

IOWA DEPARTMENT OF NATURAL RESOURCES

LEADING IOWANS IN CARING FOR OUR NATURAL RESOURCES

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Stream Water Quality Summary 2016

Water Quality Parameter	Units	# of Samples	Average	Min Value	Percentiles					Max Value
					10th	25th	50th	75th	90th	
Alkalinity, Total *	mg/L	419	233	85	160	190	230	270	310	360
Ammonia (as N)	mg/L	719	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1.9
Calcium *	mg/L	419	82	15	58	68	81	95	110	140
Carbonaceous BOD (5 day)	mg/L	719	<2	<2	<2	<2	<2	<2	<2	37
Chloride	mg/L	719	19	4.9	10	15	19	23	26	52
Chlorophyll free of pheophytin	mg/L	719	16	<1	2	3	6	15	37	220
Diss. Orthophosphate (as P)	mg/L	719	0.10	<0.02	0.04	0.05	0.08	0.13	0.17	0.79
Dissolved Oxygen	mg/L	719	10.4	6.1	7.9	8.5	10.1	12.3	13.5	15.7
<i>E.coli</i> Bacteria	MPN/100 ml	719	2,980	<10	31	74	200	705	2800	310,000
Field pH	pH units	713	8.2	7.1	7.9	8.1	8.2	8.3	8.4	9.0
Field Temperature	Celsius	719	12.9	0	0.8	3.9	13.0	21.5	24.0	31.0
Magnesium *	mg/L	419	26	4.9	15	21	26	32	36	49
Nitrate+Nitrite (as N)	mg/L	719	7.7	<0.1	1.8	5.1	7.8	10	13	20
Organic Carbon, Dissolved *	mg/L	419	2.9	<0.1	1.68	2.1	2.7	3.5	4.4	7.9
Potassium *	mg/L	419	3.1	<1	1.8	2.2	2.7	3.6	5	11
Sodium *	mg/L	419	10.3	1.8	6.2	7.4	9.4	11	14	49
Sulfate	mg/L	719	33	3.1	16	20	24	37	64	140
Total Dissolved Solids	mg/L	719	378	130	260	320	370	440	500	690
Total Hardness (as CaCO ₃)	mg/L	719	309	88	210	255	310	360	410	550
Total Kjeldahl Nitrogen	mg/L	719	0.7	<0.1	<0.1	0.3	0.6	0.8	1.2	7.7
Total Phosphorus	mg/L	719	0.29	0.02	0.09	0.13	0.20	0.32	0.46	2.5
Total Suspended Solids	mg/L	719	138	<1	9	22	48	130	302	3,370
Total Volatile Suspended Solids	mg/L	719	17	<1	2	4	8	17	36	360
Turbidity	NTU	719	66	<1	5.28	11	26	59	120	2,200

µg/L - micrograms per liter; mg/L - milligrams per liter

MPN/100 ml - Most Probable Number /100 ml

NTU - Nephelometric Turbidity Units

BOD - Biological Oxygen Demand

A total of 60 stream sites were sampled monthly from January through December.

Raw data are available through IASTORET at <https://programs.iowadnr.gov/iastoret/>

* Parameter was analyzed only during June through December.

Table 1. Water quality summary statistics for DNR's Ambient Stream Monitoring Program.

