



Nitrate Contamination in Groundwater

Published On: 28-12-2025

Context: The Central Groundwater Board (CGWB) reported that 20% of Delhi's groundwater samples exceed the permissible nitrate limit

- **The Basics:** * **Sources:** Primarily caused by excessive use of nitrogenous fertilizers (Urea), leaching from septic tanks, and industrial waste.
- **Health Impact:** High nitrates cause **Methemoglobinemia** (Blue Baby Syndrome) in infants. It reduces the ability of blood to carry oxygen.
- **Latest Data (CGWB 2024 Report):**
- **National Trend:** 440 districts in India now report excessive nitrate, up from 359 in 2017.
- **Seasonal Variation:** Contamination often *increases* after the monsoon due to surface runoff from agricultural fields washing fertilizers into aquifers.
- **Subject Reference:**
- **GS Paper III:** Environment (Pollution), Agriculture (Fertilizer subsidy and its impact).
- **GS Paper II:** Health and Governance (Drinking water schemes like Jal Jeevan Mission).