

# Validating DRAPER Distributed Precipitation Using NWS QPE

61<sup>st</sup> Annual California Cooperative Snow Surveys Meeting  
November 4, 2015  
Sonora, CA

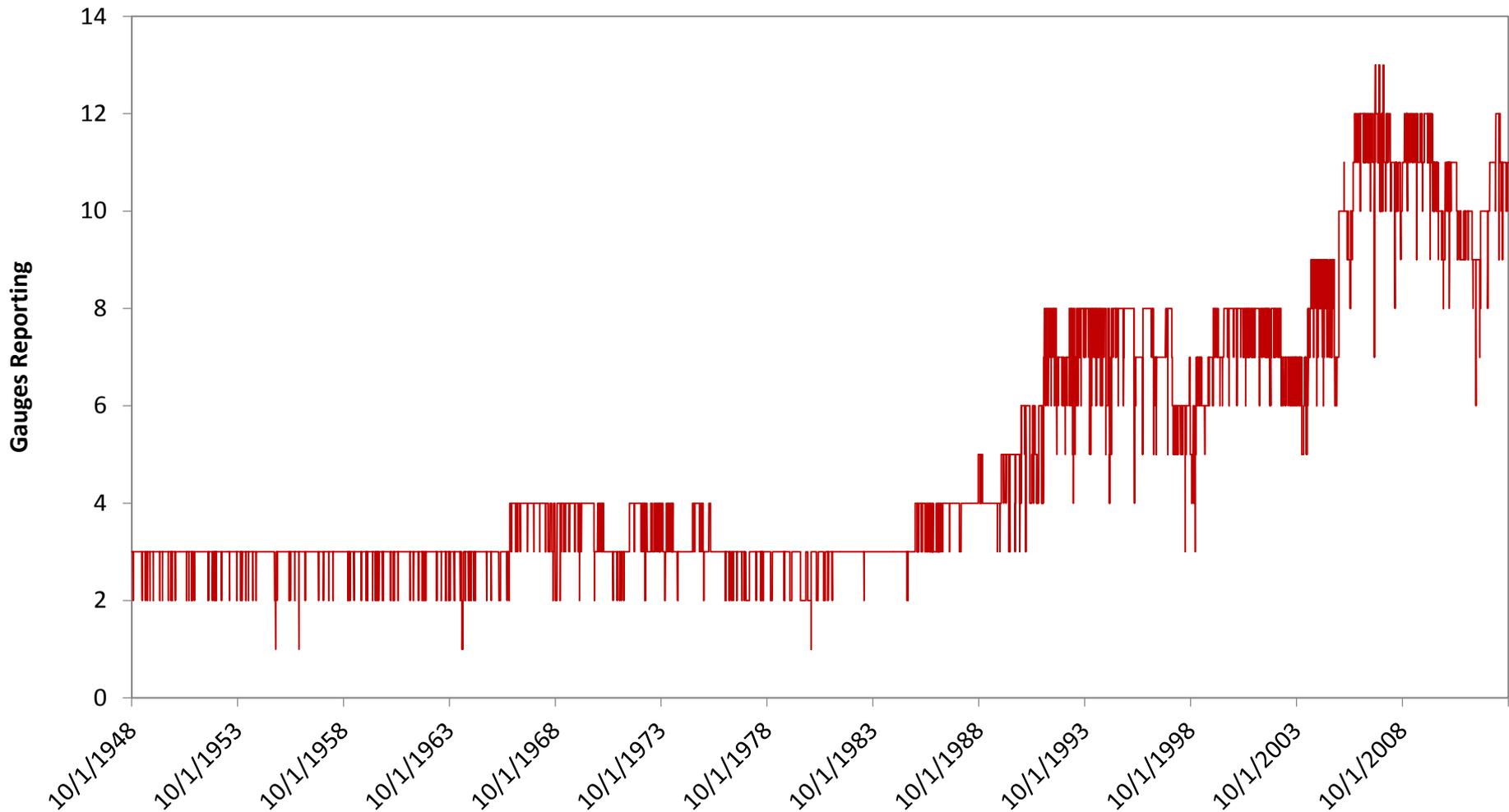
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Department of Water Resources  
Snow Surveys



