AI-Powered Water Quality Report

Comprehensive Analysis & Insights

Generated: 10 January 2026

Dataset: SIH25067_ppb.csv

Total Stations: 102

Powered by: Gemini AI & Nirmaya Analytics

📊 Executive Summary

102	99	40	0
TOTAL STATIONS	CRITICAL STATIONS	SAFE STATIONS	STATES COVERED

42.46

AVERAGE HPI

1.17

AVERAGE MI

1081.38

AVERAGE WQI

AI-Generated Summary

This comprehensive water quality analysis covers 102 monitoring stations. The assessment reveals 99 stations (97.1%) with critical pollution levels requiring immediate intervention. Average HPI: 42.46, MI: 1.17, WQI: 1081.38.

⚠️ Critical Stations Requiring Immediate Attention

Stations: Station 100, Station 102, Station 48, Station 75, Station 35, Station 40, Station 71, Station 72, Station 39, Station 42

🔍 Key Findings

✓ **Finding 1:** 99 of 102 stations show critical pollution levels

✓ **Finding 2:** Heavy metal contamination detected across 102 monitoring locations

✓ **Finding 3:** Average Heavy Metal Pollution Index (HPI): 42.46 - Low pollution

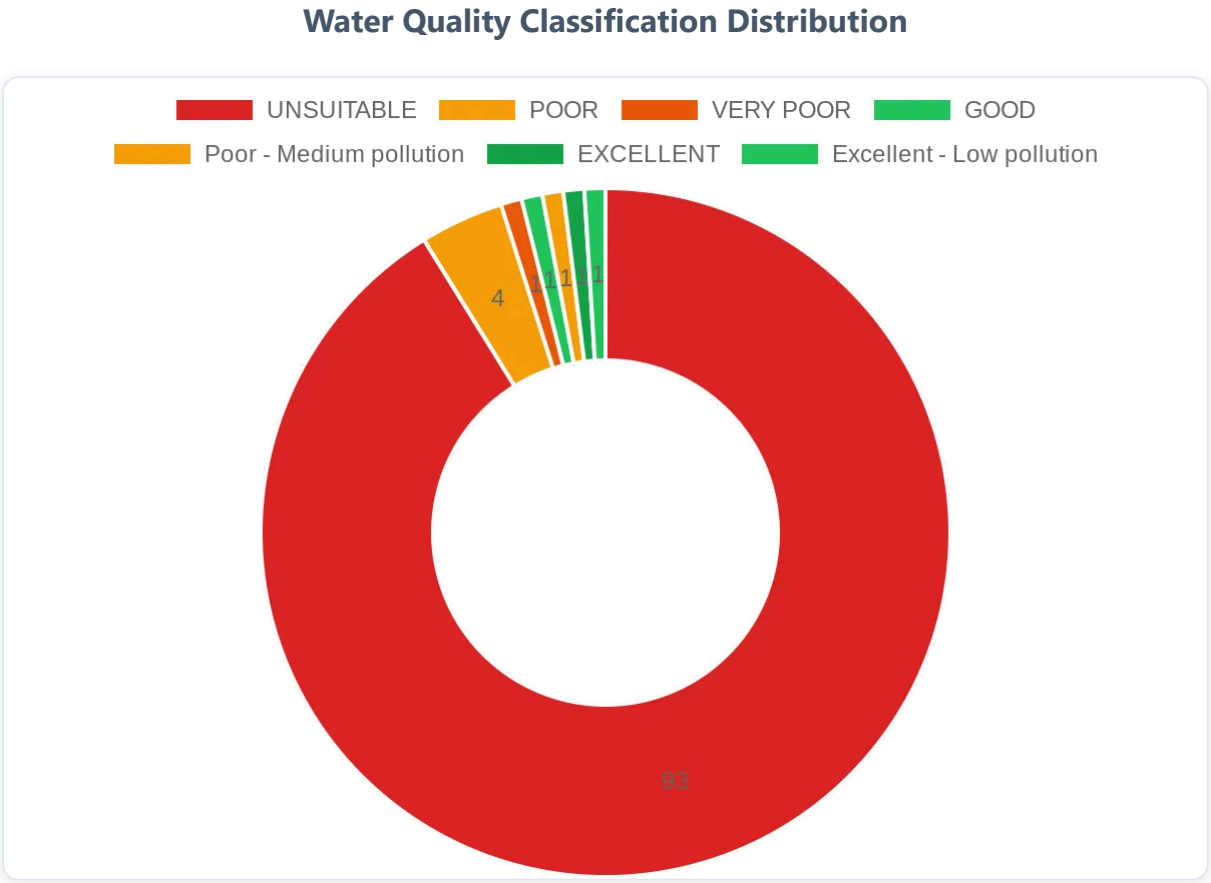
✓ **Finding 4:** Metal Index (MI) ranges from 0.14 to 21.53

✓ **Finding 5:** Water Quality Index (WQI) average: 1081.38 - 99 stations unsuitable for consumption

