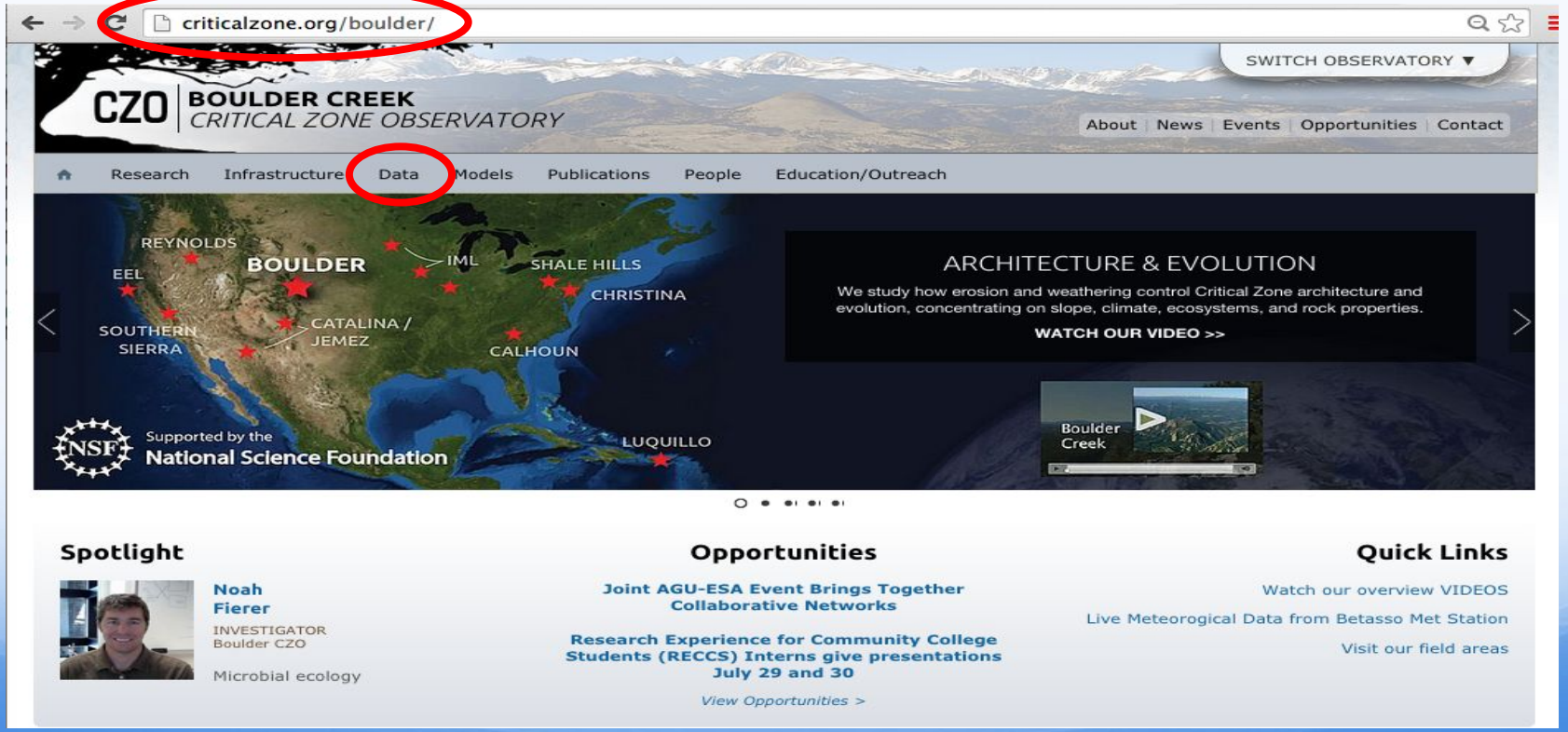
