



State Water Resources Control Board

Prepared for

GHYK UYf FYci fWg7 cbfc`6 cUfX`

Division of Water Rights
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Sacramento, CA 95814

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TMDL and Nonpoint Source Unit
320 W. 4th Street, #200
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; FCI B8 K5 H9 F!GI F: 5 7 9 'K 5 H9 F'5 B8 'B+HFC; 9 B'HF5 BGDCFH'
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Prepared by

Geosyntec 
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924 Anacapa Street, Suite 4a
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Project Number: LA0421



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Daniel B. Stephens & Associates, Inc.

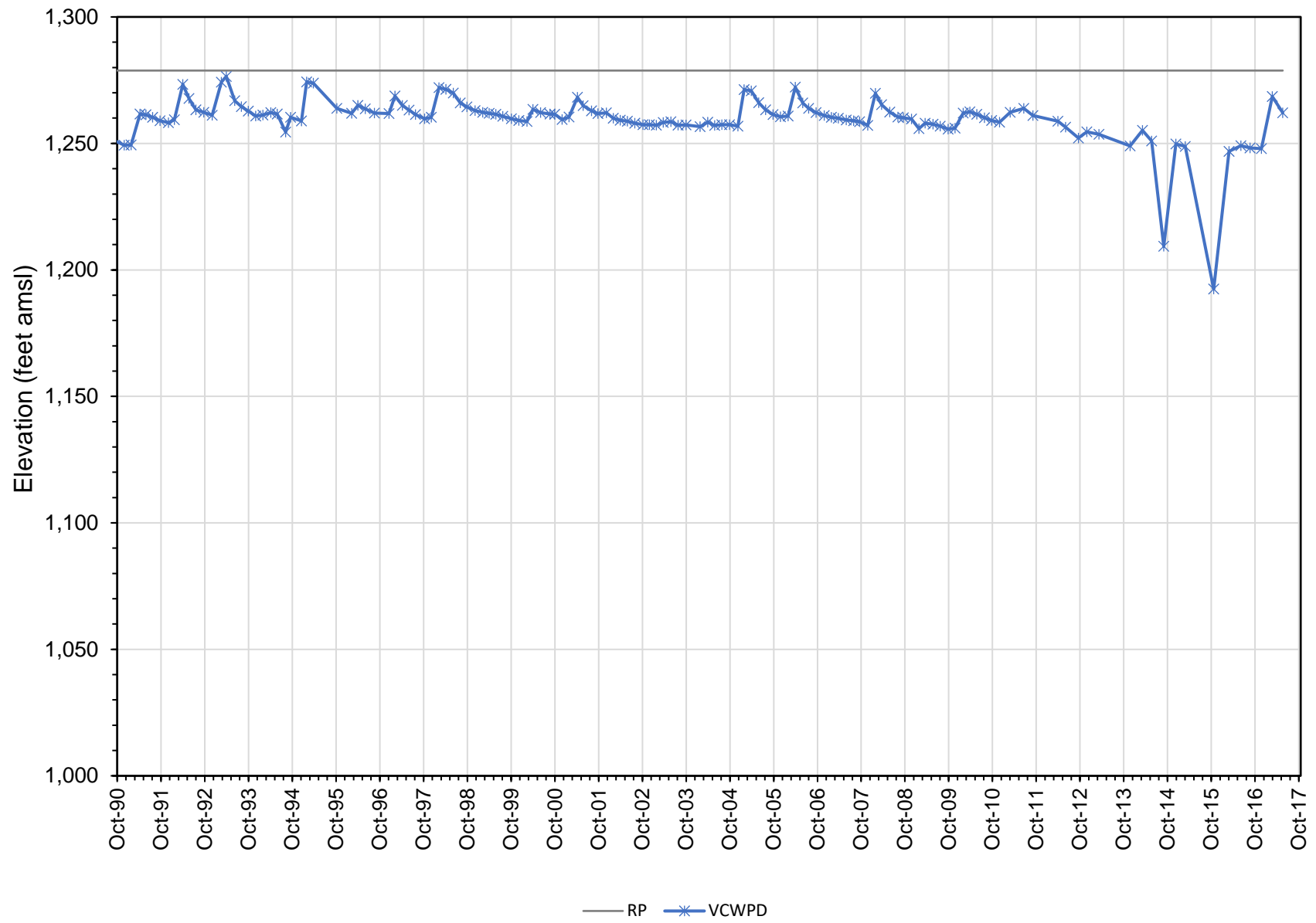
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July 2020

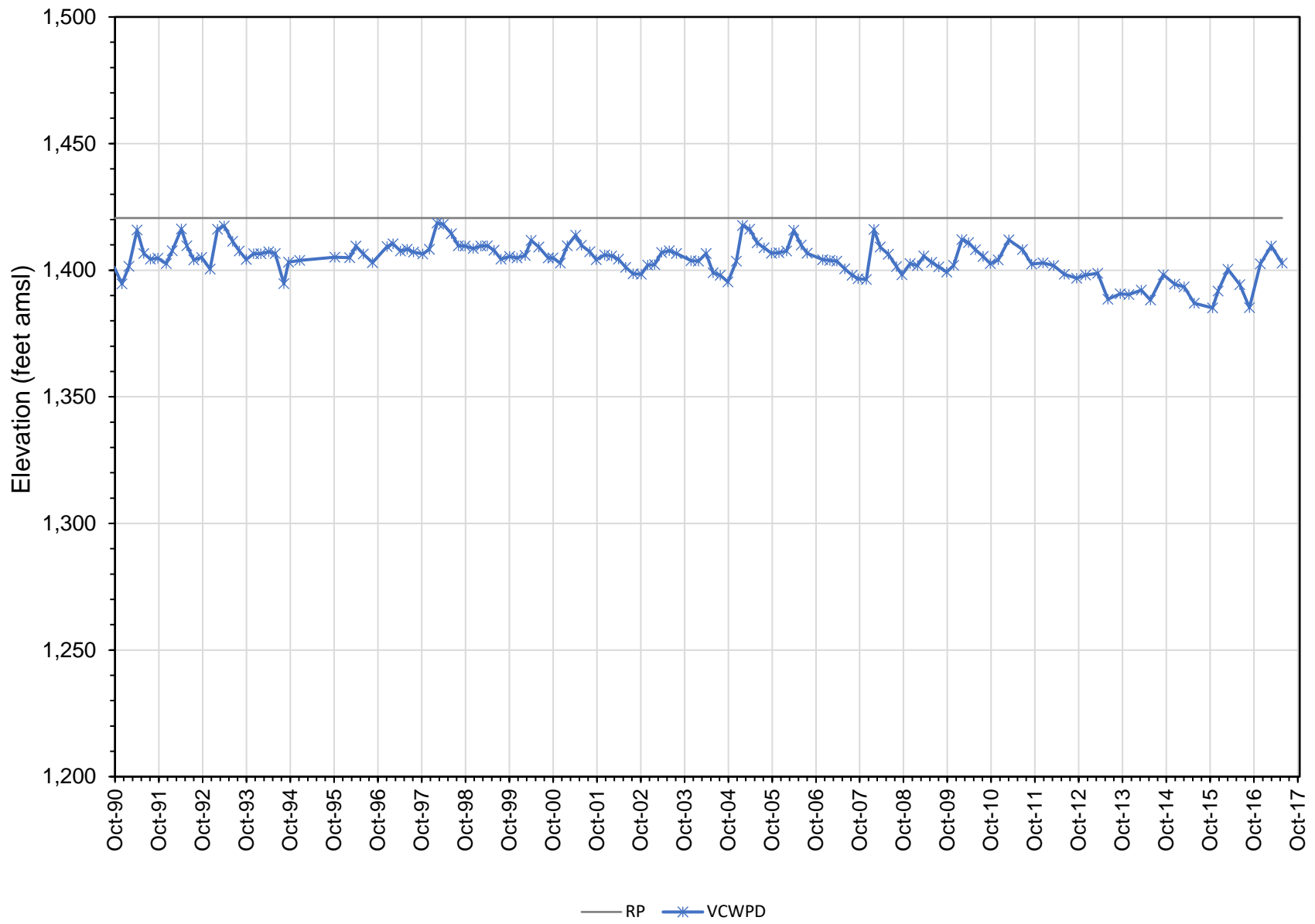
APPENDIX B GROUNDWATER HYDROGRAPHS

Appendix B presents groundwater hydrographs showing available groundwater elevation data collected at wells in the Ventura River Watershed. Each hydrograph plots groundwater elevation at a well, in feet above mean sea level, from October 1990 to October 2017. Some hydrographs do not have a complete groundwater level dataset for the period of record. The locations of the wells are described in Figure 2.7. Available well construction data are reported in Appendix A. The groundwater level data are from the State Water Resources Control Board's GeoTracker database, the Ojai Basin Groundwater Management Agency, the Upper Ventura River Groundwater Agency, and the Ventura County Watershed Protection District. If you need accessibility assistance with the information presented in this appendix, please contact the State Water Board at instreamflows@waterboards.ca.gov.

