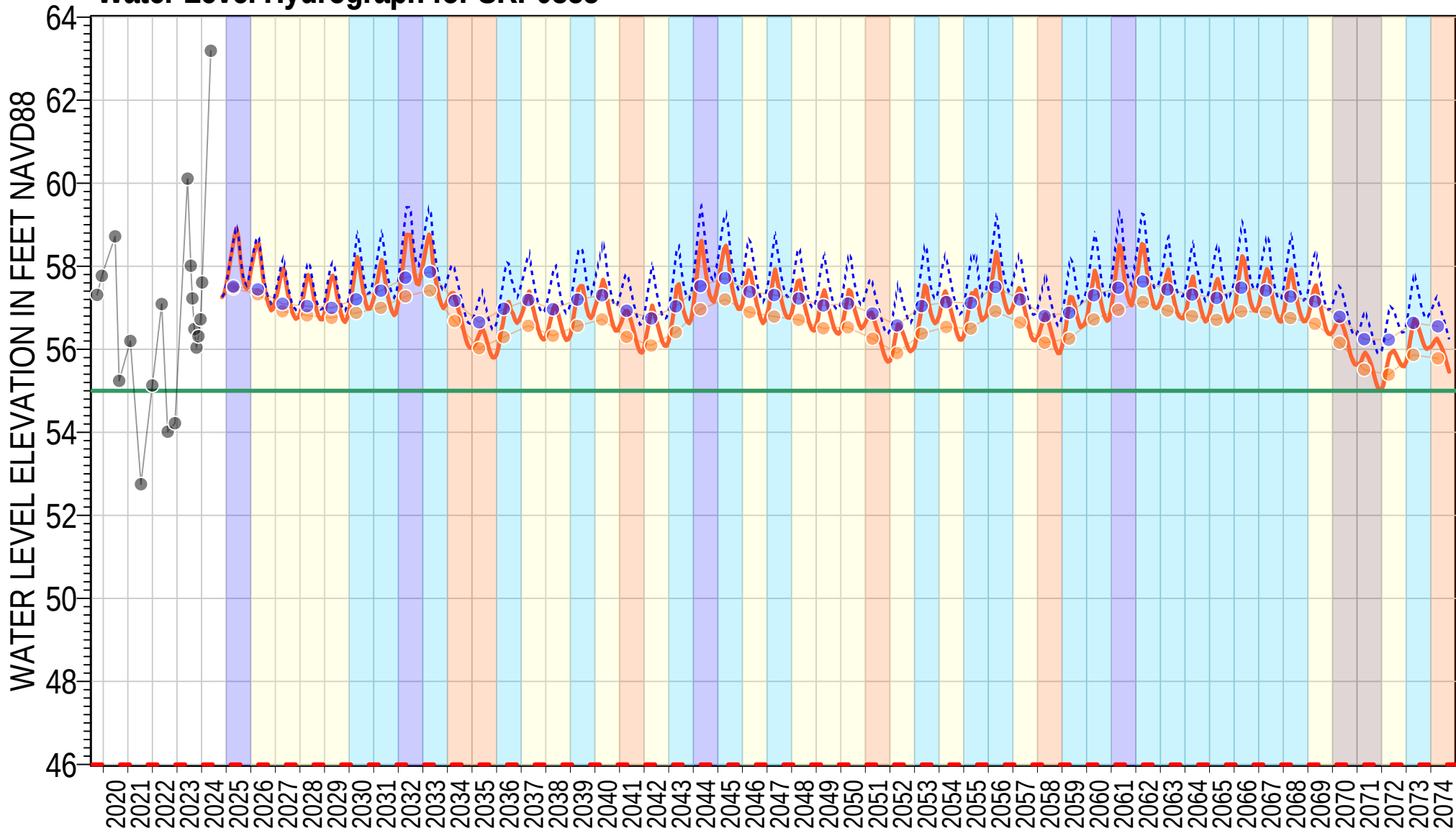
- Baseline Scenario Groundwater Level
- PMA Scenario Groundwater Level
- Minimum Threshold
- Measurable Objective
- Recent Observations
- Baseline Fall Average
- PMA Fall Average

Reference Point Elevation (feet NAVD88) | 92.8 | Well Depth (ft) | 296
Model Layering (%) | L2: 75%, L3: 25%

- Climate Classification
- Very Dry
 - Dry
 - Normal
 - Wet
 - Very Wet



Water Level Hydrograph for SRP0355



EXPLANATION

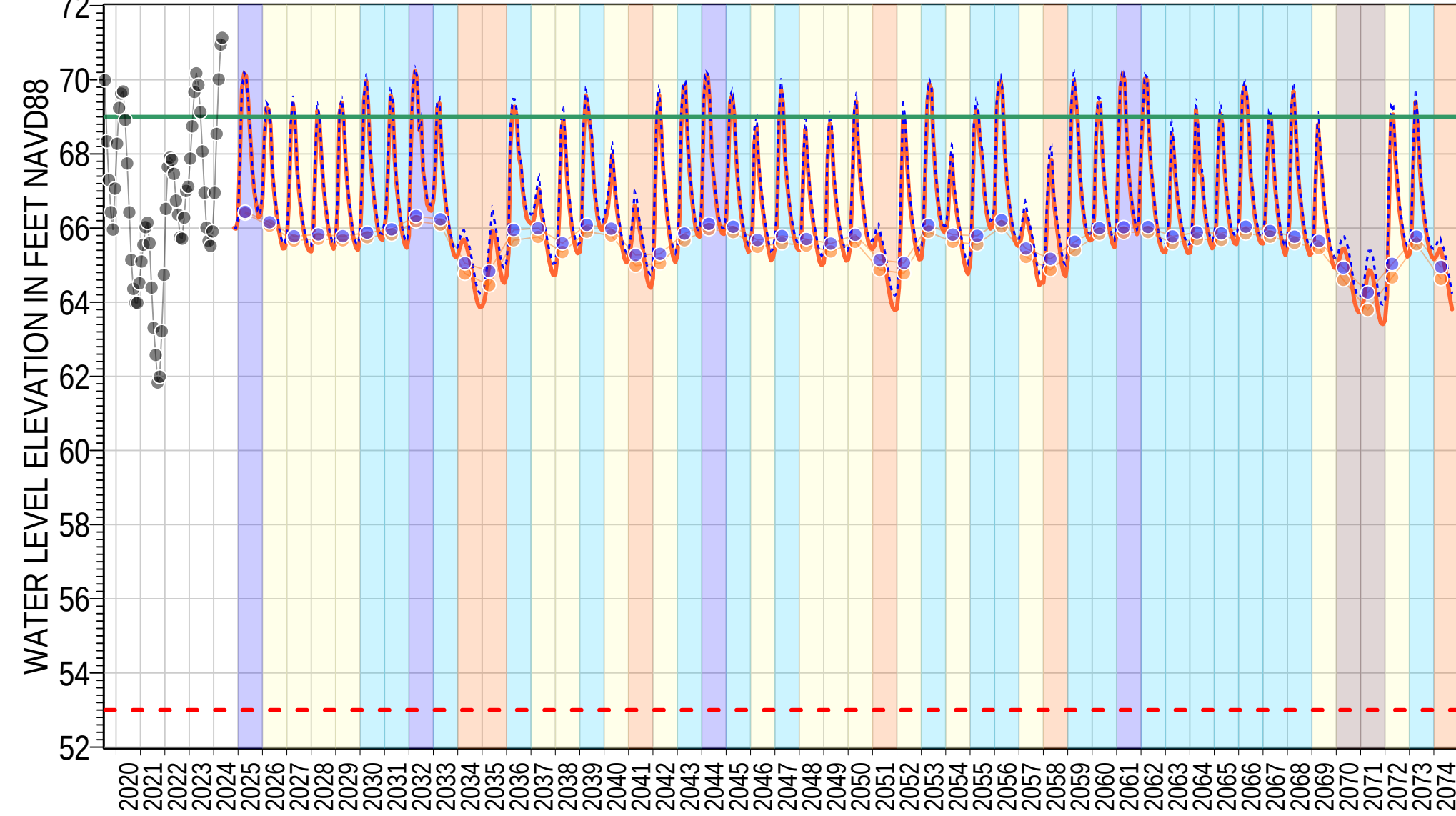
- Baseline Scenario Groundwater Level
- PMA Scenario Groundwater Level
- Minimum Threshold
- Measurable Objective
- Recent Observations
- Baseline Fall Average
- PMA Fall Average

Reference Point Elevation (feet NAVD88) | 81.5 | Well Depth (ft) | 64
Model Layering (%) | L1: 100%

- Climate Classification
- Very Dry
 - Dry
 - Normal
 - Wet
 - Very Wet



Water Level Hydrograph for SRP0357



EXPLANATION

Baseline Scenario Groundwater Level	Measurable Objective	Baseline Fall Average
PMA Scenario Groundwater Level	Recent Observations	PMA Fall Average
Minimum Threshold		

Reference Point Elevation (feet NAVD88) | 79 | Well Depth (ft) | 80

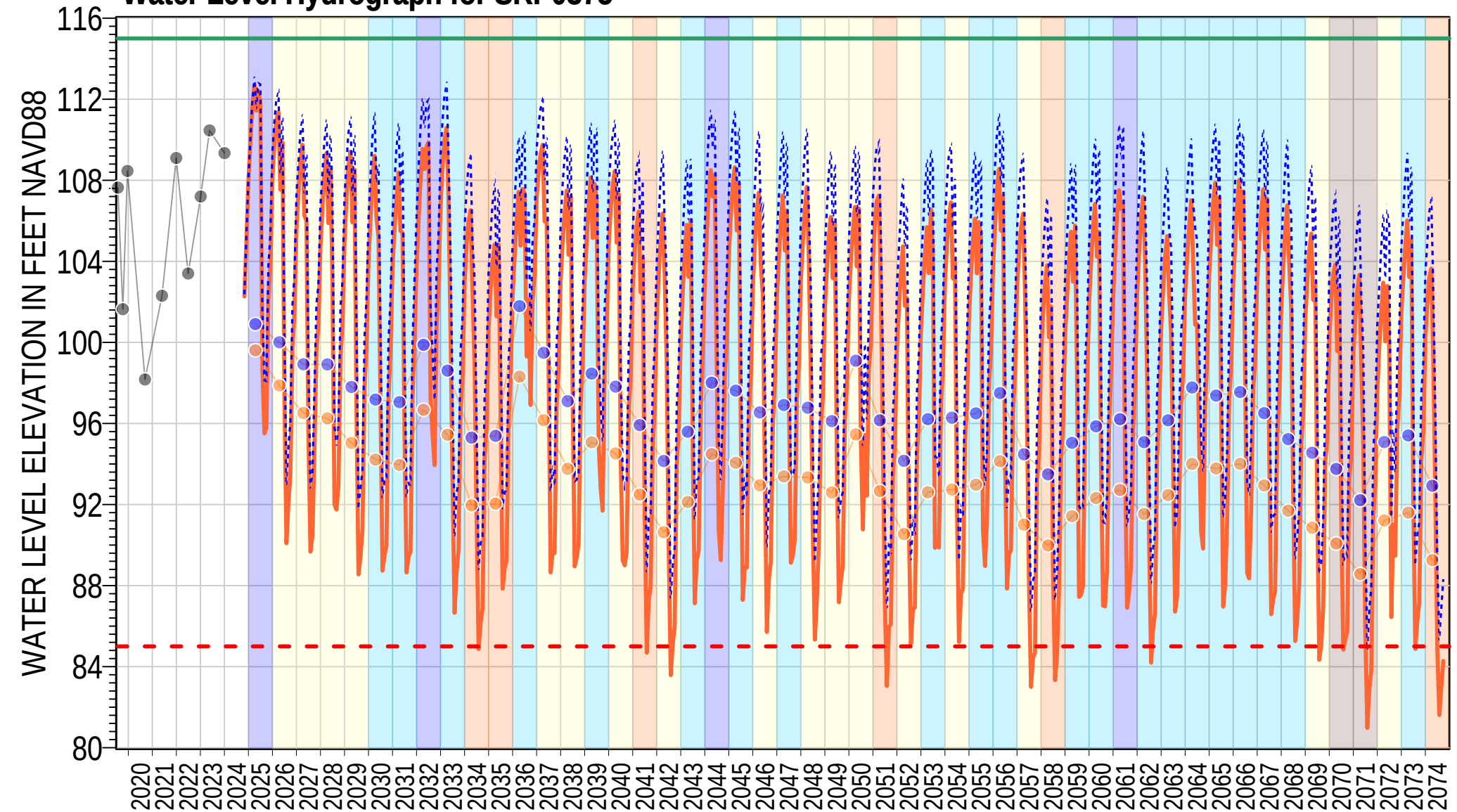
Model Layering (%) | L1: 100%

Climate Classification

Very Dry	Wet
Dry	Very Wet
Normal	

Map of Santa Rosa showing the location of SRP0357. The map includes the city of Santa Rosa and the location of the well, marked with a blue dot.

Water Level Hydrograph for SRP0375



EXPLANATION

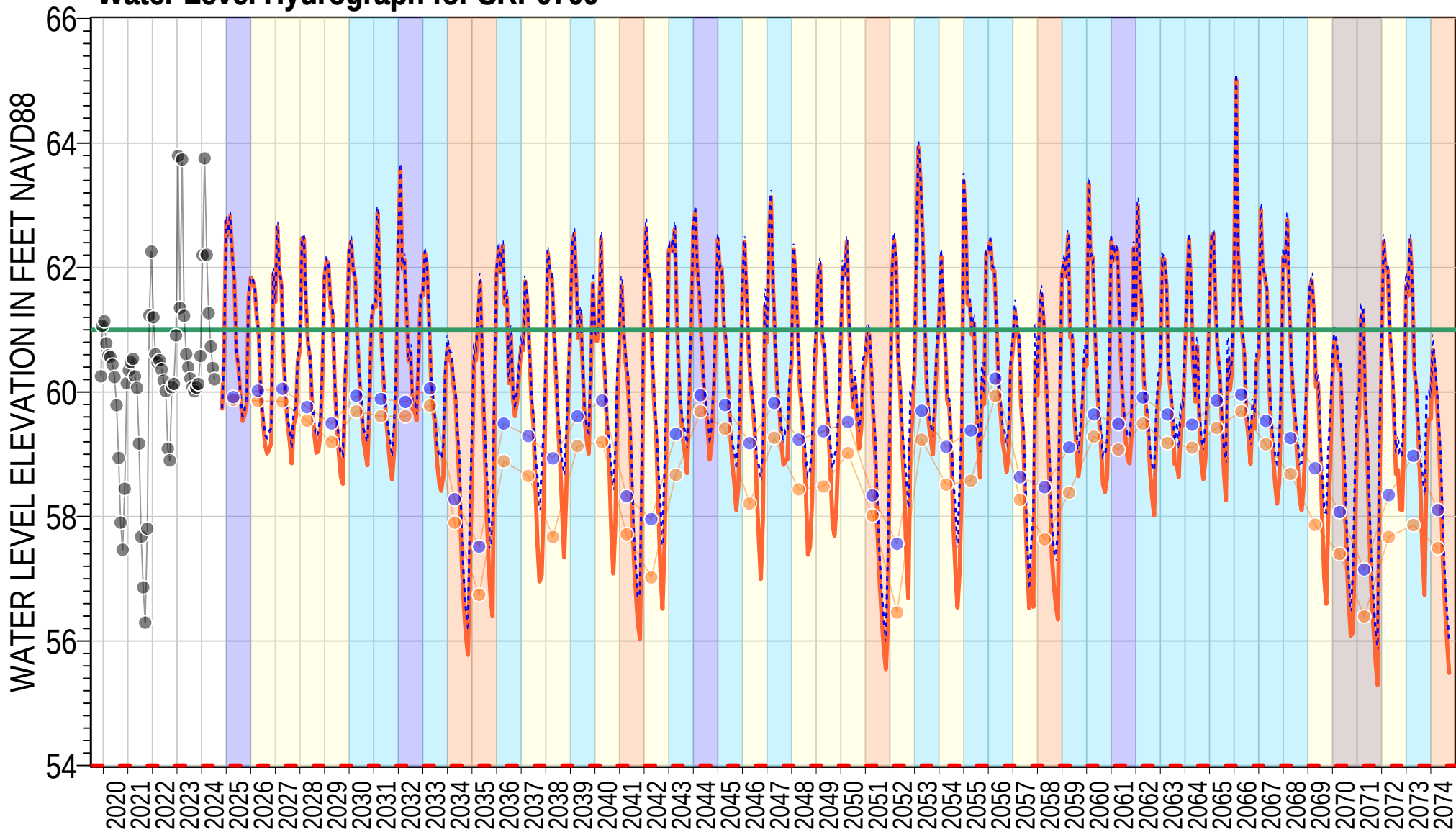
- Baseline Scenario Groundwater Level
- PMA Scenario Groundwater Level
- Minimum Threshold
- Measurable Objective
- Recent Observations
- Baseline Fall Average
- PMA Fall Average

