HMT-West 2010 Season Overview

- Observations
- Weather Summary

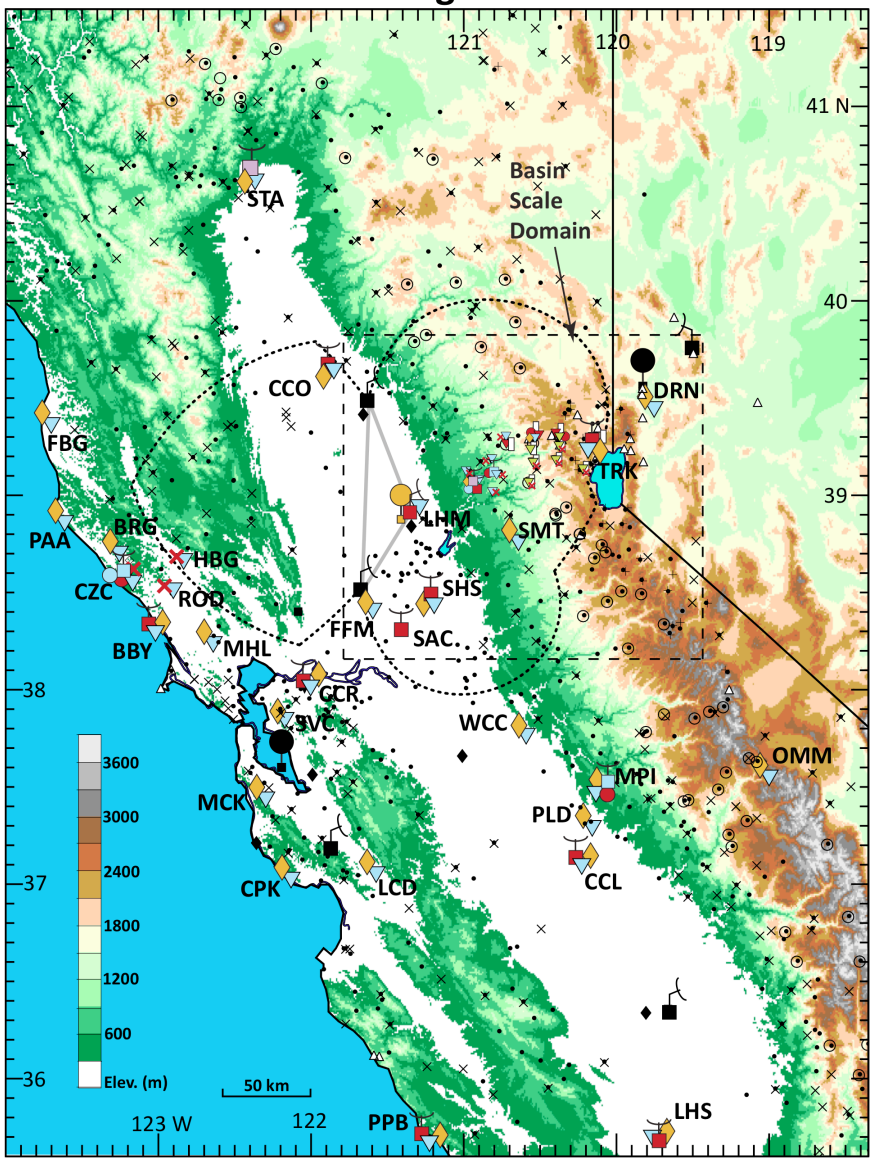
NAME	STATE	ID	SNR	Winds	Snow Level	Upslope Flux	Virtual Temp	Virtual Theta	Surface Met
Alta	CA	ata							🟢
Big Bend	CA	bbd							🟢
Black Oak	AZ	boc							🟢
Blue Canyon	CA	blu							🟢
Bodega Bay	CA	bby	🟢	🟢	🟢	🟢	🟢	🟢	🟢
Boulder	CO	skg							🟢
Burnt Ridge (P188)	CA	brg							🔴
Canada Hill	CA	cnh							🟢
Canelo	AZ	cnl							🔴
Cazadero	CA	czc	🟢		🟢				🟢
Chico	CA	cco	🟢	🟢	🟢	🟢	🟢	🟢	🟢
Chowchilla	CA	ccl	🟢	🟢	🟢	🟢	🟢	🟢	🟢
Colfax	CA	cfc	🟢	🟢	🟢	🟢			🟢
Colfax (FMCW)	CA	cff	🟢		🟢				
Colfax	CA	cfx							🟢
Concord	CA	ccr	🟢	🟢	🟢	🟢			🟢
Cooke Peak (P534)	CA	cpk							🟢
DRI_Reno (P090)	NV	drn							🟢
Elgin	AZ	elg							🟢
Estes Park	CO	epk	🟢	🟢	🟢				🟢
Finch Farms (P268)	CA	ffm							🟢
Foresthill	CA	fhl							🟢
Fort Bragg	CA	fbg							🟢
Freeman Springs	AZ	fms							🟢
Granby	CO	gnb							🟢
Greek Store	CA	gks							🟢
Healdsburg	CA	hbg							🟢