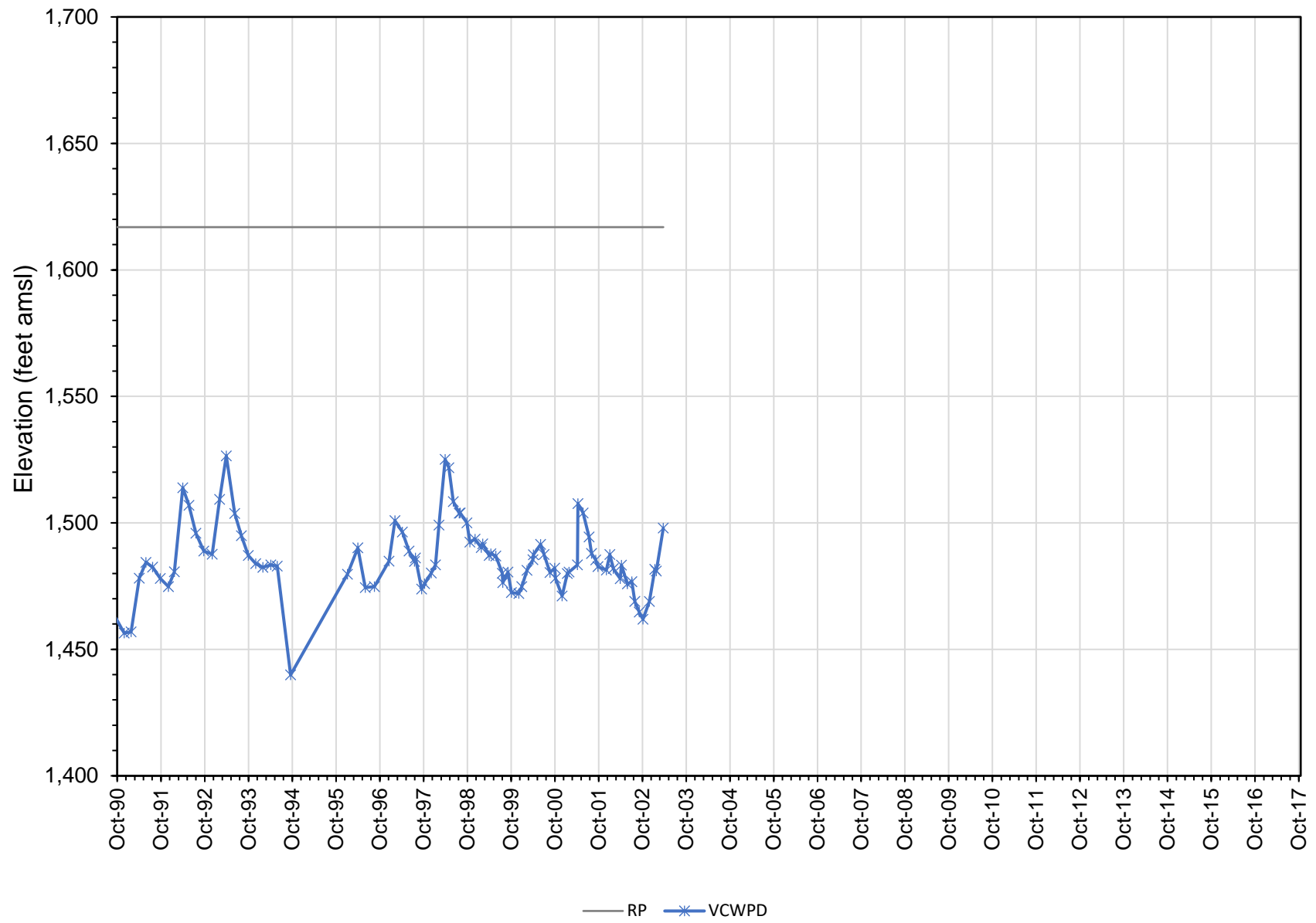
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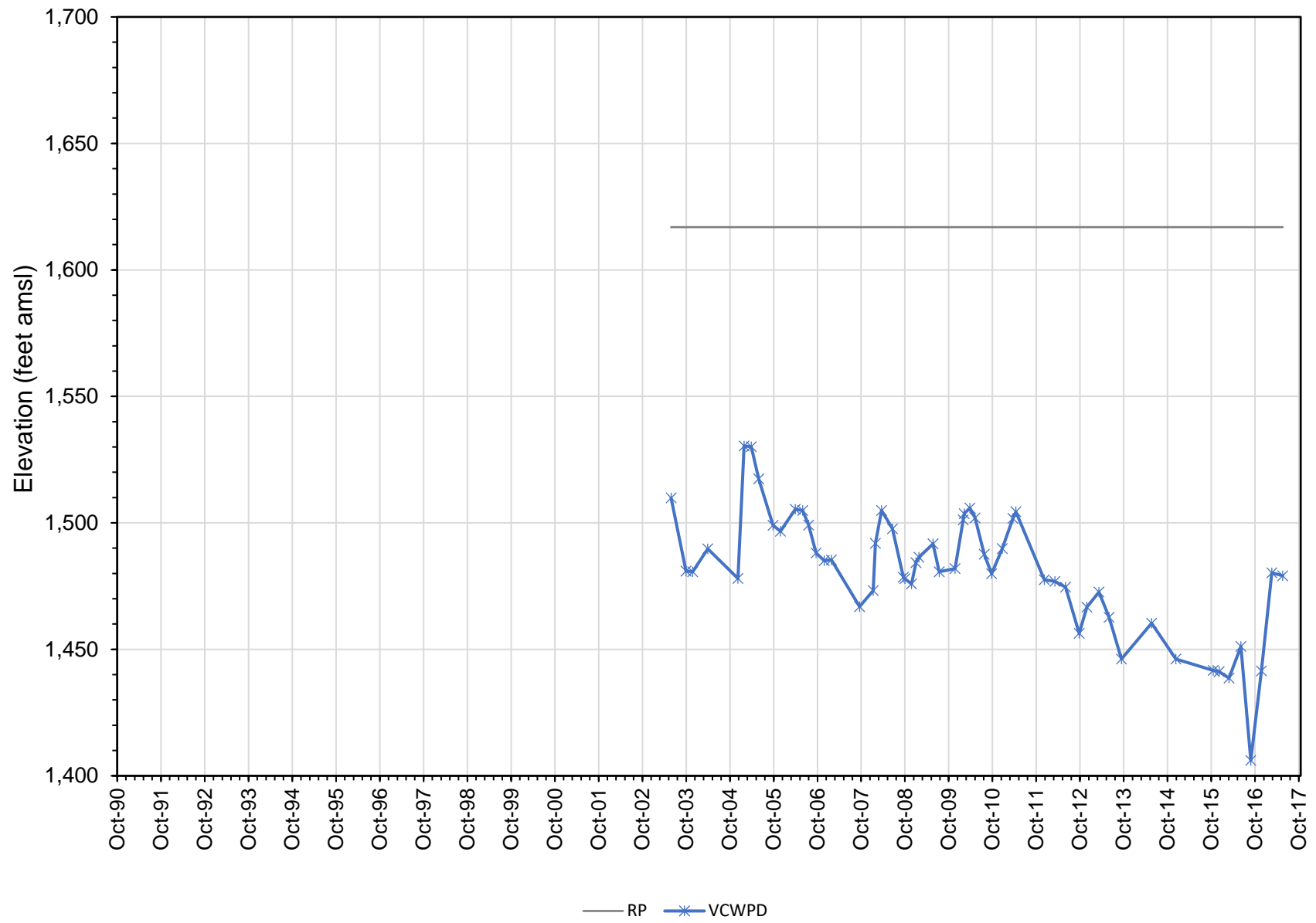
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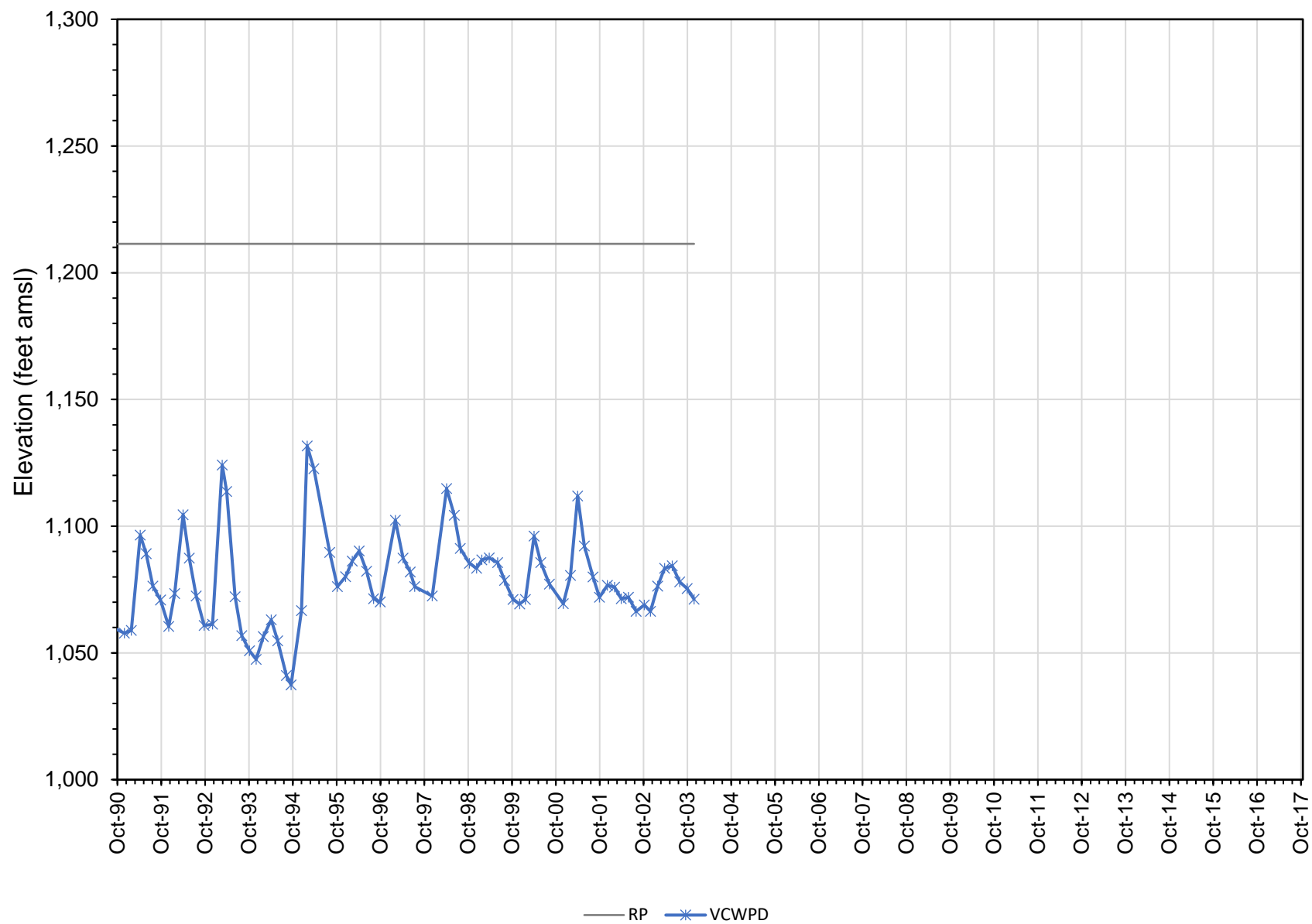
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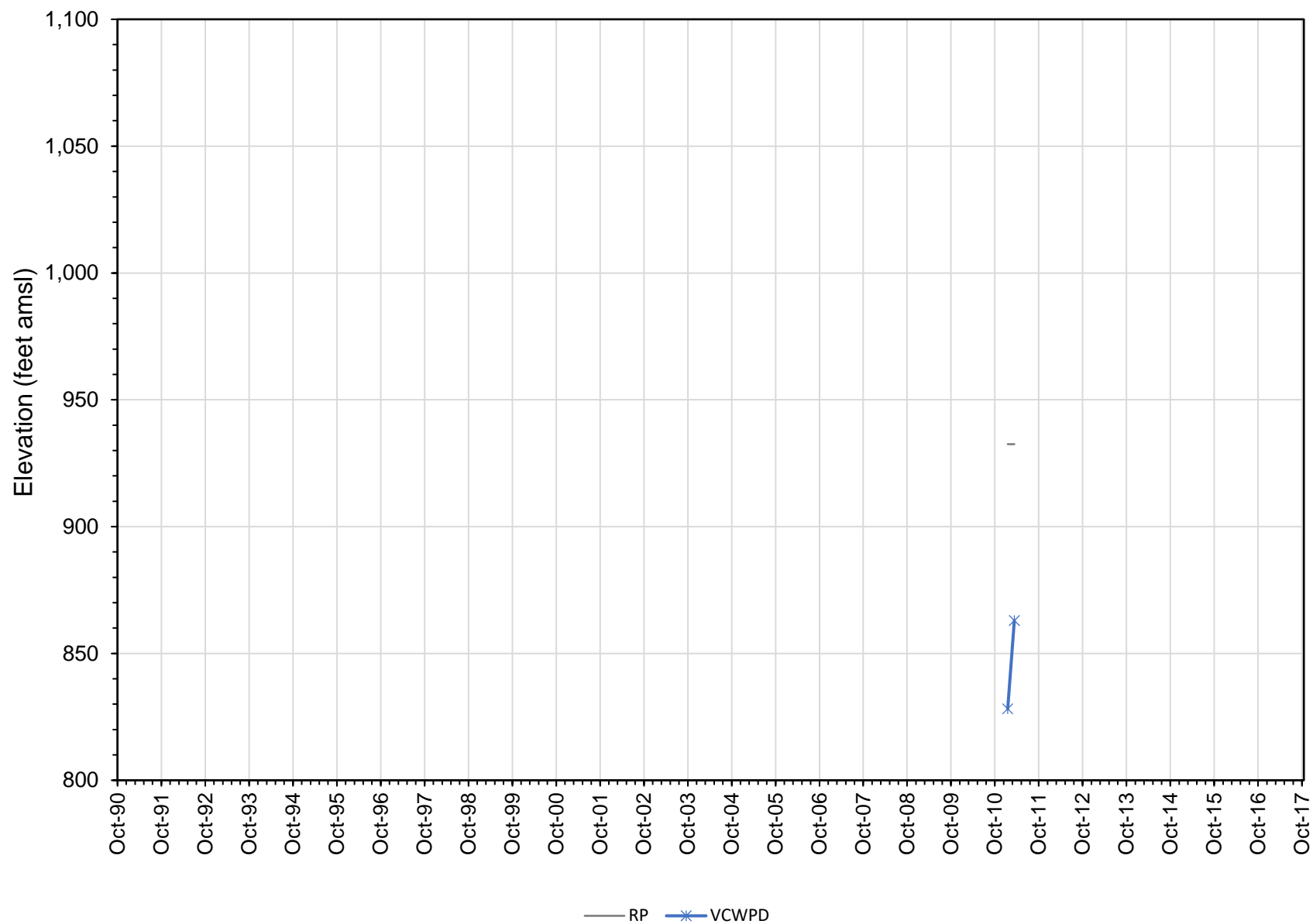
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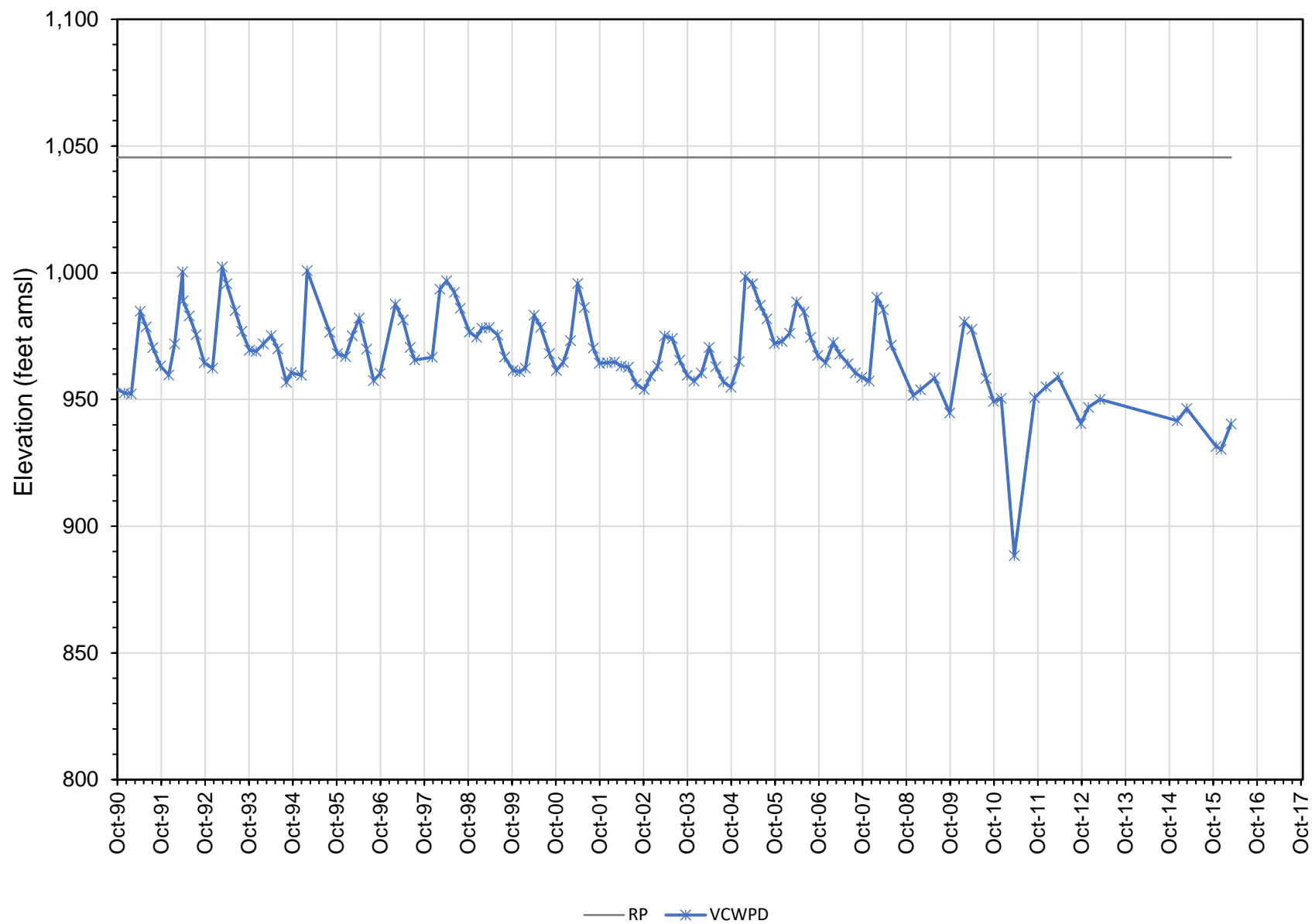
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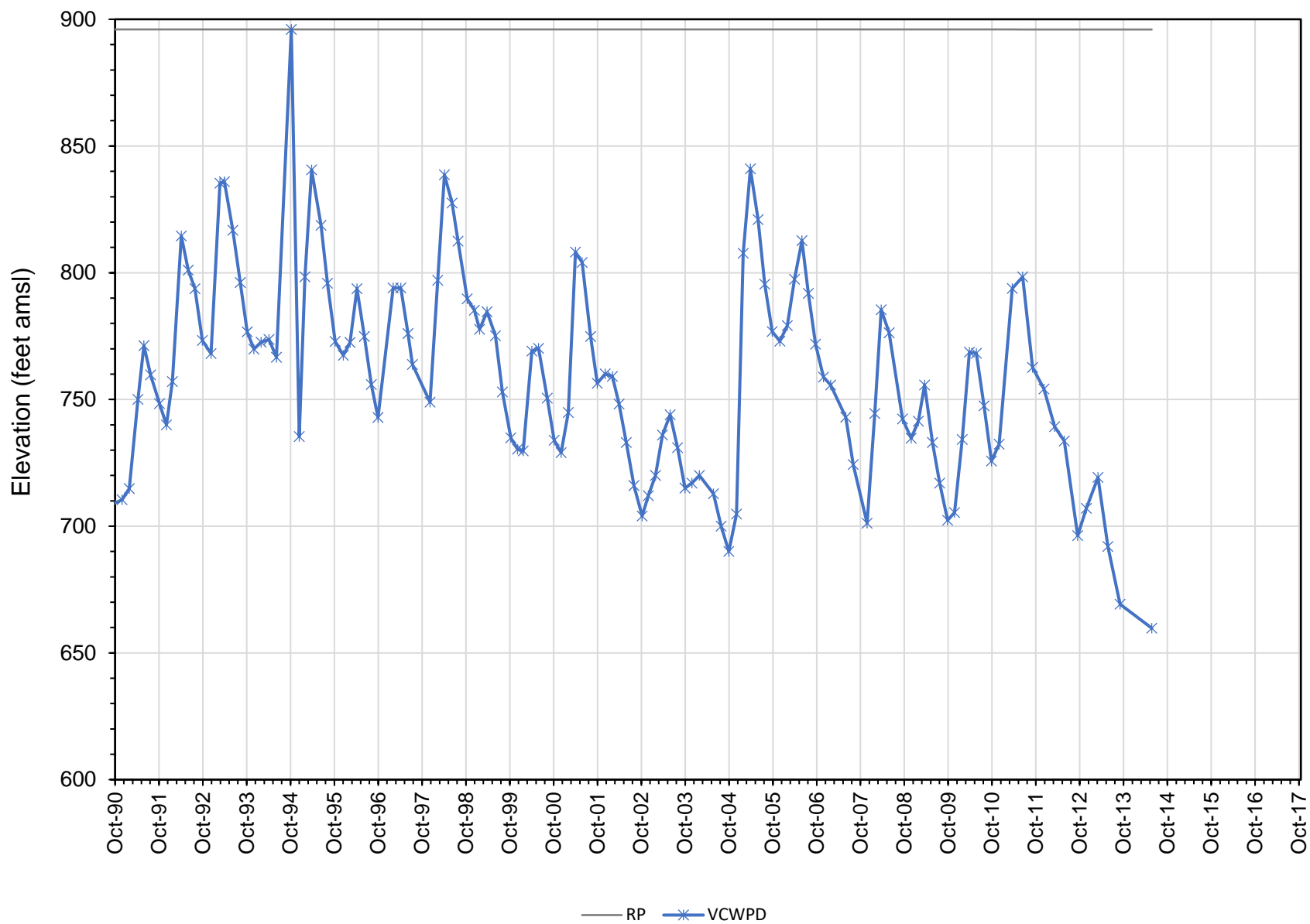
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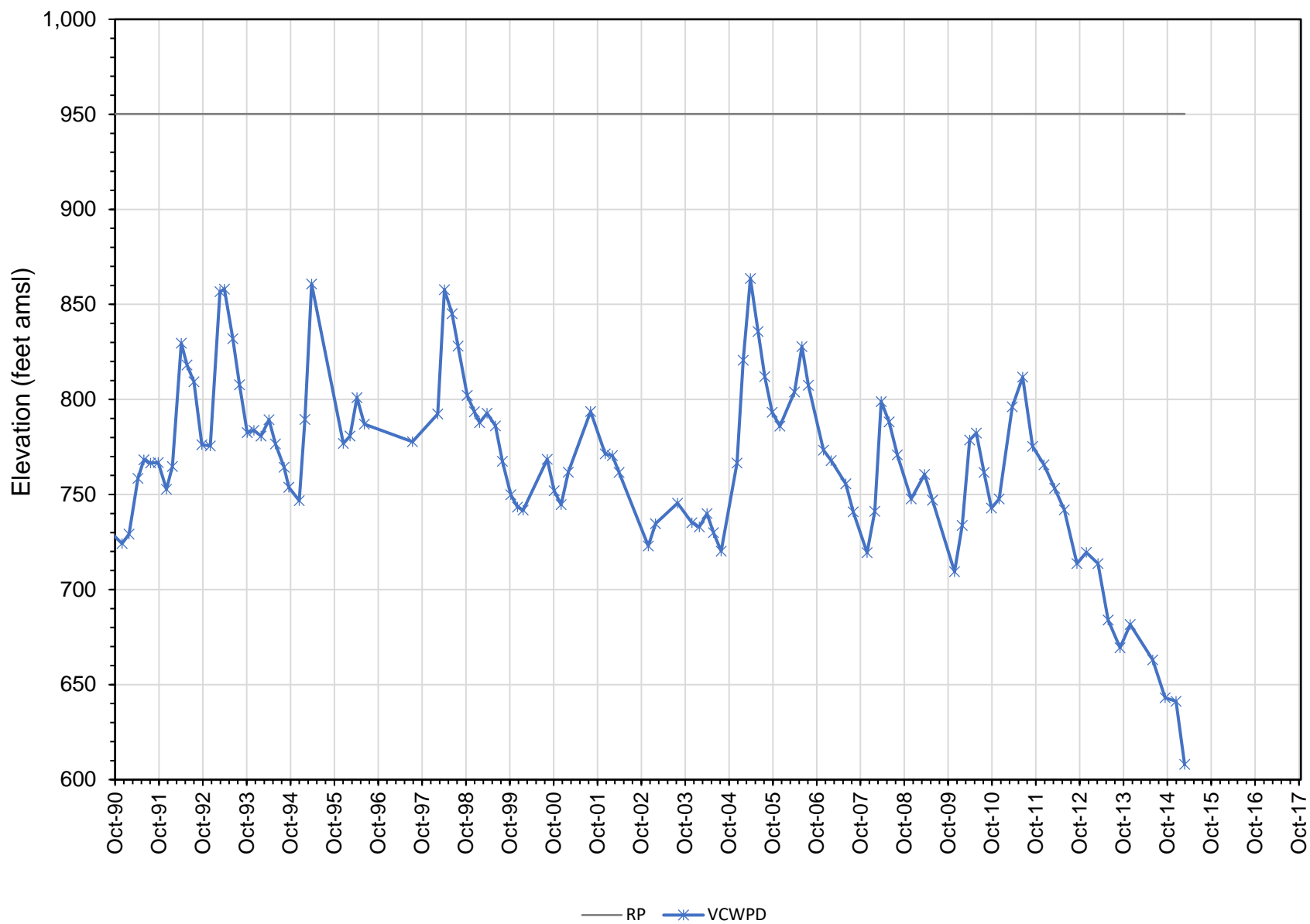
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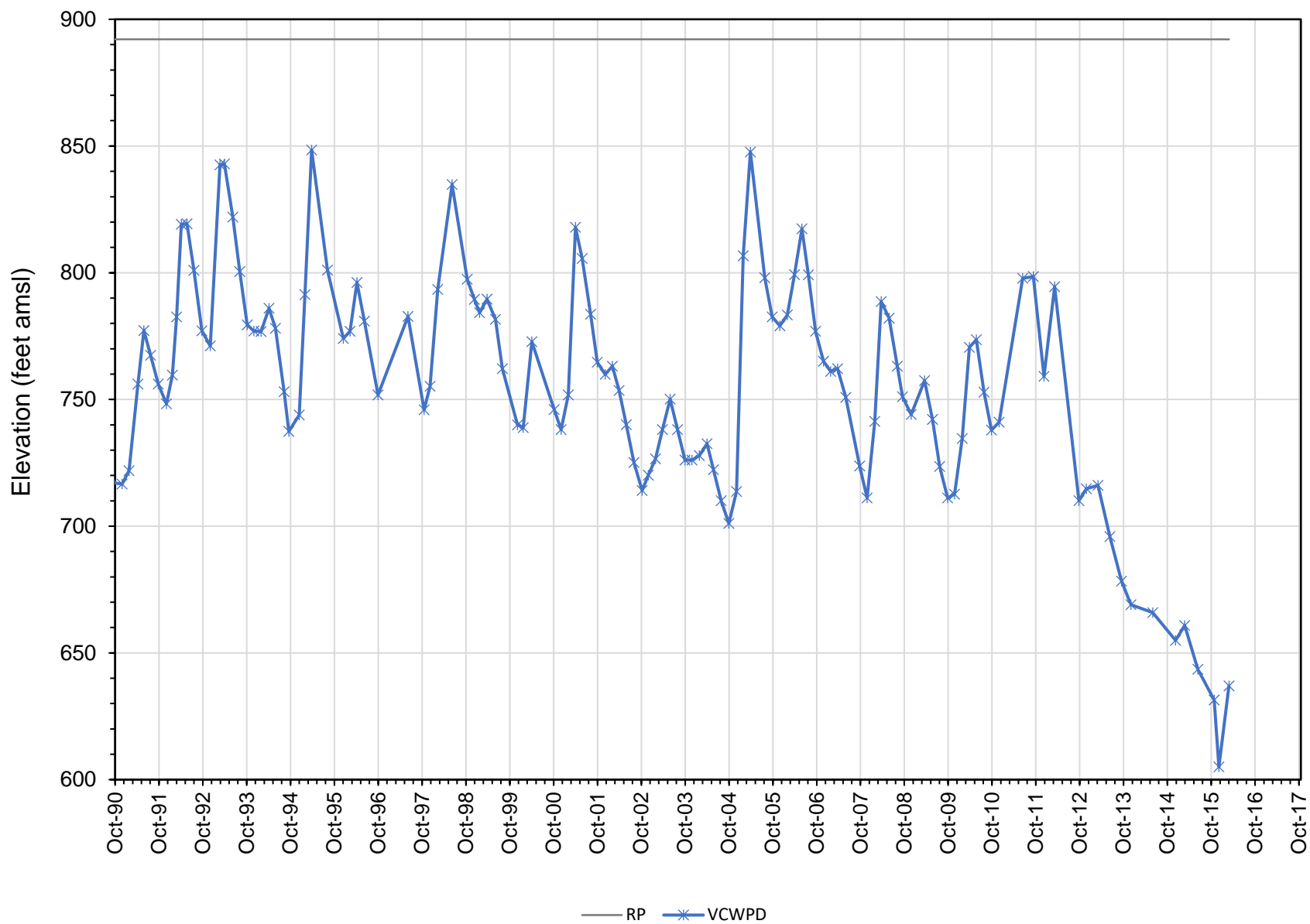
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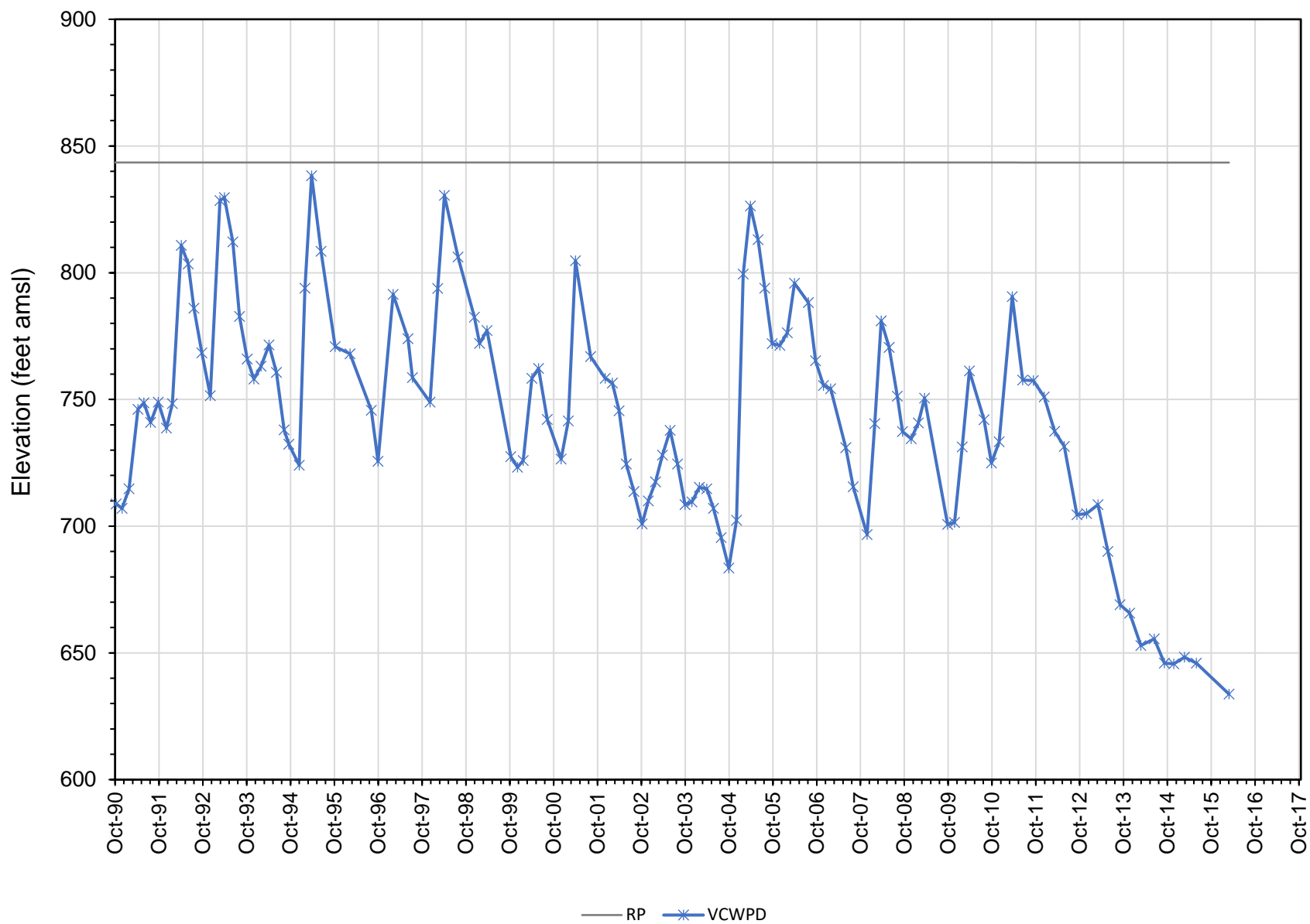
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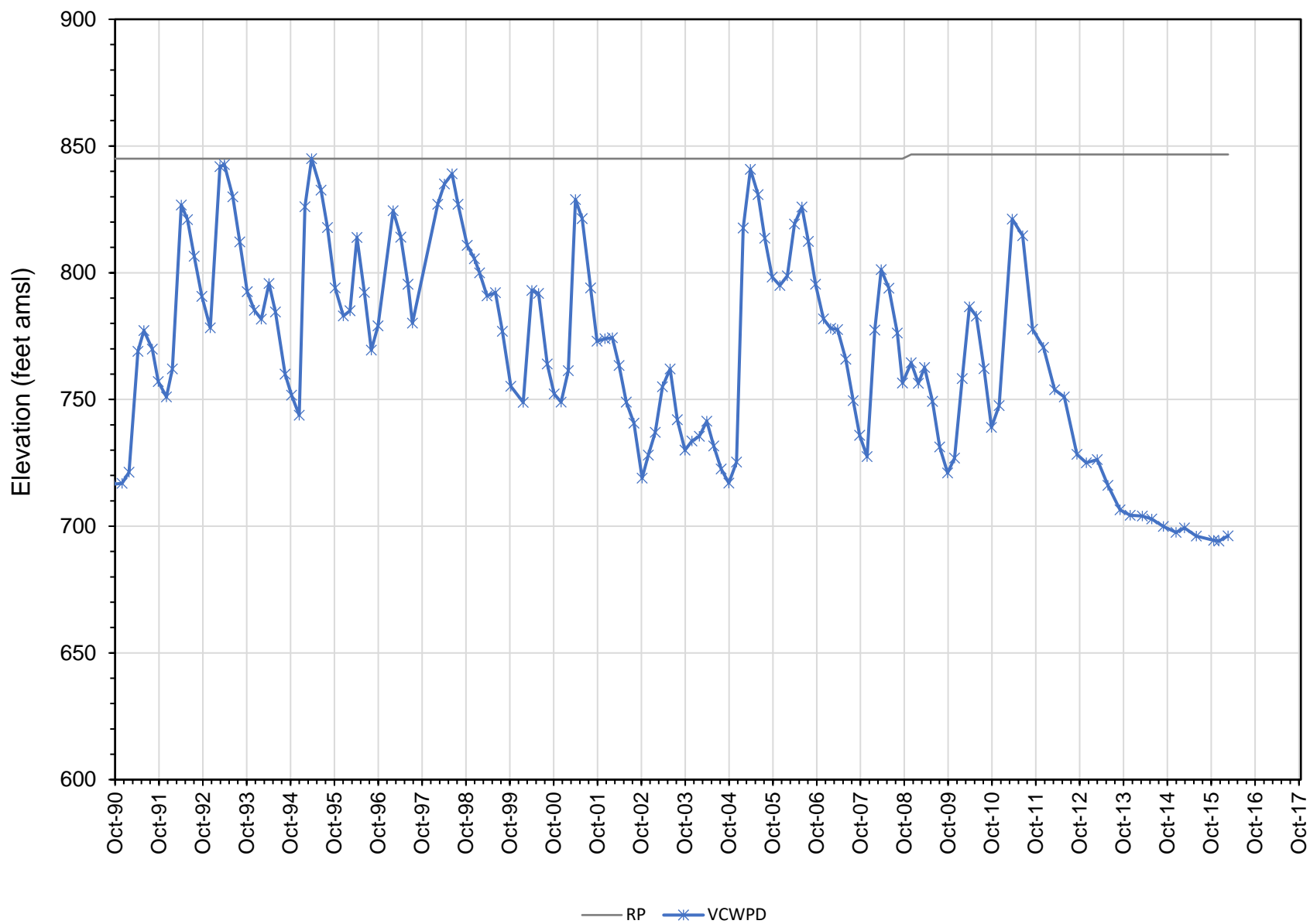
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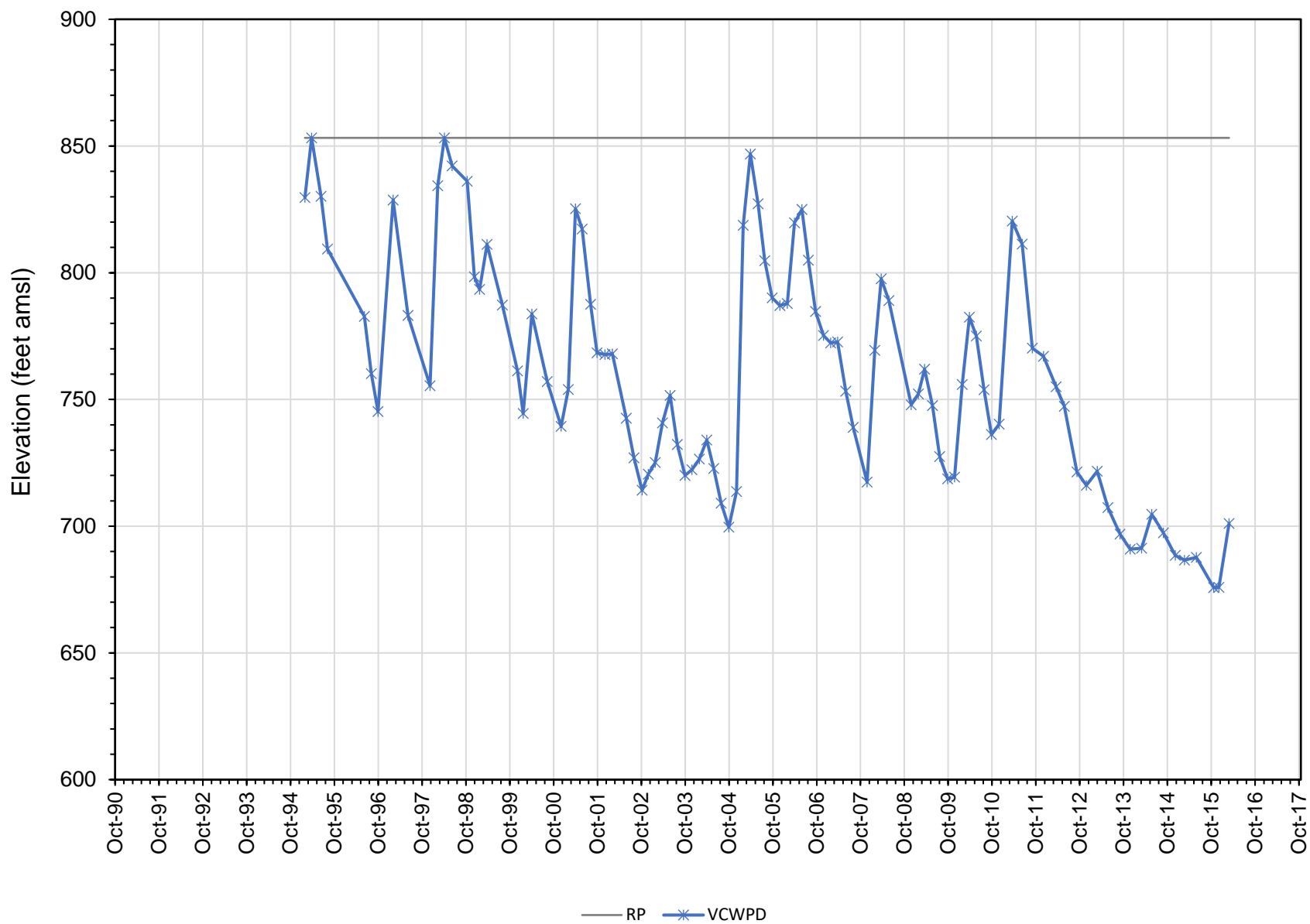
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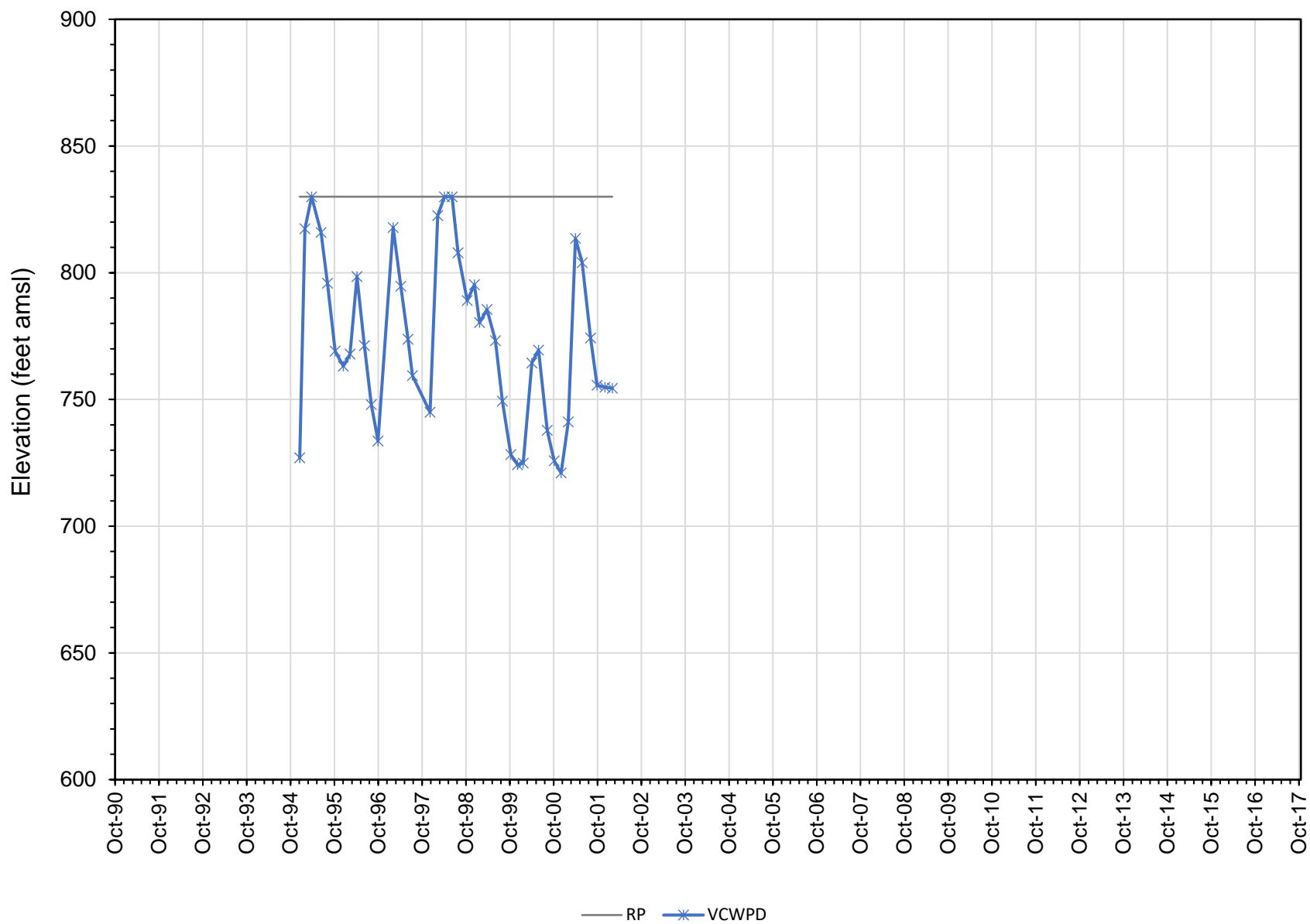
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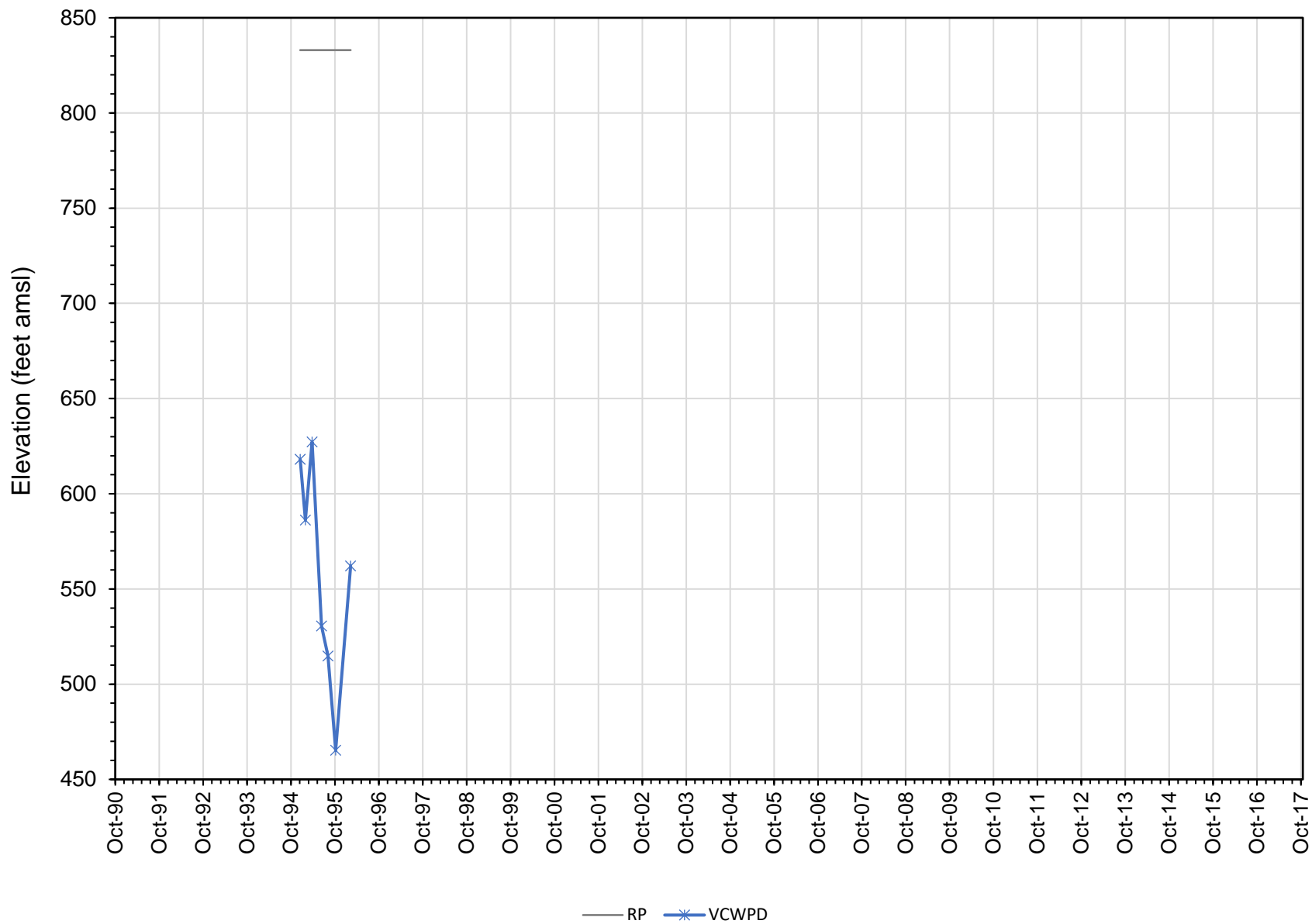
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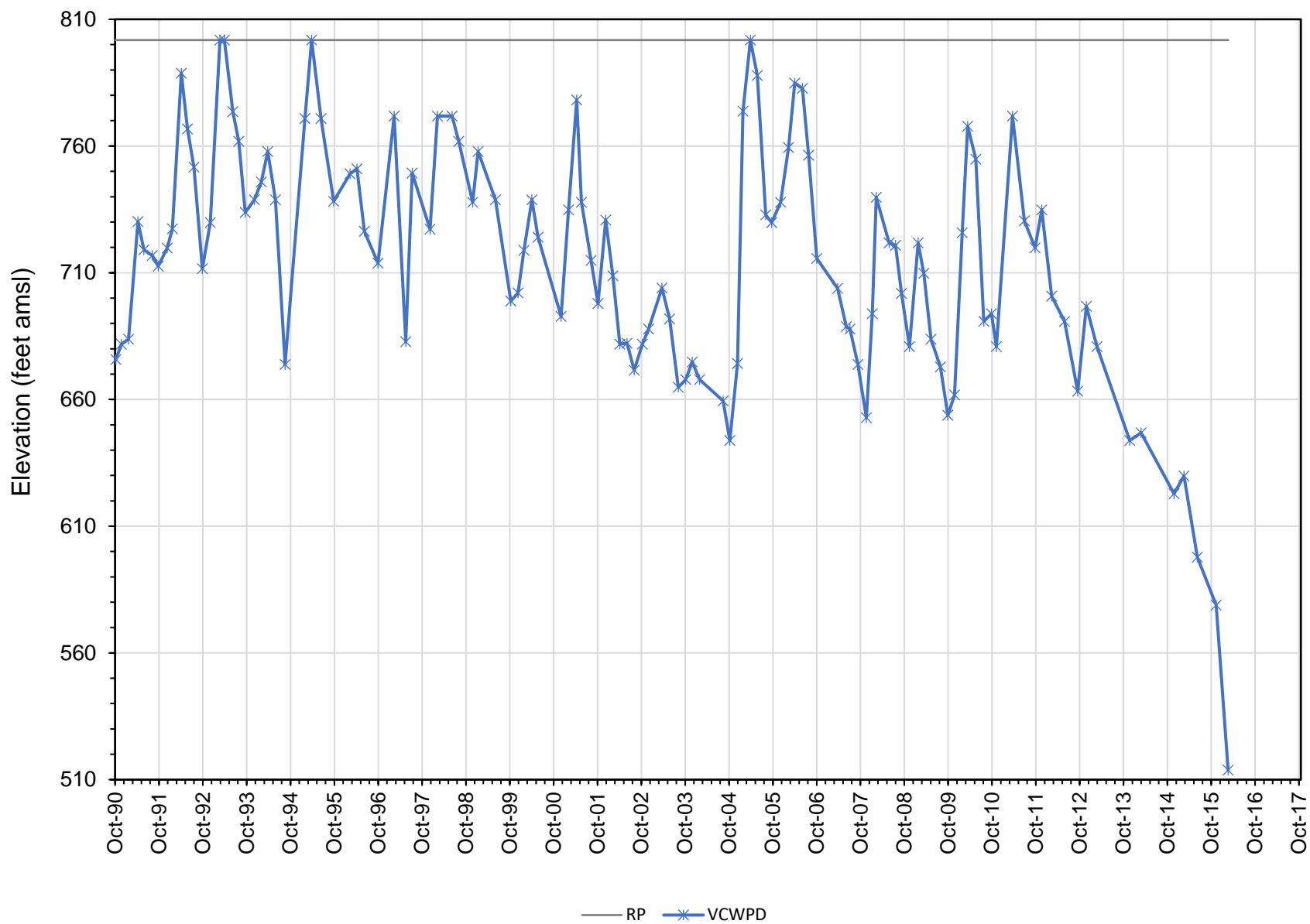
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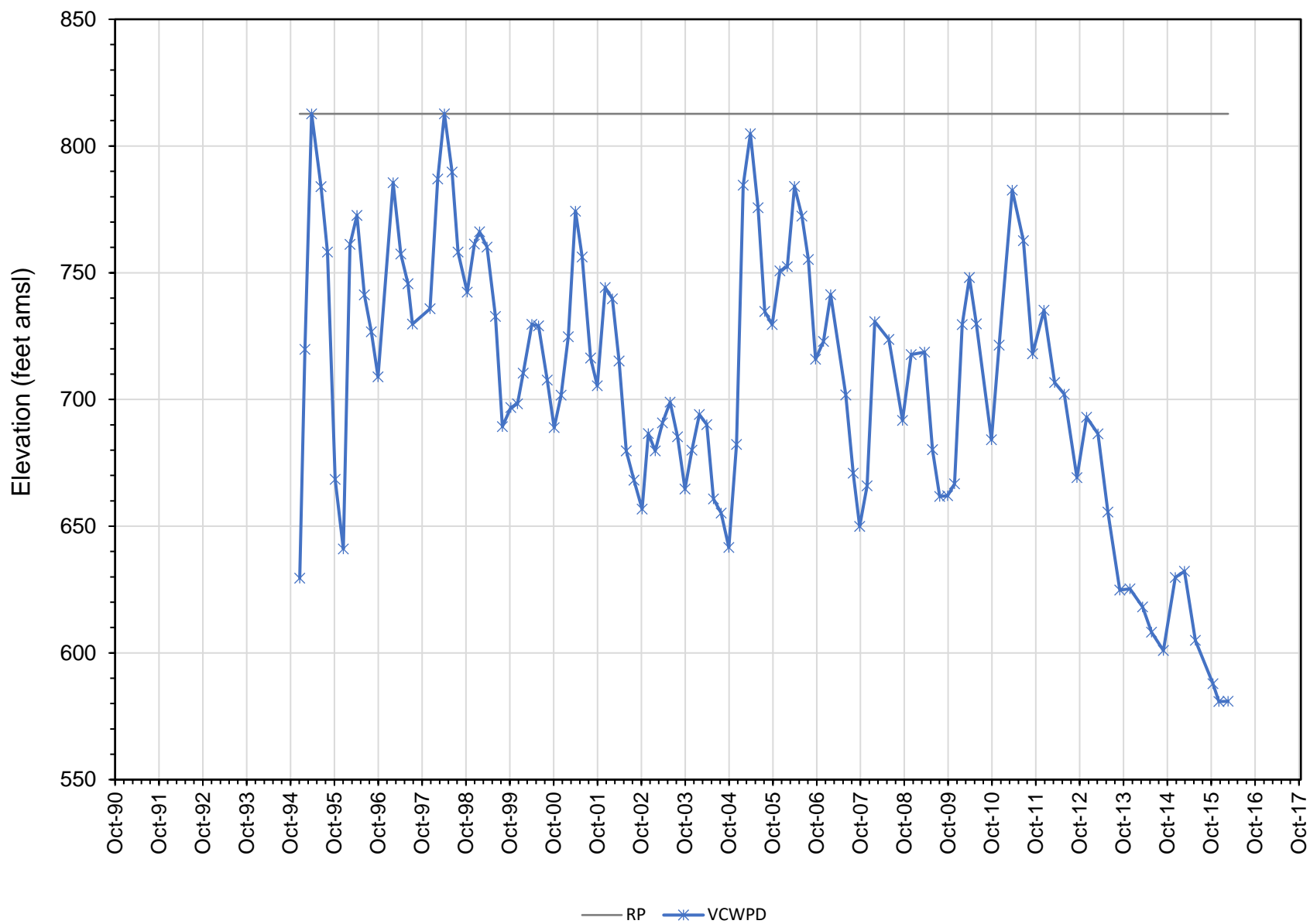
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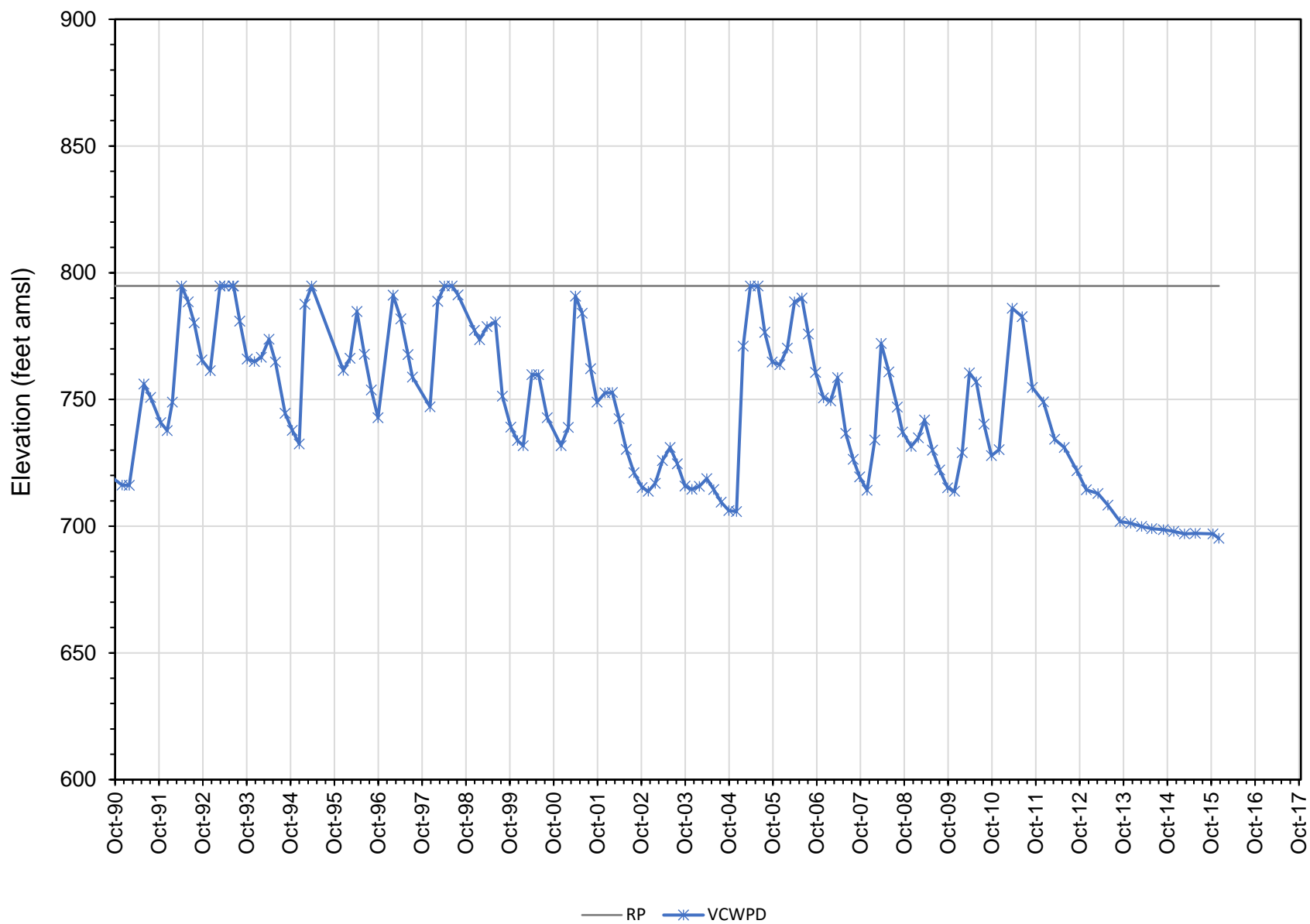
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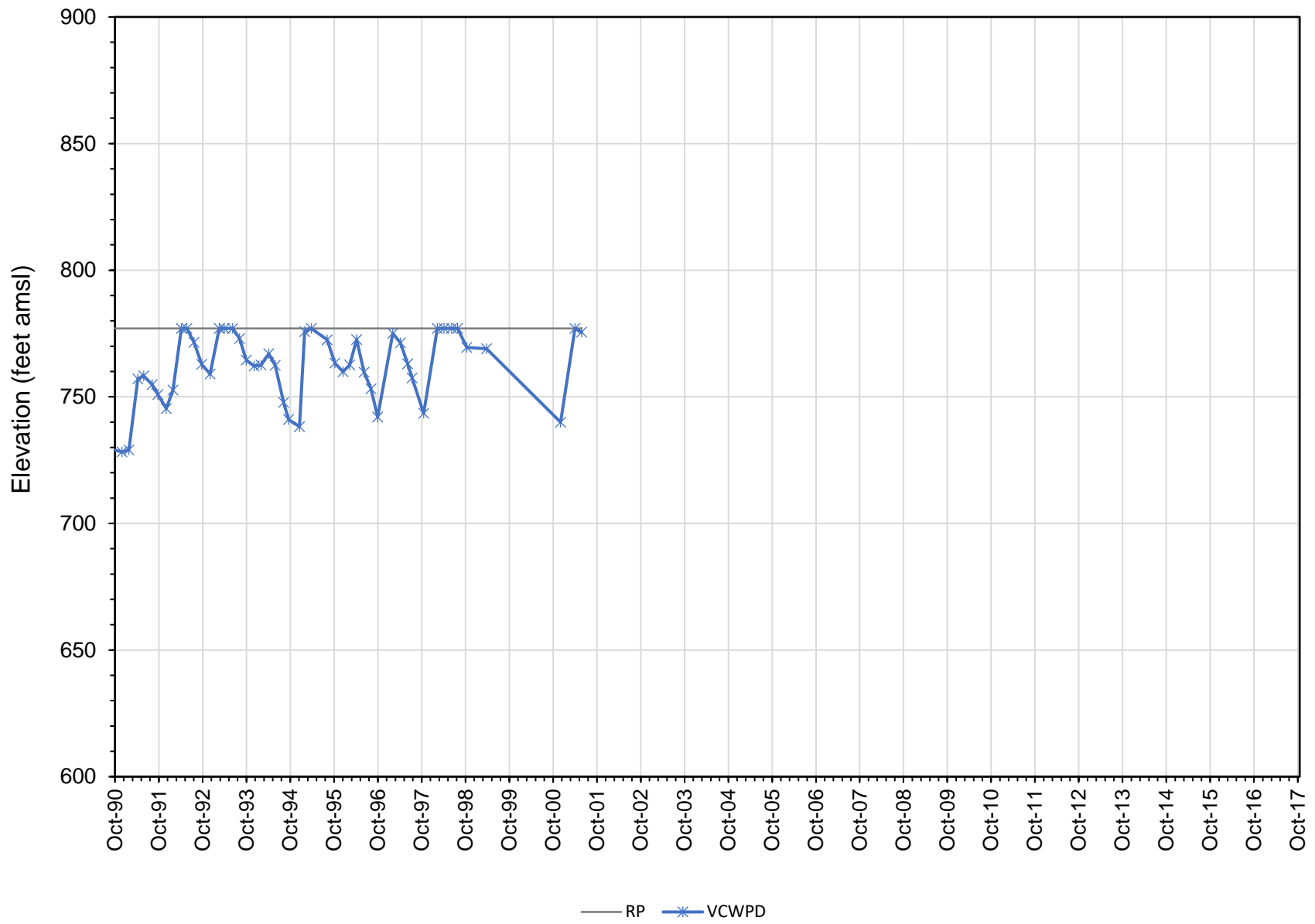
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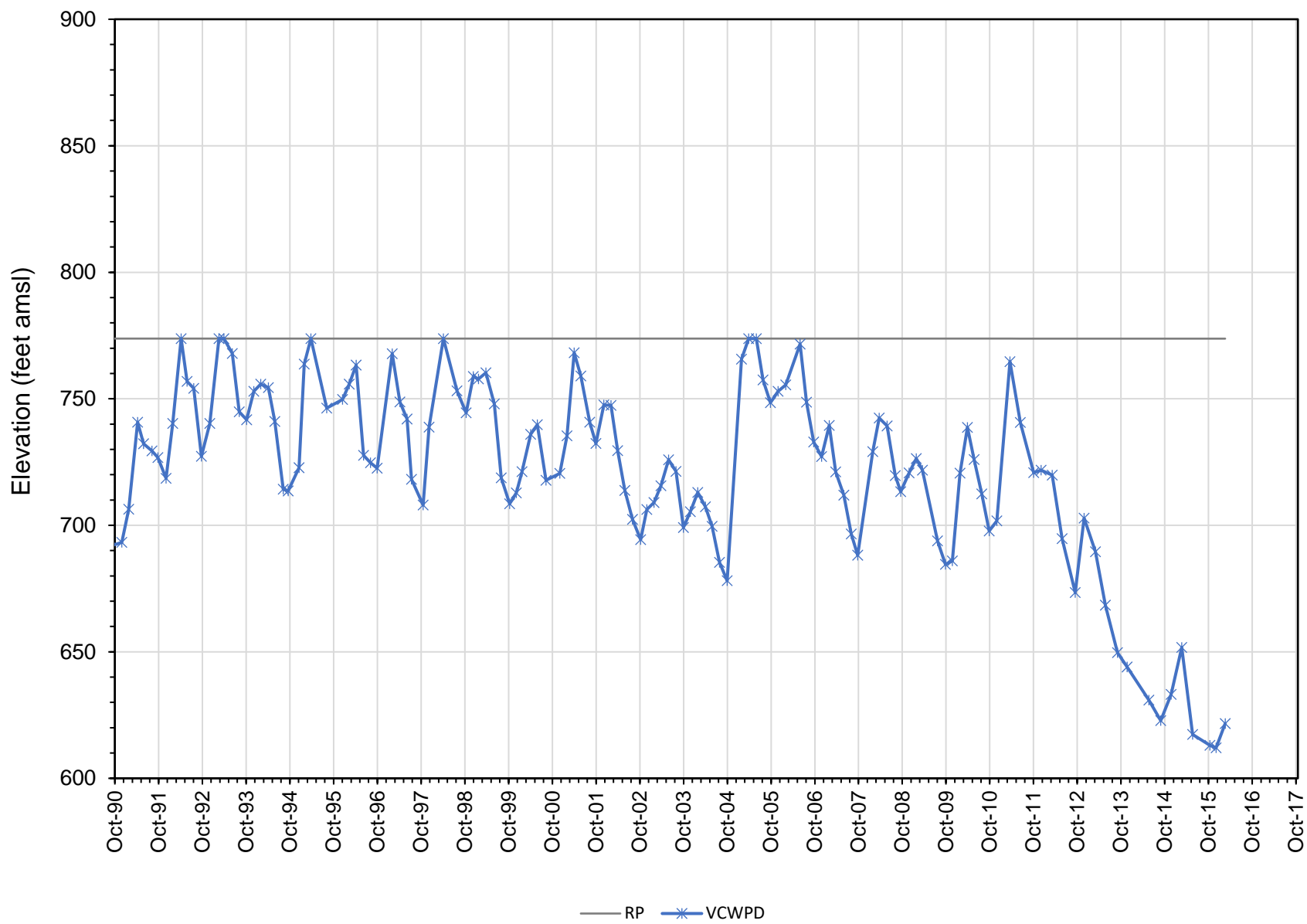
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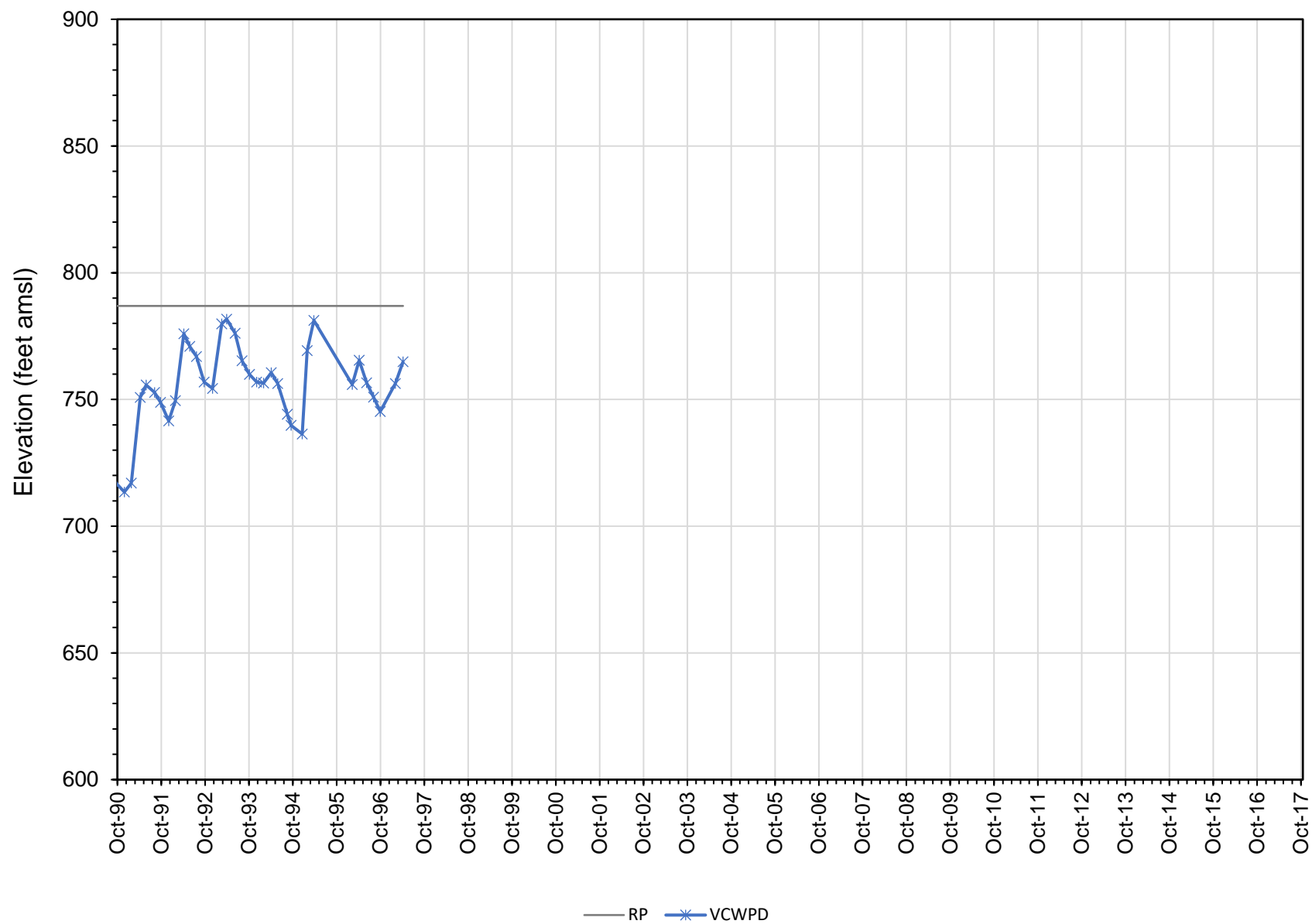
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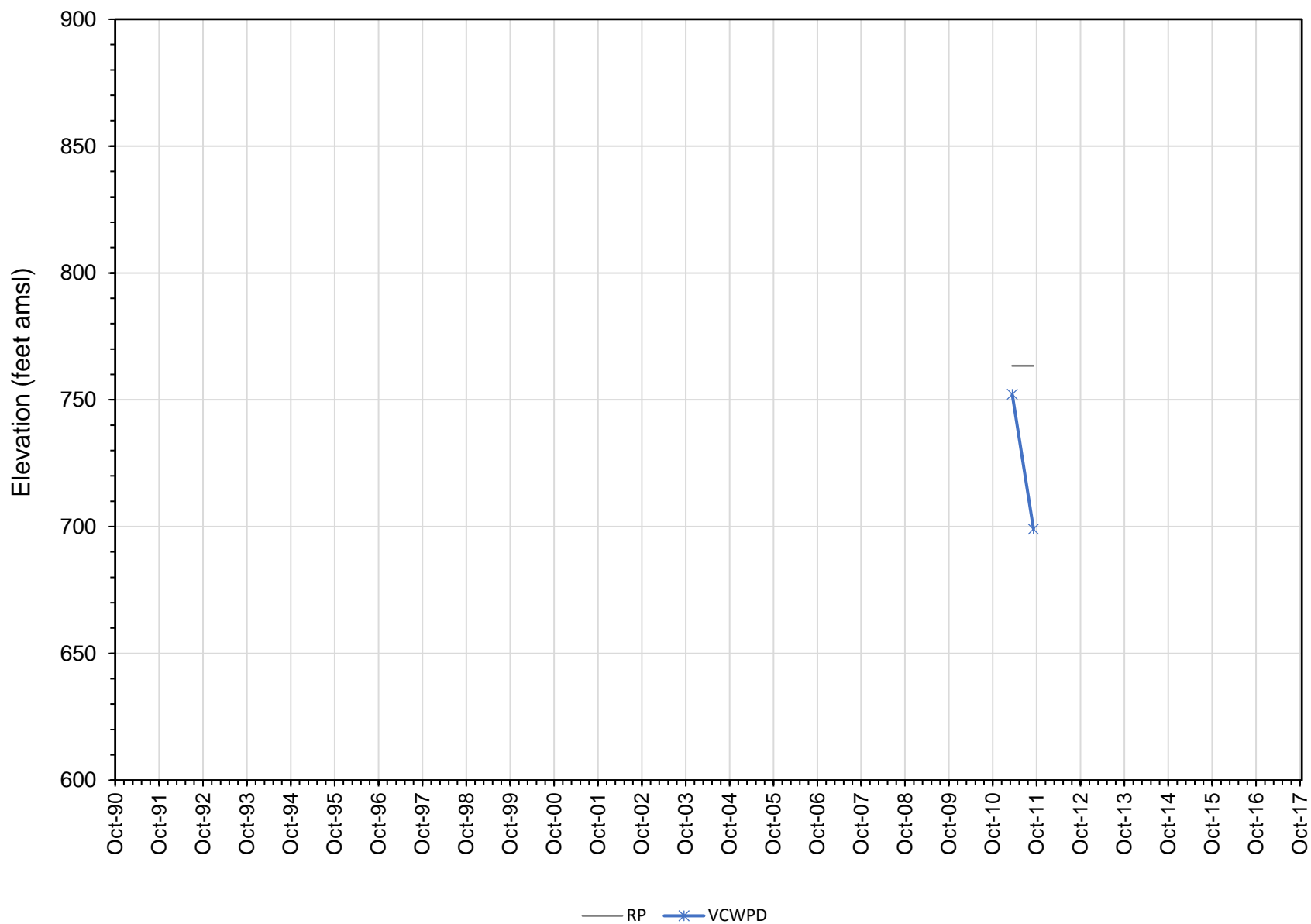
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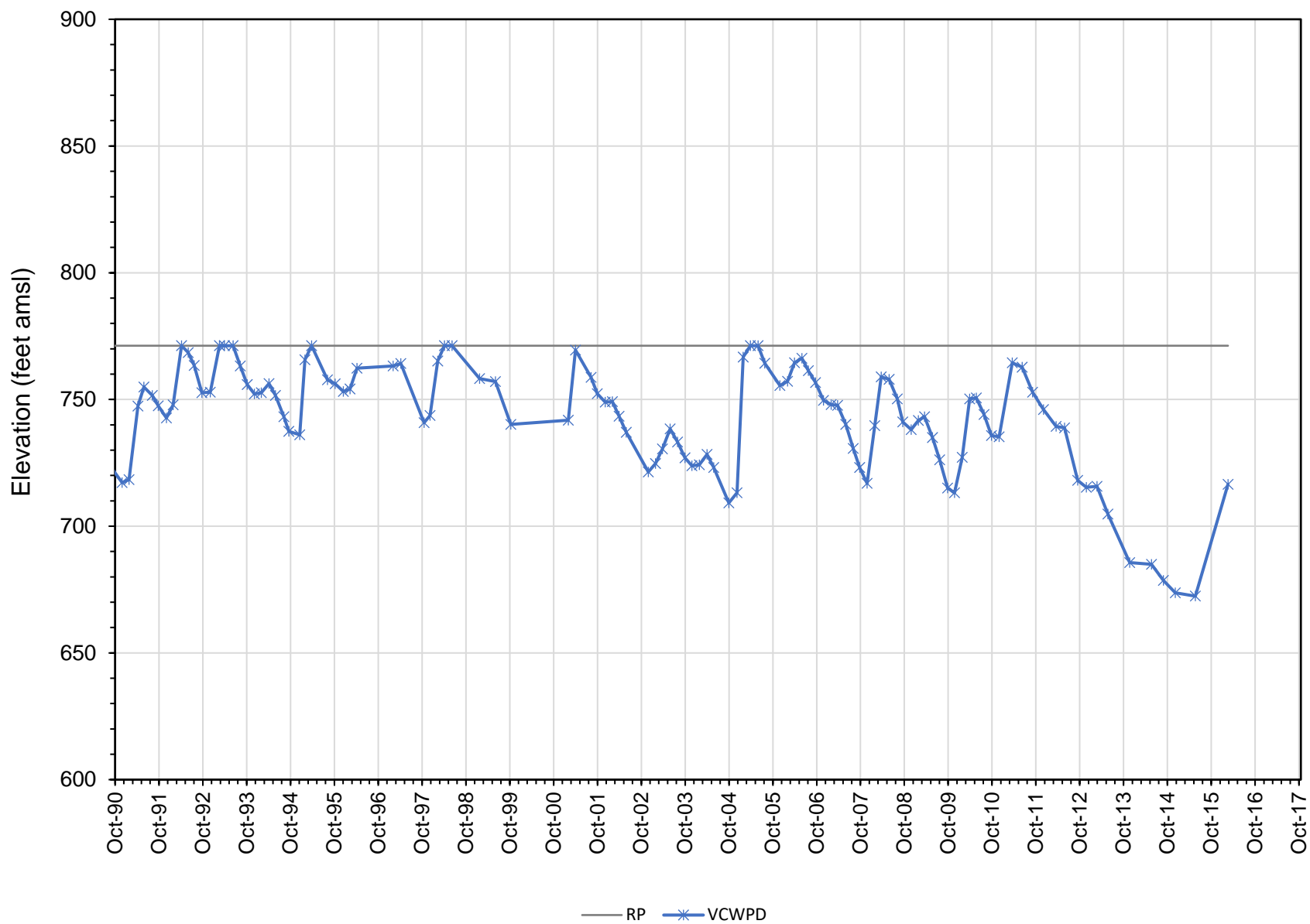
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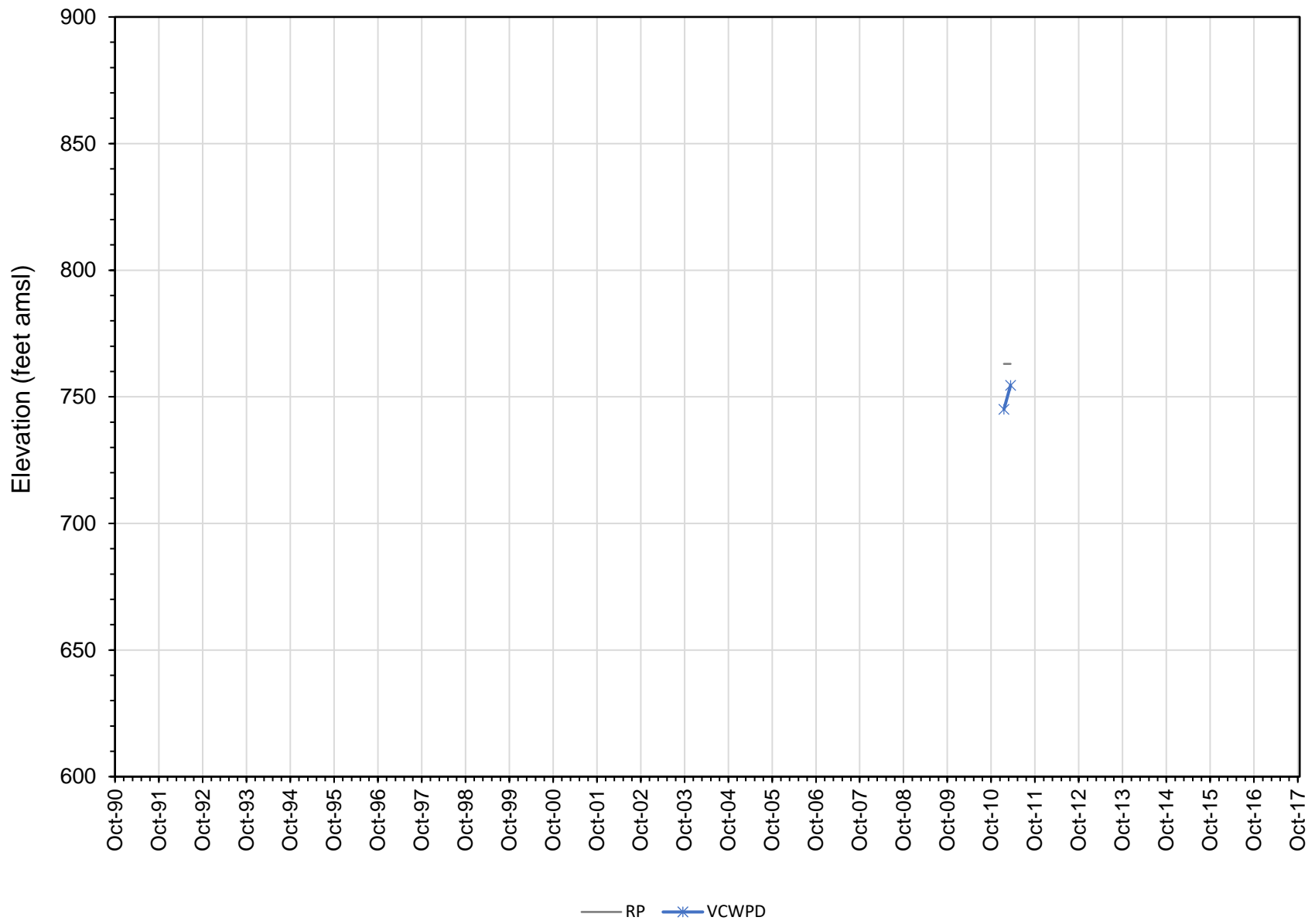
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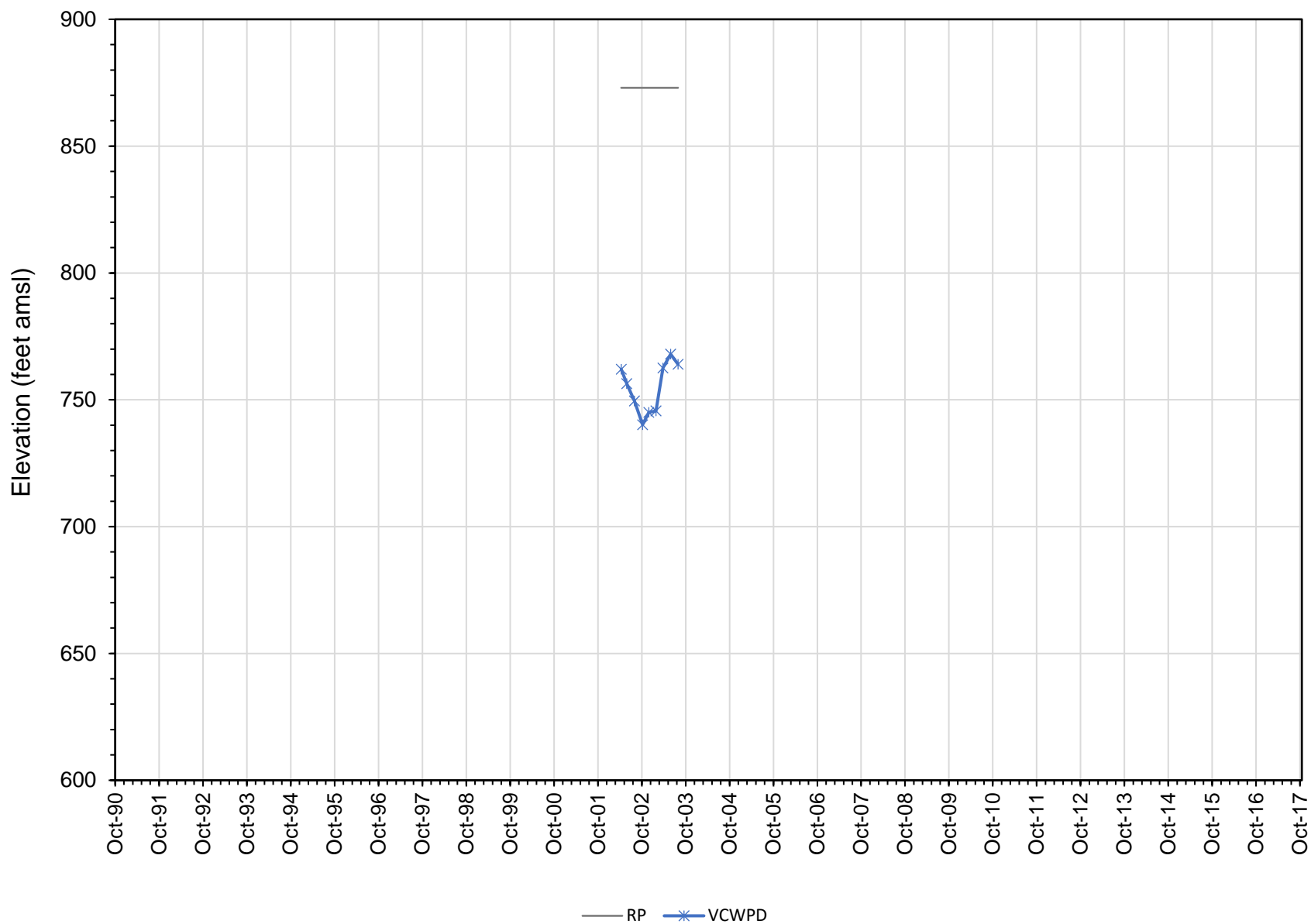
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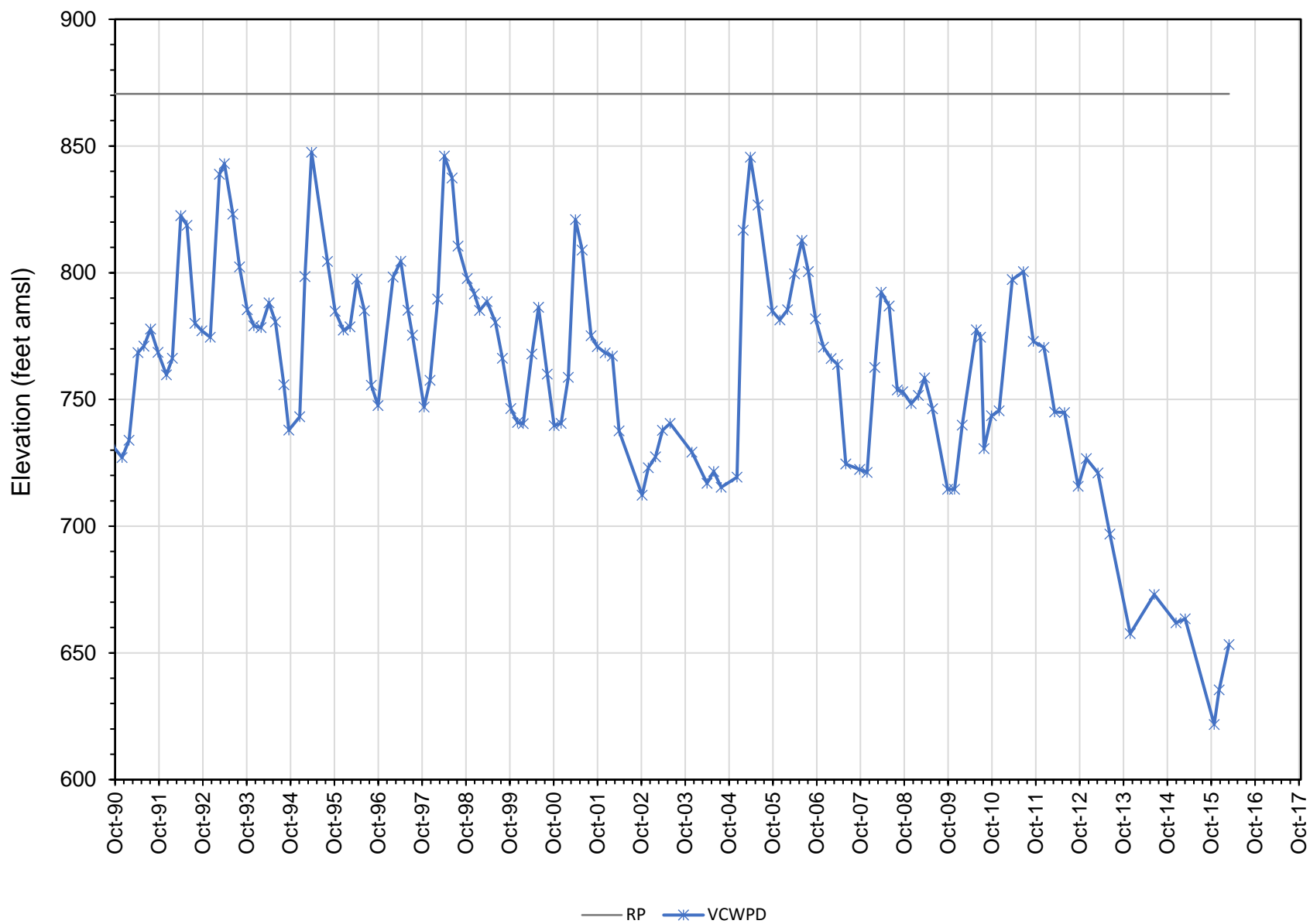
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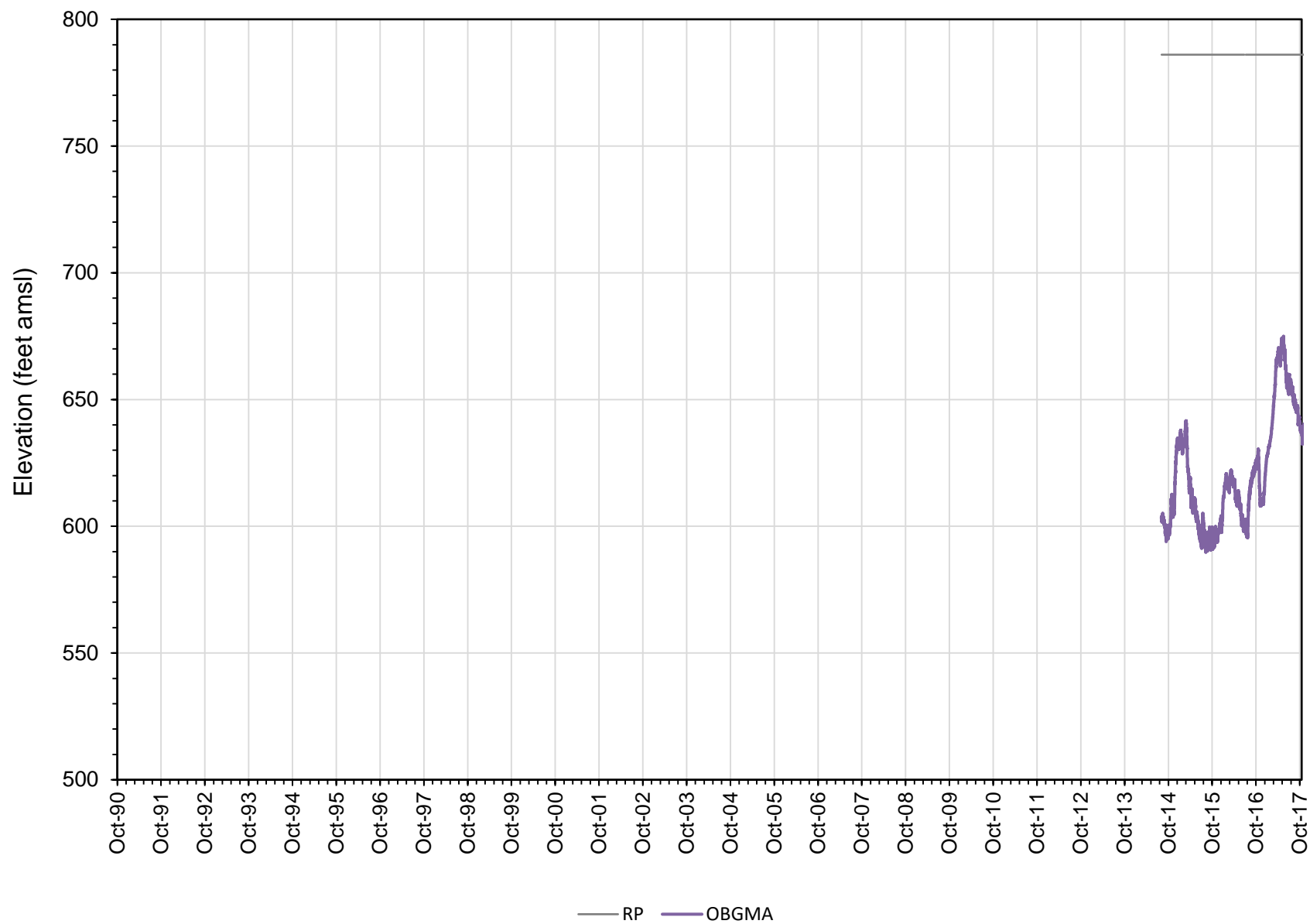
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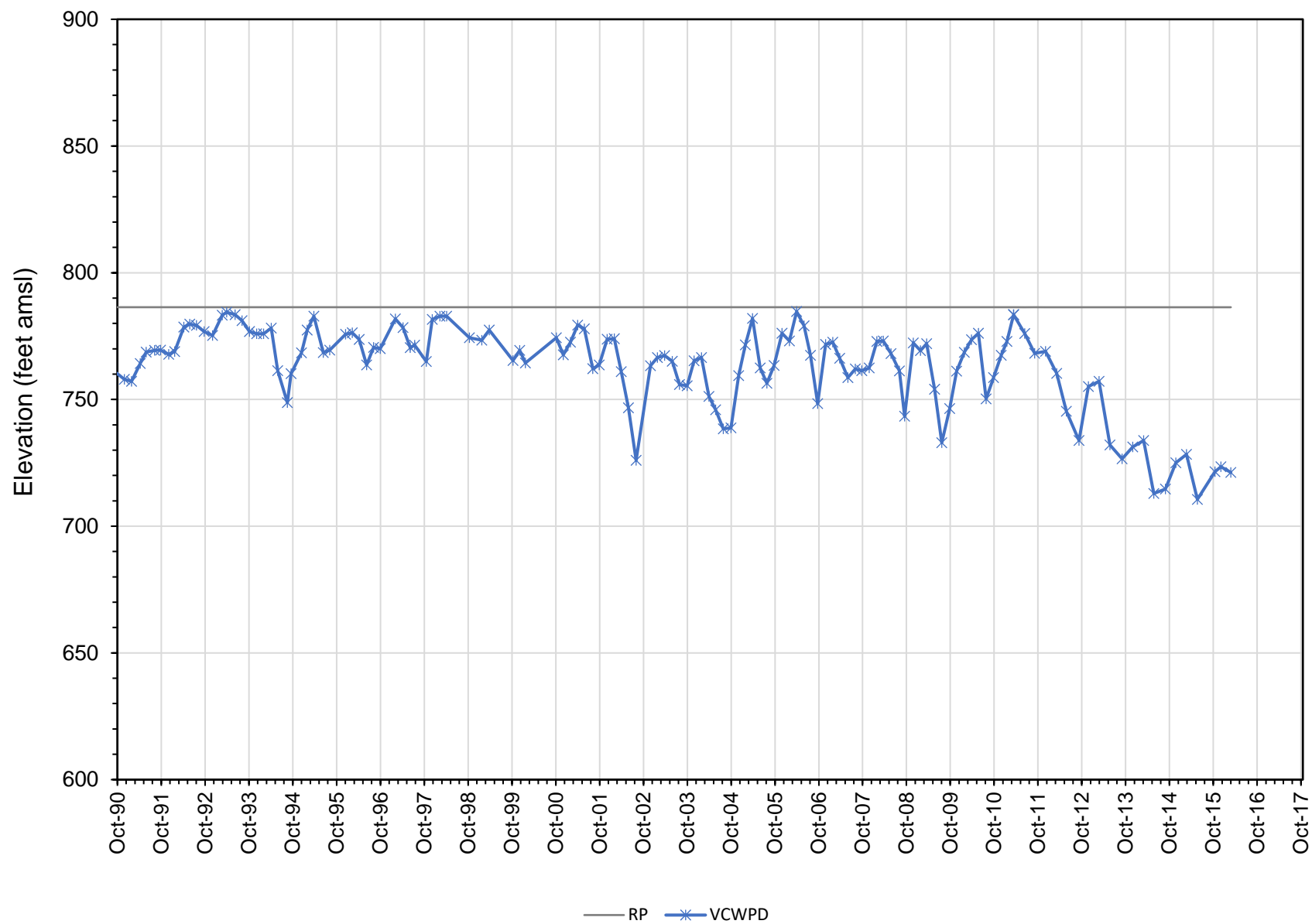
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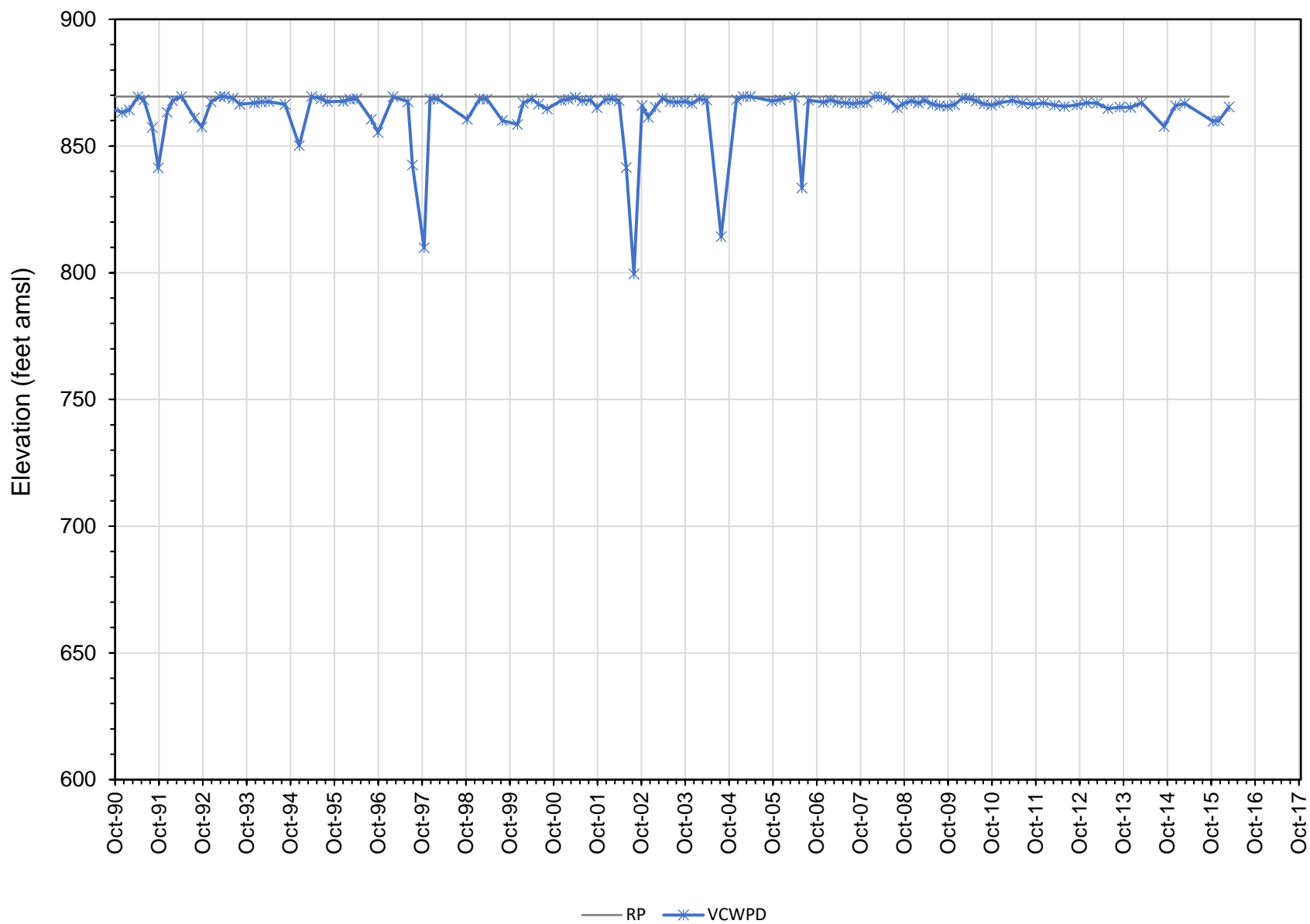
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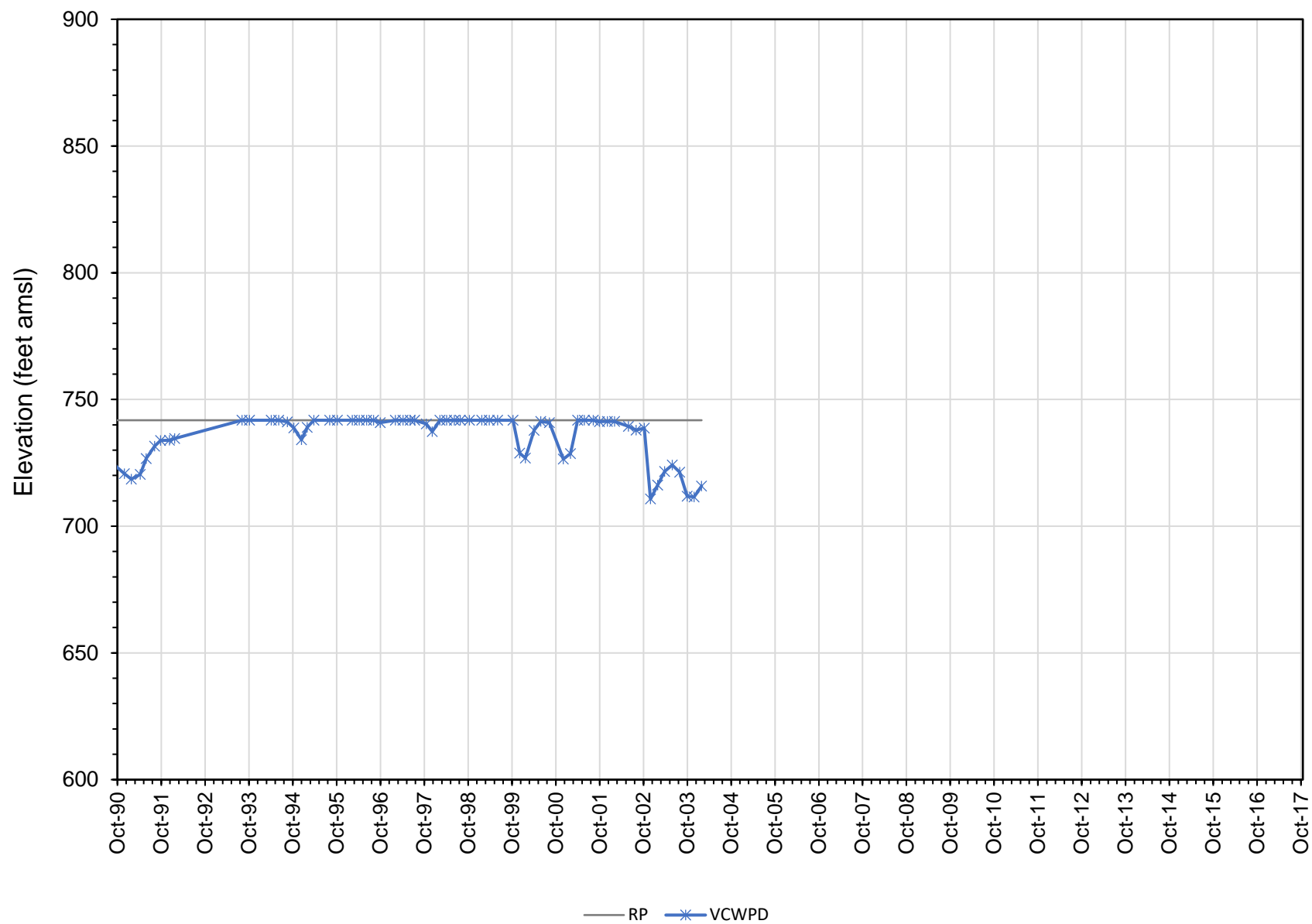
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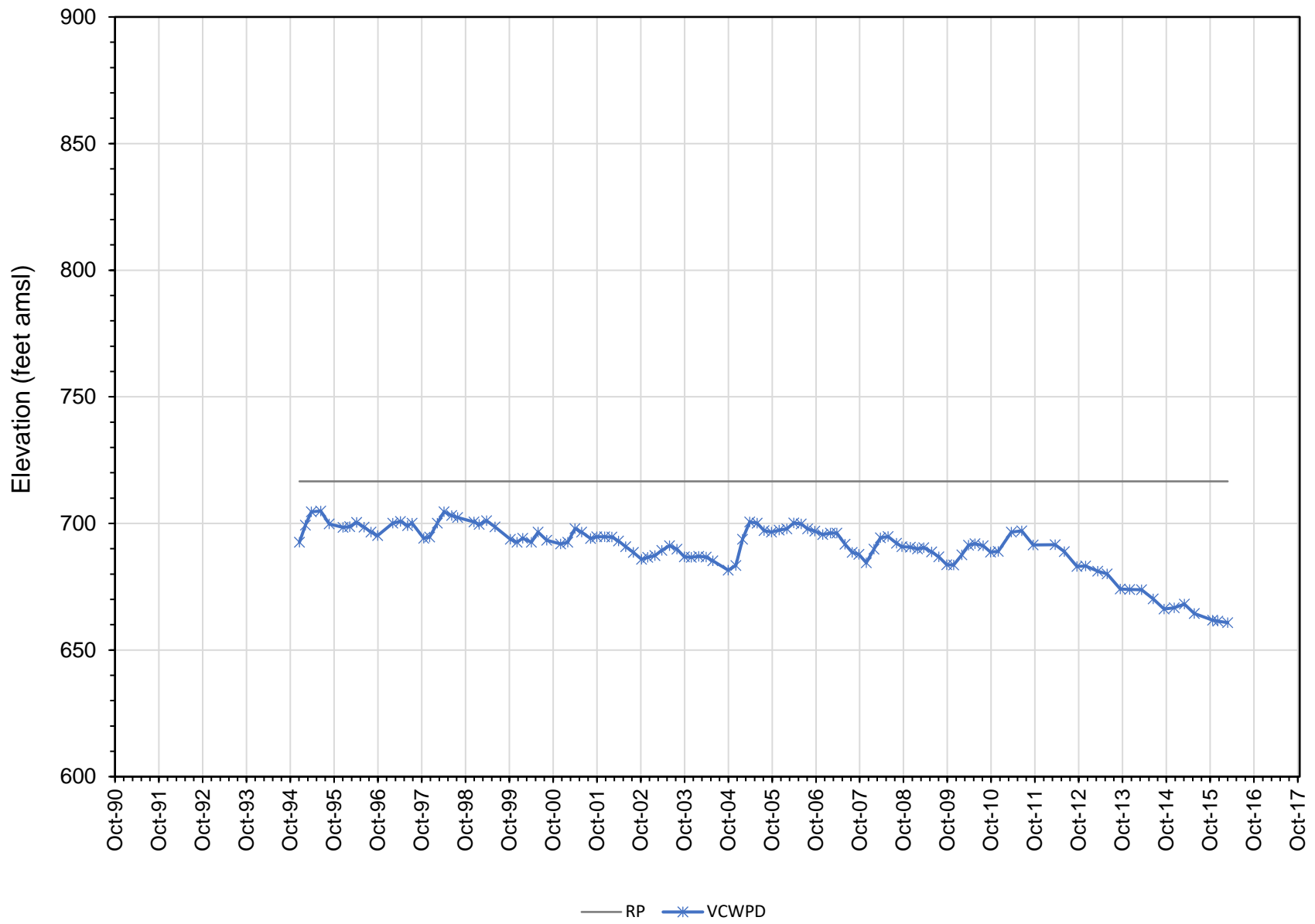
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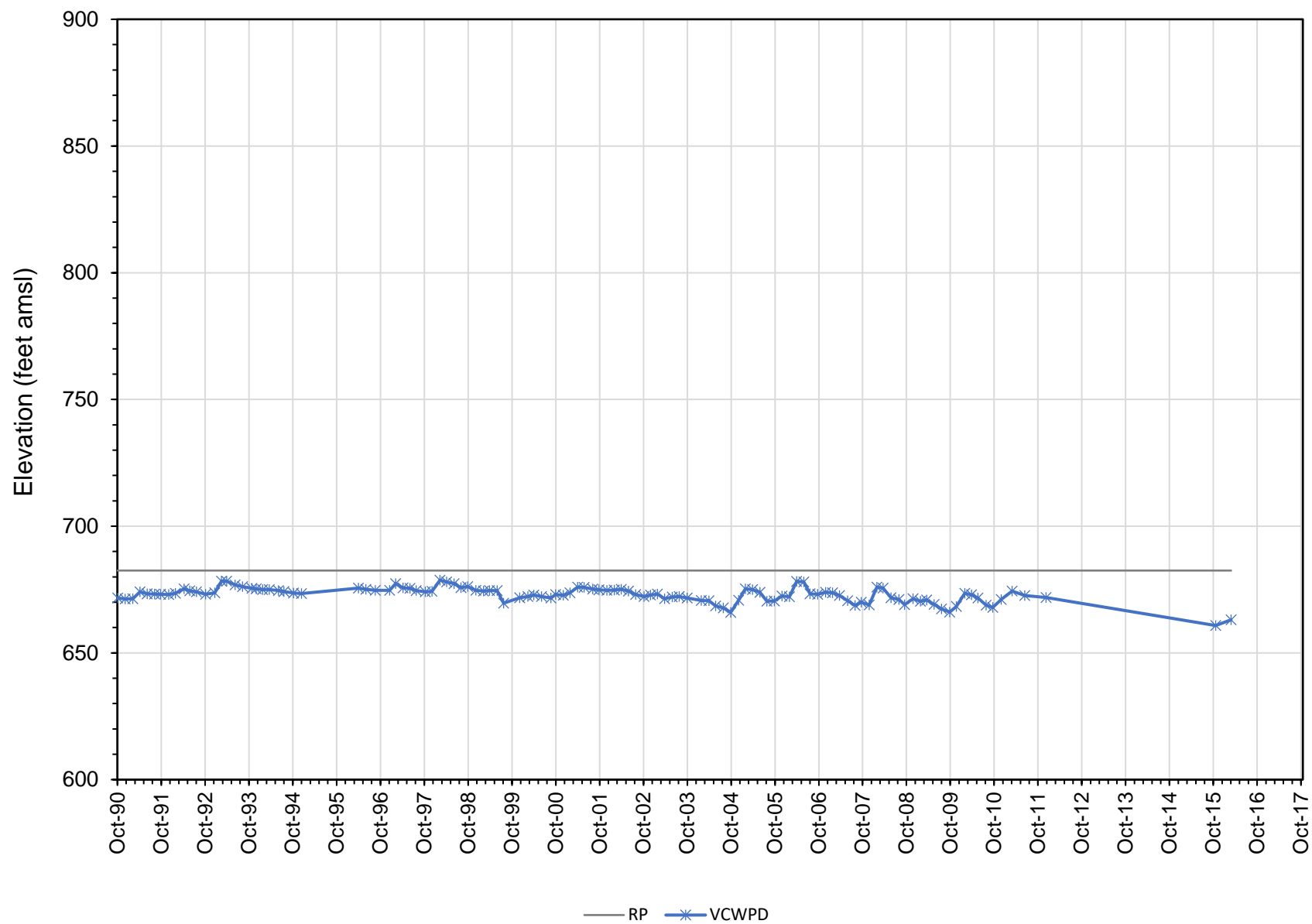
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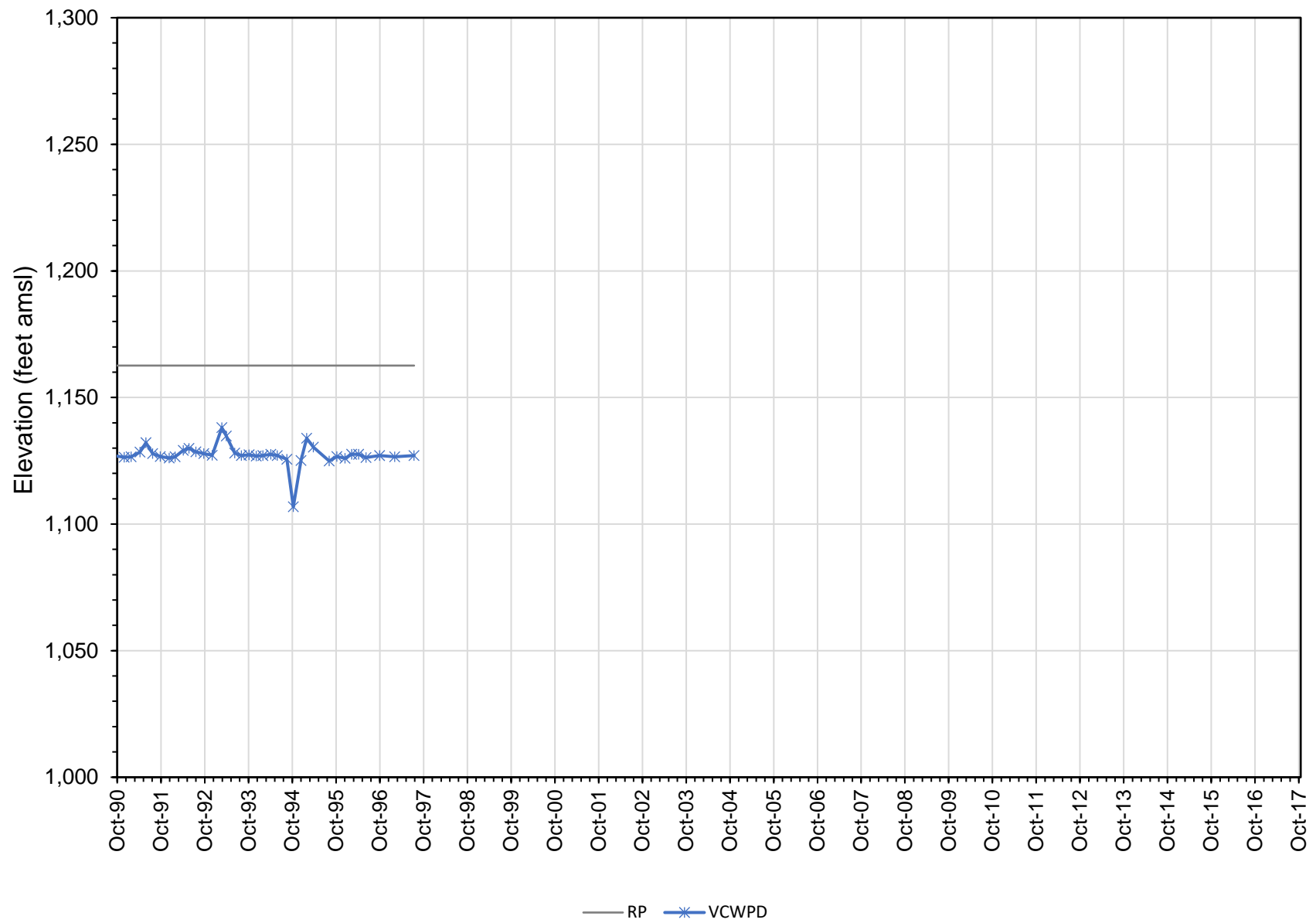
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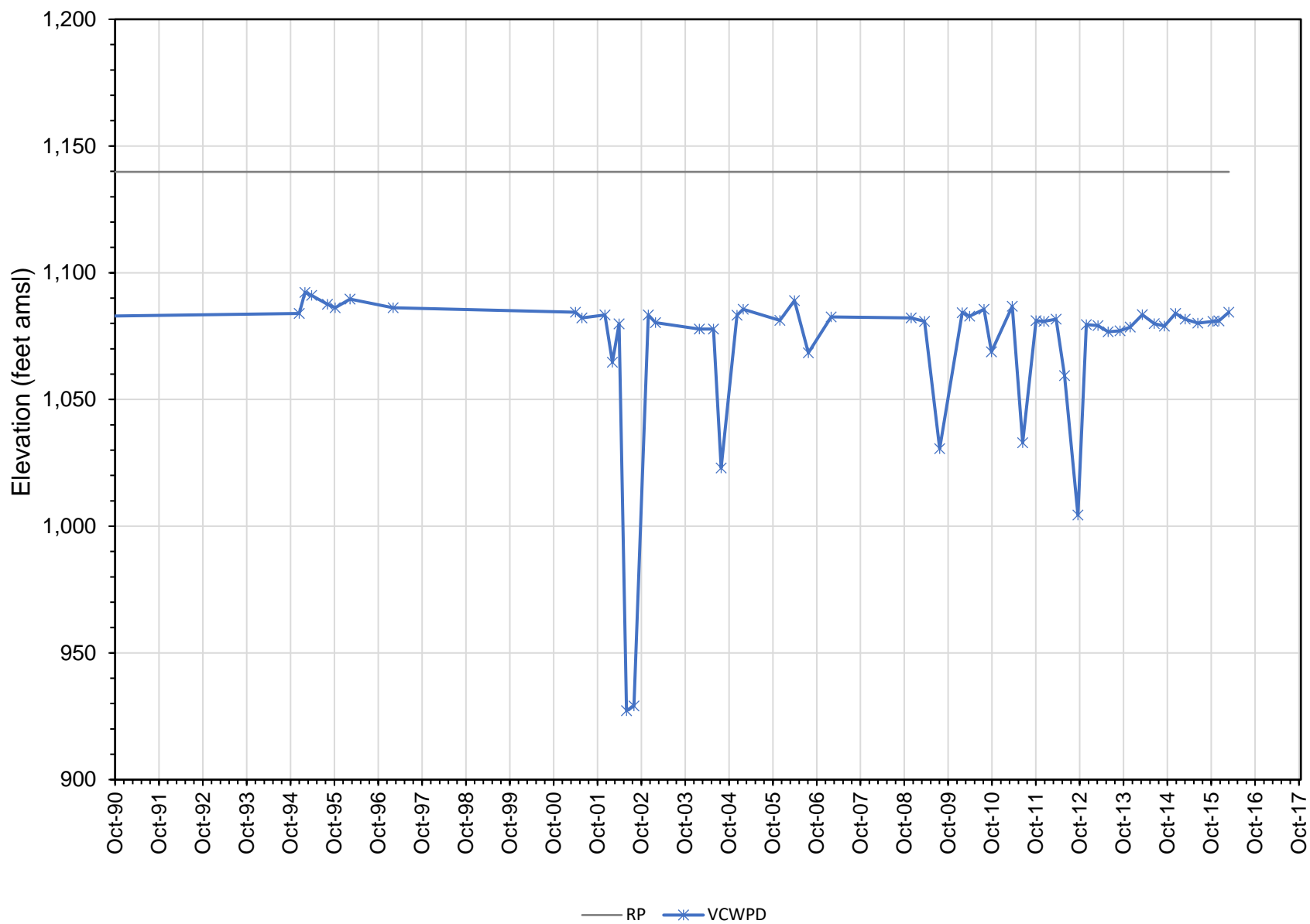
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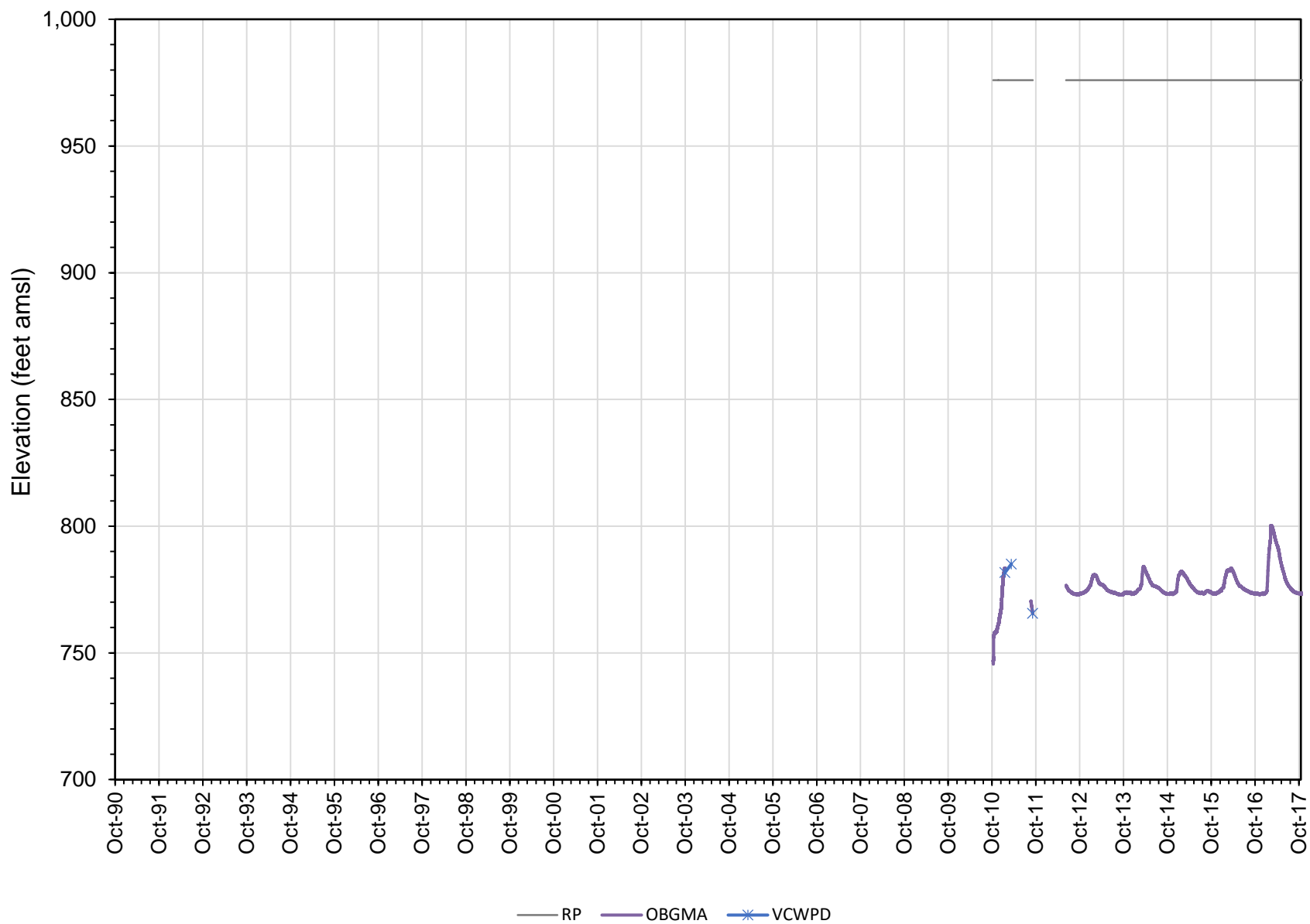
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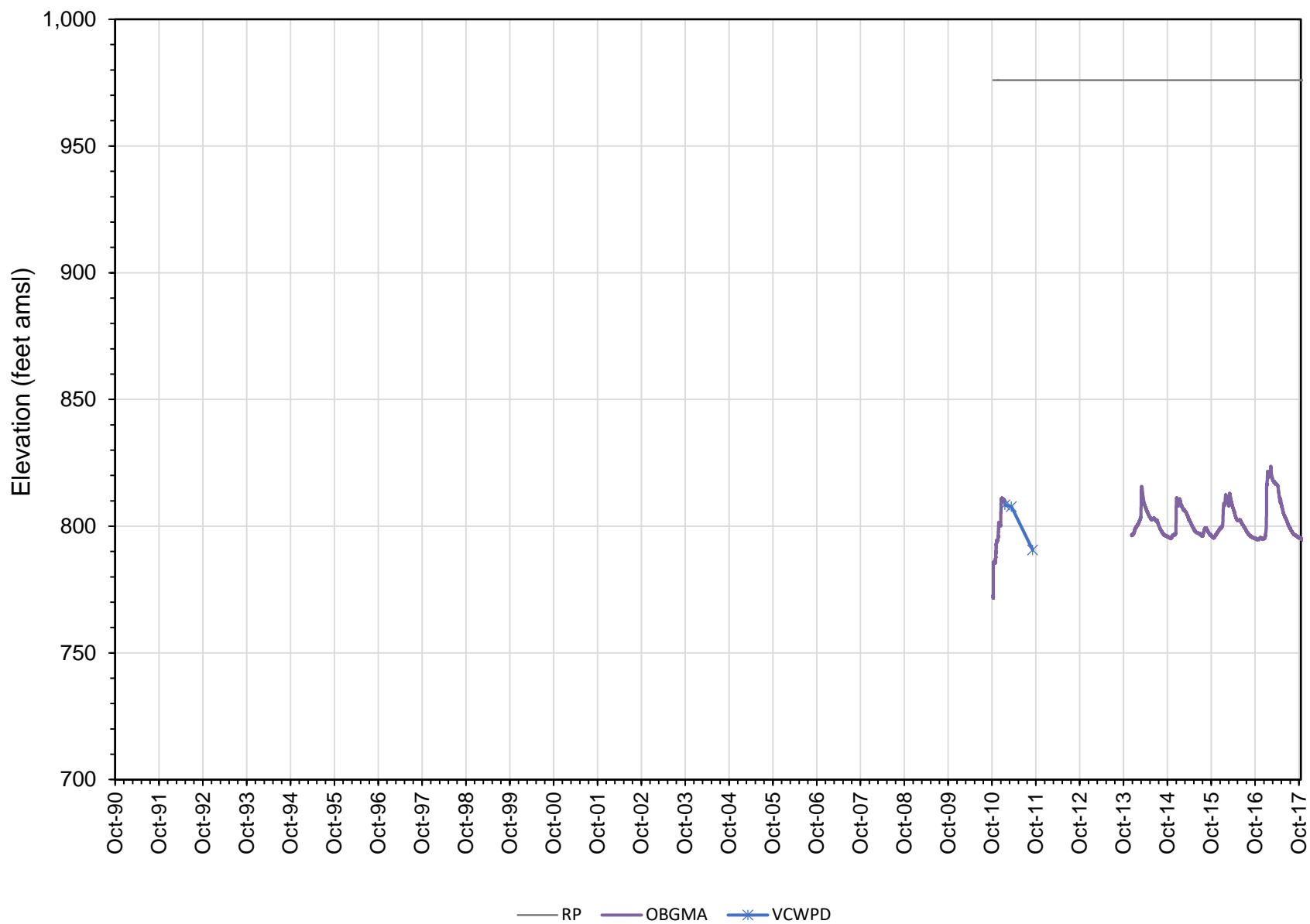
