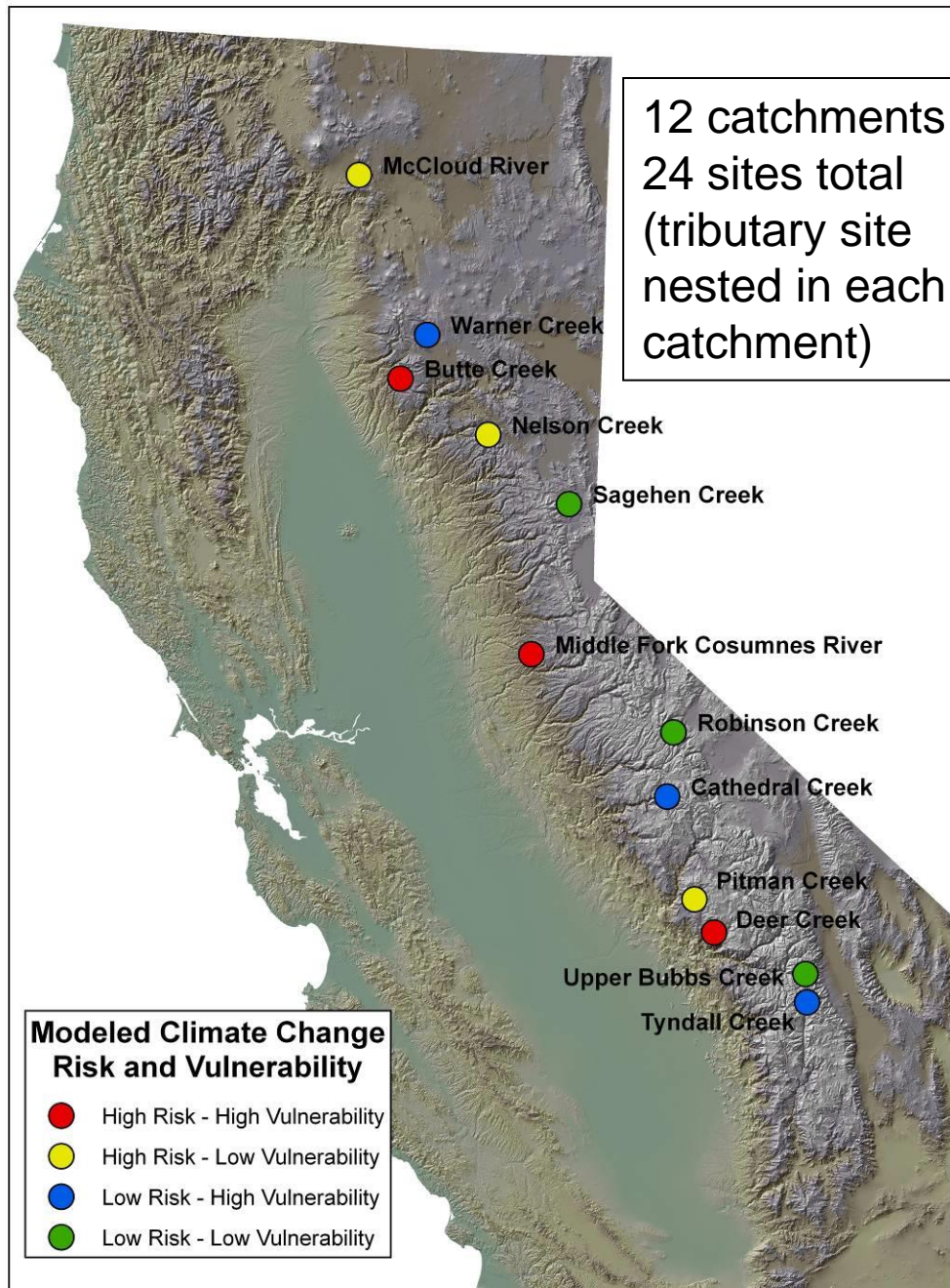


► Designed as a **natural experiment** testing hypotheses of risk & resistance



Sentinel Monitoring Network for Sierra Nevada

Selections based on summed Climate-Risk factors from VIC:

- Reduction in April 1 SWE
- Change in total spring run-off
- Change in total spring base-flow

upper quartile of change = high risk
lower quartile of change = low risk

Natural Resistance:

upper / lower quartiles for

North-facing = low vulnerability

South-facing = high vulnerability

Plus, resistance conferred by deep groundwater-recharge potential from basalt / andesite geology area (Tague et al 2008)

17 in 7 National Forests

7 sites in 3 National Parks

SENTINEL STREAMS – NAMES AND LOCATIONS

Sentinel Stream Climate Change Monitoring Network for the Sierra Nevada							
				Climate Risk &		Catchment	Elevation
	Stream Name	Latitude	Longitude	Natural Vulnerability	Land Management Jurisdiction	Area km ²	meters
catchment	Deer Creek	37.00682	-119.06392	High-High	Sierra National Forest	35.6	2059
tributary	Snow Corral Creek	37.02074	-119.07776	High-High	Sierra National Forest	3.1	2113
catchment	Pitman Creek	37.19488	-119.20907	High-Low	Sierra National Forest	58.4	2168
tributary	South Fork Tamarack	37.14944	-119.19309	High-Low	Sierra National Forest	2.1	2279
catchment	Echo Creek Cathedral Fork	37.77925	-119.42219	Low-High	Yosemite National Park	20.9	2557
tributary	Upper Echo Crk Cathedral Fk	37.81262	-119.40898	Low-High	Yosemite National Park	4.5	2843
catchment	Upper Bubbs Creek	36.73387	-118.37608	Low-Low	Sequoia-Kings Cyn National Park	22.1	3189
tributary	Forester Creek	36.71307	-118.37037	Low-Low	Sequoia-Kings Cyn National Park	2.3	3431
catchment	Tyndall Creek	36.62743	-118.39237	Low-High	Sequoia-Kings Cyn National Park	26.6	3224
tributary	Upper Tyndall Creek	36.66950	-118.37885	Low-High	Sequoia-Kings Cyn National Park	5.6	3558
catchment	Robinson Creek	38.14641	-119.38846	Low-Low	Toiyabe National Forest	34.5	2183
tributary	Crown Creek	38.10845	-119.44875	Low-Low	Toiyabe National Forest	2.4	2943
catchment	McCloud River	41.25541	-121.88030	High-Low	Shasta National Forest	100.0	1159
tributary	East Fork Moosehead Creek	41.19292	-121.79250	High-Low	Shasta National Forest	1.7	1323
catchment	Butte Creek	40.10814	-121.48823	High-High	Lassen National Forest	77.6	1488
tributary	Willow Creek	40.11911	-121.47345	High-High	Lassen National Forest	6.6	1533
catchment	Sagehen Creek	39.43328	-120.25995	Low-Low	Tahoe National Forest	37.3	1865
tributary	Upper Sagehen Creek	39.43273	-120.20270	Low-Low	Tahoe National Forest	17.3	1974
catchment	Warner Creek	40.36430	-121.30668	Low-High	Lassen National Forest	112.1	1521
tributary	Grassy Swale Creek	40.46963	-121.39899	Low-High	Lassen Volcanic National Park	10.9	1888
catchment	Nelson Creek	39.81098	-120.81943	High-Low	Plumas National Forest	54.9	1347
tributary	East Fork Nelson Creek	39.76710	-120.75372	High-Low	Plumas National Forest	4.6	1856
catchment	Middle Fork Cosumnes River	38.56689	-120.43782	High-High	El Dorado National Forest	110.9	1187
tributary	Cat Creek	38.59942	-120.31039	High-High	El Dorado National Forest	6.7	1668