Huysink	CA	hys							🟢
Lacrosse Drive (P217)	CA	lcd							🟢
Lee Vining	CA	lvn							🟢
Livermore	CA	lvr	🟢	🟢	🟢		🟢		
Lost Hills	CA	lhs	🟢	🟢	🟢	🟢	🟢	🟢	🟢
Mariposa	CA	mpi	🟢		🟢				🟢
MeachumLfl (P196)	CA	mhl							🟢
Mills Creek (P176)	CA	mck							🟢
Norden	CA	ndn							🟢
Old Mammoth (P630)	CA	omm							🟢
Onion Creek	CA	ocr							🟢
Point Arena (P059)	CA	pan							🟢
Pt. Piedras Blancas	CA	ppb	🟢	🟢	🟢	🟢	🟢	🟢	🟢
Ravensdale	WA	rvd	🟢		🟢				🟢
Rio Nido	CA	rod							🟢
Sacramento	CA	sac	🟢	🟢	🟢		🟢		
Seattle	WA	sea	🔴	🔴		🔴	🔴		
Shasta Dam	CA	std	🟢		🟢				🟢
Sibley Volcano (P224)	CA	svc							🟢
Slate Mountain (P140)	CA	smt							🟢
Sloughhouse	CA	shs	🟢	🟢	🟢	🟢			🟢
Spanaway	WA	swy	🟢	🟢	🟢	🟢			🟢
Sugar Pine	CA	spd	🟢		🟢				🟢
Talbot	CA	tbt							🟢
Truckee	CA	trk	🟢	🟢	🟢	🟢			🟢
Tucson	AZ	pap	🟢	🟢					
Visalia	CA	vis	🟢	🟢	🟢		🟢		
Wild Creek (P306)	CA	wcc							🟢
Ward Creek	CA	wdc							🟢
Westport (3GHz)	WA	wpc	🟢		🟢				
Westport	WA	wpt	🟢	🟢	🟢	🟢			🟢
Whetstone	AZ	wse							🟢