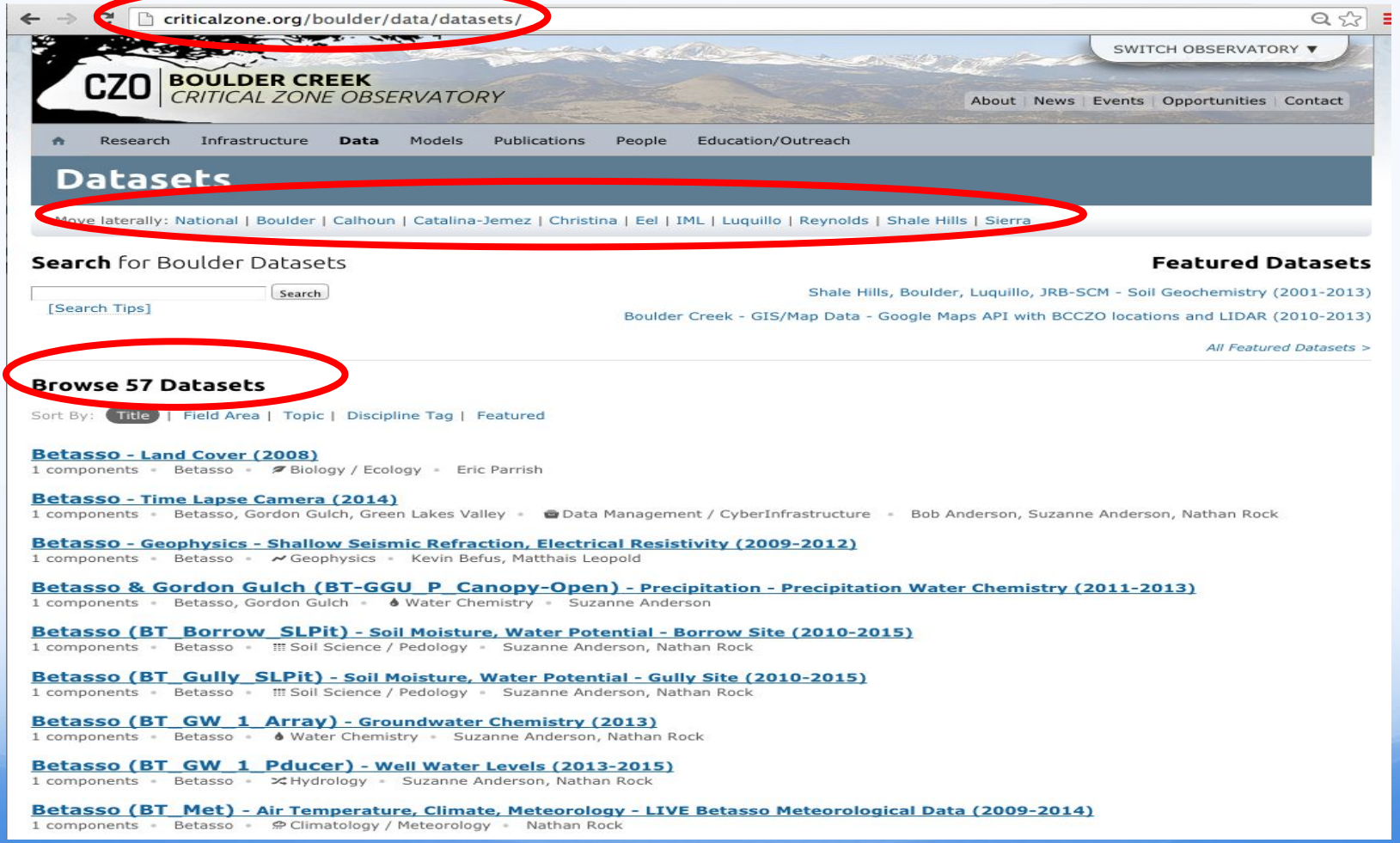
Boulder Creek CZO Data Management