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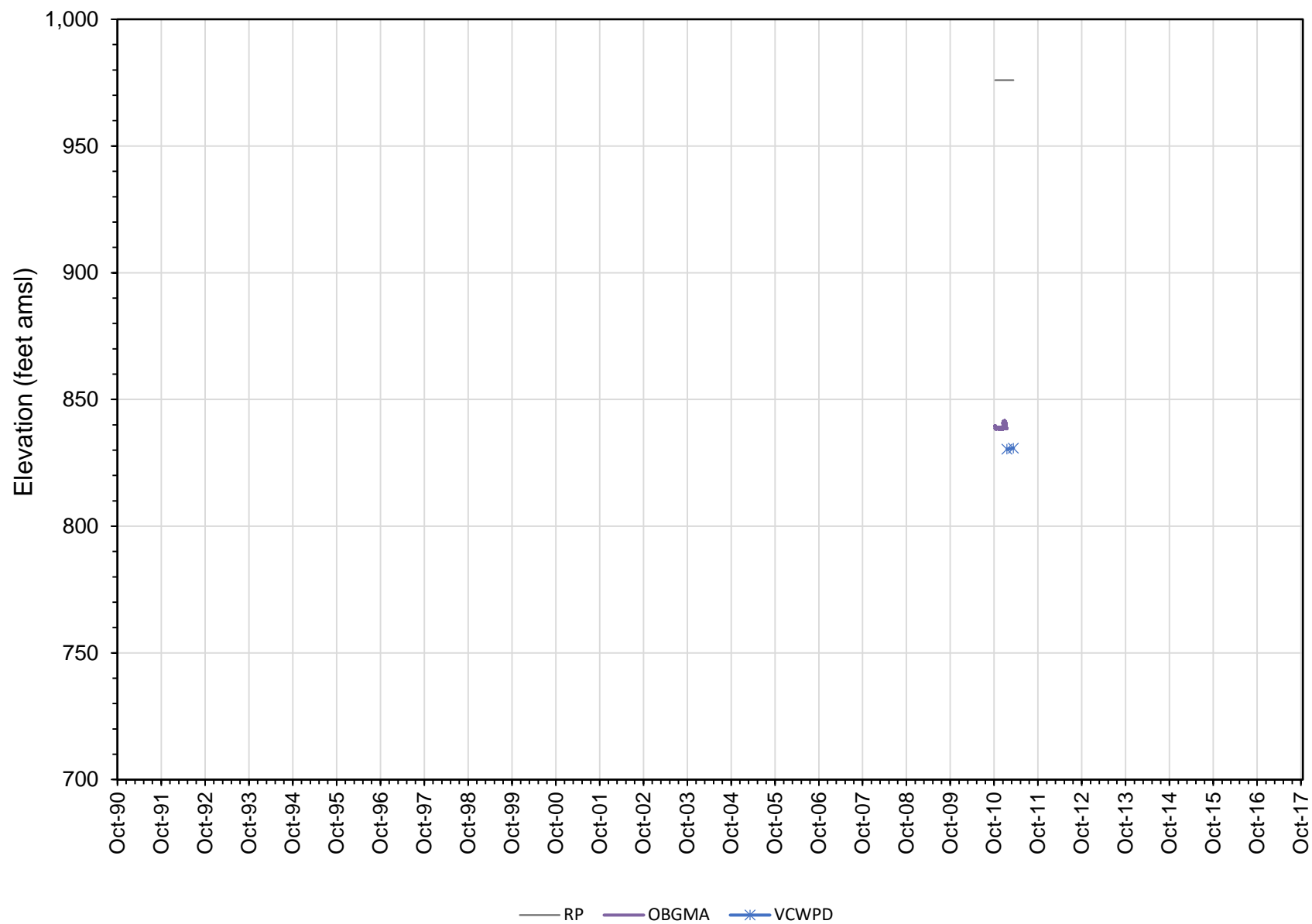
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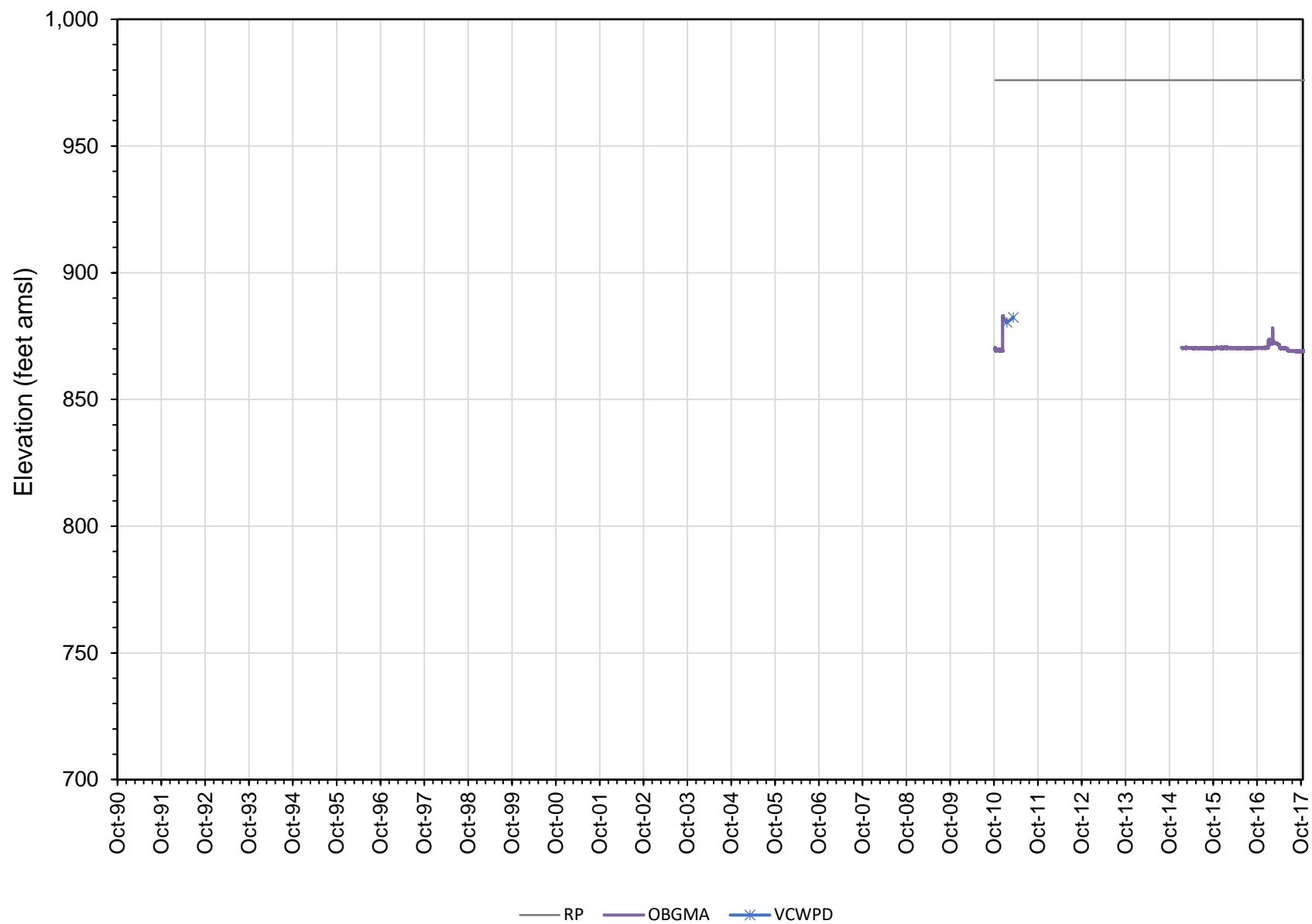
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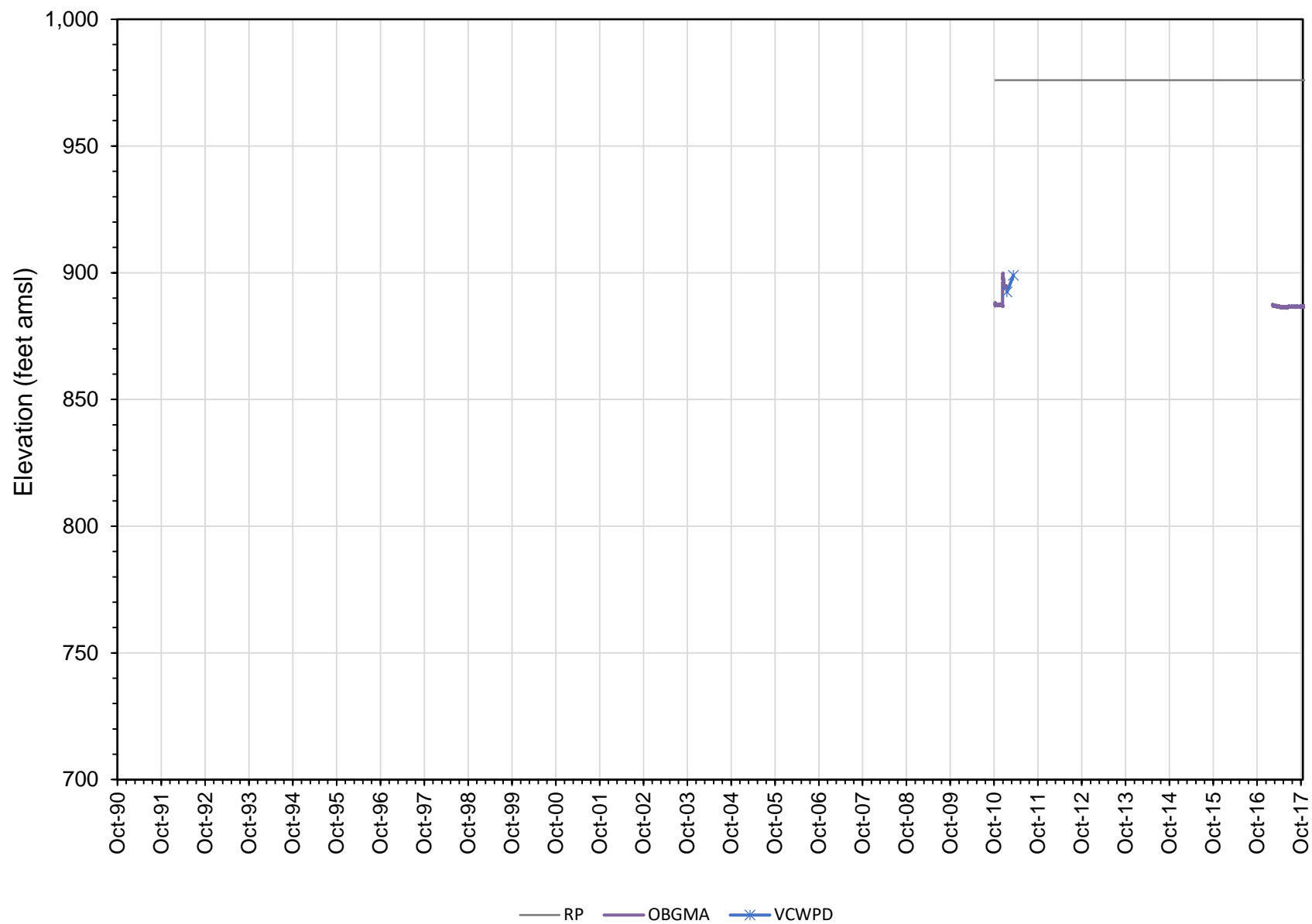
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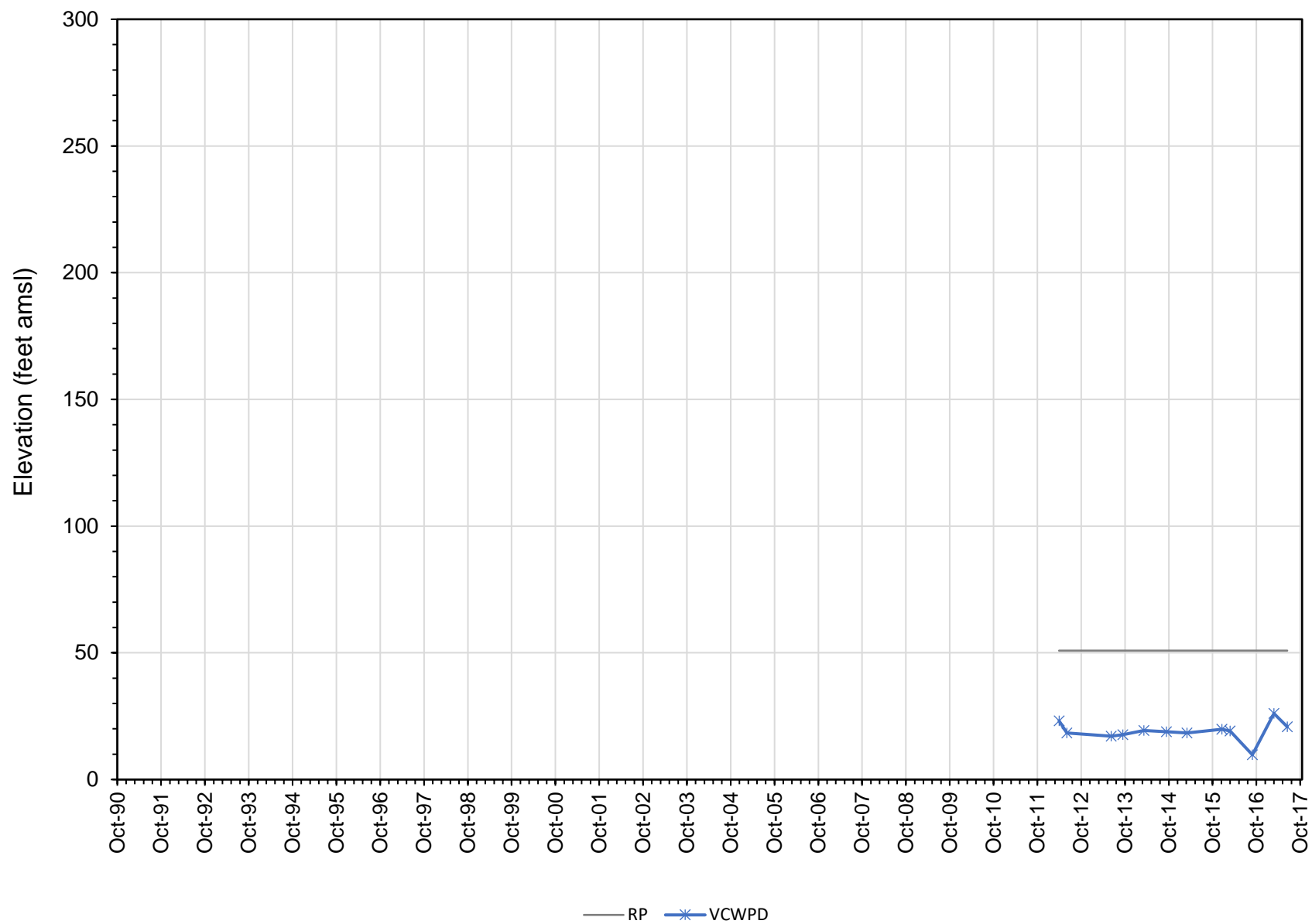
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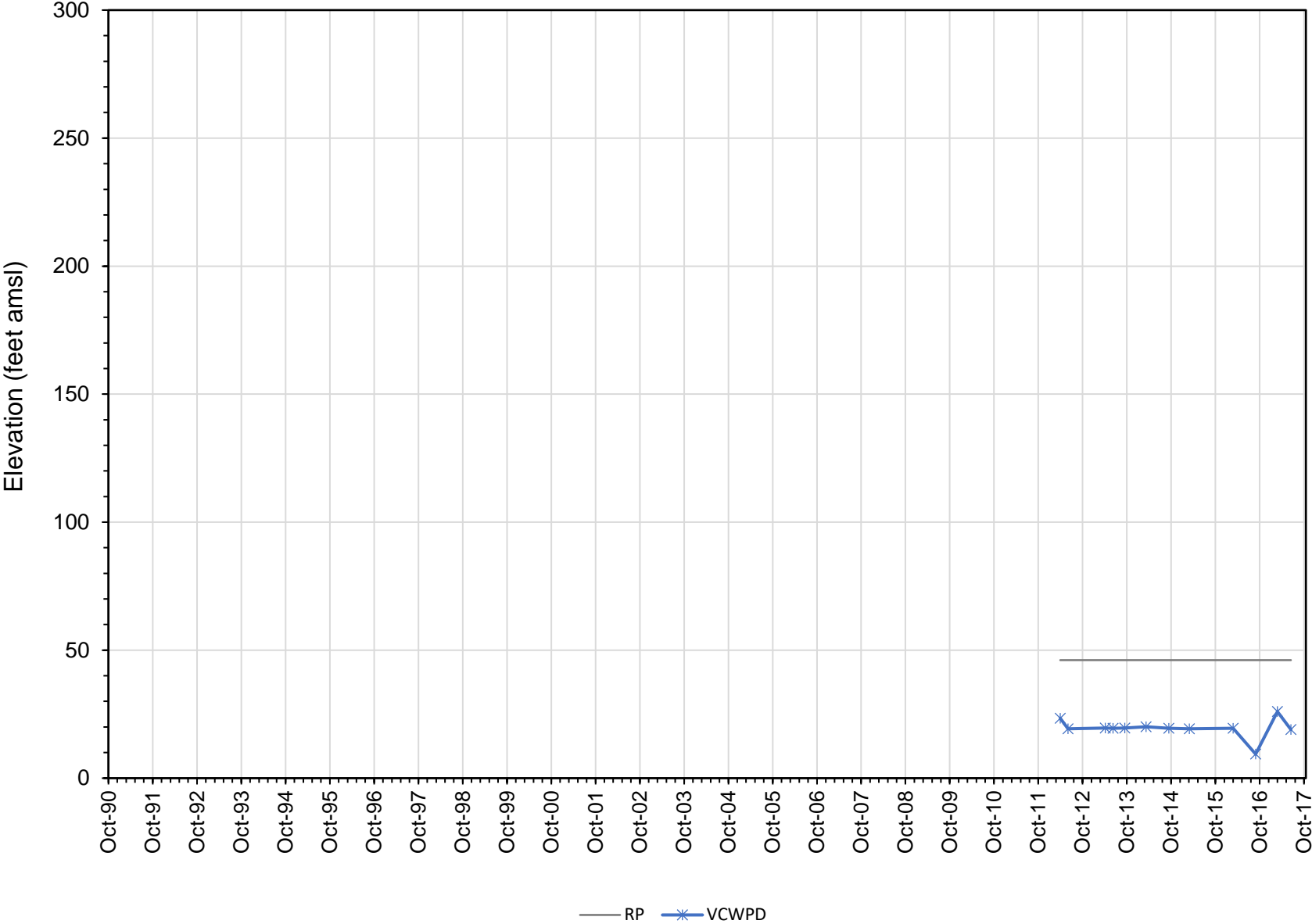
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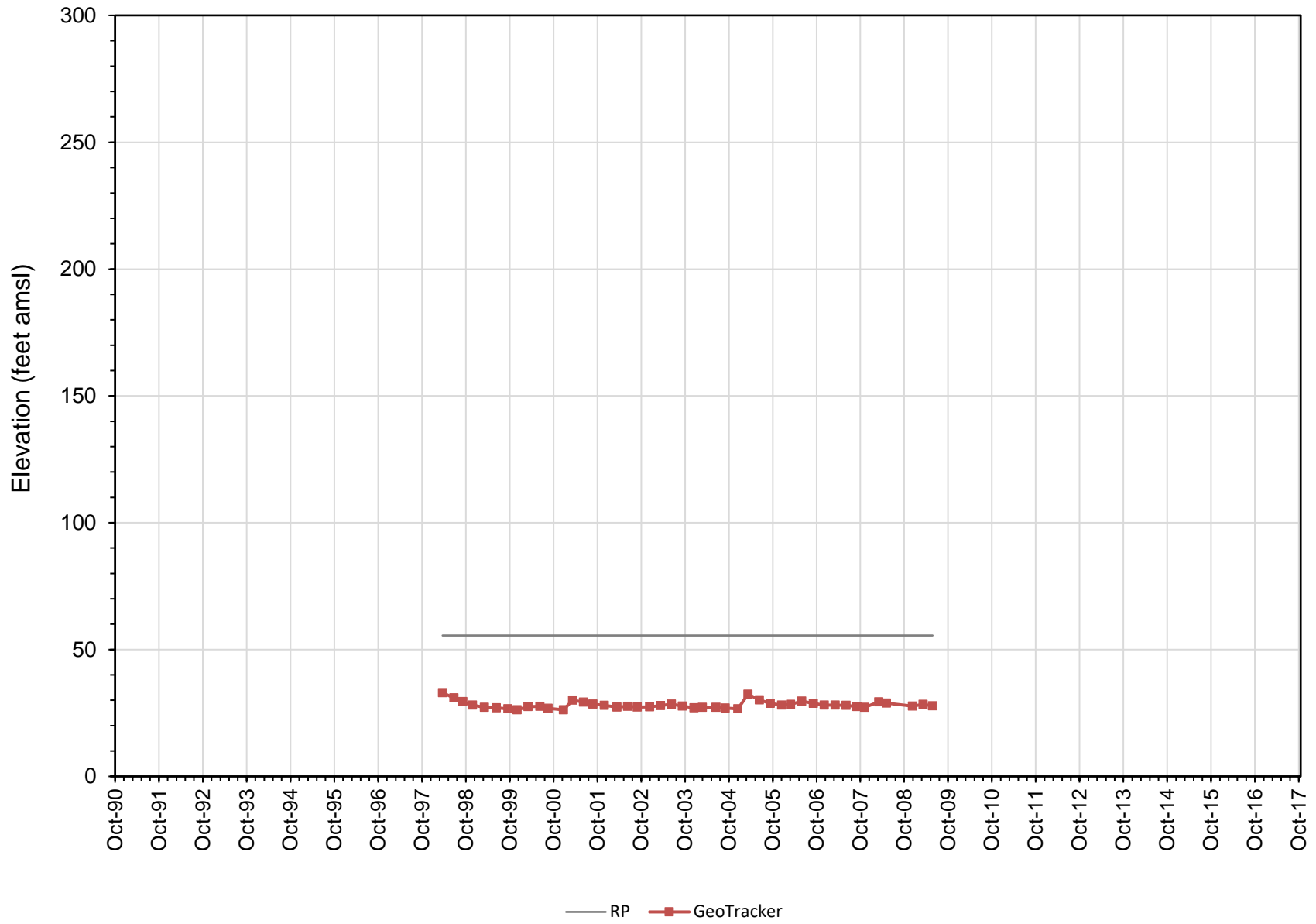
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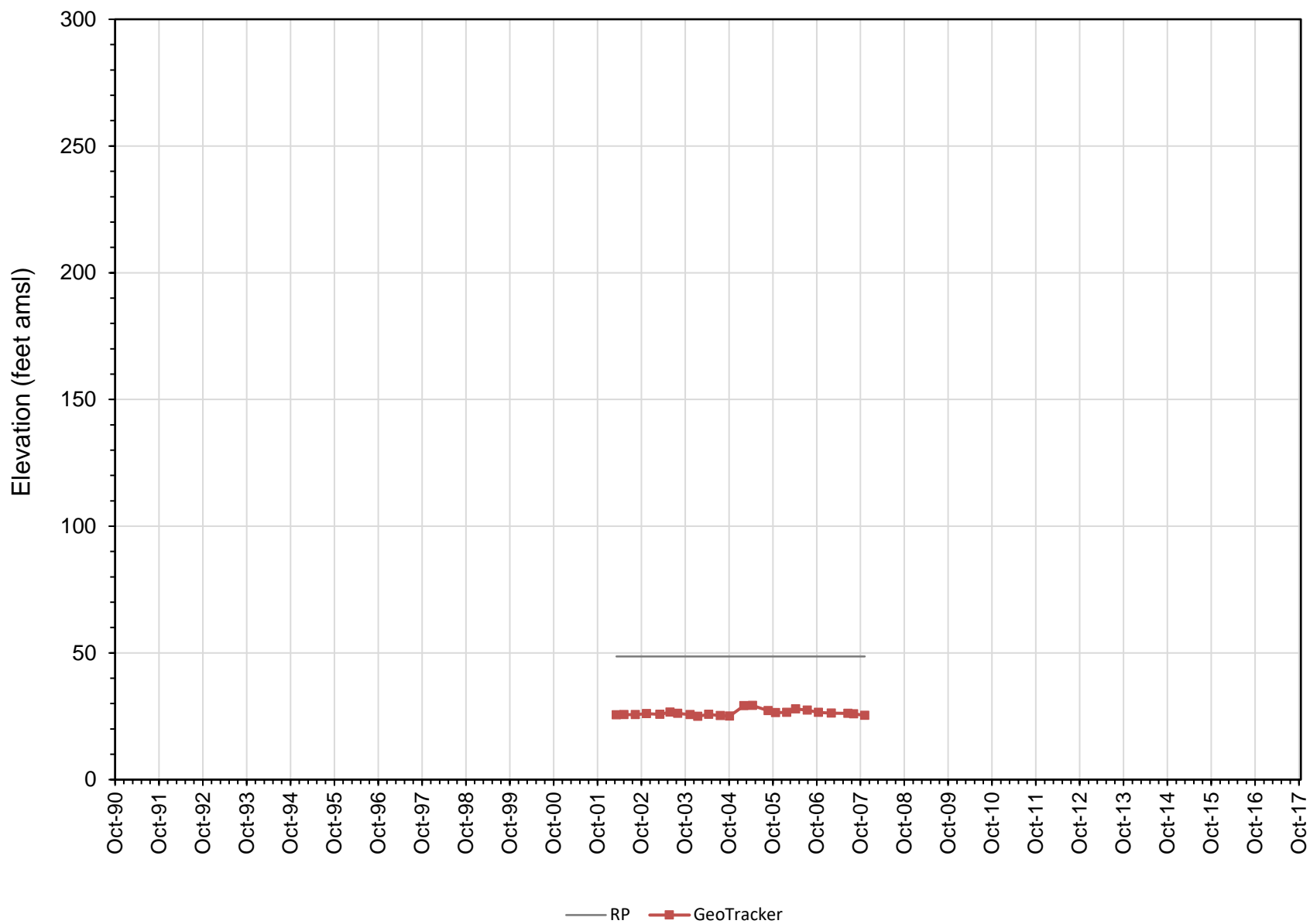
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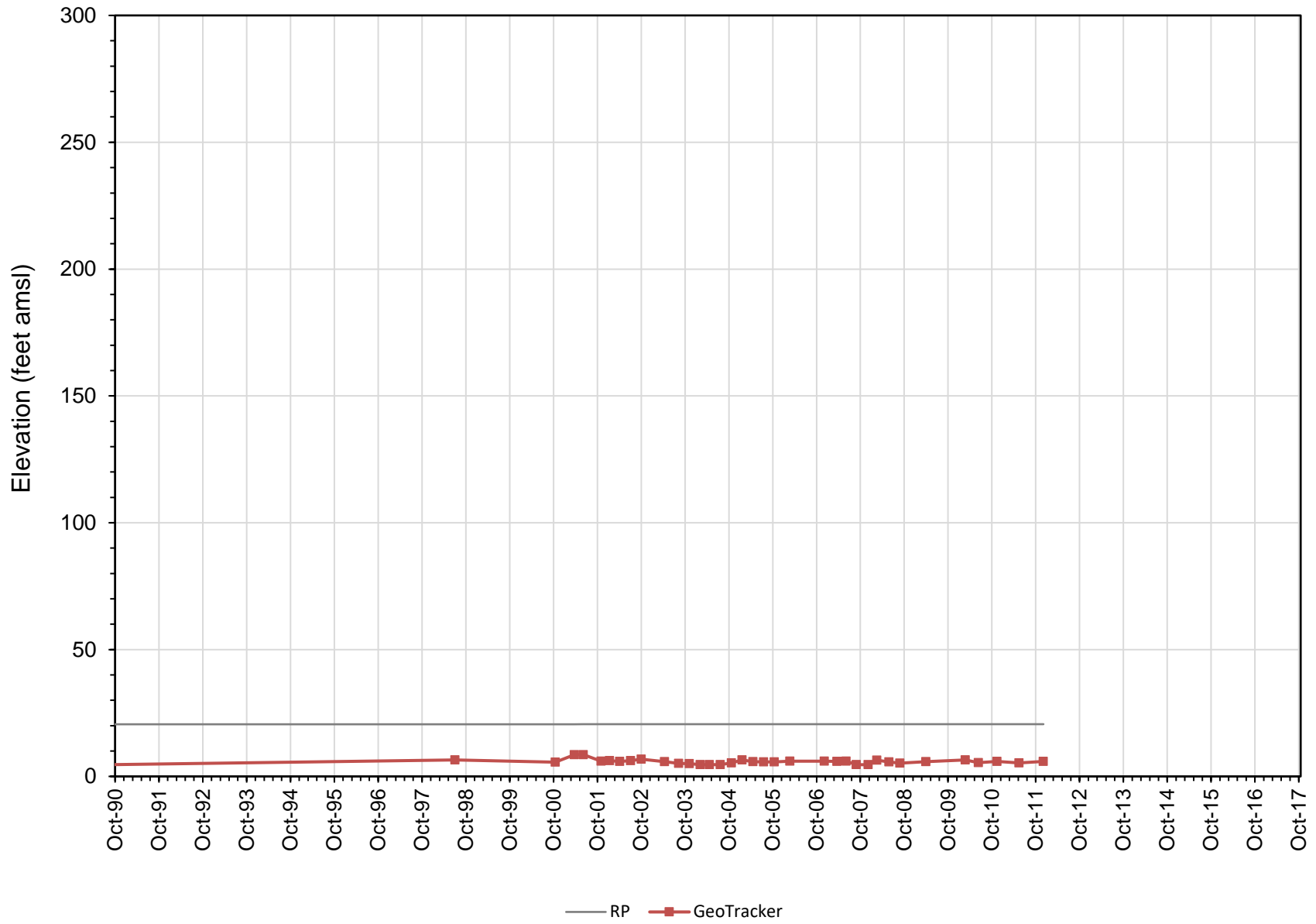
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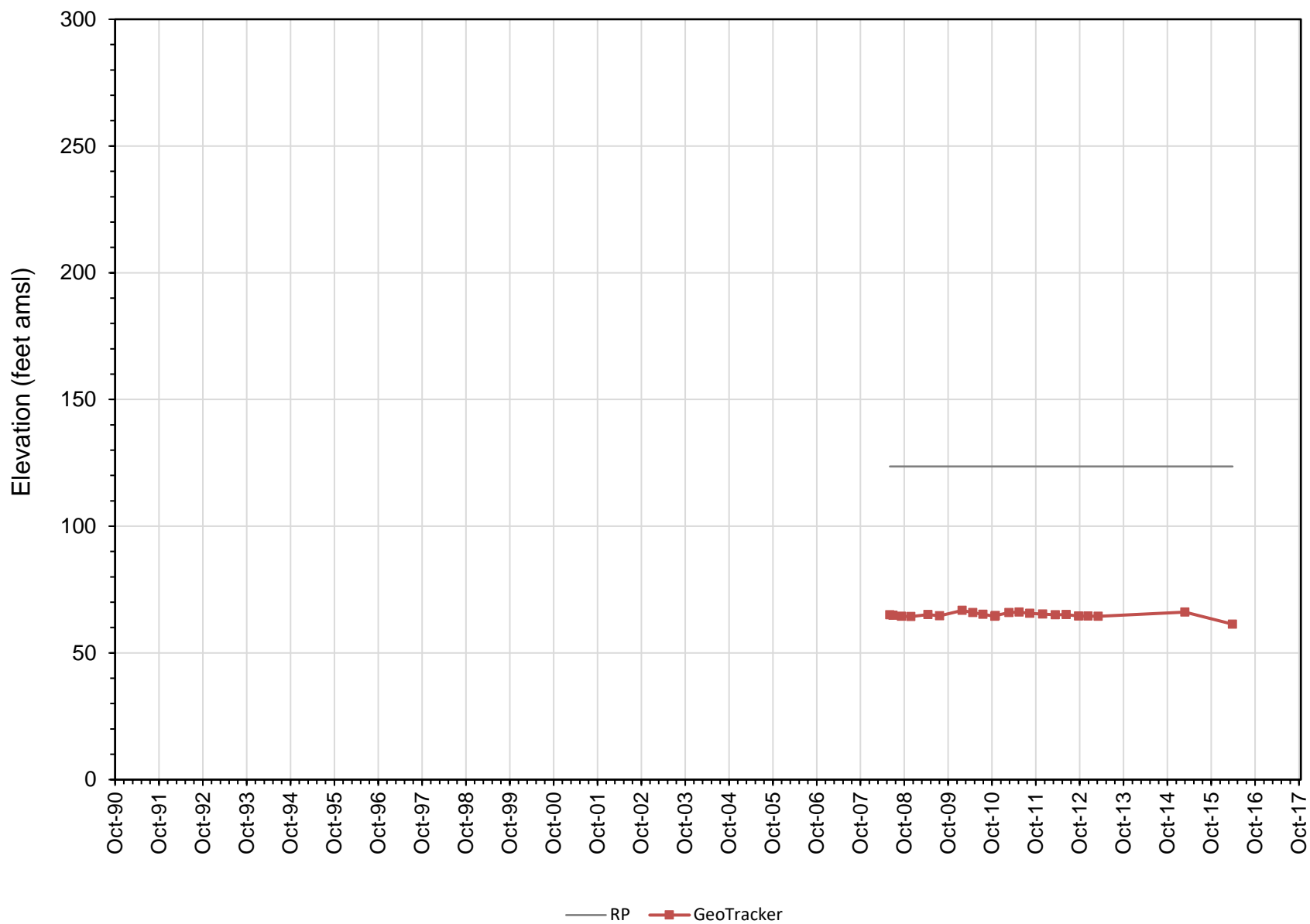
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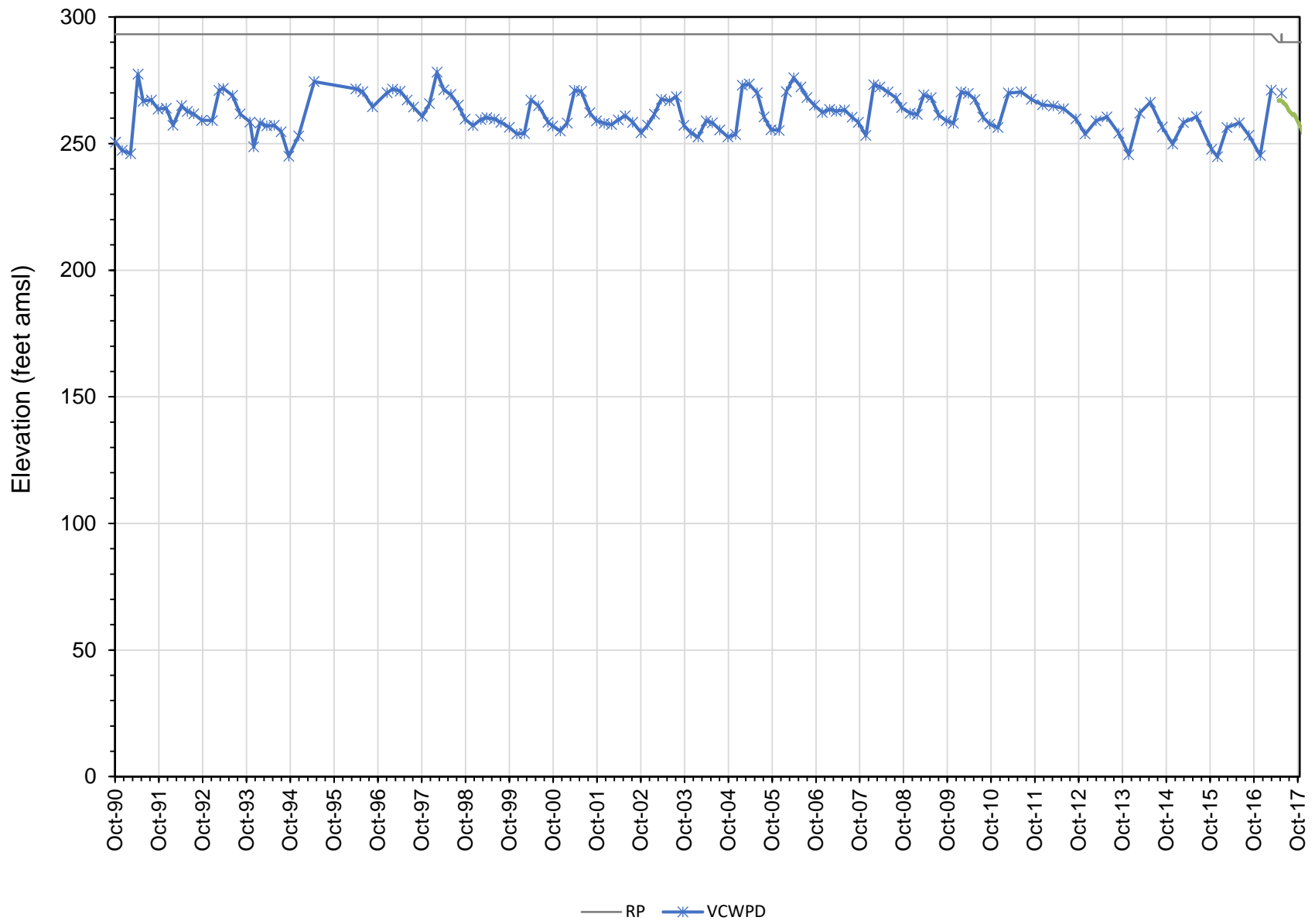
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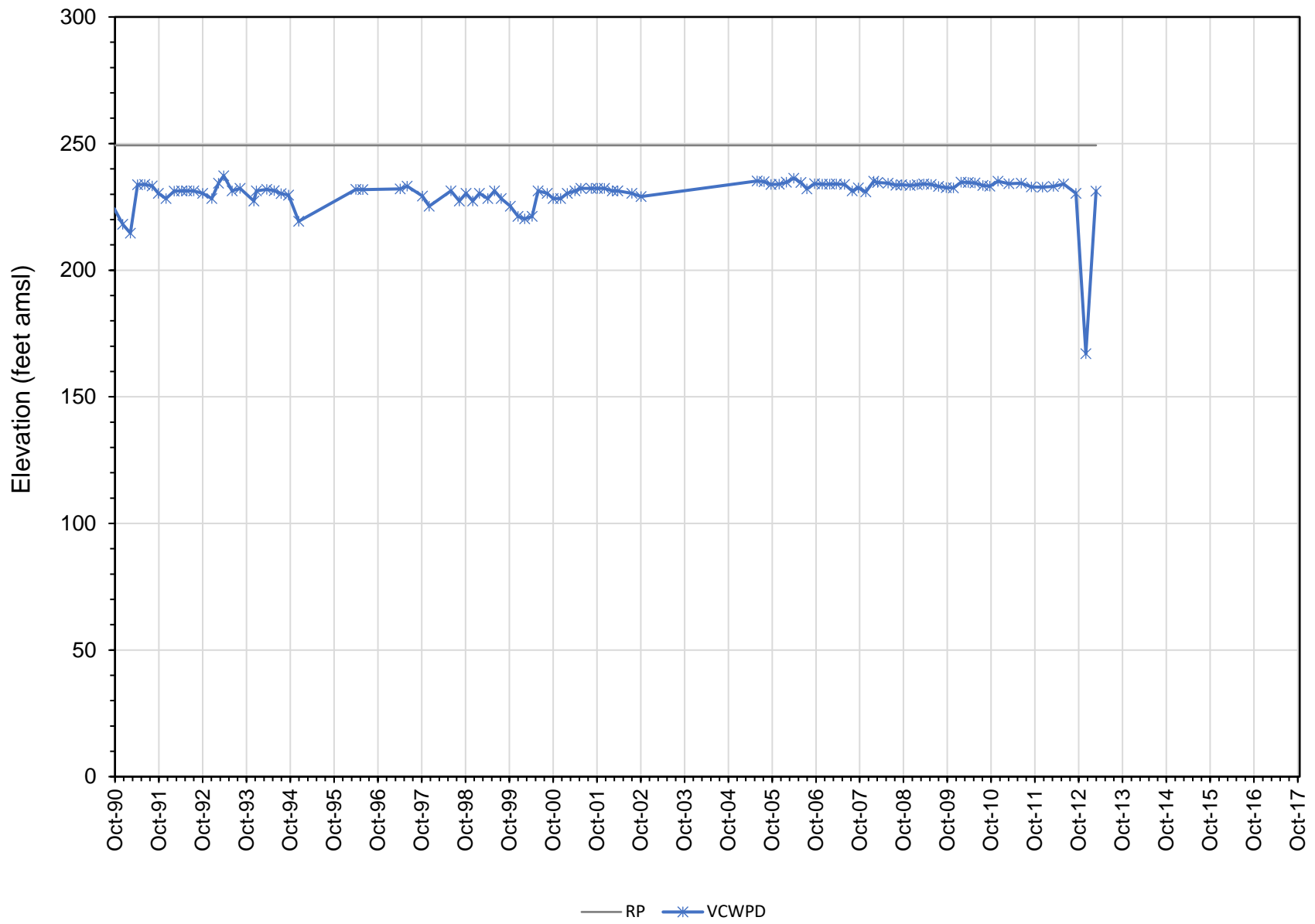
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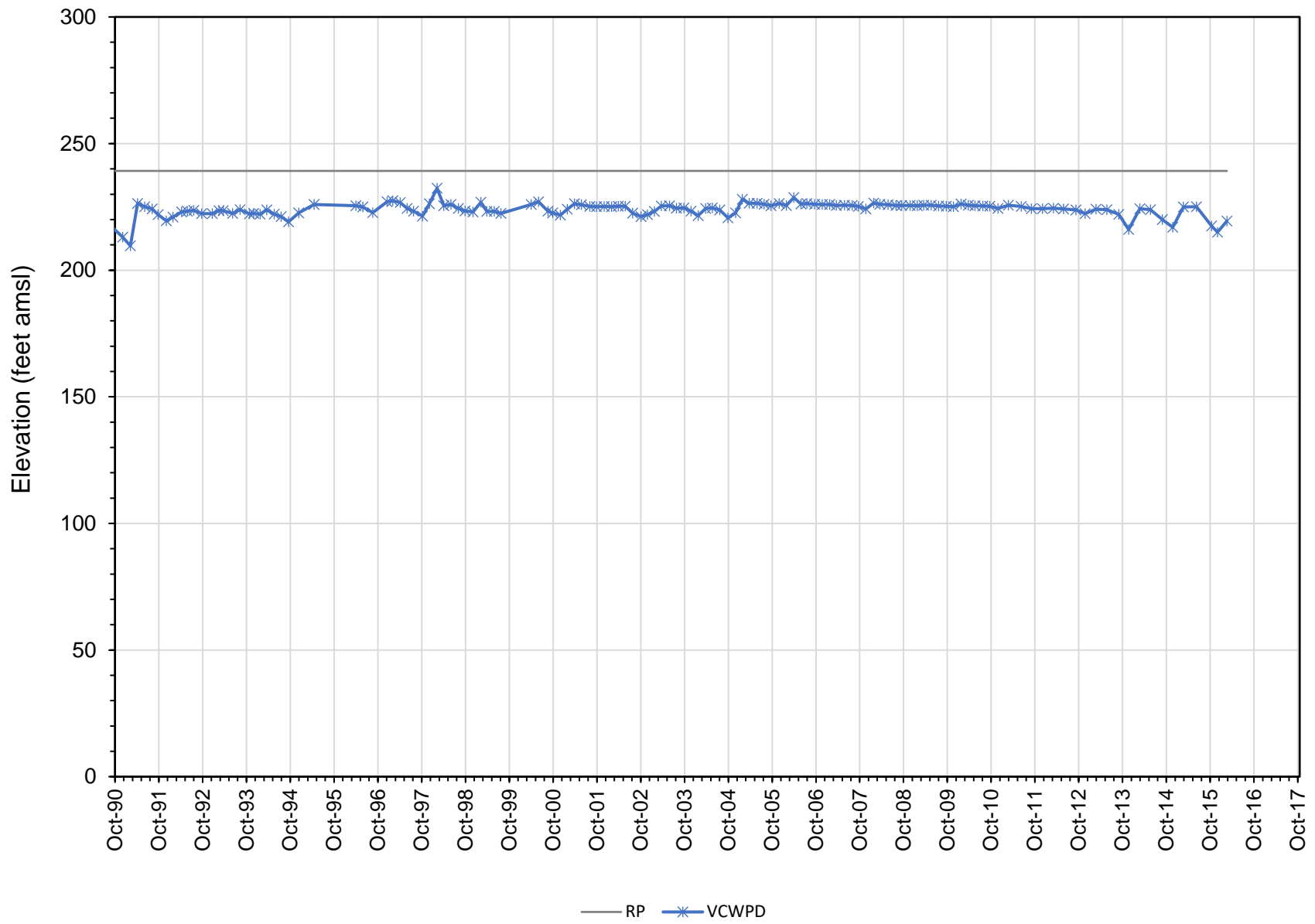
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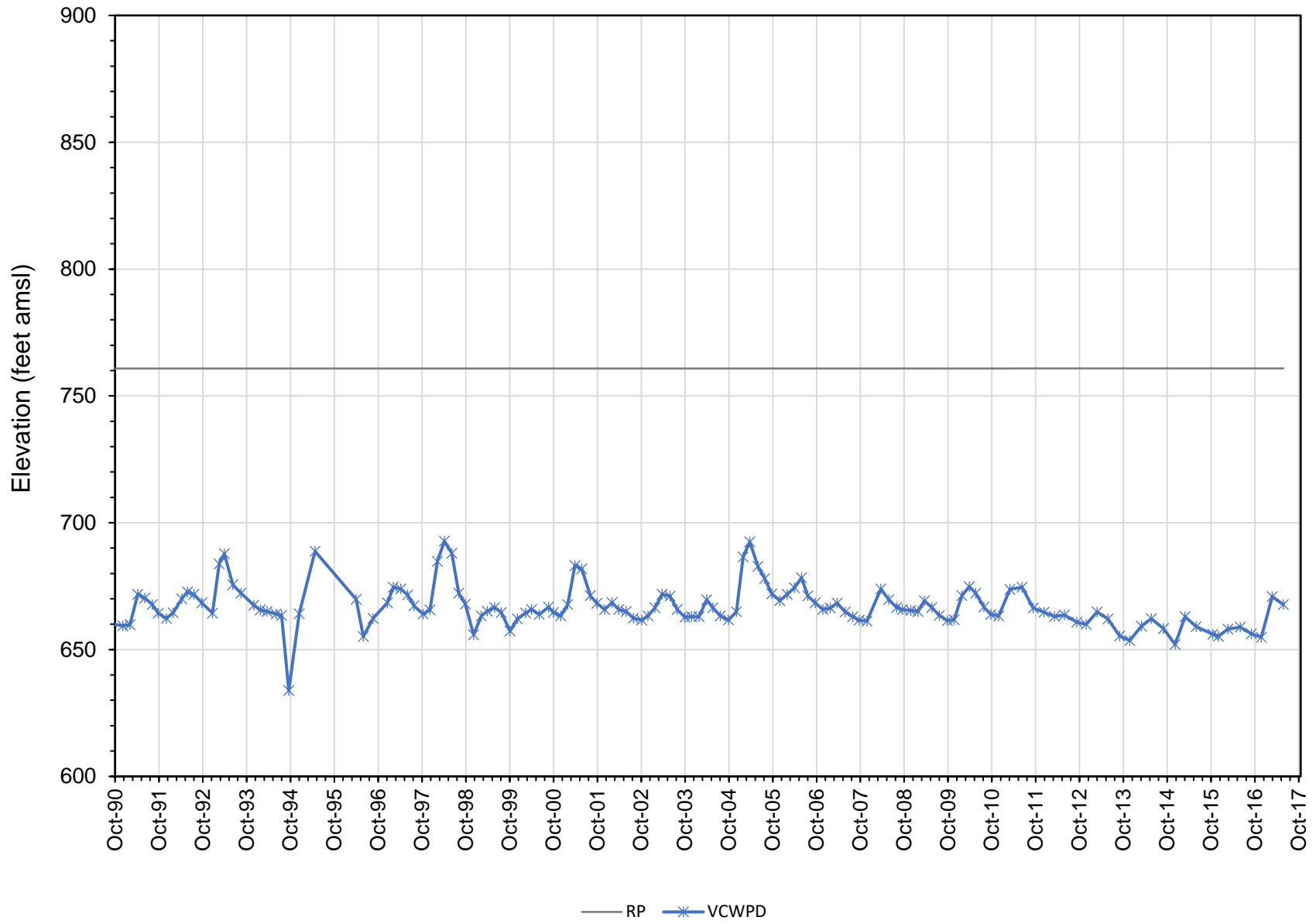
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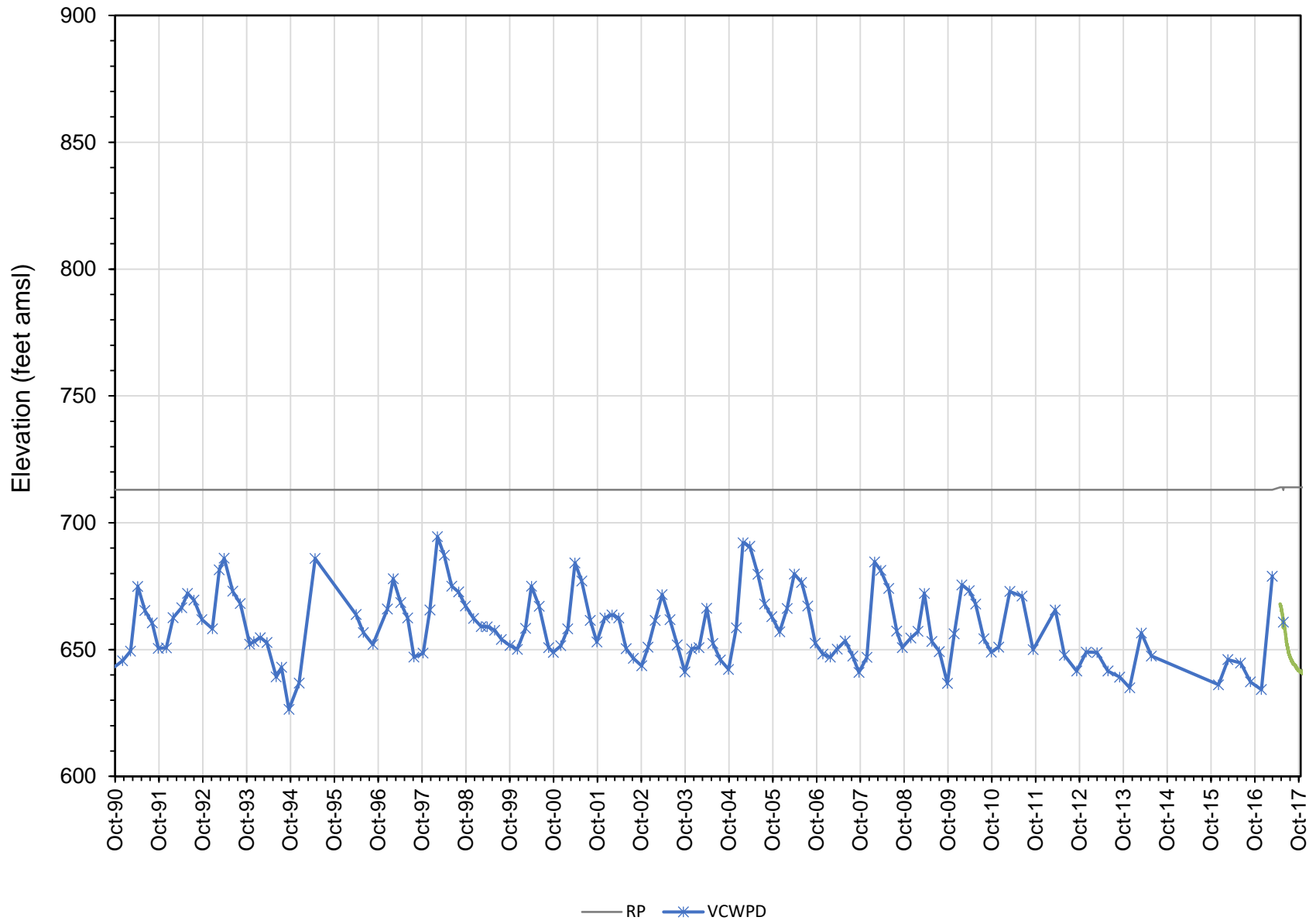
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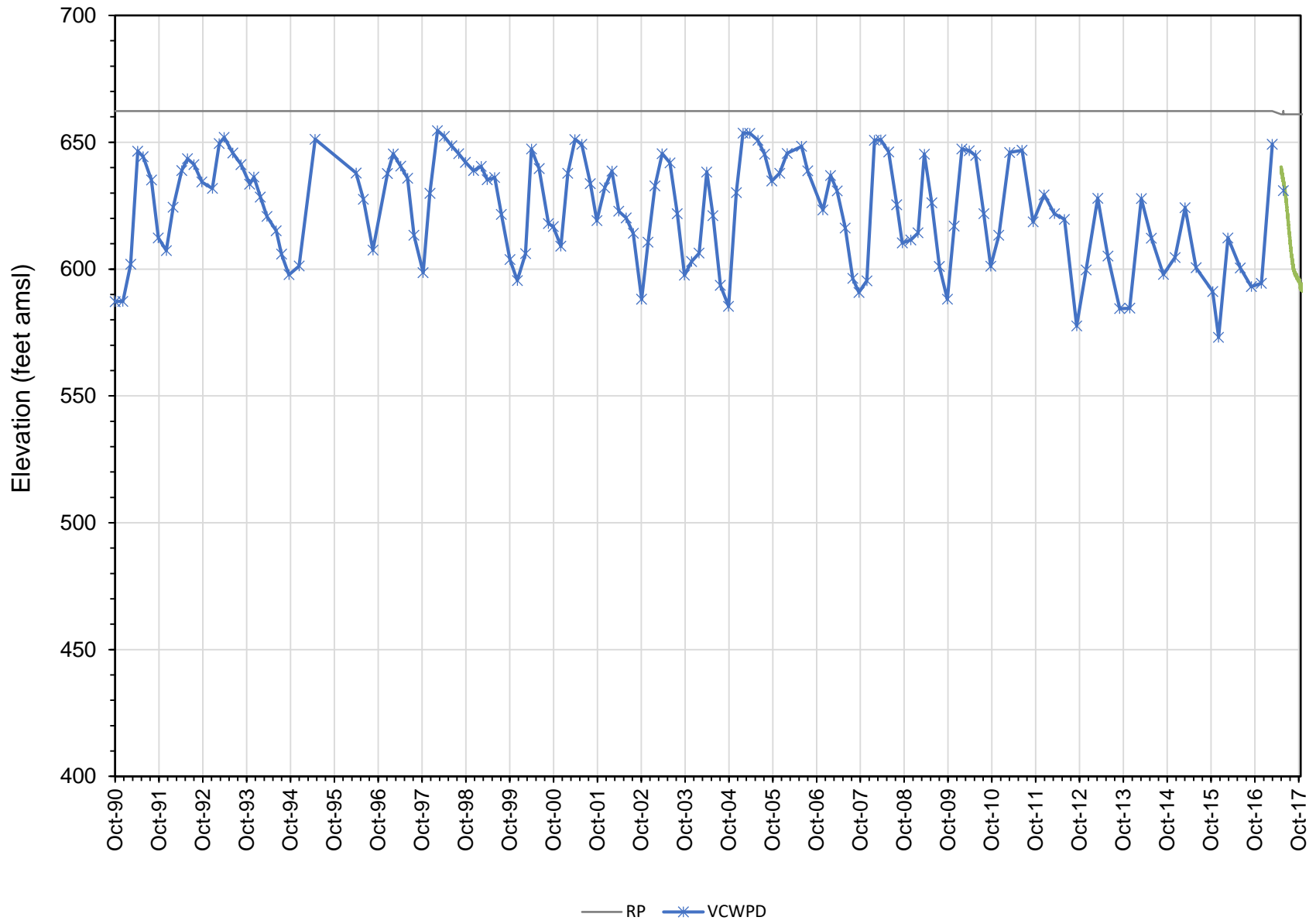
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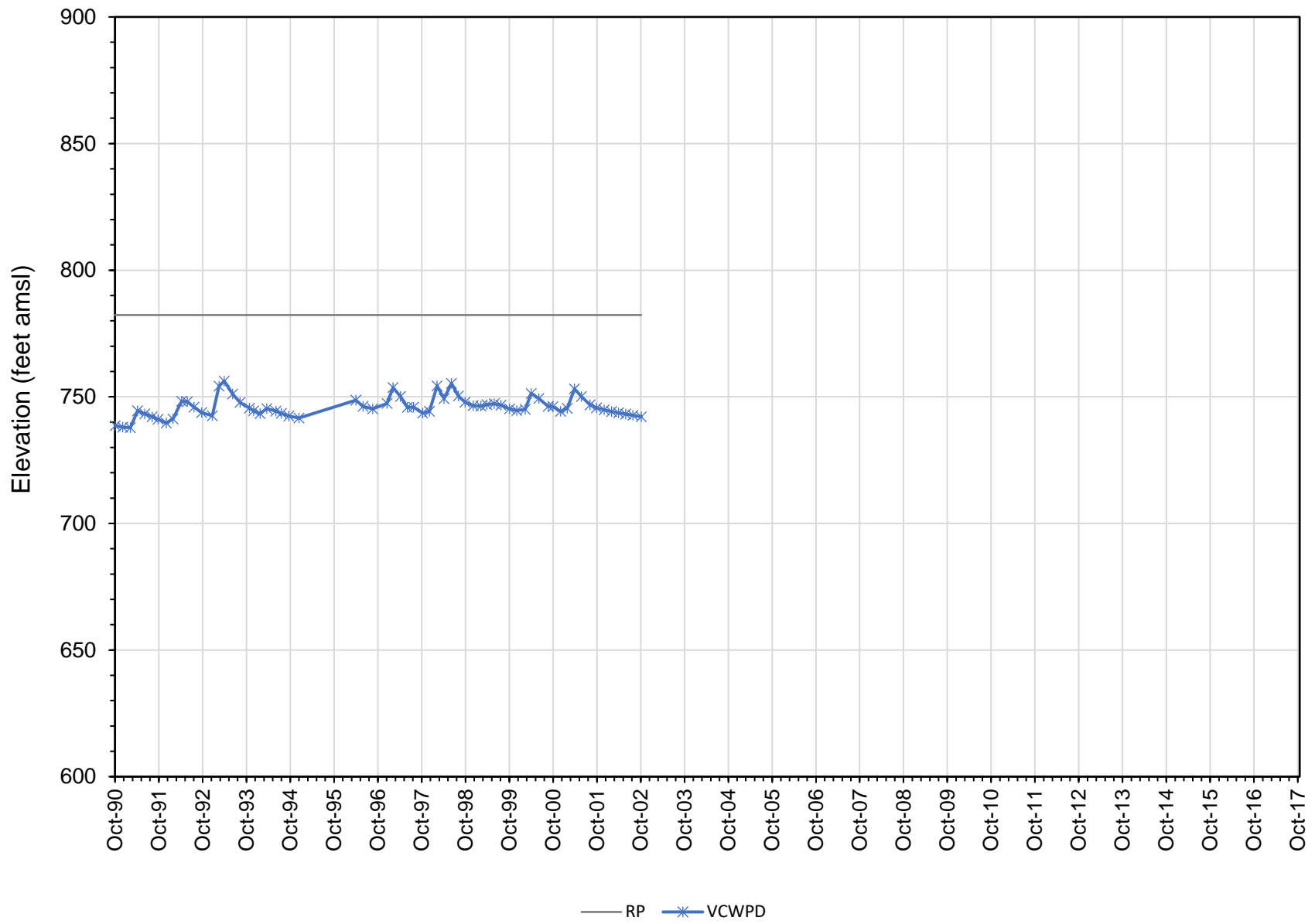
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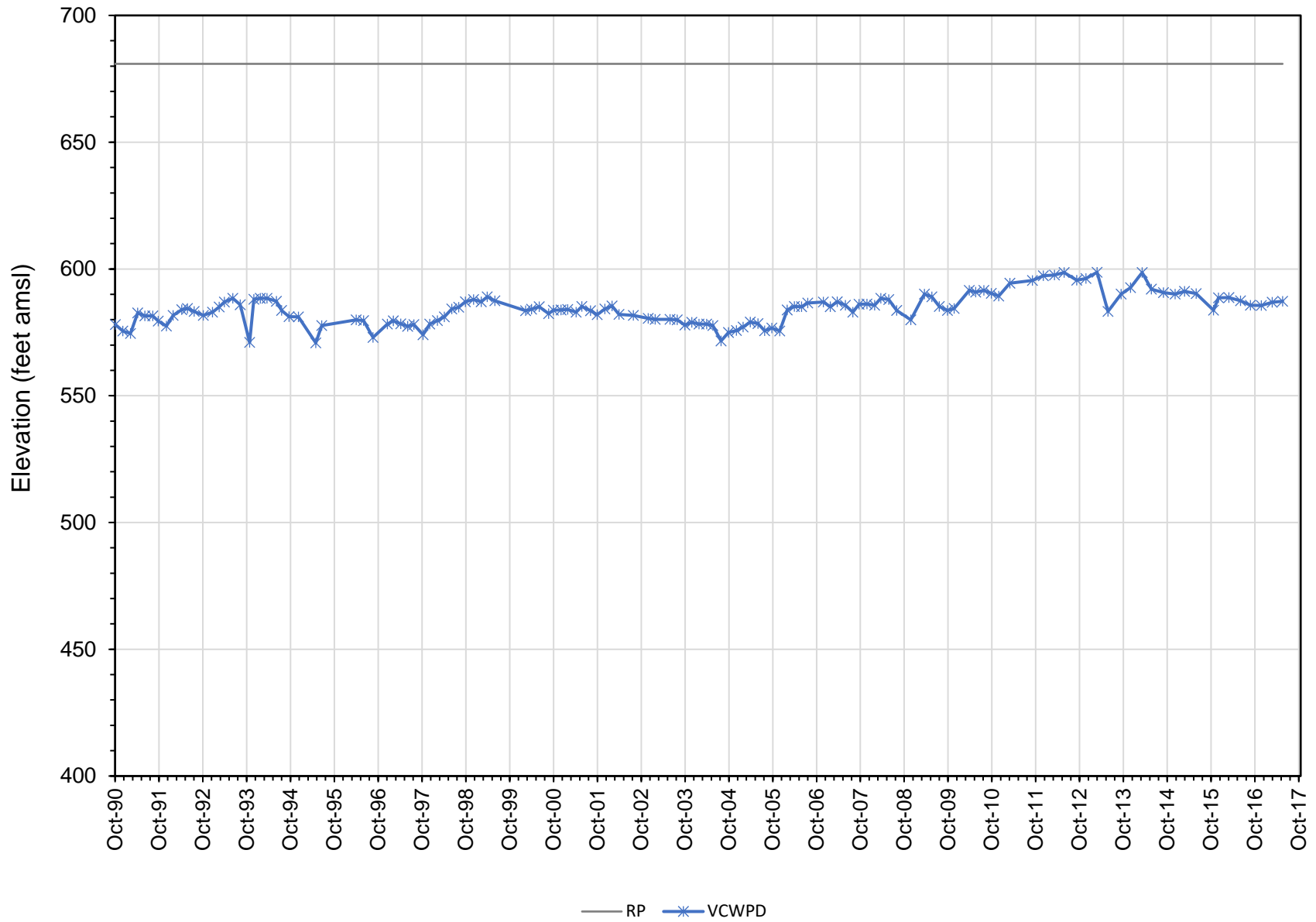
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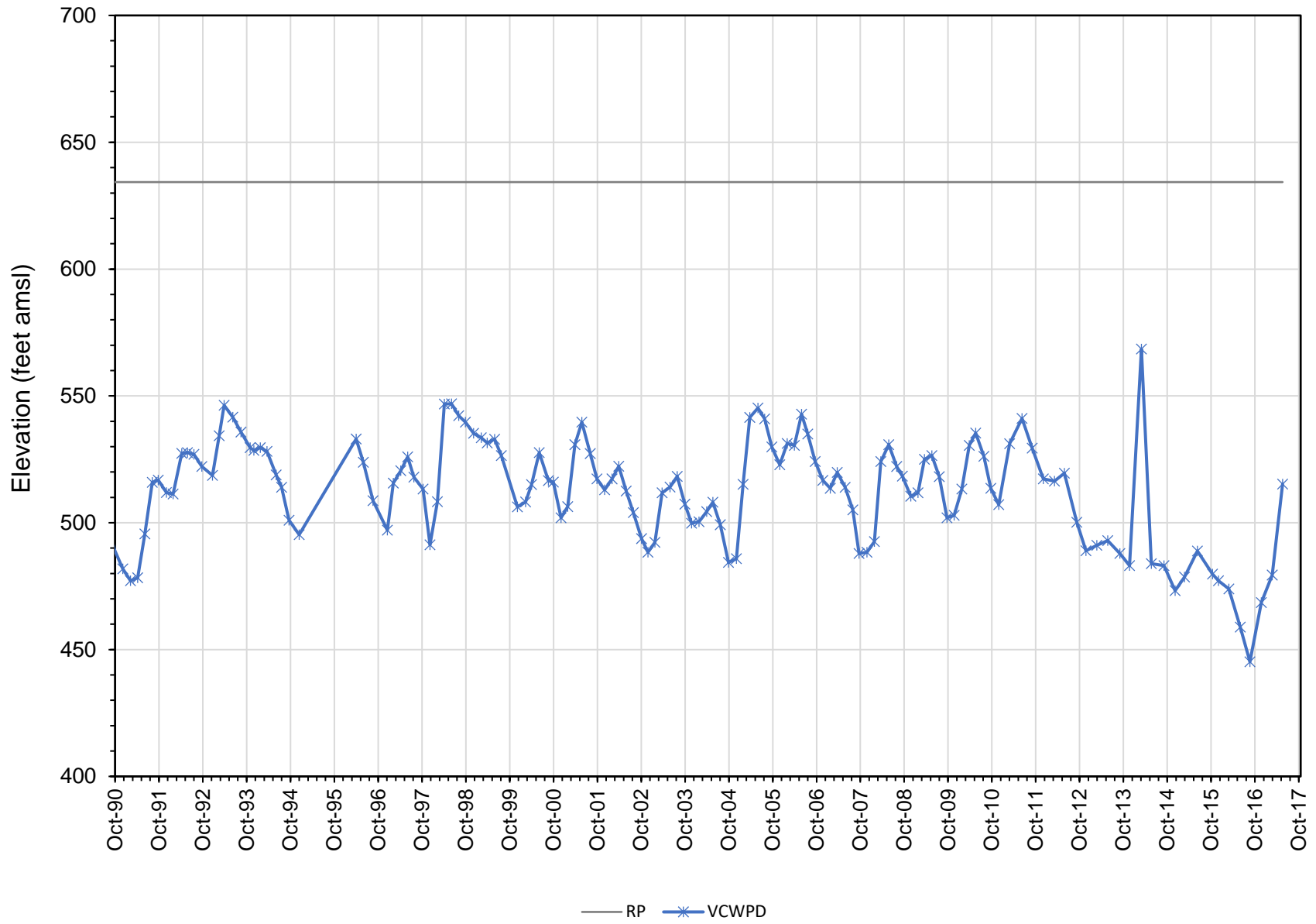
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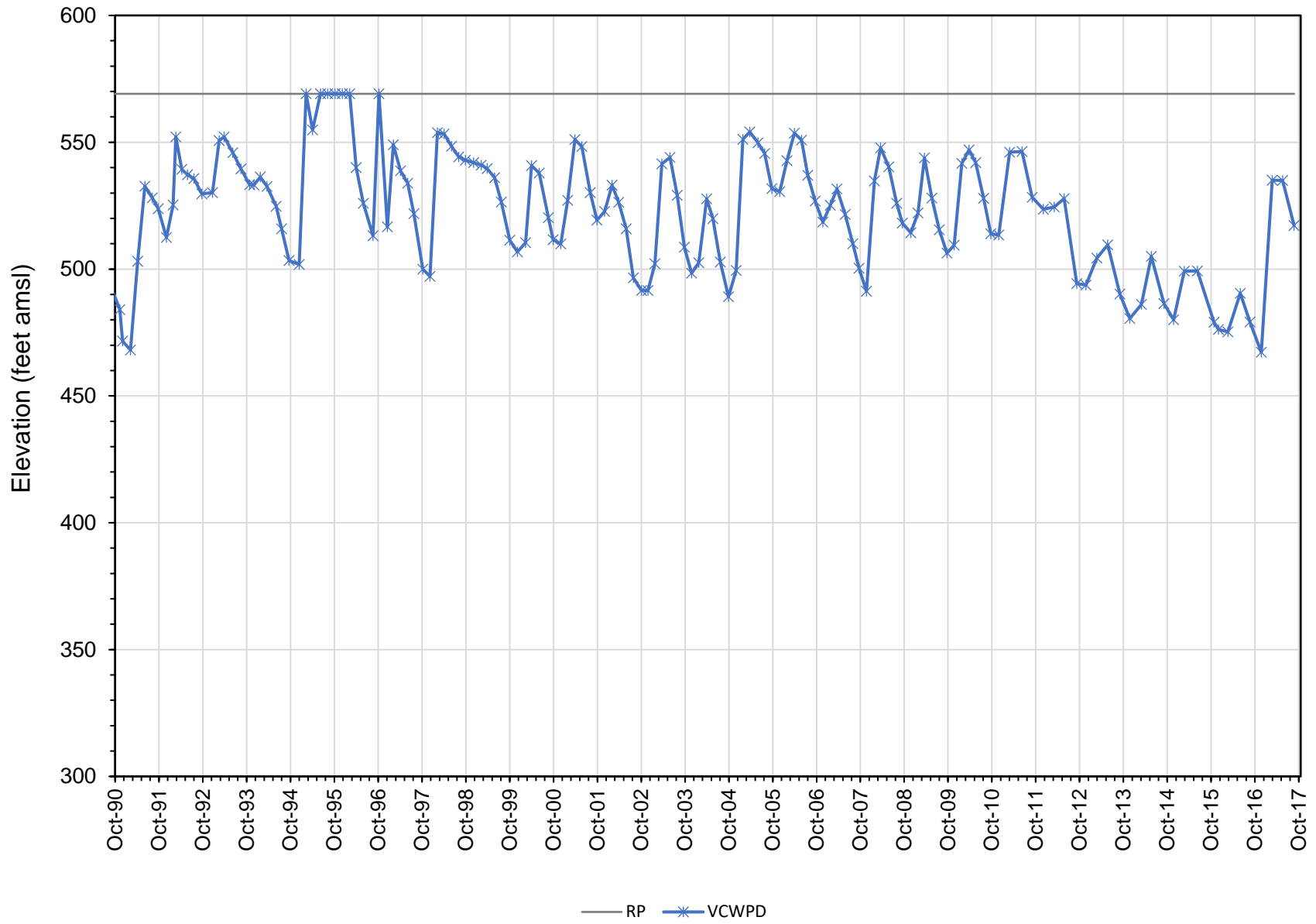
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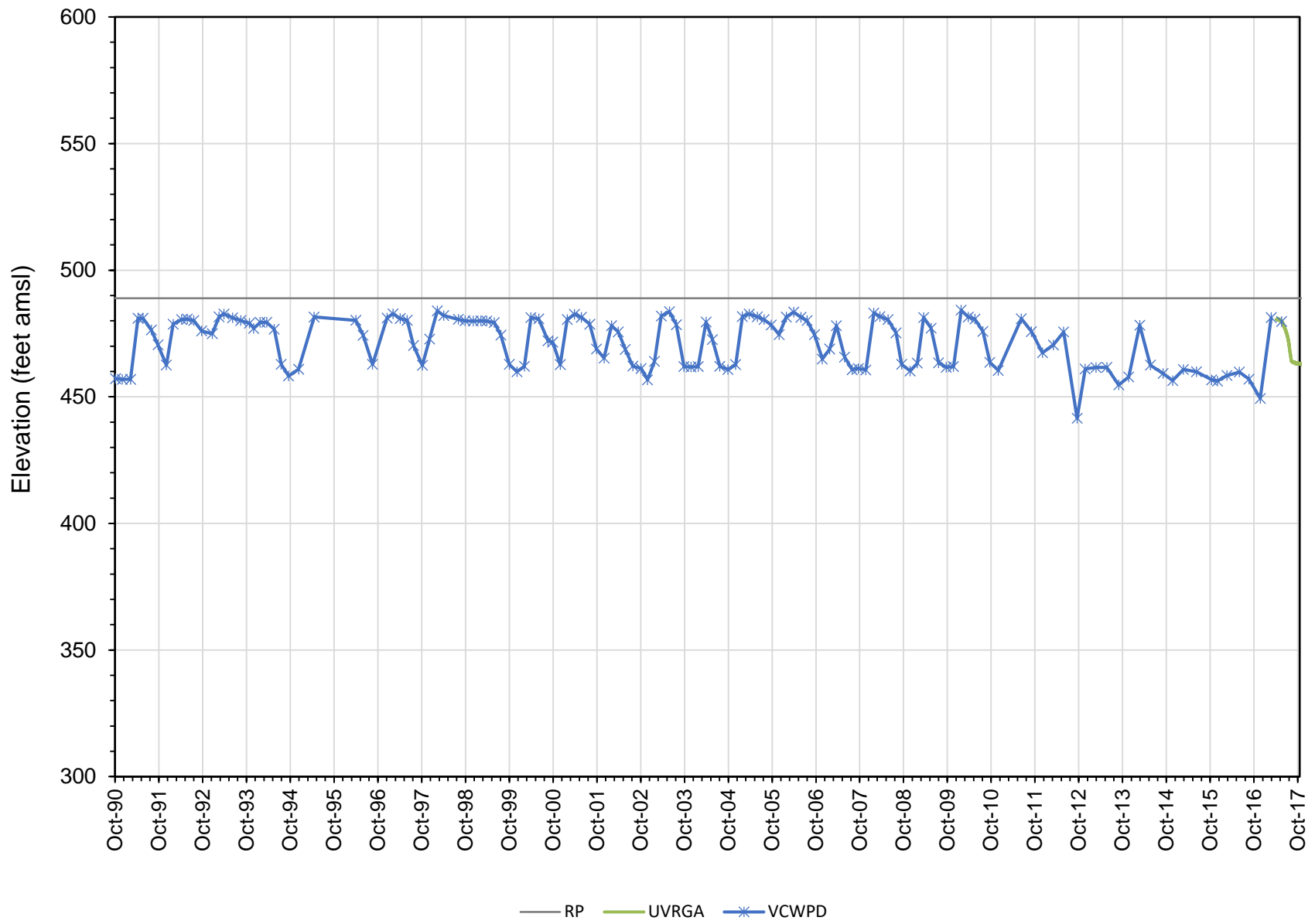
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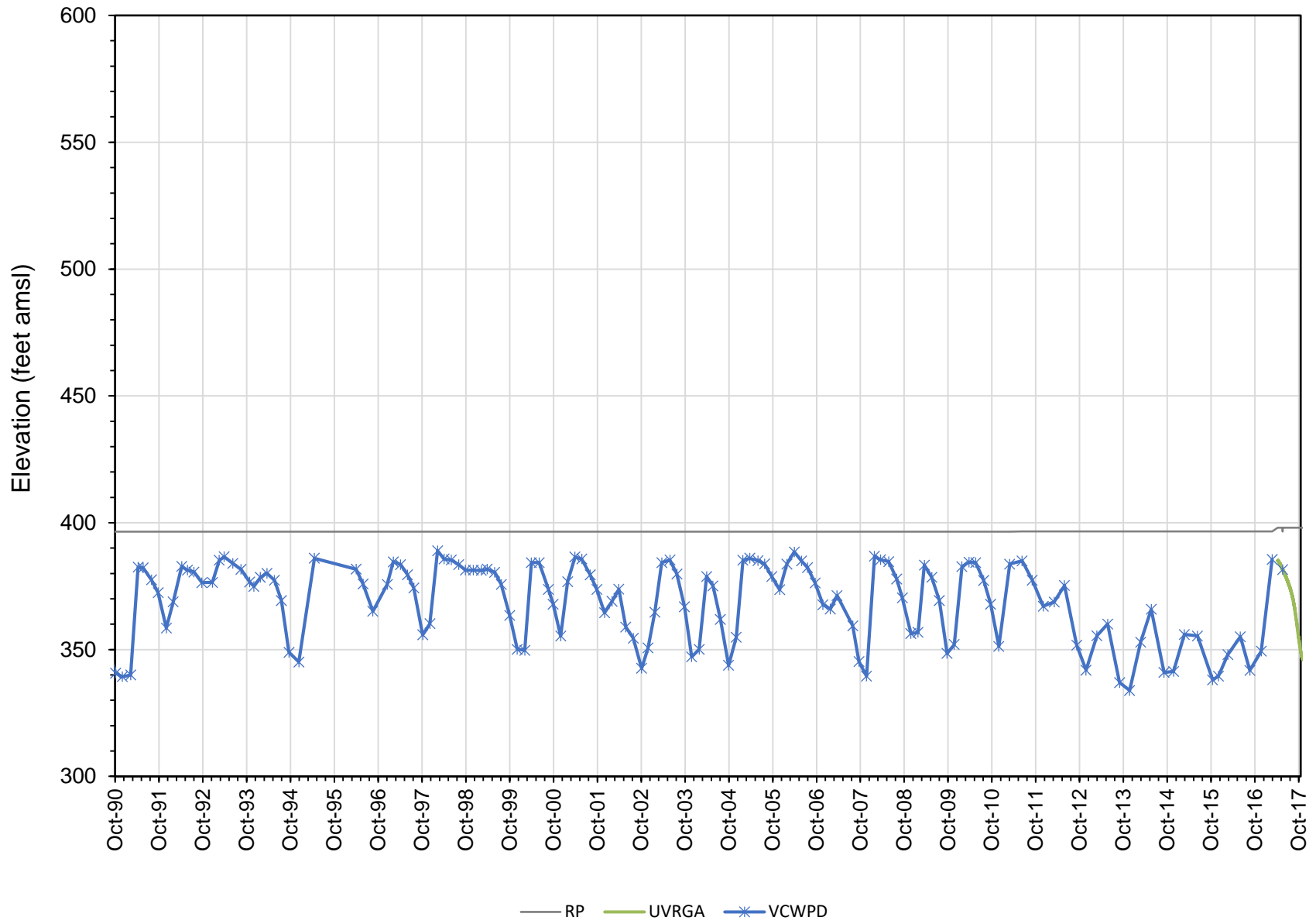
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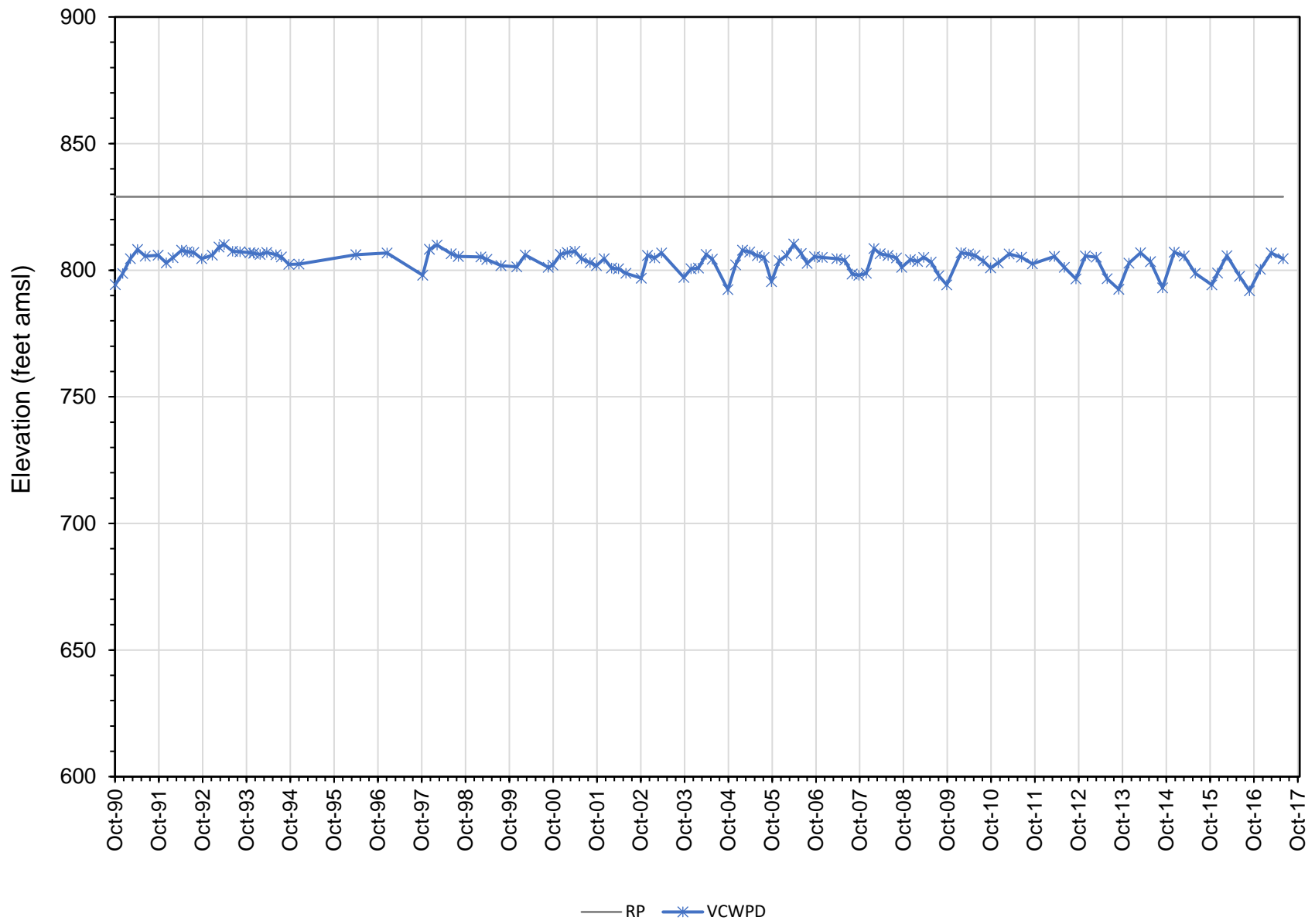
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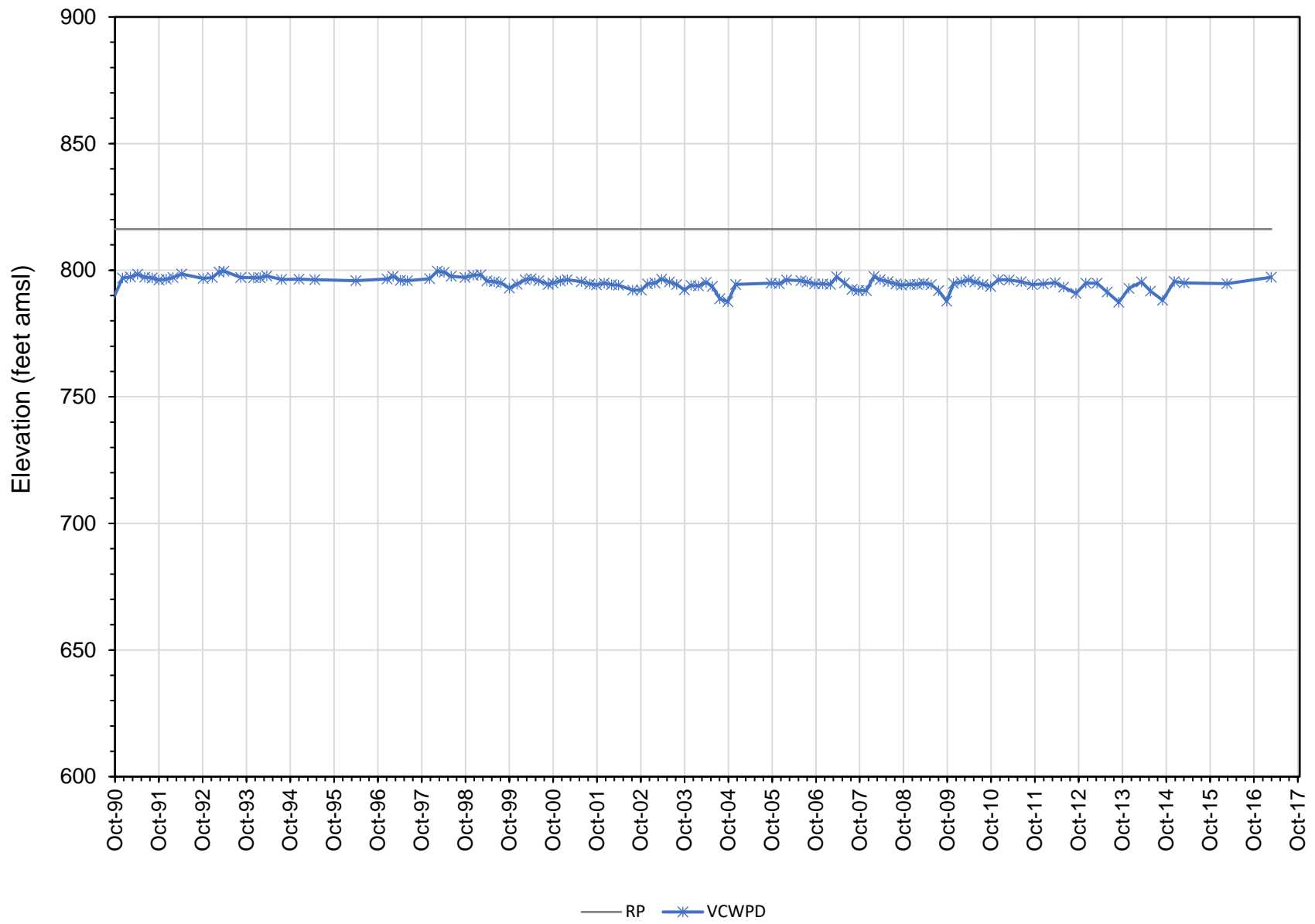
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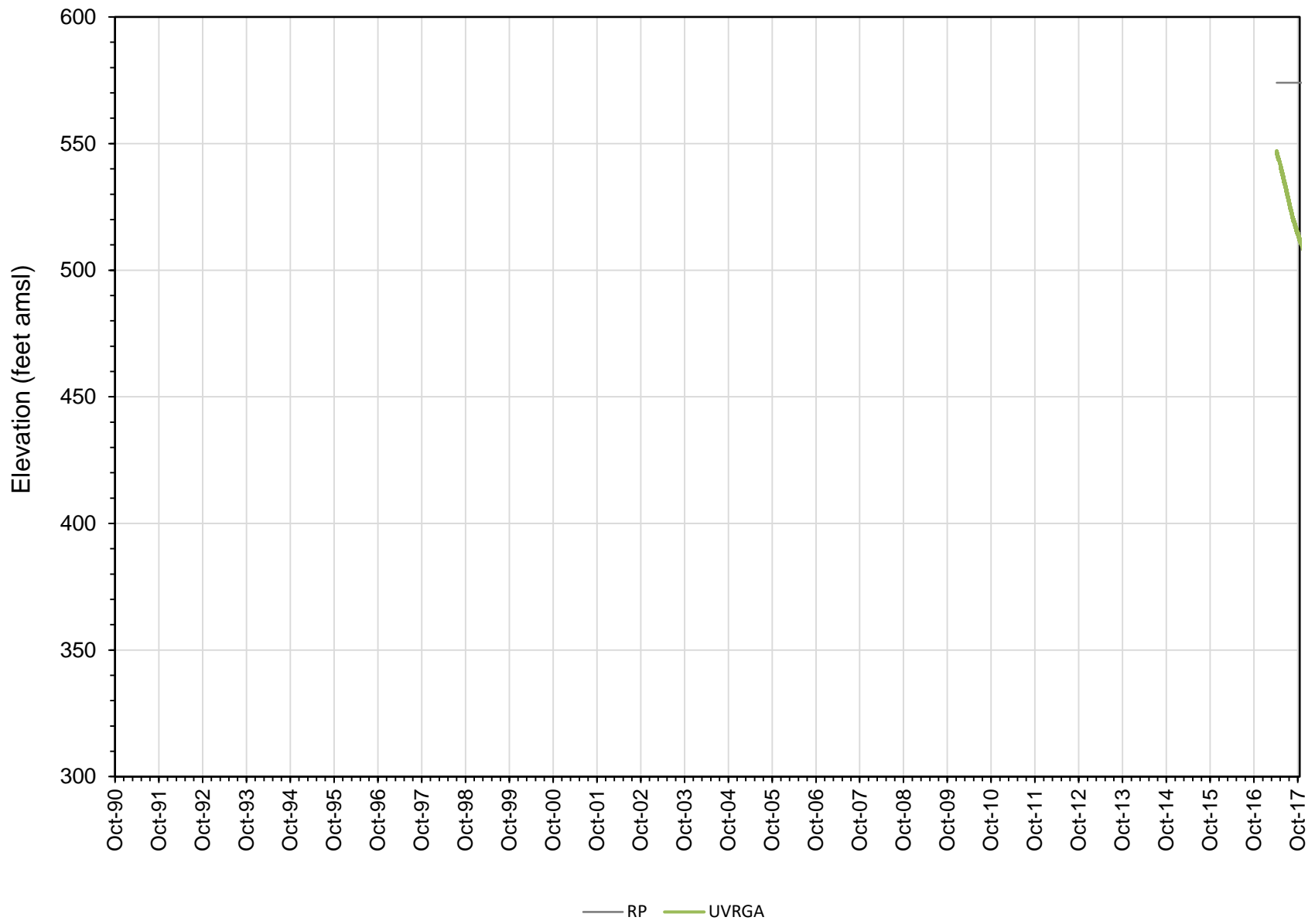
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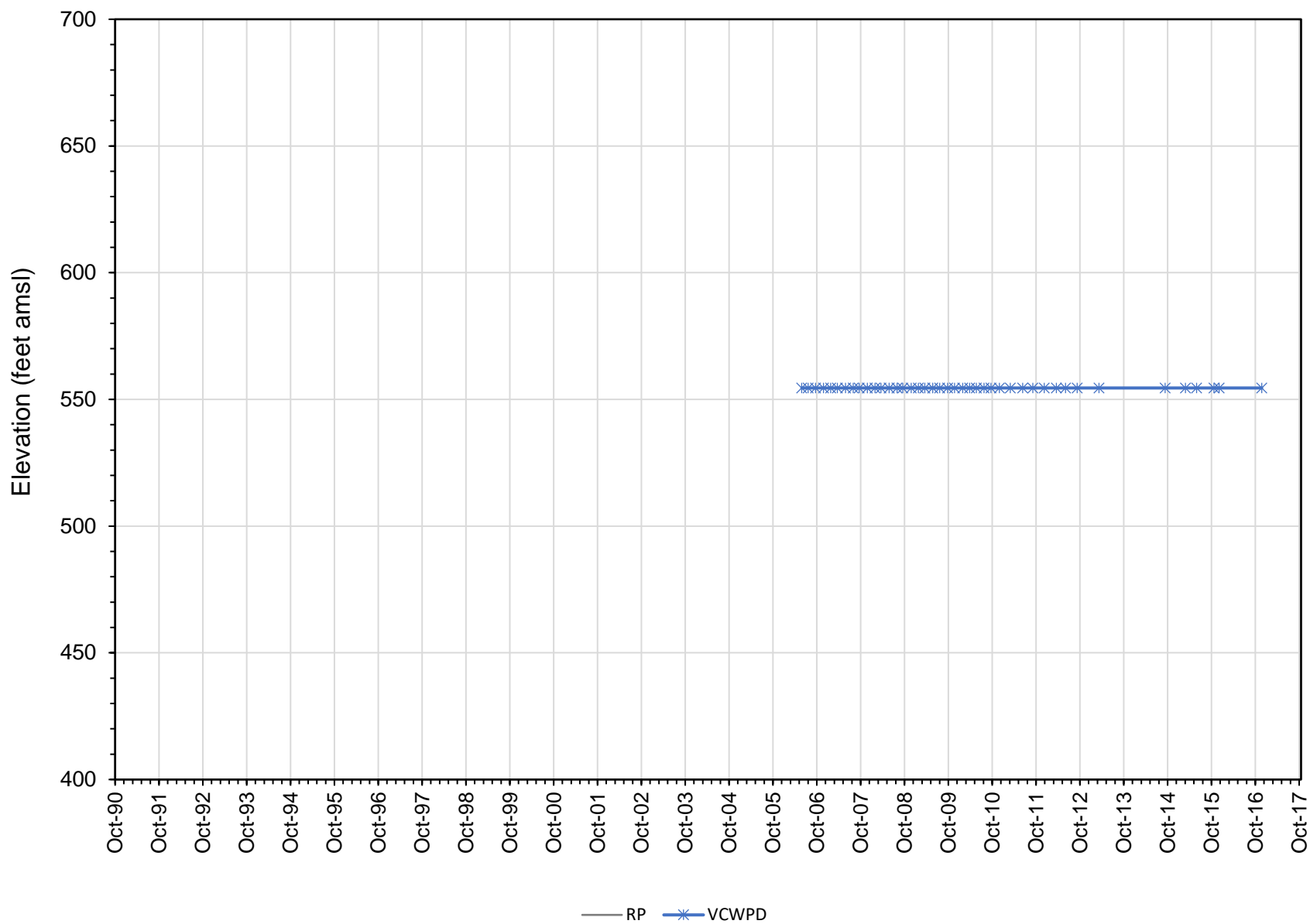
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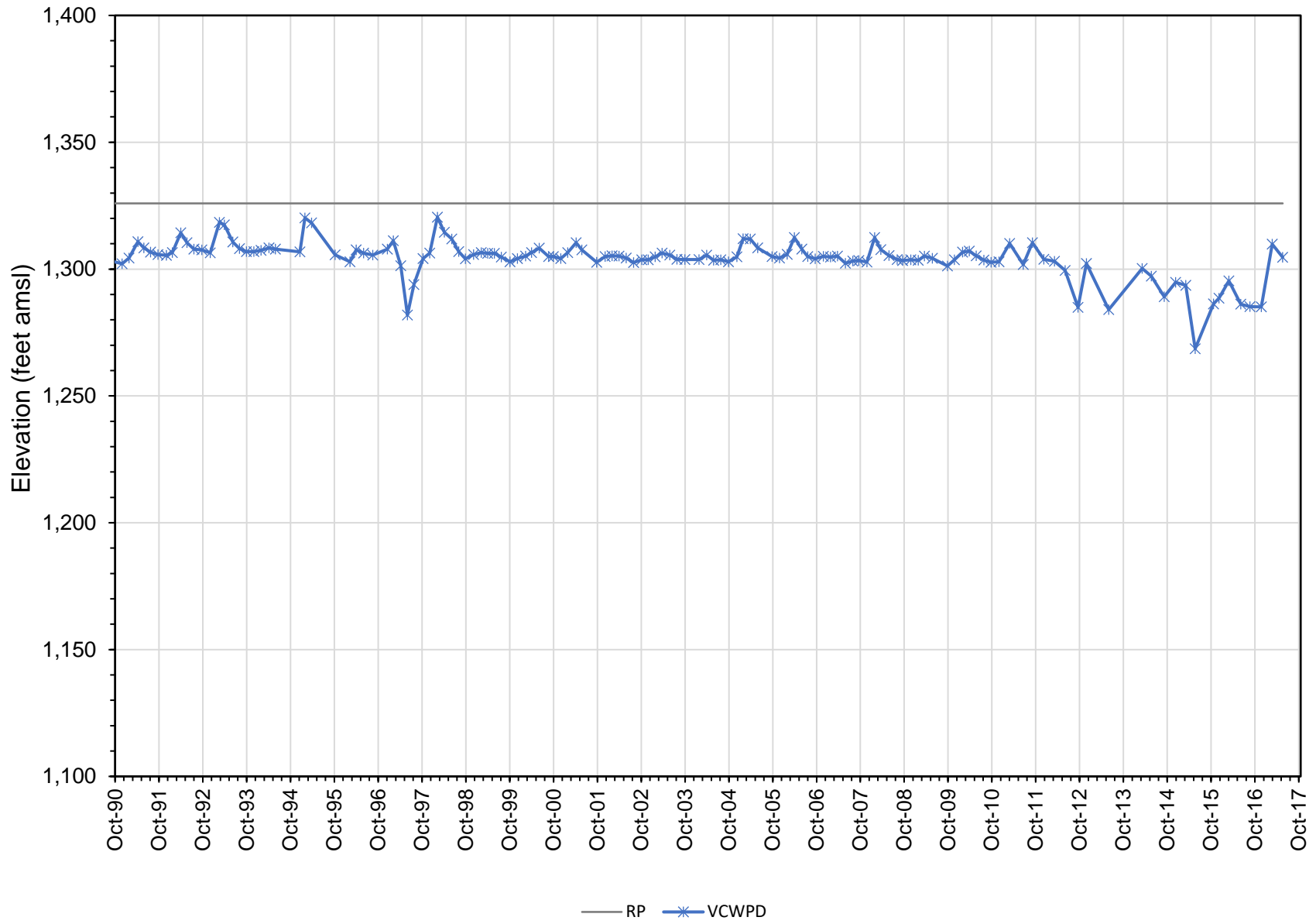
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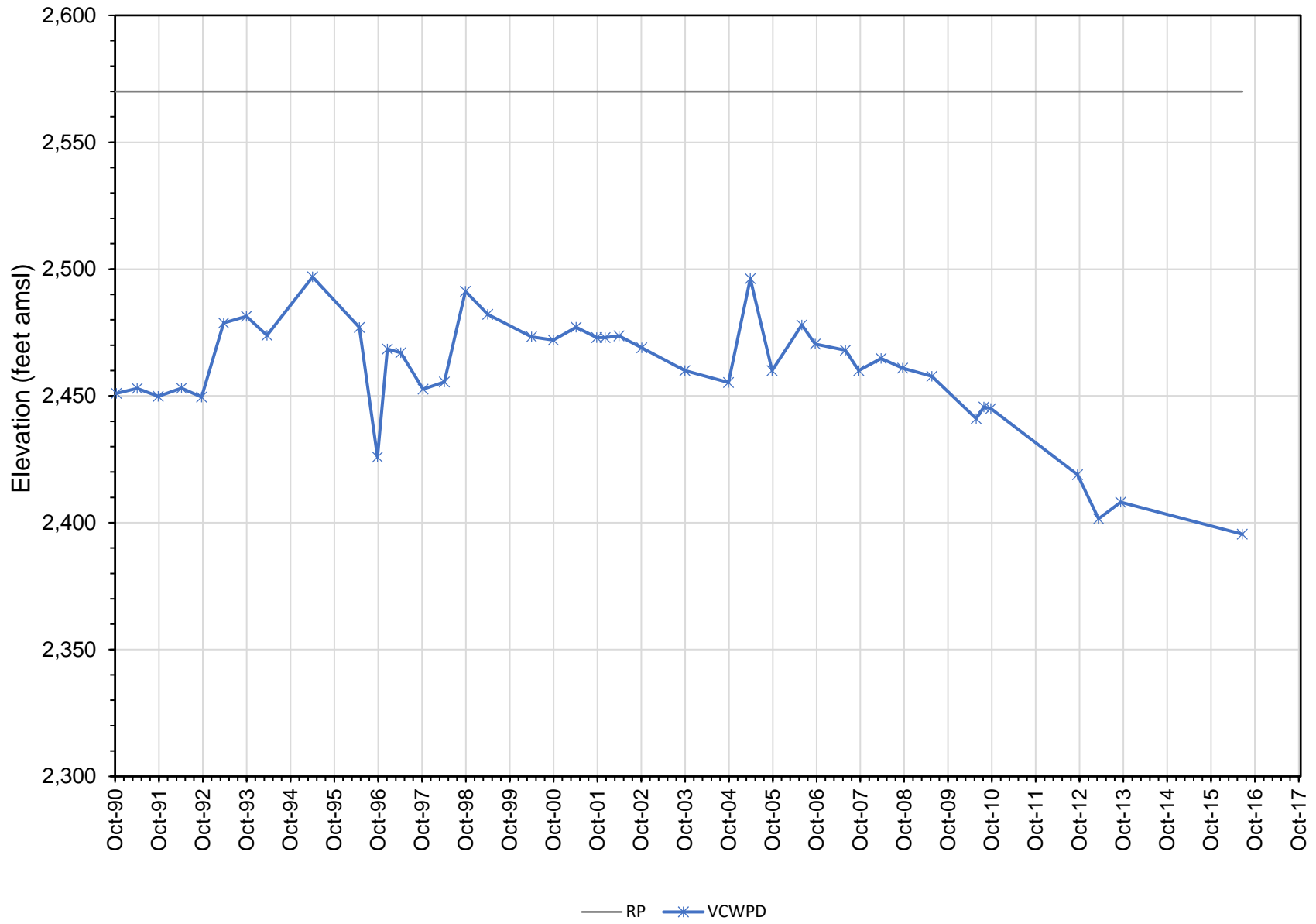
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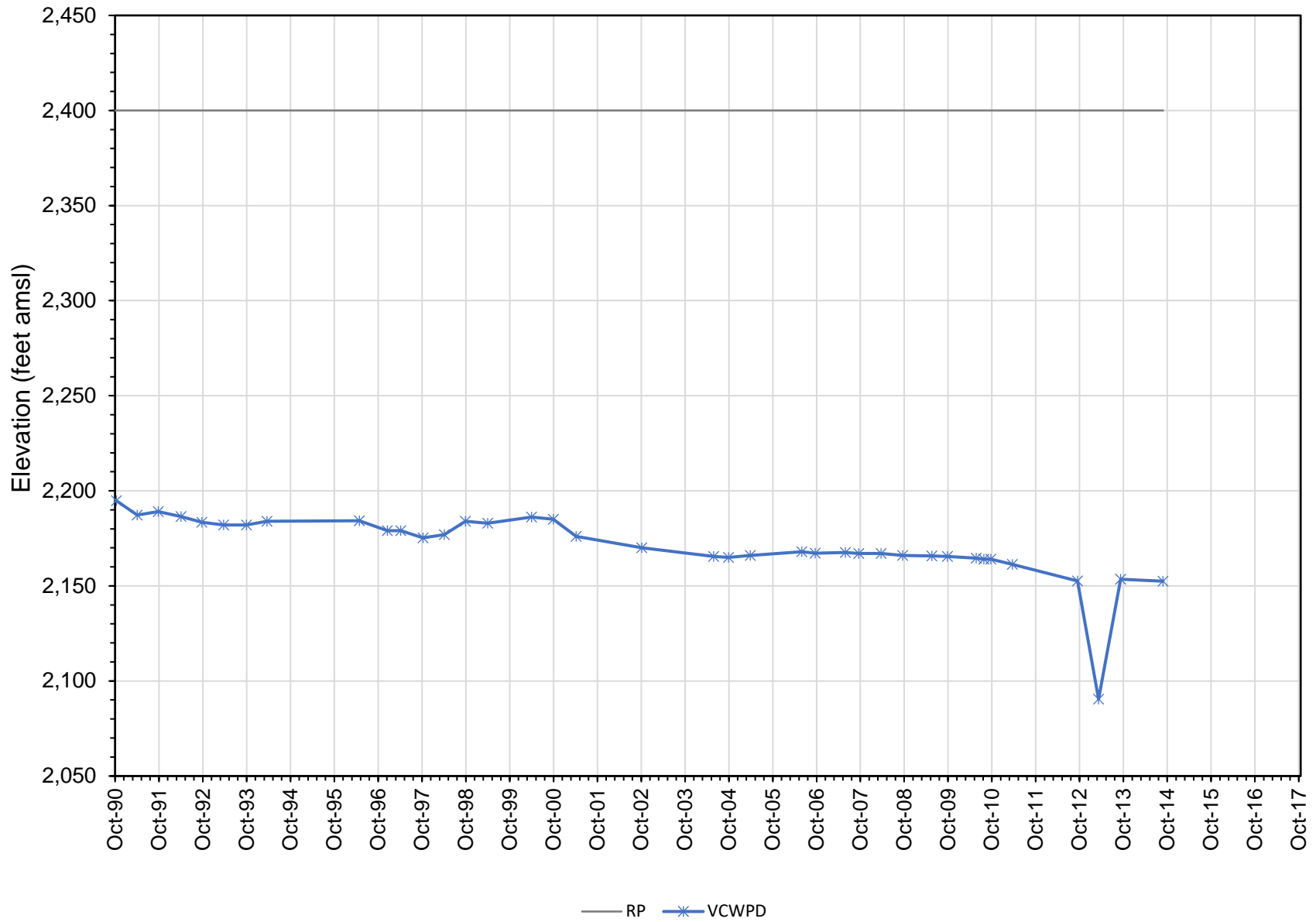
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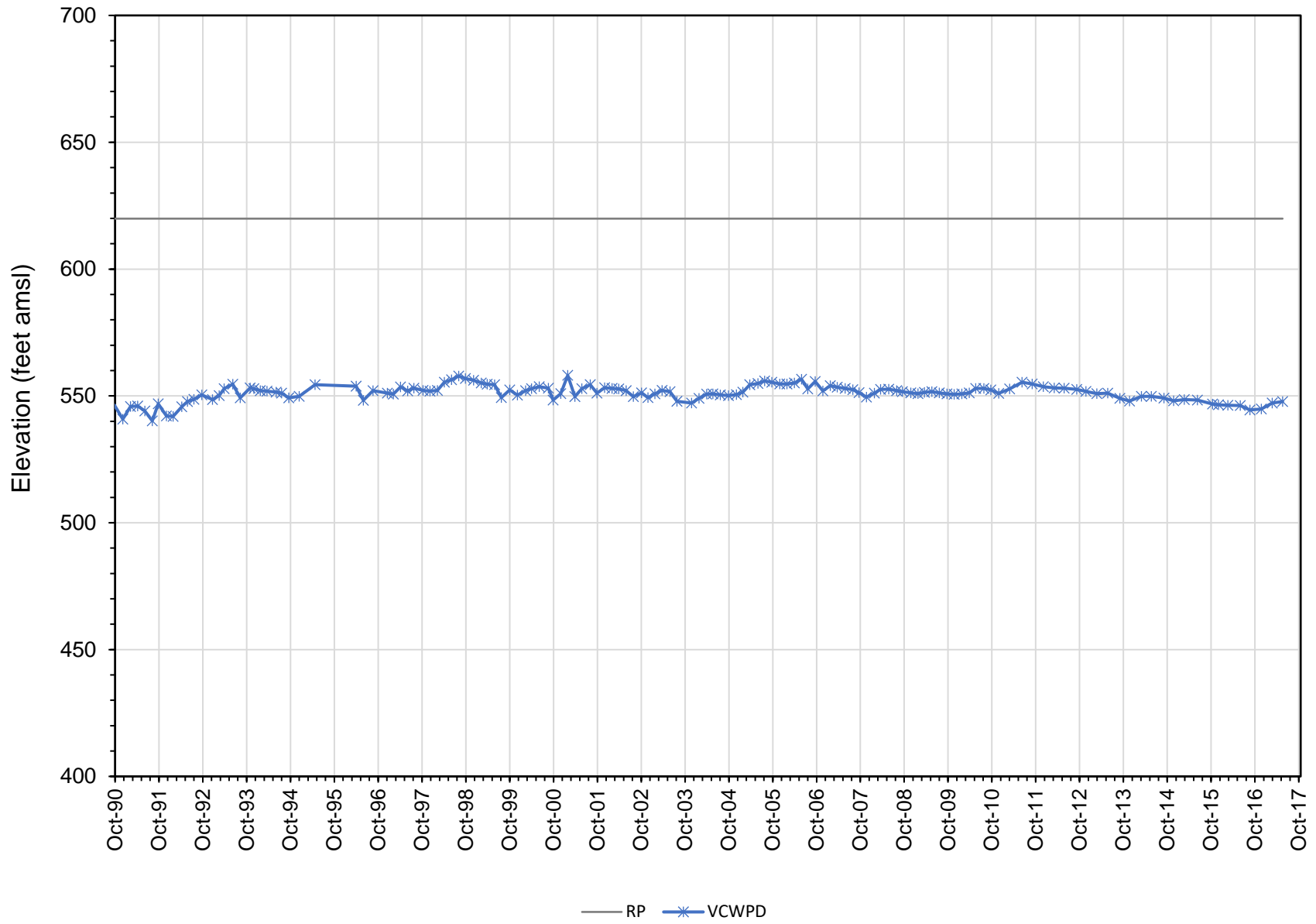
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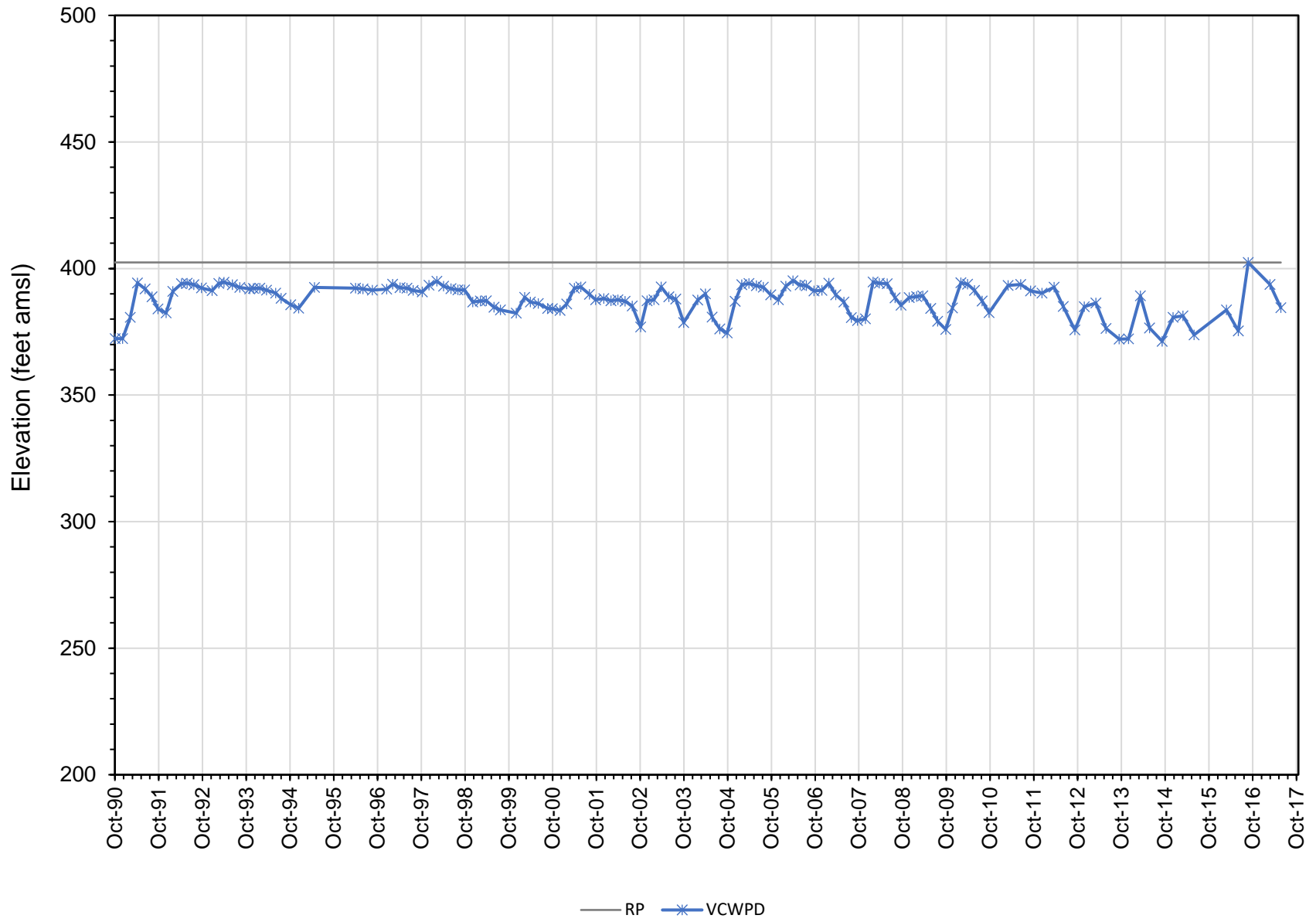
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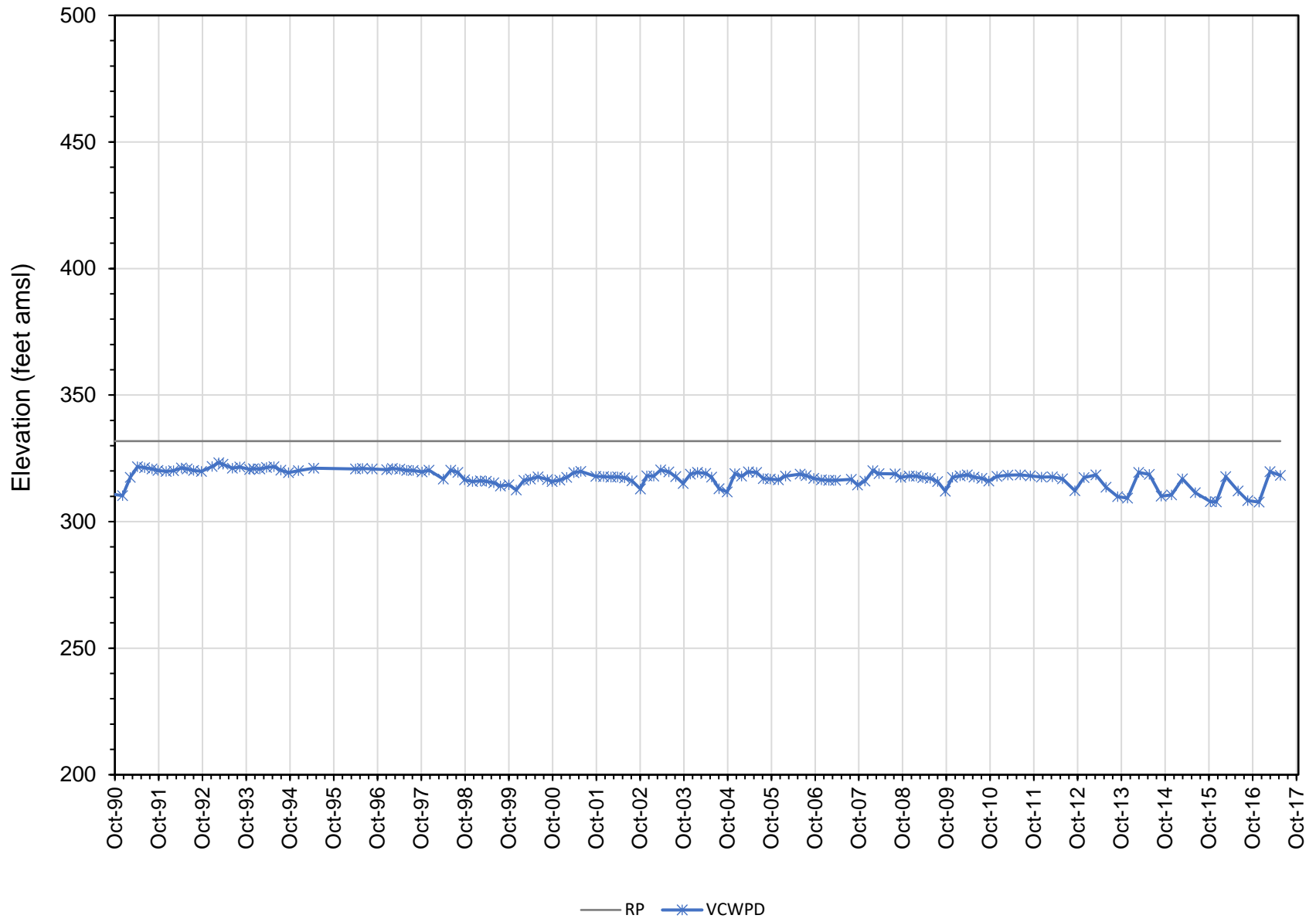
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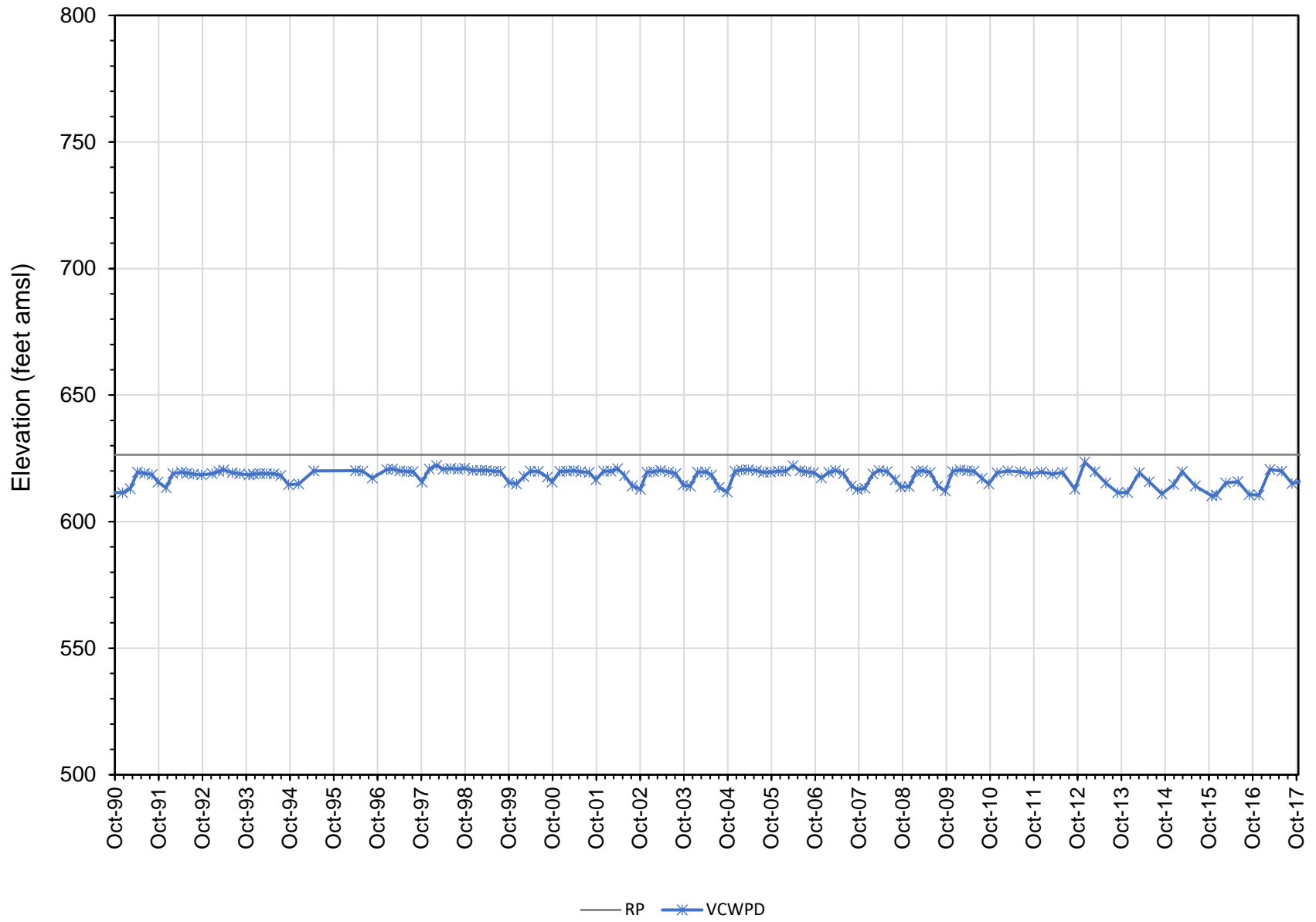
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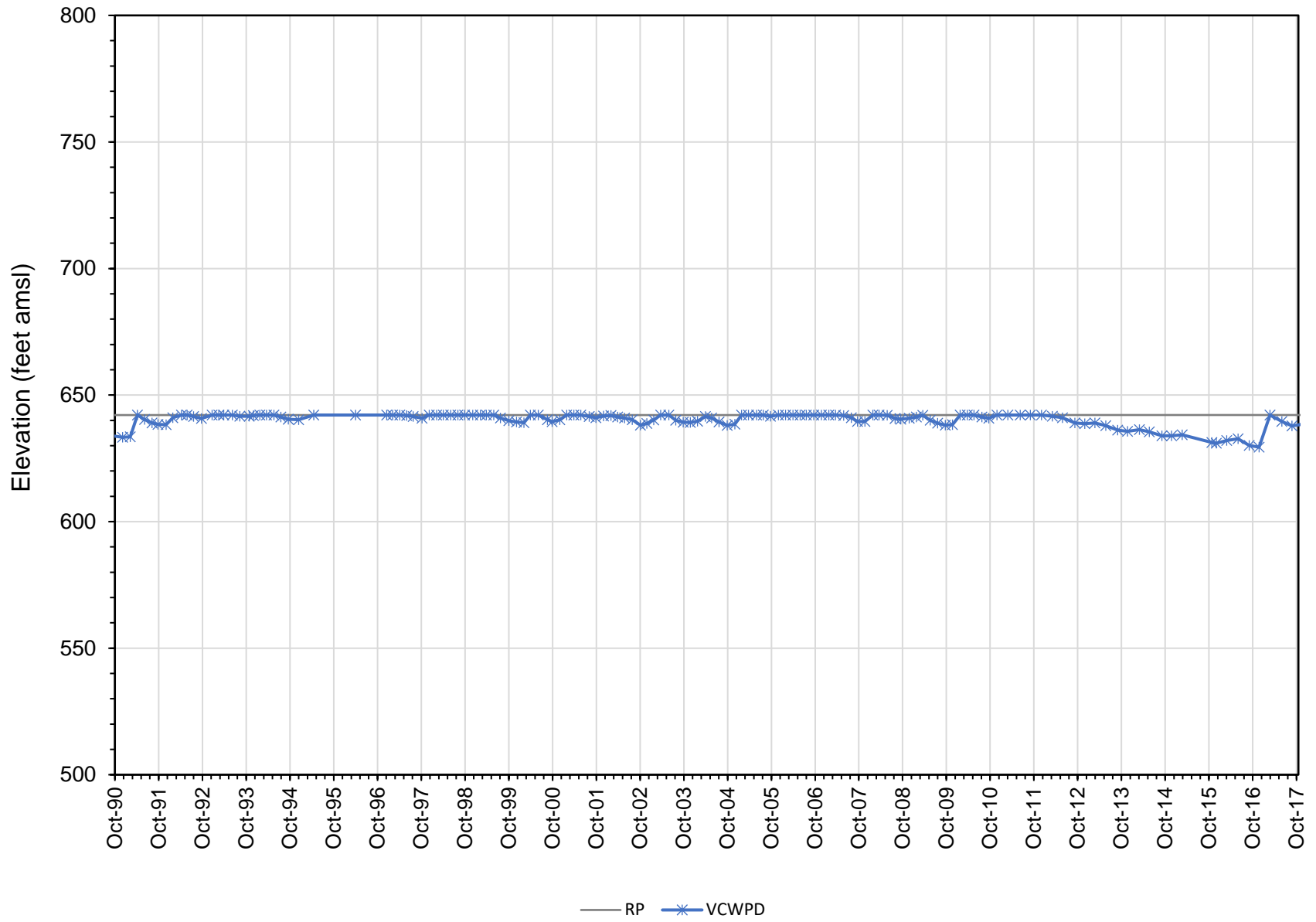
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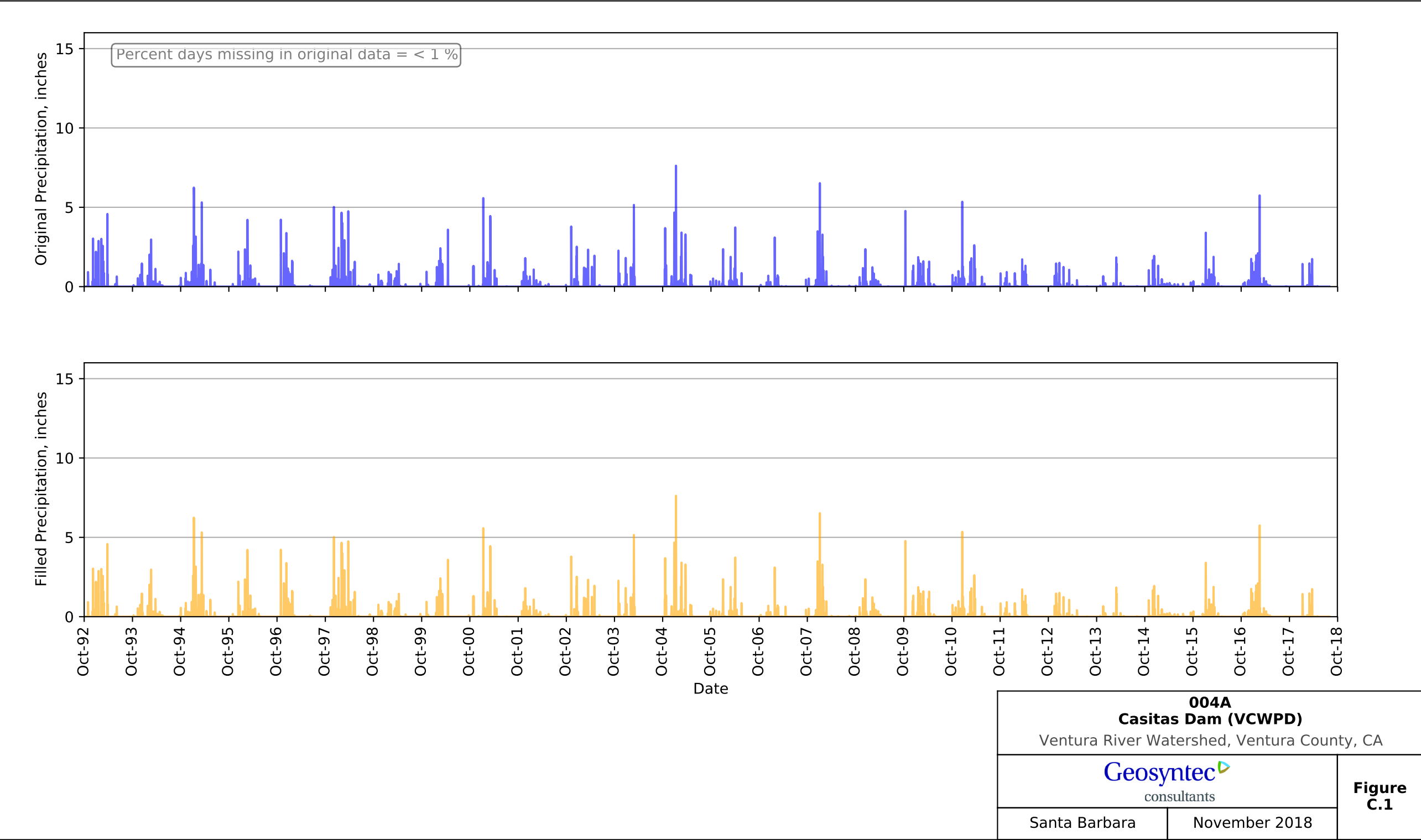