Reference Point Elevation (feet NAVD88) | 121.6 | Well Depth (ft) | 140
Model Layering (%) | L2: 100%

- Climate Classification
- Very Dry
 - Dry
 - Normal
 - Wet
 - Very Wet



Water Level Hydrograph for SRP0709



EXPLANATION

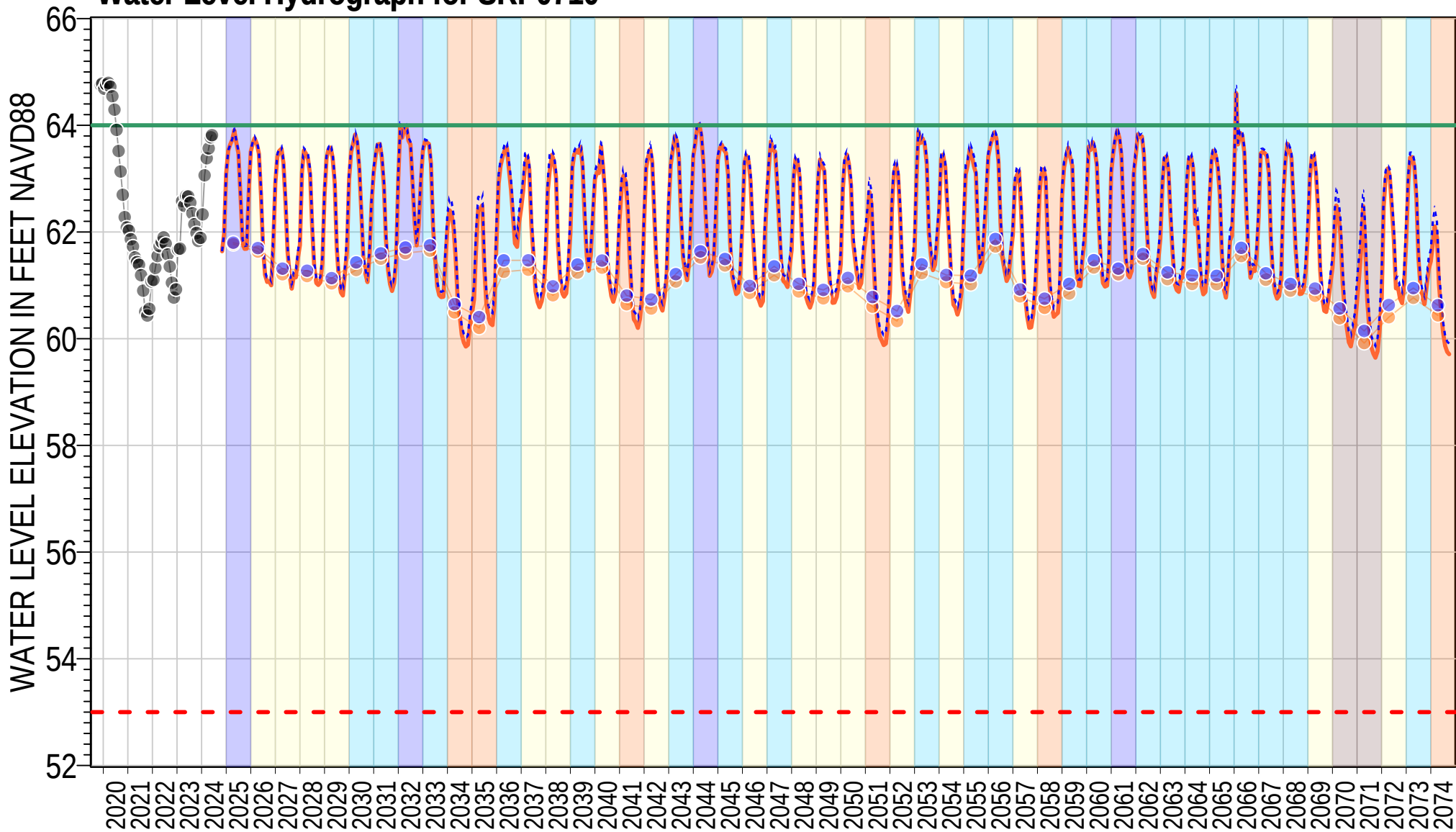
- Baseline Scenario Groundwater Level
- PMA Scenario Groundwater Level
- Minimum Threshold
- Measurable Objective
- Recent Observations
- Baseline Fall Average
- PMA Fall Average

Reference Point Elevation (feet NAVD88) | 71.9 | Well Depth (ft) | 33.5
Model Layering (%) | L1: 100%

- Climate Classification
- Very Dry
 - Dry
 - Normal
 - Wet
 - Very Wet



Water Level Hydrograph for SRP0710



EXPLANATION

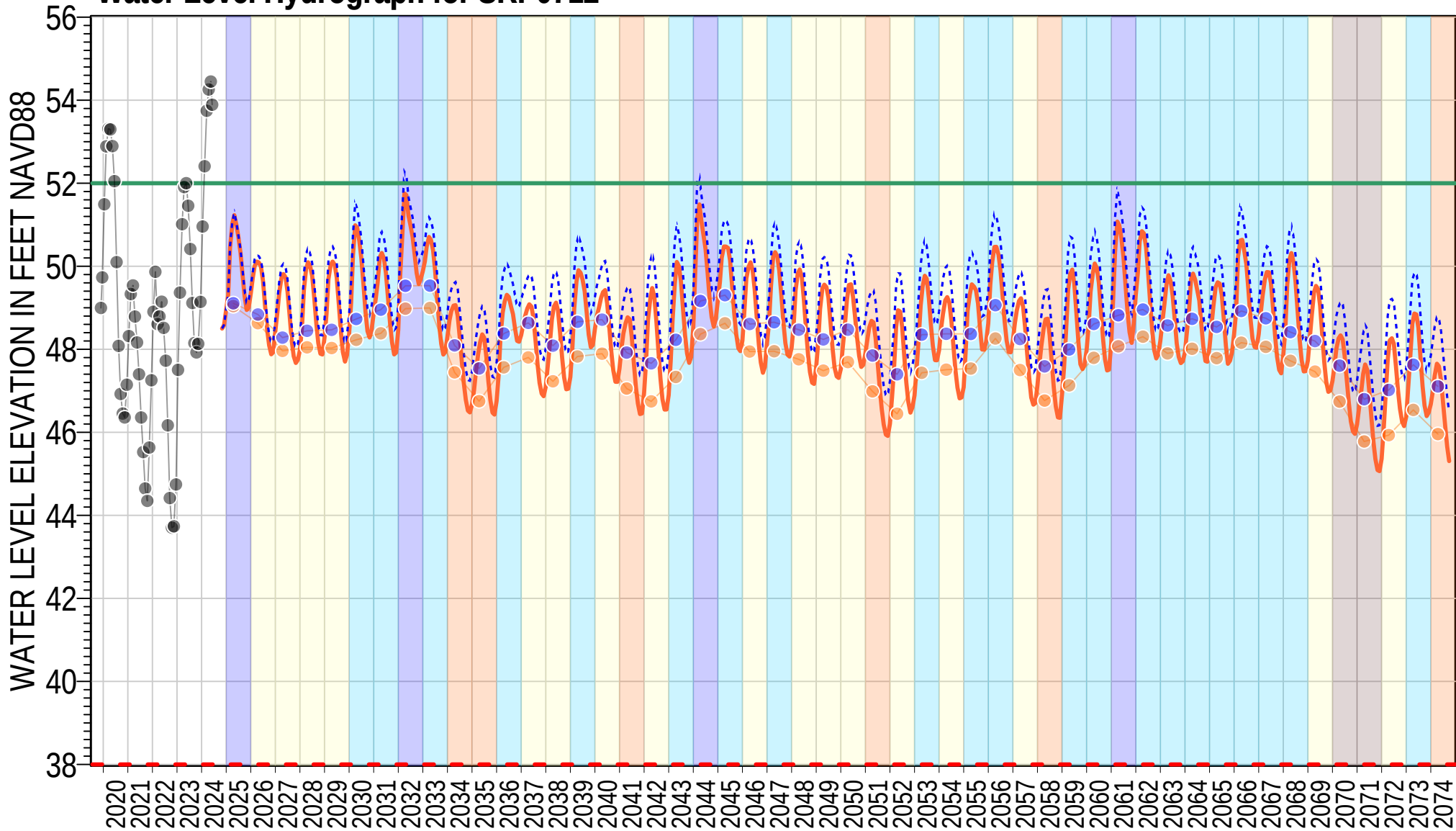
- Baseline Scenario Groundwater Level
- PMA Scenario Groundwater Level
- Minimum Threshold
- Measurable Objective
- Recent Observations
- Baseline Fall Average
- PMA Fall Average

Reference Point Elevation (feet NAVD88) | 89.7 | Well Depth (ft) | 45.5
Model Layering (%) | L1: 100%

- Climate Classification
- Very Dry
 - Dry
 - Normal
 - Wet
 - Very Wet



Water Level Hydrograph for SRP0712



EXPLANATION

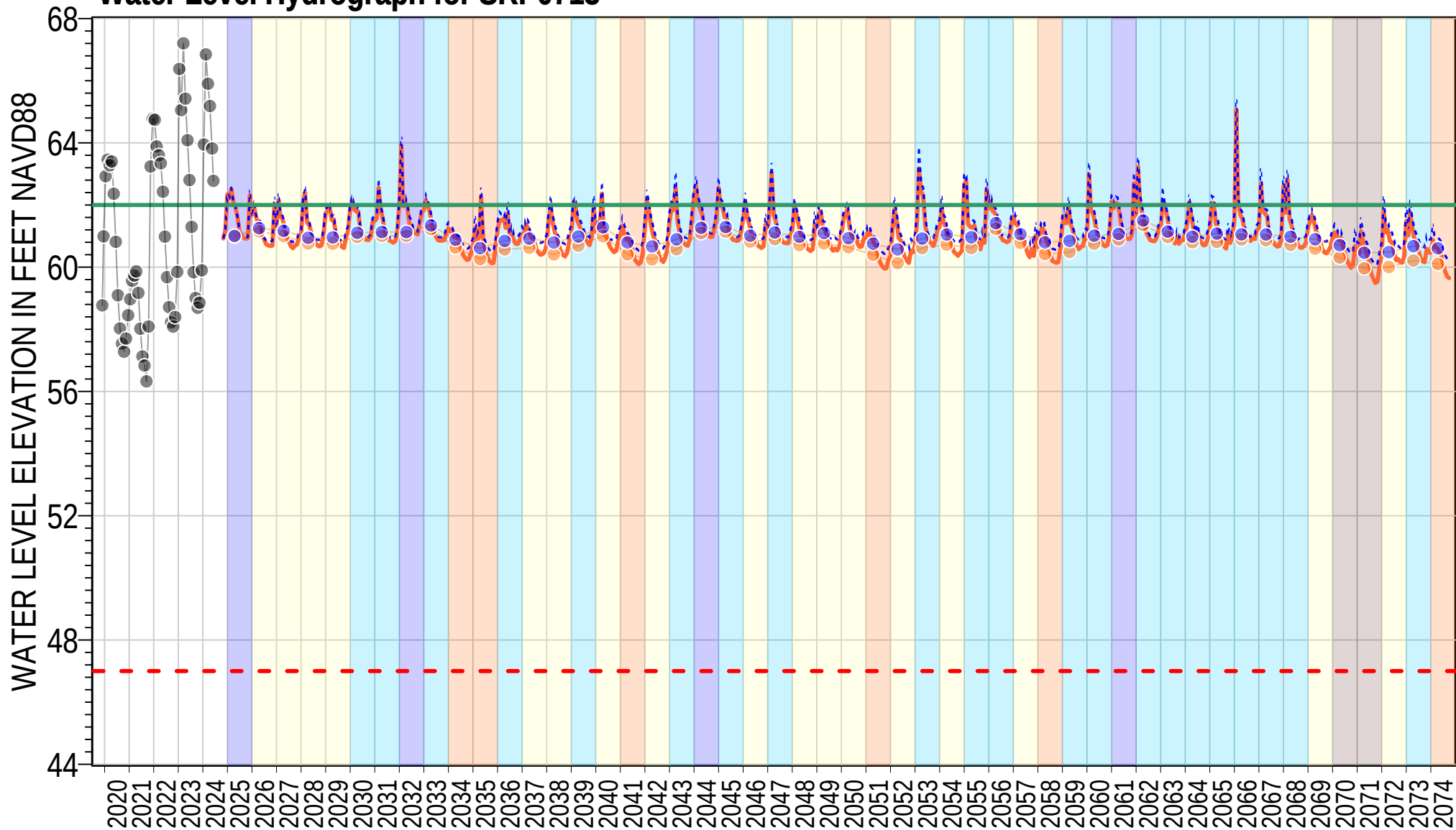
- Baseline Scenario Groundwater Level
- PMA Scenario Groundwater Level
- Minimum Threshold
- Measurable Objective
- Recent Observations
- Baseline Fall Average
- PMA Fall Average

Reference Point Elevation (feet NAVD88) | 69.3 | Well Depth (ft) | 48.5
Model Layering (%) | L1: 100%