🟢 = data received in the last three hours
🟡 = no data received in the last three hours
🔴 = no data received in the last twelve hours

PSD currently supports 59 instrument sites, most are in CA

http://www.esrl.noaa.gov/psd/data/obs/

HMT-WEST 2010: Regional Scale Domain



HMT Observing Systems

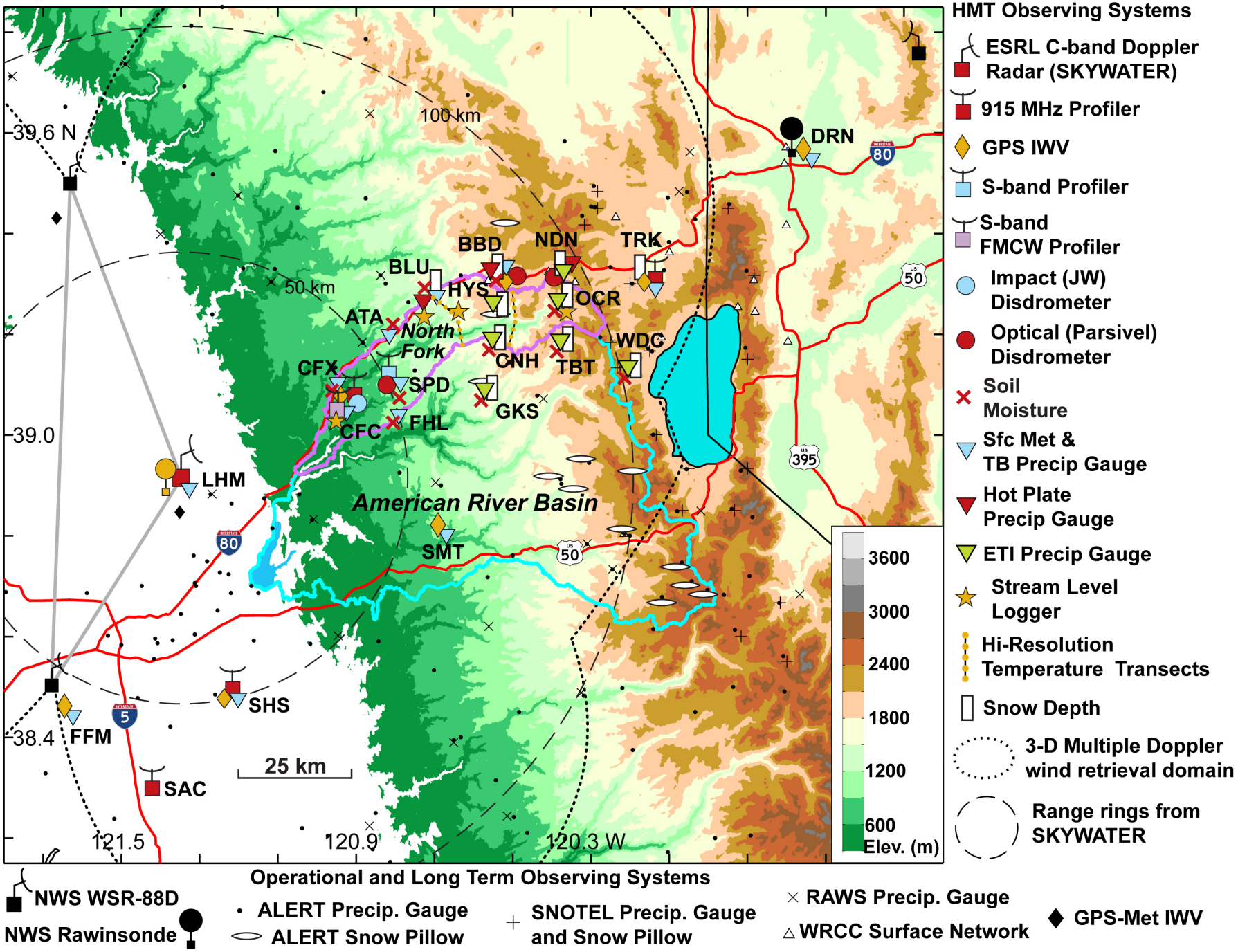
- ESRL C-band Doppler Radar
- 915 MHz Profiler
- GPS IWV
- S-band Profiler
- S-band FMCW Profiler
- Impact (JW) Disdrometer
- Optical (Parsivel) Disdrometer
- Soil Moisture
- Sfc Met & TB Precip Gauge
- Hot Plate Precip Gauge
- ETI Precip Gauge
- Snow Depth
- 3-D Wind Retrieval Domain

BBY Bodega Bay
BRG Burnt Ridge
CCL Chowchilla
CCO Chico
CCR Concord
CPK Cooke Peak
CZC Cazadero
DRN DRI Reno
FBG Fort Bragg
FFM Finch Farms
HBG Healdsburg
LCD Lacrosse Drive
LHM Lincoln
LHS Lost Hills
MCK Mills Creek
MHL MeachumLfl
MPI Mariposa
OMM Old Mammoth
PAA Point Arena
PLD Planada
PPB Point Piedras Blancas
ROD Rio Nido
SAC Sacramento
SHS Sloughhouse
SMT Slate Mountain
STA Shata
SVC Sibley Volcano
TRK Truckee
WCC Wild Creek

Operational & Long-Term Observing Systems

- NWS WSR-88D
- NWS Rawinsonde
- GPS-Met IWV
- WRCC Surface Network
- ALERT Precip. Gauge
- ALERT Snow Pillow
- RAWS Precip. Gauge
- SNOTEL Precip. Gauge and Snow Pillow