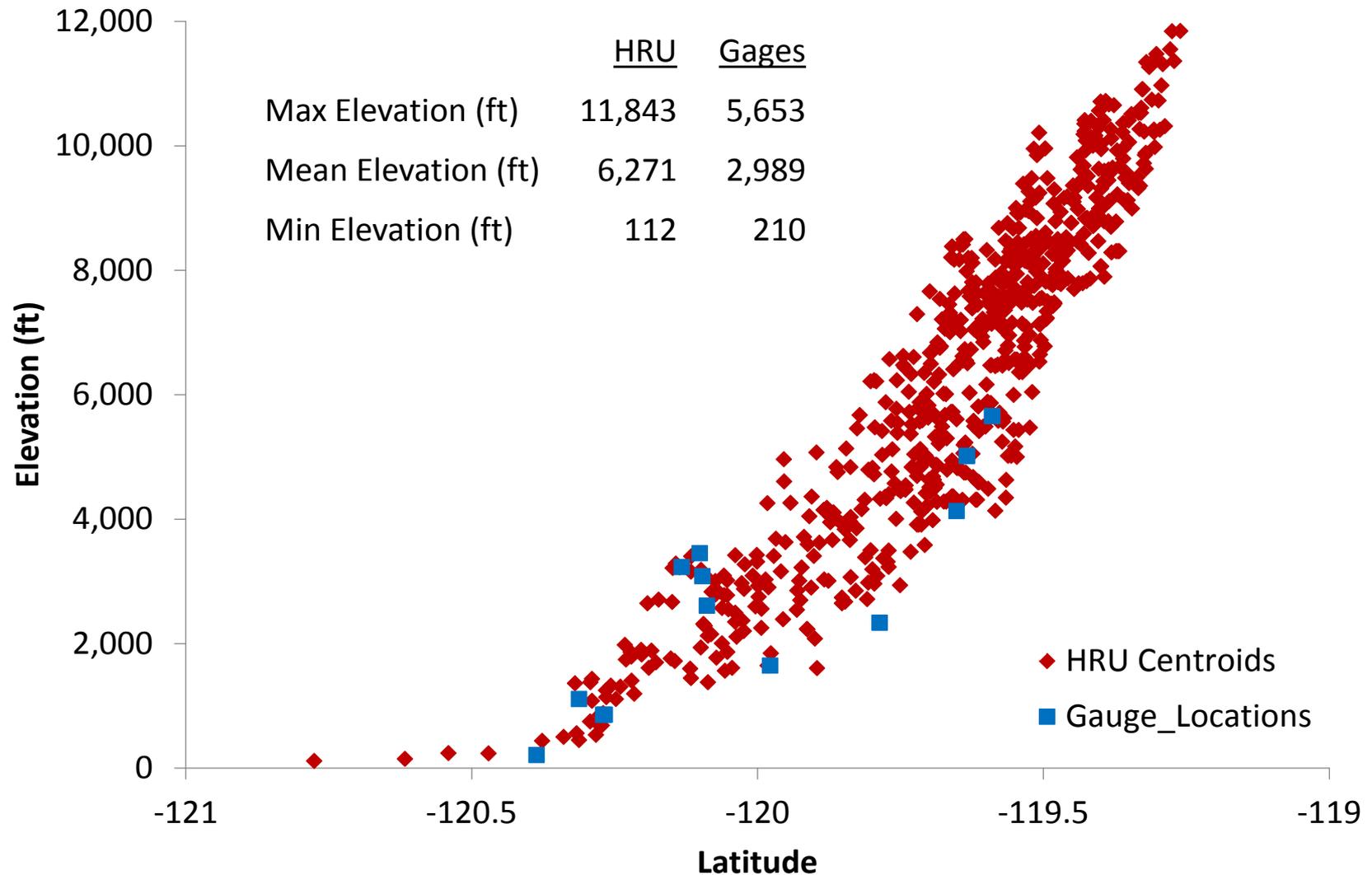
# Challenges: Few Rain Gages Reporting (Merced)

Number of Stations Reporting	Number of Interpolation Days	Percent of Interpolation Days
2	540	2%
3	7,590	32%
4	10,219	43%
5	251	1%
6	1,318	6%
7	1,544	7%
8	1,834	8%
9	445	2%
<b>15 Total Gauges</b>	<b>23,741 Days</b>	<b>Water Years: 1948 to 2013</b>