10/15/2015

Where is your BCCZO Data?




criticalzone.org/boulder/data/datasets/
SWITCH OBSERVATORY
CZO BOULDER CREEK CRITICAL ZONE OBSERVATORY
About | News | Events | Opportunities | Contact
Research | Infrastructure | Data | Models | Publications | People | Education/Outreach
Datasets
Move laterally: National | Boulder | Calhoun | Catalina-Jemez | Christina | Eel | IML | Luquillo | Reynolds | Shale Hills | Sierra
Search for Boulder Datasets
Search
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Featured Datasets
Shale Hills, Boulder, Luquillo, JRB-SCM - Soil Geochemistry (2001-2013)
Boulder Creek - GIS/Map Data - Google Maps API with BCCZO locations and LIDAR (2010-2013)
All Featured Datasets >
Browse 57 Datasets
Sort By: Title | Field Area | Topic | Discipline Tag | Featured
Betasso - Land Cover (2008)
1 components • Betasso • Biology / Ecology • Eric Parrish
Betasso - Time Lapse Camera (2014)
1 components • Betasso, Gordon Gulch, Green Lakes Valley • Data Management / CyberInfrastructure • Bob Anderson, Suzanne Anderson, Nathan Rock
Betasso - Geophysics - Shallow Seismic Refraction, Electrical Resistivity (2009-2012)
1 components • Betasso • Geophysics • Kevin Befus, Matthais Leopold
Betasso & Gordon Gulch (BT-GGU_P_Canopy-Open) - Precipitation - Precipitation Water Chemistry (2011-2013)
1 components • Betasso, Gordon Gulch • Water Chemistry • Suzanne Anderson
Betasso (BT_Borrow_SLPit) - Soil Moisture, Water Potential - Borrow Site (2010-2015)
1 components • Betasso • Soil Science / Pedology • Suzanne Anderson, Nathan Rock
Betasso (BT_Gully_SLPit) - Soil Moisture, Water Potential - Gully Site (2010-2015)
1 components • Betasso • Soil Science / Pedology • Suzanne Anderson, Nathan Rock
Betasso (BT_GW_1_Array) - Groundwater Chemistry (2013)
1 components • Betasso • Water Chemistry • Suzanne Anderson, Nathan Rock
Betasso (BT_GW_1_Pducer) - Well Water Levels (2013-2015)
1 components • Betasso • Hydrology • Suzanne Anderson, Nathan Rock
Betasso (BT_Met) - Air Temperature, Climate, Meteorology - LIVE Betasso Meteorological Data (2009-2014)
1 components • Betasso • Climatology / Meteorology • Nathan Rock

Reminders

- As BCCZO Data Manager, my goal is to help you make sure data set file formats and meta data are compliant in following the NSF standards for data submission.
  - Data Sharing Policy
    - Share data with CZO data manager (privately) within 1 year
    - Release that data to the public within 2 years
    - You can submit a request for extension of submission but not beyond 3 years
    - Consult with creators of private CZO datasets prior to use
  - Data Use Policy
    - Use data freely except those labeled Private.
    - Give proper acknowledgement
    - Inform the CZO how the data will be used
  - Both Data Use and Data Sharing Policies are posted on every data set's web page

Requirements

- In transition…
  - In the past all data was required to be submitted in comma separated value (.csv) format with accompanying meta data file in text (.txt) format.
  - Currently the meta data files are being converted to .csv and .xml files in accordance with ISO-19115 Geographic Metadata standards.
  - How to submit data?
  - Meta data template: http://criticalzone.org/boulder/data

  - Email: BCCZOData@colorado.edu

Example Meta Data File

Boulder Critical Zone Observatory DATA SUBMISSION FORM

NOTE: Data Submission in a spread sheet is preferred, comma-delimited text file with column header is also acceptable unless there is an explicit need for another format i.e.. GIS data.