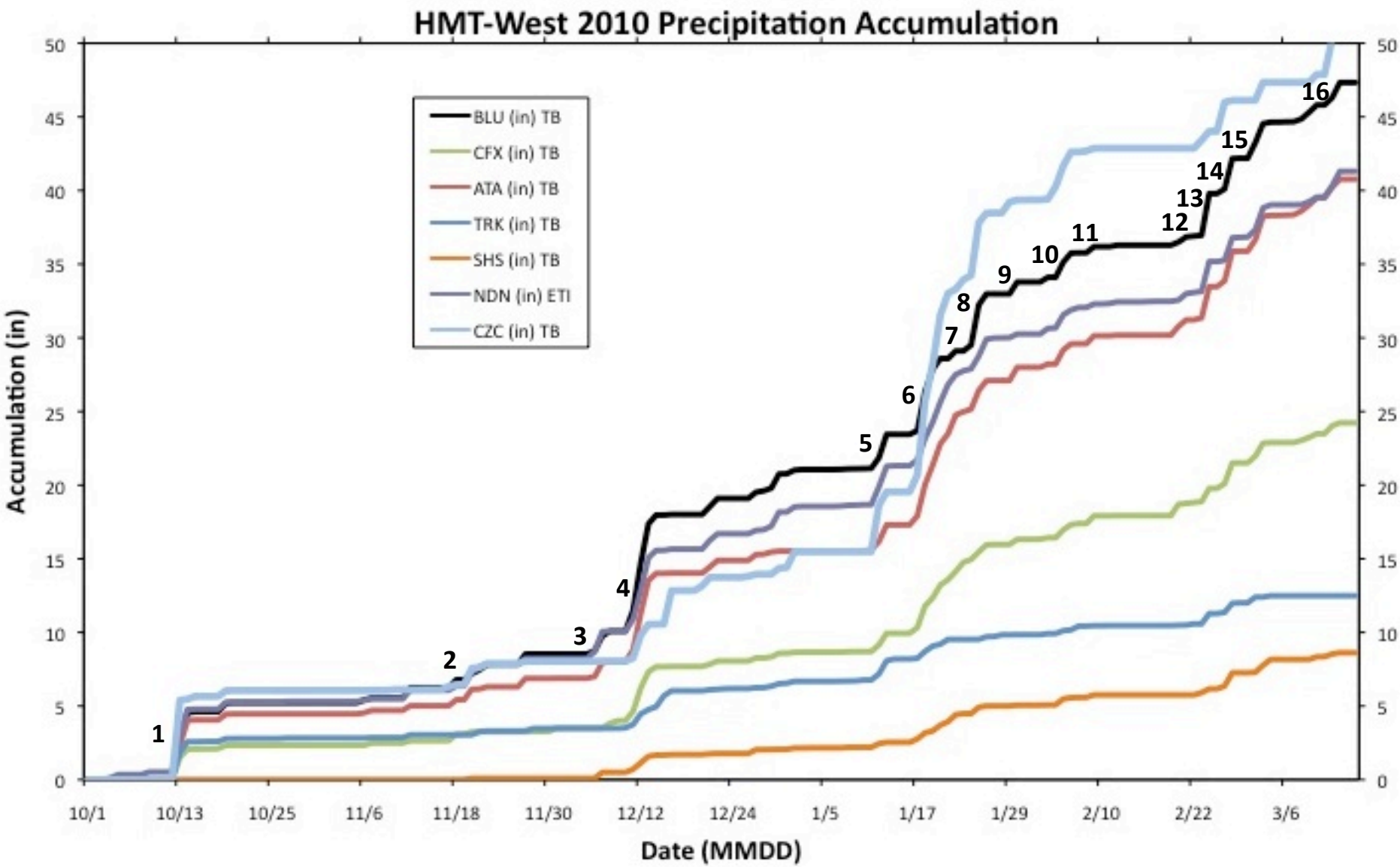
HMT-WEST 2010: Basin Scale Domain



Instrumentation Issues

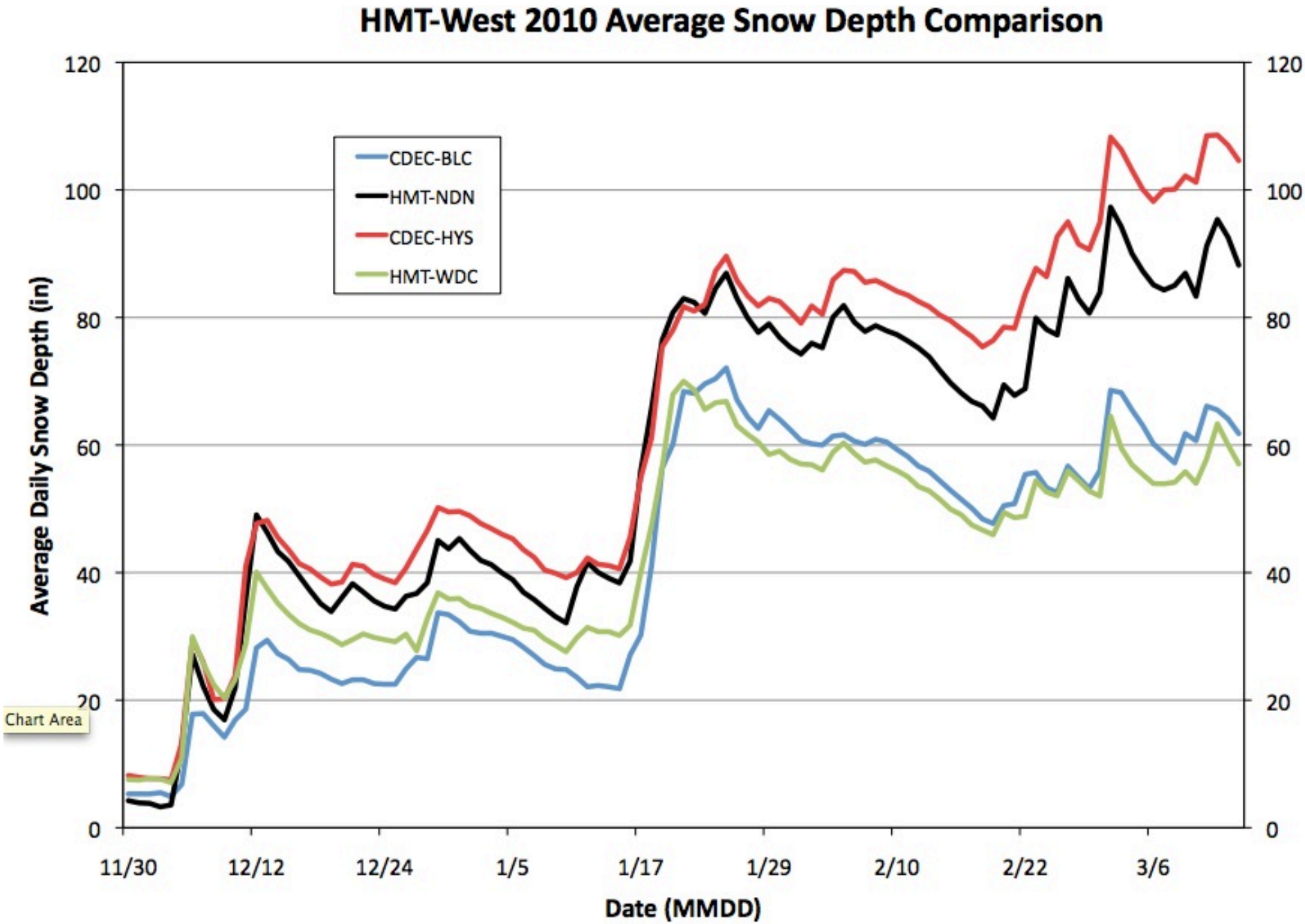
- Network performed well overall
- Talbot (TBT) tipping bucket stopped working and was removed in early February
- Big Bend (BBD) tipping bucket down from mid December-mid January due to heater problem
- Cazadero (CZC) and Bodega Bay (BBY) were both down in mid-late February due to phone/communication issues
- Truckee (TRK)
  Data logger battery problem in January
  Tipping bucket gauge replacement in March