# Challenge: Few gages in early years (Merced)

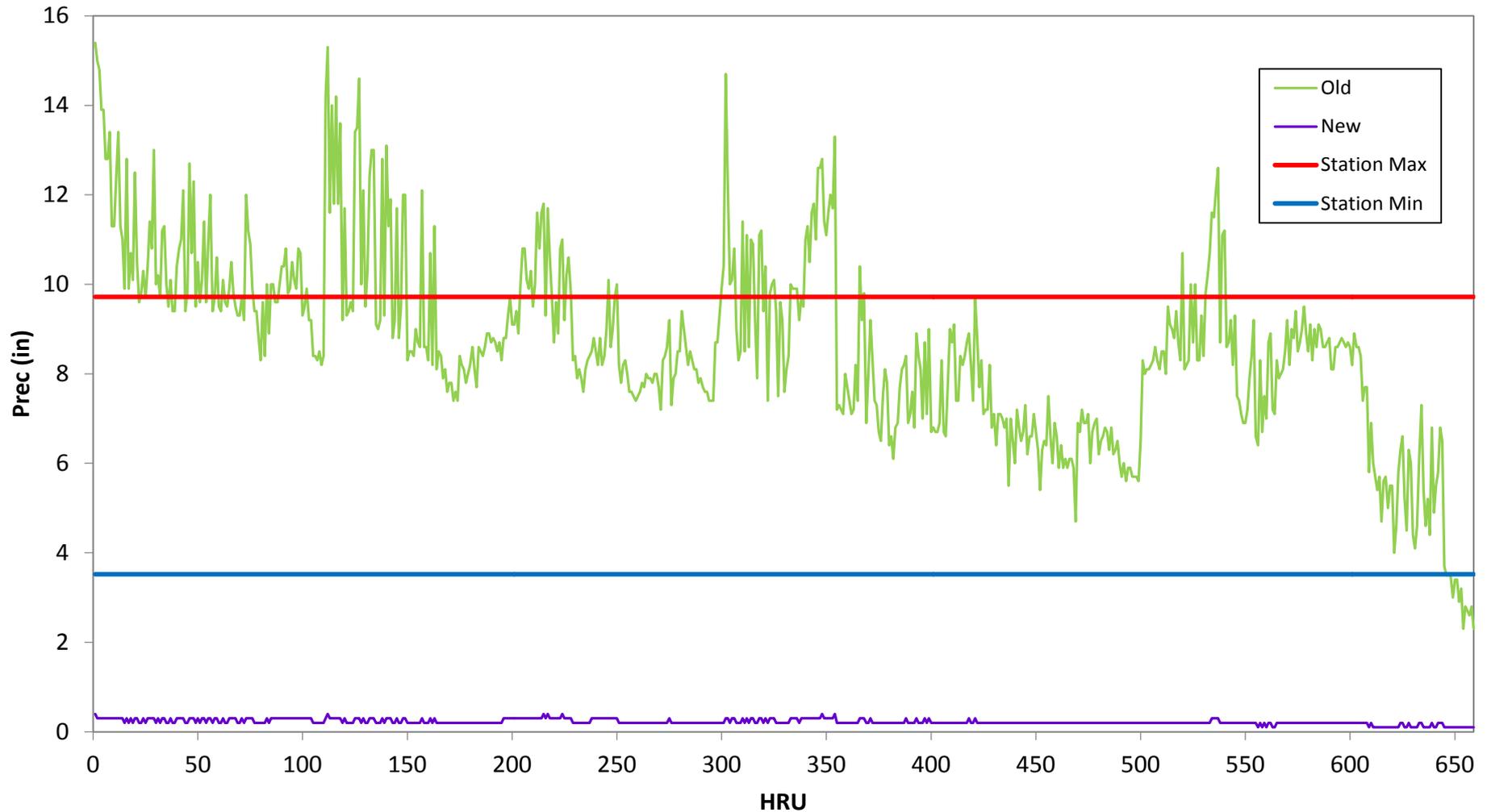


# Challenge: Upper Watershed Ungaged (Merced)



# How do we currently validate DRAPER precipitation data?

Merced PPT 12/23/1995



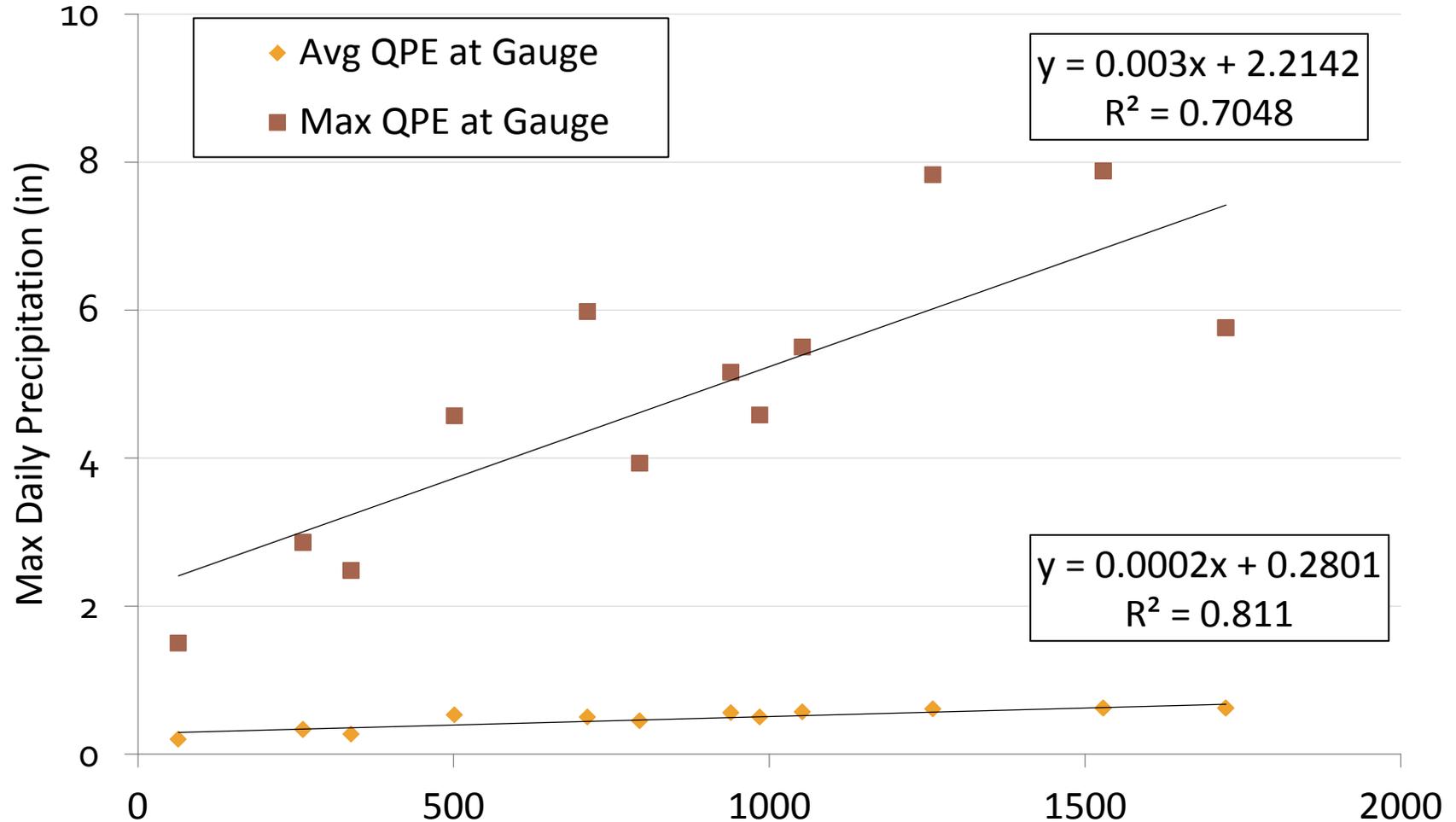
# Validation Dataset Creation Challenge

- Learn spatial characteristics from archive of measured precipitation/temperature
- Apply with whatever gage data is available at each time step