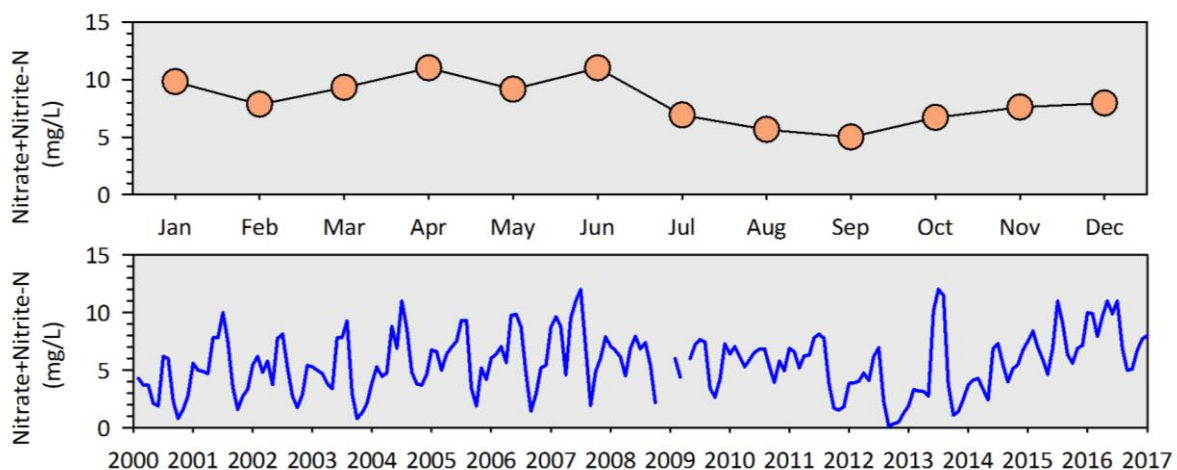


Figure 1. Median nitrate+nitrite-N concentrations for 60 sites monitored statewide in 2016 (upper graph) and monthly medians for 52 sites monitored consistently from 2000 through 2016 (lower graph) as part of the DNR's Ambient Stream Monitoring Program.

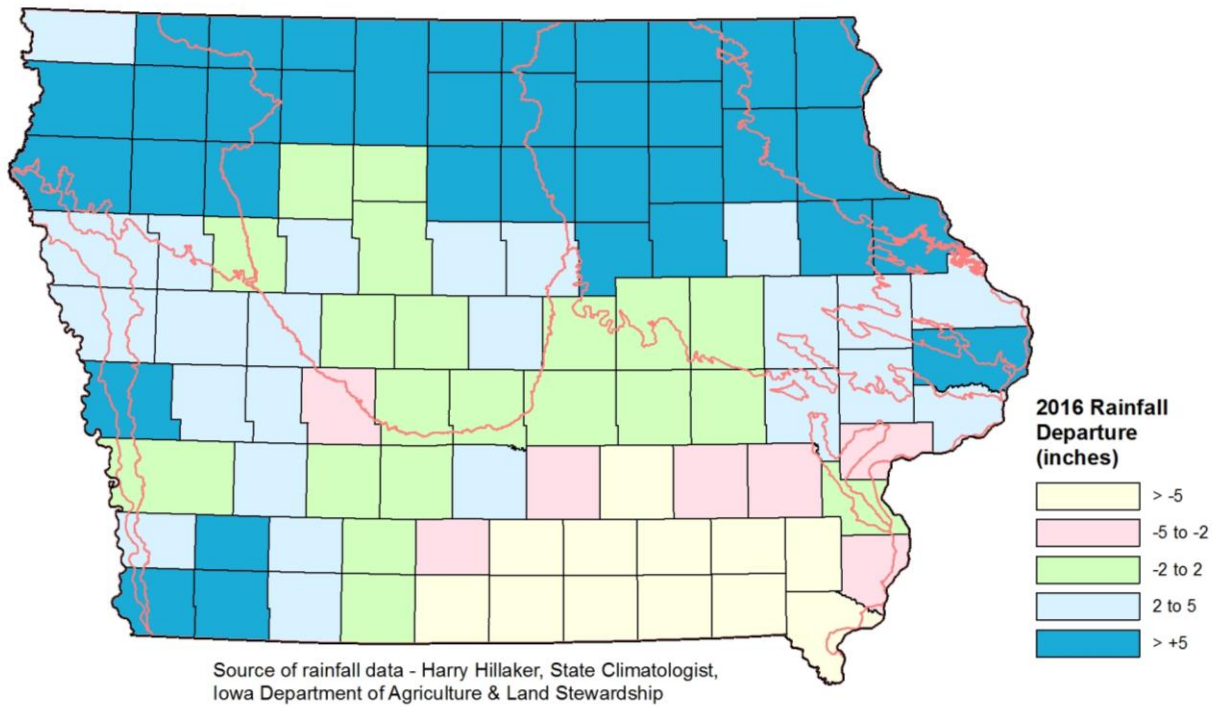


Figure 2. Departure from long-term average annual rainfall for 2016. Red lines represent landform regions.