*REQUIRED INFORMATION

DATASET CREATORS/AUTHORS*	1	2	3	4	5
INVESTIGATOR(S)*					
EMAIL*					
PHONE NUMBER					
ORGANIZATION					
ADDRESS (If different from BcCZO Main office					
LINE 1					
LINE 2					

DATASET DOI?

DOI:#	

AWARD/GRANT NUMBER(S)	*AWARD/GRANT NUMBER	*FUNDING AGENCY	*FUNDING AGENCY
Was this dataset funded by an agency other then the BcCZO?			

*PLEASE SEE OUR DATA AGREEMENT** http://criticalzone.org/national/data/czo-data-policies/

YES I HAVE READ, UNDERSTAND AGREE WITH OUR DATA POLICY

PRIVATE DATA?*

Is the dataset currently private?		If "YES" please make sure to read our data agreement above?

OTHER CZO INVOLVEMENT (Please choose from the dropdown just click on the cell)	1 drop down	2 drop down	3 drop down	4 drop down	5 drop down	6 drop down	7 drop down	8 drop down	9 drop down	10 drop down

NATIONAL DISCIPLINE TAG* (Please choose from the dropdown just click on the cell)	1 drop down	2 drop down	3 drop down	4 drop down	5 drop down	6 drop down	7 drop down	8 drop down	9 drop down	10 drop down

NATIONAL DATA TOPIC* (Please choose from the dropdown just click on the cell, try to use the provided Topic(s)	1 drop down	2 drop down	3 drop down	Other
Sub topic (Limit of 50 Characters)				

BcCZO FIELD AREA* (Please choose from the dropdown just click on the cell)	Catchment 1	Catchment 2	Catchment 3	Other	Other Short Description

FIELD AREA NOTE

Enter Text Here

LOCATION INFORMATION *

IF BOUNDING COORDINATES Please use Decimal/Degree or UTM	Datum OR UTM Zone	Latitude OR Y	Longitude OR X

DISIPLINE	CZOs	MEASURMENT	National Data Topic	BcCZO Field Area	Agreement	Location TYPE
Biogeochemistry	Boulder Creek CZO	Water Chemistry	Air Temperature	Betasso BT	Yes	Camera
Biology-Ecology	Calhoun CZO	Air Pressure	Climate	Gordon Gulch GG	No	Comunication
Biology-Molecular	Christina River Basin CZO	Air Temperature and Humidit	Diatoms	Gordon Gulch Lower GGL		Groundwater Well
Climatology-Meteorology	Eel River CZO	Communication	Dissolved Organic Matter (DOM)	Gordon Gulch Upper GGU		Meteorological Site
Data Management-CyberInfrastructure	Intensively Managed Landscapes CZO	Conductivity	Electrical Conductivity	Green Lakes Valley GLV		Precip. Collector
Engineering-Method Development	Santa Catalina Mountains & Jemez Rive	Frost Heave	Geophysics			Sapflow Plots
Geochemistry-Mineralogy	Luquillo CZO	Incoming Shortwave Radiatic	GIS/Map Data			Snow Depth Sensor
Geology-Chronology	Reynolds Creek CZO	Net Radiation	Groundwater Chemistry			Snow Pit
Geomorphology	Susquehanna Shale Hills CZO	O18 Isotopes	Intermittent Spring Chemistry			Snow Pole
Geophysics	Southern Sierra CZO	Rainfall	Land Cover			Soil Collection
GIS-Remote Sensing		Rock Characterization	LiDAR			Soil Lysimeter
Hydrology		Sapflow and soil respiration	Lysimeter Water Samples Chemistry			Soil Pit
Modeling-Computational Science		Snow Depth	Meteorology			Spring Site
Outreach-Education Research		Snow Water Equivalent	Precipitation			Stream Site
Soil Science-Pedology		Soil carbon dioxide flux	Snow Depth			
Water Chemistry		Soil Characterization	Snow Pits			
		Soil Heatflux	Snow Survey			
		Soil Moisture	Soil Geochemistry			
		Soil Temperature	Soil Microbes			
		Soil Water Potential	Soil Moisture			
		SOM Characterization	Soil Respiration			
		Time-lapse Photography	Soil Temperature			
		Water Chemistry	Soil Water Chemistry			
		Water Height	Stream Water Chemistry			
		Wind Speed and Direction	Streamflow / Discharge			
			Streamflow / Manual Discharge			
			Surface Water Chemistry			
			Time Lapse Camera			
			Tree Growth & Physiology			
			Water Potential			
			Well Water Levels			

