

Adding New Capabilities to: Snow Data Portal

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Paso Robles Event Center
Paso Robles, CA



Snow Data Portal: deployed February 2019 Snow Measurement

<http://cdecapps.water.ca.gov/SnowData/>

The screenshot shows the 'Snow Course Data' entry form. At the top, there are tabs for 'Snow Course Entry' and 'Detail Snow Course Data'. Below the tabs, the form title is 'Snow Course Data'. A small instruction box contains three steps: 1. To enter Snow Course Data, select a Snow Course Number and Date. 2. Enter measured Snow Depth and Water Content. 3. Temperature, Time and Comments are optional. The form is for 'Kings River Water Association - SCENIC MEADOW -- SCE (397)'. It includes fields for 'Course Selection' (SCENIC MEADOW -- SCE (397)), 'Course Date' (09/2019), 'Observed Date', 'Snow Depth (in)', 'Water Content (in)', 'Air Temperature °F', 'Start Time (HH:MM)', and 'End Time (HH:MM)'. There is a large 'Comments' text area. Below the form, there are several sections of checkboxes for weather and snow conditions: 'Weather Conditions' (CLEAR, PARTLY CLOUDY, OVERCAST, RAIN, SNOW, BLOWING SNOW, FREEZING, THAWING, SLEET, HAIL, THUNDER/LIGHTNING, RIM), 'Snow Samples Obtained With' (EASE, MODERATE DIFFICULTY, GREAT DIFFICULTY), 'Snow Surface' (SUPPORTABLE, WET, RAIN RUNNELED, HOAR, GLASSY), 'Ground Under Snow' (FROZEN, DRY, DAMP, WET), 'Snow Is Melting On' (N and/or E SLOPES, S and/or W SLOPES, SNOW IS NOT MELTING), 'Evidence of Recent Avalanches' (YES, NO), and 'Water In Small Stream Is' (RUNNING, FROZEN, PARTIALLY FROZEN, CLEAR, MUDDY, BRIDGED SNOW). At the bottom, there are two buttons: 'Submit Snow Course Data' and 'Clear Course Conditions'.

Accounts set:
105+ users

Included:
field notes

Snow Data Portal: deployed February 2019 Snow Measurement

<http://cdec.water.ca.gov/reportapp/javareports?name=COURSES.201904>

Archived Report Products:

2019-04

Snow Course Measurements for April 2019

April measurements received as of Mon, April 08, 12:25 PM
Snow depth and water content are in inches. April 1 averages are based on measurements made during years 1966-2015. Courses are grouped by river basins, listed in north-south and high-low elevation order. Contact [Snow Surveys Staff](#) for more information.

Num	Name	Elev.	Date	Depth	Water Content	Density	April 1	Average
SHASTA RIVER BASIN								
1	PARKS CREEK	6,700	26-MAR	109.5	38.5	35%	35.1	110%
2	LITTLE SHASTA	6,200	26-MAR	58.0	22.0	38%	16.6	133%
3	SWEETWATER	5,850	26-MAR	68.5	24.0	35%	13.1	183%
Basin Average Pct. of Apr 1: 142%								
April 1: 142%								
SCOTT RIVER BASIN								
5	MIDDLE BOULDER 1	6,600	28-MAR	116.0	42.0	36%	31.5	133%
417	BOX CAMP	6,450	26-MAR	109.5	43.0	39%	35.2	122%
311	MIDDLE BOULDER 3	6,200	28-MAR	108.5	41.0	38%	27.4	150%
4	ETNA MOUNTAIN	5,900	29-MAR	80.0	29.0	36%	24.5	118%

Reports generated
more timely

Adding Capabilities

Welcome, John King

Menu

- Course Data
- Sensor Controls
- Logout

Snow Course Entry Detail Snow Course Data

Snow Course Data

1. To enter Snow Course Data, select a Snow Course Number and Date.
2. Enter measured Snow Depth and Water Content.
3. Temperature, Time and Comments are *optional.

