

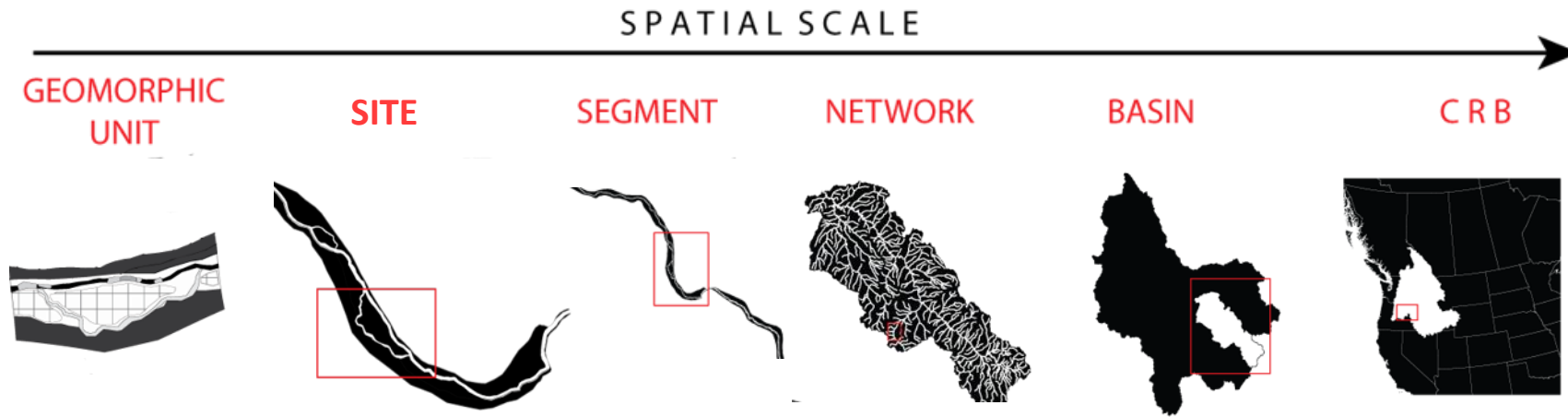
CHaMP data availability: finding what you need



Carol Volk
South Fork Research



At what spatial scales is data produced?



What's available from CHaMP?

Champonitoring.org

- Documents
- Site evaluations
- Field measured data (raw data)
- Visit information
- Visit metrics
- Spatial data/model outputs (ftp size)
- Network temperature models
- Temperature data (loggers)
- GIS data

Sample Designer (MonitoringResources.org)

- Sampling designs
- Sampling domains (GIS frames)

Tools

- CHaMP Toolbar:
<http://champtools.northarrowresearch.com/>
- RBT Workbench:
<http://workbench.northarrowresearch.com/>
- GCD Toolbar:
- HS Model:
<http://habitat.northarrowresearch.com/>
- Hydraulic Model: matt@southforkresearch.org
- NREI: c.eric.wall@gmail.com
- Temperature Model:
kristina.mcnysset@noaa.gov



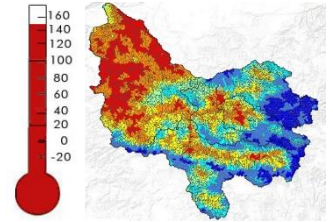
What's available from CHaMP?

1) Visit Metrics

- channel features
substrate, LWD, channel geometry
- temperature
- *Habitat Suitability*
- *Net Rate Energy Intake*

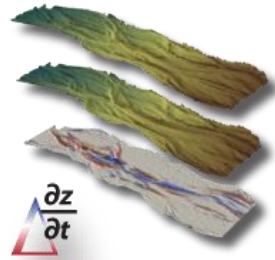
3) Network temperature models

- 8 day daily means of temperature on a network



2) Spatial model outputs

- Stream surfaces and features
- Geomorphic changes
- Hydraulic models



4) Documents and Metadata

Visit Information

cm.org

Site gradient

Water depth

Stream widths

Substrate size

Pools per km

Habitat Suitability (2015)

Net Rate Energy Intake (2015)

Average pool frequency
of the watershed

	A	B	C	D	E	M	N	O	P	Q	R	S	T	U	V	
	Watershed	SiteID	SampleDate	VisitID	VisitStatus	Protocol	JulianDate	VisitNumber	Grad	Sin	Lgth_Thlw	Sin_CL	Area_Wet	Area_Bf	WetVol	BF
1	Methow	CBW05583-009753	8/10/2014	2498	Released to Public	CHaMP 2014	222	1	0.71	1.195	0.96	1.164	11488.23	15825.87	4176.95	1:
1	Tucannon	CBW05583-010495	7/6/2014	2262	Released to Public	CHaMP 2014	187	1	1.15	1.221	1	1.206	2425.51	3057.43	776.31	:
1	Methow	CBW05583-035097	9/17/2014	2541	Released to Public	CHaMP 2014	260	1	0.51	1.267	0.98	2.305	28889.83	52760.25	10722.38	5:
1	Methow	CBW05583-041497	9/21/2014	2542	Released to Public	CHaMP 2014	264	1	0.49	1.022	0.99	1.013	15522.58	29282.02	3065.26	2:
1	Methow	CBW05583-055753	9/18/2014	2543	Released to Public	CHaMP 2014	261	1	0.23	1.092	0.93	1.023	29819.95	33434.42	14913.22	3:
1	Lemhi	CBW05583-058207	7/14/2014	2374	Released to Public	CHaMP 2014	195	1	0.84	1.372	1.02	1.4	578.5	1416.24	88.09	
1	Tucannon	CBW05583-072139	8/22/2014	2636	Released to Public	Estimating Instream Juvenile	234	2								
1	Entiat	CBW05583-092843	9/28/2014	2518	Post Processing	CHaMP 2014	271	1								
0	Lemhi	CBW05583-121695	8/8/2014	2492	Released to Public	CHaMP 2014	220	1	2.05	1.217	1.01	1.22	555.16	845.79	77.48	
1	Upper Grande Ronde	CBW05583-108010	6/19/2014	2014	Released to Public	CHaMP 2014	170	1	1.18	1.505	0.94	1.41	615.92	856.48	126.99	
2	Entiat	CBW05583-136683	9/23/2014	2517	Released to Public	CHaMP 2014	266	1	2.82	1.245	0.99	1.235	361.48	593.94	39.82	
3	Upper Grande Ronde	CBW05583-142490	7/14/2014	2137	Released to Public	CHaMP 2014	195	1	1.89	1.163	1	1.165	764.97	1636.69	75.75	
4	Upper Grande Ronde	CBW05583-138666	9/19/2014	2004	Released to Public	CHaMP 2014	262	1	2.62	1.111	0.97	1.07	2358.2	3138.94	423.07	:
5	Entiat	CBW05583-167595	9/18/2014	2519	Released to Public	CHaMP 2014	261	1	2.44	1.723	0.94	1.632	2783.68	3559.86	766.79	:
6	Tucannon	CBW05583-169855	8/28/2014	2649	Released to Public	CHaMP 2014	240	1	1.1	1.271	0.99	1.26	2956.25	3902.17	792.6	:
7	Tucannon	CBW05583-170443	8/14/2014	2637	Released to Public	Estimating Instream Juvenile	226	1								
8	Asotin	ASW00001-NF-F1 P1BR	8/20/2014	2422	Released to Public	CHaMP 2014	232	1	1.84	1.101	0.99	1.092	1236.28	1654.46	320.21	
9	Asotin	ASW00001-NF-F1 P2BR	8/20/2014	2423	Released to Public	CHaMP 2014	232	1	1.69	1.315	1	1.303	1627.28	1943.04	333.29	
0	Asotin	ASW00001-NF-F6 P2BR	10/20/2014	2425	Released to Public	CHaMP 2014	293	1	1.89	1.117	0.99	1.36	1647.51	1974.61	263.02	
1	John Day	JDW00001-Burrow Pit 3	11/22/2014	2767	Not Released	CHaMP 2014	326	1	1.57	1.183	1	1.172	600.73	872.73	105.64	
2	Entiat	ENT00001-1BC4	7/23/2014	2454	Released to Public	CHaMP 2014	204	1	0.83	1.075	0.95	1.024	9054.23	10874.94	4878.28	:
3	Entiat	ENT00001-1BC5	7/24/2014	2455	Released to Public	CHaMP 2014	205	1	0.95	1.052	0.99	1.034	6955.05	8273.79	3587.54	
4	Entiat	ENT00001-1D4	8/7/2014	2511	Released to Public	CHaMP 2014	219	1	0.93	1.057	0.98	1.547	10108.47	11585.14	3631.18	:
5	Entiat	ENT00001-2C4	8/6/2014	2503	Released to Public	CHaMP 2014	218	1	0.18	2.291	0.9	2.044	8435.13	10384.99	6924.99	1:
6	Entiat	ENT00001-3A5	9/4/2014	2532	Released to Public	AEM Floodplain and CHaMP	247	1	0.2	1.43	0.98	1.402	7805.12	11500.68	3722.12	:
7	Entiat	ENT00001-3A5	9/4/2014	2658	Not Released	Estimating Instream Juvenile	247	2								

