SUMMARY OF STATISTICAL ANALYSIS OF DECADAL CHANGE

Concentrations of key constituents analyzed between Cycle 1 (1988-2002) and Cycle 2 (2002-2012) of the NAWQA program. Priority for analysis is based on:

1) Constituents that exceeded a Maximum Contaminant Level or other human-health benchmark in more than 1 percent of public or domestic-supply wells [1,2,3]; or

2) Constituents that exceeded a Secondary Maximum Contaminant Level in more than 1 percent of public or domestic-supply wells [1,2,3]; or

3) The five most frequently detected pesticides and VOCs [4,5]; or

4) Constituents of special or regional interest.

Constituents meeting analysis criteria, results mapped

[µg/L, micrograms per liter; mg/L, milligrams per liter; SMCL, Secondary Maximum Contaminant Level]

Constituent name	Constituent class	Benchmark	Units	Why study
Arsenic	inorganic	10	µg/L	Exceeded human-health benchmark in more than 1 percent of domestic or public-supply wells
Boron	inorganic	6,000	µg/L	Exceeded human-health benchmark in more than 1 percent of domestic or public-supply wells
Chloride	inorganic	250	mg/L	Exceeded SMCL in more than 1 percent of domestic-supply or public-supply wells
Fluoride	inorganic	4	mg/L	Exceeded human-health benchmark in more than 1 percent of domestic or public-supply wells
Iron	inorganic	300	µg/L	Exceeded SMCL in more than 1 percent of domestic-supply or public-supply wells
Manganese	inorganic	300	µg/L	Exceeded human-health benchmark in more than 1 percent of domestic or public-supply wells
Molybdenum	inorganic	40	µg/L	Exceeded human-health benchmark in more than 1 percent of domestic or public-supply wells
Nitrate	inorganic	10	mg/L	Exceeded human-health benchmark in more than 1 percent of domestic or public-supply wells
Orthophosphate	inorganic	None	mg/L	Constituent of special or regional interest: Possible source of discharge to surface water bodies
Strontium	inorganic	4,000	µg/L	Exceeded human-health benchmark in more than 1 percent of domestic or public-supply wells
Sulfate	inorganic	250	mg/L	Exceeded SMCL in more than 1 percent of domestic-supply or public-supply wells
Total Dissolved Solids	inorganic	500	mg/L	Exceeded SMCL in more than 1 percent of domestic-supply or public-supply wells
Uranium	inorganic	30	µg/L	Exceeded human-health benchmark in more than 1 percent of domestic or public-supply wells
Atrazine	organic	3	µg/L	One of the five most frequently detected pesticides in the nation
Chloroform	organic	80	µg/L	One of the five most frequently detected volatile organic compounds in the nation
Deethylatrazine	organic	None	µg/L	One of the five most frequently detected pesticides in the nation
Dieldrin	organic	0.002	µg/L	Exceeded human-health benchmark in more than 1 percent of public-supply wells
Methyl tert-butyl ether	organic	20	µg/L	One of the five most frequently detected volatile organic compounds in the nation
Metolachlor	organic	700	µg/L	One of the five most frequently detected pesticides in the nation
Simazine	organic	4	µg/L	One of the five most frequently detected pesticides in the nation
Prometon	organic	400	µg/L	One of the five most frequently detected pesticides in the nation
Tetrachloroethene	organic	5	µg/L	Exceeded human-health benchmark in more than 1 percent of domestic or public-supply wells
Toluene	organic	1,000	µg/L	One of the five most frequently detected volatile organic compounds in the nation
Trichloroethene	organic	5	µg/L	One of the five most frequently detected volatile organic compounds in the nation

Constituents meeting analysis criteria, insufficient data for analysis, not mapped

Gross Alpha	inorganic	15	picocuries per Liter	Exceeded human-health benchmark in more than 1 percent of domestic or public-supply wells
Radium 226 plus Radium 228	inorganic	5	picocuries per Liter	Exceeded human-health benchmark in more than 1 percent of domestic or public-supply wells
Radon	inorganic	300 (Alternate 4,000)	picocuries per Liter	Exceeded human-health benchmark in more than 1 percent of domestic or public-supply wells

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Details of statistical analysis and data management (6,7).

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