- Climate Classification
- Very Dry
 - Dry
 - Normal
 - Wet
 - Very Wet



Water Level Hydrograph for SRP0713



EXPLANATION

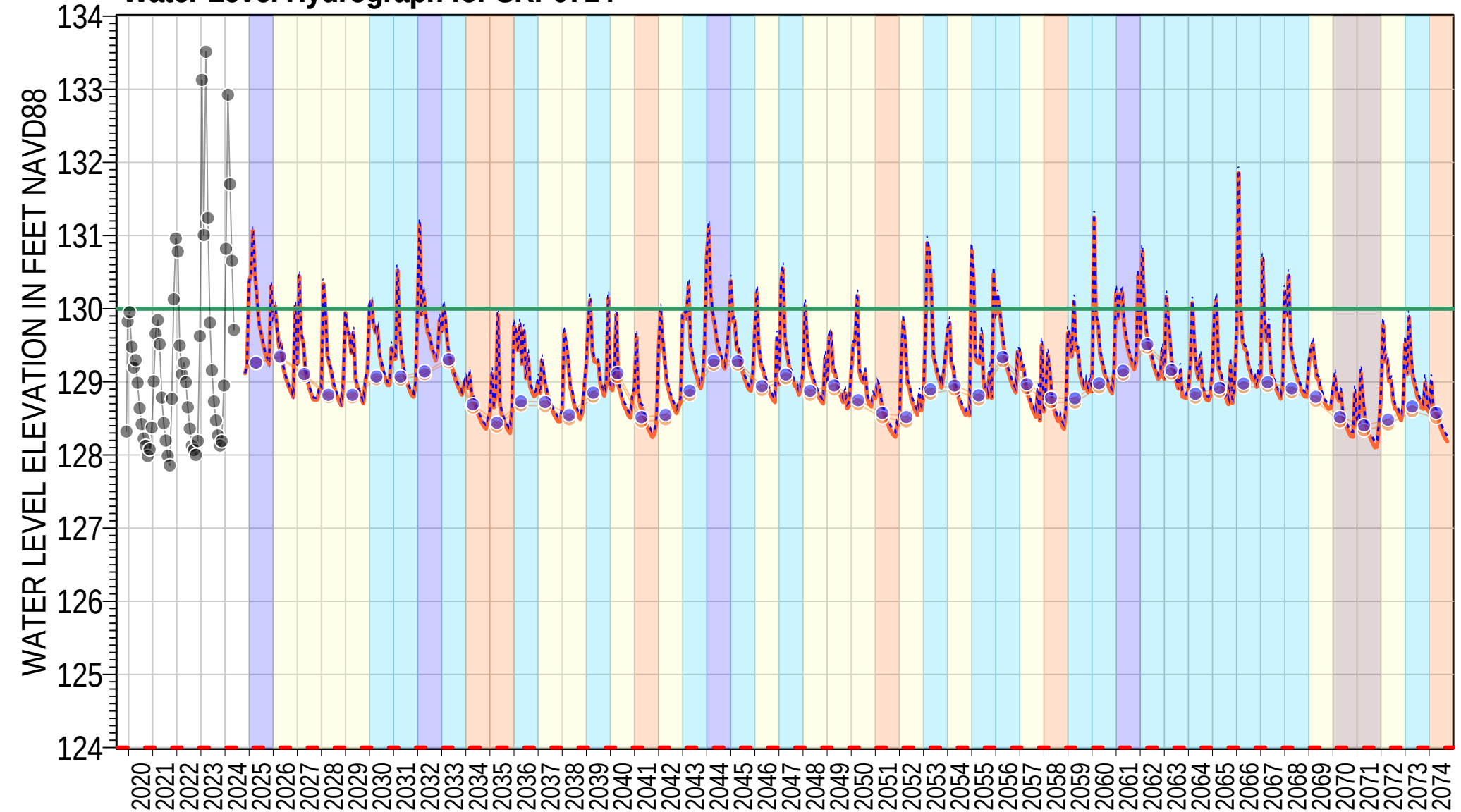
- Baseline Scenario Groundwater Level
- PMA Scenario Groundwater Level
- Minimum Threshold
- Measurable Objective
- Recent Observations
- Baseline Fall Average
- PMA Fall Average

Reference Point Elevation (feet NAVD88) | 78.8 | Well Depth (ft) | 45.5
Model Layering (%) | L1: 100%

- Climate Classification
- Very Dry
 - Dry
 - Normal
 - Wet
 - Very Wet



Water Level Hydrograph for SRP0714



EXPLANATION

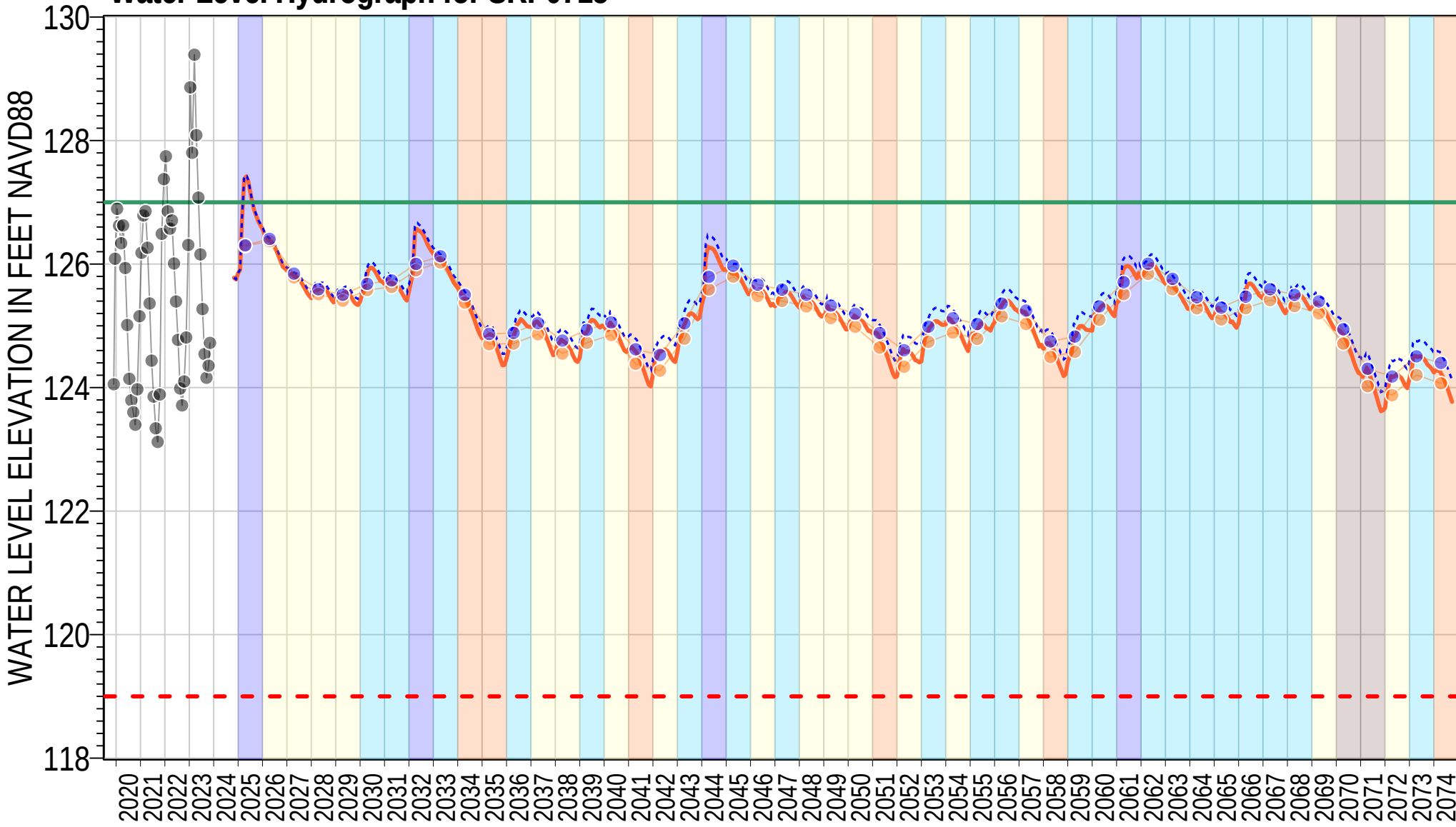
- Baseline Scenario Groundwater Level
- PMA Scenario Groundwater Level
- Minimum Threshold
- Measurable Objective
- Recent Observations
- Baseline Fall Average
- PMA Fall Average

Reference Point Elevation (feet NAVD88) | 150.3 | Well Depth (ft) | 51.5
Model Layering (%) | L1: 100%

- Climate Classification
- Very Dry
 - Dry
 - Normal
 - Wet
 - Very Wet



Water Level Hydrograph for SRP0715



EXPLANATION

- Baseline Scenario Groundwater Level
- PMA Scenario Groundwater Level
- Minimum Threshold
- Measurable Objective
- Recent Observations
- Baseline Fall Average
- PMA Fall Average

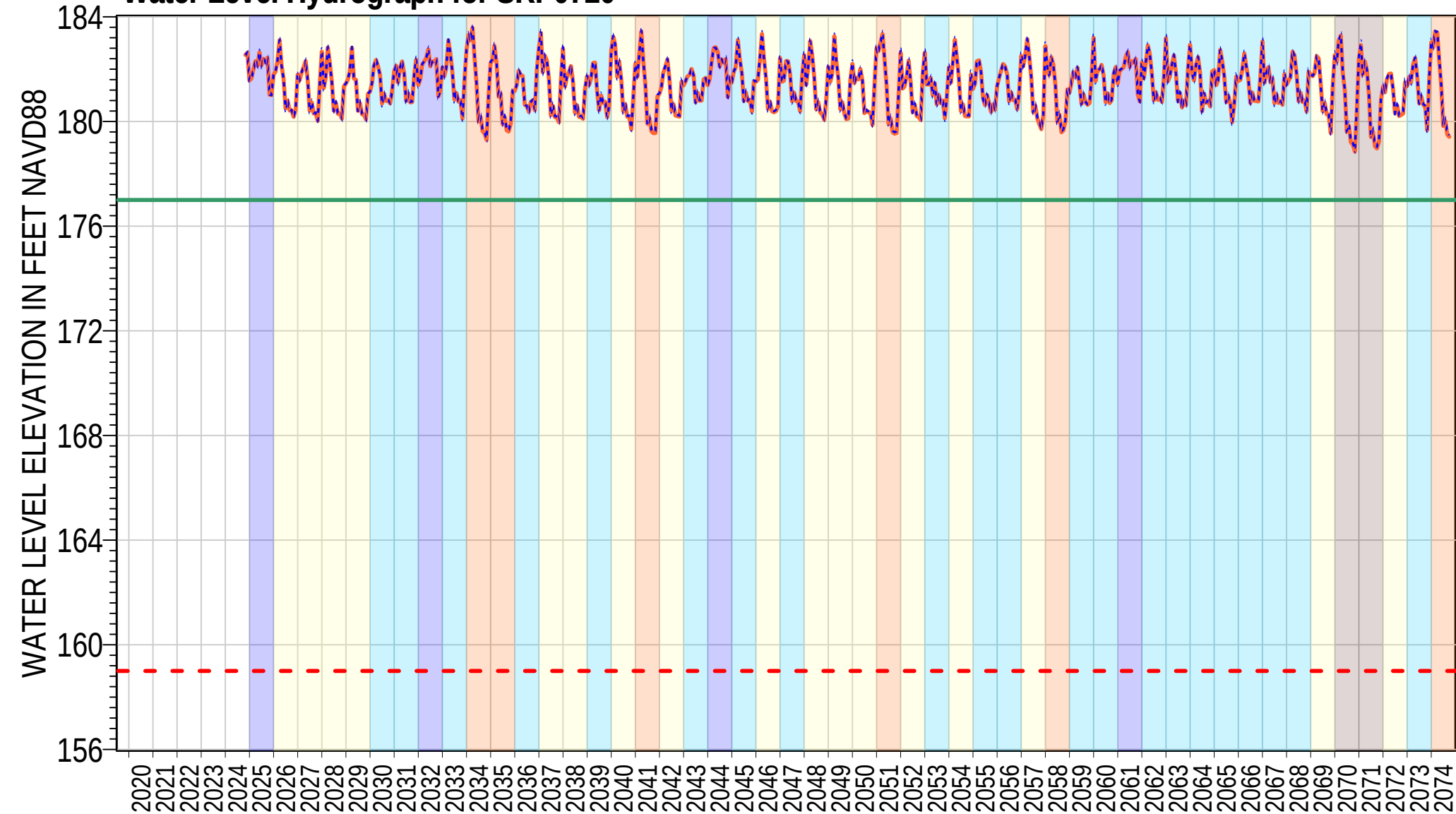
Reference Point Elevation (feet NAVD88) | 135.5 | Well Depth (ft) | 40.5
Model Layering (%) | L1: 100%

Climate Classification

Very Dry	Wet
Dry	Very Wet
Normal	



Water Level Hydrograph for SRP0720



EXPLANATION

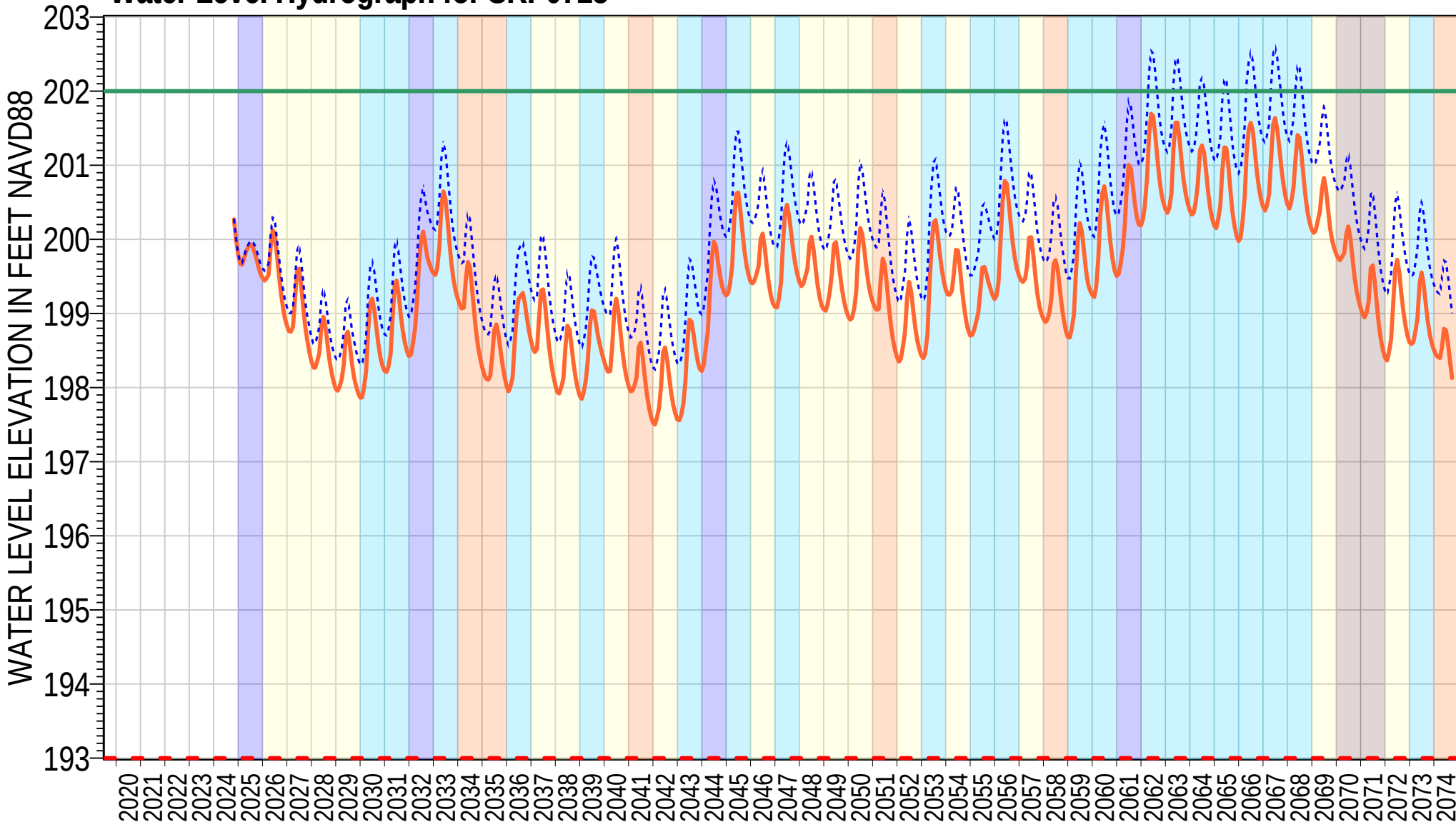
- Baseline Scenario Groundwater Level
- PMA Scenario Groundwater Level
- Minimum Threshold
- Measurable Objective
- Recent Observations
- Baseline Fall Average
- PMA Fall Average

Reference Point Elevation (feet NAVD88) | 194.6 | Well Depth (ft) | 115
Model Layering (%) | L1: 70%, L2: 30%