SITE

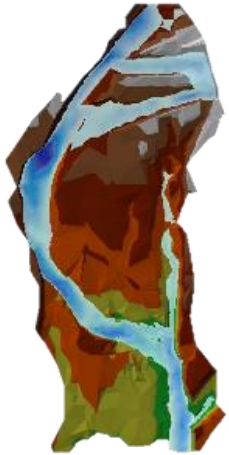


BASIN

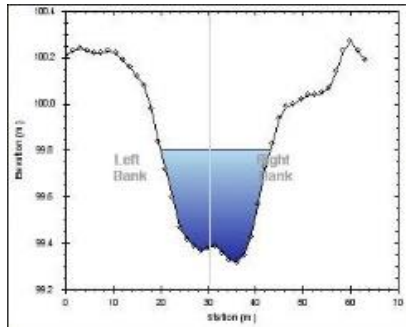


What are spatial model outputs?

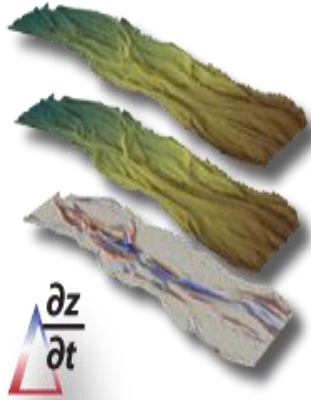
Stream surfaces
Feature GDB



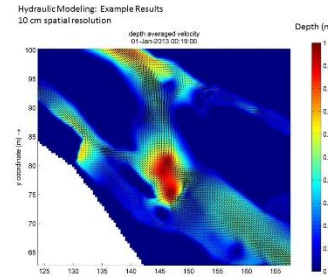
River Bathymetry
Toolkit Outputs



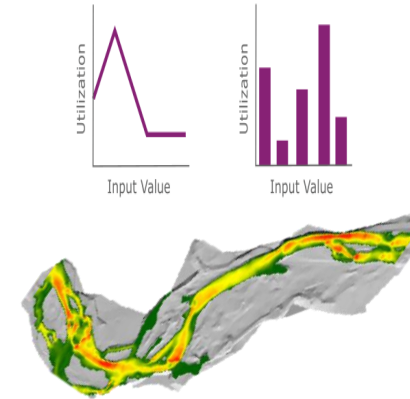
Geomorphic Change
Detection Outputs



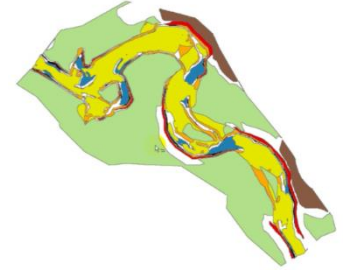
Hydraulic Model
Outputs



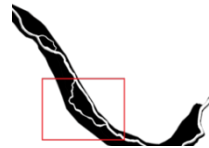
*Habitat Suitability
Models
Desktop only*