CA Dept of Water Resources - RAMSHAW MEADOWS -- RMM (259)

Course Selection:	RAMSHAW MEADOWS -- RMM (259)	Course Date:	11/2019
Observed Date:		Snow Depth (in):	
Water Content (in):		Air Temperature °F:	
Start Time (HH:MI):		End Time (HH:MI):	
Latitude:		Longitude:	

Comments:

Weather Conditions: CLEAR PARTLY CLOUDY OVERCAST RAIN SNOW BLOWING SNOW FREEZING THAWING SLEET HAIL THUNDER/LIGHTNING RIME FOG

Snow Samples Obtained With: EASE MODERATE DIFFICULTY GREAT DIFFICULTY

Snow Surface: SUPPORTABLE WET RAIN RUNNELED HOAR GLASSY

Ground Under Snow: FROZEN DRY DAMP WET

Snow Is Melting On: N and/or E SLOPES S and/or W SLOPES SNOW IS NOT MELTING

Evidence of Recent Avalanches: YES NO

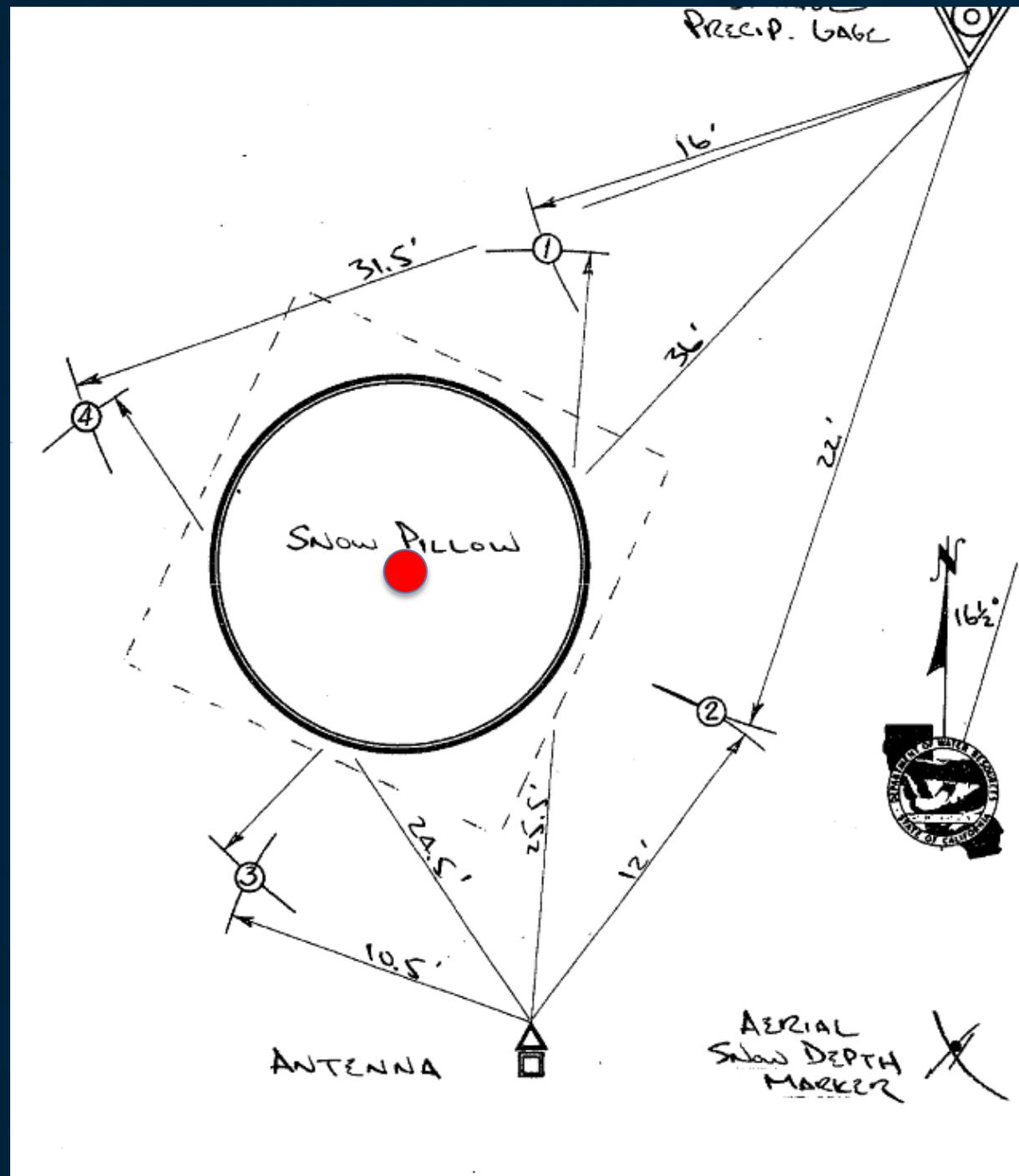
Water In Small Stream Is: RUNNING FROZEN PARTIALLY FROZEN CLEAR MUDDY BRIDGED SNOW

Upload Photos & Scanned Notes

Why Improve Lat/Longitude Data?