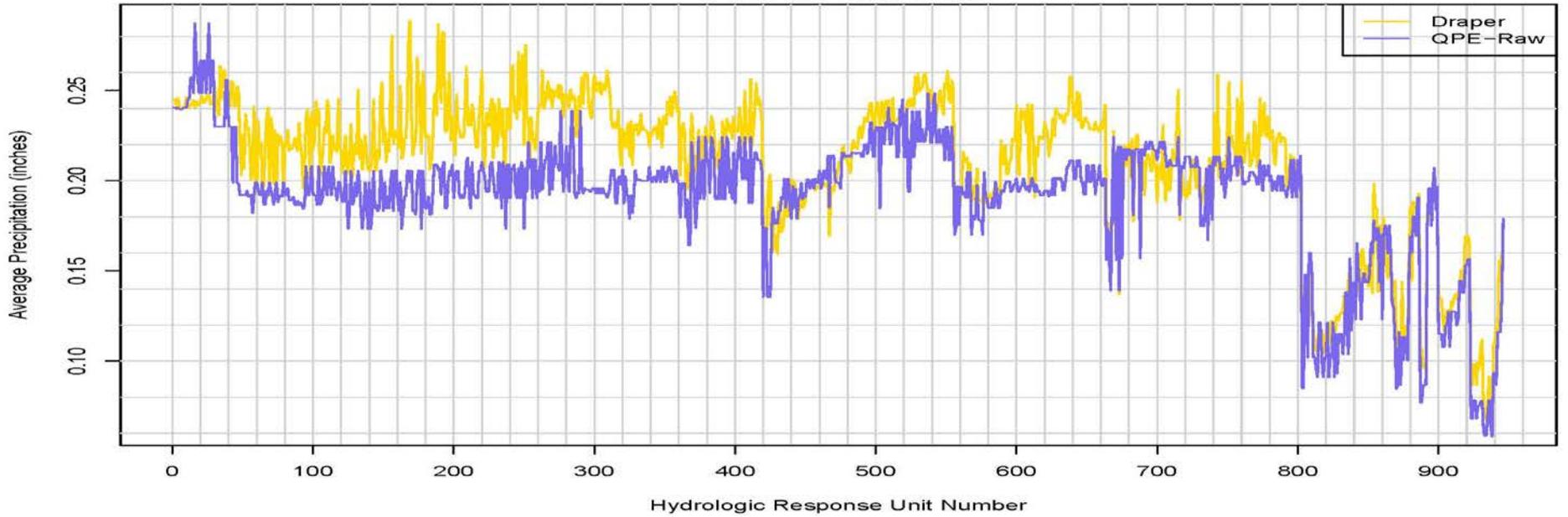
# DRAPER vs. Raw QPE Comparison

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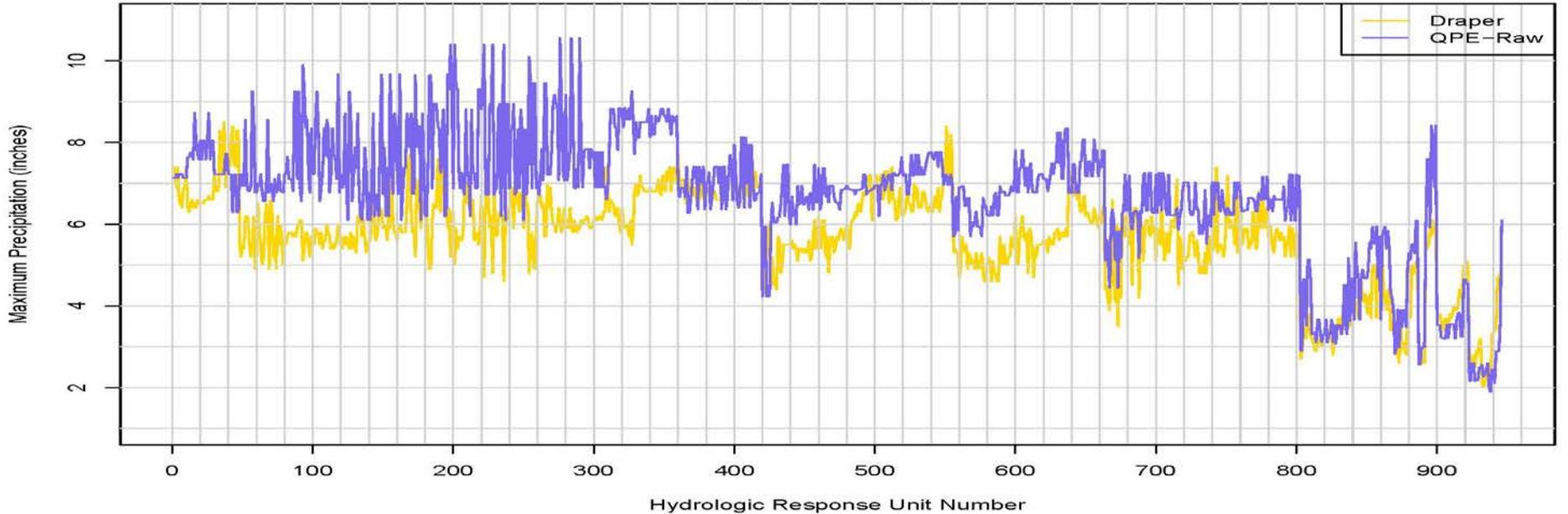
# Maximum and Average QPE Correlation



