



Figure 3. Looking Upstream at Reach 1 from Lower End



Figure 4. Looking Downstream at Reach 2 from Upper End



Figure 5. Looking Upstream at Reach 2 from Lower End



Figure 6. Caltrans Concrete Channel (Permanent Grade Control) at Lower End of Reach 2

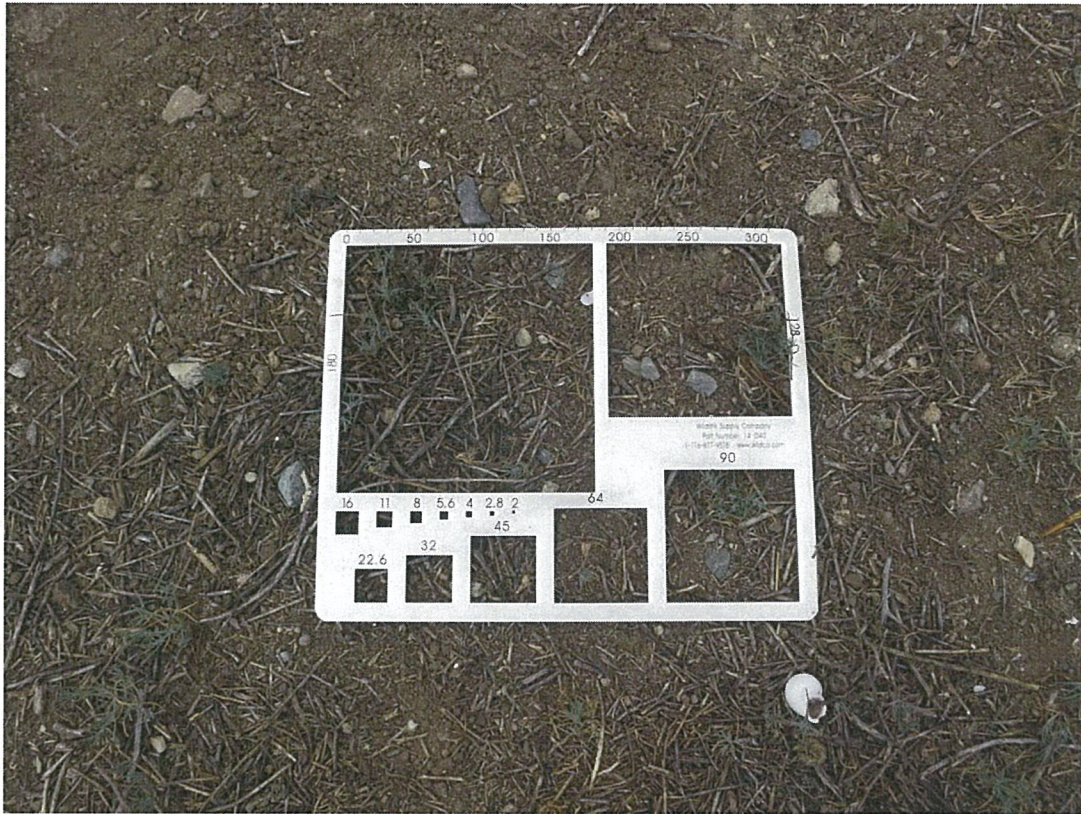


Figure 7. Gravelometer in Reach 1

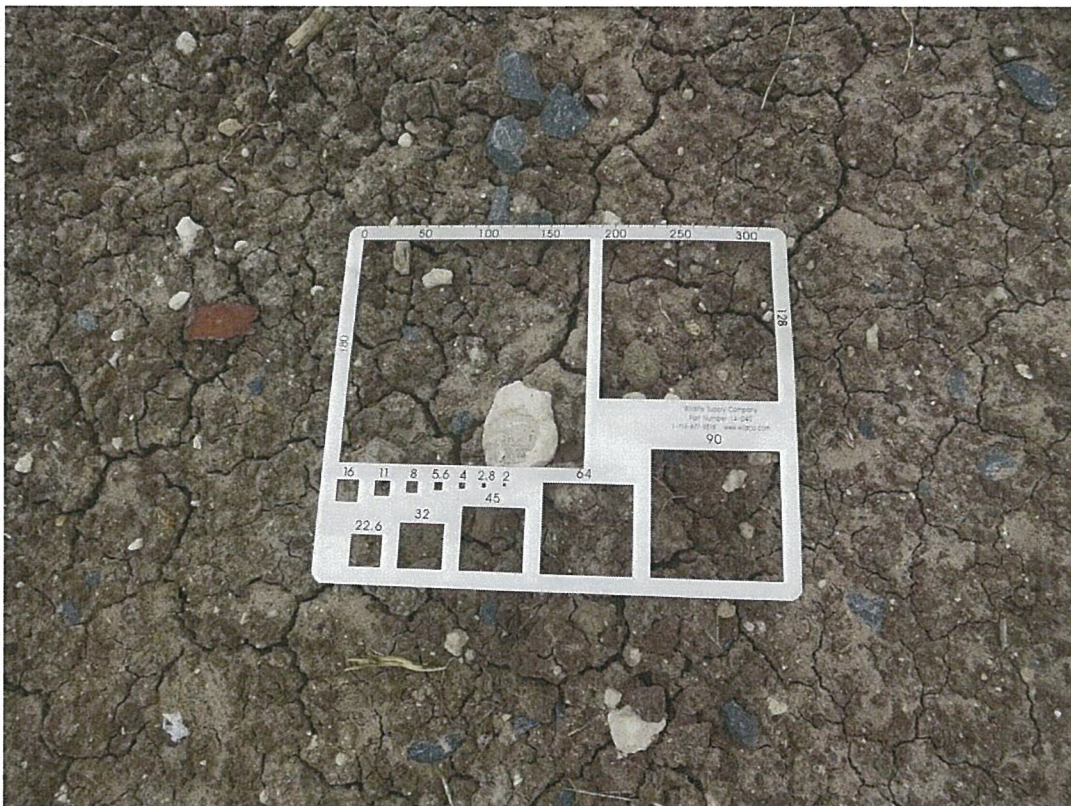


Figure 8. Gravelometer in Reach 2



Figure 9. Looking Downstream at Reach 1 (POC 2) from 2011 Study



Figure 10. Looking Downstream at Reach 2 from 2011 Study