- Climate Classification
- Very Dry
 - Dry
 - Normal
 - Wet
 - Very Wet



Water Level Hydrograph for SRP0723



EXPLANATION

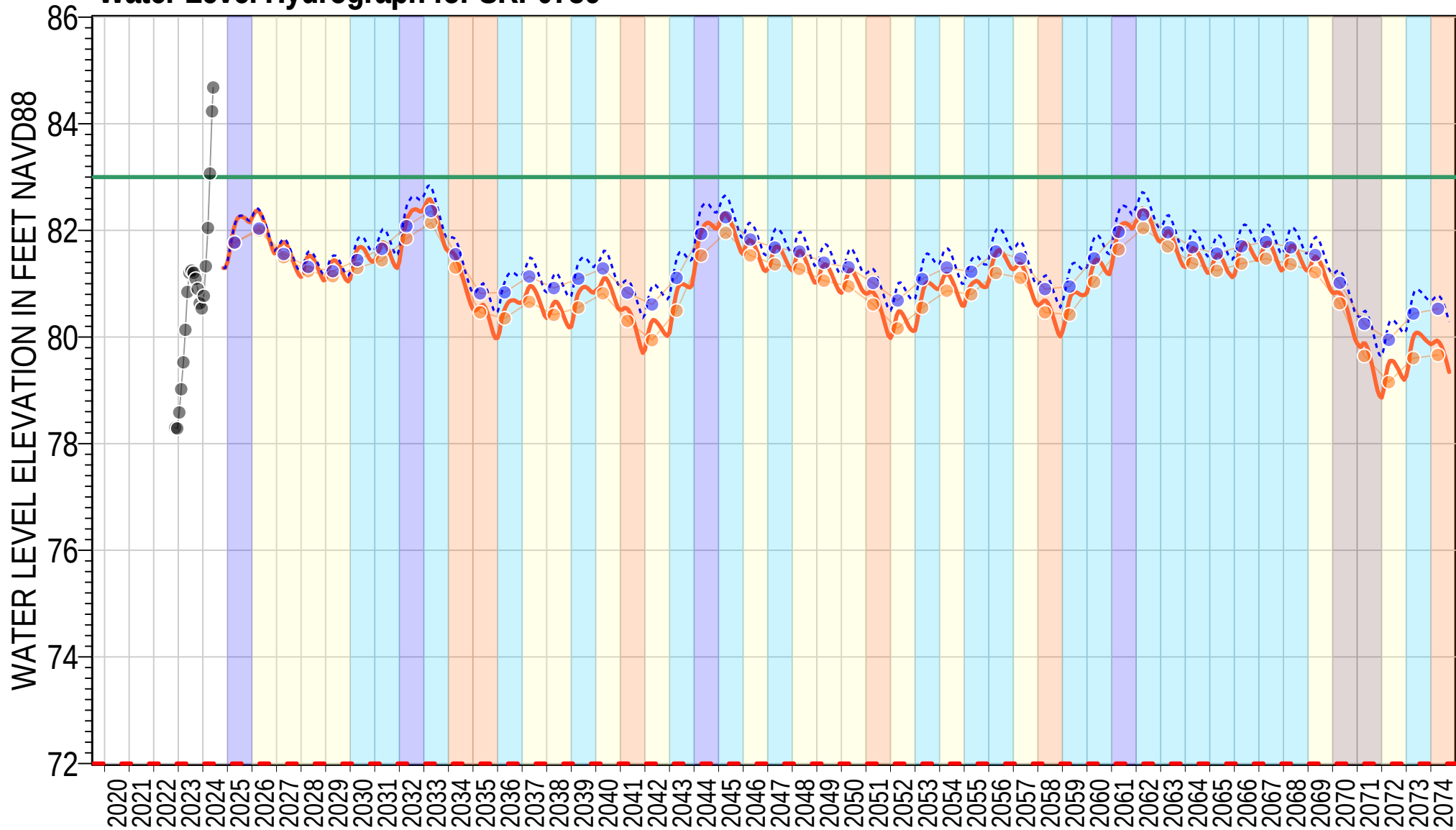
- Baseline Scenario Groundwater Level
- PMA Scenario Groundwater Level
- Minimum Threshold
- Measurable Objective
- Recent Observations
- Baseline Fall Average
- PMA Fall Average

Reference Point Elevation (feet NAVD88) | 223.3 | Well Depth (ft) | 37.5
Model Layering (%) | L1: 100%

- Climate Classification
- Very Dry
 - Dry
 - Normal
 - Wet
 - Very Wet



Water Level Hydrograph for SRP0736



EXPLANATION

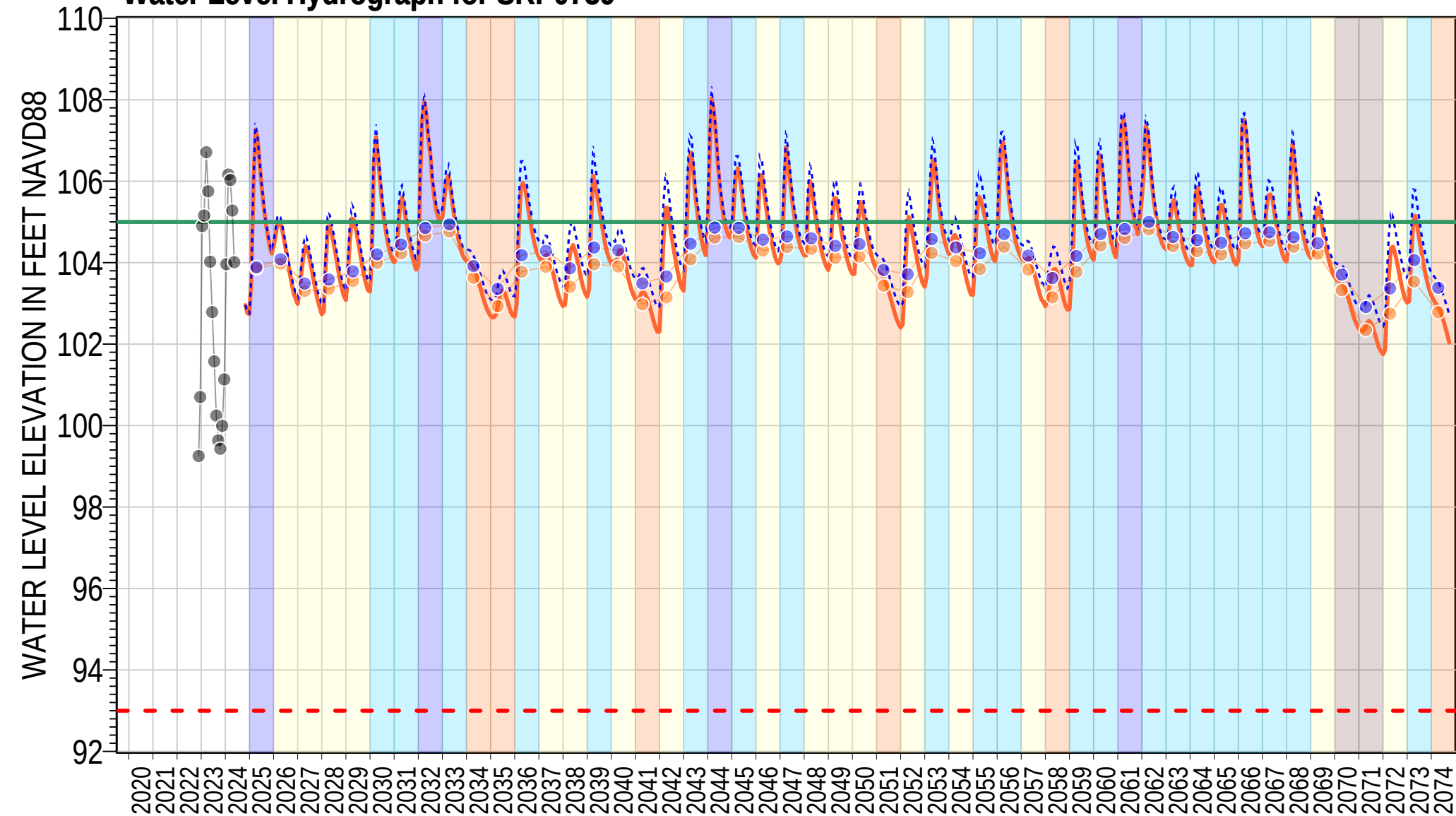
- Baseline Scenario Groundwater Level
- PMA Scenario Groundwater Level
- Minimum Threshold
- Measurable Objective
- Recent Observations
- Baseline Fall Average
- PMA Fall Average

Reference Point Elevation (feet NAVD88) | 119.2 | Well Depth (ft) | 95
Model Layering (%) | L1: 100%

- Climate Classification
- Very Dry
 - Dry
 - Normal
 - Wet
 - Very Wet



Water Level Hydrograph for SRP0739



EXPLANATION

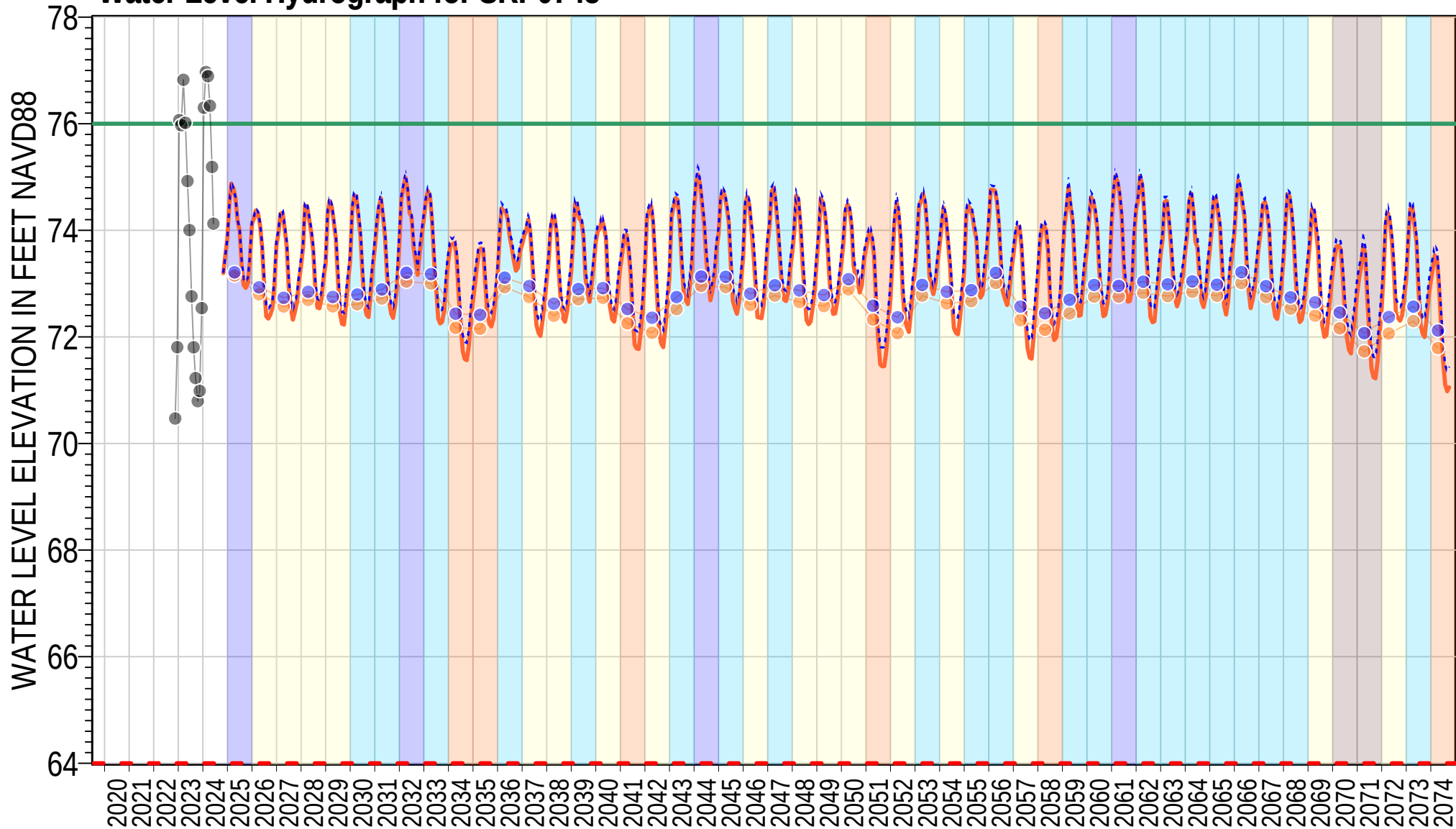
- Baseline Scenario Groundwater Level
- PMA Scenario Groundwater Level
- Minimum Threshold
- Measurable Objective
- Recent Observations
- Baseline Fall Average
- PMA Fall Average

Reference Point Elevation (feet NAVD88) | 113.8 | Well Depth (ft) | 82
Model Layering (%) | L1: 100%

- Climate Classification
- Very Dry
 - Dry
 - Normal
 - Wet
 - Very Wet



Water Level Hydrograph for SRP0743



EXPLANATION

- Baseline Scenario Groundwater Level
- PMA Scenario Groundwater Level
- Minimum Threshold
- Measurable Objective
- Recent Observations
- Baseline Fall Average
- PMA Fall Average

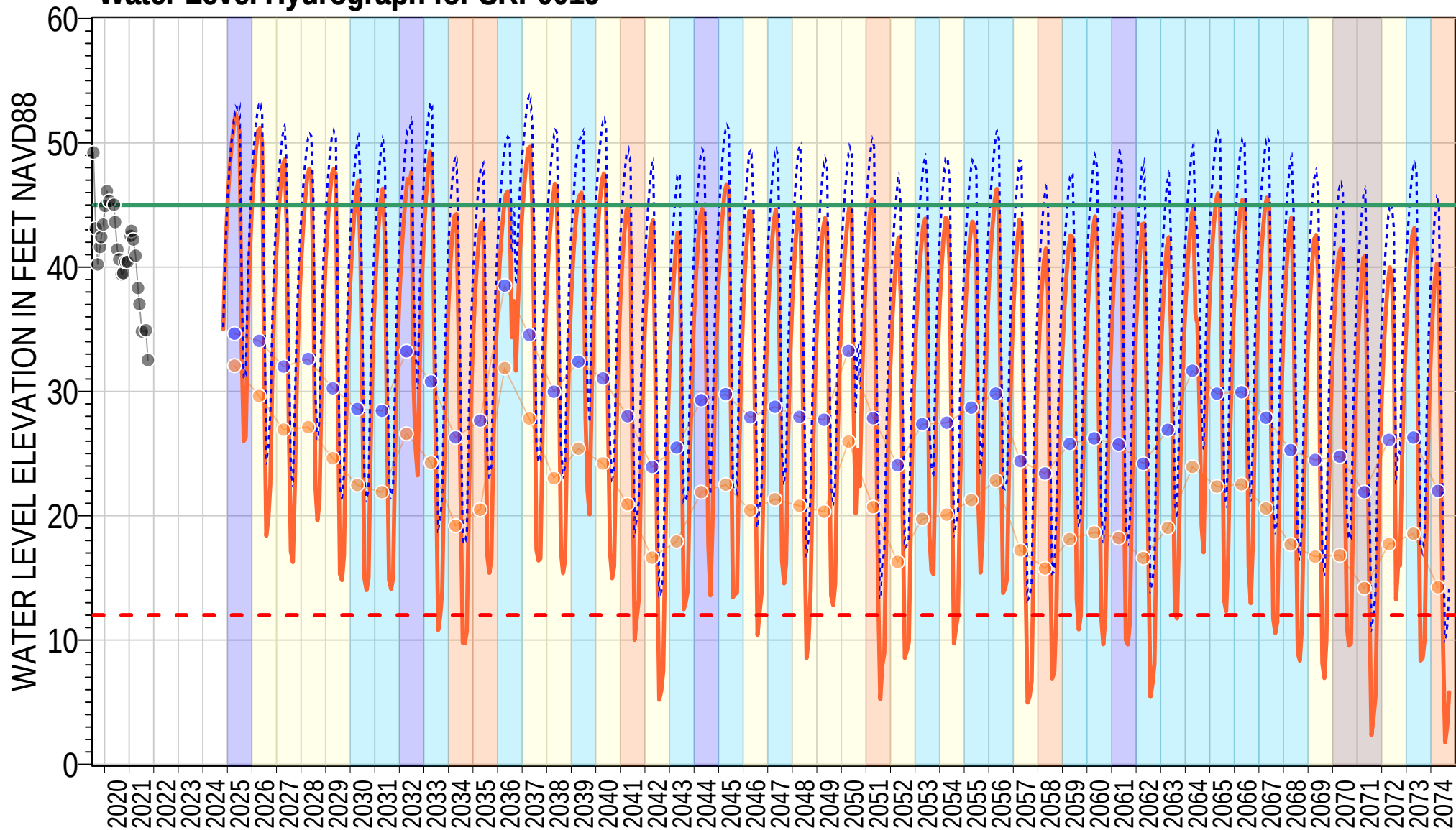
Reference Point Elevation (feet NAVD88) | 80.3 | Well Depth (ft) | 86
Model Layering (%) | L1: 100%