Data Submission/Access

- Data is submitted in .csv format
- That data is then configured and imported into an Oracle relational database using Java Script
  - Data is separated by location, location id, and date_time stamp
  - Meta data submitted with data online
  - CMS is updated
  - Java Script is used to provide searching options to the data set
  - Data is provided in the browser or as a downloadable .csv file
- In Progress:
  - Currently working with Field Manager to get IGSNs for field samples
  - Getting all Surface Water Chem data posted to EarthChem and associated DOIs
  - Reconfiguring back end of www.czo.colorado.edu/query to follow new location id naming convention
  - Determining which non-Chem data repository to use and associated DOIs

Dataset Listings

Search for Boulder Datasets

Search [Search Tips]

Featured Datasets

Shale Hills, Boulder, Luquillo, JRB-SCM - Soil Geochemistry (2001-2013)

Gordon Gulch - Time Lapse Camera - (GG_Camera_Array) (2009-2013)

All Featured Datasets >

Browse 57 Datasets

Sort By: Title | Field Area | Topic | Discipline Tag | Featured

Betasso - Air Temperature, Climate, Meteorology - LIVE Betasso Meteorological Data (BT_Met) (2009-2014)
1 components • Betasso • Climatology / Meteorology • Nathan Rock

Betasso - Groundwater Chemistry - (BT_GW_1) (2013)
1 components • Betasso • Water Chemistry • Suzanne Anderson, Nathan Rock

Betasso - Land Cover (2008)
1 components • Betasso • Biology / Ecology • Eric Parrish

Betasso - Meteorology - (BT_Met) (2009-2015)
1 components • Betasso • Climatology / Meteorology • Suzanne Anderson, Nathan Rock

Betasso - Snow Depth, Air Temperature - measured by Judd Snow Sensors (BT_SD_1-5_Judd_tran (2010-2014)
1 components • Betasso • Climatology / Meteorology, Hydrology • Suzanne Anderson, Noah Molotch, Nathan Rock

Betasso - Snow Pits - Snow Pit Density & Stratigraphy (BT_SN_Met) (2011-2014)
2 components • Betasso • Hydrology • Suzanne Anderson, Nathan Rock

Betasso - Soil Moisture, Water Potential - Borrow Site (BT_Borrow_EC5/BT_Borrow_MPS1) (2010-2015)
1 components • Betasso • Soil Science / Pedology • Suzanne Anderson, Nathan Rock

Betasso - Soil Moisture, Water Potential - Gully Site, Soil Pit (BT_Gully_EC5/BT_Gully_MPS1) (2010-2015)
1 components • Betasso • Soil Science / Pedology • Suzanne Anderson, Nathan Rock

Dataset

Betasso - Groundwater Chemistry - (BT_GW_1) (2013)