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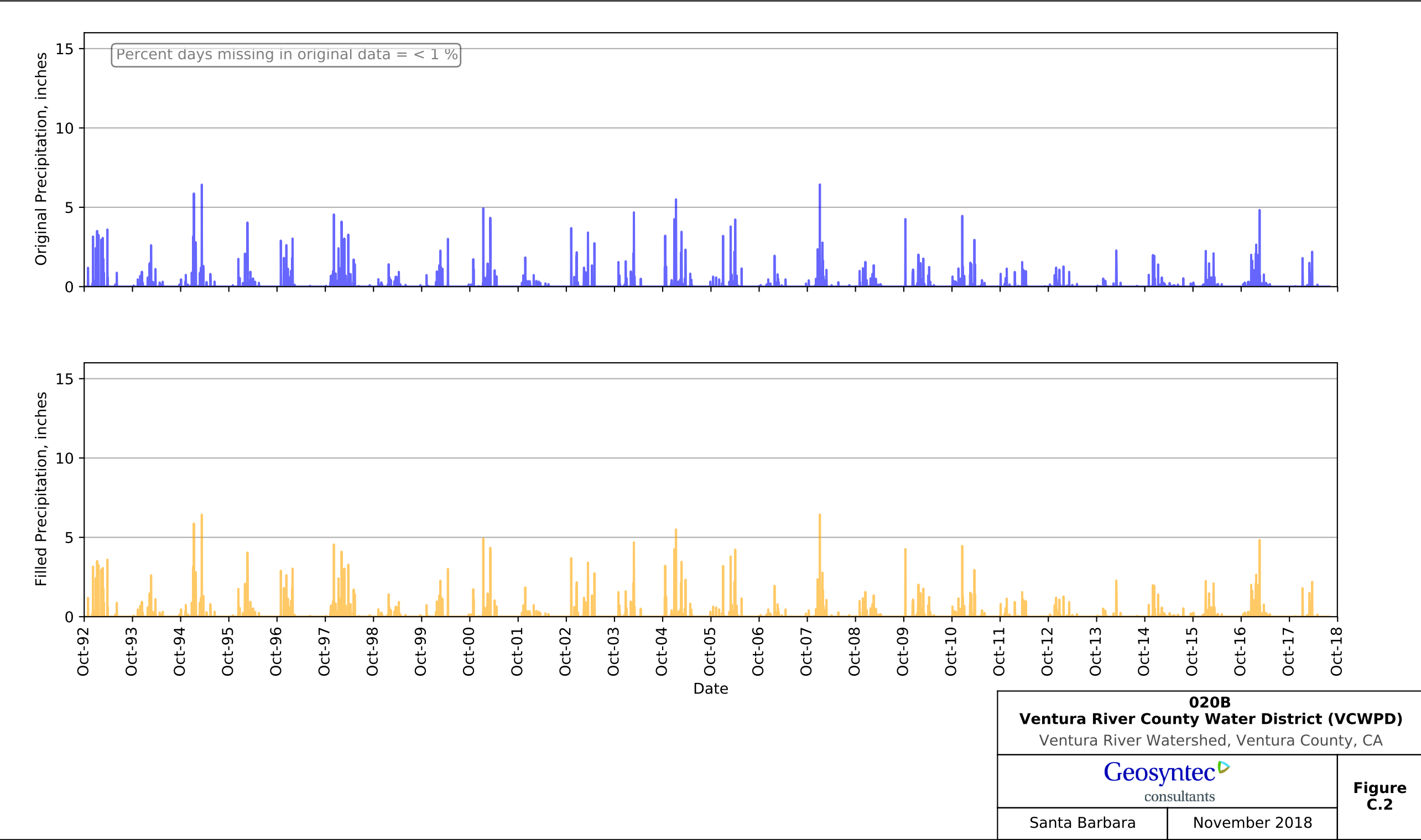