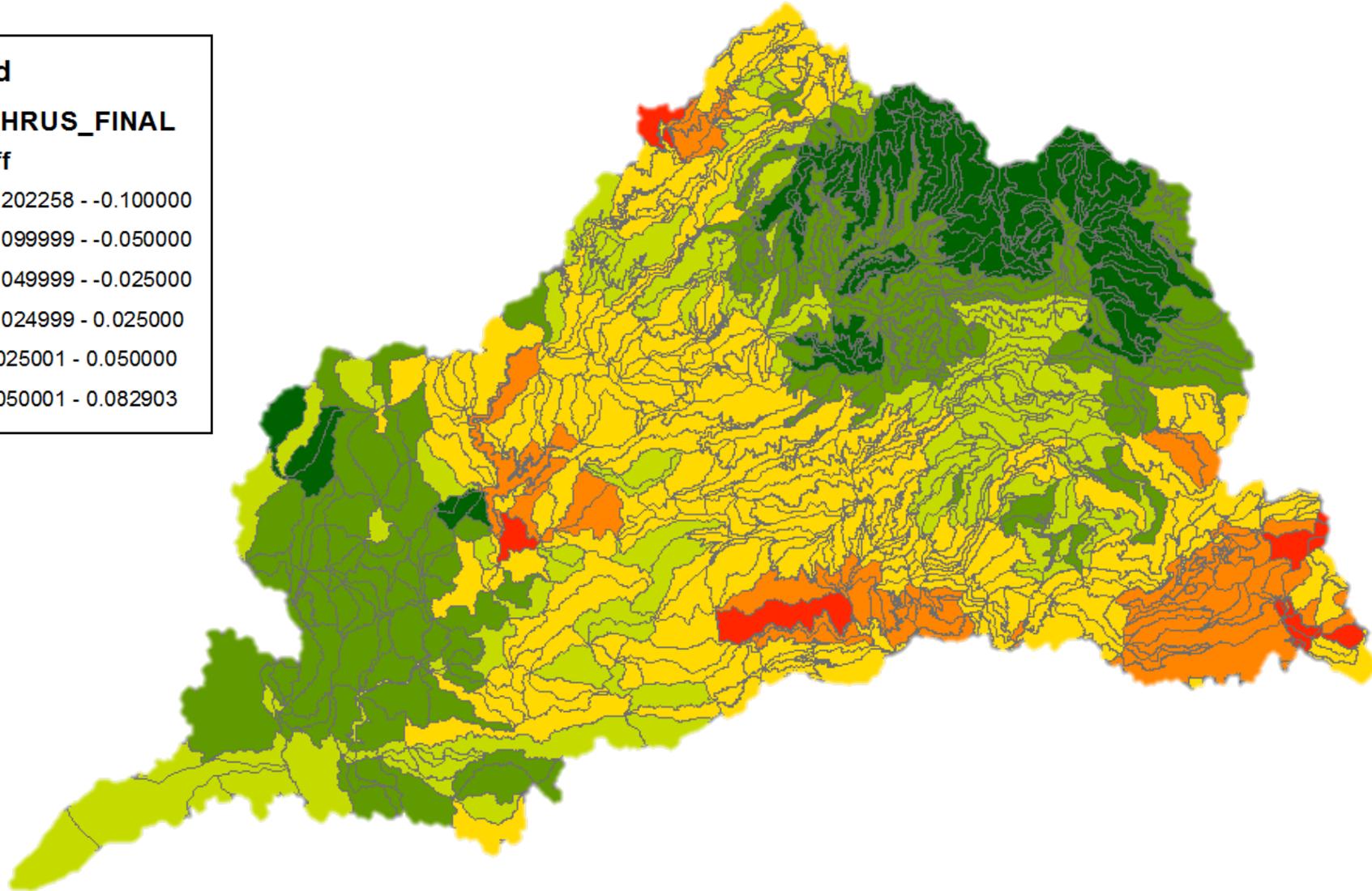
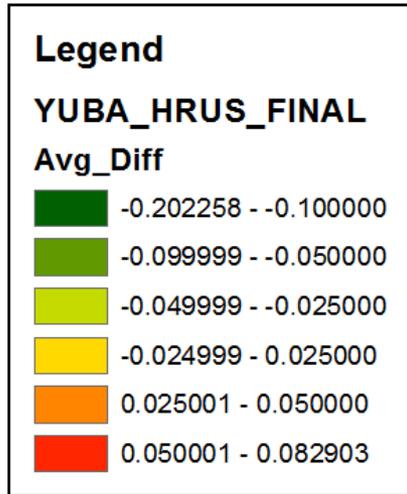
**Yuba River**  
**Comparison of Average Precipitation Draper vs QPE-Raw Precipitation**  
**POR: WY 2004-2011**