- Climate Classification
- Very Dry
 - Dry
 - Normal
 - Wet
 - Very Wet



7-2. Deep Aquifer Hydrographs

Water Level Hydrograph for SRP0019

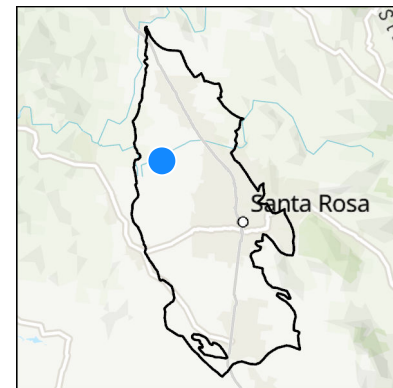


EXPLANATION

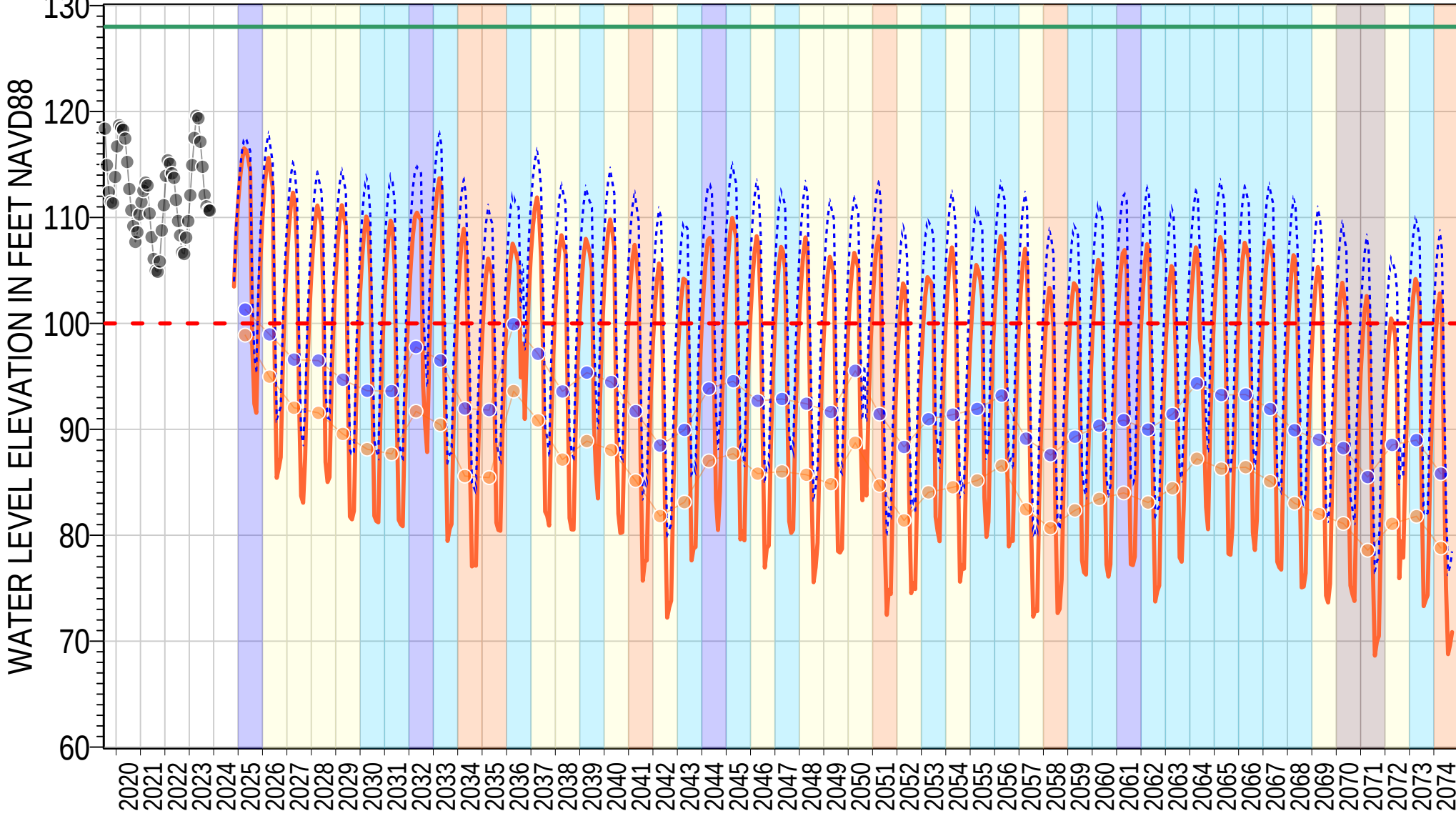
- Baseline Scenario Groundwater Level
- PMA Scenario Groundwater Level
- Minimum Threshold
- Measurable Objective
- Recent Observations
- Baseline Fall Average
- PMA Fall Average

Reference Point Elevation (feet NAVD88) | 93.6 | Well Depth (ft) | 1048
Model Layering (%) | L1: 5%, L2: 5%, L3: 16%, L4: 16%, L5: 16%, L6: 16%, L7: 27%

- Climate Classification
- Very Dry
 - Dry
 - Normal
 - Wet
 - Very Wet



Water Level Hydrograph for SRP0057



EXPLANATION

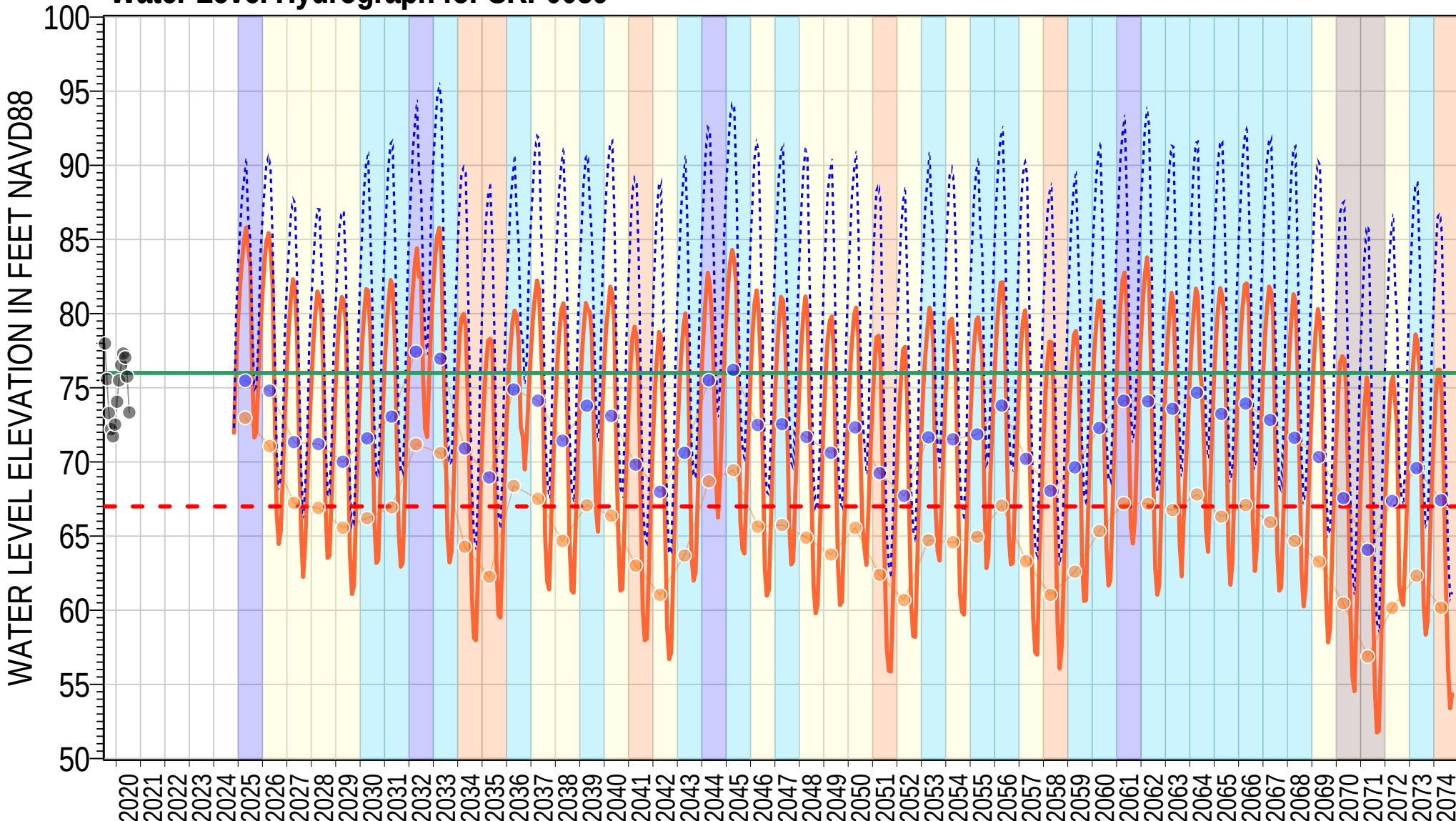
- Baseline Scenario Groundwater Level
- PMA Scenario Groundwater Level
- Minimum Threshold
- Measurable Objective
- Recent Observations
- Baseline Fall Average
- PMA Fall Average

Reference Point Elevation (feet NAVD88) | 141.6 | Well Depth (ft) | 360
Model Layering (%) | L3: 68%, L4: 32%

- Climate Classification
- Very Dry
 - Dry
 - Normal
 - Wet
 - Very Wet



Water Level Hydrograph for SRP0059



EXPLANATION

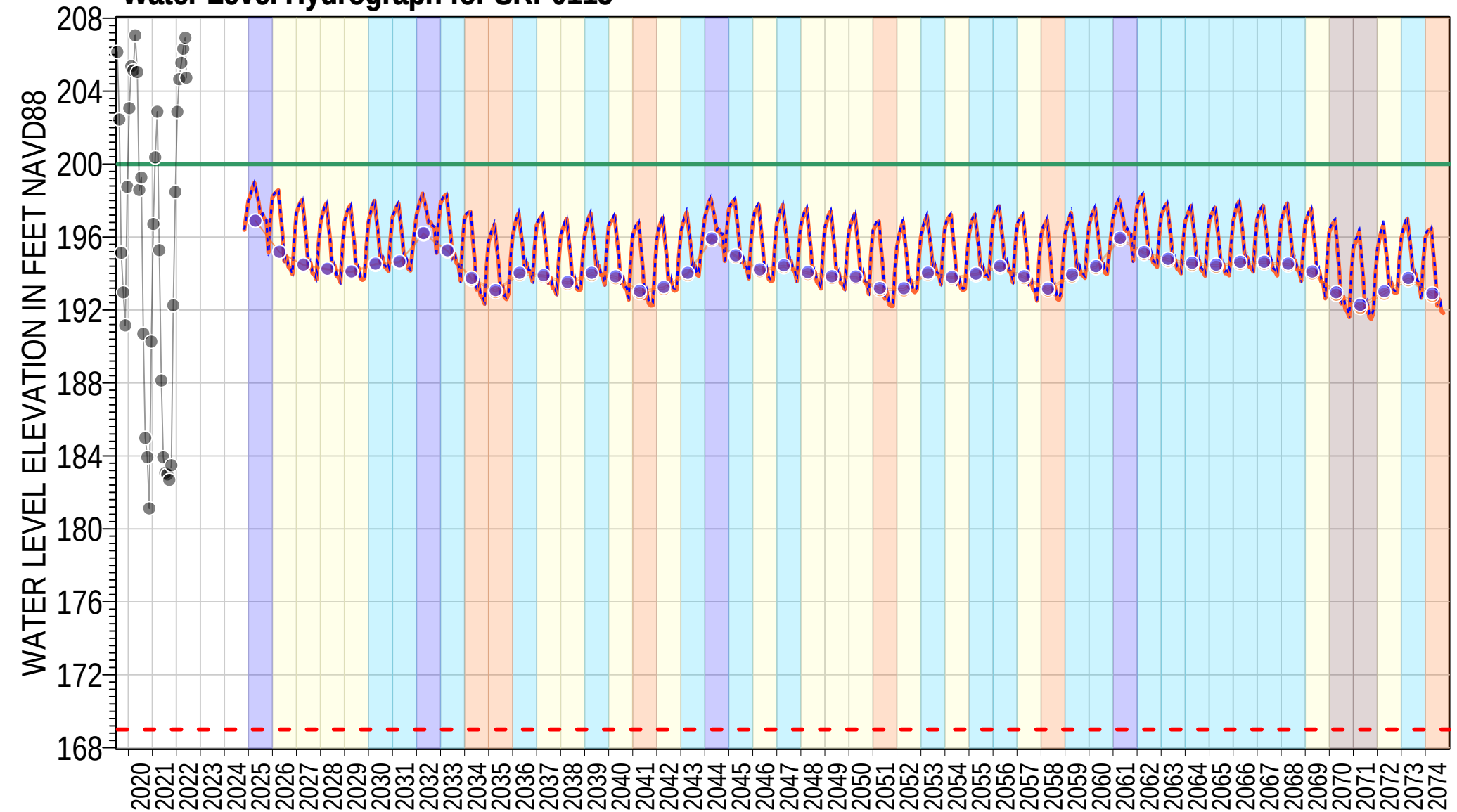
- Baseline Scenario Groundwater Level
- PMA Scenario Groundwater Level
- Minimum Threshold
- Measurable Objective
- Recent Observations
- Baseline Fall Average
- PMA Fall Average

Reference Point Elevation (feet NAVD88) | 101.3 | Well Depth (ft) | 694
Model Layering (%) | L3: 26%, L4: 17%, L5: 29%, L6: 28%