APPENDIX C PRECIPITATION PLOTS

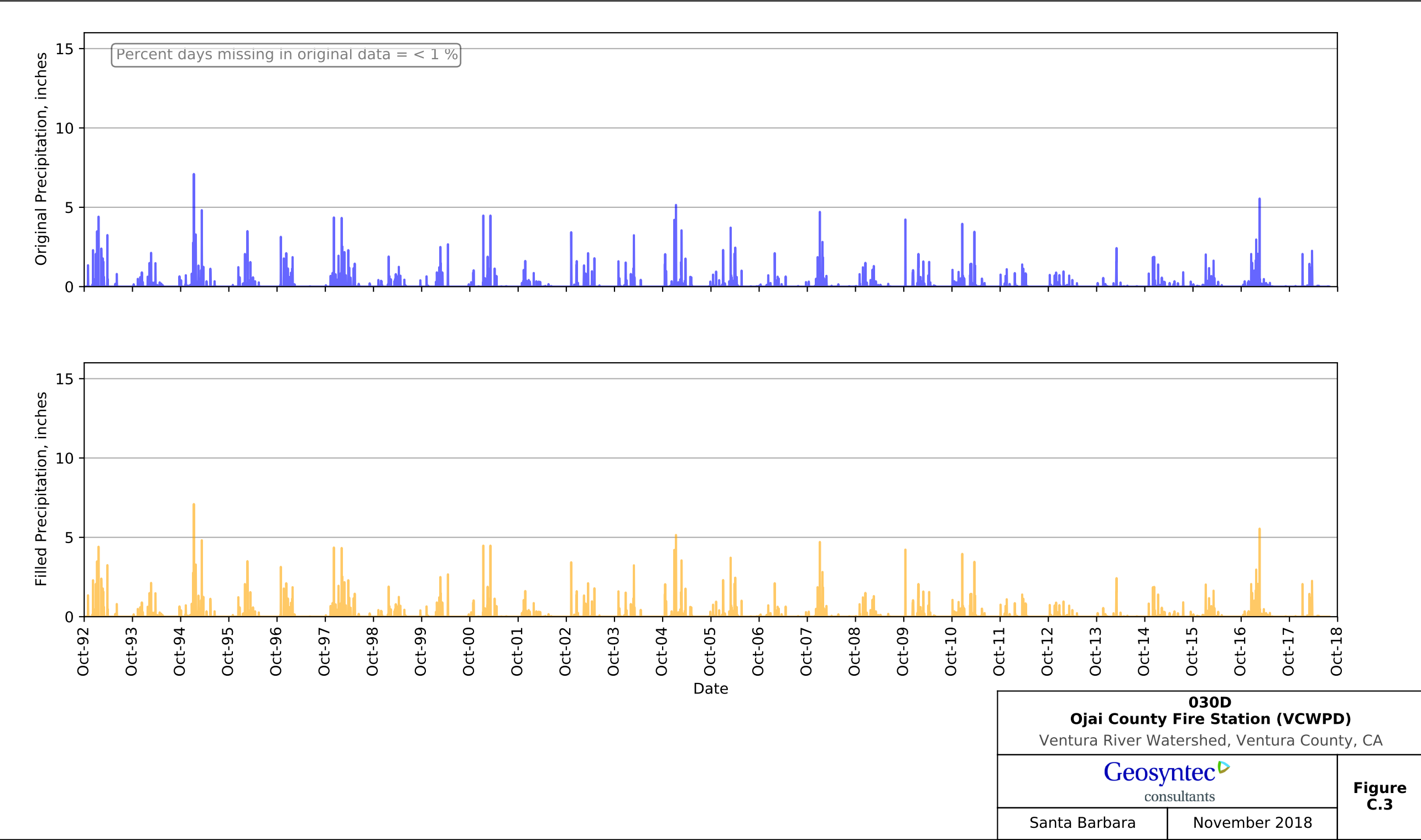
Appendix C presents measured and patched precipitation plots for 37 rainfall stations in the Ventura River Watershed, and nearby areas, from October 1992 to October 2018. For each rainfall station, two plots are shown. The upper frames of these plots show the raw data for each rain gage station, including data gaps, while the lower frames show the filled data that will be used as input to the model. The gaps in the daily data at each rain gage were filled using data from the nearest available rain gage that was then scaled based upon comparison of the overlapping records between the rain gage pairs. The percent of days missing in the measured precipitation data are shown. The locations of rainfall stations are described in Figure 3.1. The precipitation datasets are from the Ventura County Environmental Health Division, the Ventura County Watershed Protection District, and the National Oceanic and Atmospheric Administration Global Historical Climatology Network. If you need accessibility assistance with the information presented in this appendix, please contact the State Water Board at instreamflows@waterboards.ca.gov.

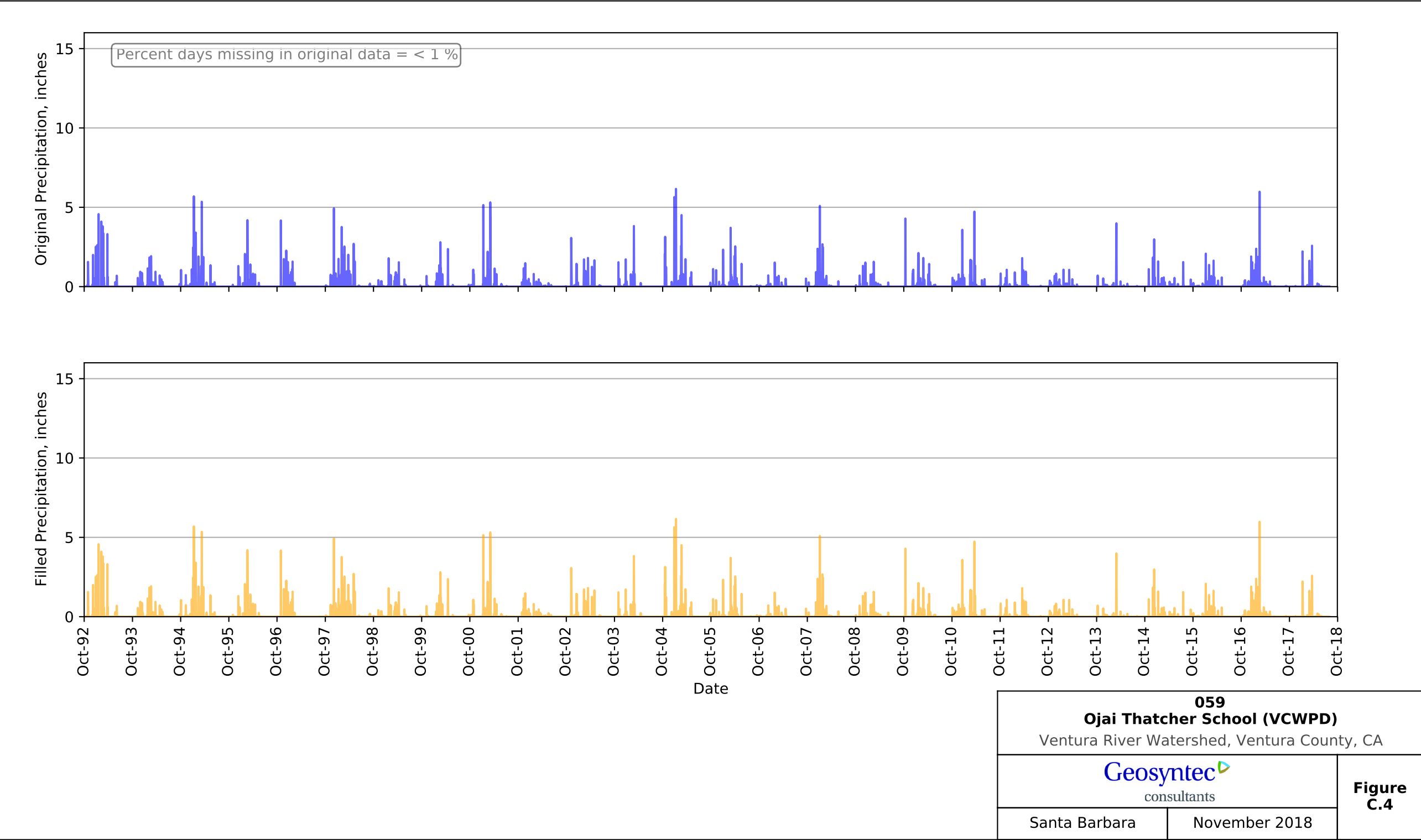


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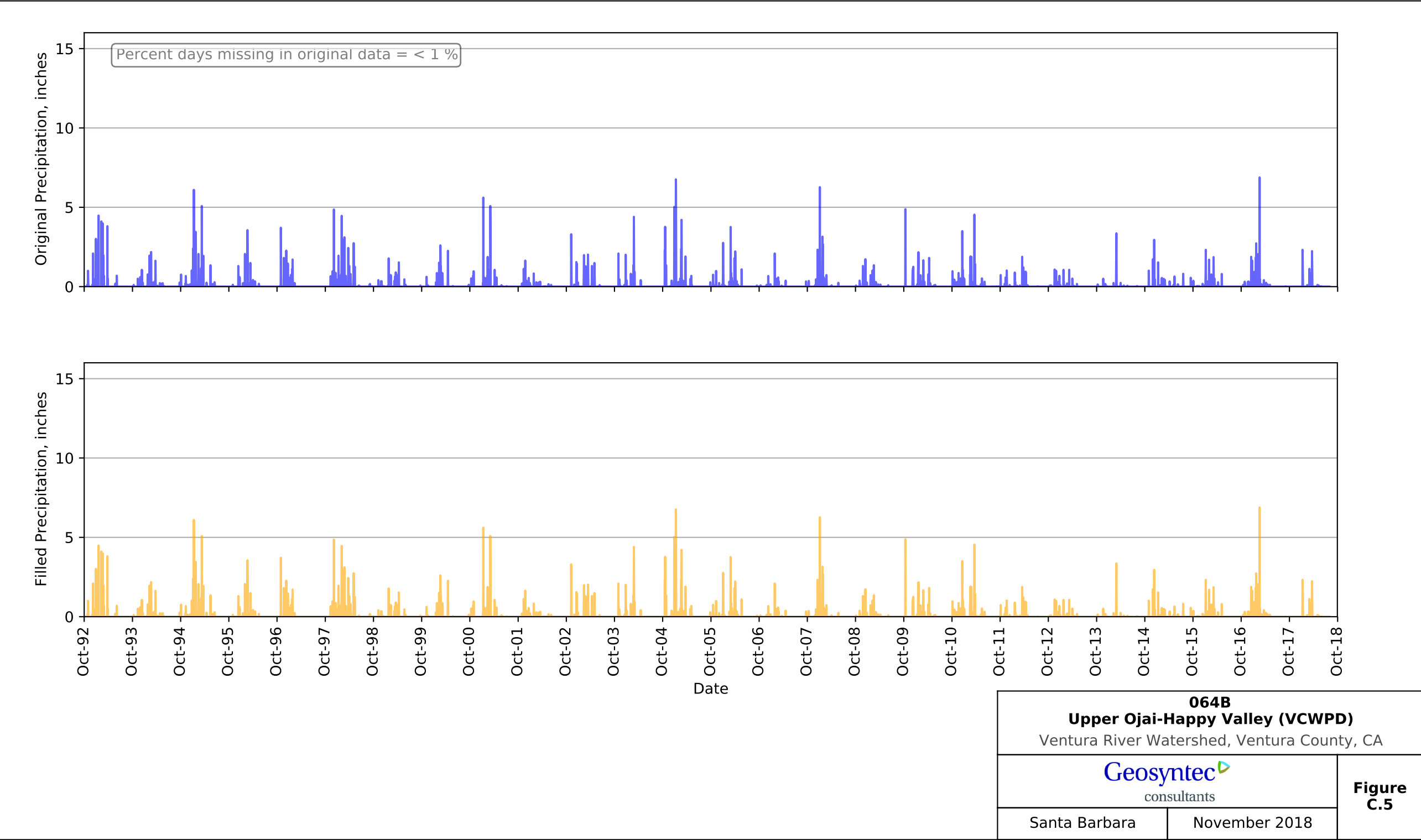


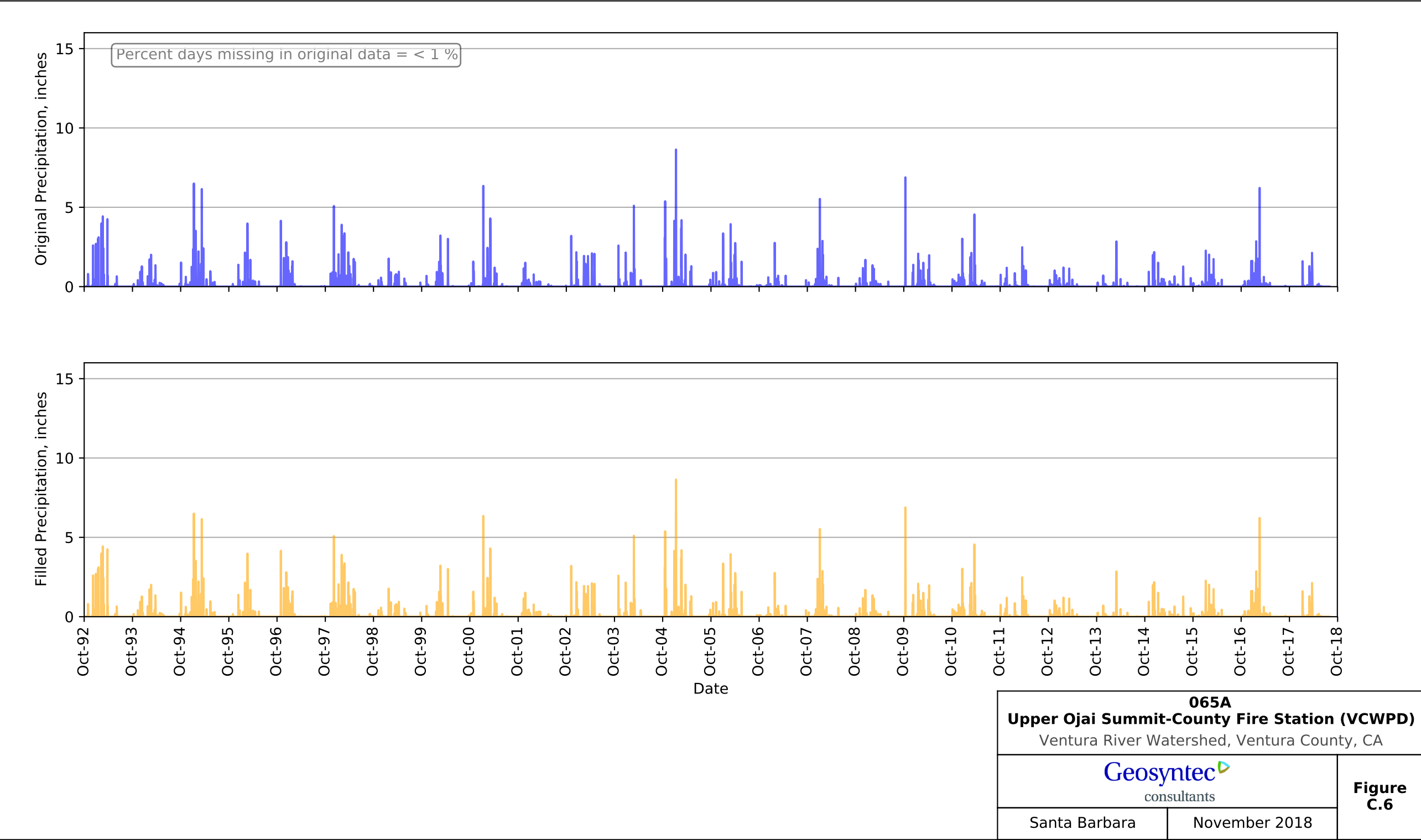
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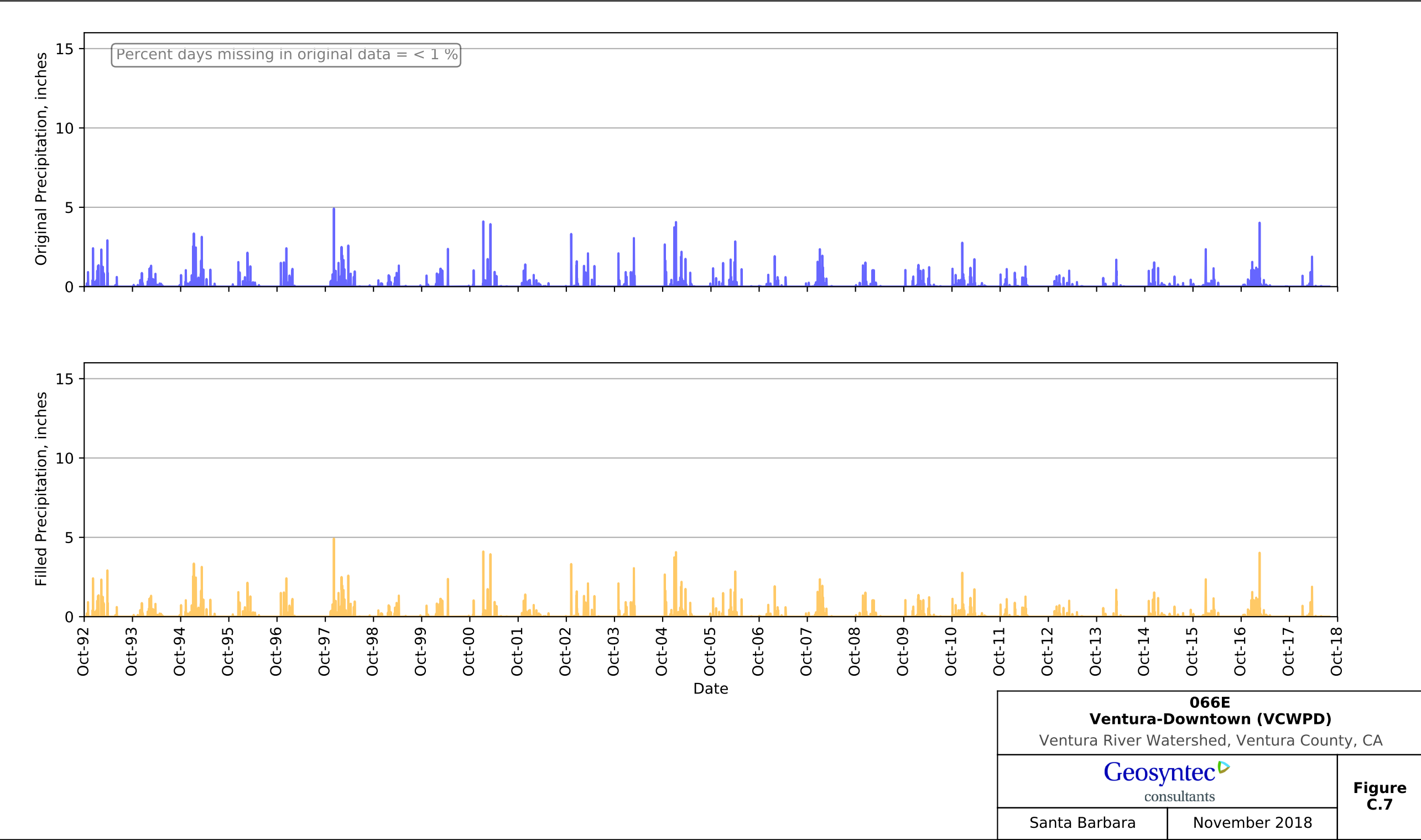




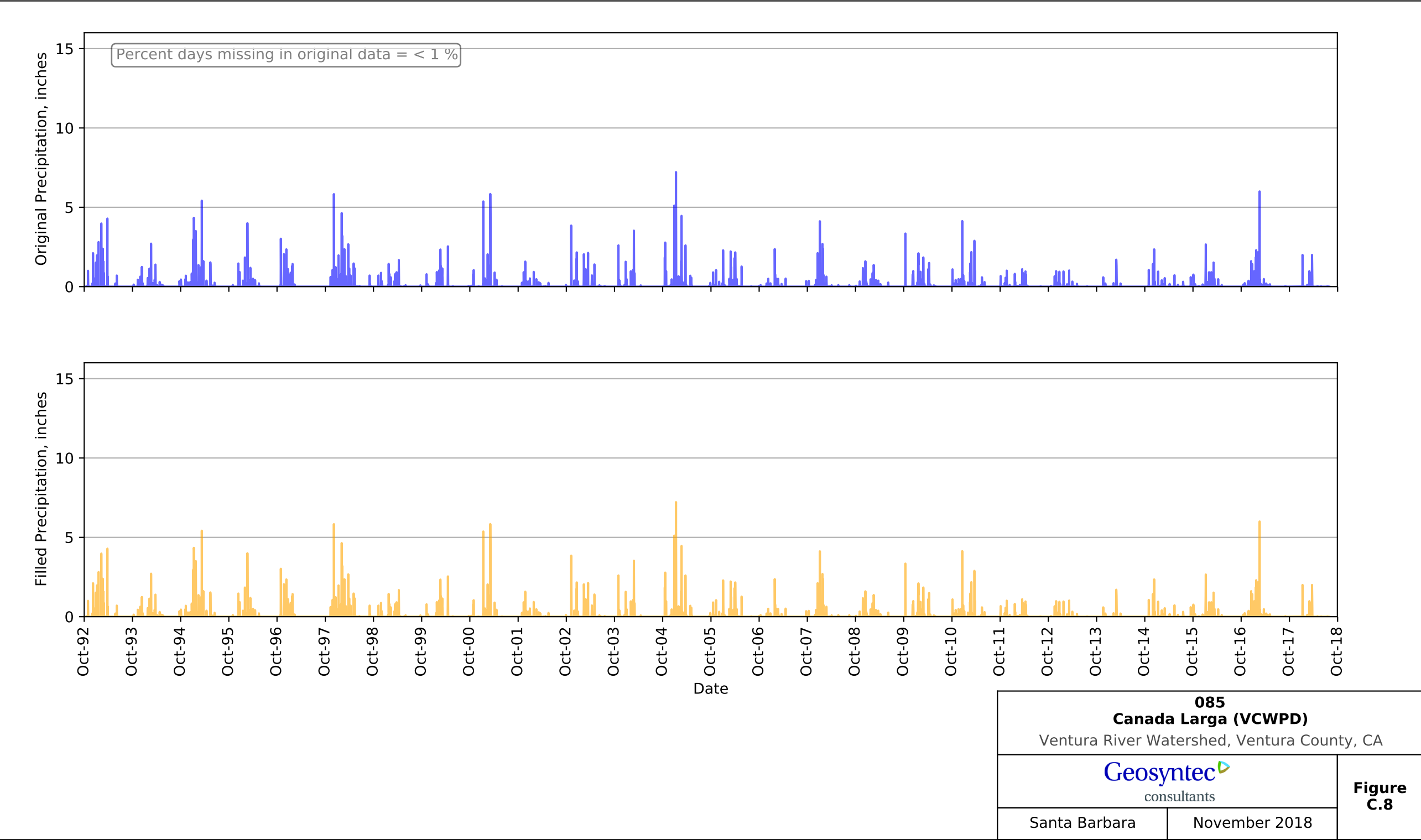
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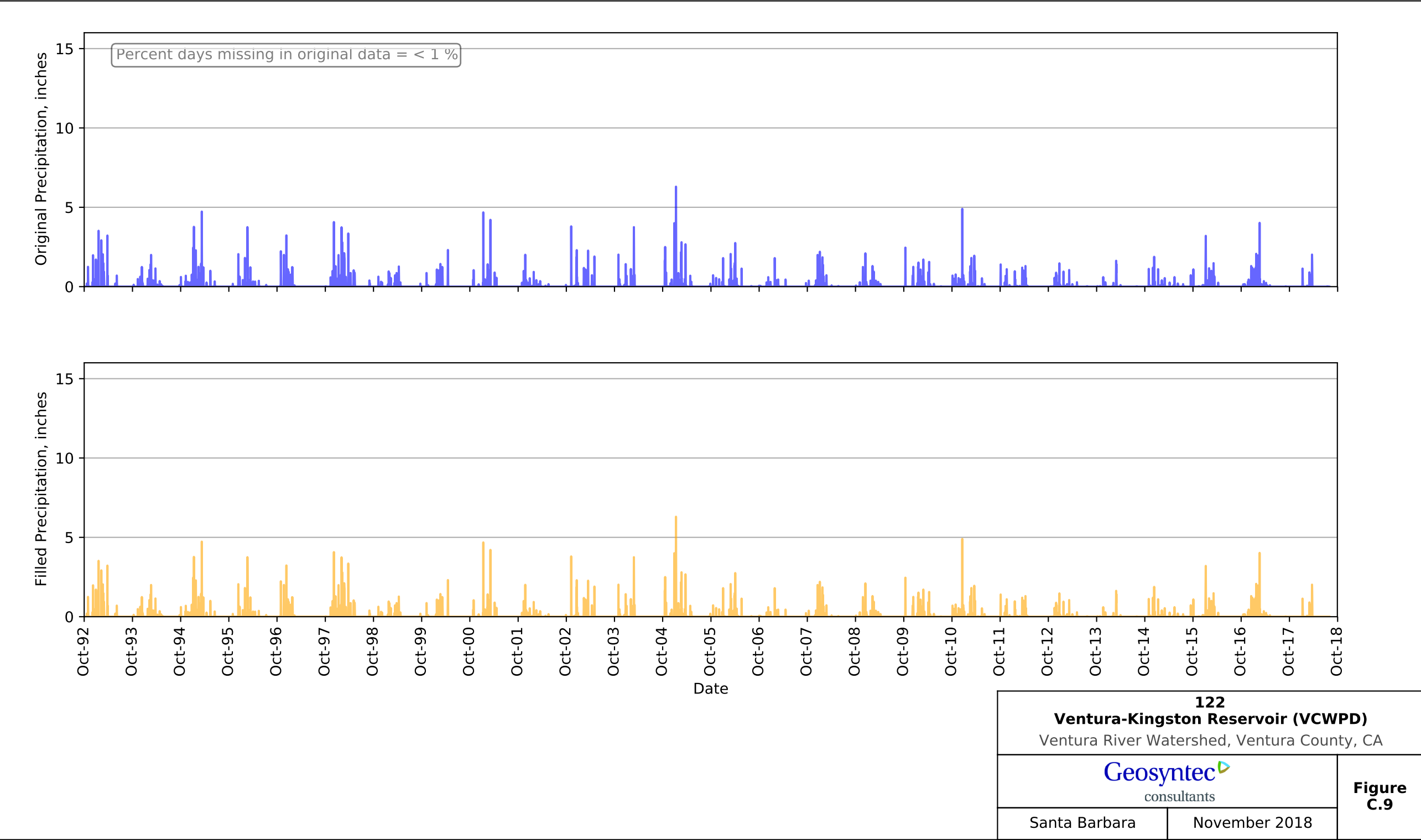




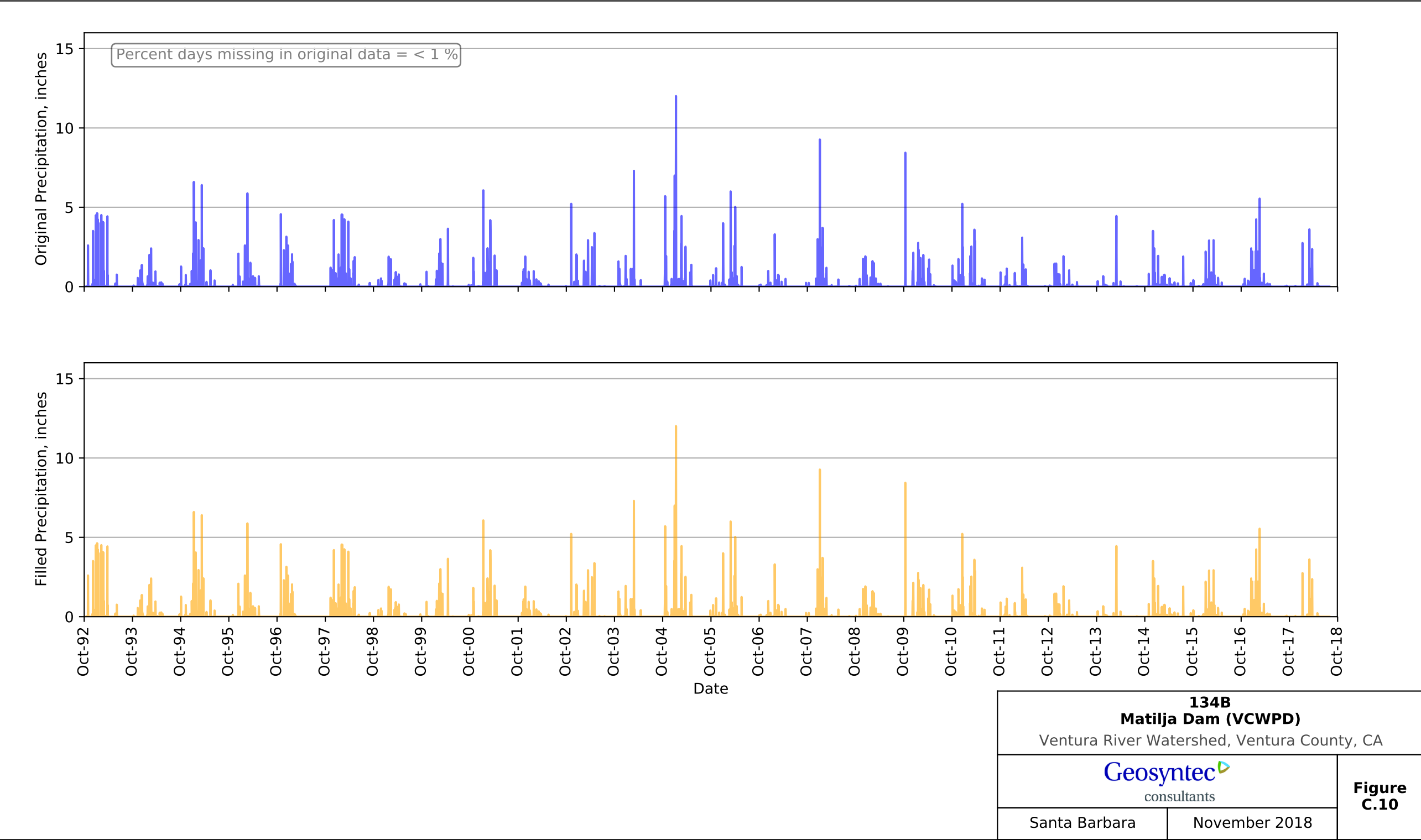


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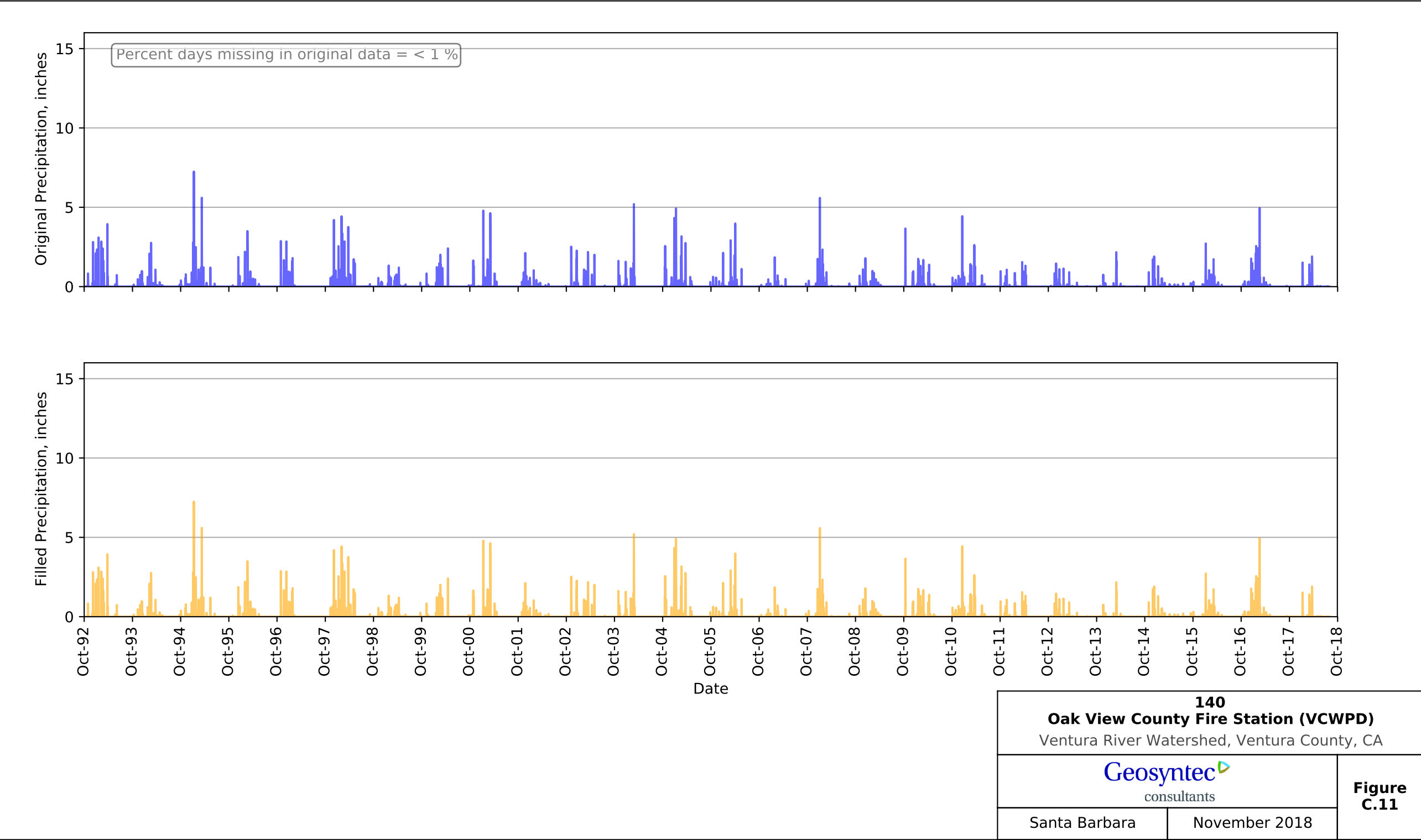