*Geomorphic Unit
Tool (GUT)
Desktop only*



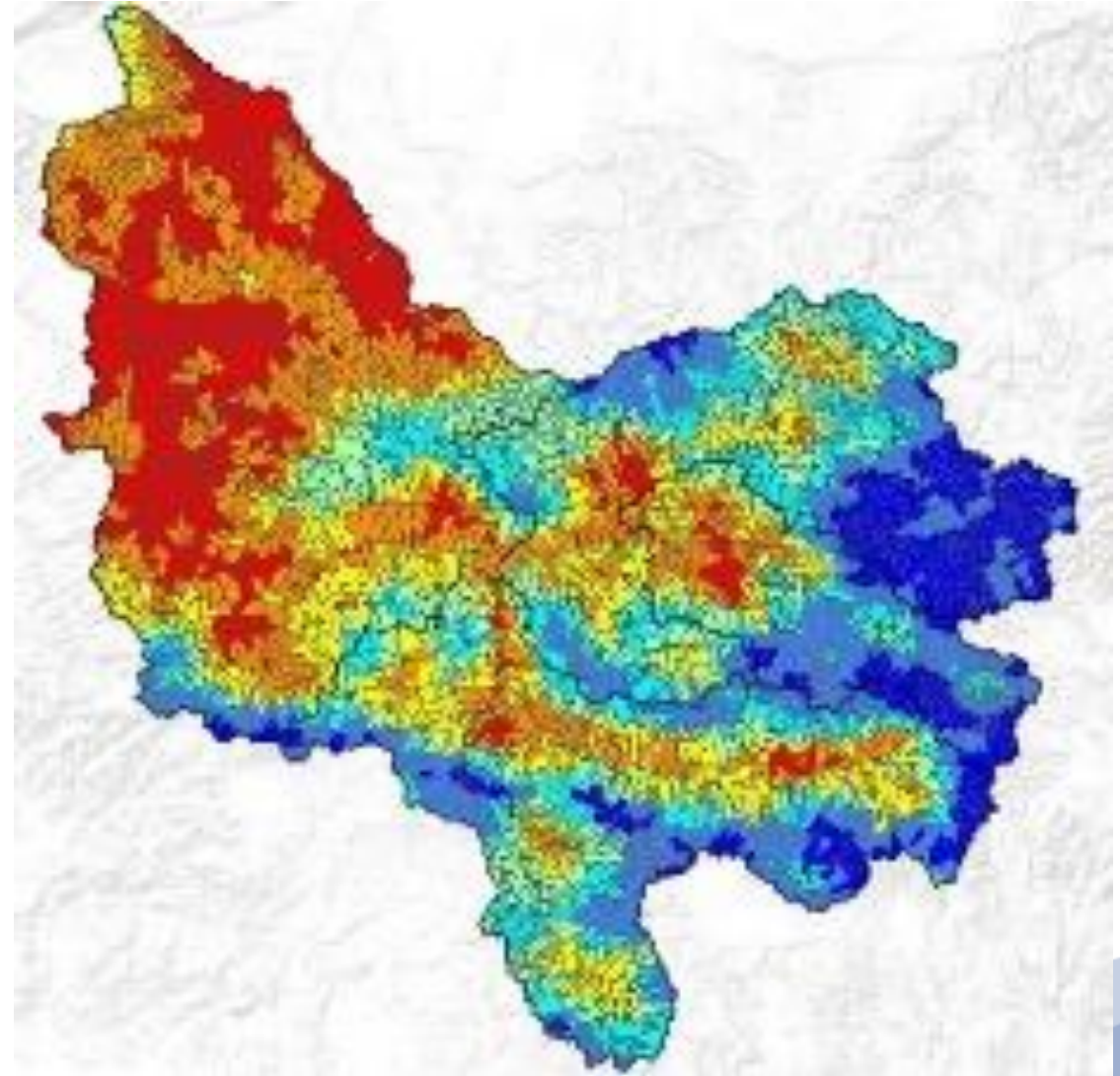
**GEOMORPHIC
UNIT**



SITE

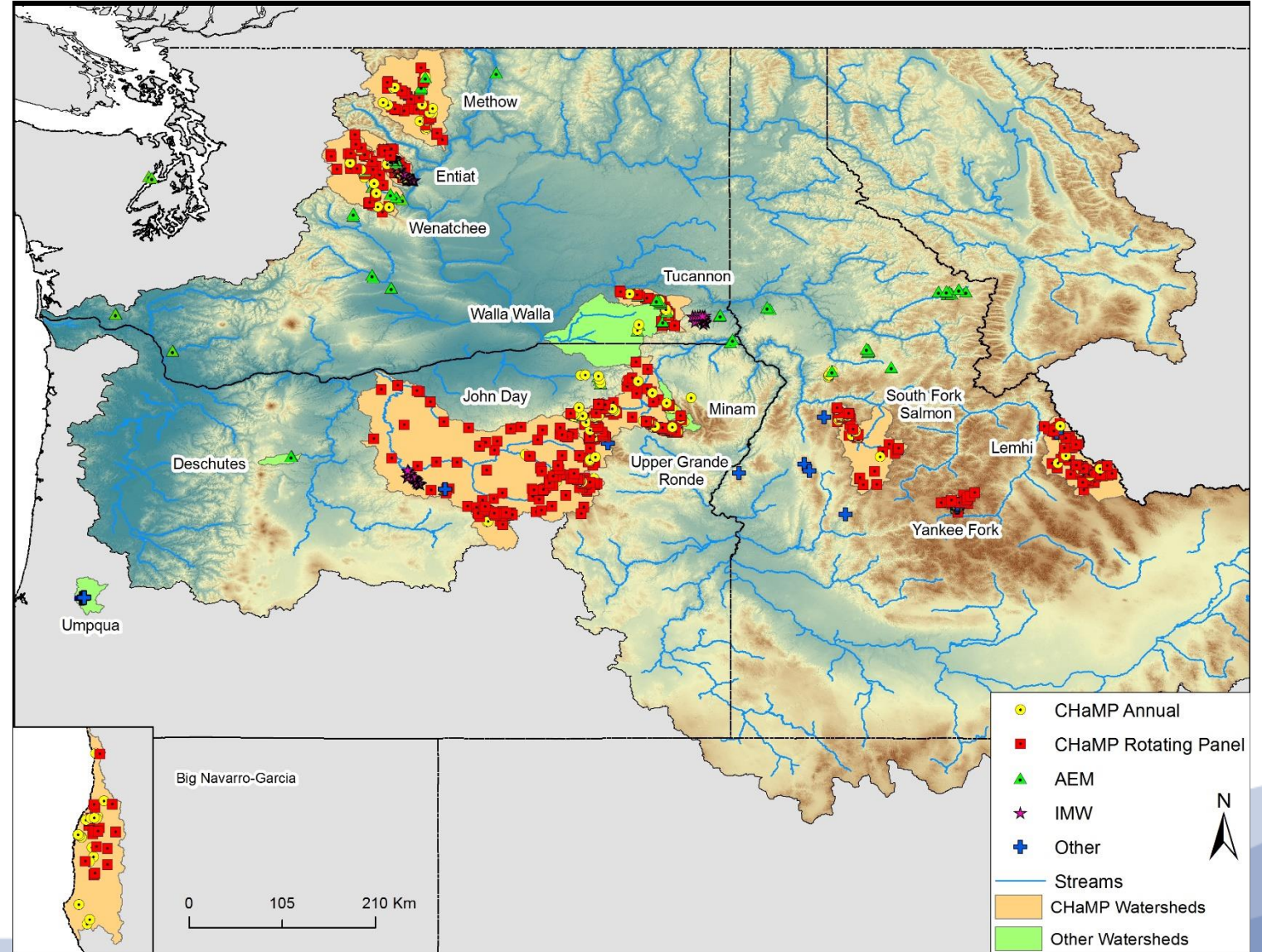
Network Temperature models

- Temperature models developed from remotely sensed land surface temperature data and calibrated with CHaMP temperature logger data
- Available for each CHaMP watershed mid 2011-2013 (2014 in process)
- Dropbox/Website/Upon Request

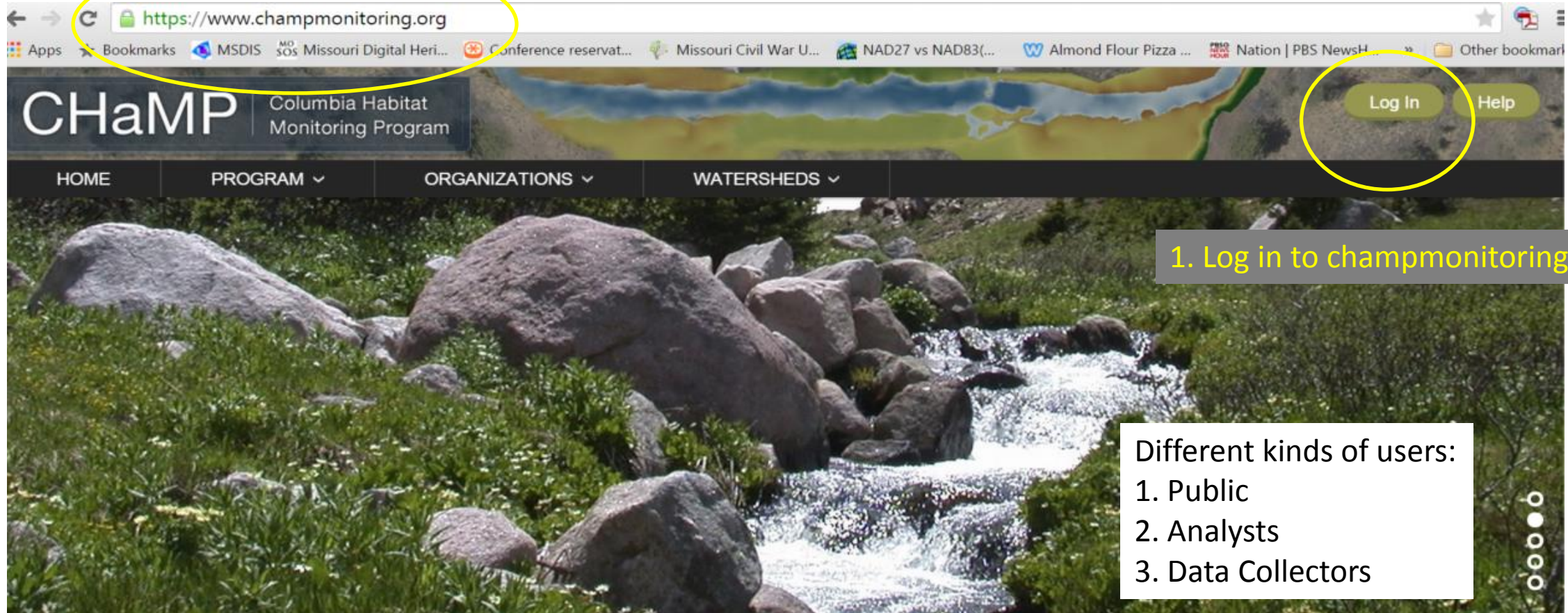


Metadata: Where and How Does CHaMP Collect data?

- Coordinate locations:
Metric and Covariates table
(Data Export or .csv)
- Survey designs
-sample designer



Where can I find data?



The screenshot shows the CHaMP website homepage. The browser's address bar contains the URL <https://www.champonitoring.org>, which is circled in yellow. The website header includes the CHaMP logo and the text "Columbia Habitat Monitoring Program". A navigation menu contains links for HOME, PROGRAM, ORGANIZATIONS, and WATERSHEDS. In the top right corner, there are "Log In" and "Help" buttons, with the "Log In" button circled in yellow. A large background image shows a rocky stream flowing through a green landscape. A grey callout box on the right side of the image contains the text "1. Log in to champonitoring.org". A white callout box in the bottom right corner of the image lists "Different kinds of users:" followed by a numbered list: "1. Public", "2. Analysts", and "3. Data Collectors".

