

Environmental Monitoring Simulation

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Planned research: compare simulations using real quantum computing hardware and classical computing systems, then evaluate results against measured physical construction applications. No such hardware benchmarking or field validation is claimed as completed.

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Local AWS CloudShell software demonstration | November 2, 2026 | Trident Build

Purpose and environment

A small local Python demonstration explored threshold-based environmental monitoring using synthetic water-level inputs. AWS CloudShell served only as the computing workspace. No AWS quantum hardware task or physical sensor was involved.

Inputs

Ten synthetic water-level readings were used. Their reported average was 1.272 m and their maximum was 1.38 m. The illustrative alert threshold was 1.30 m.

Observed software output

Because the maximum synthetic reading (1.38 m) exceeded the chosen 1.30 m threshold, the demonstration produced a HIGH WATER alert. This was an illustrative software result, not an observation from a real-time coastal or stormwater gauge.

Limitations and follow-up

The input series and threshold were assumed for demonstration purposes. No accuracy, reliability, false-alarm rate, or operational field detection performance was established.

Future evaluation would require calibrated physical sensors, real environmental time series, documented alert rules and independently verified events.

Research documentation only. Results are limited to the specified data, assumptions and software methods. No operational field performance or quantum-hardware capability has been established.