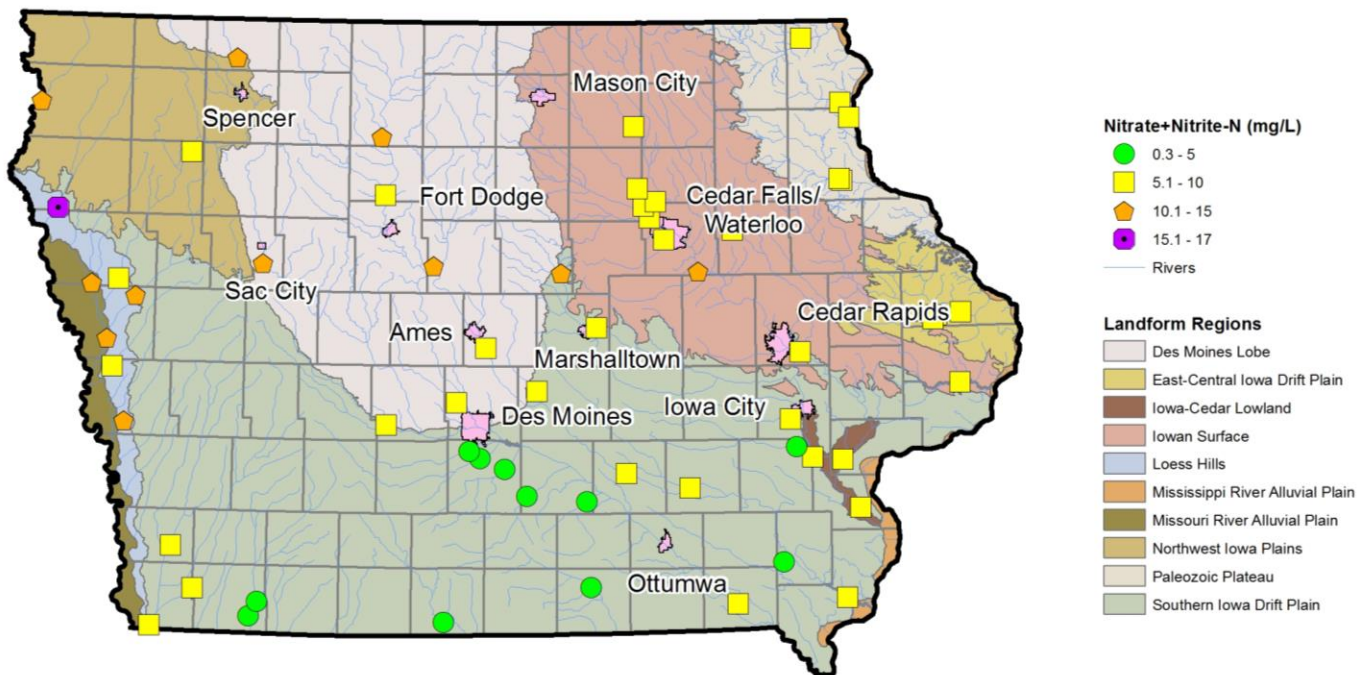


Figure 3. Median nitrate+nitrite-N concentrations for 2016 by site for DNR's Ambient Stream Monitoring Program. The overall median nitrate+nitrite-N concentration for 2016 was 7.8 mg/L (Table 1). Medians for previous years were 7.2 mg/L in 2015, 5.0 mg/L in 2014, 3.7 mg/L in 2013, 2.7 mg/L in 2012, 5.5 mg/L in 2011, and 6.0 mg/L in 2010.