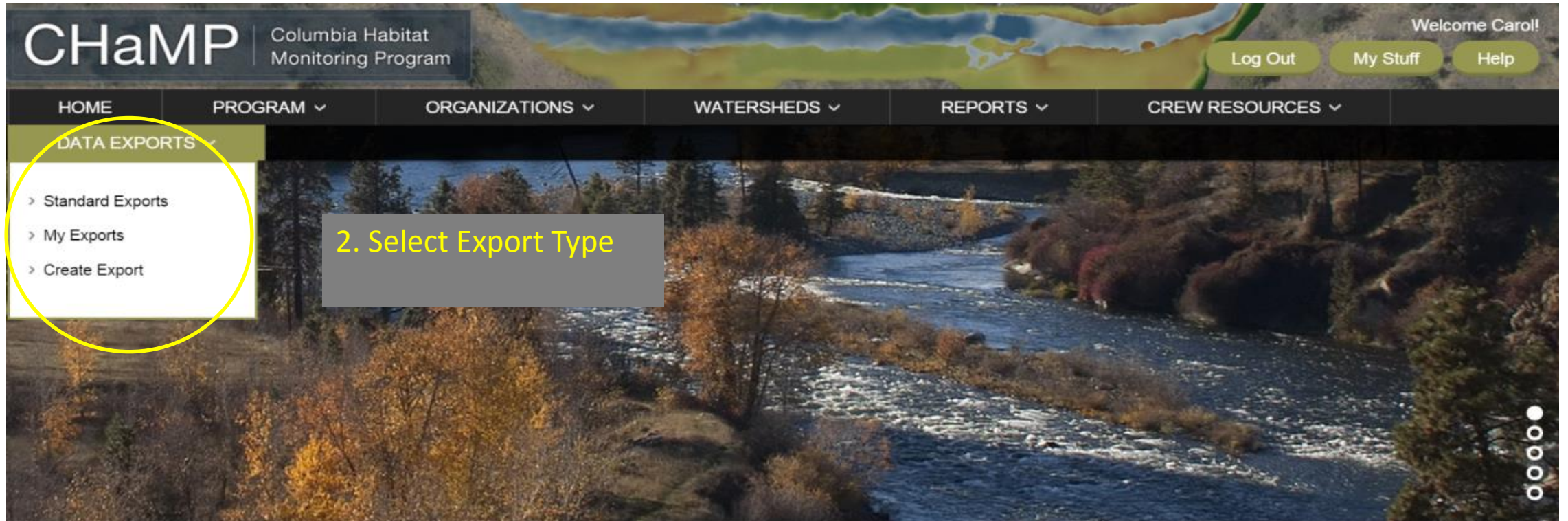
1. Log in to champonitoring.org

Different kinds of users:

1. Public
2. Analysts
3. Data Collectors

Where can I find data?

Data Exports



The screenshot shows the CHaMP (Columbia Habitat Monitoring Program) website. The top navigation bar includes links for HOME, PROGRAM, ORGANIZATIONS, WATERSHEDS, REPORTS, and CREW RESOURCES. A user is logged in as "Caroll" with options for Log Out, My Stuff, and Help. The "DATA EXPORTS" menu is open, showing options for Standard Exports, My Exports, and Create Export. A yellow circle highlights the "DATA EXPORTS" menu and its sub-items. A grey box with the text "2. Select Export Type" is overlaid on the "My Exports" option.

CHaMP Columbia Habitat Monitoring Program

Welcome Carol!

Log Out My Stuff Help

HOME PROGRAM ORGANIZATIONS WATERSHEDS REPORTS CREW RESOURCES

DATA EXPORTS

- > Standard Exports
- > My Exports
- > Create Export

2. Select Export Type

Standard Data Exports: Program Metrics

The screenshot shows the CHaMP (Columbia Habitat Monitoring Program) web application. The navigation menu includes HOME, PROGRAM, ORGANIZATIONS, WATERSHEDS, REPORTS, and CREW RESOURCES. The 'DATA EXPORTS' menu is expanded, showing 'Standard Exports', 'My Exports', and 'Create Export'. A yellow circle highlights the 'Standard Exports' option. A grey box with the text '2. Select Export Type' is overlaid on the 'Standard Exports' option. Another grey box with the text 'Standard Export' is overlaid on the 'Standard Exports' option. The 'Exports' table is visible, with the 'Watershed Metrics' row highlighted in grey and circled in yellow. The table has columns for Export, Year, Export Date, and Tables. The 'Watershed Metrics' row shows 'not filtered' for Year, '05/25/2015 11:15 AM' for Export Date, and a list of tables including ChannelUnitArea, ChannelUnitSummary, ChannelUnitTier1Summary, ChannelUnitTier2Summary, Definitions, MetricAndCovariates, MetricVisitInformation, and StreamTempSummer7dAM.

2. Select Export Type

Standard Export

Export	Year	Export Date	Tables
Stream Temperature Measurements for Watershed	not filtered	05/24/2015 11:15 AM	StreamTemperatureCalibration, StreamTemperatureLogger, StreamTemperatureLoggerMaintenance, StreamTemperatureResultAnomaly, StreamTemperatureResultFile, StreamTemperatureResultMeasurement, StreamTemperatureResultMessage, StreamTemperatureValidationMessage
Watershed Metrics	not filtered	05/25/2015 11:15 AM	ChannelUnitArea, ChannelUnitSummary, ChannelUnitTier1Summary, ChannelUnitTier2Summary, Definitions, MetricAndCovariates, MetricVisitInformation, StreamTempSummer7dAM
Topo Tool Messages for Watershed	not filtered	05/25/2015 11:19 AM	TopoToolLogEntry, TopoToolMessages
All Watershed Measurements	not filtered	05/25/2015 11:55 AM	AirTemperatureLogger, ArtificiallyPlacedInstreamStructurePhoto, ArtificiallyPlacedInstreamStructures, BankfullWidth, BarrierCulvert, BarrierCulvertLengthandSlope, BarrierFishway, BarrierFishwayWaterdrops, BarrierMisc, BarrierMiscSlope, Benchmark, CanopyCover, ChannelConstraintMeasurements, ChannelConstraints, ChannelSegment, ChannelUnit, ChannelUnitSupplement, ControlPoint, Crew, CrossSection, CulvertPhoto, Discharge, DriftInvertebrateSampleResult, DriftInvertebrateSample, ElectroPass, ElectroPassFish, ElectroPassTransect, ElectroPassTransectFish, ElectroSetup, FishCover, FishwayPhoto, JamHasChannelUnit, LargeWoodPiece, LargeWoodyDebris, Livestock, LivestockPhoto, MetricAndCovariates, MidChannelBottomOfSite, MiscBarrierPhoto, Monument, MultiHabitatBenthicType, MultiHabitatSample, MultiHabitatSampleReplicate, Pebble, PebbleCrossSection, PoolTailFines, RiparianStructure, RiparianStructureEMAP, SampleBiomass, SideChannel, SiteMarker, SlopeandBearing, SlopeandBearingSetup, SnorkelFish, SnorkelFishCountBinned, SnorkelFishCountSteelheadBinned, SnorkelFishSpeciesPresent, SnorkelFishYoungoftheYearSalmon, SnorkelLane, SnorkelLaneTransect, SnorkelRelativeAbundance, SnorkelSetup, SolarPathfinder, Streambank, StreamTemperatureLogger, StreamTemperatureLoggerMaintenance, SubstrateCover, SupplementaryPhoto, TargetedRiffleSample, TargetedRiffleSampleReplicate, TaxonBySizeClassCount, ThalvegProfile, Transect, TransectPhoto, UndercutBank, VisitInformation, VisitPoolTailFines, WaterChemistry, WoodyDebrisJam
Watershed Stream Temperature Metrics	not filtered	05/25/2015 12:14 PM	Definitions, SiteCovariates, StreamTemp8Day, StreamTempDailyand7dAM, StreamTempMonthly, StreamTempSummer7dAM
Watershed Measurements	2014	05/24/2015 11:42 AM	AirTemperatureLogger, ArtificiallyPlacedInstreamStructurePhoto, ArtificiallyPlacedInstreamStructures, BankfullWidth,