Figure 11. Caltrans Drainage Ditch below POC 3



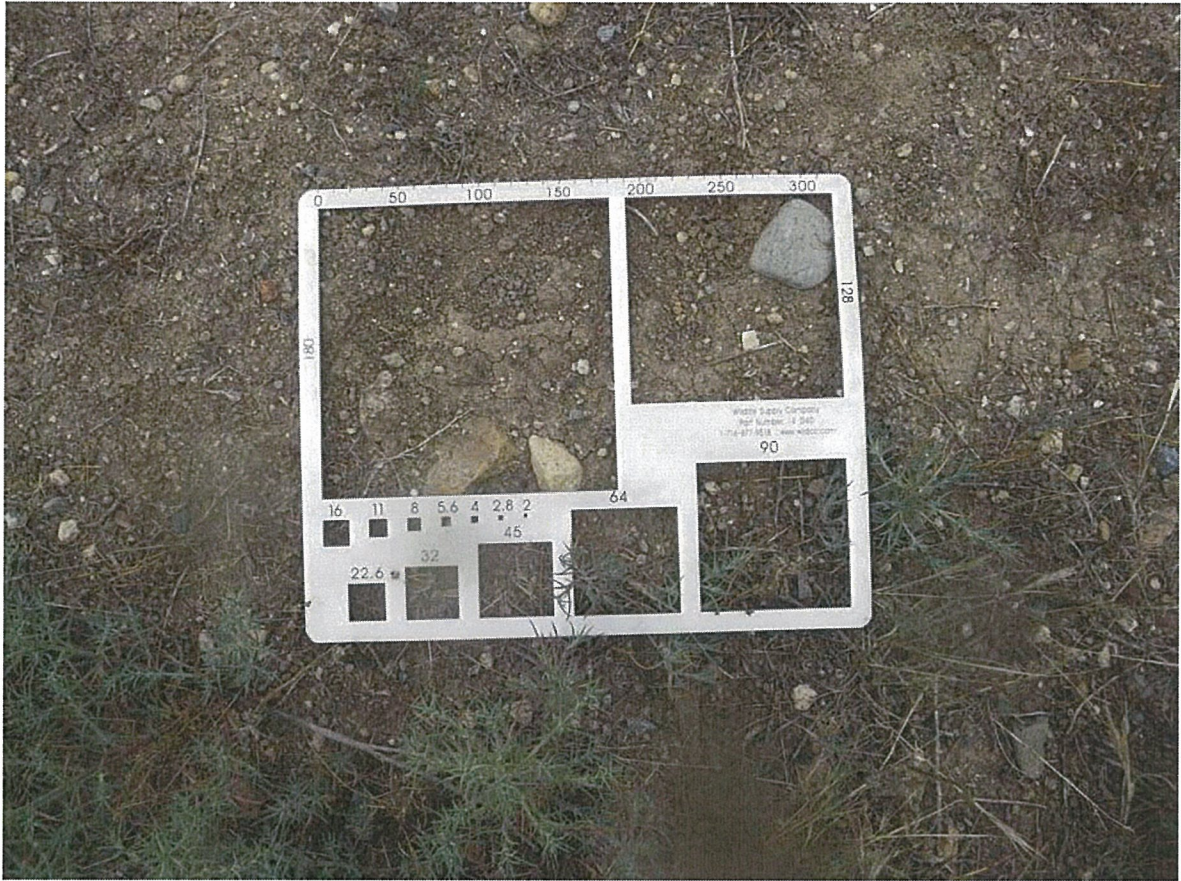


Figure 13. Gravelometer along Reach 3 and 4

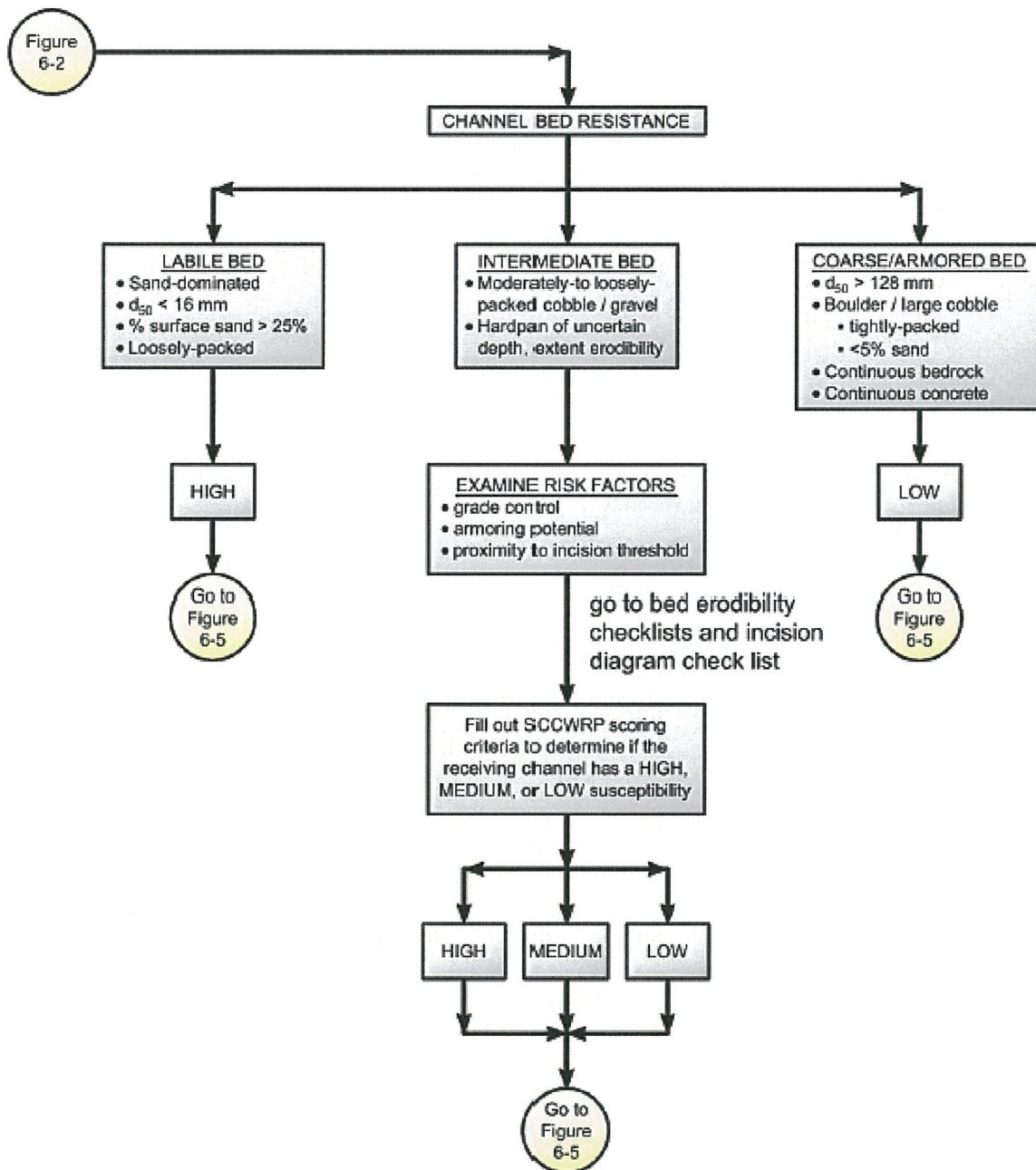


Figure 6-4. SCCWRP Vertical Susceptibility

Figure 14. SCCWRP Vertical Channel Susceptibility Matrix