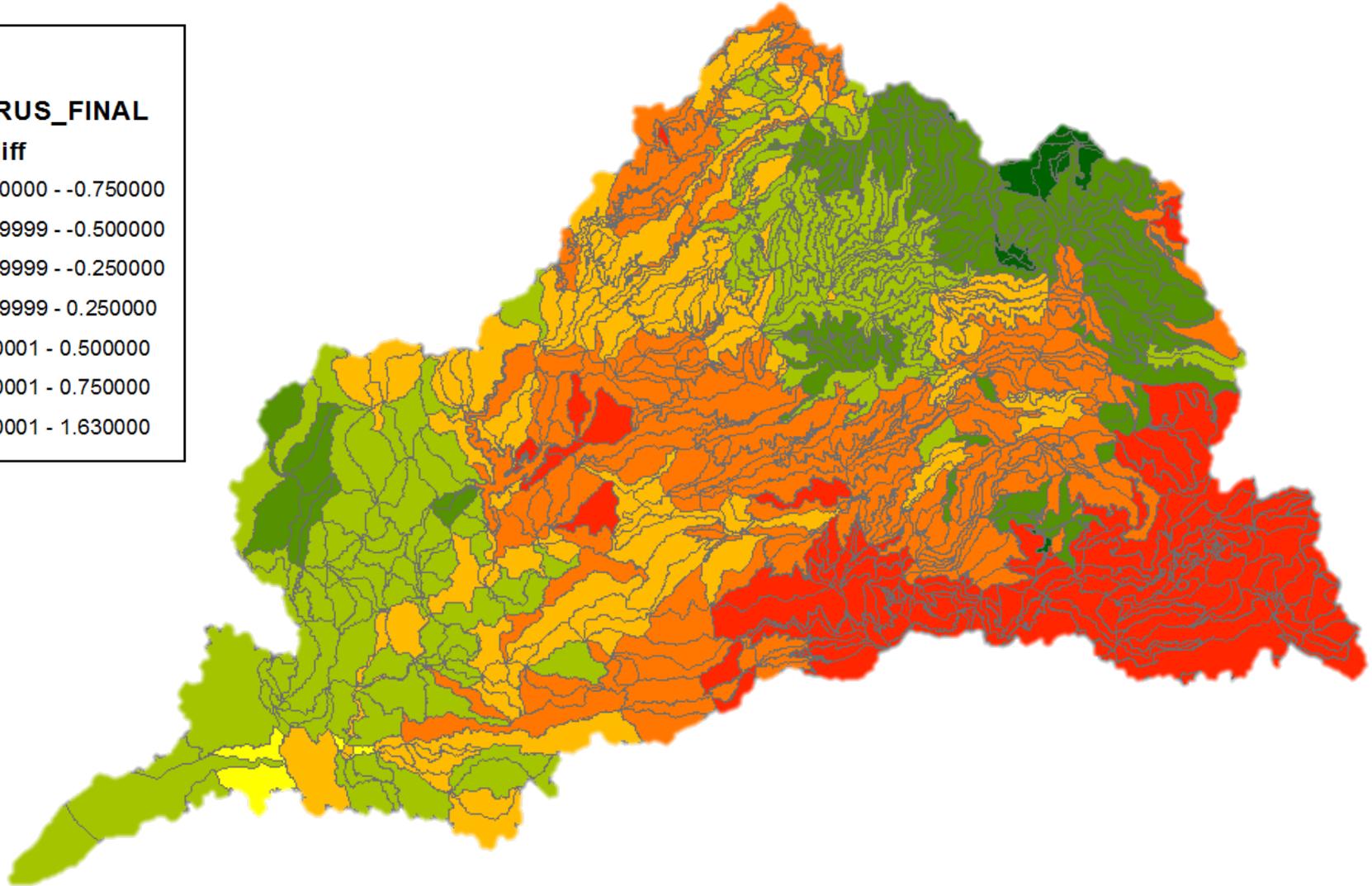
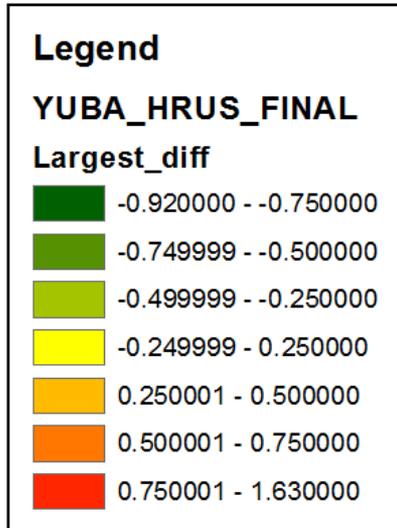
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**Comparison of Max Daily Precipitation Draper vs QPE-Raw Precipitation**  