16 Precipitation Events: 1 Oct 2009 – 15 Mar 2010



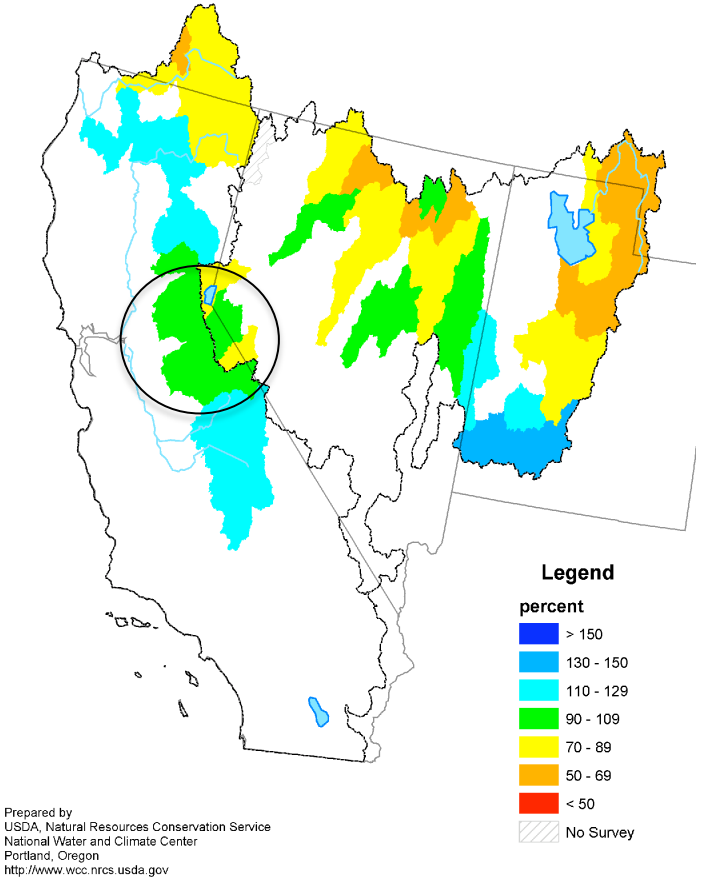
Three “big” events

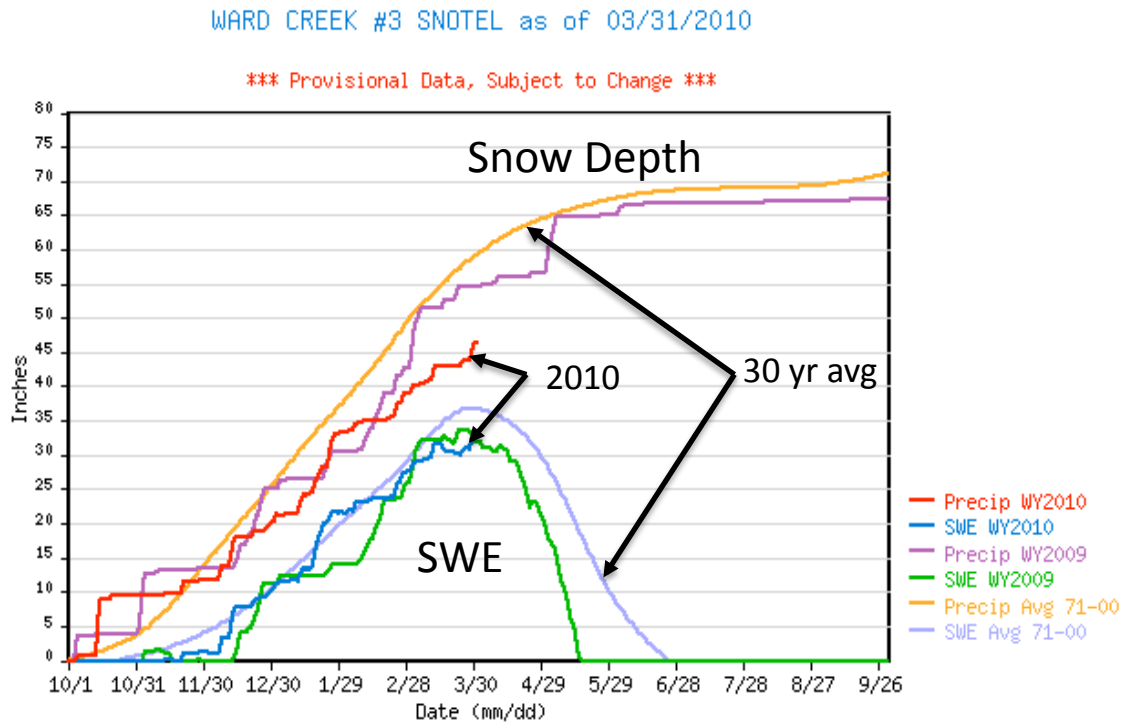
Start	End	Dur. (hrs)	SHS TB (in)	CFX TB (in)	ATA TB (in)	BLU TB (in)	NDN ETI (in)	TRK TB (in)
17 Jan 21Z	21 Jan 12Z	87	1.25	3.54	6.11	5.84	5.32	1.30
11 Dec 08Z	14 Dec 14Z	78	1.17	3.67	6.01	7.88	5.49	1.44
13 Oct 12Z	14 Oct 20Z	32	NA	2.05	4.02	4.51	4.25	2.56