- Climate Classification
- Very Dry
 - Dry
 - Normal
 - Wet
 - Very Wet



Water Level Hydrograph for SRP0115



EXPLANATION

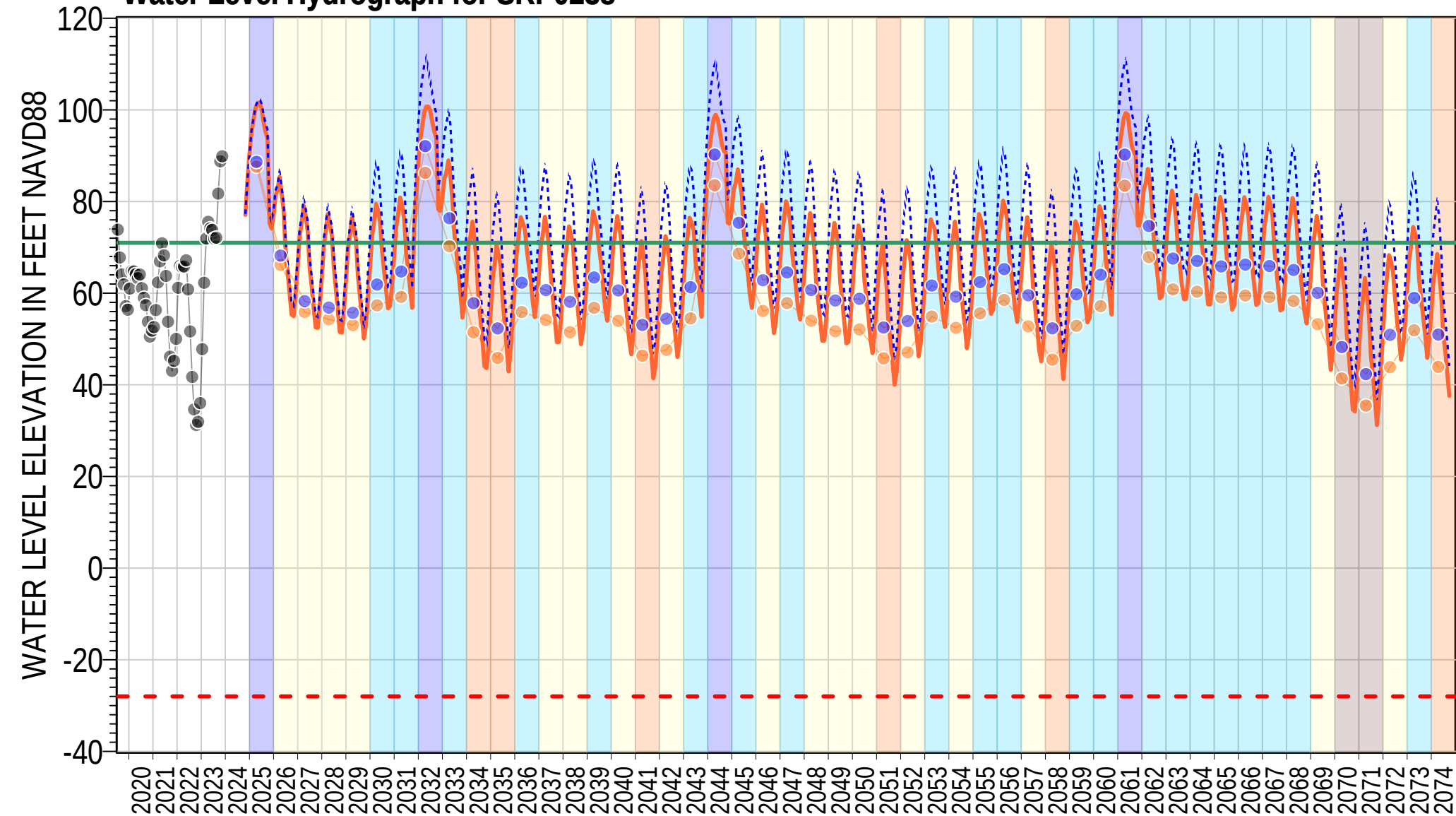
- Baseline Scenario Groundwater Level
- PMA Scenario Groundwater Level
- Minimum Threshold
- Measurable Objective
- Recent Observations
- Baseline Fall Average
- PMA Fall Average

Reference Point Elevation (feet NAVD88) | 215.7 | Well Depth (ft) | 870
Model Layering (%) | L5: 49%, L6: 9%, L7: 42%

- Climate Classification
- Very Dry
 - Dry
 - Normal
 - Wet
 - Very Wet



Water Level Hydrograph for SRP0238



EXPLANATION

- Baseline Scenario Groundwater Level
- PMA Scenario Groundwater Level
- Measurable Objective
- Recent Observations
- Baseline Fall Average
- PMA Fall Average
- Minimum Threshold

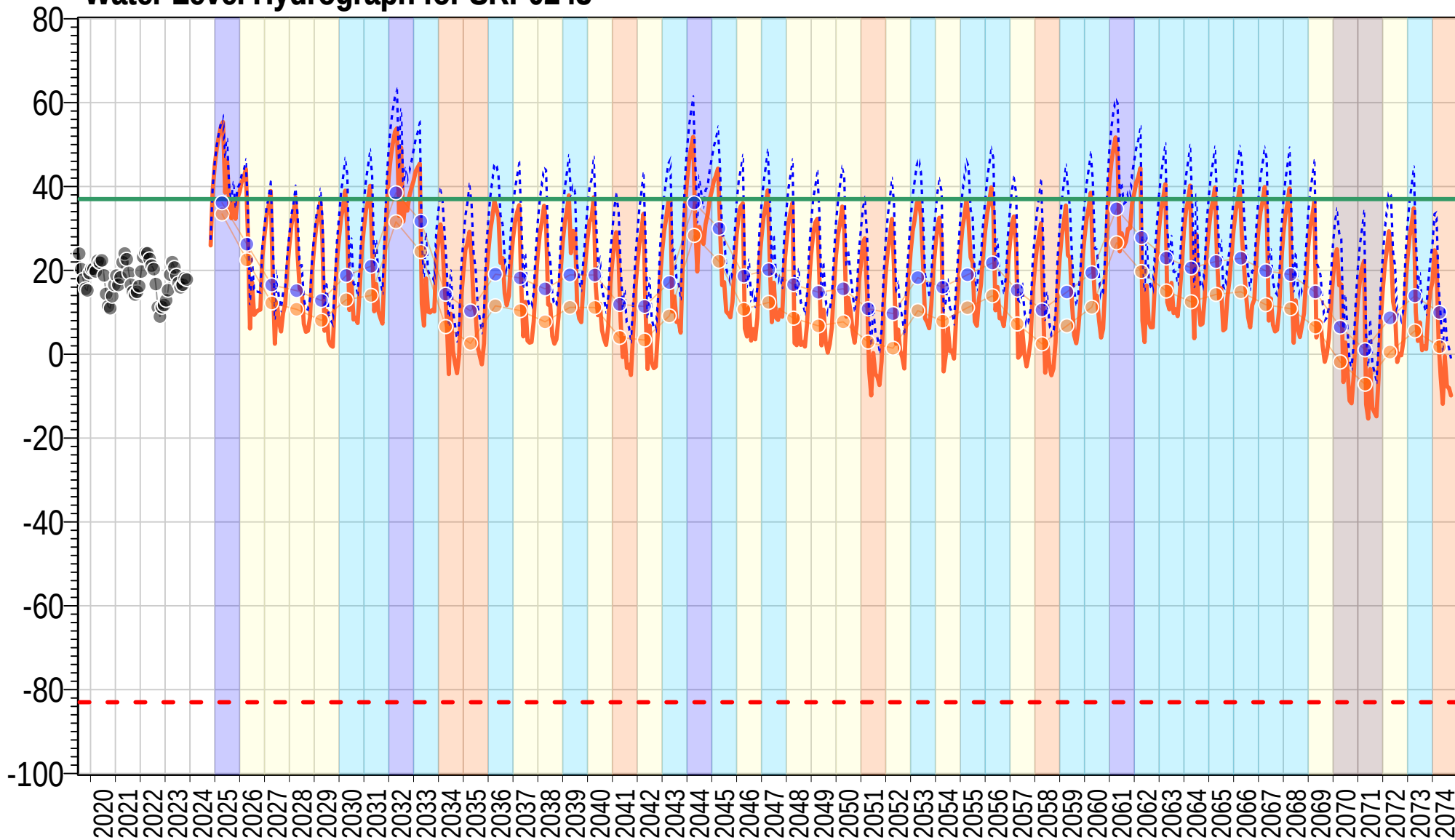
Reference Point Elevation (feet NAVD88) | 127.3 | Well Depth (ft) | 296.0000076
Model Layering (%) | L2: 12%, L3: 88%

- Climate Classification
- Very Dry
 - Dry
 - Normal
 - Wet
 - Very Wet



Water Level Hydrograph for SRP0243

WATER LEVEL ELEVATION IN FEET NAVD88



EXPLANATION

- Baseline Scenario Groundwater Level
- PMA Scenario Groundwater Level
- Minimum Threshold
- Measurable Objective
- Recent Observations
- Baseline Fall Average
- PMA Fall Average

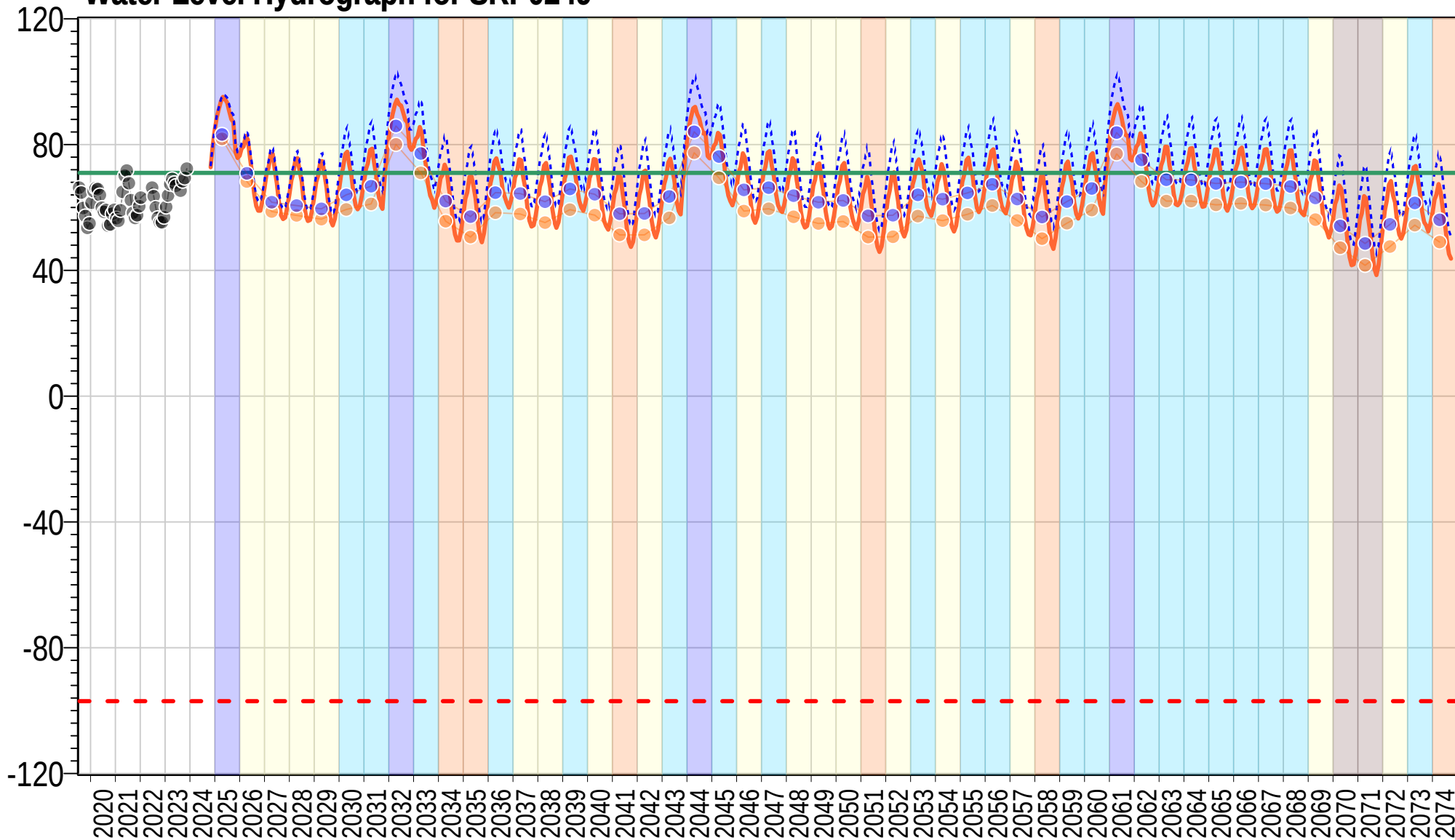
Reference Point Elevation (feet NAVD88) | 86.5 | Well Depth (ft) | 295.5633011
Model Layering (%) | L3: 100%

- Climate Classification
- Very Dry
 - Dry
 - Normal
 - Wet
 - Very Wet



Water Level Hydrograph for SRP0249

WATER LEVEL ELEVATION IN FEET NAVD88



EXPLANATION

- Baseline Scenario Groundwater Level
- PMA Scenario Groundwater Level
- Minimum Threshold
- Measurable Objective
- Recent Observations
- Baseline Fall Average
- PMA Fall Average

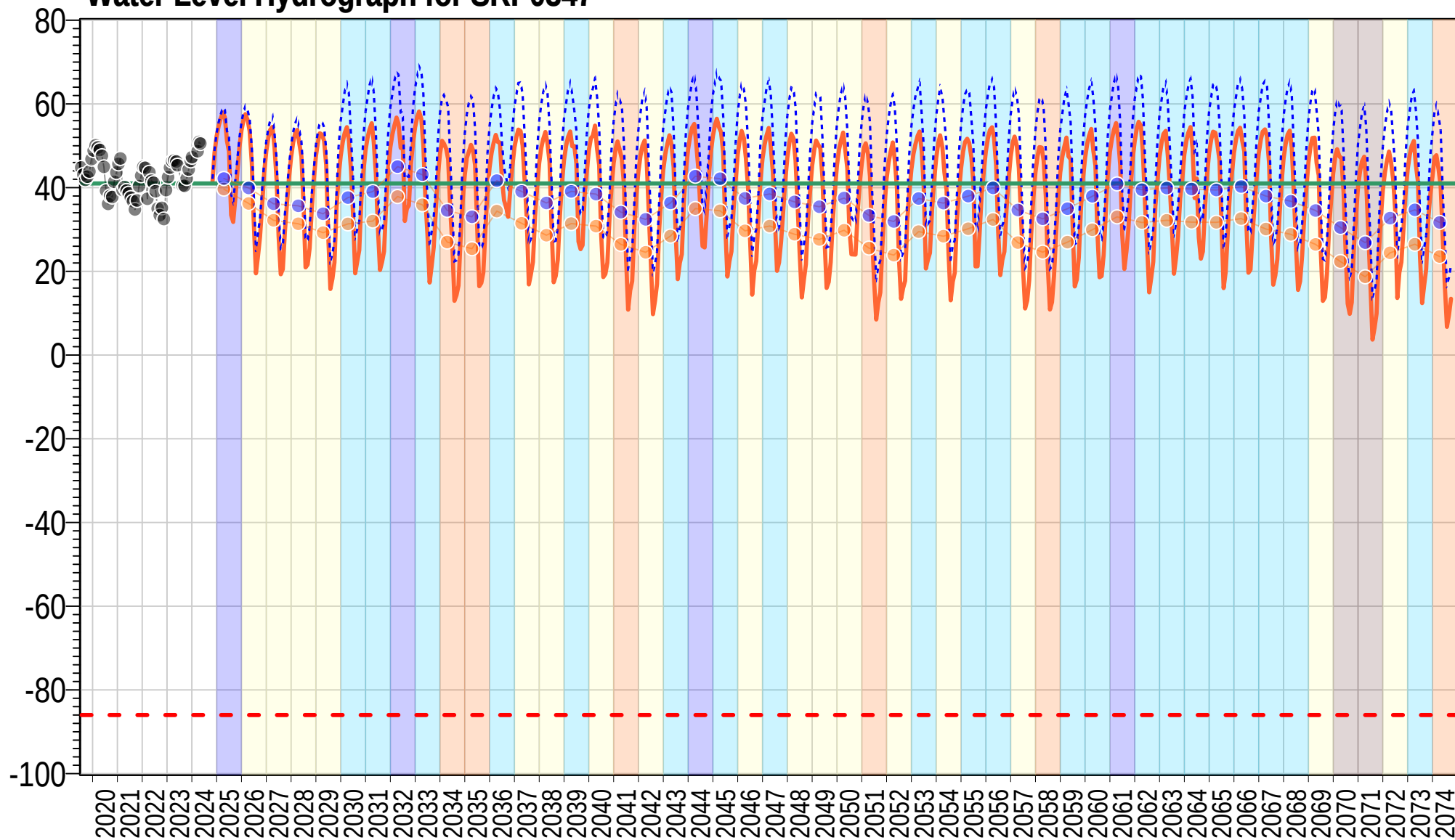
Reference Point Elevation (feet NAVD88) | 100.5 | Well Depth (ft) | 445.4230118
Model Layering (%) | L4: 100%