Ground water chemistry samples collected in Betasso. Group ID: BT_GW_1

Water Chemistry

Boulder

Variables: Location, Collection Date, Collection Time, Air Temp(C), Cloud Cover(%), Water Temp(C), Wind,(Major Ions and Si)H+(uEQ/L) Ca++(ppm), Ca++(uEQ/L), K+(ppm), K+(uEQ/L), Mg++(ppm), Mg++(uEQ/L), Na+(ppm), Na+(uEQ/L), NH4+(uEQ/L), Cl-(ppm), Cl-(uEQ/L), NO3-(ppm), NO3-(uEQ/L), SO4=(ppm), SO4=(uEQ/L), Si ICP Centrifuge(ppm), Si ICP(ppm), SiO2 Colorimetric(uM/L), SiO2 ICP Centrifuge(ppm), SiO2 ICP(ppm), SUM+, SUM-, Charge Bal, % Diff Charge Bal, ANC(uEQ/L), ANC(mg/L), (Nutrients)DOC mg C/L, IN(uM/L), PN(uM/L), TN(uM/L), DON(uM/L), TDN(uM/L), IP(uM/L), PP(uM/L), TP(uM/L), DOP(uM/L), TDP(uM/L), Phaeophytin(ug/L),(Water Isotopes) D-EXCESS/mill, d18O/mill, d18 1sigma, dD/mill, Tritium(TU), Tritium 1sigma, Lab Conductivity, Field Conductivity

Date Range: (2013-02-07 to 2013-10-16)

Dataset Creators/Authors: Suzanne Anderson, Nathan Rock

Contact: Suzanne.Anderson@colorado.edu

Field Area: Betasso

Description | Keywords | Citation

Description

Groundwater samples were collected within the Boulder Creek Watershed at Betasso from 2013 to current. Samples were filtered by Boulder Creek CZO Water Chemistry Lab with 0.45µm and 1µm filters. Samples were analyzed for conductivity, major ions, and alkalinity. Major ions analyzed included H+, Ca+, K+, Mg2+, Na+, NH4+, Cl-, NO3-, SO4-, Si, and SiO2.

Sensor ID Group and descriptions-
BT_GW_1, Manual Measurement, Groundwater Well, Manual water height measurement
BT_GW_1, Sample Coll: Manual, Groundwater Well, Water Chemistry, Groundwater sampling site

LOCATION LAT LONG UL: WGS 1984, 40.012268, -105.469617
LOCATION LAT LONG LR: WGS 1984, 40.011995, -105.469404
ELEVATION: METERS (AVG), 2533.794433
DATE RANGE: FEB-04-2009 to ONGOING
FREQUENCY: Varies

Comments

METHODS: From 2013 to present, Betasso groundwater samples were analyzed by the Boulder Creek CZO Lab (conductivity, alkalinity, and anions), and the Laboratory for Environmental and Geological Sciences (cations)

CZO Field Areas

Betasso

CZO Authors

Suzanne Anderson

Nate Rock

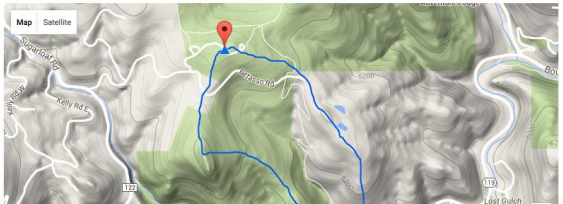
Data

Betasso - Ground Water Chemistry

(html) Data Level 1, Metadata

Data Use Policy | Data Sharing Policy | Related Datasets | Dynamic Map

Dynamic Map



Dataset

Betasso - Meteorology - (BT_Met) (2009-2015)

Meteorological Data from Betasso Met Tower. Instrument Group ID: BT_Met (BT_Met_CR1000/BT_Met_Radio (Freewave Radio FGR))

Description

Betasso 10m Meteorologic Tower. Instruments wired to a Campbell Scientific CR1000 (s/n 16759) data logger. Wind sensors, air temperatures, and relative humidity are taken at 2m and 10m. Incoming shortwave radiation is at 5m. Soil moisture and soil temperature sensors at approximately 20cm below ground.

Date Range: FEB-04-2009 to JUL-20-2015
Dataset Creators/Authors: Suzanne Anderson, Nathan Rock
Contact: Suzanne.Anderson@colorado.edu
Field Area: Betasso
Frequency: 10 minute intervals

Also See the "Live Met station" in the Related Datasets tab.

CZO Authors

Suzanne Anderson

Nate Rock

Meteorological Data from Betasso Met Tower.