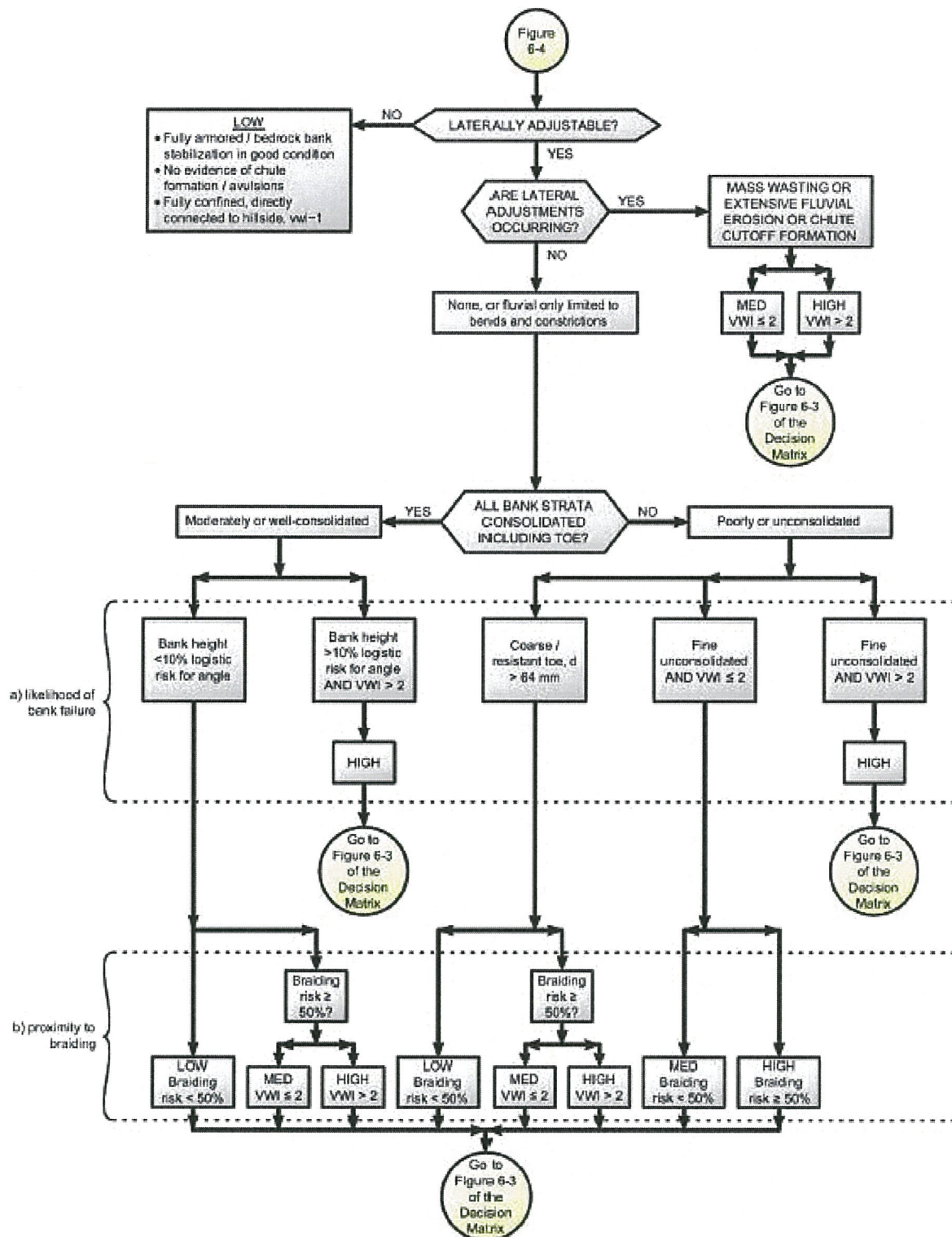


Figure 6-5. Lateral Channel Susceptibility

Figure 15. SCCWRP Lateral Channel Susceptibility Matrix

APPENDIX A

SCCWRP INITIAL DESKTOP ANALYSIS

FORM 1: INITIAL DESKTOP ANALYSIS

Complete all shaded sections.