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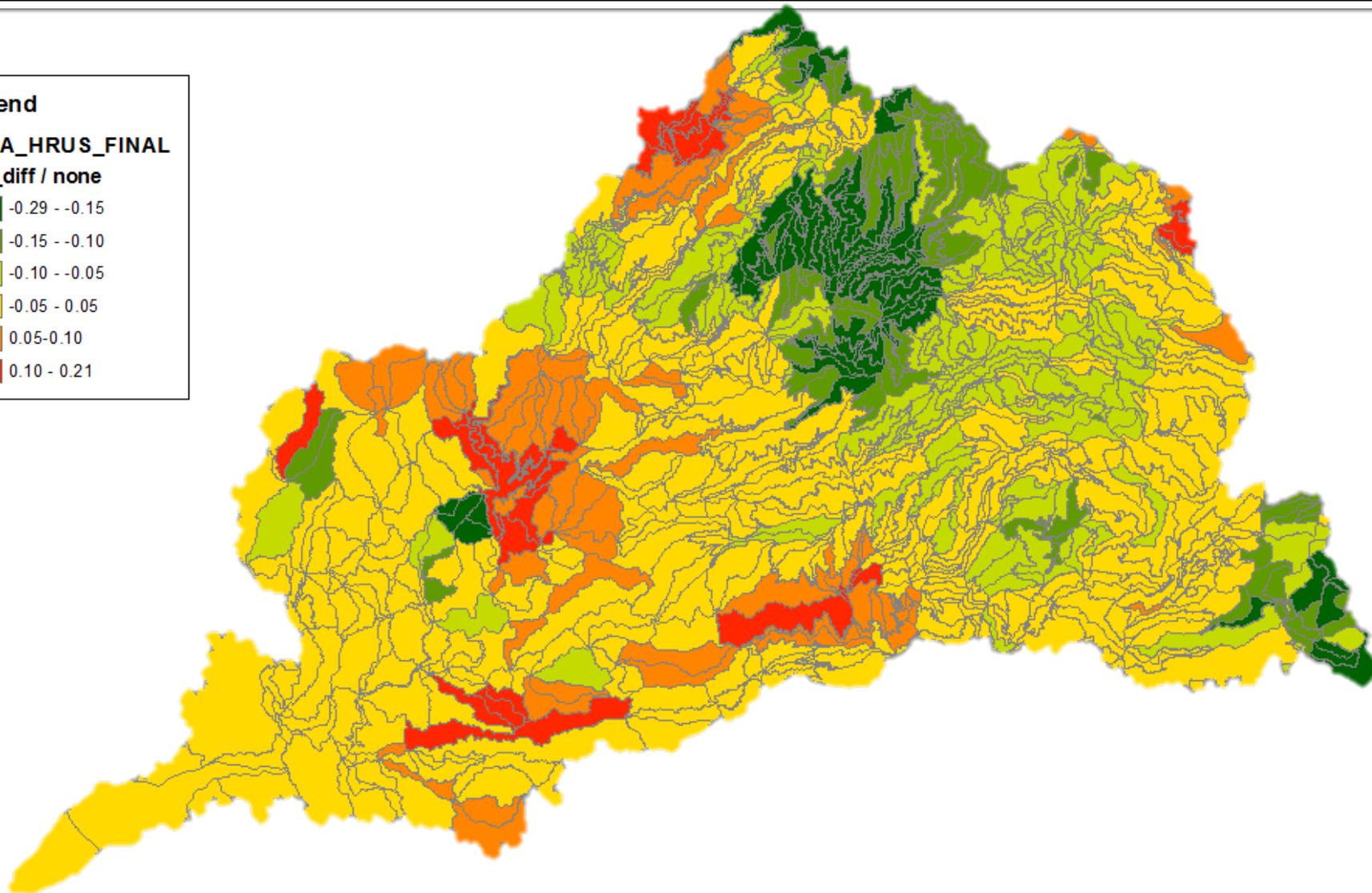
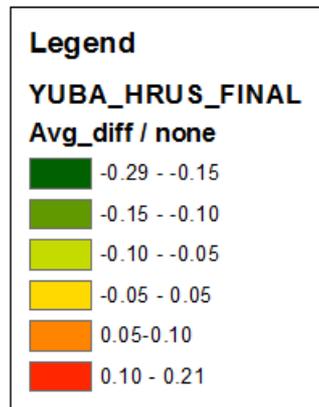
# January 2006 Average Difference in Precipitation QPE - DRAPER