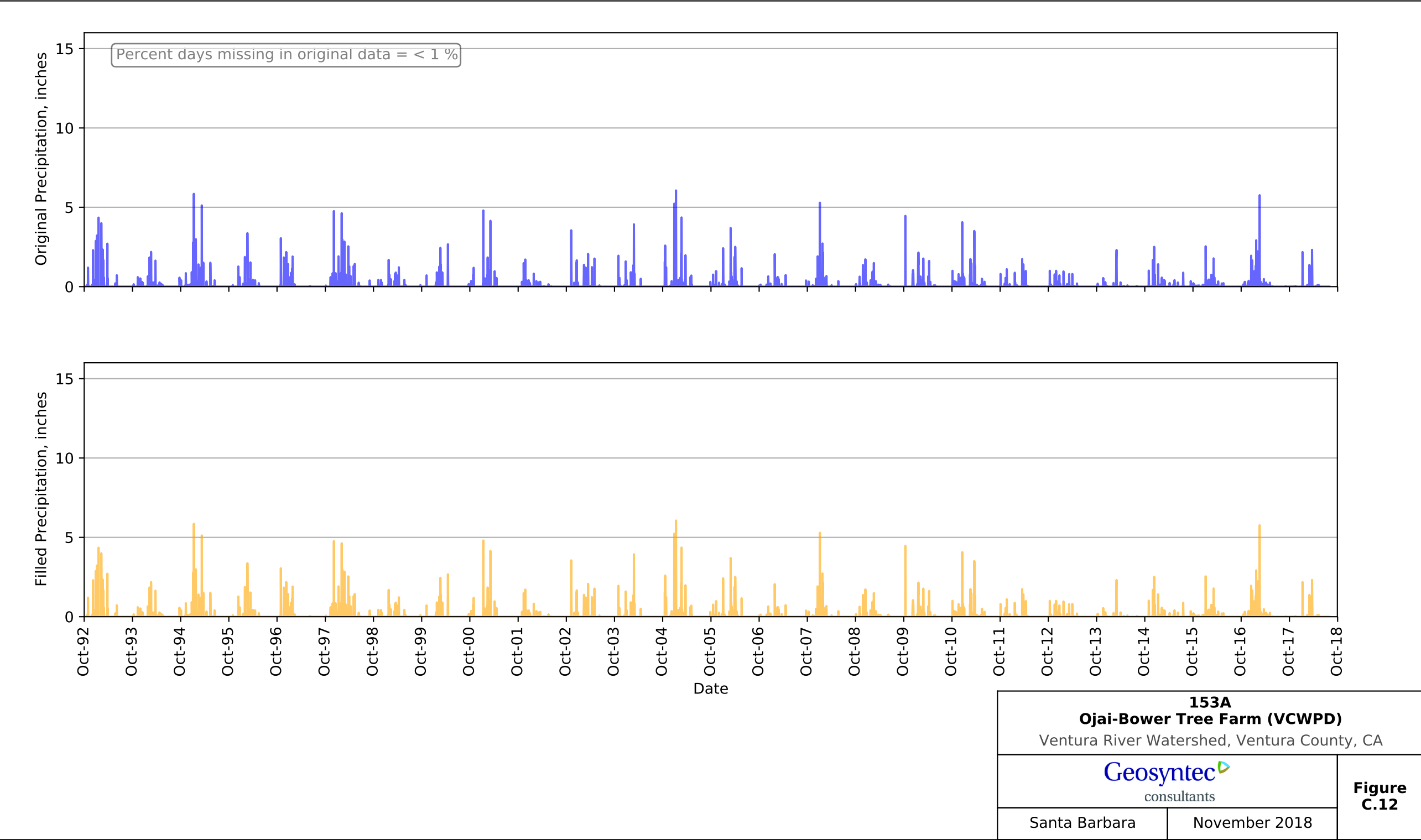
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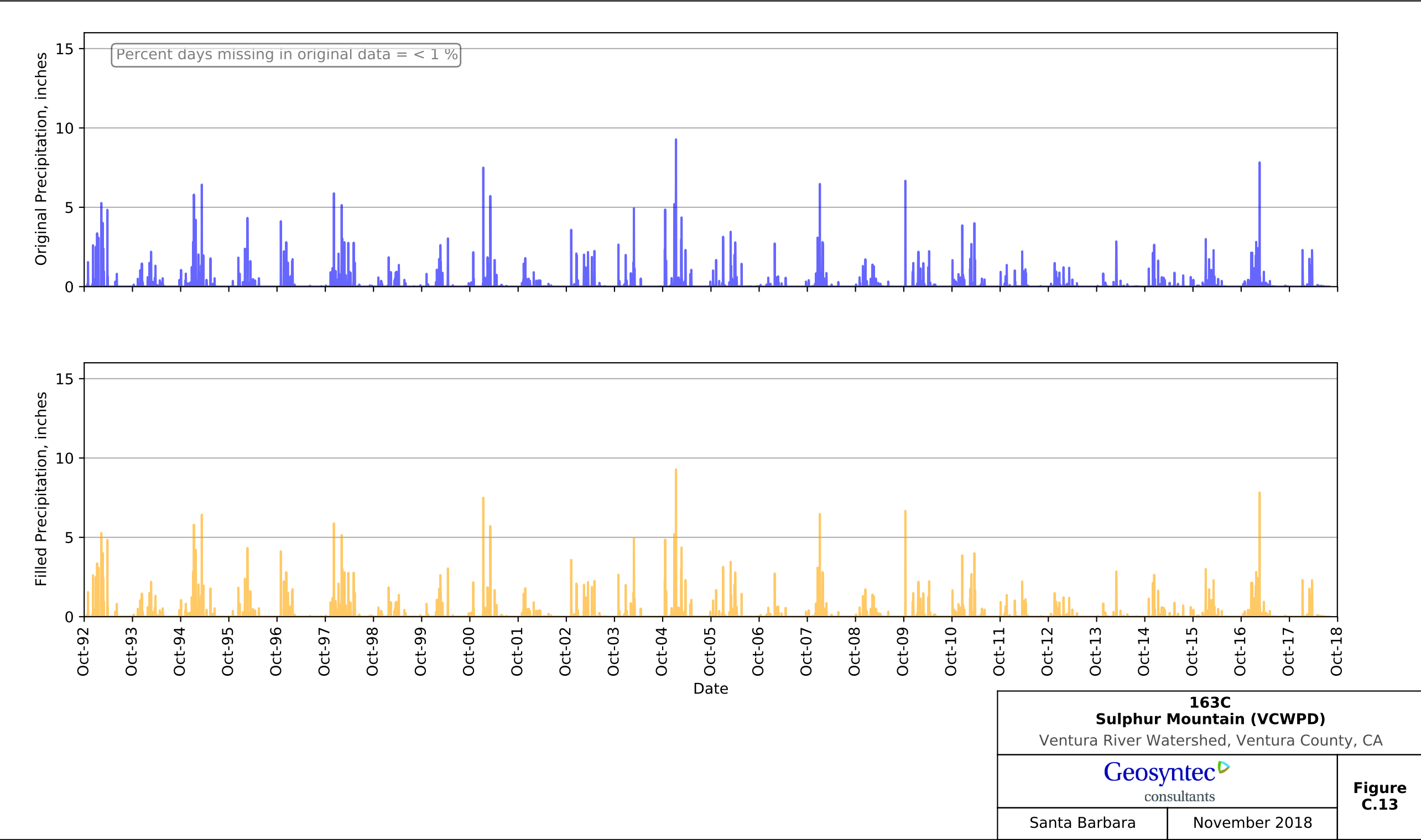
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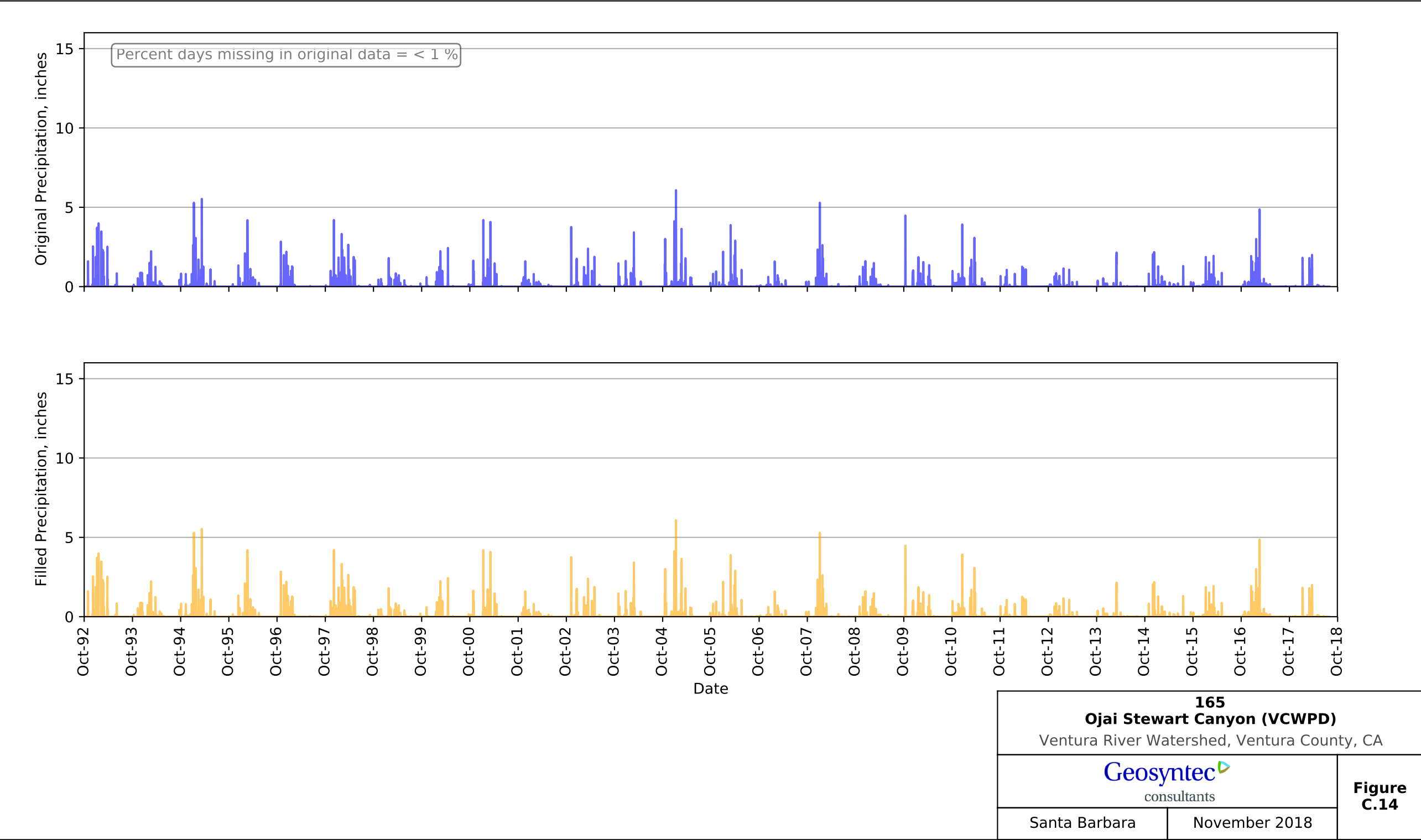
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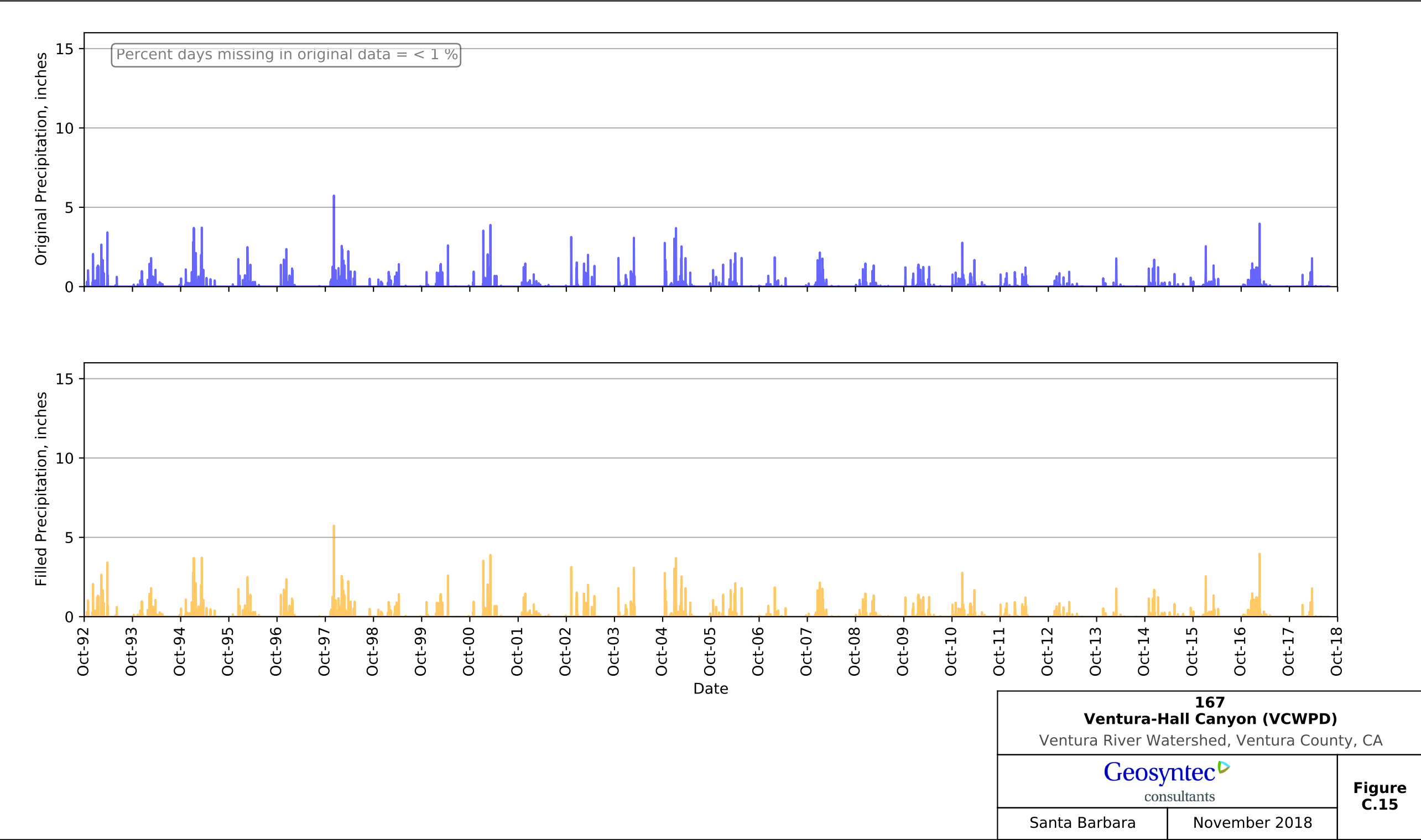
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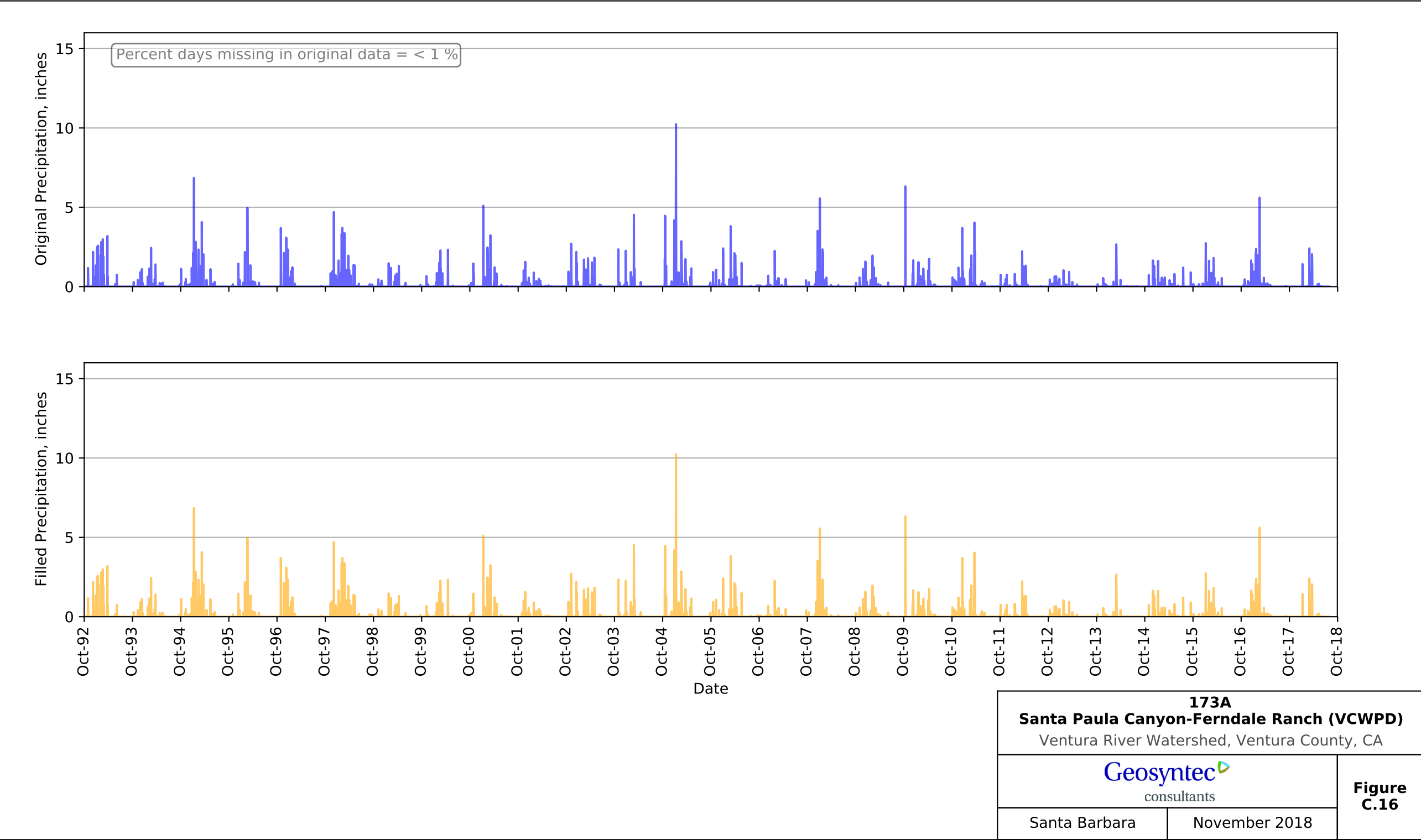
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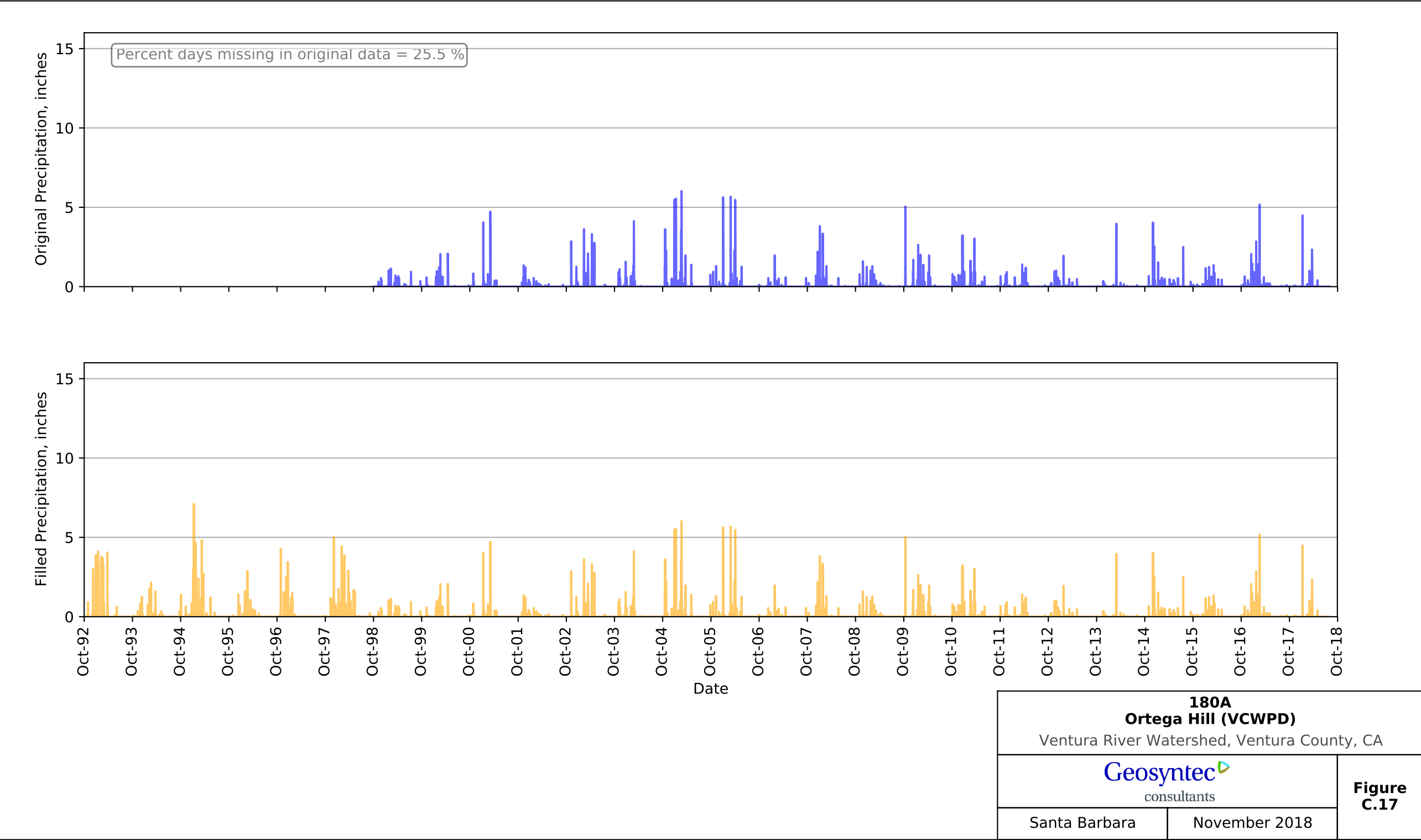


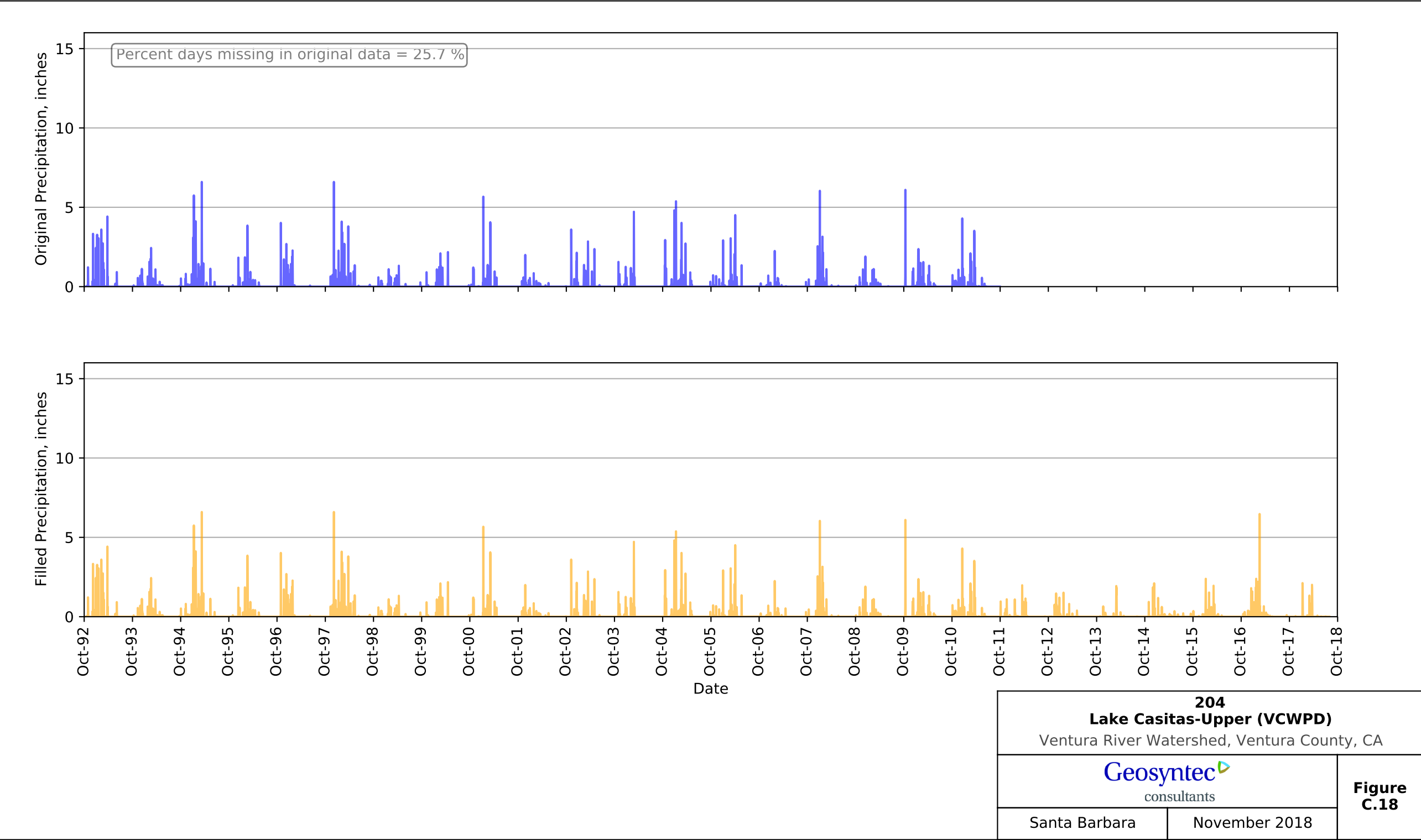
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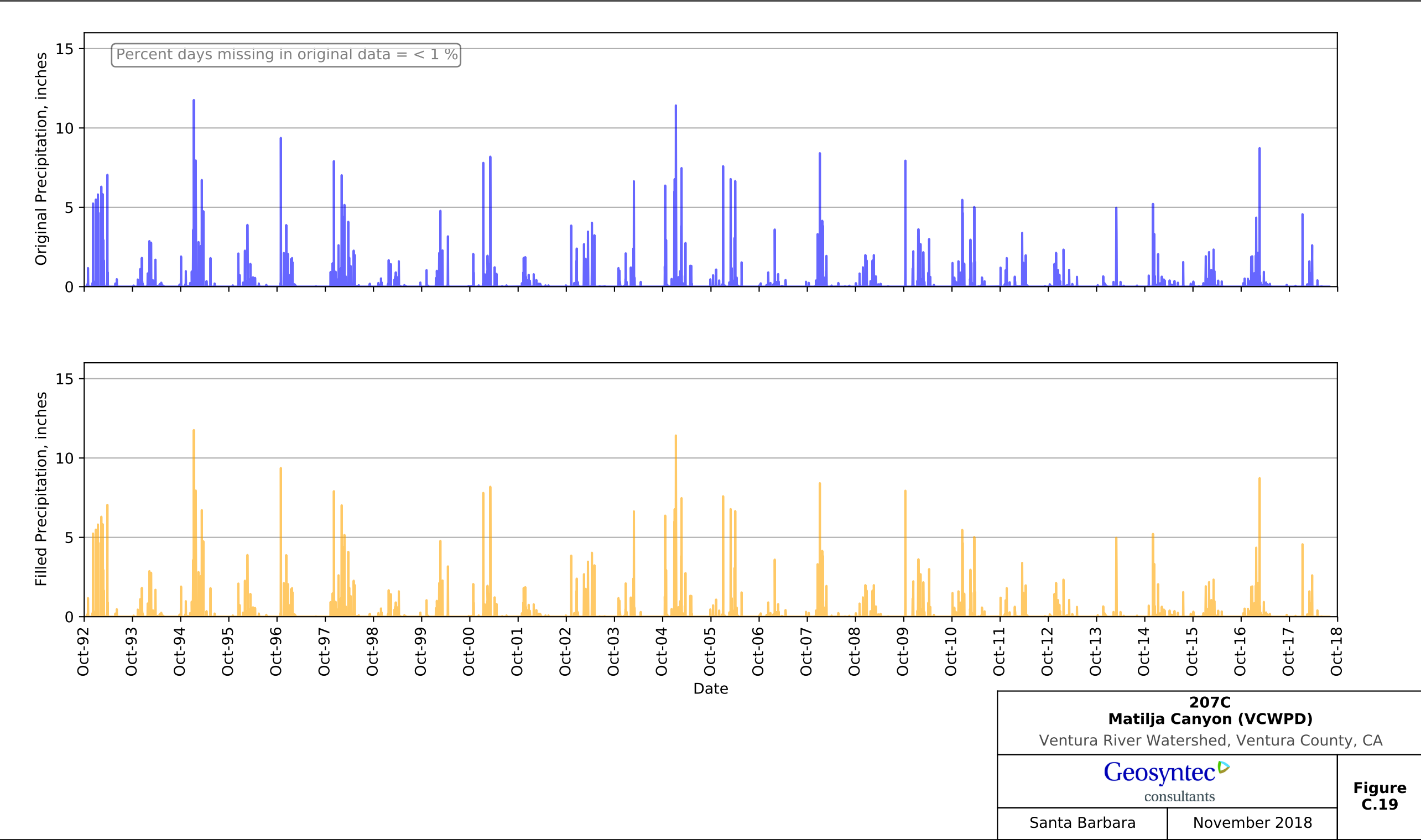


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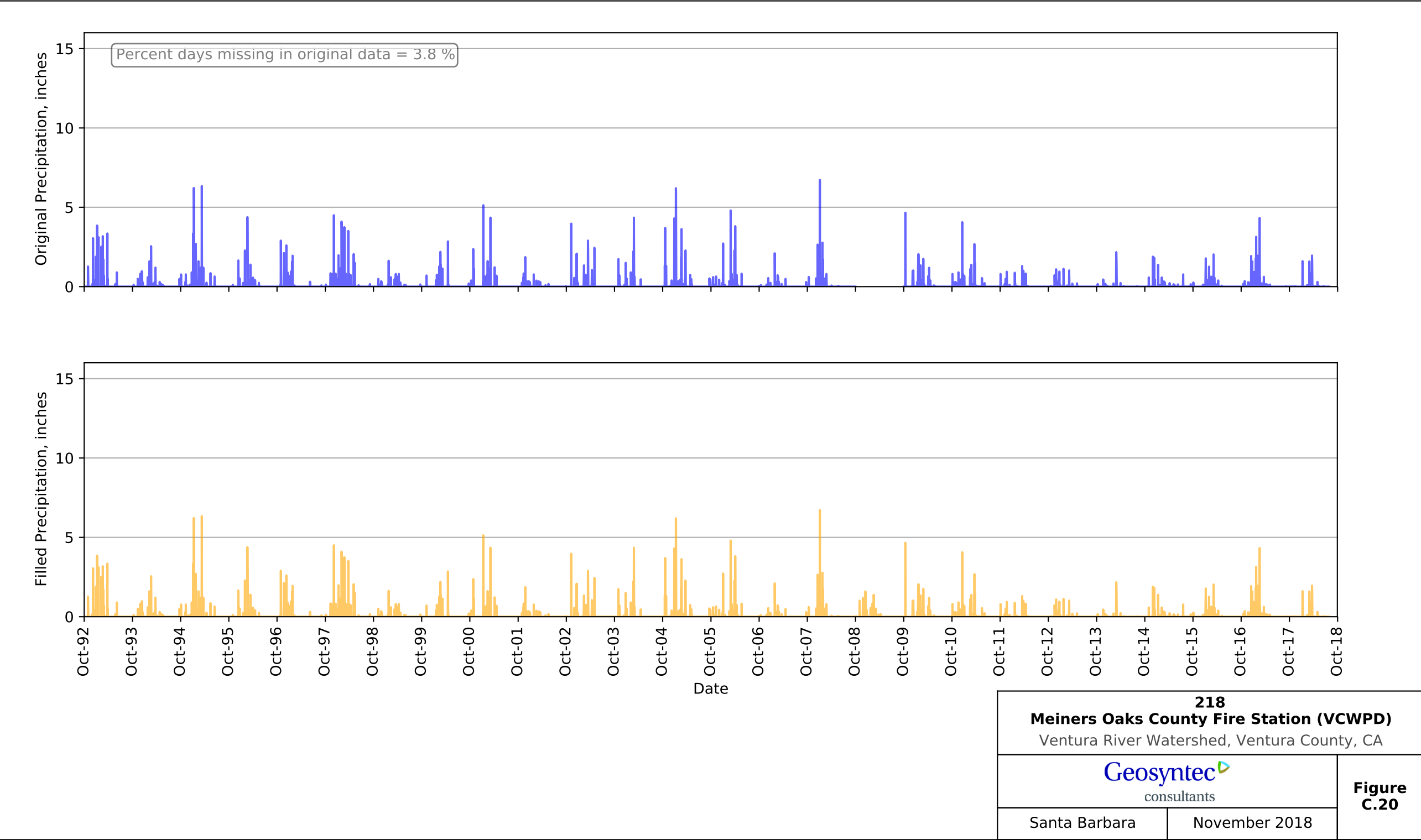




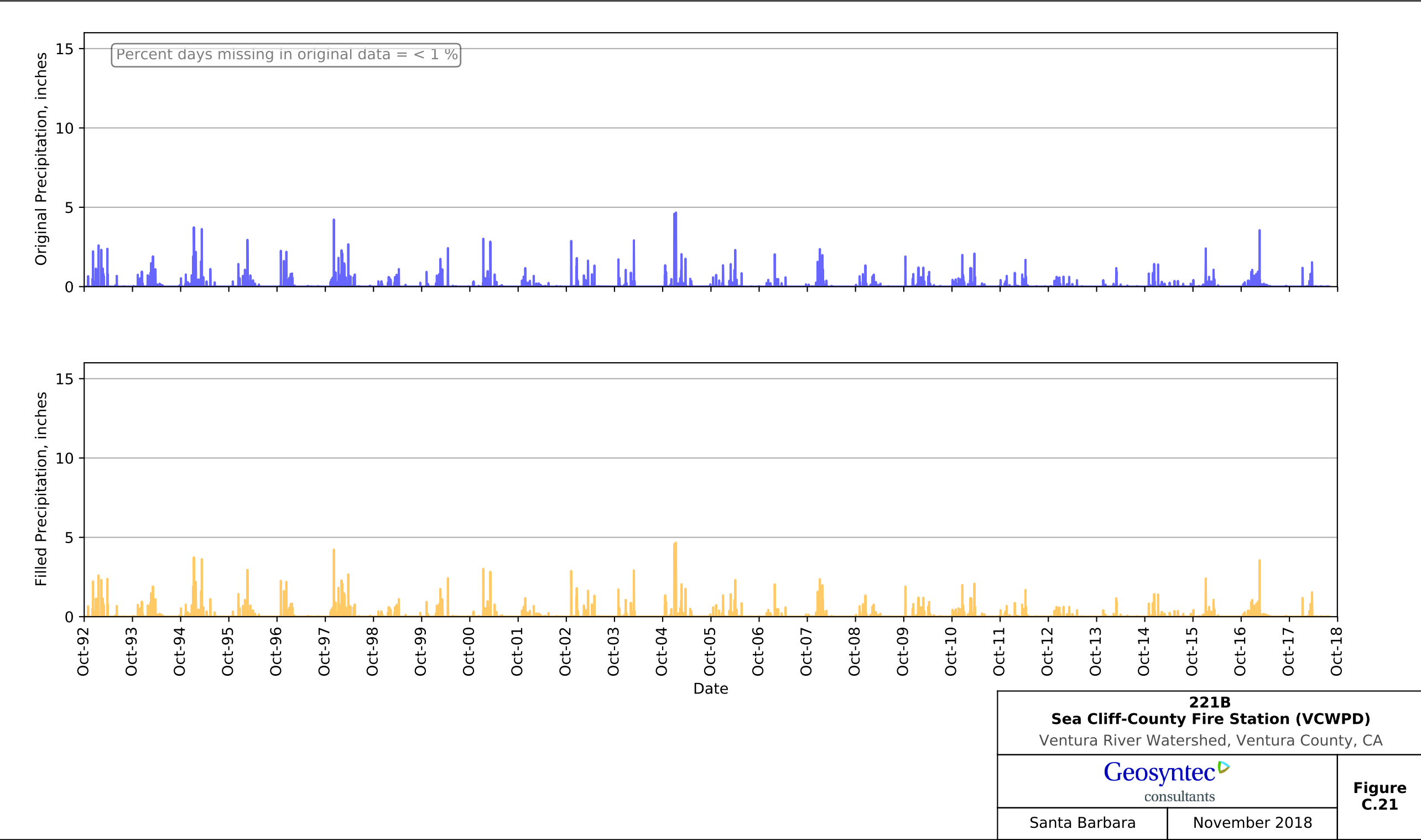




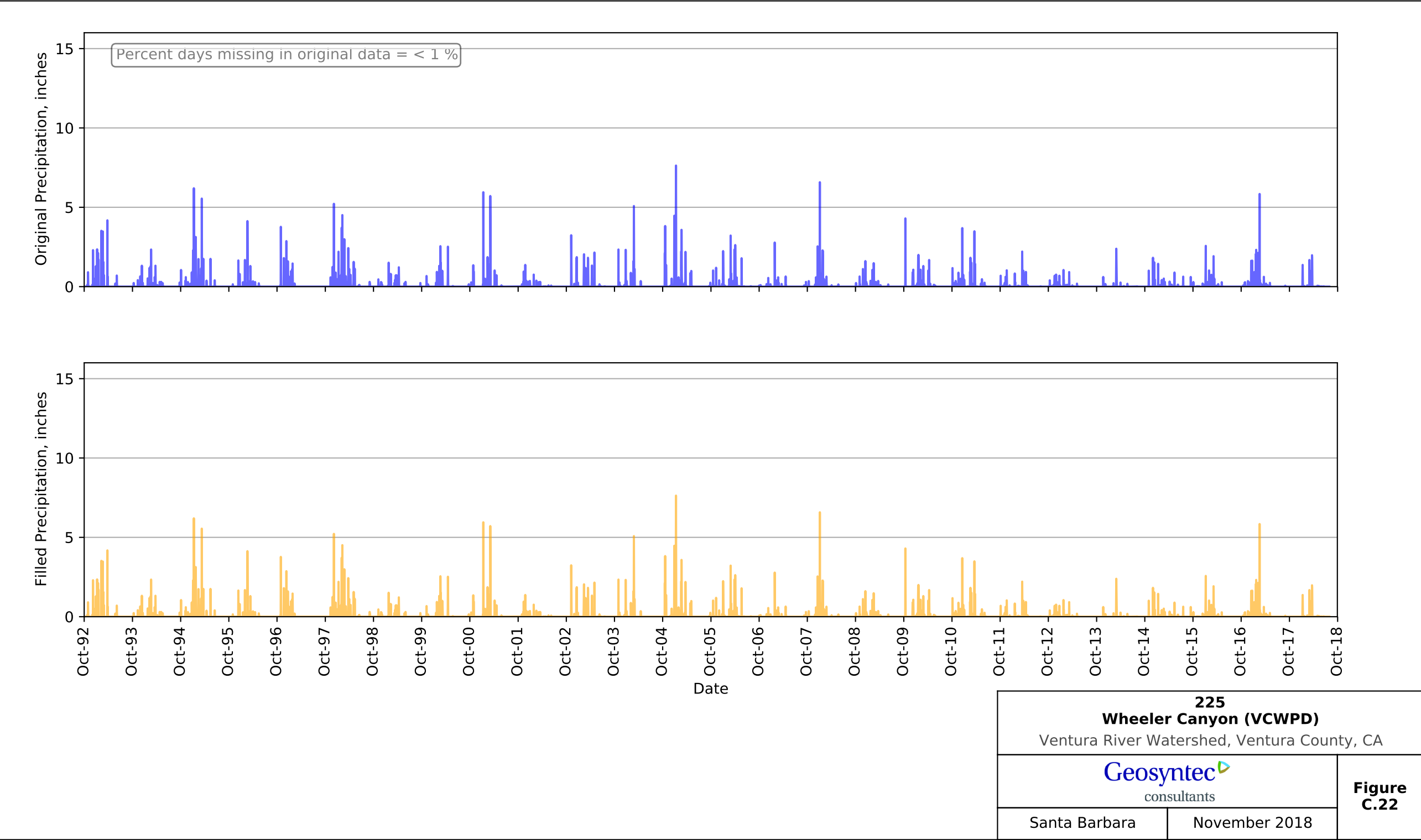
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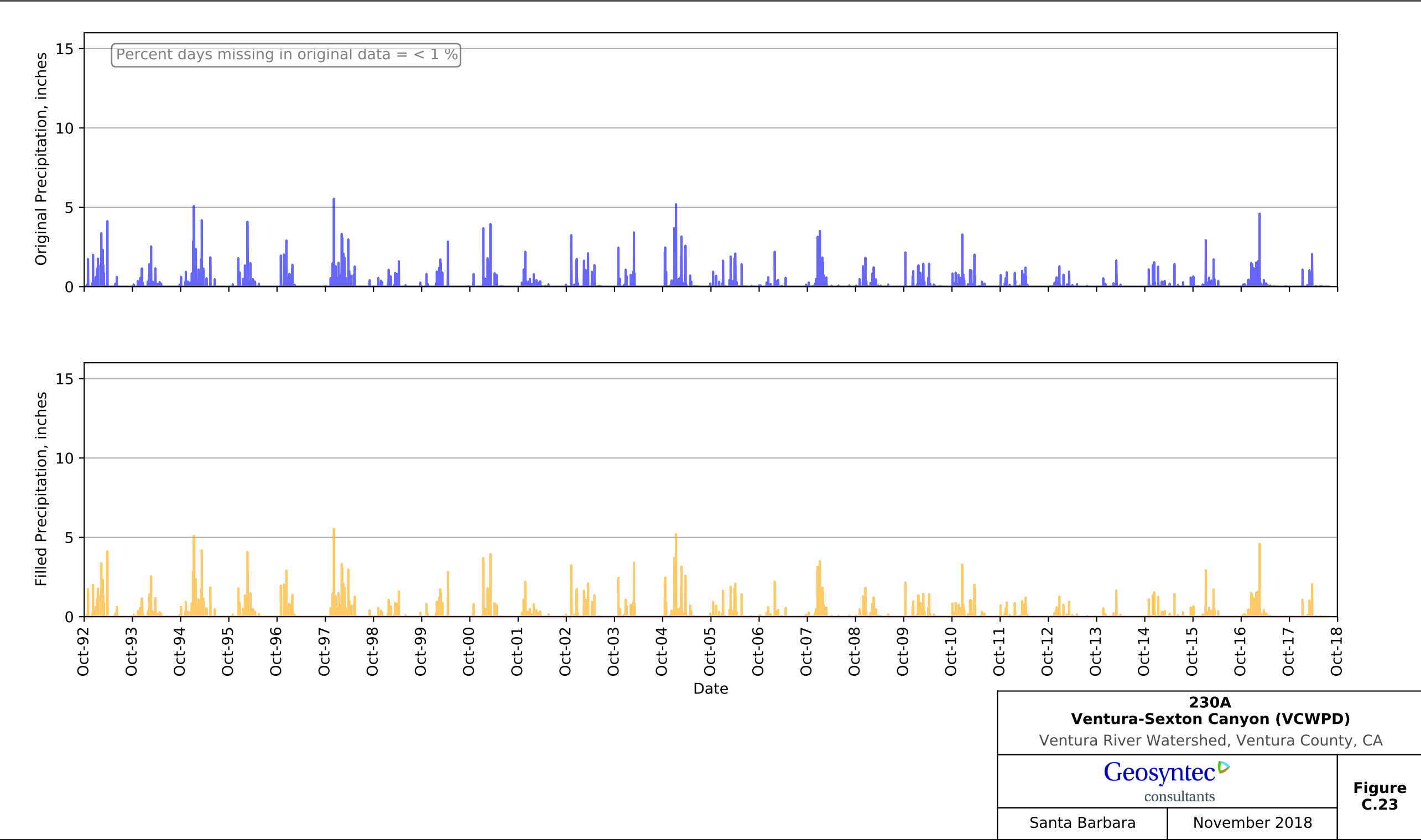
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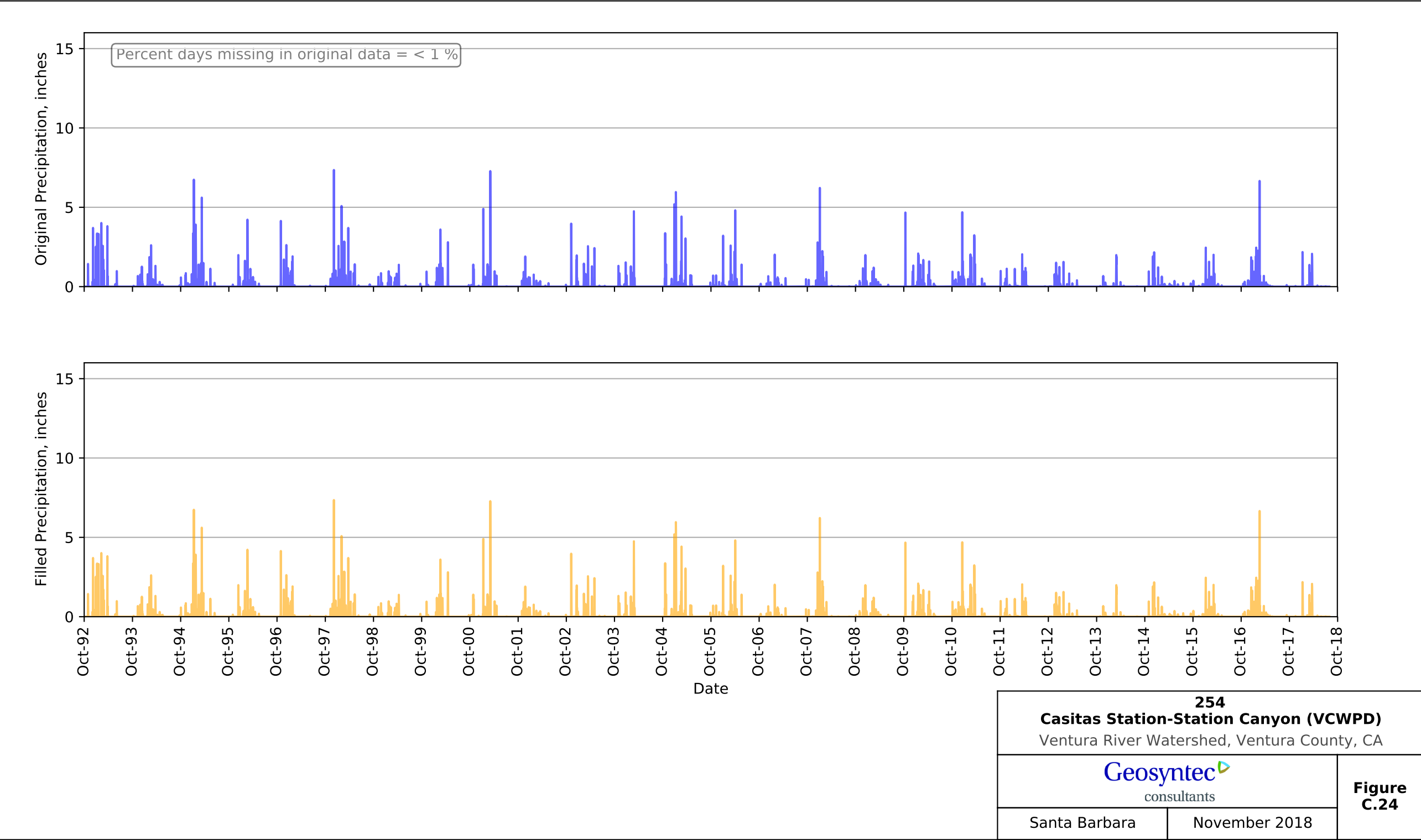
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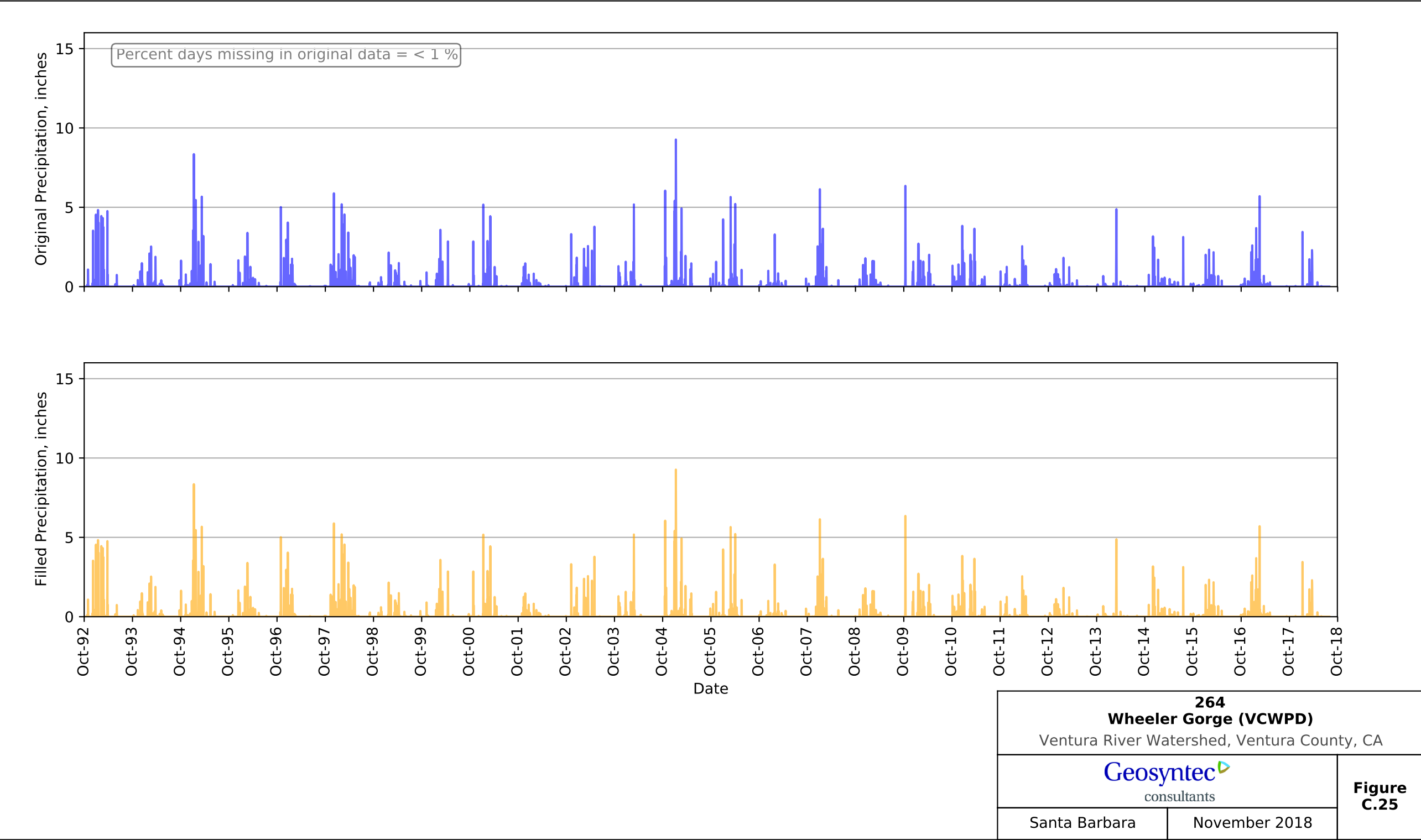
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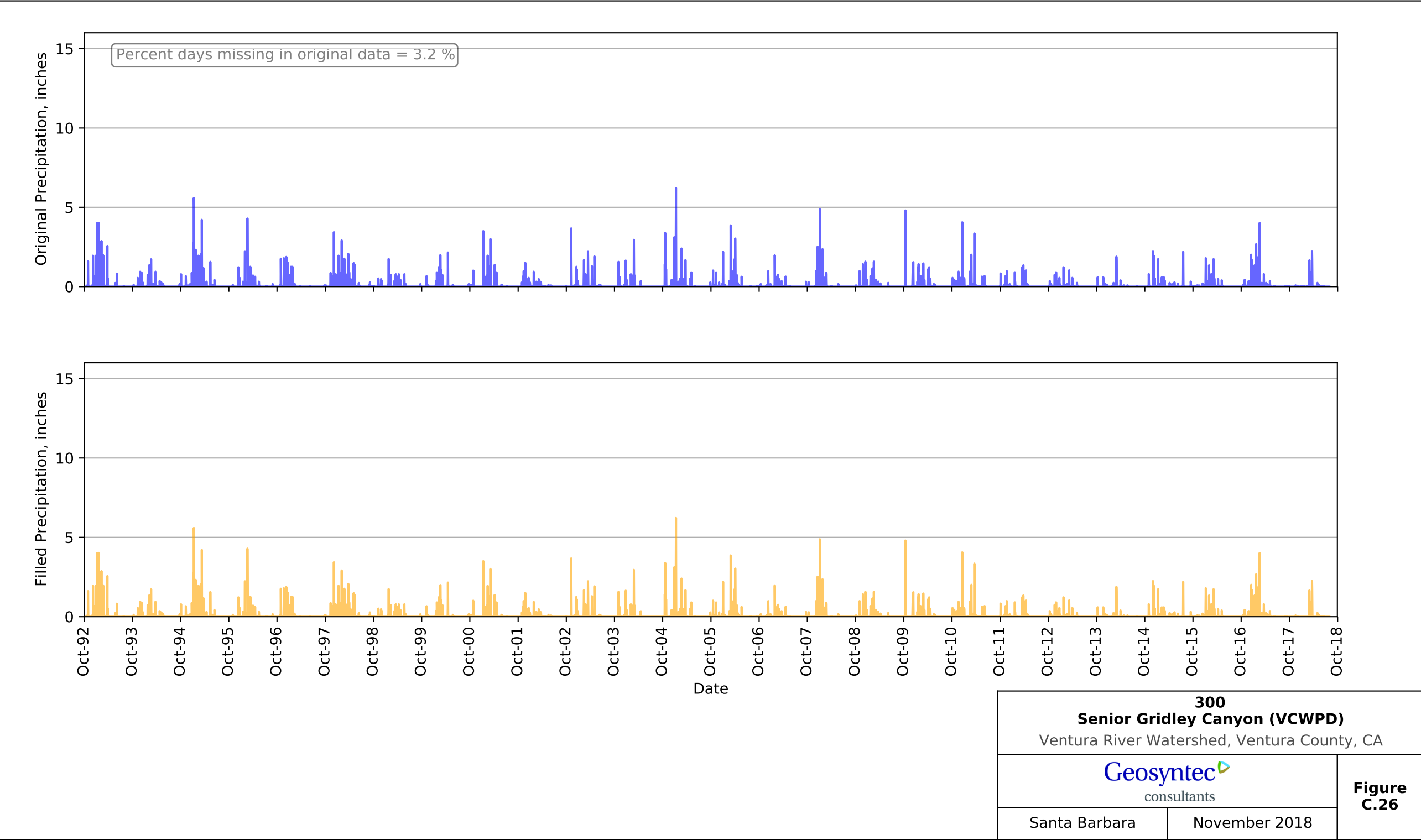


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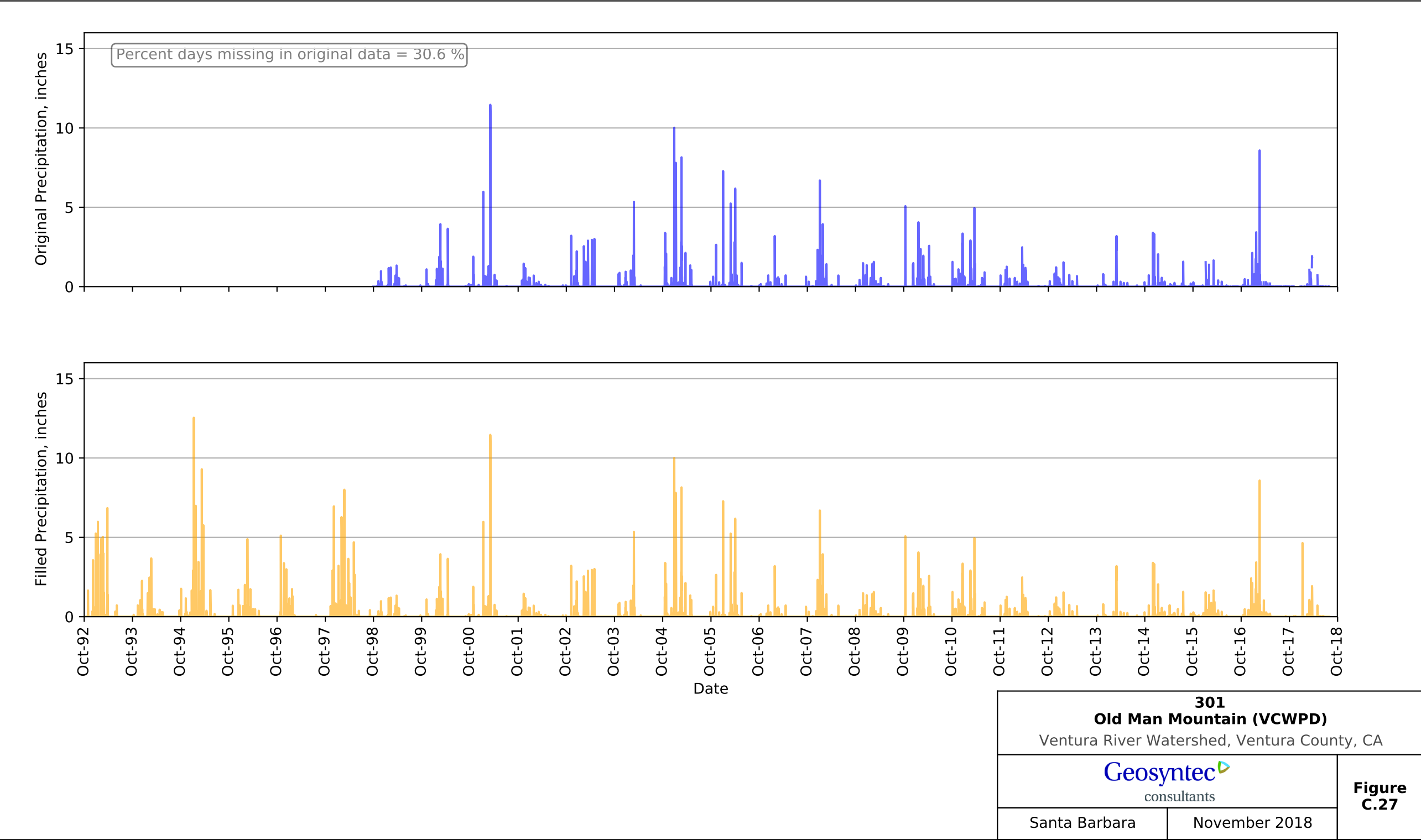