- **Most Lat/Longitude on CDEC are outdated.**
- **Improving Lat/Longitude data would provide for:**
 - **Better Modeling**
 - **Ease of Forest Permitting**
 - **Ease of locating site for Measurement/Maintenance**
- **ASO and ARS data could be verified and validated with the snow course and sensor data.**

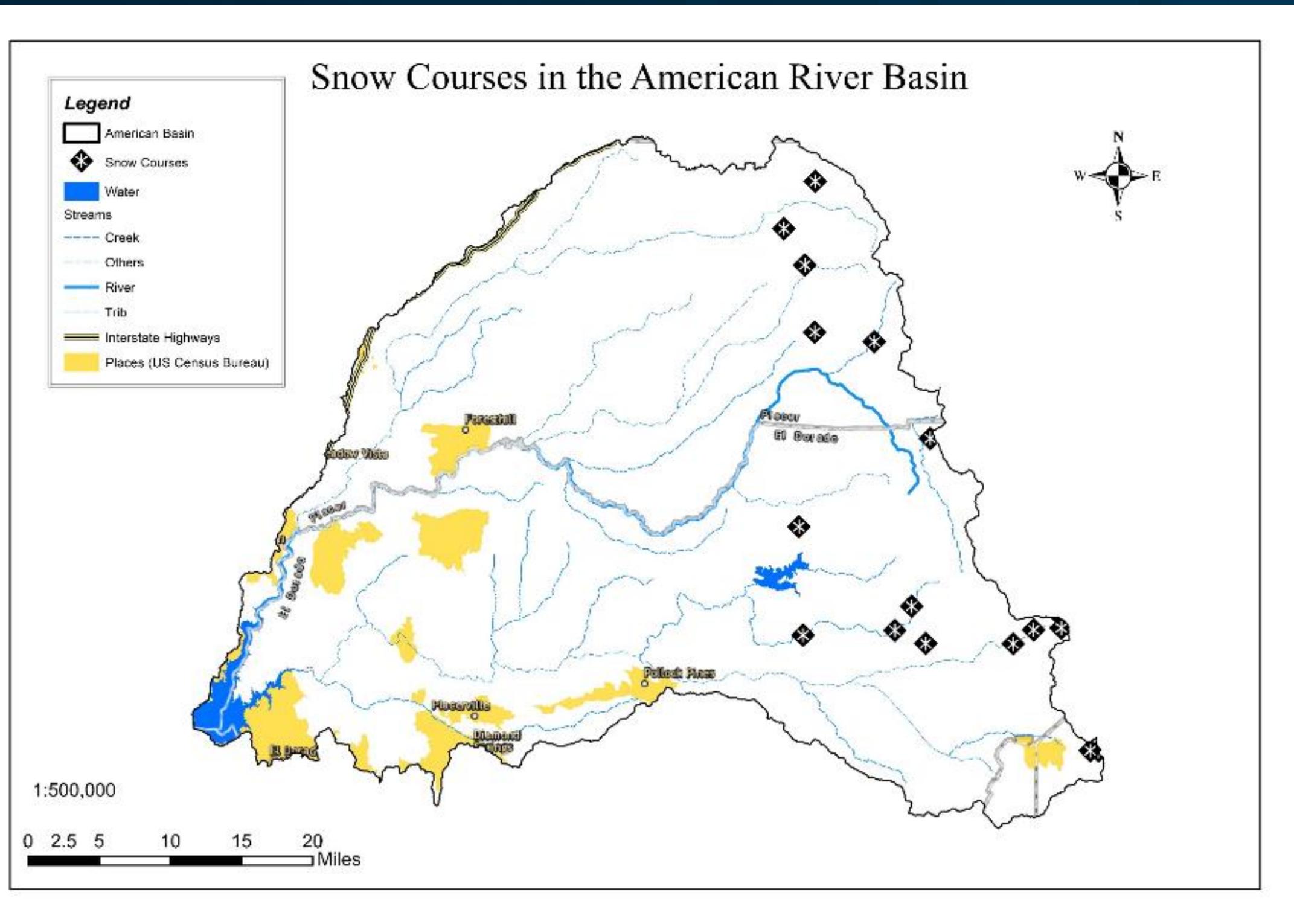
Record Lat/Longitude at Sensors



Take Measurements with
GPS Device

- LAT/LONG NAD 83
(use GRS83 if unavailable)
- Decimal Degrees
- 6 Significant Digits