- Climate Classification
- Very Dry
 - Dry
 - Normal
 - Wet
 - Very Wet



Water Level Hydrograph for SRP0347

WATER LEVEL ELEVATION IN FEET NAVD88



EXPLANATION

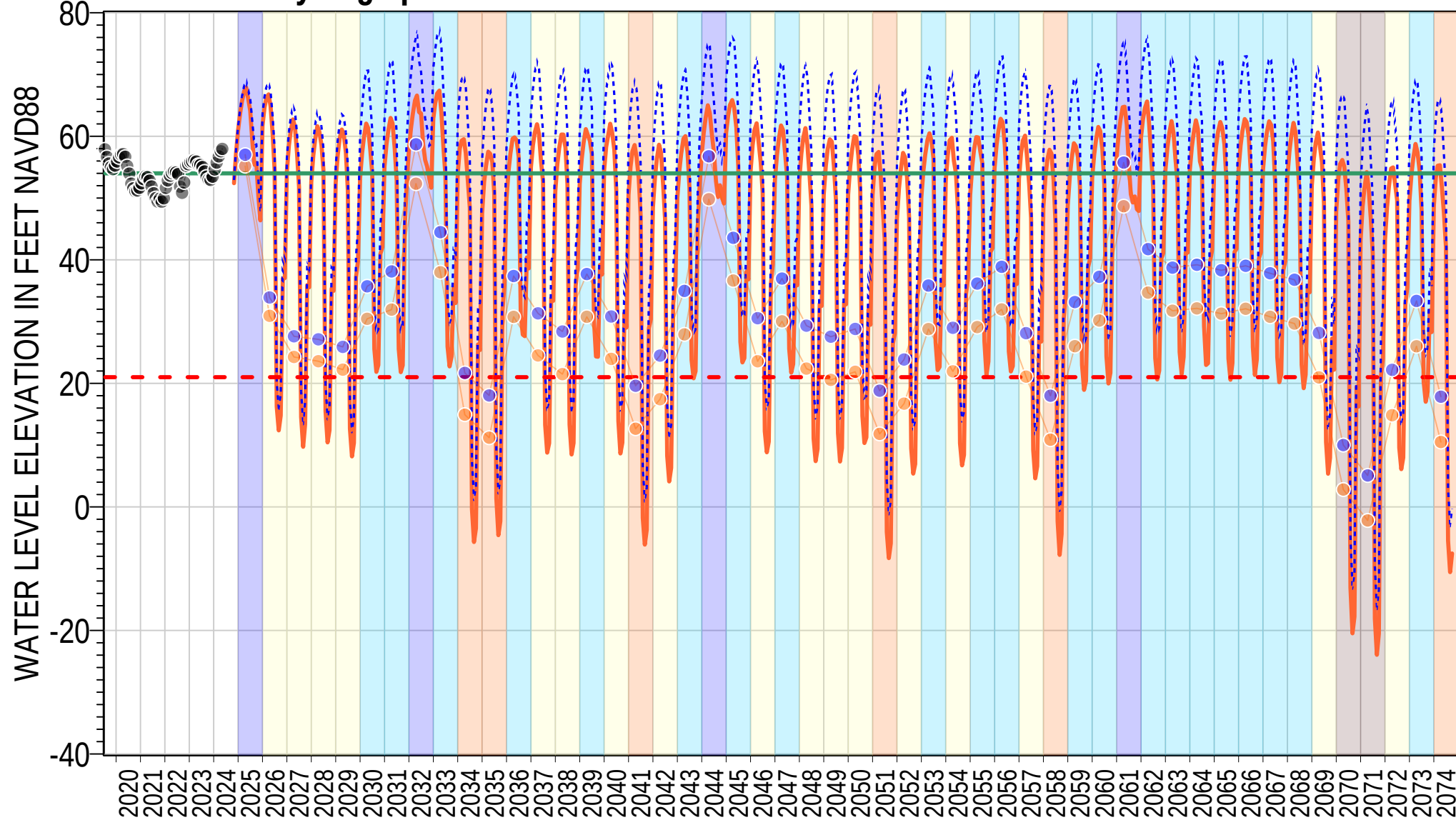
- Baseline Scenario Groundwater Level
- PMA Scenario Groundwater Level
- Minimum Threshold
- Measurable Objective
- Recent Observations
- Baseline Fall Average
- PMA Fall Average

Reference Point Elevation (feet NAVD88) | 95.4 | Well Depth (ft) | 740
Model Layering (%) | L6: 100%

- Climate Classification
- Very Dry
 - Dry
 - Normal
 - Wet
 - Very Wet



Water Level Hydrograph for SRP0359



EXPLANATION

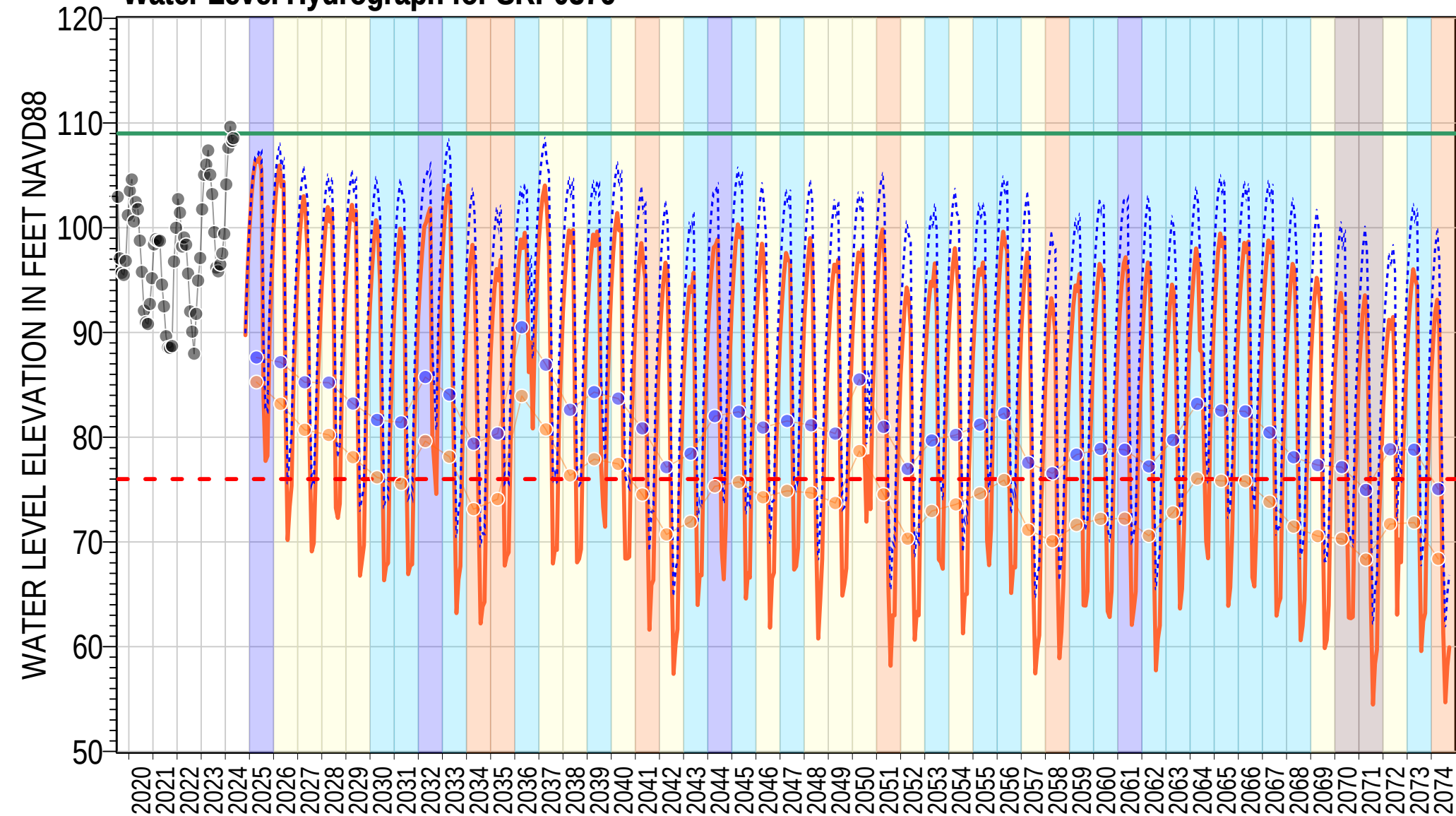
- Baseline Scenario Groundwater Level
- PMA Scenario Groundwater Level
- Minimum Threshold
- Measurable Objective
- Recent Observations
- Baseline Fall Average
- PMA Fall Average

Reference Point Elevation (feet NAVD88) | 79 | Well Depth (ft) | 257
Model Layering (%) | L3: 100%

- Climate Classification
- Very Dry
 - Dry
 - Normal
 - Wet
 - Very Wet



Water Level Hydrograph for SRP0376



EXPLANATION

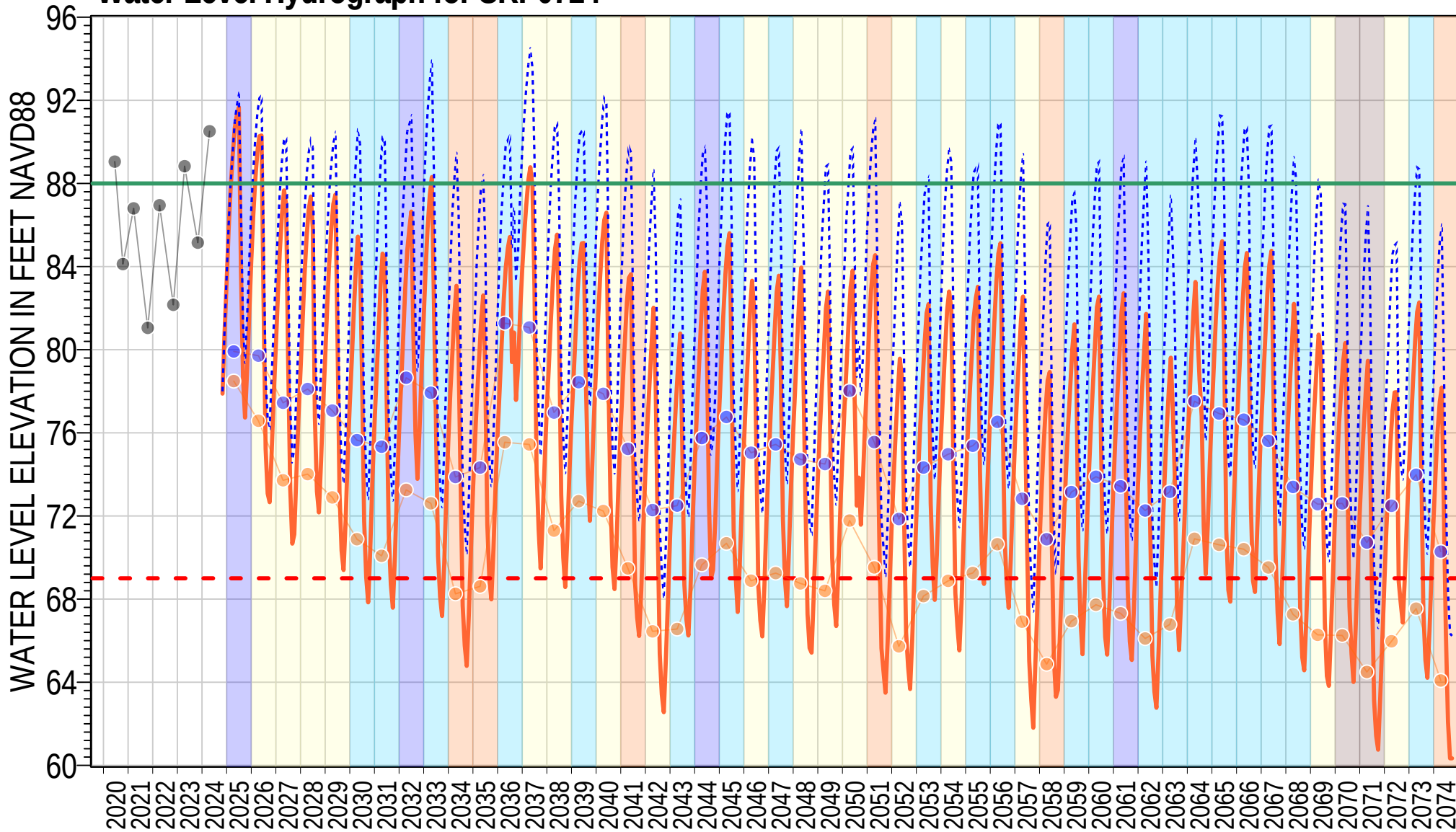
- Baseline Scenario Groundwater Level
- PMA Scenario Groundwater Level
- Minimum Threshold
- Measurable Objective
- Recent Observations
- Baseline Fall Average
- PMA Fall Average

Reference Point Elevation (feet NAVD88) | 121 | Well Depth (ft) | 360
Model Layering (%) | L4: 100%

- Climate Classification
- Very Dry
 - Dry
 - Normal
 - Wet
 - Very Wet



Water Level Hydrograph for SRP0724

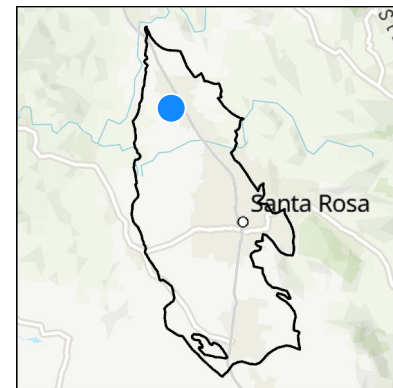


EXPLANATION

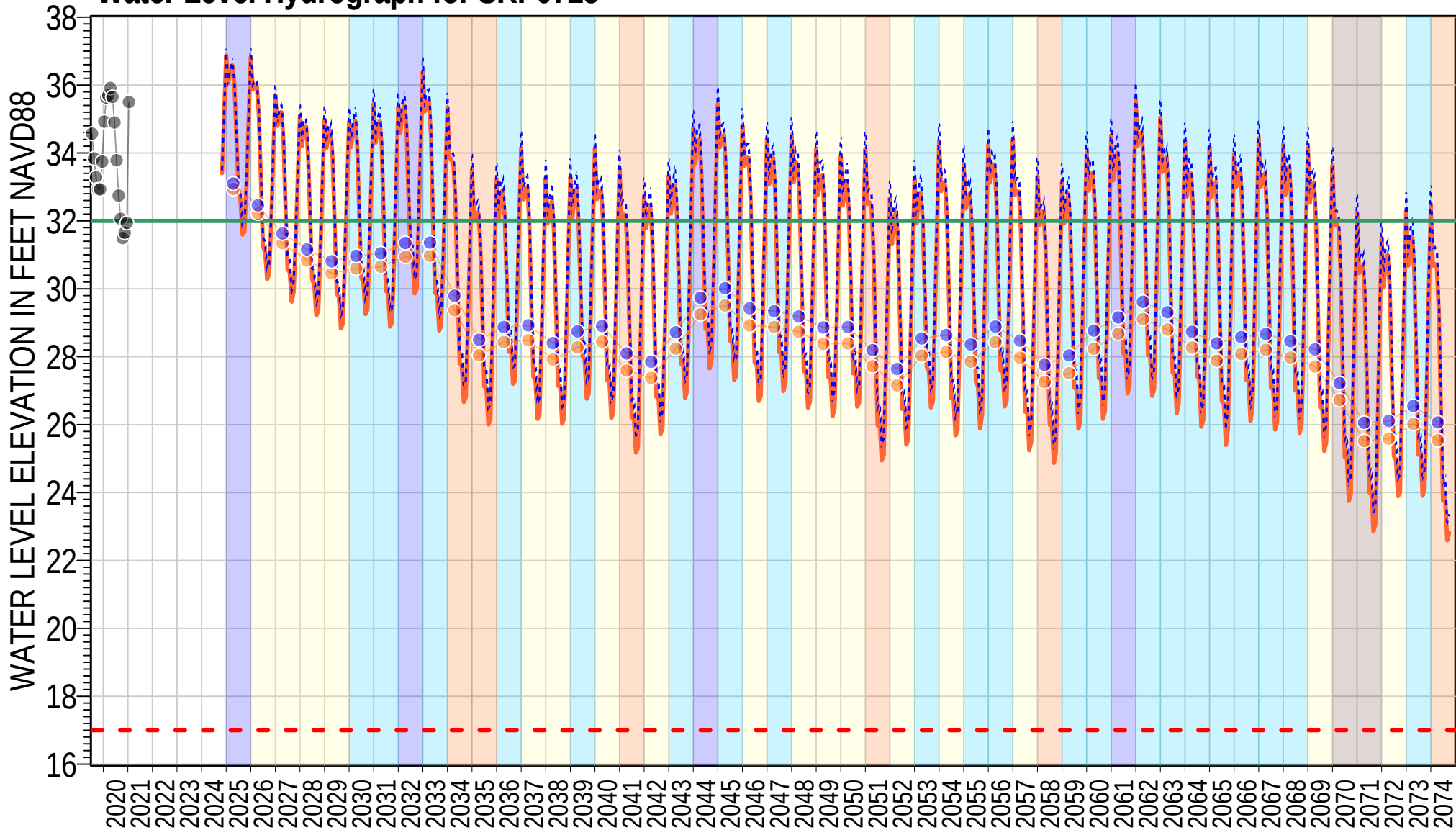
- Baseline Scenario Groundwater Level
- PMA Scenario Groundwater Level
- Recent Observations
- Measurable Objective
- Baseline Fall Average
- PMA Fall Average
- Minimum Threshold