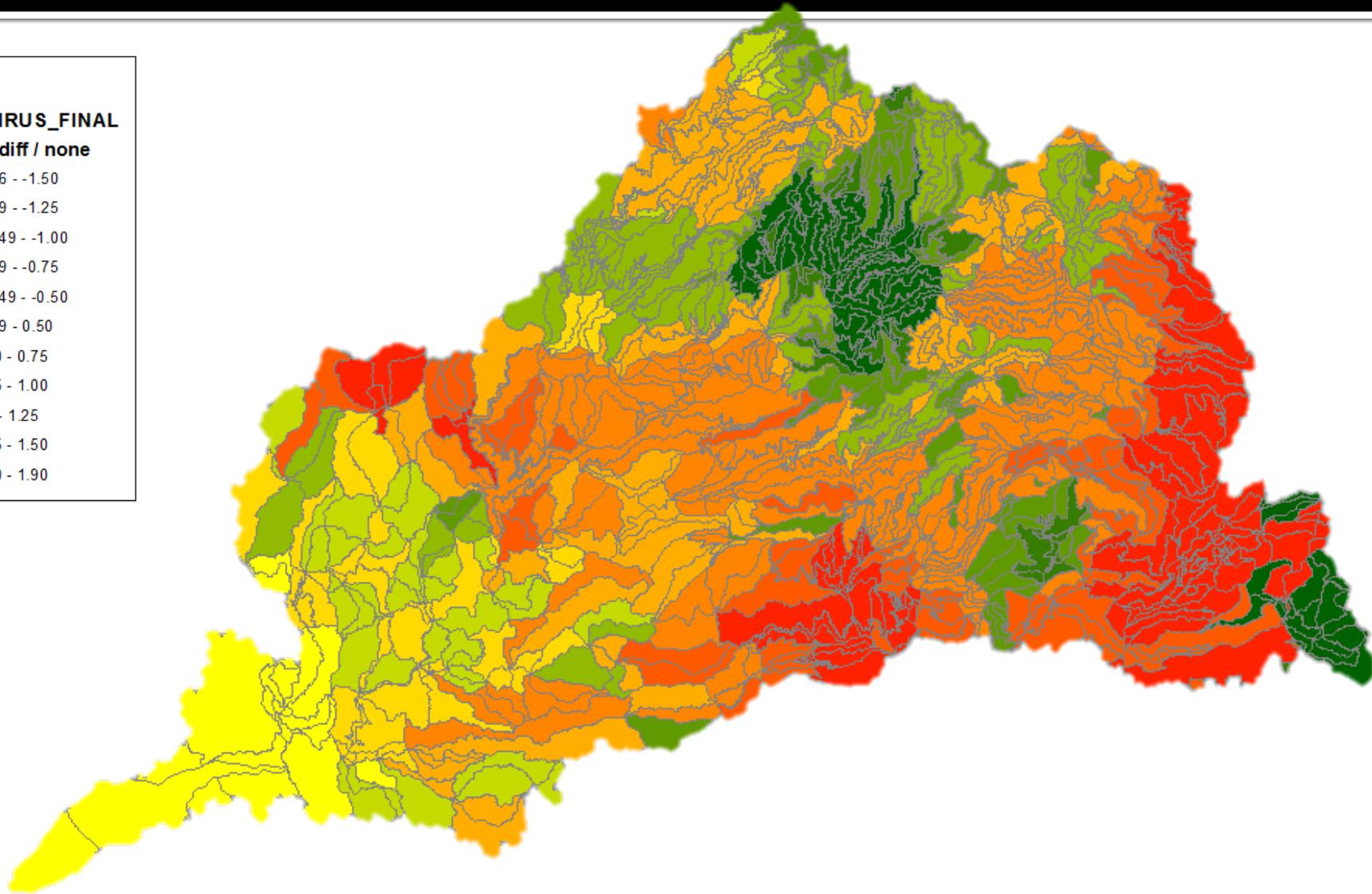
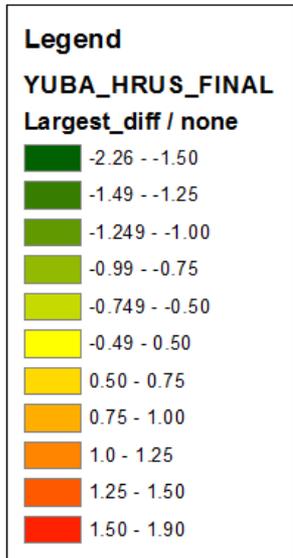
# January 2006 Maximum Difference in Precipitation QPE - DRAPER



# December 2010 Average Difference in Precipitation QPE - DRAPER



# December 2010 Maximum Difference in Precipitation QPE - DRAPER



# Moving forward

- Visually see how DRAPER distributes precipitation spatially
- Help calibrate DRAPER for future revisions
- Continue analysis on more basins

**Questions?**

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