IOWA'S WATER

Ambient Monitoring Program

Water Quality Summary 2012

Water Quality Parameter	Units	Number of Samples	Min Value	Percentiles 10th	25th	50th	75th	90th	Max Value
Acetochlor	µg/L	551	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.6
Alachlor	µg/L	551	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ammonia (as N)	mg/L	936	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	0.95
Atrazine	µg/L	551	<0.1	<0.1	<0.1	<0.1	0.1	0.30	7.5
Butylate	µg/L	551	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbonaceous BOD (5 day)	mg/L	936	<2	<2	<2	<2	3	5	13
Chloride	mg/L	936	<1	12	16	24	35	55	110
Chlorophyll free of pheophytin	µg/L	936	<1	3	7	18	50	130	580
Cyanazine	µg/L	551	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Deethylatrazine	µg/L	551	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.8
Deisopropylatrazine	µg/L	551	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3
Dimethenamid	µg/L	551	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	2.5
Diss. Orthophosphate (as P)	mg/L	936	<0.02	<0.02	0.02	0.06	0.13	0.33	5.2
Dissolved Oxygen	mg/L	935	4.3	7.9	8.9	10.9	13.1	15.0	20.3
E.coli Bacteria	MPN/100 ml	936	<10	10	20	85	230	990	180,000
Field pH	pH units	925	6.9	7.9	8.1	8.3	8.4	8.6	9.4
Field Temperature	Celsius	936	0.0	1.2	4.6	14.0	21.7	26.5	33.2
Flow**	CFS	872	<1	12	41	150	575	1,700	9,800
Metolachlor	µg/L	551	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	3.6
Metribuzin	µg/L	551	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2
Nitrate+Nitrite (as N)	mg/L	936	<0.1	<0.1	0.9	2.7	5.3	8	27
Simazine	µg/L	551	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2
Sulfate	mg/L	936	2.3	20	27	41	78	110	360
Total Dissolved Solids	mg/L	936	160	250	300	350	420	510	910
Total Hardness (as $CaCO_3$)	mg/L	936	110	200	240	280	323	370	570
Total Kjeldahl Nitrogen	mg/L	936	<0.1	<0.1	0.3	0.6	1.1	1.7	21
Total Phosphorus	mg/L	936	<0.02	0.06	0.10	0.17	0.30	0.59	5.6
Total Suspended Solids	mg/L	936	<1	3	7	24	60	150	5,700
Trifluralin	µg/L	551	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Turbidity	NTU	936	<1.0	2.2	4.4	11	25	64	3,700

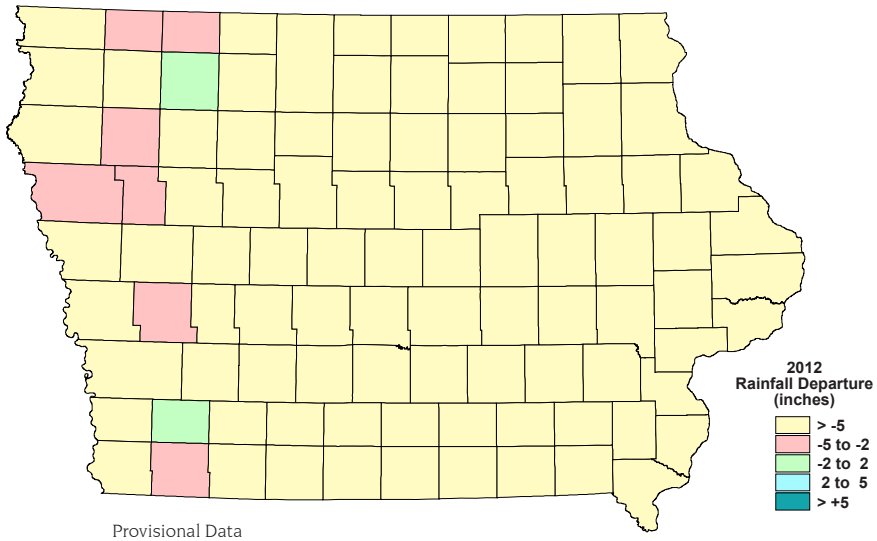
µg/L – micrograms per liter (parts per billion)
mg/L – milligrams per liter (parts per million)
MPN/100 ml – Most Probable Number/100 milliliters of water
CFS – Cubic Feet per Second (ft^3/sec)
NTU – Nephelometric Turbidity Units
< – less than detection limit shown
BOD – Biological Oxygen Demand; Diss. – Dissolved

A total of 81 stream sites were sampled monthly from Jan to Jun. A total of 75 stream site were sampled monthly from Jul to Dec.

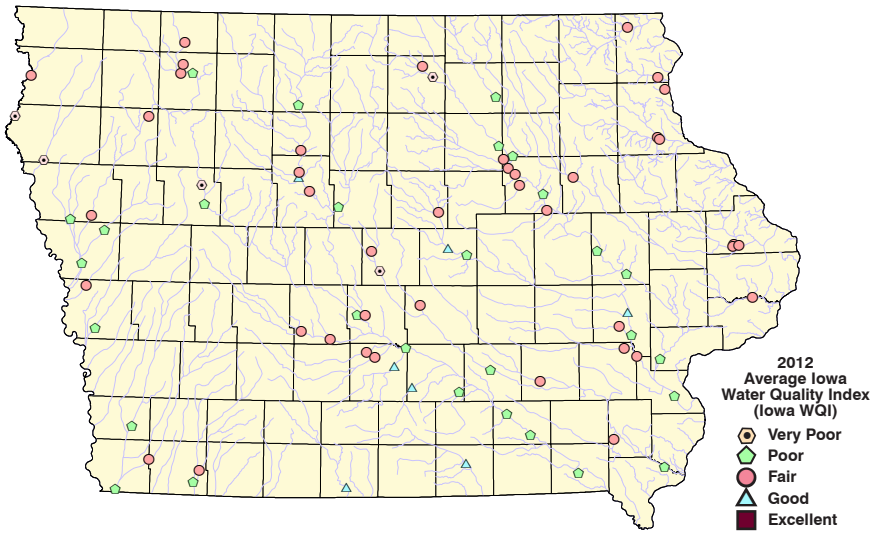
Raw data are available through STORET:
https://programs.iowadnr.gov/iastoret/

** Provisional data from the U.S. Geological Survey and State Hygienic Laboratory at the University of Iowa

Departure from Long-Term Average Annual Rainfall



Provisional Data
Source: Harry Hillaker, State Climatologist,
Iowa Department of Agriculture & Land Stewardship.



Iowa Water Quality Index

In 2005, the Iowa Department of Natural Resources developed the Iowa Water Quality Index (WQI), a standardized method for comparing the water quality of various water bodies across the state. The Iowa WQI rates water quality using the following nine parameters: biological oxygen demand, dissolved oxygen, *E.coli* bacteria, nitrate+nitrite as nitrogen, total detected pesticides, pH, total phosphorus, total dissolved solids, and total suspended solids. If a result is missing for any of these parameters, the Iowa WQI assigns a default value for the missing parameters. Values range from 0 – 100 and streams are classified as **very poor** (0 – 25), **poor** (25.1 – 50), **fair** (50.1 – 70), **good** (70.1 – 90), and **excellent** (90.1 – 100). For 2012, 3% of the monthly stream WQI values were in the **excellent** category, 25% were **good**, 31% were **fair**, 26% were **poor**, and 15% were **very poor**. (See map above for average WQI rank for each site.) Water quality is affected by rainfall. For 2012, on average, rainfall was **9.0** inches below normal per county (see map above).

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