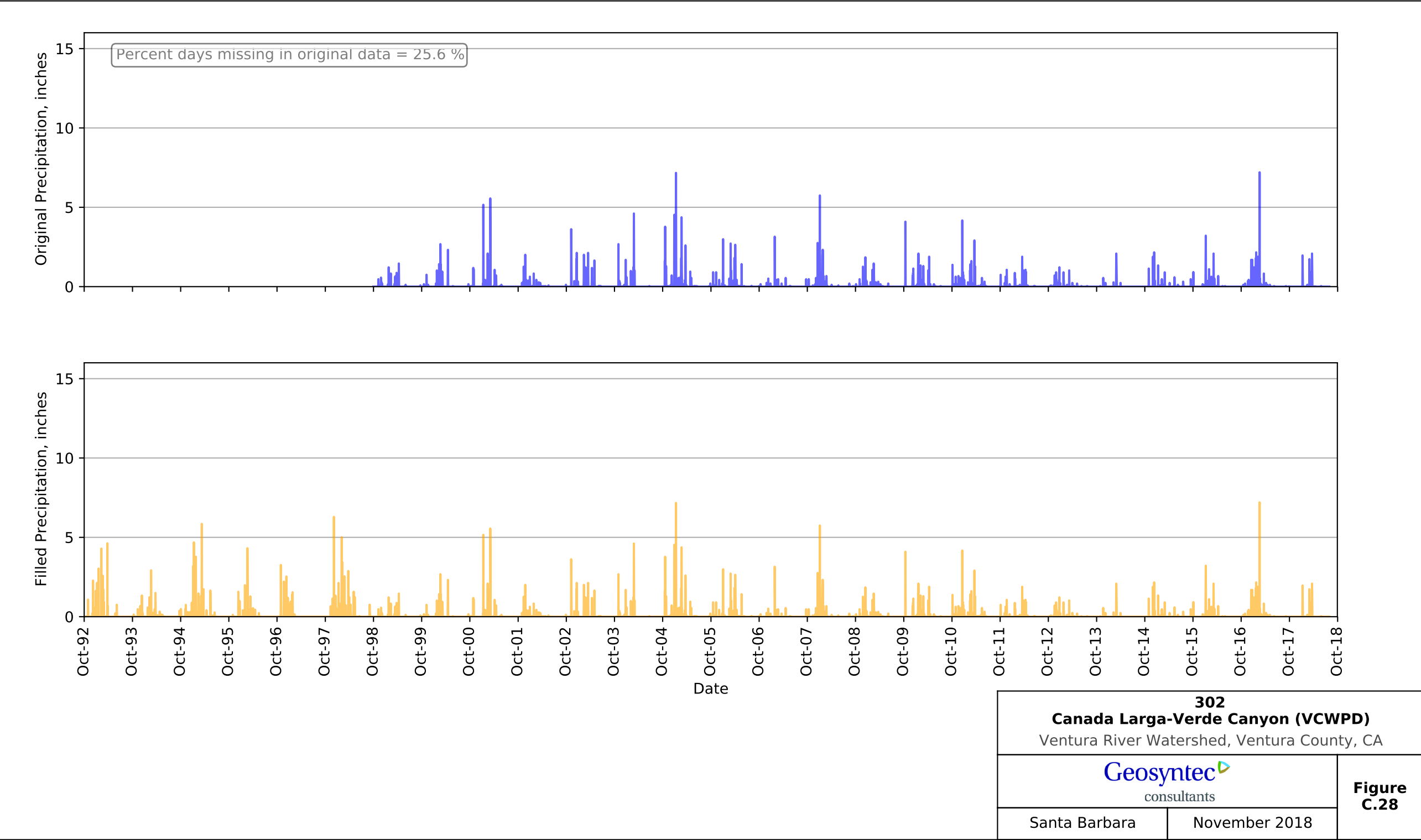
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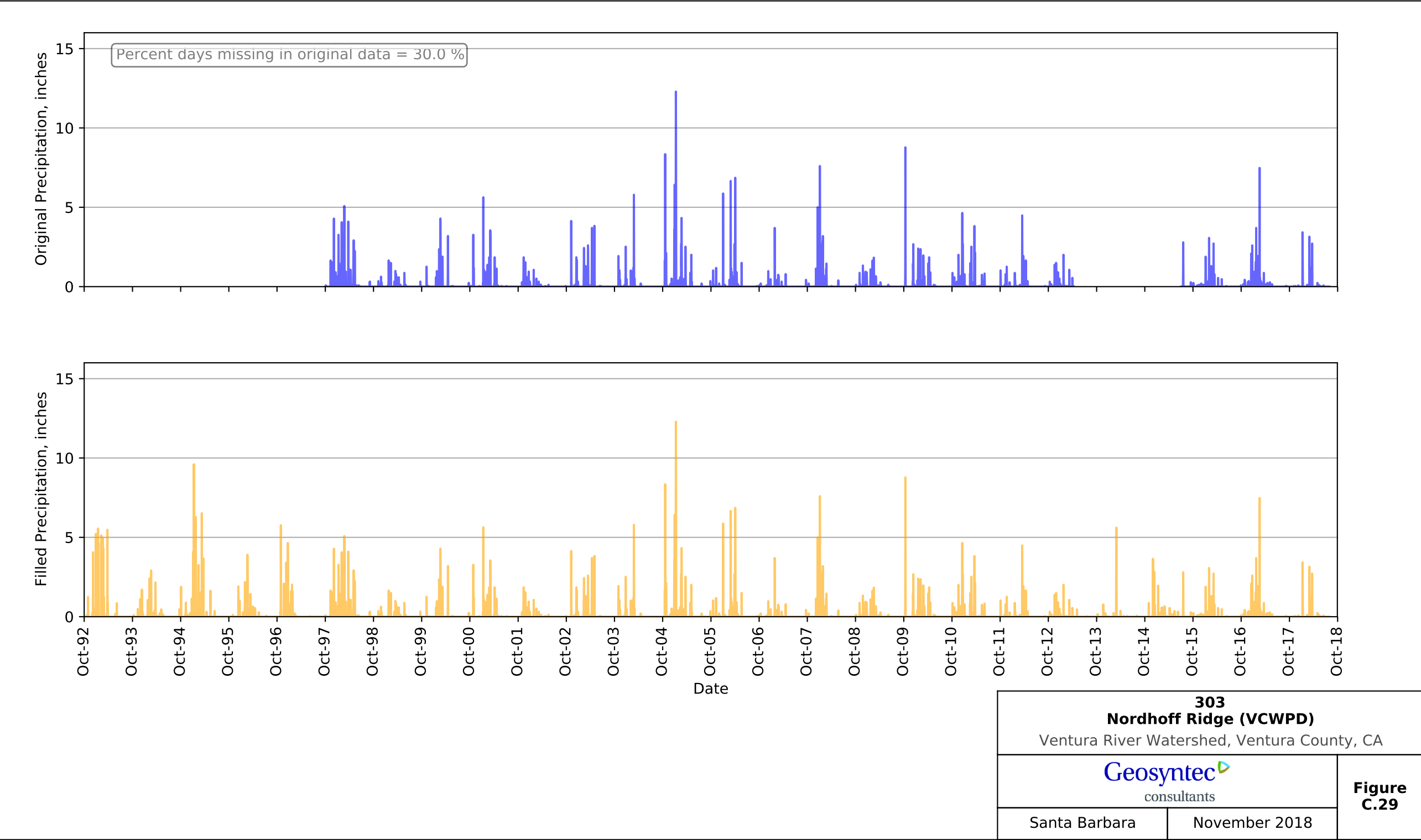


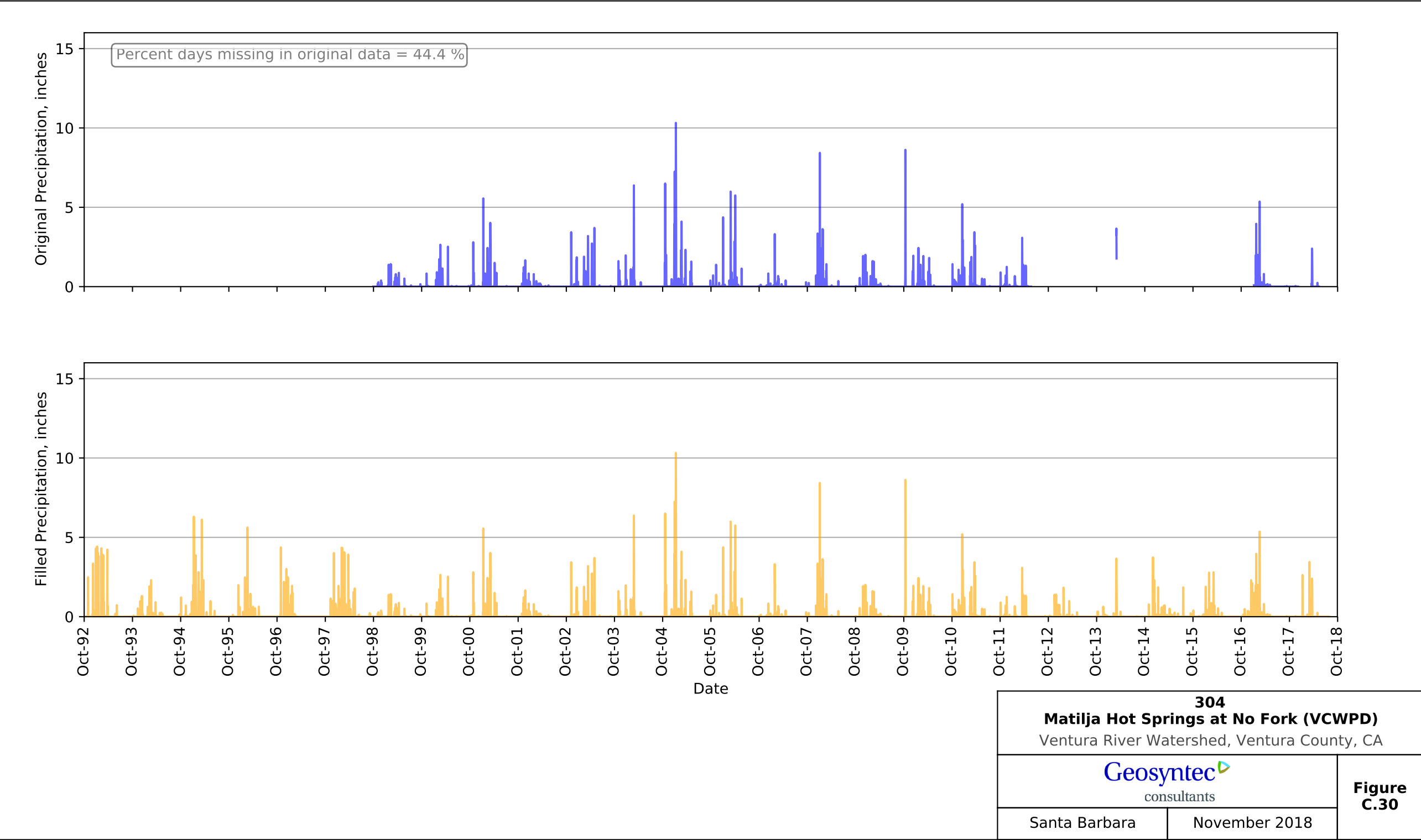


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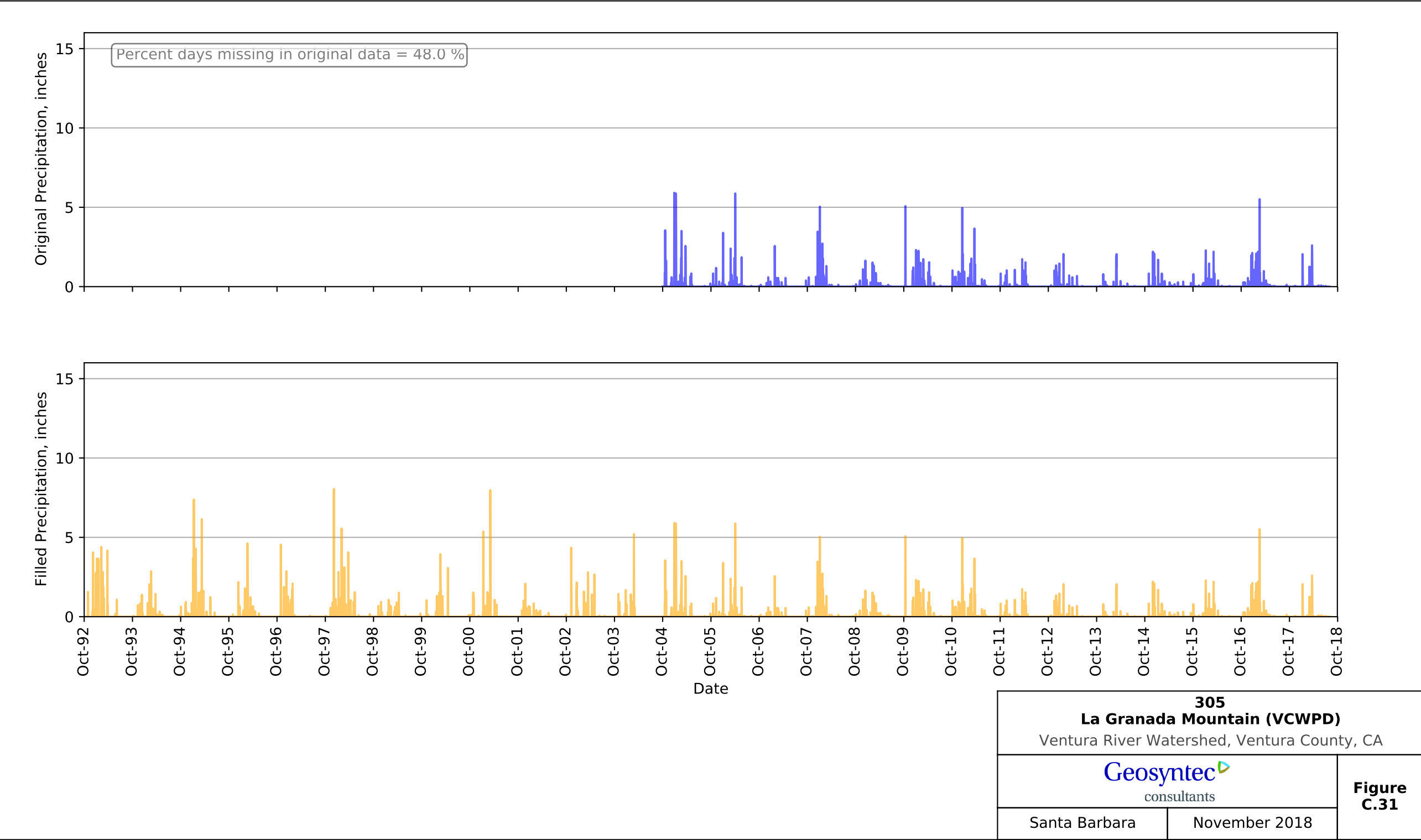


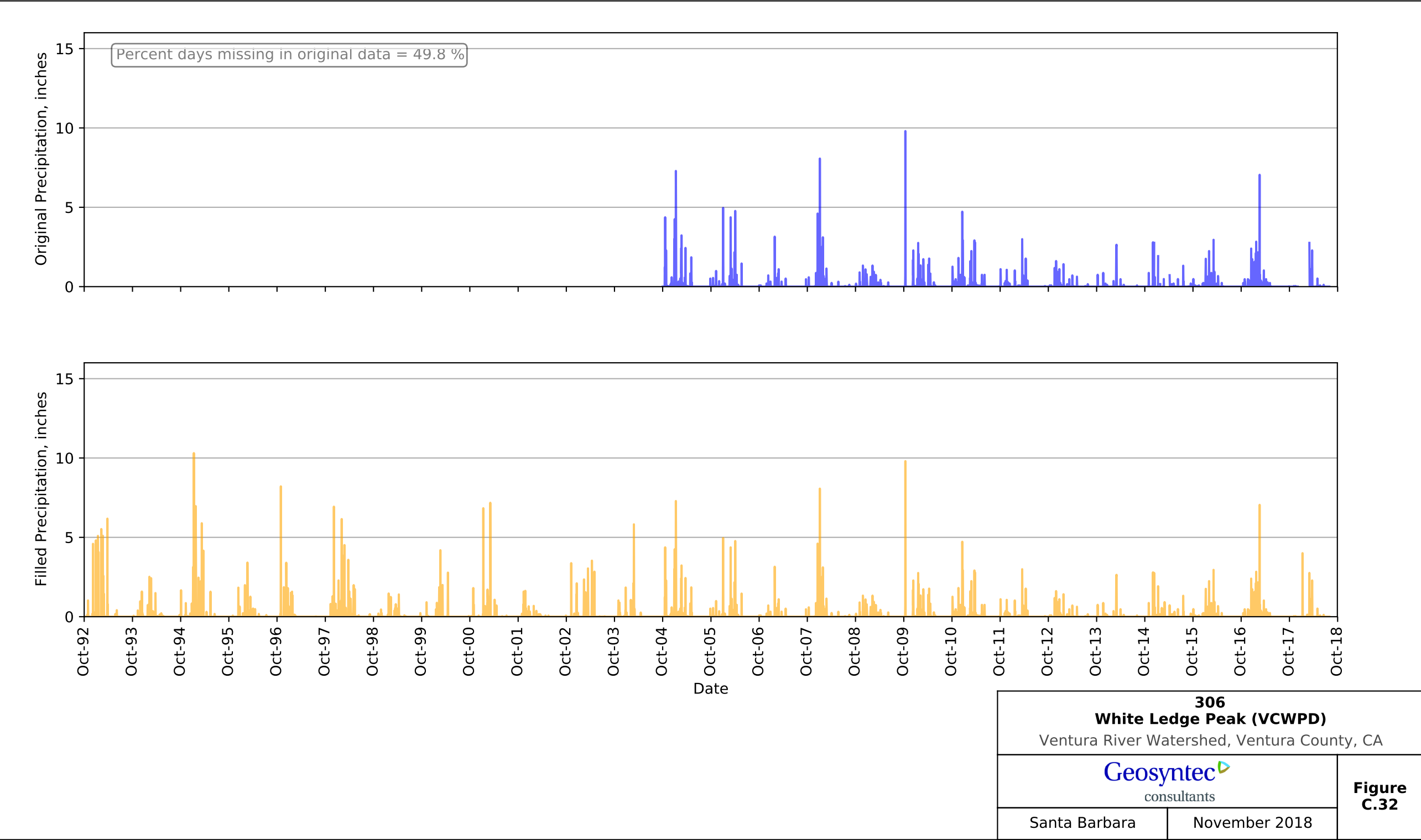






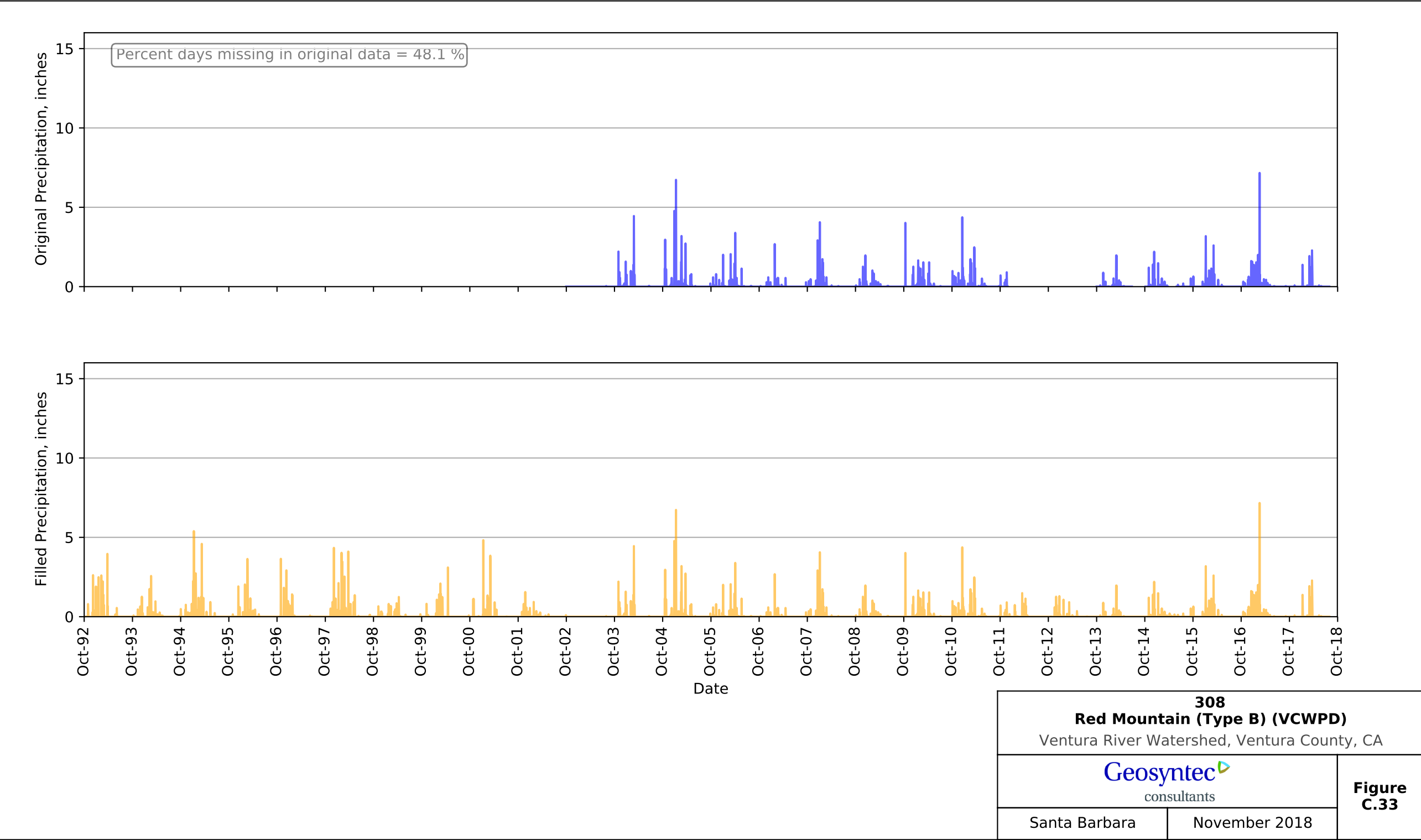
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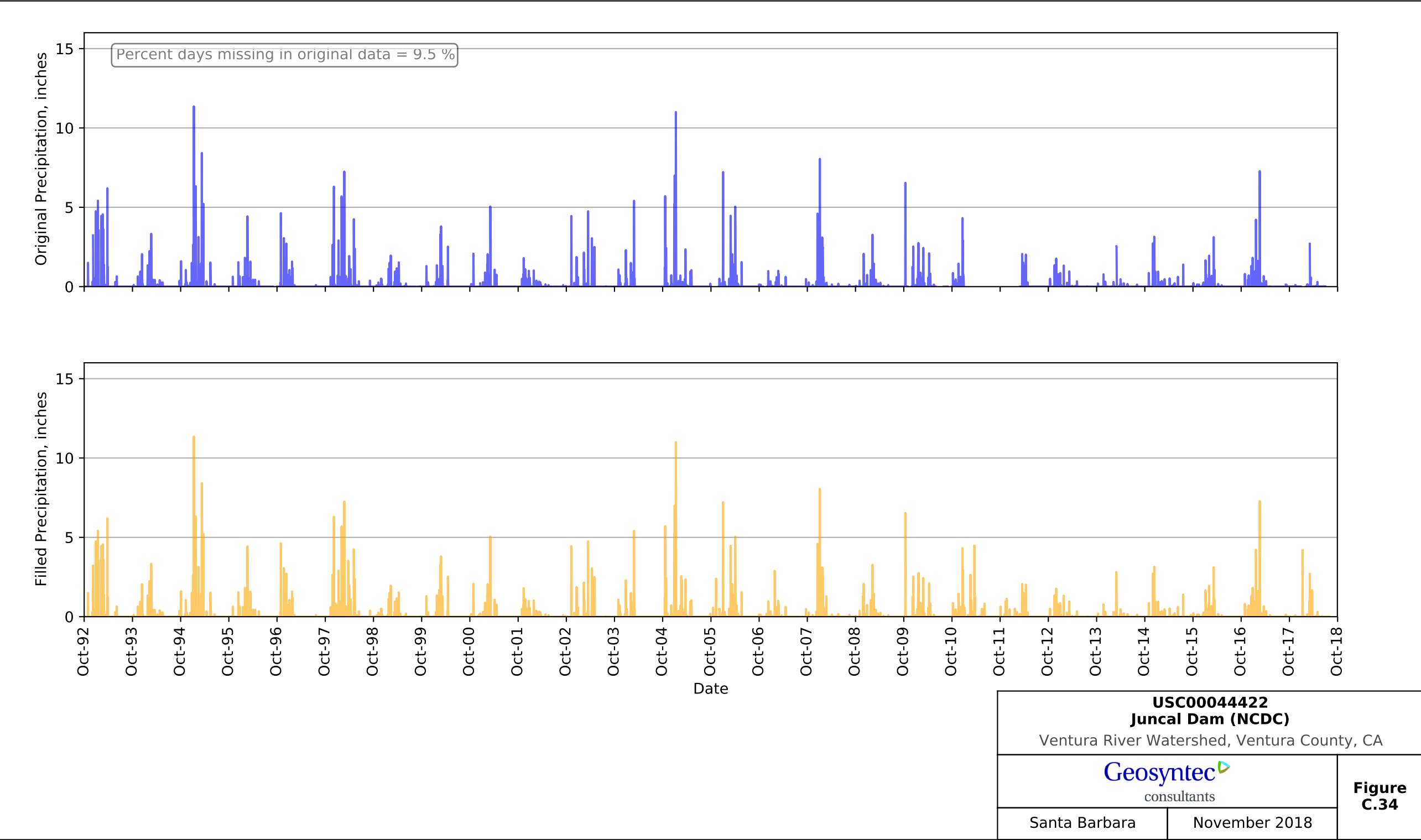


<div>306</div> <div>White Ledge Peak (VCWPD)</div> <div>Ventura River Watershed, Ventura County, CA</div>	
<div>Geosyntec</div> <div>consultants</div>	
Santa Barbara	November 2018

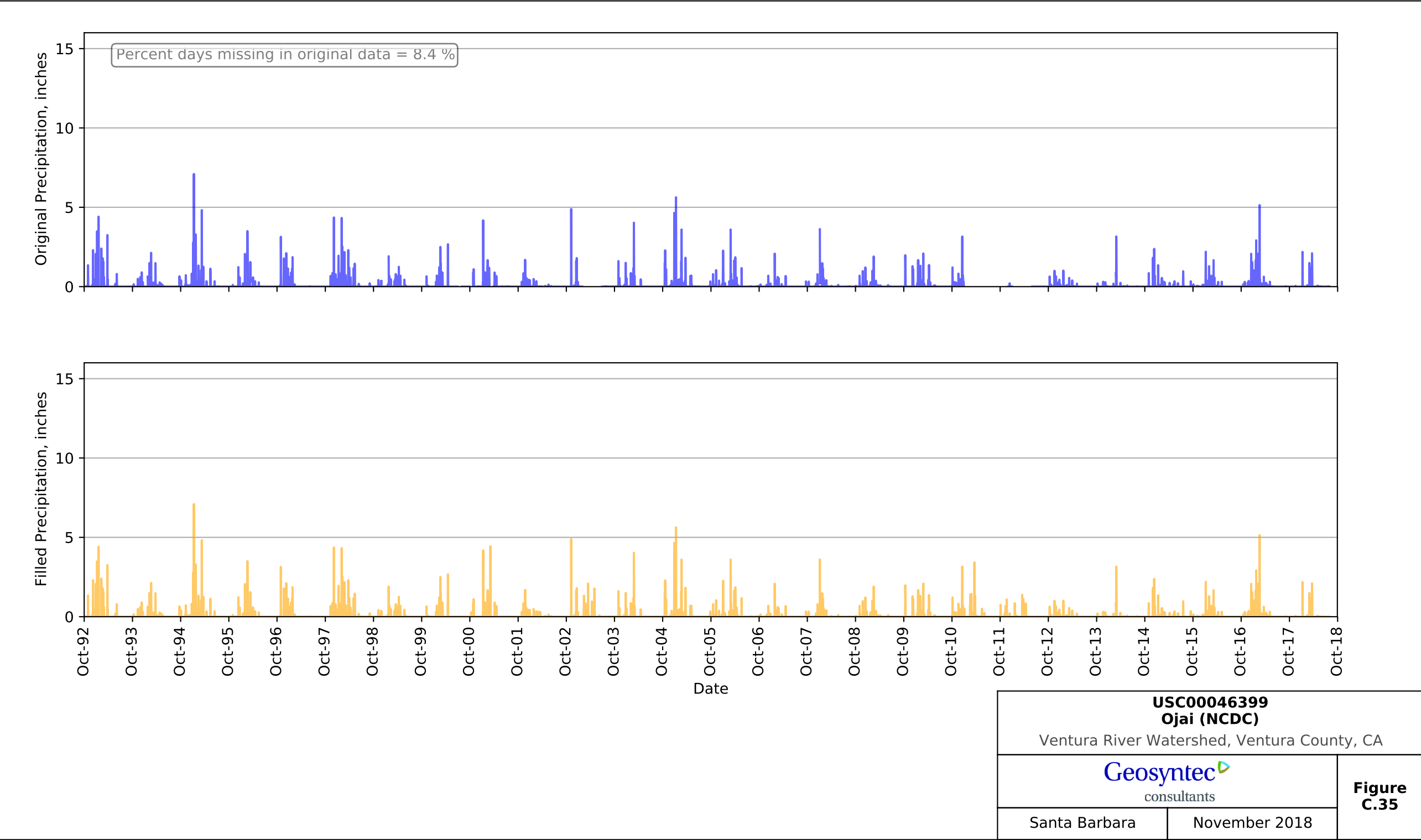
Figure C.32



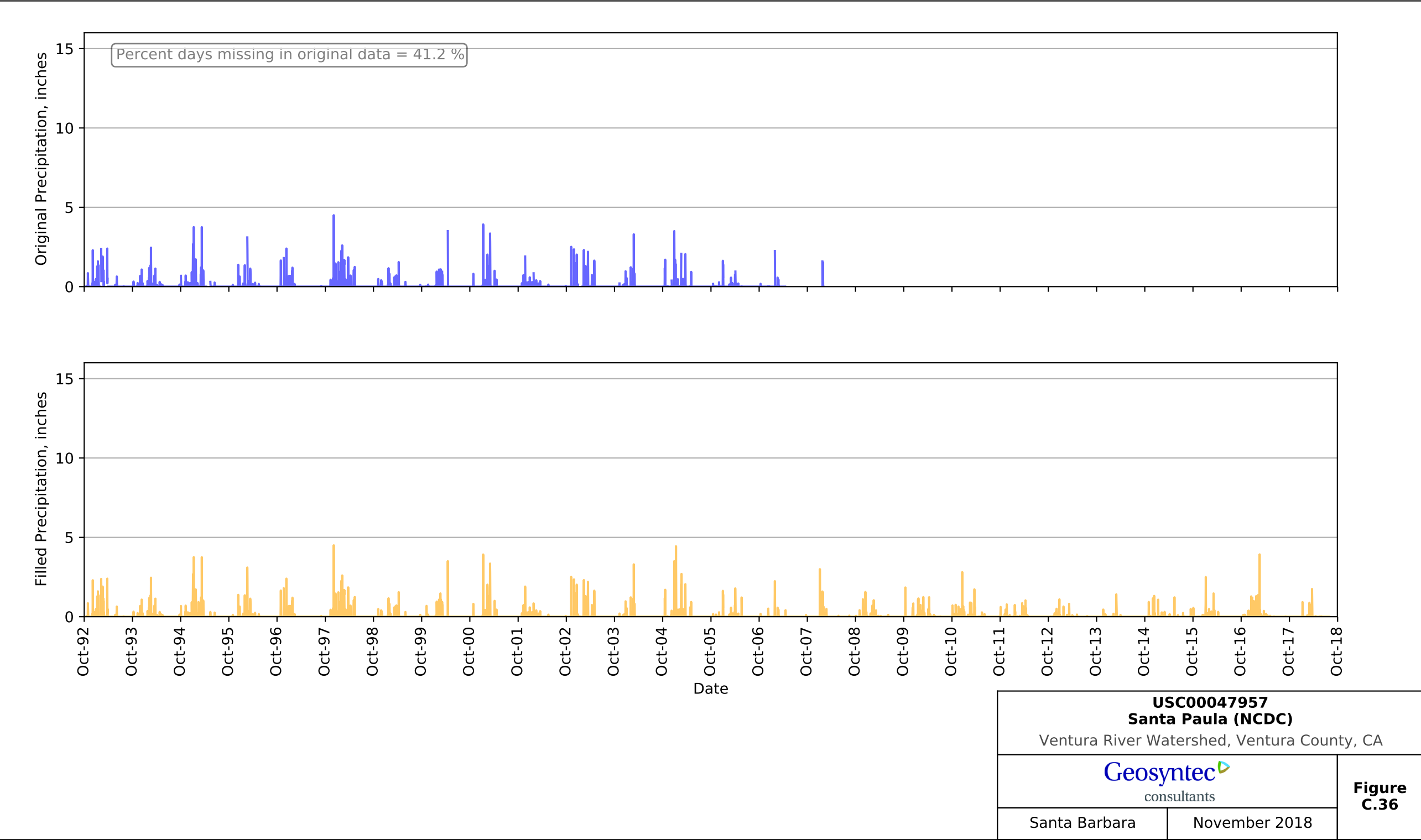
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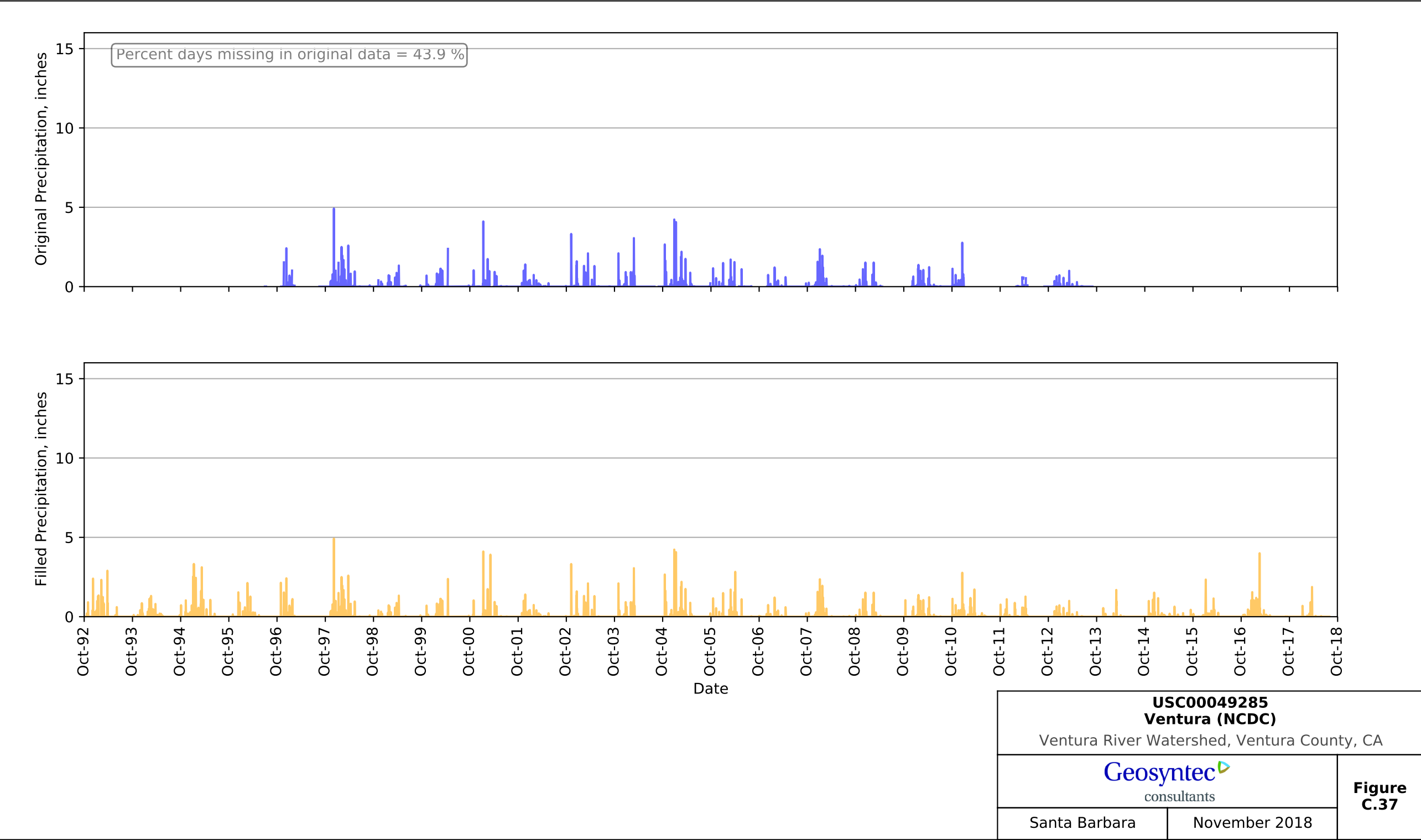
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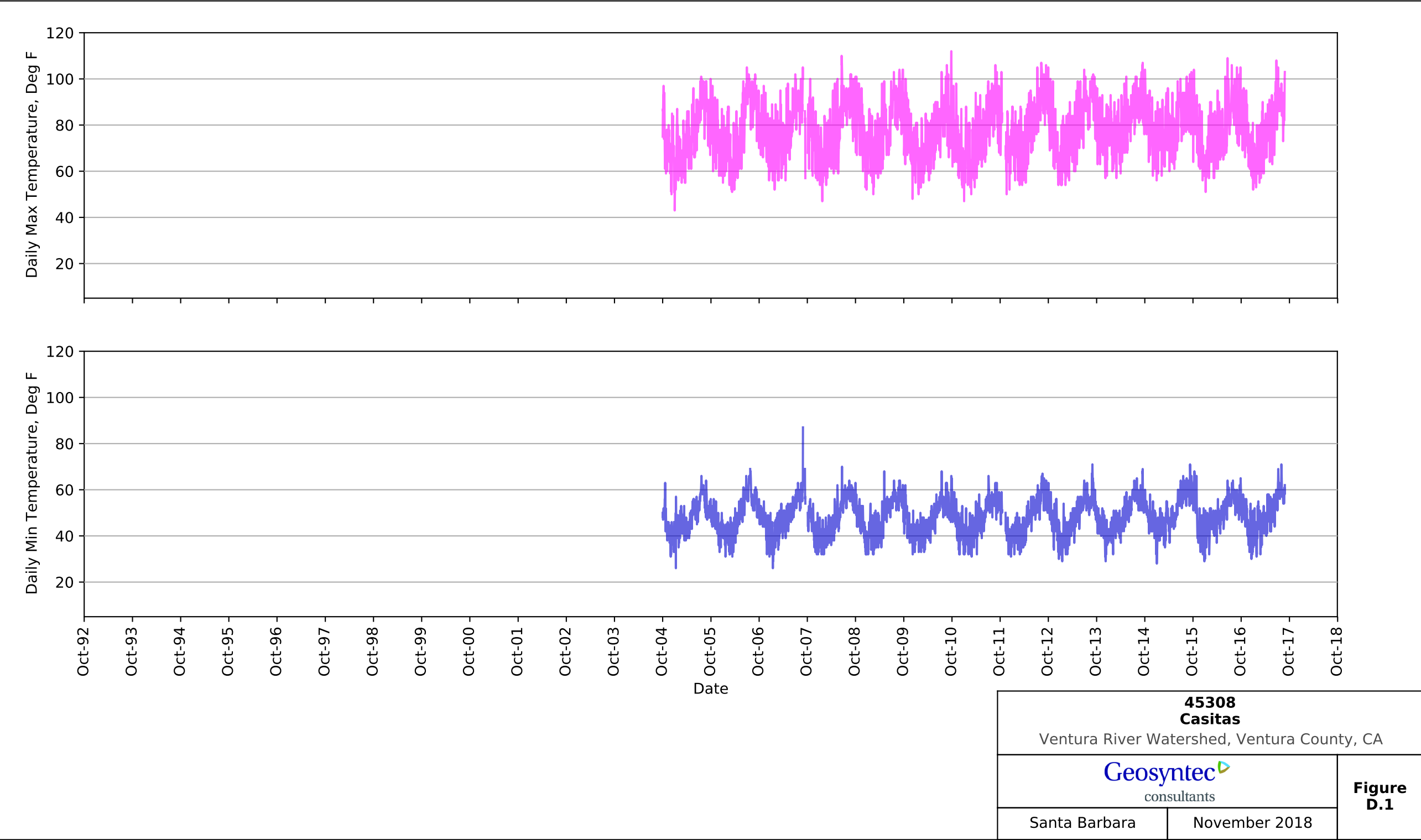


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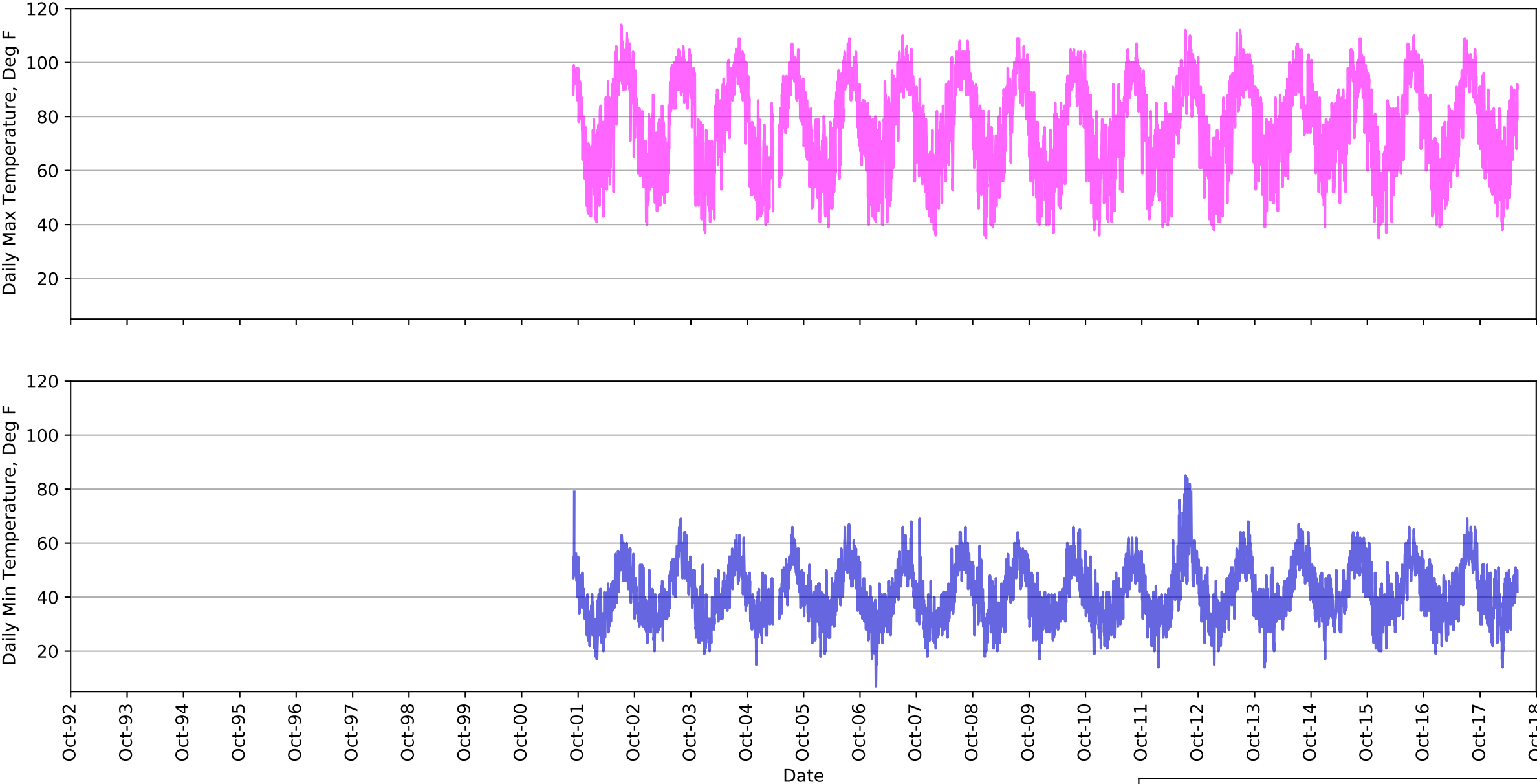


APPENDIX D AIR TEMPERATURE PLOTS

Appendix D presents daily maximum air temperature and daily minimum air temperature plots observed at weather stations in the Ventura River Watershed and nearby areas. The locations of weather stations are described in Figure 3.3. There are three stations in the Ventura River Watershed and more in nearby areas. The air temperature datasets are from the Western Regional Climate Center, the California Irrigation Management Information System, and the National Oceanic and Atmospheric Administration datasets. If you need accessibility assistance with the information presented in this appendix, please contact the State Water Board at instreamflows@waterboards.ca.gov.

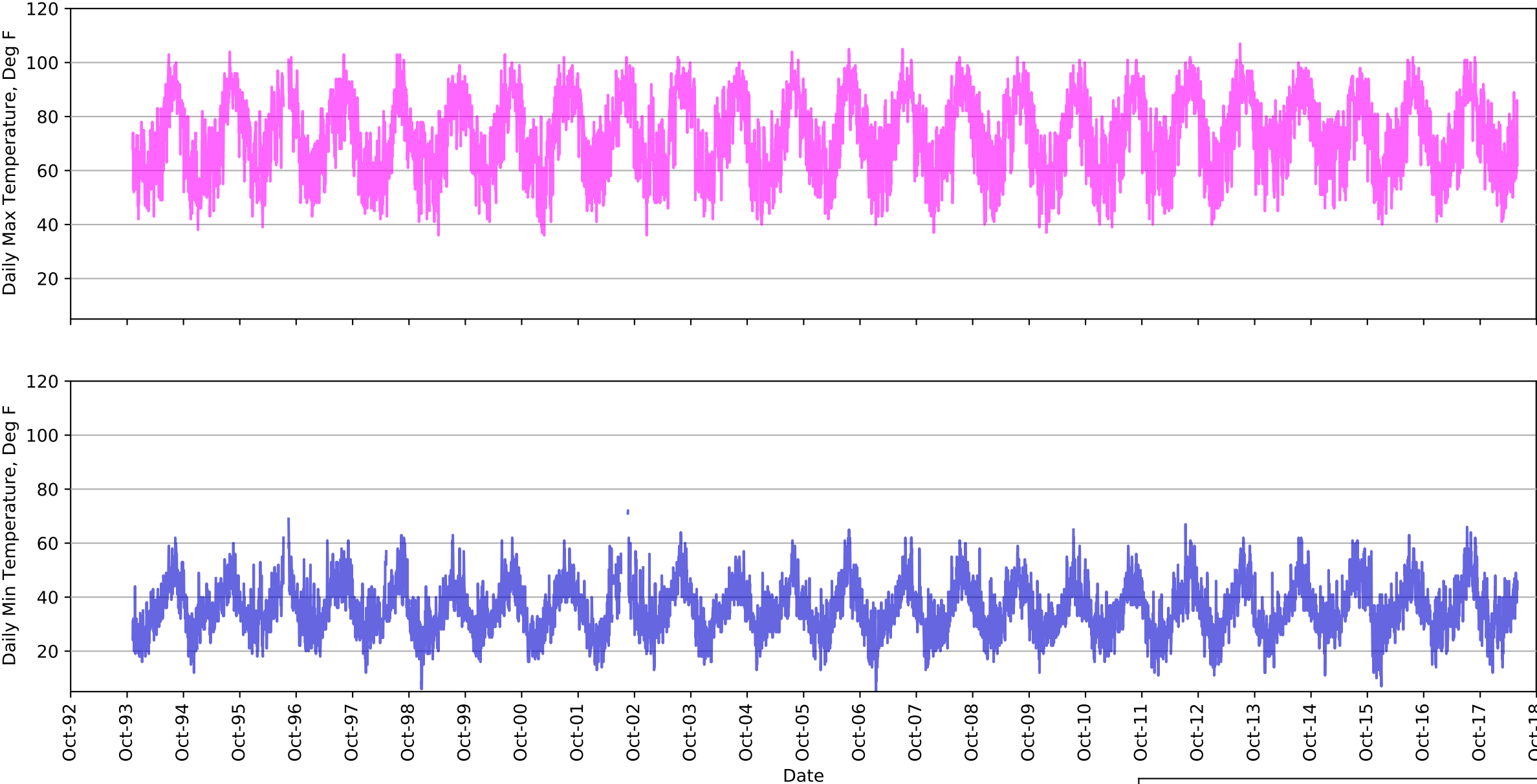


Source: P:\Project Folders\LA0421 - SWRCB Ventura River Modeling\400 Technical\Task 3 - PRMS Model and GSFLOW\Technical Analysis\Python\5 - Temperature plots\01 - Plot daily min and max temperature data



USR000COZE Ozena Ventura River Watershed, Ventura County, CA	
	
Santa Barbara	November 2018

Figure D.2




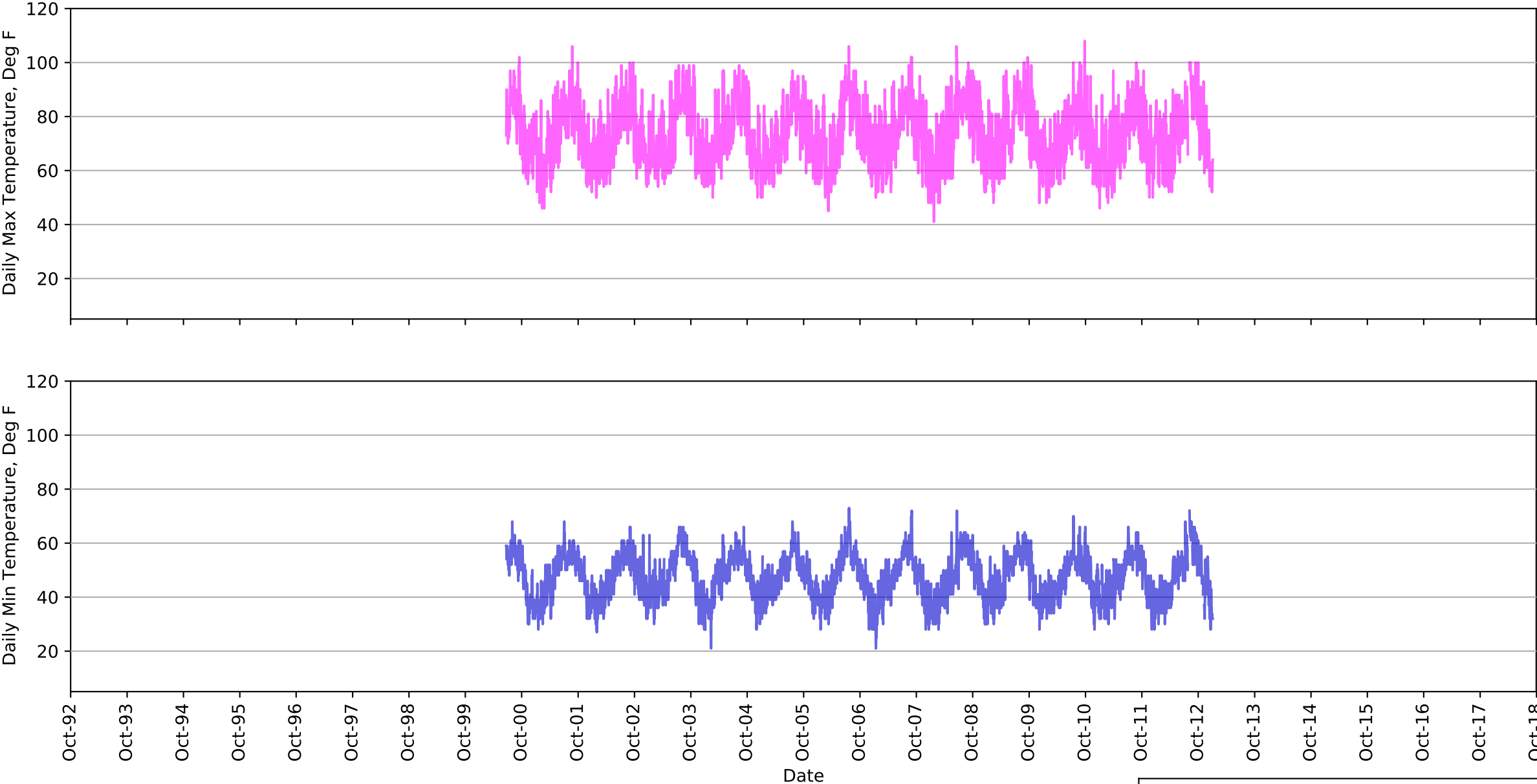
USR0000CROS Rose Valley Ventura River Watershed, Ventura County, CA	
	
Santa Barbara	November 2018

Figure D.3

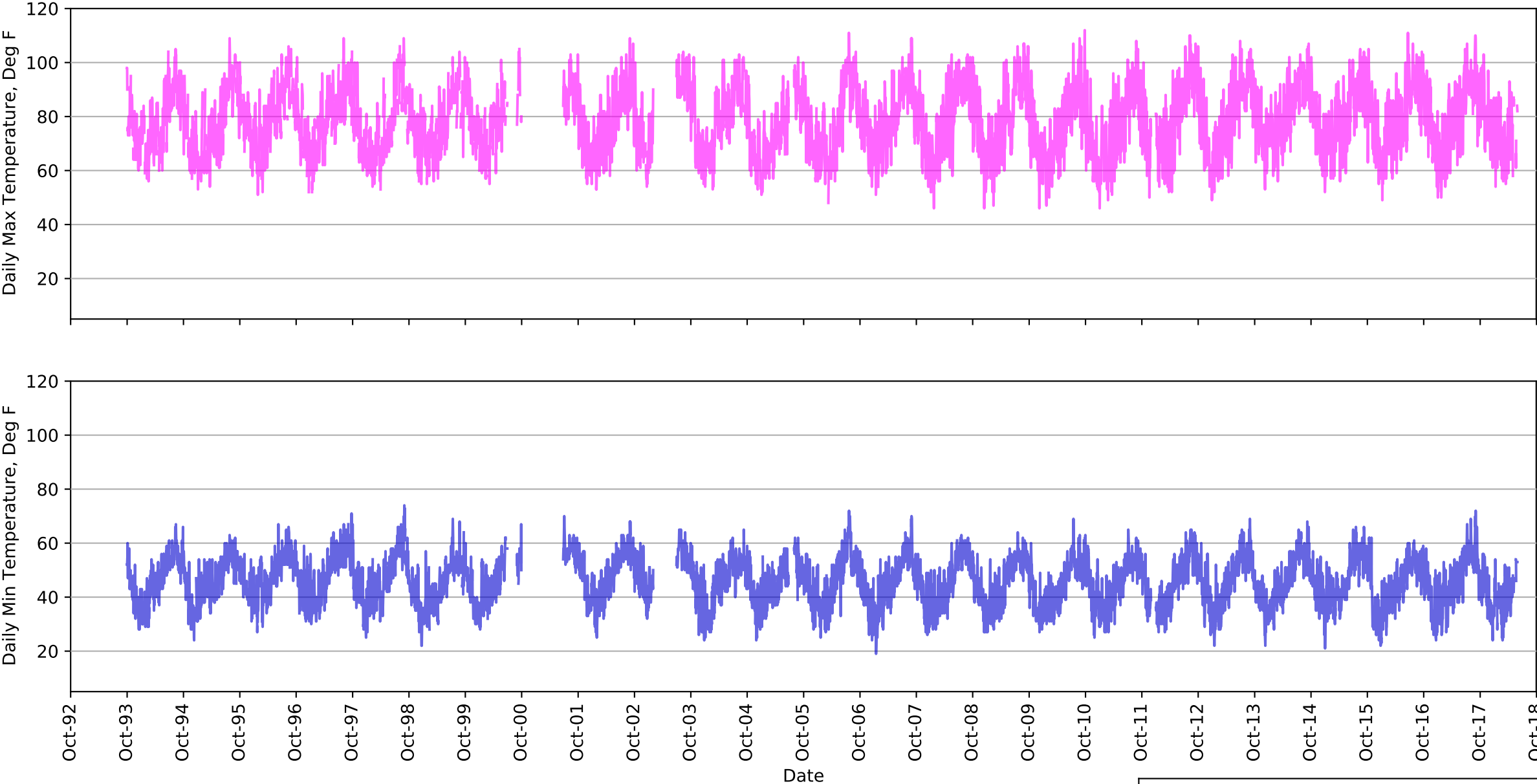
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USR0000COJA Ojai Ventura River Watershed, Ventura County, CA	
	
Santa Barbara	November 2018

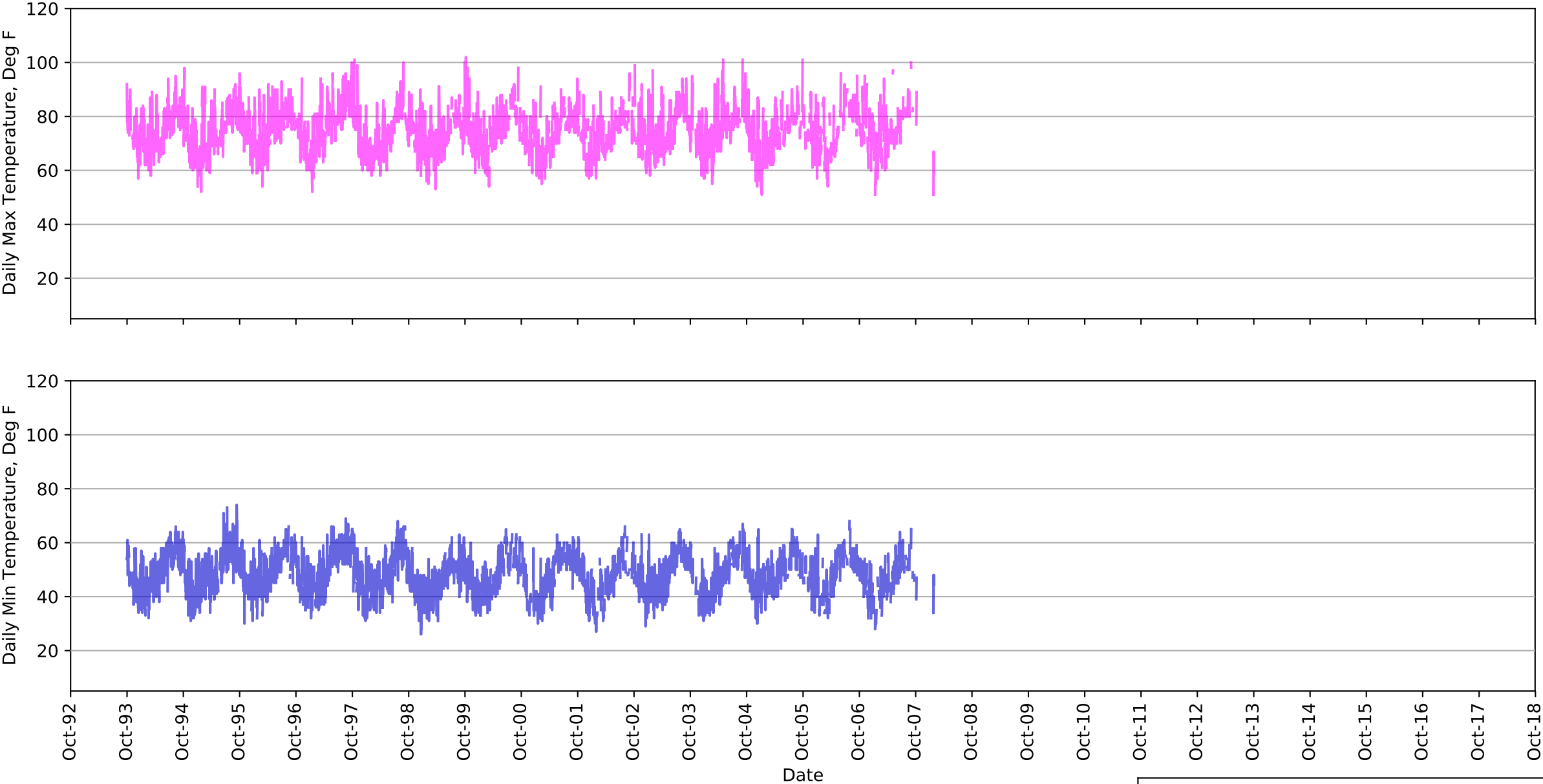
Figure D.4

Source: P:\Project Folders\LA0421 - SWRCB Ventura River Modeling\400 Technical\Task 3 - PRMS Model and GSFLOW\Technical Analysis\Python\5 - Temperature plots\01 - Plot daily min and max temperature data