Watershed Coordinator to verify Lat/Longitude Data



Record SWE and HS for Point Data

Welcome, John King



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- SC Point Data**

Snow Course Entry | Detail Snow Course Data

Snow Course Data

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Kings River Water Association - SCENIC MEADOW -- SCE (397)

Course Selection: SCENIC MEADOW -- SCE (397) Course Date: 09/2019

Observed Date: Snow Depth (in):

Water Content (in): Air Temperature °F:

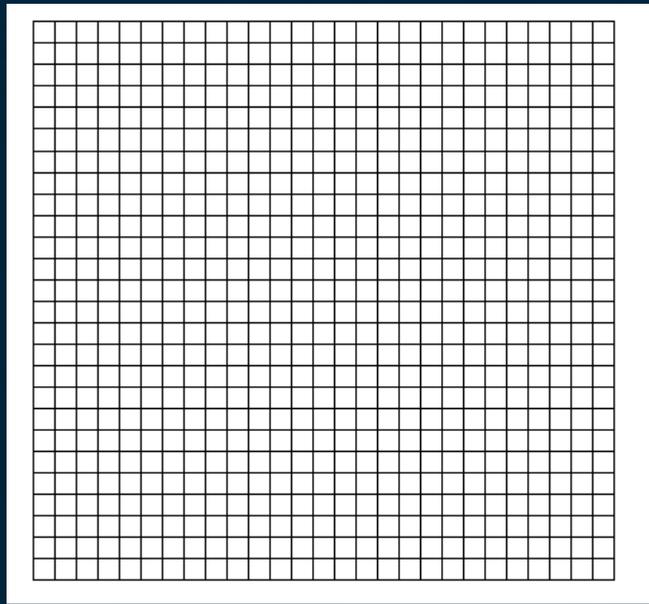
Start Time (HH:MI): End Time (HH:MI):

Comments:

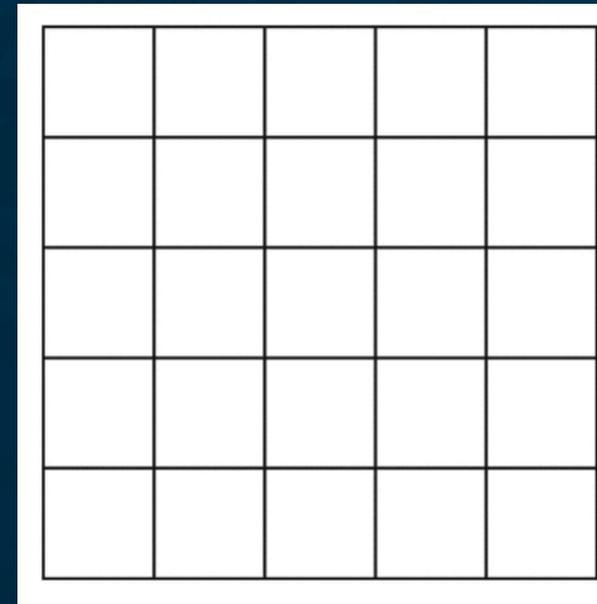
	Latitude (dec. deg.)	Longitude (dec. deg.)	Water Content (in)	Snow Depth (in)
Point 1			37.5	89
Point 2			34.5	87
Point 3			32.5	82
Point 4			33	81
Point 5			34	84
.			37	86
.			34.5	84
.				

More Verification is possible when this Point Data (Lat/Longitude, SWE, HS) is collected