Reference Point Elevation (feet NAVD88) | 118.8 | Well Depth (ft) | 765
Model Layering (%) | L6: 100%

- Climate Classification
- Very Dry
 - Dry
 - Normal
 - Wet
 - Very Wet



Water Level Hydrograph for SRP0725



EXPLANATION

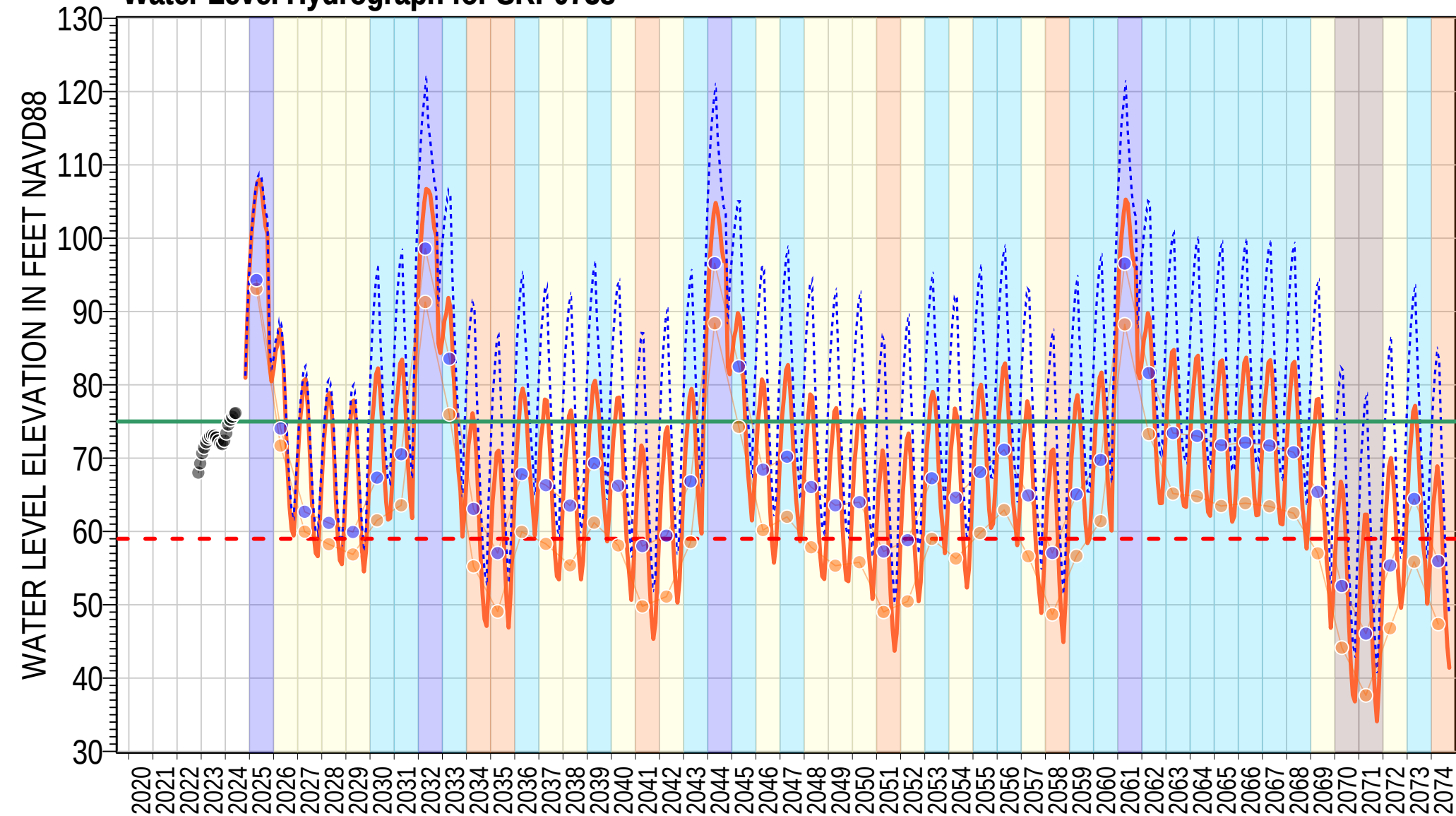
- Baseline Scenario Groundwater Level
- PMA Scenario Groundwater Level
- Minimum Threshold
- Measurable Objective
- Recent Observations
- Baseline Fall Average
- PMA Fall Average

Reference Point Elevation (feet NAVD88) | 85.1 | Well Depth (ft) | 528
Model Layering (%) | L2: 5%, L3: 38%, L4: 38%, L5: 18%

- Climate Classification
- Very Dry
 - Dry
 - Normal
 - Wet
 - Very Wet



Water Level Hydrograph for SRP0738



EXPLANATION

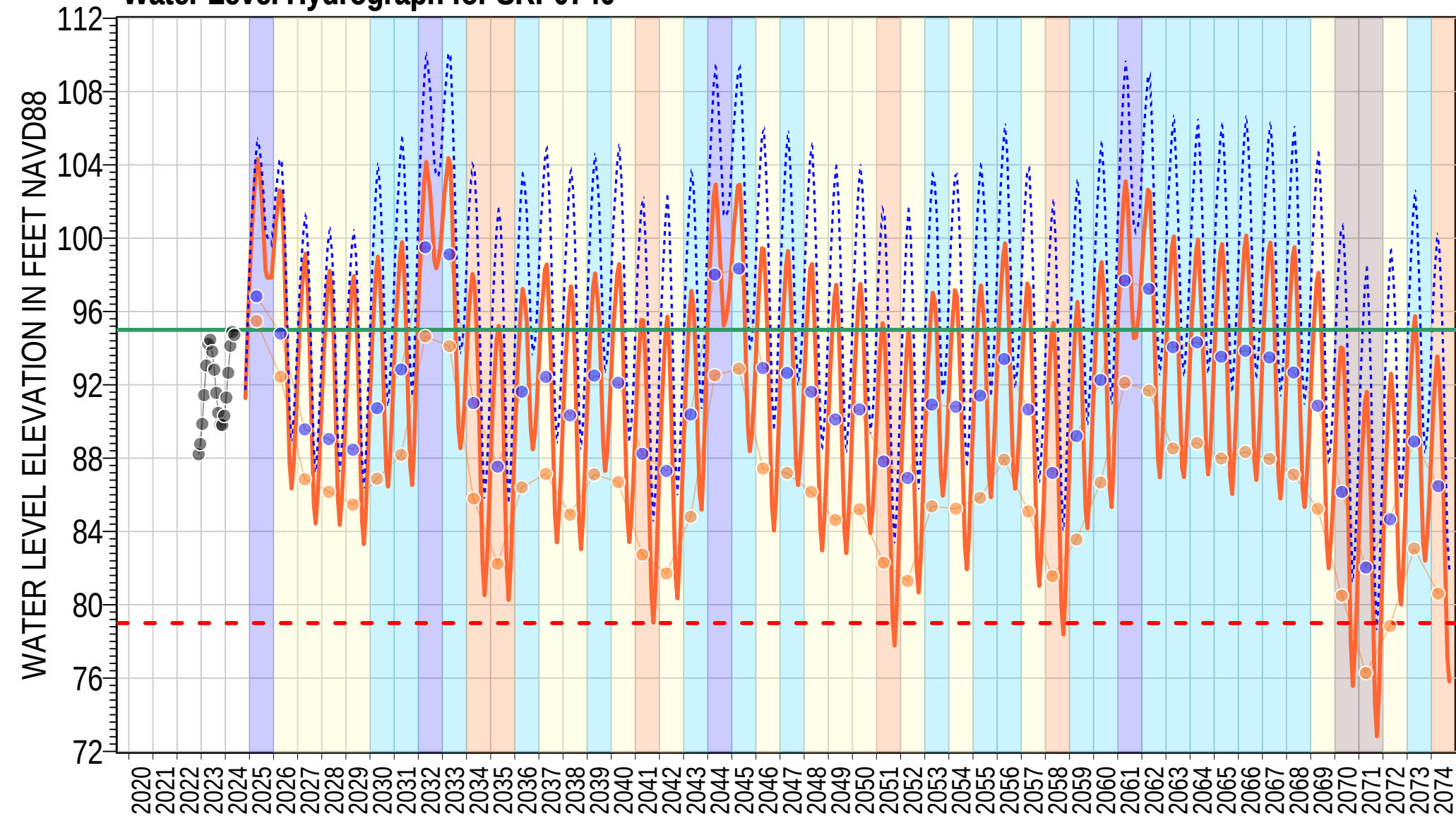
- Baseline Scenario Groundwater Level
- PMA Scenario Groundwater Level
- Minimum Threshold
- Measurable Objective
- Recent Observations
- Baseline Fall Average
- PMA Fall Average

Reference Point Elevation (feet NAVD88) | 119 | Well Depth (ft) | 450
Model Layering (%) | L4: 100%

- Climate Classification
- Very Dry
 - Dry
 - Normal
 - Wet
 - Very Wet



Water Level Hydrograph for SRP0740



EXPLANATION

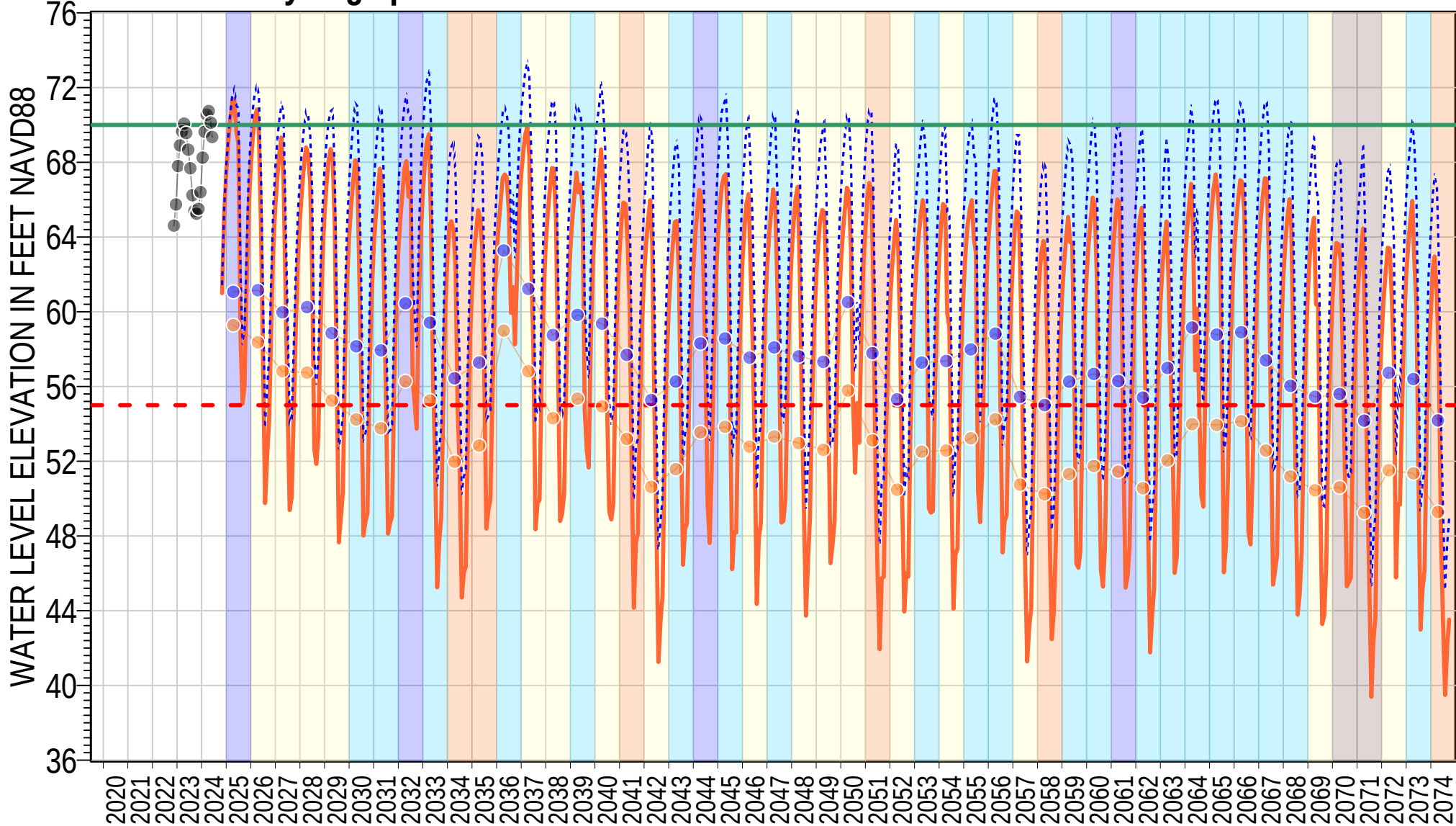
- Baseline Scenario Groundwater Level
- PMA Scenario Groundwater Level
- Minimum Threshold
- Measurable Objective
- Recent Observations
- Baseline Fall Average
- PMA Fall Average

Reference Point Elevation (feet NAVD88) | 113.6 | Well Depth (ft) | 281
Model Layering (%) | L3: 100%

- Climate Classification
- Very Dry
 - Dry
 - Normal
 - Wet
 - Very Wet



Water Level Hydrograph for SRP0744



EXPLANATION

- Baseline Scenario Groundwater Level
- PMA Scenario Groundwater Level
- Minimum Threshold
- Measurable Objective
- Recent Observations
- Baseline Fall Average
- PMA Fall Average

Reference Point Elevation (feet NAVD88) | 80.2 | Well Depth (ft) | 210
Model Layering (%) | L3: 100%

- Climate Classification
- Very Dry
 - Dry
 - Normal
 - Wet
 - Very Wet