HMT-West 2010 Average Snow Depth Comparison
CDEC-BLC
HMT-NDN
CDEC-HYS
HMT-WDC
Average Daily Snow Depth (in)
Date (MMDD)
0
20
40
60
80
100
120
11/30
12/12
12/24
1/5
1/17
1/29
2/10
2/22
3/6
Chart Area

Precipitation in the ARB was near normal

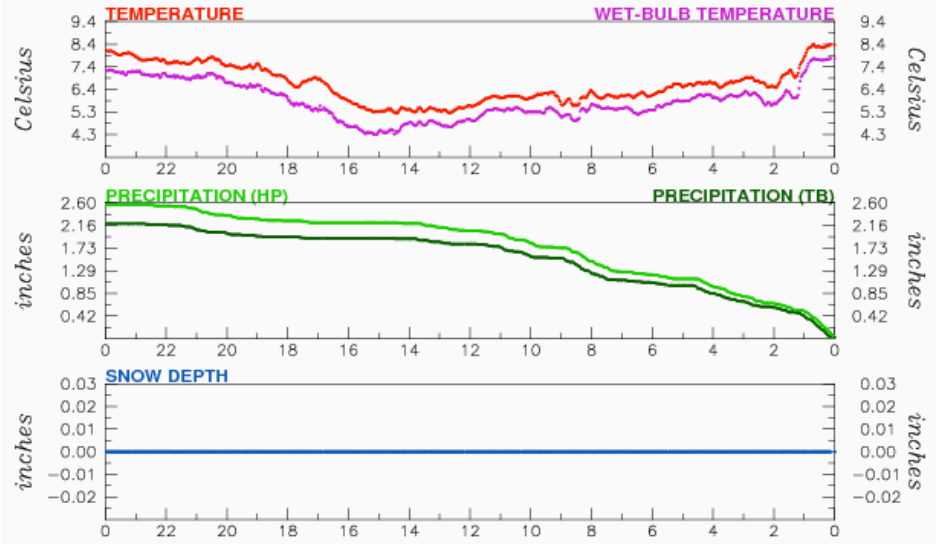
Mountain Snowpack in the Great Basin and Major Water Supply Basins in California as of March 1, 2010