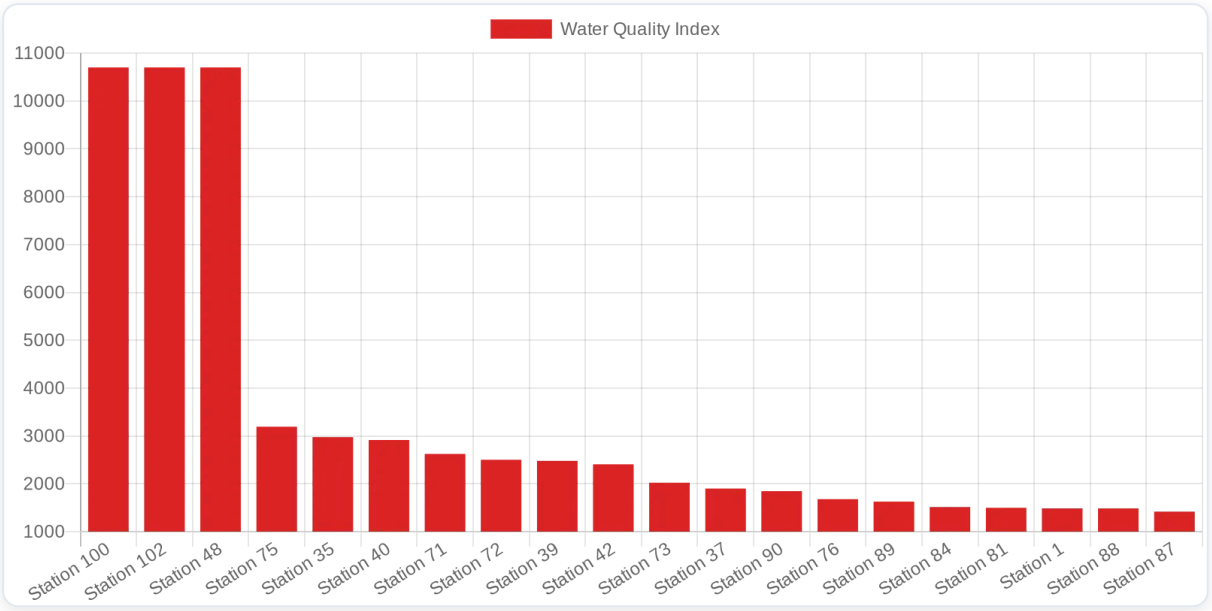
🌎 Geographical Analysis

The analysis covers 0 state(s) and 0 district(s) with varying pollution levels. Critical areas show HPI values above 100, indicating severe heavy metal contamination. Monitoring data spans multiple time periods. Immediate remediation efforts are recommended for high-risk zones to protect public health.

Visual Analysis



WQI Distribution Across Stations



📊 Additional Analysis

HPI vs MI Comparison

Chart error: TypeError: Cannot read properties of undefined (reading 'options')

💡 AI-Generated Recommendations

1. Implement immediate water treatment protocols for critical stations with HPI > 100

2. Conduct detailed source analysis to identify heavy metal contamination origins

3. Establish continuous real-time monitoring systems at high-risk locations

4. Prioritize remediation for 99 stations exceeding safety limits

5. Strengthen regulatory compliance and regular testing frequency

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Report Generated by Nirmaya AI Analytics

This report uses Google Gemini Pro AI for intelligent insights and recommendations

Generated on 10 January 2026

📋 Data Appendix

Top 20 Critical Stations

Station ID	HPI	MI	WQI	Classification	Location
Station 100	21.96	5.01	10697.81	UNSUITABLE	
Station 102	21.96	5.01	10697.81	UNSUITABLE	
Station 48	21.96	5.01	10697.81	UNSUITABLE	
Station 75	63.09	1.13	3189.38	UNSUITABLE	
Station 35	4.03	2.04	2973.31	UNSUITABLE	
Station 40	69.76	0.57	2913.19	UNSUITABLE	
Station 71	54.52	1.12	2621.75	UNSUITABLE	
Station 72	55.87	0.99	2498.72	UNSUITABLE	
Station 39	67.52	0.91	2477.69	UNSUITABLE	
Station 42	64.37	0.62	2403.78	UNSUITABLE	
Station 73	62.27	1.34	2021.56	UNSUITABLE	
Station 90	65.11	0.64	1843.81	UNSUITABLE	
Station 37	4.89	0.49	1898.00	UNSUITABLE	
Station 6	15.97	21.53	1172.88	UNSUITABLE	
Station 76	64.22	2.65	1677.50	UNSUITABLE	

Station ID	HPI	MI	WQI	Classification	Location
Station 89	64.94	0.64	1626.19	UNSUITABLE	
Station 1	15.04	3.24	1486.09	UNSUITABLE	
Station 81	64.50	0.78	1495.94	UNSUITABLE	
Station 88	55.30	0.78	1483.91	UNSUITABLE	
Station 84	5.38	0.42	1512.38	UNSUITABLE	