Standard Data Exports: Temperature

Overview Study Design Field Support Visits Measurements Metrics Status Exports Year : 2014 ▼

Exports

	Export	Year	Export Date	Tables
+	Stream Temperature Measurements for Watershed	not filtered	05/24/2015 11:15 AM	StreamTemperatureCalibration, StreamTemperatureLogger, StreamTemperatureLoggerMaintenance, StreamTemperatureResultAnomaly, StreamTemperatureResultFile, StreamTemperatureResultMeasurement, StreamTemperatureResultMessage, StreamTemperatureValidationMessage
+	Watershed Metrics	not filtered	05/25/2015 11:15 AM	ChannelUnitArea, ChannelUnitSummary, ChannelUnitTier1Summary, ChannelUnitTier2Summary, Definitions, MetricAndCovariates, MetricVisitInformation, StreamTempSummer7dAM
+	Topo Tool Messages for Watershed	not filtered	05/25/2015 11:19 AM	TopoToolLogEntry, TopoToolMessages
+	All Watershed Measurements	not filtered	05/25/2015 11:55 AM	AirTemperatureLogger, ArtificiallyPlacedInstreamStructurePhoto, ArtificiallyPlacedInstreamStructures, BankfullWidth, BarrierCulvert, BarrierCulvertLengthandSlope, BarrierFishway, BarrierFishwayWaterdrops, BarrierMisc, BarrierMiscSlope, Benchmark, CanopyCover, ChannelConstraintMeasurements, ChannelConstraints, ChannelSegment, ChannelUnit, ChannelUnitSupplement, ControlPoint, Crew, CrossSection, CulvertPhoto, Discharge, DriftInvertebrateSampleResult, DriftInvertebrateSample, ElectroPass, ElectroPassFish, ElectroPassTransect, ElectroPassTransectFish, ElectroSetup, FishCover, FishwayPhoto, JamHasChannelUnit, LargeWoodPiece, LargeWoodyDebris, Livestock, LivestockPhoto, MetricAndCovariates, MidChannelBottomOfSite, MiscBarrierPhoto, Monument, MultiHabitatBenthicType, MultiHabitatSample, MultiHabitatSampleReplicate, Pebble, PebbleCrossSection, PoolTailFines, RiparianStructure, RiparianStructureEMAP, SampleBiomass, SideChannel, SiteMarker, SlopeandBearing, SlopeandBearingSetup, SnorkelFish, SnorkelFishCountBinned, SnorkelFishCountSteelheadBinned, SnorkelFishSpeciesPresent, SnorkelFishYoungoftheYearSalmon, SnorkelLane, SnorkelLaneTransect, SnorkelRelativeAbundance, SnorkelSetup, SolarPathfinder, Streambank, StreamTemperatureLogger, StreamTemperatureLoggerMaintenance, SubstrateCover, SupplementaryPhoto, TargetedRiffleSample, TargetedRiffleSampleReplicate, TaxonBySizeClassCount, ThalwegProfile, Transect, TransectPhoto, UndercutBank, VisitInformation, VisitPoolTailFines, WaterChemistry, WoodyDebrisJam
+	Watershed Stream Temperature Metrics	not filtered	05/25/2015 12:14 PM	Definitions, SiteCovariates, StreamTemp8Day, StreamTempDailyand7dAM, StreamTempMonthly, StreamTempSummer7dAM
+	Watershed Measurements	2014	05/24/2015 11:42 AM	AirTemperatureLogger, ArtificiallyPlacedInstreamStructurePhoto, ArtificiallyPlacedInstreamStructures, BankfullWidth,



Program Metrics Database: Visit Information

Tables

- ChannelUnitArea
- ChannelUnitSummary
- ChannelUnitTier1Summary
- ChannelUnitTier2Summary
- Definitions
- MetricAndCovariates
- MetricVisitInformation**
- StreamTempSummer7dAM

ProgramSite	SiteName	WatershedN	SampleDate	HitchName	CrewName	VisitYear	CategoryName	PanelName	VisitID	VisitDate	AEM	Bug Val
132	CBW05583-002731	Wenatchee	7/23/2012	Hitch_2_Wen_I	Reuben Crew	2012	Transport-Private	Rotating Panel	862	7/23/2012		
179	CBW05583-003113	Methow	8/1/2011	2011- Terraqua	Local Crew	2011	Depositional-Private	Annual	1	8/1/2011		
179	CBW05583-003113	Methow	7/11/2013	Hitch #2 (KC): J	Kevin Crew	2013	Depositional-Private	Annual	1519	7/11/2013		
179	CBW05583-003113	Methow	9/30/2013	Hitch #7 (JE): S	Joe Crew	2013	Depositional-Private	Annual	1907	9/30/2013		
179	CBW05583-003113	Methow	7/9/2014	Hitch1_KC_July	Kevin Crew	2014	Depositional-Private	Annual	2335	7/9/2014		
257	CBW05583-011545	Methow	9/23/2012	Hitch_10_Meth	Joe Crew	2012	Depositional-Private	Rotating Panel	1092	9/23/2012		
596	CBW05583-013151	Lemhi	8/31/2012	Lemhi Hitch 6	Laurel Crew	2012	Agency-Private	Rotating Panel	1025	8/31/2012		
603	CBW05583-013226	Upper Grande I	9/11/2012	CRITFC Sep 10-	Laurinda Crew	2012	Catherine Creel	Rotating Panel	972	9/11/2012		
616	CBW05583-013322	John Day	7/9/2013	MF ODFW Desi	Shelley Banks C	2013	Greater Middle	Rotating Panel	1204	7/9/2013		
659	CBW05583-013642	John Day	9/21/2011	2011- ODFW - L	Local Crew - Jo	2011	Greater John D.	Rotating Panel	272	9/21/2011		
816	CBW05583-009049	Methow	9/5/2011	2011- Terraqua	Local Crew	2011	Depositional-Private	Rotating Panel	249	9/5/2011		
816	CBW05583-009049	Methow	9/26/2011	2011- Tetra Tec	TetraTech	2011				9/26/2011		
816	CBW05583-009049	Methow	9/7/2014	hitch_all_Aug6t	Steve Crew	2014				9/7/2014		
824	CBW05583-009135	Lemhi	8/3/2012	Lemhi Hitch 4	Laurel Crew	2012				8/3/2012		
941	CBW05583-016394	John Day	8/5/2011	2011- Eco Logic	Local Crew	2011				8/5/2011		
1199	CBW05583-001487	Lemhi	8/11/2011	2011- Quantita	Local Crew	2011				8/11/2011		
1199	CBW05583-001487	Lemhi	9/2/2012	Lemhi Hitch 6	Laurel Crew	2012				9/2/2012		
1199	CBW05583-001487	Lemhi	6/24/2013	Hitch 1	Laurel Crew	2013				6/24/2013		Yes
1199	CBW05583-001487	Lemhi	7/26/2014	Hitch 3	Laurel Crew	2014				7/26/2014		
1258	CBW05583-014617	Methow	8/2/2011	2011- Terraqua	Local Crew	2011				8/2/2011		
1258	CBW05583-014617	Methow	9/26/2012	Hitch_10_Meth	Martin Crew	2012				9/26/2012		
1258	CBW05583-014617	Methow	8/12/2013	Hitch #4 (JE): A	Joe Crew	2013				8/12/2013		
1258	CBW05583-014617	Methow	9/23/2014	hitch_all_Aug6t	Steve Crew	2014				9/23/2014		
1279	CBW05583-014793	Methow	8/1/2011	2011- Terraqua	Local Crew	2011	Source-Public	Annual	313	8/1/2011		
1279	CBW05583-014793	Methow	9/30/2012	Hitch_10_Meth	Matt Crew	2012	Source-Public	Annual	1101	9/30/2012		
1279	CBW05583-014793	Methow	7/13/2013	Hitch #2 (KC): J	Kevin Crew	2013	Source-Public	Annual	1541	7/13/2013		
1279	CBW05583-014793	Methow	7/12/2014	Hitch1_KC_July	Kevin Crew	2014	Source-Public	Annual	2336	7/12/2014		
1324	CBW05583-015162	Upper Grande I	7/16/2012	CRITFC July 16-	Laurinda Crew	2012	Upper Grande I	Rotating Panel	791	7/16/2012		