IF required at multiple locations, circle one of the following site types:

Applicant Site / Upstream Extent / Downstream Extent

Location: Latitude: 32.5693 Longitude: -116.9475

Description (river name, crossing streets, etc.): NE of intersection of Otay Mesa Road and State Route 125 (South Bay Expressway)

GIS Parameters: The International System of Units (SI) is used throughout the assessment as the field standard and for consistency with the broader scientific community. However, as the singular exception, US Customary units are used for contributing drainage area (A) and mean annual precipitation (P) to apply regional flow equations after the USGS. See SCCWRP Technical Report 607 for example measurements and "[Screening Tool Data Entry.xls](#)" for automated calculations.

Form 1 Table 1. Initial desktop analysis in GIS.

Symbol	Variable	Description and Source	Value
Watershed properties (English units)	A Area (mi ²)	Contributing drainage area to screening location via published Hydrologic Unit Codes (HUCs) and/or ≤ 30 m National Elevation Data (NED), USGS seamless server	See attached Form 1 table on next page for calculated values for each reach.
	P Mean annual precipitation (in)	Area-weighted annual precipitation via USGS delineated polygons using records from 1900 to 1960 (which was more significant in hydrologic models than polygons delineated from shorter record lengths)	
Site properties (SI units)	S_v Valley slope (m/m)	Valley slope at site via NED, measured over a relatively homogenous valley segment as dictated by hillslope configuration, tributary confluences, etc., over a distance of up to ~500 m or 10% of the main-channel length from site to drainage divide	
	W_v Valley width (m)	Valley bottom width at site between natural valley walls as dictated by clear breaks in hillslope on NED raster, irrespective of potential armoring from floodplain encroachment, levees, etc. (imprecise measurements have negligible effect on rating in wide valleys where VWI is $\gg 2$, as defined in lateral decision tree)	

Form 1 Table 2. Simplified peak flow, screening index, and valley width index. Values for this table should be calculated in the sequence shown in this table, using values from Form 1 Table 1.

Symbol	Dependent Variable	Equation	Required Units	Value
Q_{10cfs}	10-yr peak flow (ft ³ /s)	$Q_{10cfs} = 18.2 * A^{0.87} * P^{0.77}$	A (mi ²) P (in)	See attached Form 1 table on next page for calculated values for each reach.
Q₁₀	10-yr peak flow (m ³ /s)	$Q_{10} = 0.0283 * Q_{10cfs}$	Q _{10cfs} (ft ³ /s)	
INDEX	10-yr screening index (m ^{1.5} /s ^{0.5})	$INDEX = S_v * Q_{10}^{0.5}$	S _v (m/m) Q ₁₀ (m ³ /s)	
W_{ref}	Reference width (m)	$W_{ref} = 6.99 * Q_{10}^{0.438}$	Q ₁₀ (m ³ /s)	
VWI	Valley width index (m/m)	$VWI = W_v / W_{ref}$	W _v (m) W _{ref} (m)	

(Sheet 1 of 1)

SCCW RP FORM 1 ANALYSES

Reach	Area A, sq. mi.	Mean Annual Precip. P, inches	Valley Slope Sv, m/m	Valley Width Wv, m	10-Year Flow Q10cfs, cfs	10-Year Flow Q10, cms
1	0.2758	9.75	0.0081	13.1	34	0.97
2	0.2898	9.75	0.0090	10.4	36	1.01
3	0.2728	9.75	0.0126	1.5	34	0.96
4	0.2728	9.75	0.0118	1.5	34	0.96

Reach	10-Year Screening Index INDEX	Reference Width Wref, m	Valley Width Index VWI, m/m
1	0.0080	6.90	1.90
2	0.0091	6.92	1.50
3	0.0123	6.76	0.23
4	0.0116	6.76	0.23

CHULA VISTA, CALIFORNIA (041758)

Period of Record Monthly Climate Summary

Period of Record : 9/ 1/1918 to 12/31/2010

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	64.1	64.5	64.7	65.9	67.2	68.9	72.5	74.1	74.0	71.7	69.0	65.1	68.5
Average Min. Temperature (F)	43.7	45.7	48.3	51.6	56.0	59.1	63.0	64.2	61.6	55.8	48.5	44.6	53.5
Average Total Precipitation (in.)	1.78	1.92	1.61	0.82	0.21	0.05	0.02	0.06	0.17	0.51	0.95	1.64	9.75
Average Total SnowFall (in.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Average Snow Depth (in.)	0	0	0	0	0	0	0	0	0	0	0	0	0