Variables:
DATE_TIME, AIRTEMP(C)-2M(AVG), AIRTEMP(C)-2M(MIN), AIRTEMP-2M(MIN) TIME, AIRTEMP(C)-2M(MAX),AIRTEMP-2M(MAX) TIME, RH-2M, RH-2M(MIN), RH-2M(MIN), RH-2M(MAX), RH-2M(MAX) TIME, WINDSPEED(m/s)-2M(AVG),WINDSPEED(m/s)-2M(MAX), WINDSPEED-2M(MAX) TIME,WINDDIR-2M(DEGREES),WINDDIR-2M STD DEV(DEGREES), AIRTEMP(C)-10M(AVG),AIRTEMP(C)-10M(MIN),AIRTEMP-10M(MIN) TIME, AIRTEMP(C)-10M(MAX), AIRTEMP-10M(MAX) TIME, RH-10M, RH-10M(MIN), RH-10M(MIN) TIME, RH-10M(MAX), RH-10M(MAX) TIME, WINDSPEED(m/s)-10M(AVG), WINDSPEED(m/s)-10M(MAX), WINDSPEED-10M(MAX) TIME,WINDDIR-10M(DEGREES),WINDDIR-10M STD DEV(DEGREES), Incoming Shortwave Radiation, (IN SW RAD)(W/m^2)-5M(AVG), IN SW RAD(W/m^2)-5M(MIN), IN SW RAD-5M(MIN) TIME, IN SW RAD(W/m^2)-5M(MAX), IN SW RAD-5M(MAX) TIME, IN SW RAD(MJ/m^2)-5M(TOTAL), SOIL HEAT FLUX(W/m^2)-15CM, SOIL TEMP(C)-15CM, SOIL VOL WATER CONTENT(%)-15CM, BAROMETRIC PRESS(MBAR), RAIN GAGE(MM)

Climatology / Meteorology

Sensors | Keywords | Related Datasets | Citation

Sensors & Location

ID: BT_Met
Sensor array IDs and descriptions-
BT_Met_AT_1000, Air Temperature and Humidity Vaisala HMP45AC 1000
BT_Met_AT_200, Air Temperature and Humidity, Vaisala HMP45AC 200
BT_Met_CS616_20 , Soil Moisture, Campbell Scientific CS616 soil moisture sensor -20
BT_Met_Hflux, Soil Heatflux, Campbell Scientific HFT3 Soil Heatflux plate 20
BT_Met_NRad , Net Radiation , Campbell Scientific Q 7.1 Net Radiometer 500
BT_Met_RMYoung_1000, Wind Speed and Direction, RM Young 05103-6 1000
BT_Met_RMYoung_200, Wind Speed and Direction, RM Young 05103-5 200
BT_Met_SRad , Incoming Shortwave Radiation, LICOR LI-200SZ 500
BT_Met_T107_20, Soil Temperature, Campbell Scientific T 107 soil temperature sensor -20

LOCATION LAT LONG UL: WGS 1984 40.014 -105.337
LOCATION LAT LONG LR: WGS 1984 40.014 -105.337
ELEVATION METERS 1948.259

Metadata

Logs To view logs for complete site history

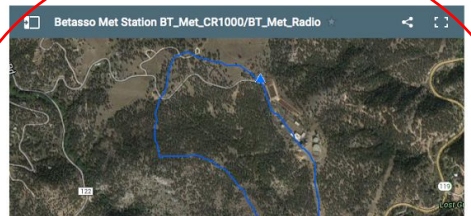
CZO Field Areas

Betasso

Available Data for **BT_MET**:
(Querying more than a year's worth of data is not recommended. Click here to download entire dataset instantly

Basic Data Options:

From: Feb 4 2009
To: Jul 20 2015
Data Type: Raw Data
Output Format: HTML Table



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	/doc																	
2	TITLE :	Lower Gordon Gulch I	Gordon Gulch: Lower (GGL_NF_SP3,4,SF_SP10_Judd_Array) - Snow Depth, Air Temperature - measured by Judd Snow Sensors (2010-2014)															
3	URL:	http://criticalzone.org/boulder/data/dataset/2423/																
4	AUTHOR	Noah Molotch																
5	CONTACT	BCCZOData@colorado.edu																
6	ID:	GGL_NF_SP3_Judd_A	Campbell Scientific Cr10x															
7	ID SUBSET:	GGL_SD_1_SP3	Judd Snow Depth Sensor															
8		GGL_SD_2_SP3	Judd Snow Depth Sensor															
9		GGL_SD_3_SP3	Judd Snow Depth Sensor															
10		GGL_SD_4_SP3	Judd Snow Depth Sensor															
11	LOCATION :	Lower Gordon Gulch																
12	LOCATION DESCI	Gordon Gulch (2590 m) lies within Arapahoe National Forest and is divided into Lower and Upper Gordon Gulch._ Gordon Gulch joins the North Boulder Creek about 16 km downstream from Green Lakes Valley (GLV)._ This site is under																
13		it is characterized by the low-relief remnants of a dissected Tertiary erosion surface in which weathered rock profiles are up to 15 m thick._																
14		Gordon Gulch is within the montane climatic zone._MAP is 780 mm, 70% as snow.																
15		View	http://czo.cc map of Lower Gordon Gulch Snow Sensors.															
16	LOCATION LAT LI	WGS 1984	40.012268	-105.46962														
17	LOCATION LAT LI	WGS 1984	40.011995	-105.4694														
18	ELEVATION	METERS (AVG)	2533.79443															
19	DATE RANGE:	FEB-04-2009 to ONGOING																
20	FREQUENCY:	10 minute intervals																
21	DATA LEVEL:	Level 1																
22	ABSTRACT :	Level 1 snowdepth and air temperature data using Judd snow depth sensors near GGL Pole10. 10-minute snow depth data are measured in cm and air temperature in_0C._																
23	INVESTIGATOR :	Noah Molotch(Noah.Molotch@colorado.edu), Suzanne Anderson (Suzanne.Anderson@colorado.edu)																
24	MANUALS :	View	http://czo.cc manual for Judd Snow Depth sensors															
25	CITATIONS :																	
26	KEYWORDS :	Snow sensors, snow depth, hydrology, precipitation, air temperature																
27	LOG :	View	http://czo.cc complete log here	http://czo.cc for bias information.														
28	MISSING DATA :	View	http://czo.cc missing data.															
29	VARIABLES :	Date_time, Sensor 1-depth(cm), Sensor 1-Air Temp(C), Sensor 2-depth(cm), Sensor 2-Air Temp(C), Sensor 3-																
30		depth(cm), Sensor 3-Air Temperature(C), Sensor 4-depth(cm), Sensor 4-Air Temperature(C)																
31		Plots :	Water Year 2	http://czo.cc Water Year 2	http://czo.cc Water Year 2	http://czo.cc Water Year 2	http://czo.cc Water Year 2	http://czo.cc Water Year 2	http://czo.colorado.edu/logs/snowsen/plots/lggp3/lggp3.2014.html									
32																		
33	/header																	
34	COL1. label=Date	format =mmddyyyy H:mm																
35	COL2. label=GGS	units=cm																
36	COL3. label=GGS	units=C																
37	COL4. label=GGS	units=cm																
38	COL5. label=GGS	units=C																
39	COL6. label=GGS	units=cm																
40	COL7. label=GGS	units=C																
41	COL8. label=GGS	units=cm																
42	COL9. label=GGS	units=C																
43																		
44																		

Based on:
"A Model Information Management System for Ecological Research, Rick C. Ingersoll, Tim R. Seastedt, and Michael Hartman,
BioScience Vol. 47, No. 5 (May, 1997), pp. 310-316"
.

Any Questions?