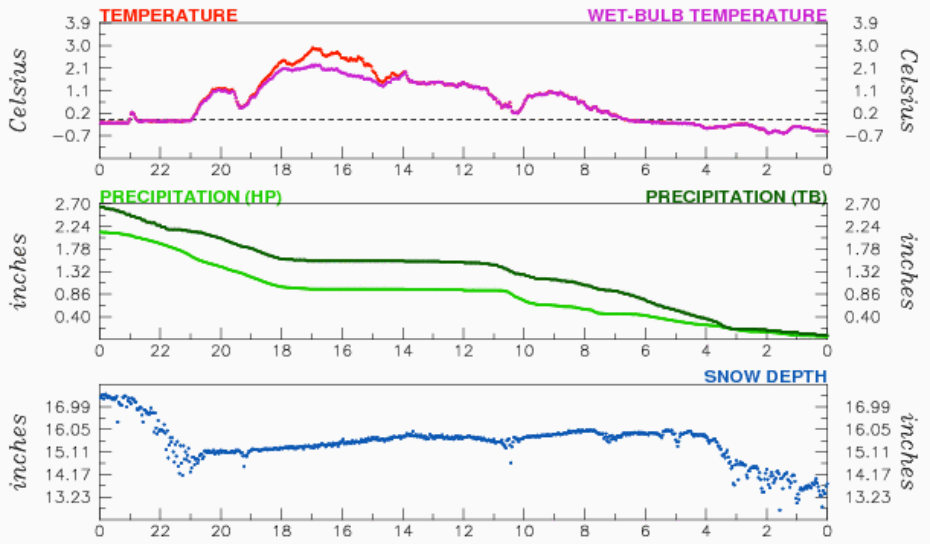


Images courtesy of NRCS

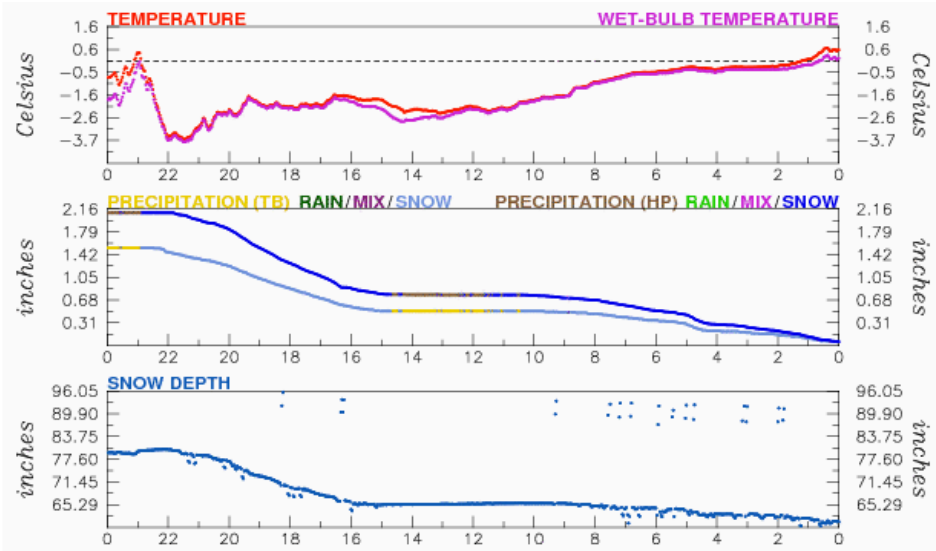
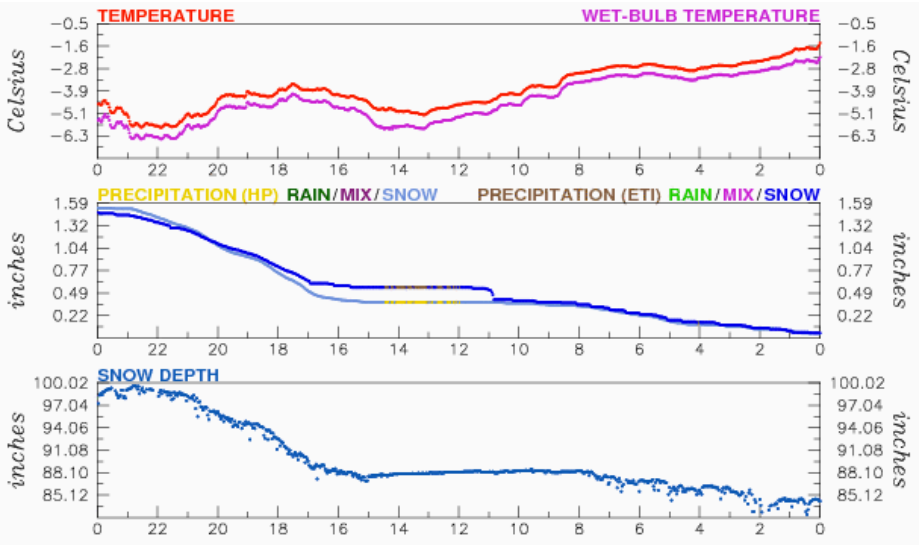
Big Bend (BBD) 14 October: Rain Event



Blue Canyon 18 January: Transition Event



Big Bend (BBD) 3 March: Snow Event



Norden (NDN) 3 March: Snow Event