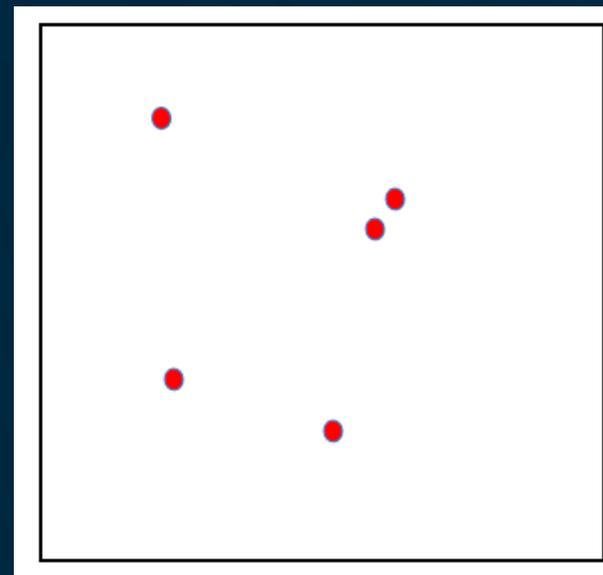
ASO Data



ARS Data



Snow Course & Sensor Point Data



King's Watershed Test Basin

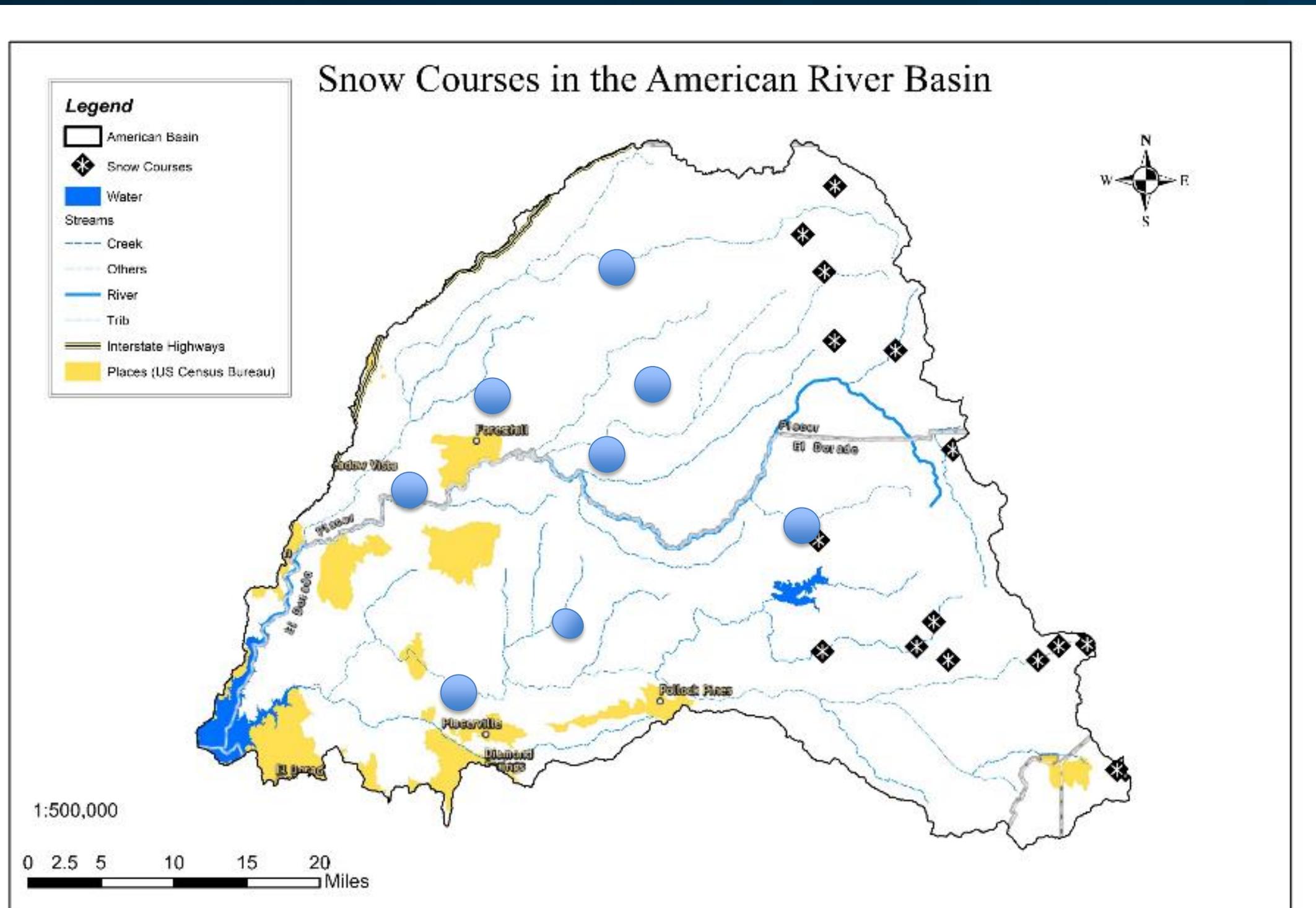


Plan for WY2020

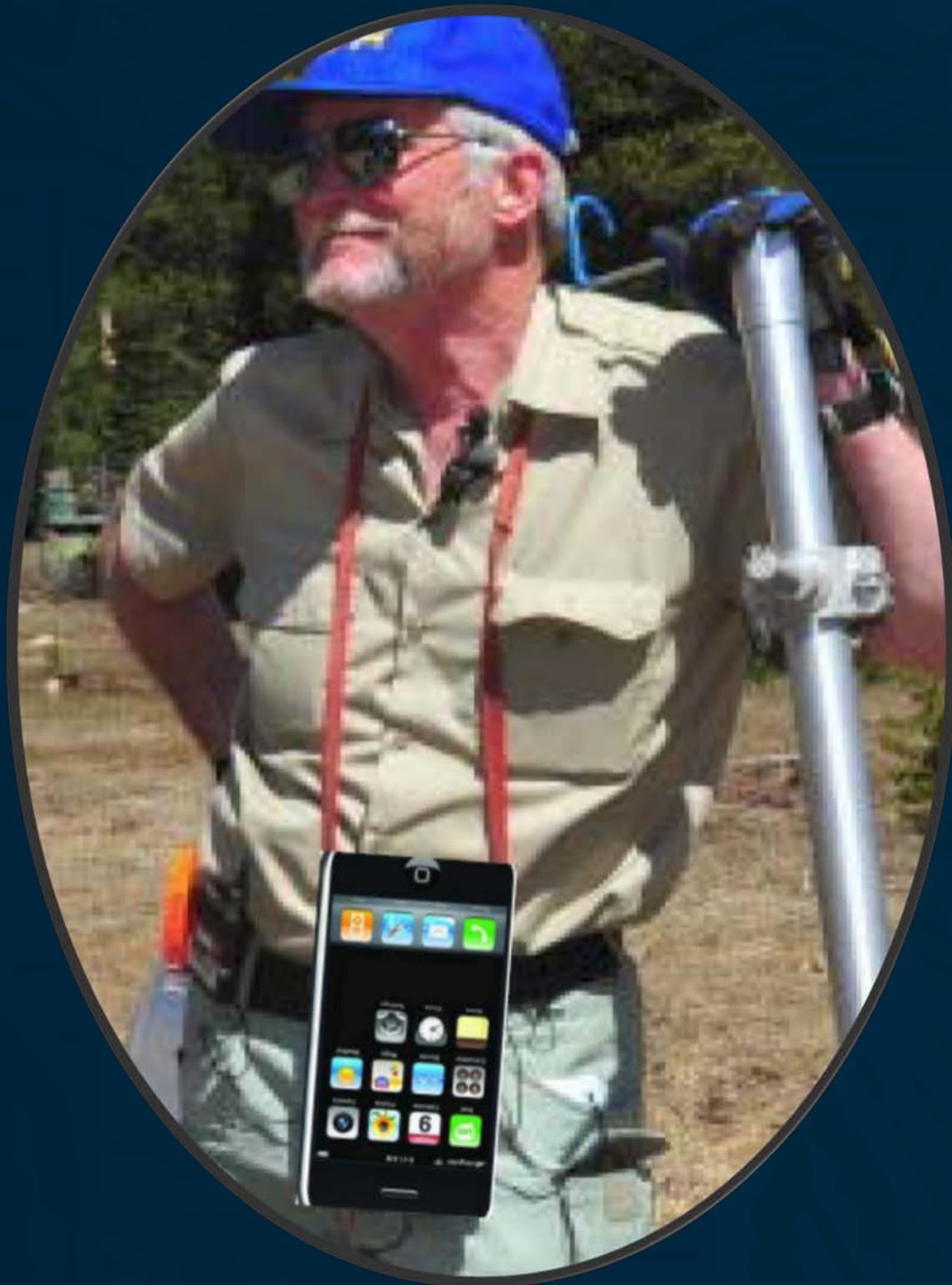
Point Data (SWE, HS) will be collected at the snow courses.

Snow Course Measurements Reports will continue same

Need more snow samples for verification



Do we need an App for the Data?



An application could provide:

Quicker Access to data

Efficient data collection

Questions?