USC00046399 Ojai Ventura River Watershed, Ventura County, CA		
Geosyntec consultants		Figure D.5
Santa Barbara	November 2018	

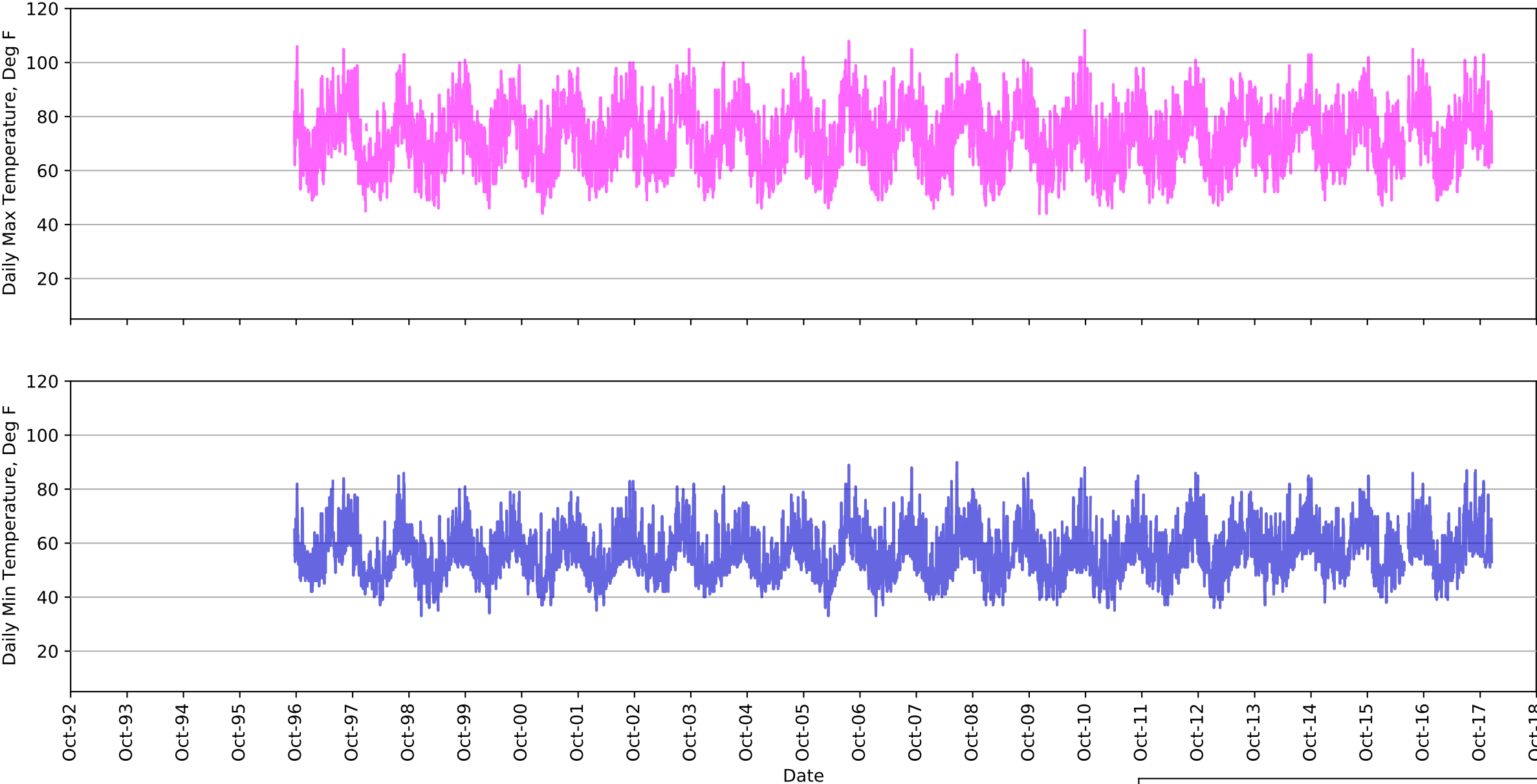
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USC00047957 Santa Paula Ventura River Watershed, Ventura County, CA	
Geosyntec consultants	
Santa Barbara	November 2018

Figure D.6

Source: P:\Project Folders\LA0421 - SWRCB Ventura River Modeling\400 Technical\Task 3 - PRMS Model and GSFLOW\Technical Analysis\Python\5 - Temperature plots\01 - Plot daily min and max temperature data




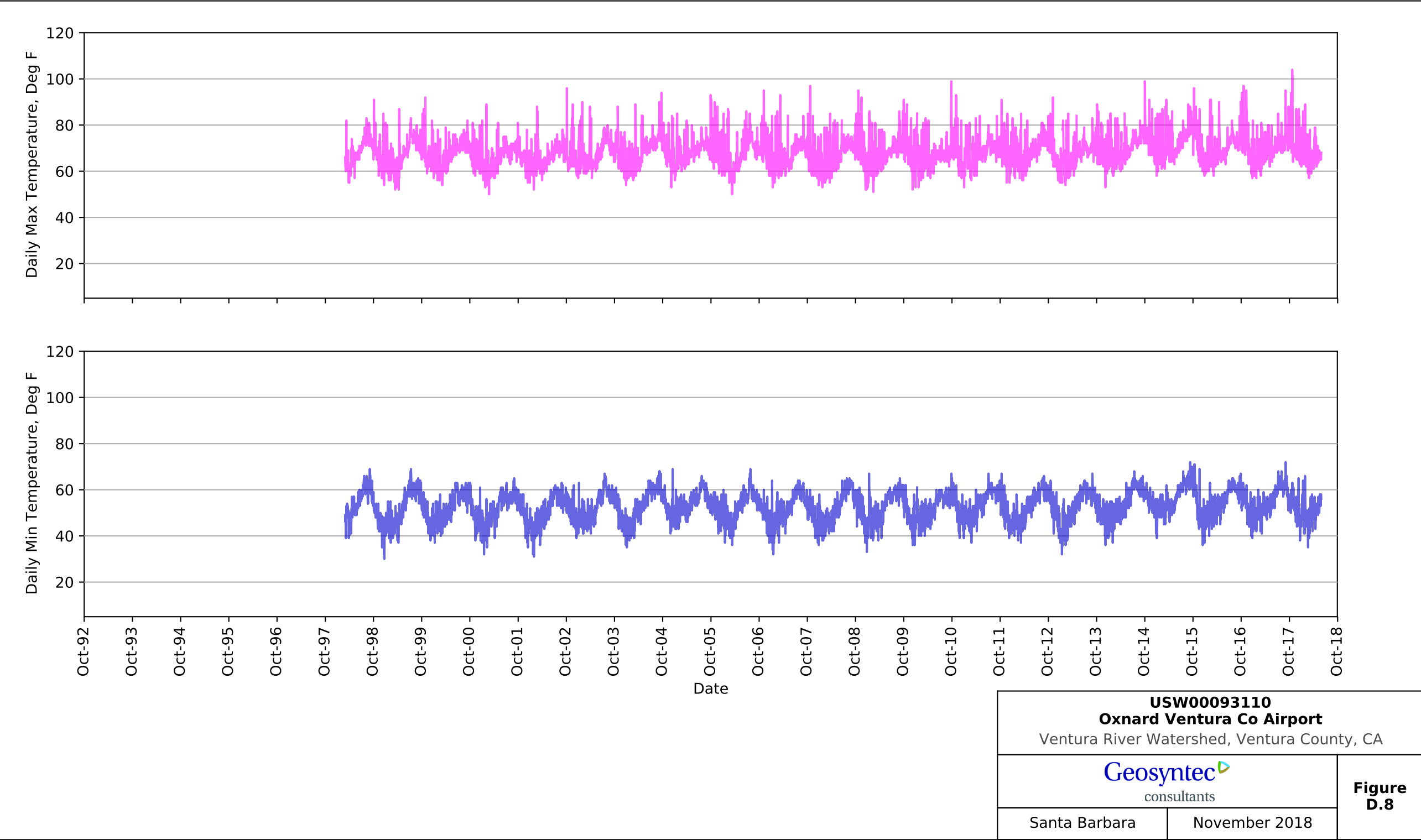
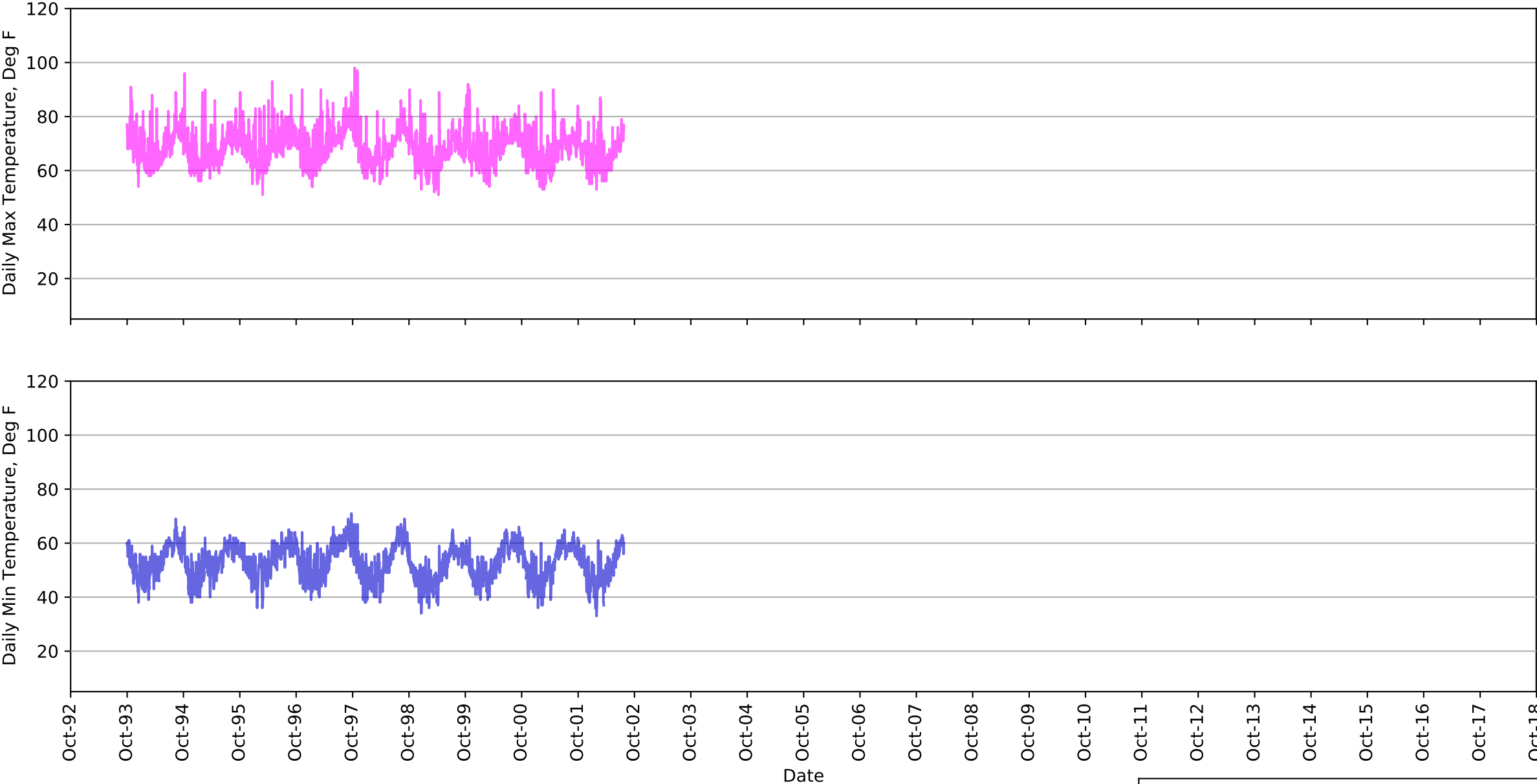
USR0000CMNC Montecito Ventura River Watershed, Ventura County, CA	
	
Santa Barbara	November 2018

Figure D.7

Source: P:\Project Folders\LA0421 - SWRCB Ventura River Modeling\400 Technical\Task 3 - PRMS Model and GSFLOW\Technical Analysis\Python\5 - Temperature plots\01 - Plot daily min and max temperature data



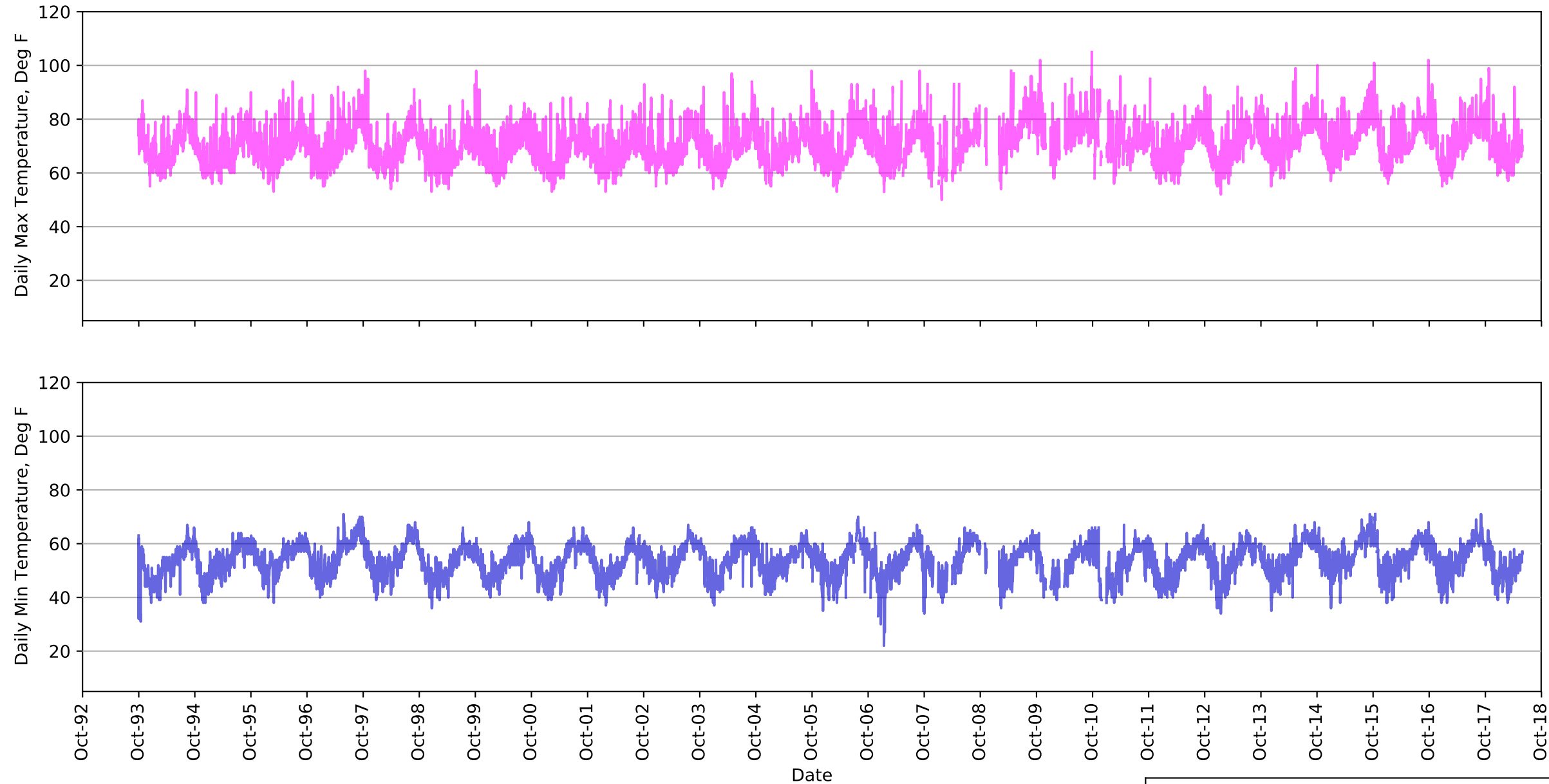
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USC00046569 Oxnard Ventura River Watershed, Ventura County, CA	
Geosyntec consultants	
Santa Barbara	November 2018

**Figure
D.9**

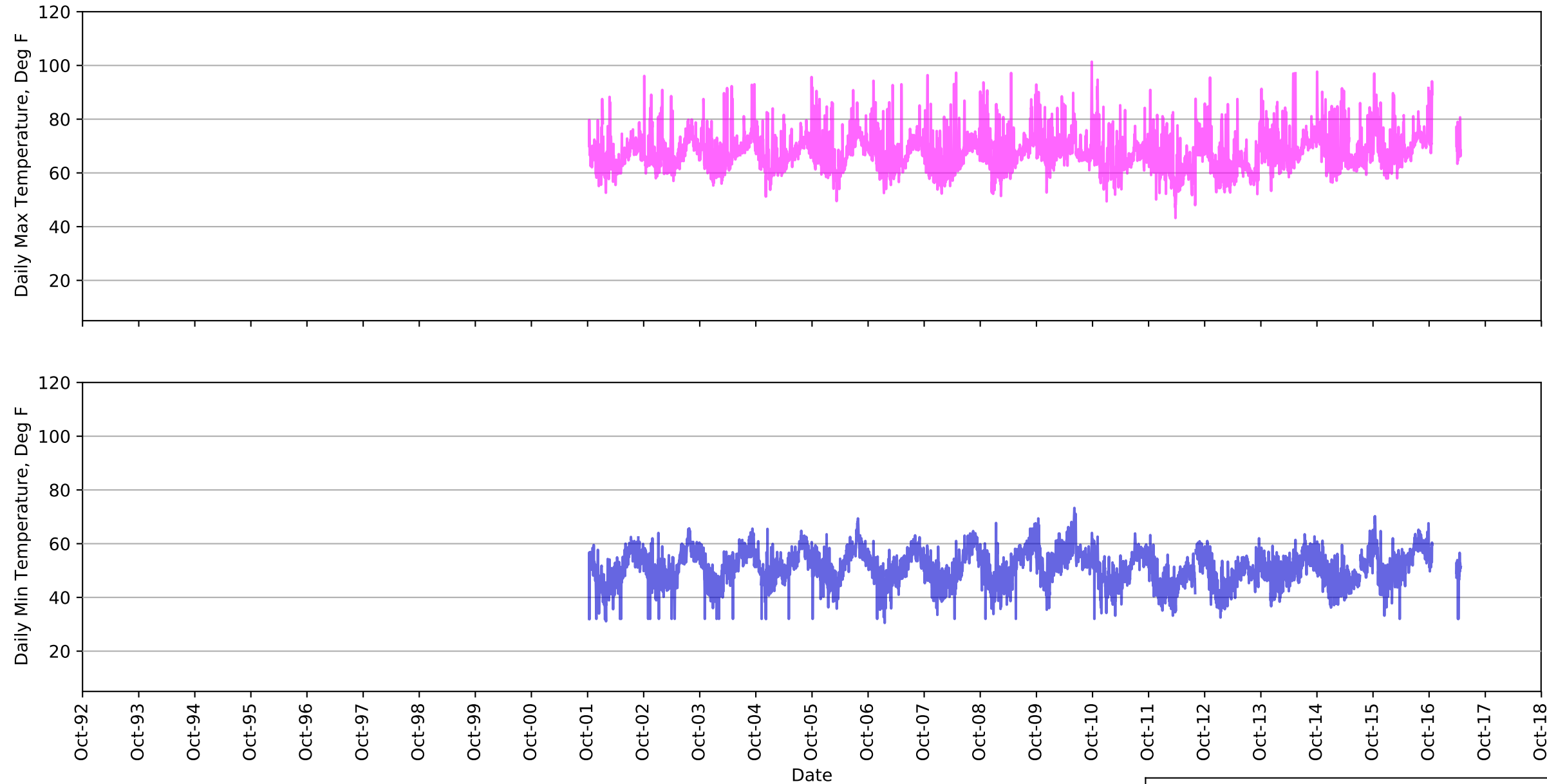
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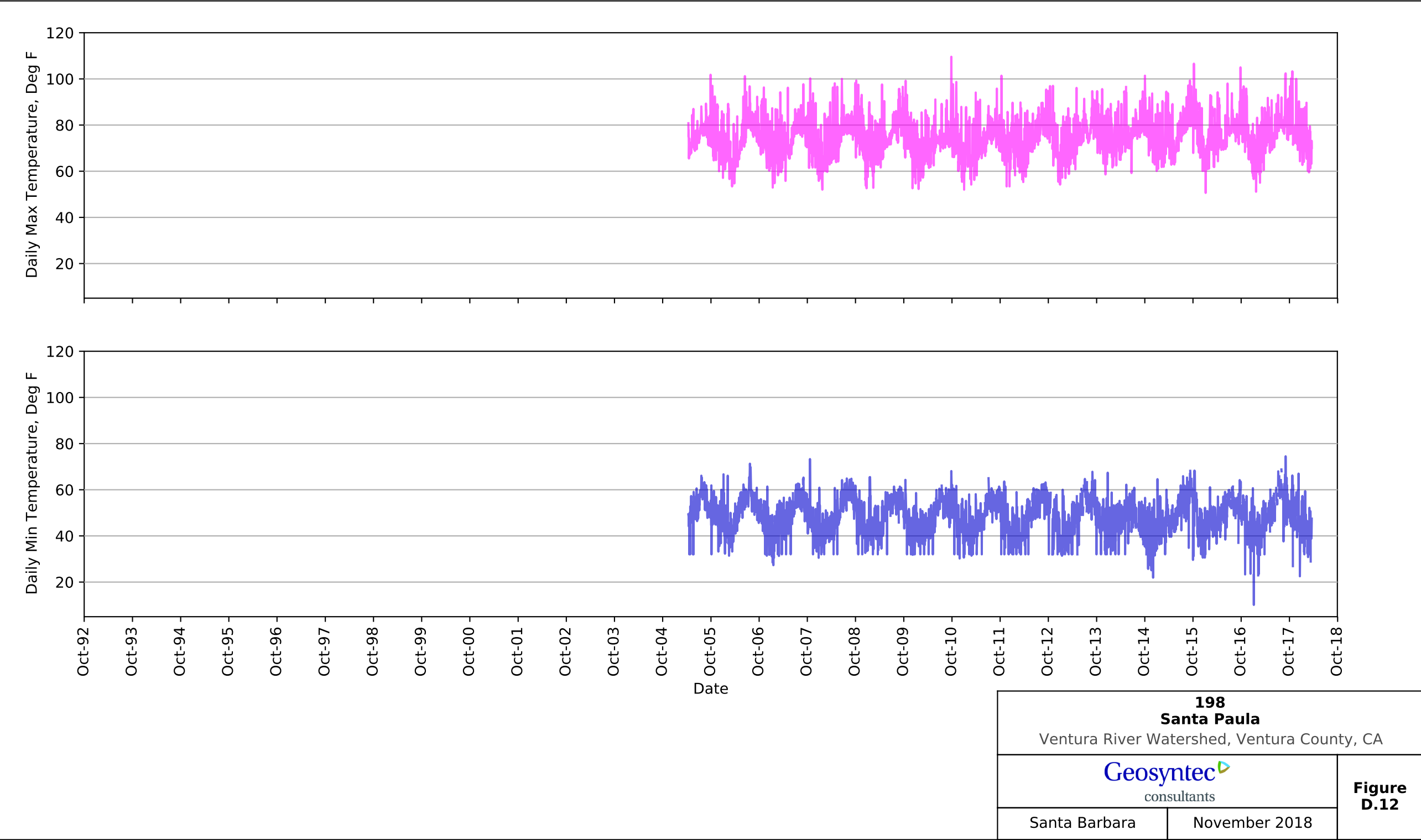
USC00047902 Santa Barbara Ventura River Watershed, Ventura County, CA	
Geosyntec consultants	
Santa Barbara	November 2018

**Figure
D.10**

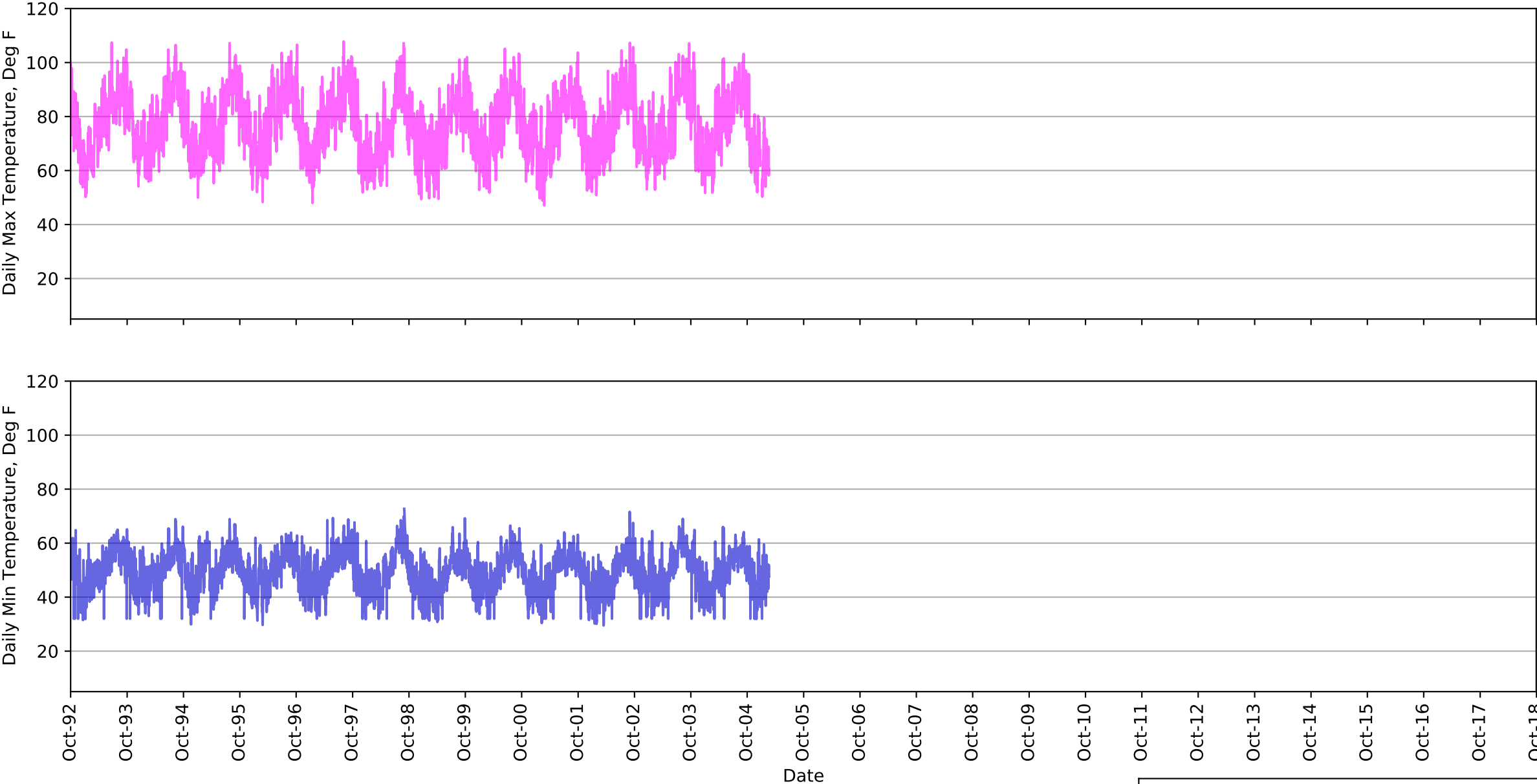
Source: P:\Project Folders\LA0421 - SWRCB Ventura River Modeling\400 Technical\Task 3 - PRMS Model and GSFLOW\Technical Analysis\Python\5 - Temperature plots\01 - Plot daily min and max temperature data



156 Oxnard Ventura River Watershed, Ventura County, CA	
	
Santa Barbara	November 2018
Figure D.11	



Source: P:\Project Folders\LA0421 - SWRCB Ventura River Modeling\400 Technical\Task 3 - PRMS Model and GSFLOW\Technical Analysis\Python\5 - Temperature plots\01 - Plot daily min and max temperature data



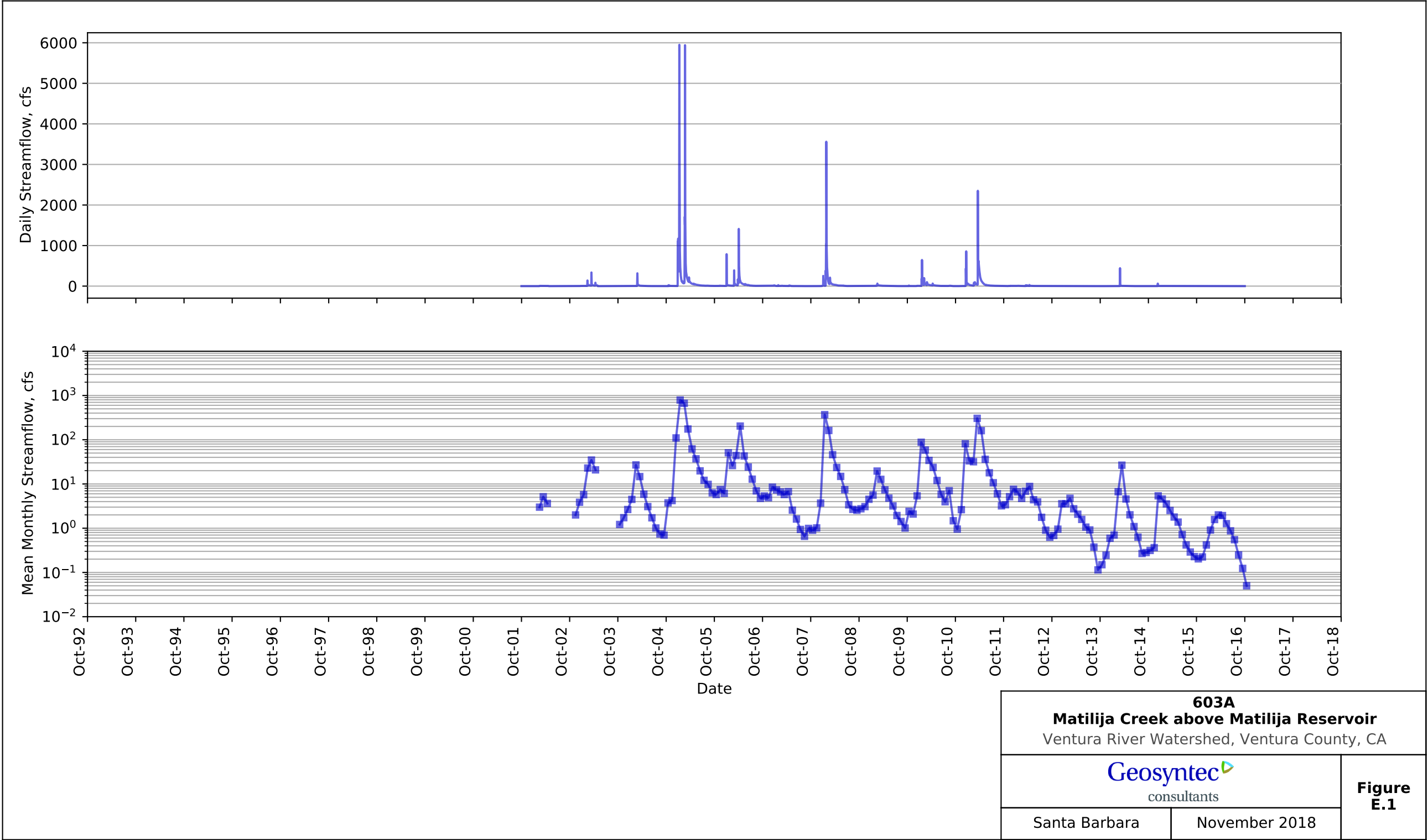
101 Piru Ventura River Watershed, Ventura County, CA	
Geosyntec consultants	
Santa Barbara	November 2018

**Figure
D.13**

Source: P:\Project Folders\LA0421 - SWRCB Ventura River Modeling\400 Technical\Task 3 - PRMS Model and GSFLOW\Technical Analysis\Python\5 - Temperature plots\01 - Plot daily min and max temperature data

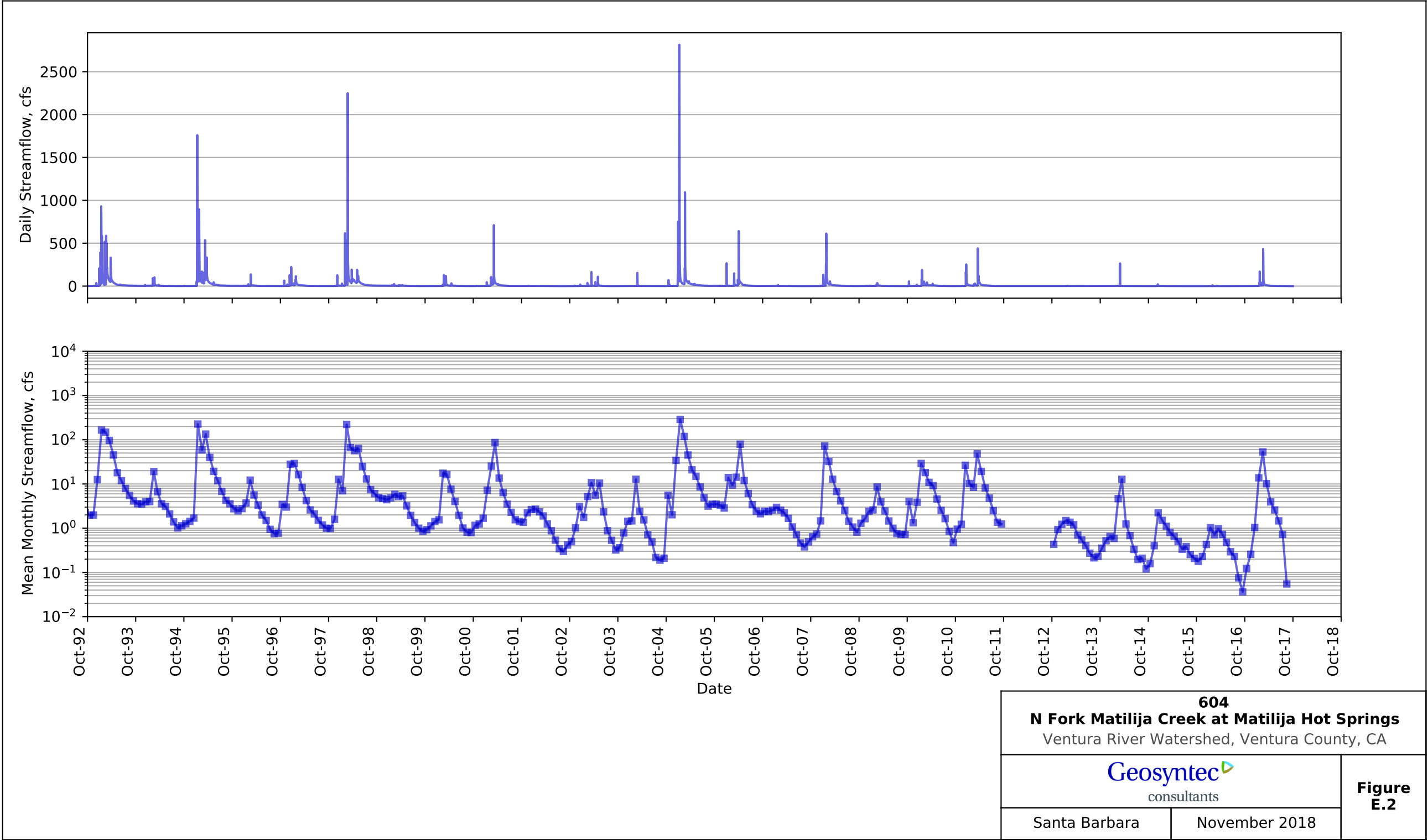
APPENDIX E STREAMFLOW PLOTS

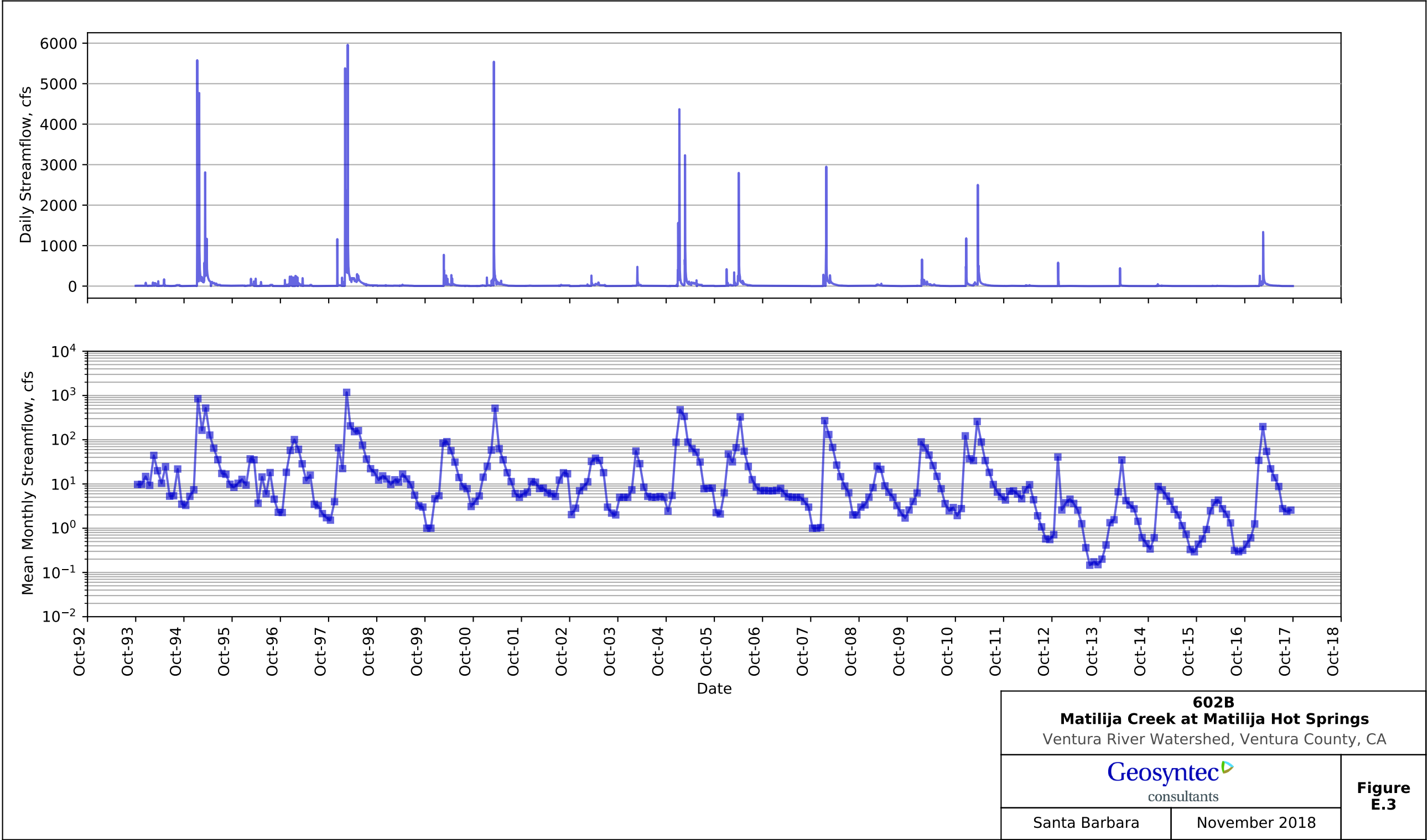
Appendix E presents daily and mean monthly streamflow hydrographs for streamflow gages in the Ventura River Watershed that will be used for calibration. The locations of streamflow gages are described in Figure 3.1. The streamflow gage datasets are from the Casitas Municipal Water District, the Ventura County Watershed Protection District, and the U.S. Geological Survey. If you need accessibility assistance with the information presented in this appendix, please contact the State Water Board at instreamflows@waterboards.ca.gov.

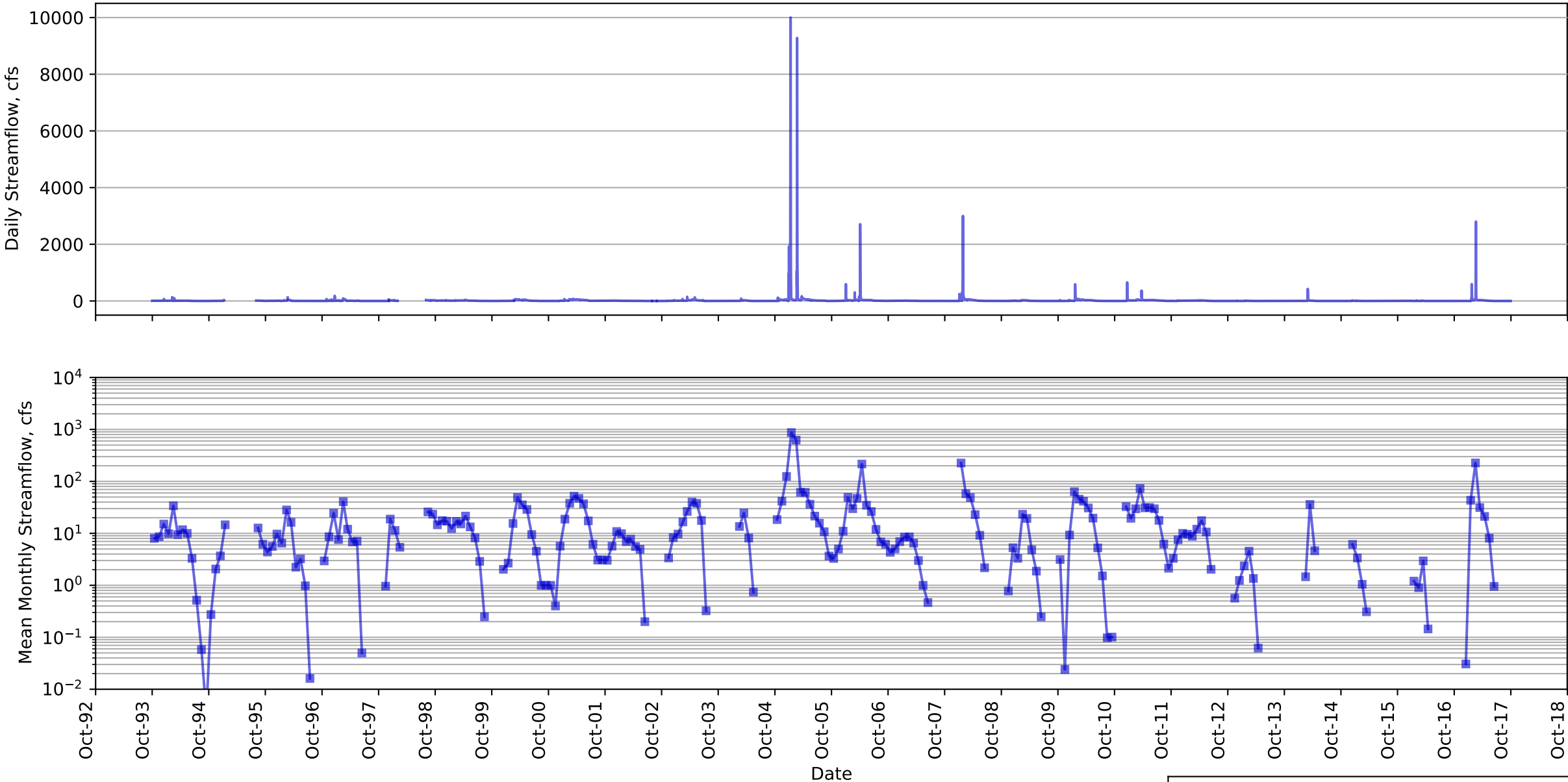



603A Matilija Creek above Matilija Reservoir Ventura River Watershed, Ventura County, CA	
	
Santa Barbara	November 2018

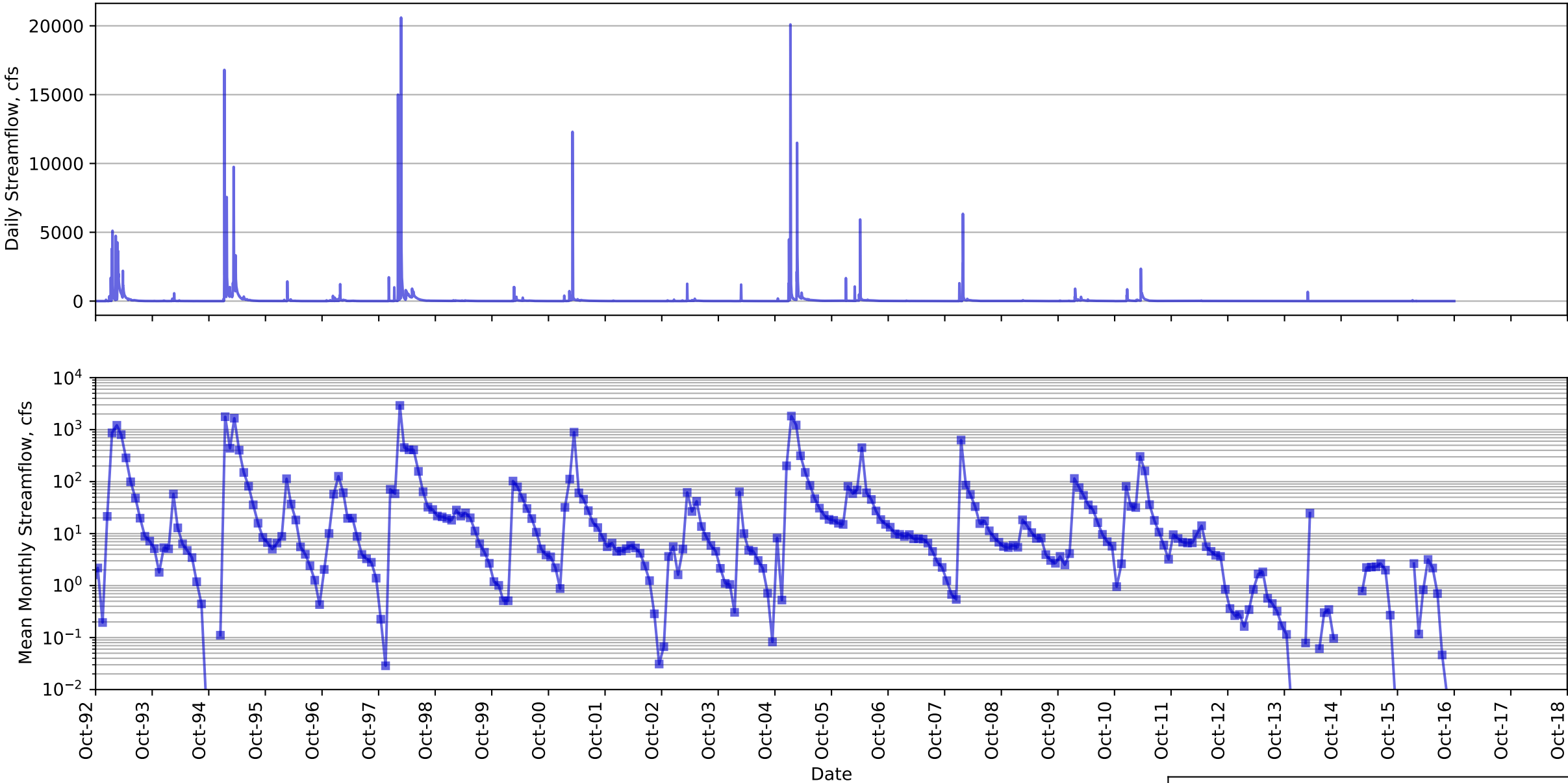
Figure E.1







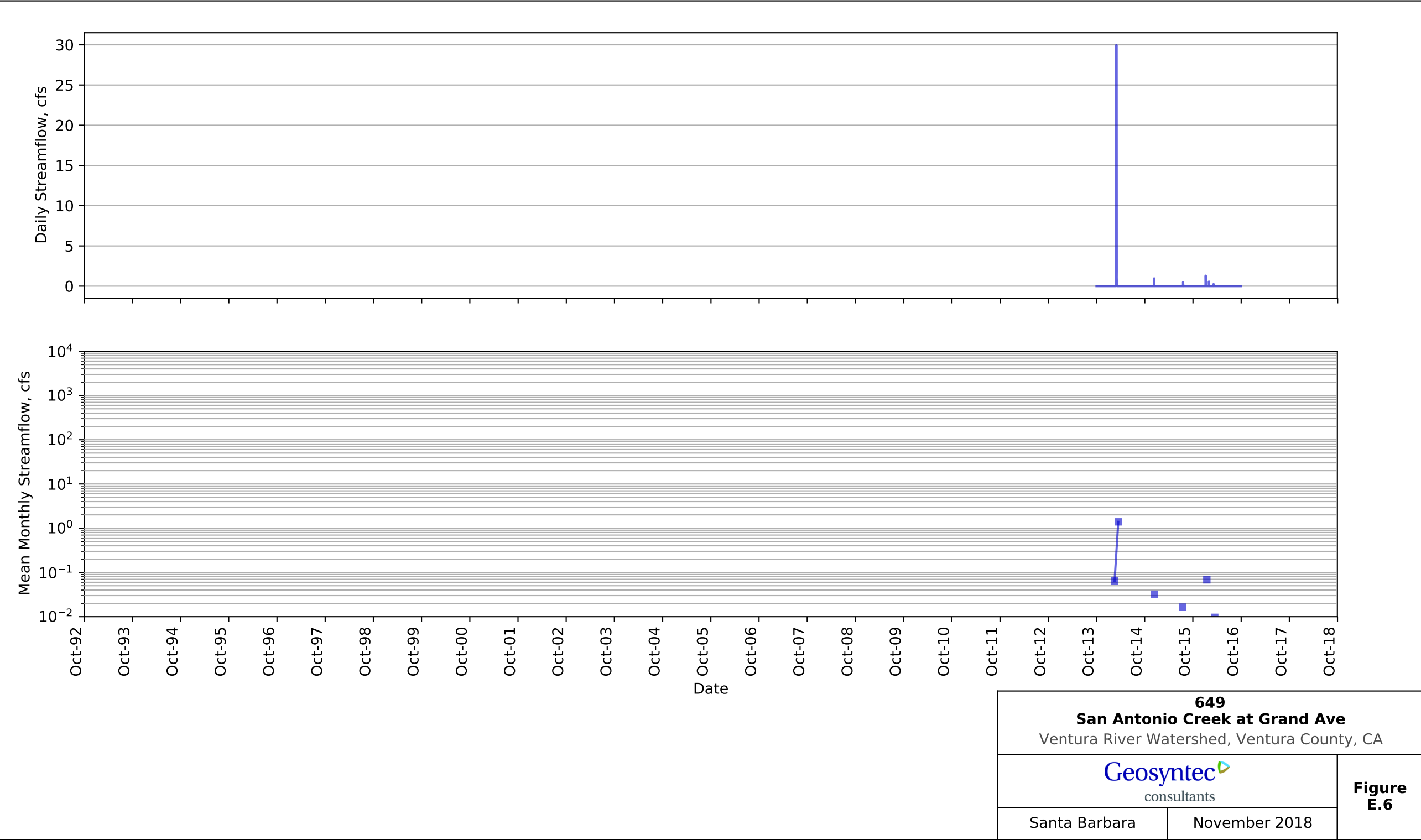
607 Ventura River near Meiners Oaks Ventura River Watershed, Ventura County, CA	
	
Santa Barbara	November 2018
Figure E.4	

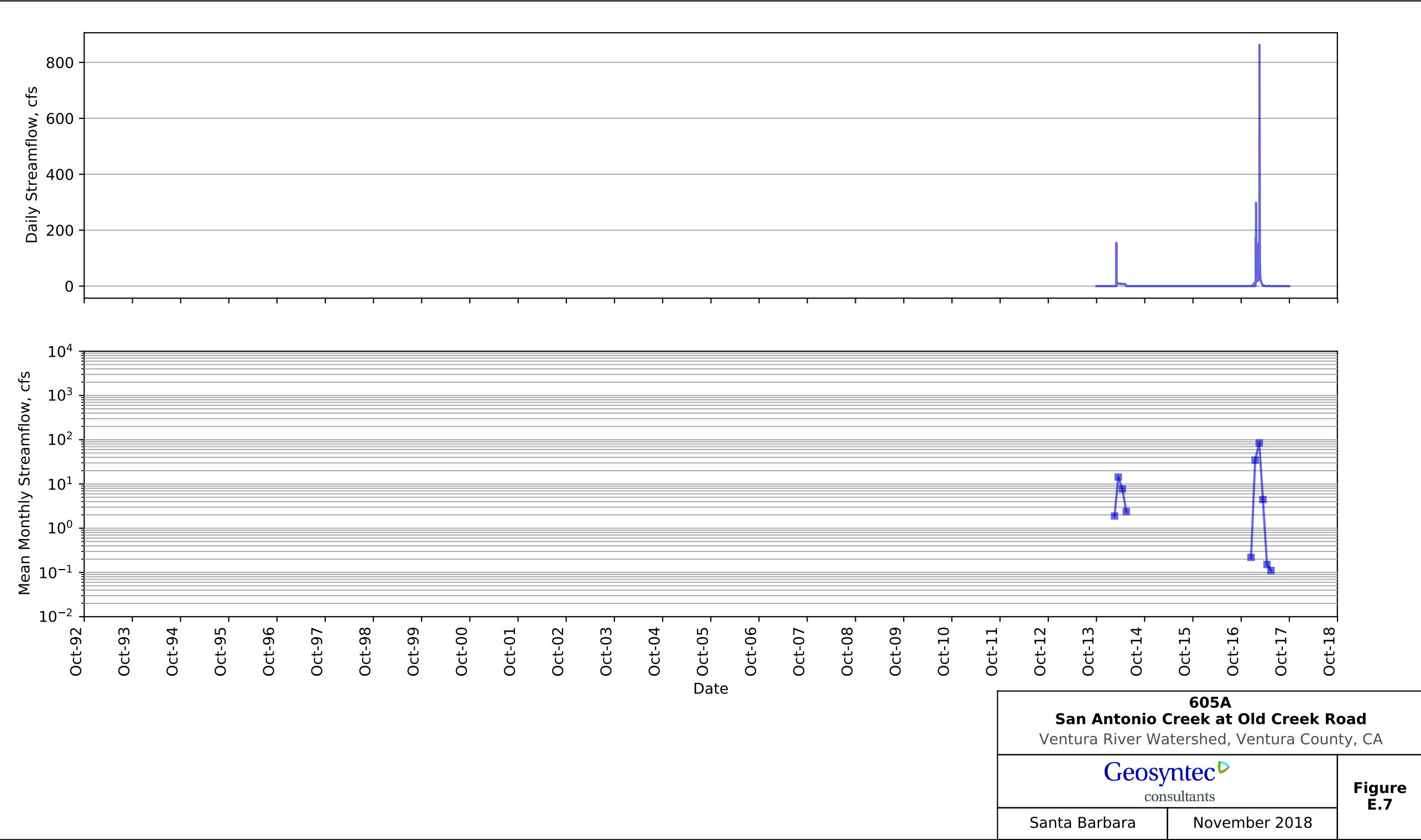


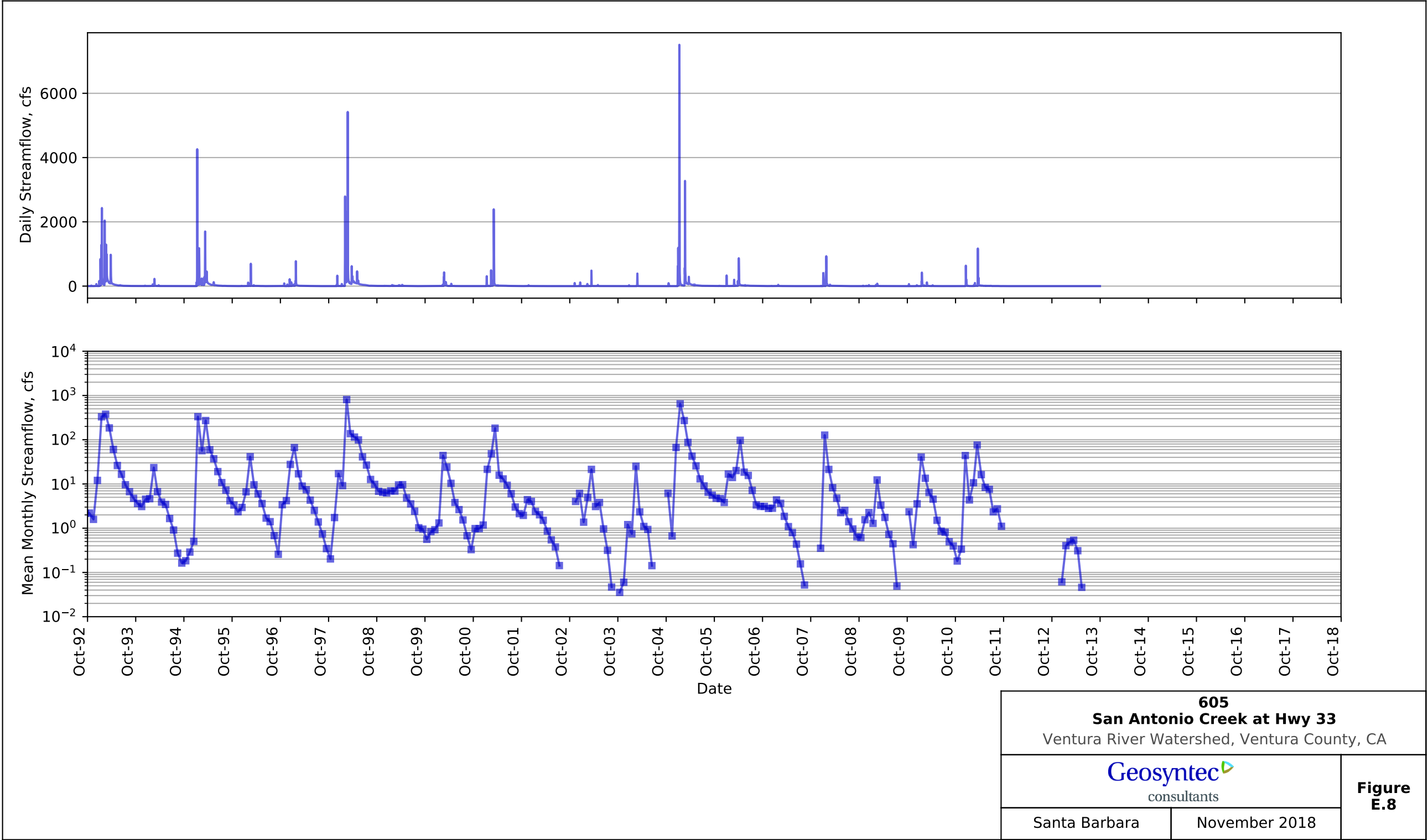
<div>608</div> <div>Ventura River near Ventura (Foster Park)</div> <div>Ventura River Watershed, Ventura County, CA</div>	
<div>Geosyntec</div> <div>consultants</div>	
Santa Barbara	November 2018

Figure E.5

Source: P:\Project Folders\LA0421 - SWRCB Ventura River Modeling\400 Technical\Task 3 - PRMS Model and GSFLOW\Technical Analysis\Python\2 - Streamflow Data Processing\4 - Plot streamflow data (Newer Version)







605 San Antonio Creek at Hwy 33 Ventura River Watershed, Ventura County, CA	
Santa Barbara	November 2018

Figure E.8