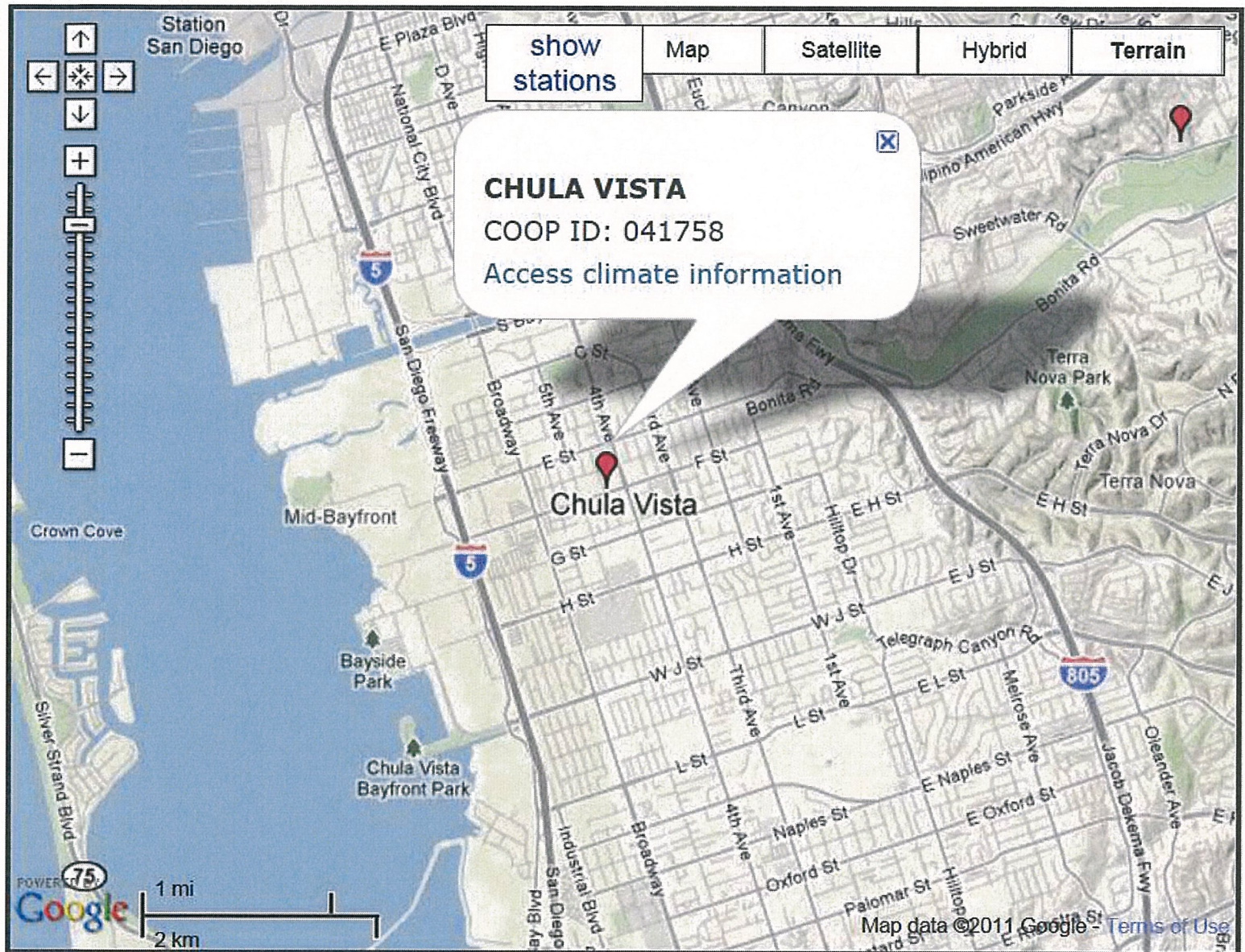
Percent of possible observations for period of record.

Max. Temp.: 93.2% Min. Temp.: 93.1% Precipitation: 98.7% Snowfall: 98.8% Snow
Depth: 98.6%

Check [Station Metadata](#) or [Metadata graphics](#) for more detail about data completeness.

Western Regional Climate Center, wrcc@dri.edu

Western US COOP Station Map



APPENDIX B

SCCWRP FIELD SCREENING DATA