Channel Units
 Channel Unit Tier 1/2
 Visits
 Metrics and Covariates
 Stream Temperature
 Definitions



Program Metrics Database: temperature

Tables

- ChannelUnitArea
- ChannelUnitSummary
- ChannelUnitTier1Summary
- ChannelUnitTier2Summary
- Definitions
- MetricAndCovariates
- MetricVisitInformation
- StreamTempSummer7dAM

StreamTempSummer7dAM												
SampleDate	HitchName	CrewName	Visit	7dAMGtr12	7dAMGtr13	7dAMGtr16	7dAMGtr18	7dAMGtr20	7dAMGtr22	SummerHou	AvgHourly	MaxHourly
8/4/2011	2011- ODFW - L	Local Crew - Gr	2011	28	28	16	0	0	0	655	12.2516	18.105
7/30/2012	Steelhead Annu	Chris Horn Crev	2012	42	42	36	13	0	0	1152	12.7118	19.722
6/18/2013	UGR_Small_Stri	Chris Horn Crev	2013	42	42	35	22	0	0	1152	13.5127	19.651
6/26/2013	UGR_Small_Stri	Chris Horn Crev	2013	42	42	42	28	0	0	1152	16.9515	19.413
6/30/2014	ODFW Small Sit	Chris Horn Crev	2014	2	2	2	0	0	0	34	14.7824	16.63
7/25/2011	2011- ODFW - L	Local Crew - Gr	2011	38	38	12	0	0	0	894	13.121	17.439
6/15/2011	2011- ODFW - L	Local Crew - Gr	2011	42	42	42	31	4	0	1152	14.2417	21.366
8/25/2011	2011- ODFW - C	ODFW JD	2011	42	42	42	31	4	0	1152	14.2417	21.366
8/28/2011	2011- Tetra Tec	TetraTech	2011	42	42	42	31	4	0	1152	14.2417	21.366
8/23/2011	2011- Eco Logic	ELR	2011	42	42	42	31	4	0	1152	14.2417	21.366
8/30/2011	2011- CRITFC - I	CRITFC	2011	42	42	42	31	4	0	1152	14.2417	21.366
8/24/2011	2011- Quantita	QCI	2011	42	42	42	31	4	0	1152	14.2417	21.366
8/27/2011	2011- Terraqua	TQ	2011	42	42	42	31	4	0	1152	14.2417	21.366
8/27/2011	2011- Terraqua	TQ naive	2011	42	42	42	31	4	0	1152	14.2417	21.366
8/3/2011	2011- ODFW - L	Local Crew - Gr	2011	16	3	0	0	0	0	679	10.0989	13.714
6/29/2012	Steelhead Publi	Chris Horn Crev	2012	42	42	12	0	0	0	1152	13.4168	17.796
7/9/2012	Steelhead Publi	Chris Horn Crev	2012	42	42	42	42	39	17	1152	15.6399	23.978
6/24/2013	UGR_Small_Stri	Chris Horn Crev	2013	42	42	20	0	0	0	1152	13.6751	17.034
6/20/2013	UGR_Small_Stri	Chris Horn Crev	2013	42	42	42	42	37	20	1152	15.994	25.574
8/26/2013	UGR_CC_Big_St	Chris Horn Crev	2013	5	4	0	0	0	0	120	11.1828	13.377
8/25/2014	ODFW Big Sites	Chris Horn Crev	2014	34	22	0	0	0	0	997	11.0773	15.103
7/20/2011	2011- ODFW - L	Local Crew - Gr	2011	42	42	42	42	37	6	1017	16.5906	23.304
8/29/2011	2011- Terraqua	TQ naive	2011	42	42	42	42	37	6	1017	16.5906	23.304
8/22/2011	2011- ODFW - C	ODFW JD	2011	42	42	42	42	37	6	1017	16.5906	23.304
8/31/2011	2011- CRITFC - I	CRITFC	2011	42	42	42	42	37	6	1017	16.5906	23.304
8/23/2011	2011- Tetra Tec	TetraTech	2011	42	42	42	42	37	6	1017	16.5906	23.304
8/24/2011	2011- Eco Logic	ELR	2011	42	42	42	42	37	6	1017	16.5906	23.304



Program Metrics Database: definitions

Microsoft Access ribbon showing the TABLE TOOLS tab. The ribbon includes sections for FILE, HOME, CREATE, EXTERNAL DATA, DATABASE TOOLS, and TABLE. The TABLE section contains options for Filter, Sort & Filter (Ascending, Descending, Selection, Advanced, Remove Sort, Toggle Filter), Refresh All, Records (New, Save, Delete, More), Find, Replace, Go To, Select, Size to Fit Form, Switch Windows, and Text Formatting (Font, Paragraph, Styles).

Tables

- ChannelUnitArea
- ChannelUnitSummary
- ChannelUnitTier1Summary
- ChannelUnitTier2Summary
- Definitions**
- MetricAndCovariates
- MetricVisitInformation
- StreamTempSummer7dAM

MetricID	MetricEngine	MetricGroup	Name	ShortName	DescriptiveText	UnitOfMeasur	UnitOfMeasur
2	RBT	Visit Metric	Sinuosity	Sin	Ratio of the thalweg length to the straight line distance between the start and end points of the thalweg.	ratio	
4	RBT	Visit Metric	Wetted Volume	WetVol	Total wetted volume at a site.	cubic-meter	m3
5	RBT	Visit Metric	Wetted Width Integrated	WetWdth_Int	Average width of the wetted polygon for a site.	Meter	m
6	RBT	Visit Metric	Bankfull Width Integrated	BfWdthInt	Average width of the bankfull polygon for a site.	Meter	m
7	RBT	Visit Metric	Wetted Site Length	Lgth_Wet	The total length of the wetted centerline derived from the wetted polygon.	Meter	m
8	RBT	Visit Metric	Bankfull Site Length	Lgth_Bf	The total length of the bankfull centerline derived from the bankfull polygon.	Meter	m
9	RBT	Visit Metric	Thalweg Site Length	Lgth_Thlwg	The total length of the thalweg at a site.	Meter	m
32	RBT	Visit Metric	RBT Outputs Zip	RBT Outputs	Zipped file containing geodatabase output from the River Bathymetry Toolkit (RBT). Includes Geomorphic Change Detection (GCD) results.		
33	RBT	Visit Metric	Results XML	ResultsXML	XML file containing River Bathymetry Toolkit (RBT) calculation results.		
34	RBT	Visit Metric	Log File	LogFile	XML file containing a log of RBT output settings and survey QA messages.		
35	Aux Metrics	Visit Metric	Discharge	Q	The sum of station discharge across all stations. Station discharge is calculated as depth x velocity x station increment for all stations except first and last.	cubic-meter per second	m3/s
36	Aux Metrics	Visit Metric	Substrate: Embeddedness Avg	SubEmbed_Avg	Average cobble embeddedness.	Percent	%



Where can I find data? .csv files

Reports

Metrics **Measurements** Visits Overall Visit Status Metric Engine Status Data Upload Status Site Evaluations

Year: 2014

Metric Group: **Visit Metric** Protocol: **<Do not filter>** [Filter](#)

