



# WEATHER STATION NETWORK

## Background Information

220 Water Ave.  
Berthoud, CO 80513

800-369-7246 (RAIN)  
northernwater.org

### Northern Water Weather Station Network – Metadata

#### Station equipment:

- 2-inch IPS mast with three-leg base and 8-ft earth ground
- NEMA 4 double enclosures (larger outer with smaller inner)
- 20-Watt solar panel
- 18-AmpHour sealed, rechargeable battery
- Charge regulator
- Campbell Scientific CR1000 data logger
- AirLink Raven cdma modem with 900 MHz omni antenna

#### Sensors

Parameter	Manufacturer	Model	Range	Manufacturer accuracy
Air temperature	Vaisala	HMP-45c	-40° to 60° C	± .04% range of sensor
		HMP-50	-40° to 60° C	± .04% range of sensor
Relative humidity	Vaisala	HMP-45c	0 – 100%	± 2% RH (0 to 90% RH)
		HMP-50	0 – 100%	± 3% (90 to 100% RH)
Rainfall	Texas Electronics	TE-525M – 9.66"	0.005"/tip	± .1% up to 0.4"/hr
		TE-525WS – 8"	0.01"/tip	± .1% up to 0.4"/hr
Precipitation	Belfort Revere	5915-12	0" – 12"	0.5% Full Span (0.060")
		HPS Class D3	0" – 10"	0.03% Full Scale (0.004")
Wind speed	RM Young	05103	0 – 100 mph	± 0.6 mph
Wind direction	RM Young	05103	0° - 360°	± 3° typical
Solar radiation	Li-Cor	LI-200X	0.4-1.1 μ wavelength	± 5% maximum; ± 3% typical
Soil temperature	Campbell Sci	107	-35° to 50° C	± 0.2°C (0° to 50° C)

## Stations

Station	Siting	Location	Latitude N	Longitude	Elevation (ft)	Period of Record	Notes
101	Alfalfa	Fort Collins – East	40.622815	-104.959055	5156	1986 – present	Weighing bucket installed July'03
102	Turf	Loveland	40.429163	-105.068977	4992	1982 – present	Weighing bucket removed Oct'03
103	Alfalfa	Longmont – South	40.074432	-105.076877	4984	1987 – present	
104	Alfalfa	Eaton	40.576438	-104.770390	4955	1993 – present	Weighing bucket installed Jan'04
105	Alfalfa	Gilcrest	40.262958	-104.841856	4775	1993 – present	Weighing bucket installed Oct'03
106	Alfalfa	Wiggins	40.303266	-104.014972	4471	1989– present	Weighing bucket installed Apr'02
107	Alfalfa	Brush	40.235960	-103.695246	4278	1987 – present	Weighing bucket installed Nov'02
108	Alfalfa	Sterling	40.576888	-103.237021	3970	1987 – present	Weighing bucket installed Jan'04
109	Alfalfa	Crook	40.841257	-102.884686	3750	1986 – present	Weighing bucket installed March '04
110	Alfalfa	Ovid	40.967571	-102.437792	3563	1994 – present	Weighing bucket installed March '04
111	Alfalfa	Johnson's Corner	40.348310	-105.033342	5071	1994 – present	Weighing bucket installed Jan'04
220	Turf	Berthoud	40.322242	-105.077443	5066	2004 – present	Weighing bucket

Station	Siting	Location	Latitude N	Longitude	Elevation (ft)	Period of Record	Notes
							installed Jun'04
222	Turf	Fort Morgan	40.293923	-103.826628	4,438	2002 – present	Weighing bucket installed Feb'04
224	Turf	Greely – West	40.404103	-104.757217	4,868	1989 – present	Weighing bucket installed Oct '11
225	Turf	Fort Lupton	40.074571	-104.794348	4,935	2006 – present	Weighing bucket installed Dec '11
226	Turf	Longmont – West	40.168089	-105.122937	5,062	1997 – present	No weighing bucket
228	Turf	Fort Collins – Central	40.565100	-105.106075	5,039	2002 – present	No weighing bucket
230	Turf	Boulder – Southwest	39.978689	-105.260894	5,564	2002 – present	No weighing bucket
233	Turf	Boulder – Northwest	40.052288	-105.276075	5,476	2000 – present	No weighing bucket
350	Native grasses	Windy Gap	40.107619	-105.966003	7,929	1998 – present	Weighing bucket installed Oct'10
352	Native grasses	Shadow Mountain	40.207361	-105.841509	8383	2011-present	No weighing bucket