Metrics Tab
Program-level metrics... [show more](#)

Grid **Graph** Map

Currently viewing 516 of 516 metrics

[Metrics and Covariates Download](#) [Download Definitions](#) [Download Data](#)

Watershed	SiteID	Sample Date	VisitID	Visit Status	Visit Phase	Metric #	Organization	Crew	Stream Name	Panel	Category	Protocol	Julian Date	Visit Number	Gradient	Sinuosity	Thalweg to Centerline Length Ratio	Sinuosity Via Centerline	Wetted Area	Bankfull Area	Wetted Volume	Bankfull Volume	Wetted Width Integrated
Methow	CBW05583-009753	08/10/2014	2498	Released to Public	Data Approved	154	Terraqua Inc.	Surya Cr	Methow F	Rotating	Depositi	CHaMP 2014	222	1	0.71 %	1.195	0.96	1.164	11488.23 m2	15825.87 m2	4176.95 m3	11701.97 m3	19.63 m
Tucannon	CBW05583-010495	07/06/2014	2262	Released to Public	Data Approved	154	Eco Logical Research	Tucannon	Tucannon	Annual	Treatment	CHaMP 2014	187	1	1.15 %	1.221	1.00	1.206	2425.51 m2	3057.43 m2	776.31 m3	1529.24 m3	9.89 m
Methow	CBW05583-035097	09/17/2014	2541	Released to Public	Data Approved	192	Terraqua Inc.	Steve Cr	Methow F	Rotating	Depositi	CHaMP 2014	260	1	0.51 %	1.267	0.98	2.305	28889.83 m2	52760.25 m2	10722.38 m3	55643.19 m3	46.01 m
Methow	CBW05583-041497	09/21/2014	2542	Released to Public	Data Approved	192	Terraqua Inc.	Steve Cr	Methow F	Rotating	Depositi	CHaMP 2014	264	1	0.49 %	1.022	0.99	1.013	15522.58 m2	29282.02 m2	3065.26 m3	24547.85 m3	26.10 m
Methow	CBW05583-055753	09/18/2014	2543	Released to Public	Data Approved	155	Terraqua Inc.	Steve Cr	Methow F	Rotating	Depositi	CHaMP 2014	261	1	0.23 %	1.092	0.93	1.023	29819.95 m2	33434.42 m2	14913.22 m3	30624.98 m3	48.47 m
Lemhi	CBW05583-058207	07/14/2014	2374	Released to Public	Data Approved	190	Quantitative Consultants	Laurel Cr	Agency C	Rotating	Agency	CHaMP 2014	195	1	0.84 %	1.372	1.02	1.400	578.50 m2	1416.24 m2	88.09 m3	296.19 m3	3.65 m
Tucannon	CBW05583-072139	08/22/2014	2636	Released to Public	Data Approved	197	Tetra Tech	Colin Cr	Tucannon	Annual	Treatment	Estimating Instream Juve	234	2	-	-	-	-	-	-	-	-	-
Entiat	CBW05583-092843	09/28/2014	2518	Post Processing	Data Collection	188	Terraqua Inc.	Steve Cr	Mad River	Rotating	Depositi	CHaMP 2014	271	1	-	-	-	-	-	-	-	-	-
Lemhi	CBW05583-121695	08/08/2014	2492	Released to Public	Data Approved	190	Quantitative Consultants	Laurel Cr	Kenney C	Rotating	Kenney	CHaMP 2014	220	1	2.05 %	1.217	1.01	1.220	555.16 m2	845.79 m2	77.48 m3	180.49 m3	3.10 m
Upper Grande Ronde	CBW05583-108010	06/19/2014	2014	Released to Public	Data Approved	156	Columbia River Inter-Tri	Monica C	Limber J	Rotating	Upper Gr	CHaMP 2014	170	1	1.18 %	1.505	0.94	1.410	615.92 m2	856.48 m2	126.99 m3	210.13 m3	3.75 m

Where can I find Visit Metrics?

2) .csv data

Metrics ONLY. Visit Information, GIS attributes and Definitions are separate .csv files

	A	B	C	D	E	M	N	O	P	Q	R	S	T	U	V	
	Watershed	SiteID	SampleDate	VisitID	VisitStatus	Protocol	JulianDate	VisitNumber	Grad	Sin	Lgth_Thlw	Sin_CL	Area_Wet	Area_Bf	WetVol	Bf
2	Methow	CBW05583-009753	8/10/2014	2498	Released to Public	CHaMP 2014	222	1	0.71	1.195	0.96	1.164	11488.23	15825.87	4176.95	1:
3	Tucannon	CBW05583-010495	7/6/2014	2262	Released to Public	CHaMP 2014	187	1	1.15	1.221	1	1.206	2425.51	3057.43	776.31	:
4	Methow	CBW05583-035097	9/17/2014	2541	Released to Public	CHaMP 2014	260	1	0.51	1.267	0.98	2.305	28889.83	52760.25	10722.38	5:
5	Methow	CBW05583-041497	9/21/2014	2542	Released to Public	CHaMP 2014	264	1	0.49	1.022	0.99	1.013	15522.58	29282.02	3065.26	2:
6	Methow	CBW05583-055753	9/18/2014	2543	Released to Public	CHaMP 2014	261	1	0.23	1.092	0.93	1.023	29819.95	33434.42	14913.22	3:
7	Lemhi	CBW05583-058207	7/14/2014	2374	Released to Public	CHaMP 2014	195	1	0.84	1.372	1.02	1.4	578.5	1416.24	88.09	
8	Tucannon	CBW05583-072139	8/22/2014	2636	Released to Public	Estimating Instream Juvenile	234	2								
9	Entiat	CBW05583-092843	9/28/2014	2518	Post Processing	CHaMP 2014	271	1								
0	Lemhi	CBW05583-121695	8/8/2014	2492	Released to Public	CHaMP 2014	220	1	2.05	1.217	1.01	1.22	555.16	845.79	77.48	
1	Upper Grande Ronde	CBW05583-108010	6/19/2014	2014	Released to Public	CHaMP 2014	170	1	1.18	1.505	0.94	1.41	615.92	856.48	126.99	
2	Entiat	CBW05583-136683	9/23/2014	2517	Released to Public	CHaMP 2014	266	1	2.82	1.245	0.99	1.235	361.48	593.94	39.82	
3	Upper Grande Ronde	CBW05583-142490	7/14/2014	2137	Released to Public	CHaMP 2014	195	1	1.89	1.163	1	1.165	764.97	1636.69	75.75	
4	Upper Grande Ronde	CBW05583-138666	9/19/2014	2004	Released to Public	CHaMP 2014	262	1	2.62	1.111	0.97	1.07	2358.2	3138.94	423.07	:
5	Entiat	CBW05583-167595	9/18/2014	2519	Released to Public	CHaMP 2014	261	1	2.44	1.723	0.94	1.632	2783.68	3559.86	766.79	:
6	Tucannon	CBW05583-169855	8/28/2014	2649	Released to Public	CHaMP 2014	240	1	1.1	1.271	0.99	1.26	2956.25	3902.17	792.6	:
7	Tucannon	CBW05583-170443	8/14/2014	2637	Released to Public	Estimating Instream Juvenile	226	1								
8	Asotin	ASW00001-NF-F1 P1BR	8/20/2014	2422	Released to Public	CHaMP 2014	232	1	1.84	1.101	0.99	1.092	1236.28	1654.46	320.21	
9	Asotin	ASW00001-NF-F1 P2BR	8/20/2014	2423	Released to Public	CHaMP 2014	232	1	1.69	1.315	1	1.303	1627.28	1943.04	333.29	
0	Asotin	ASW00001-NF-F6 P2BR	10/20/2014	2425	Released to Public	CHaMP 2014	293	1	1.89	1.117	0.99	1.36	1647.51	1974.61	263.02	
1	John Day	JDW00001-Burrow Pit 3	11/22/2014	2767	Not Released	CHaMP 2014	326	1	1.57	1.183	1	1.172	600.73	872.73	105.64	
2	Entiat	ENT00001-1BC4	7/23/2014	2454	Released to Public	CHaMP 2014	204	1	0.83	1.075	0.95	1.024	9054.23	10874.94	4878.28	:
3	Entiat	ENT00001-1BC5	7/24/2014	2455	Released to Public	CHaMP 2014	205	1	0.95	1.052	0.99	1.034	6955.05	8273.79	3587.54	
4	Entiat	ENT00001-1D4	8/7/2014	2511	Released to Public	CHaMP 2014	219	1	0.93	1.057	0.98	1.547	10108.47	11585.14	3631.18	:
5	Entiat	ENT00001-2C4	8/6/2014	2503	Released to Public	CHaMP 2014	218	1	0.18	2.291	0.9	2.044	8435.13	10384.99	6924.99	1:
6	Entiat	ENT00001-3A5	9/4/2014	2532	Released to Public	AEM Floodplain and CHaMP	247	1	0.2	1.43	0.98	1.402	7805.12	11500.68	3722.12	:
7	Entiat	ENT00001-3A5	9/4/2014	2658	Not Released	Estimating Instream Juvenile	247	2								:



Where can I find spatial model data?

Overview Study Design Field Support Visits Measurements Metrics Status Exports Year: 2014

Metric Group: Visit Metric Protocol: CHaMP 2014

Metrics Tab
Watershed-level metrics... show more

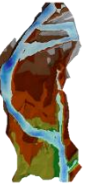
Grid Graph Map

Currently viewing 26 of 26 metrics

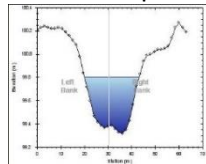
Metrics and Covariates Download Download Definitions Download Data

SiteID	Sample Date	VisitID	V g	Wetted Channel Qualifying Island Area	RBT Outputs Zip	Results XML	Log File	Hydraulic Model Inputs	Hydraulic Model Results	Bathymetry Image	Boundary Conditions Image	Wetted Depth Image	Wetted Surface Elevation Image	Depth Image	Velocity Image	Geographic Data
CBW05583-001487	07/26/2014	2375	R 0	0.00 m2	download	download	download	download	download	download	download	download	download	download	download	
CBW05583-020943	09/21/2014	2612	R 4	4284.24 m2	download	download	download	download	download	download	download	download	download	download	download	
CBW05583-035679	08/24/2014	2608	R 0	0.00 m2	download	download	download	download	download	download	download	download	download	download	download	
CBW05583-026031	08/11/2014	2580	R 0	0.00 m2	download	download	download	download	download	download	download	download	download	download	download	
CBW05583-029103	08/09/2014	2490	R 0	0.00 m2	download	download	download	download	download	download	download	download	download	download	download	
CBW05583-029535	08/22/2014	2643	R 0	0.00 m2	download	download	download	download	download	download	download	download	download	download	download	
CBW05583-049615	07/28/2014	2378	R 0	0.00 m2	download	download	download	download	download	download	download	download	download	download	download	
CBW05583-048558	08/27/2014	2611	R 0	0.00 m2	download	download	download	download	download	download	download	download	download	download	download	
CBW05583-048847	07/30/2014	2379	R 1	17.29 m2	download	download	download	download	download	download	download	download	download	download	download	
CBW05583-050639	09/19/2014	2665	P -	-												
CBW05583-078287	09/20/2014	2214	R 0	0.00 m2	download	download	download	download	download	download	download	download	download	download	download	
CBW05583-080735	07/23/2014	2436	R 0	0.00 m2	download	download	download	download	download	download	download	download	download	download	download	
CBW05583-058207	07/14/2014	2374	R 0	0.00 m2	download	download	download	download	download	download	download	download	download	download	download	

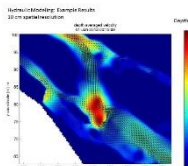
Survey GDB



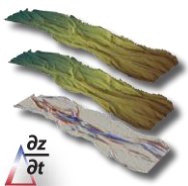
RBT Outputs



Hydraulic Model



GCD



Where can I find spatial model inputs and outputs?

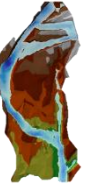
CHaMP Internal FTP site: <ftp://ftp.geooptix.com/> (FTP client recommended)

The screenshot shows the WinSCP interface with two panels. The left panel displays a local directory tree for 'C:\GIS\champ\VisitDownloads' containing numerous folders named with years and numbers (e.g., 1214, 2011, 2012, 2013, 2143, 2160, 2180, 2186, 2188, 2199, 2200, 2207, 2208, 2212, 2487, 2498, 2512). The right panel shows the remote directory structure under '<root>'. It contains a 'ByWatershed' folder and a 'ByYear' folder, both dated 5/30/2015 6:02 AM. The 'ByWatershed' folder is circled in red.

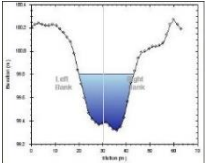
Name	Size	Changed	Rights	Owner
..				
ByWatershed		5/30/2015 6:02 AM		
ByYear		5/30/2015 6:02 AM		

***Data QA info
not included**

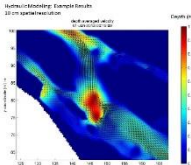
Survey GDB



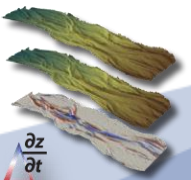
RBT Outputs



Hydraulic Model



GCD



VISIT_2697

/ByWatershed/Tucannon/2014/CBW05583-481459/VISIT_2697

Name	Size	Changed	Rights
Hydro		5/31/2015 7:01:00 AM	
RBTOutputs		5/31/2015 7:01:00 AM	
Topo		5/31/2015 7:01:00 AM	

Hydro Folder= Hydraulic Model

Hydro

/ByWatershed/Tucannon/2014/CBW05583-481459/VISIT_2697/Hydro

Name	Size	Changed	Rights
HydroModelInputs.zip	35,477 KB	3/11/2015 4:27:00 AM	
HydroModelResults.zip	50,150 KB	3/11/2015 7:57:00 AM	

Topo Folder= Survey GDB

Topo

/ByWatershed/Tucannon/2014/CBW05583-481459/VISIT_2697/Topo

Name	Size	Changed	Rights
MapImages.zip	13,808 KB	10/29/2014 9:00:00 AM	
SurveyGDB.zip	15,770 KB	3/10/2015 7:59:00 PM	
TIN.zip	117 KB	10/29/2014 9:00:00 AM	
TopoToolbarResults.xml	13 KB	10/27/2014 12:56:00 PM	
WettedSurfaceTIN.zip	102 KB	10/29/2014 9:00:00 AM	

RBTOutputs= RBT Outputs + GCD

RBTOutputs

/ByWatershed/Tucannon/2014/CBW05583-481459/VISIT_2697/RBTOutputs

Name	Size	Changed	Rights
LogFile.xml	11 KB	3/11/2015 5:58:00 AM	
RBTOutput.zip	114,697 KB	3/11/2015 8:36:00 AM	
Results.xml	171 KB	3/11/2015 5:58:00 AM	

What kinds of CHaMP data exist?

Champonitoring.org

- Documents
- Site evaluations
- Field measured data (raw data)
- Temperature data (loggers)
- Visit information
- Visit metrics
- Spatial data/model outputs
- Network temperature models
- GIS data

Sample Designer (MonitoringResources.org)

- Sampling designs
- Sampling domains (GIS frames)

Tools

- CHaMP Toolbar:
- RBT Workbench:
- GCD Toolbar:
- HS Model: hs.nar.org
- Hydraulic Model:
matt@southforkresearch.org
- NREI: c.eric.wall@gmail.com
- Temperature Model:
kris.mcnysset@noaa.gov
- SpSurvey R package:



Keep in mind

- Multiple locations to find data
- Recommend using data “Released to Public”
- Tools and Technology evolve—a work in progress

