

## Latest Update on Four Corners Storm

*Updated: 15 October 2024*

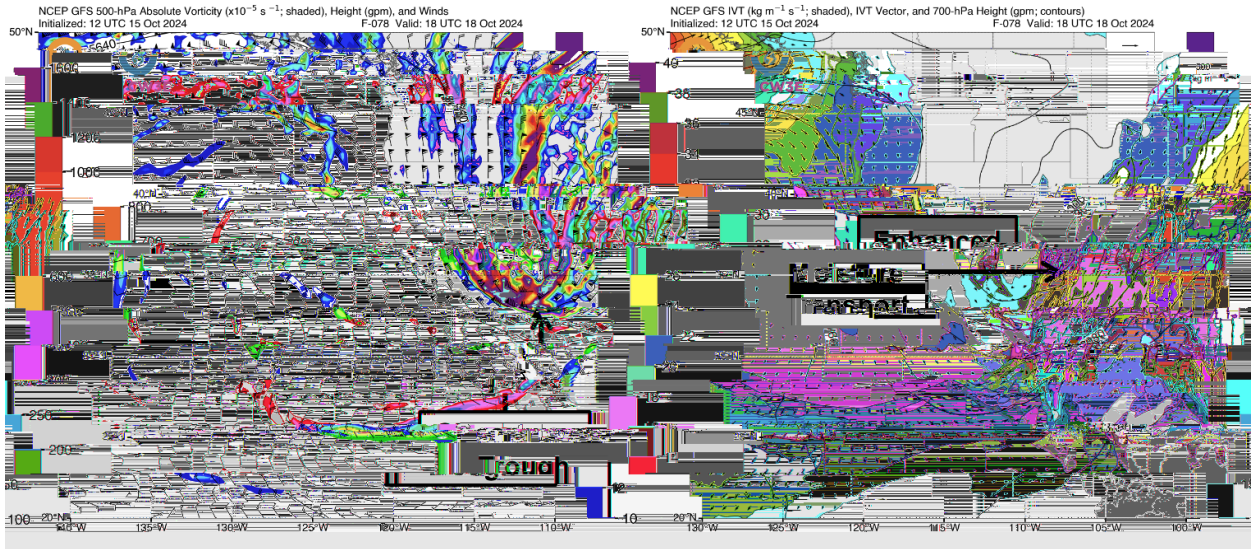
An upper-level shortwave trough is forecast to bring precipitation to much of the Four Corners region later this week into this weekend.

### Forecast Highlights:

- An upper-level shortwave over the Northeast Pacific Ocean is forecast to deepen and propagate southeastward over the next several days, with widespread precipitation expected over the interior western US starting on Thu 17 Oct and continuing through Sat 19 Oct.
- As the trough deepens, strengthening southerly flow will facilitate the development of a corridor of enhanced moisture transport over the Colorado River Basin.
- South-to-southwesterly oriented moisture transport will likely support orographic enhancement of precipitation in the Uinta Mountains in northeastern UT and the San Juan Mountains in southwestern CO.
- Precipitation could linger into Sun 20 Oct in southwestern CO as the shortwave trough becomes cut off from the main flow and stagnates over the region.
- The NCEP Global Ensemble Forecast System (GEFS) control run is forecasting an AR1 over southwestern CO based on a version of the Ralph et al. 2019 AR Scale that has been adapted to the interior western US.
- AR conditions ( $IVT \geq 100 \text{ kg m}^{-1} \text{ s}^{-1}$ ) at this location are forecast to develop on Wed 16 Oct and potentially last into Sat 19 Oct (> 48 hours).
- During the next 7 days, the Weather Prediction Center (WPC) is forecasting 2–5 inches of precipitation in the San Juan Mountains, 1–3 inches of precipitation in the Uinta Mountains, and 0.5–1.5 inches of precipitation elsewhere in the Upper Colorado River Basin.
- The WPC is forecasting 1.9 inches of mean areal precipitation in the Upper San Juan Watershed, which is nearly 10% of the normal annual precipitation.
- Per NWS Grand Junction, there is also potential for accumulating snowfall in the highest elevations of the Uinta and San Juan Mountains.
- The WPC is showing a 40–60% likelihood of **moderate** winter storm impacts in the San Juan Mountains Fri 18 Oct into Sat 19 Oct due to the potential for heavy snow.

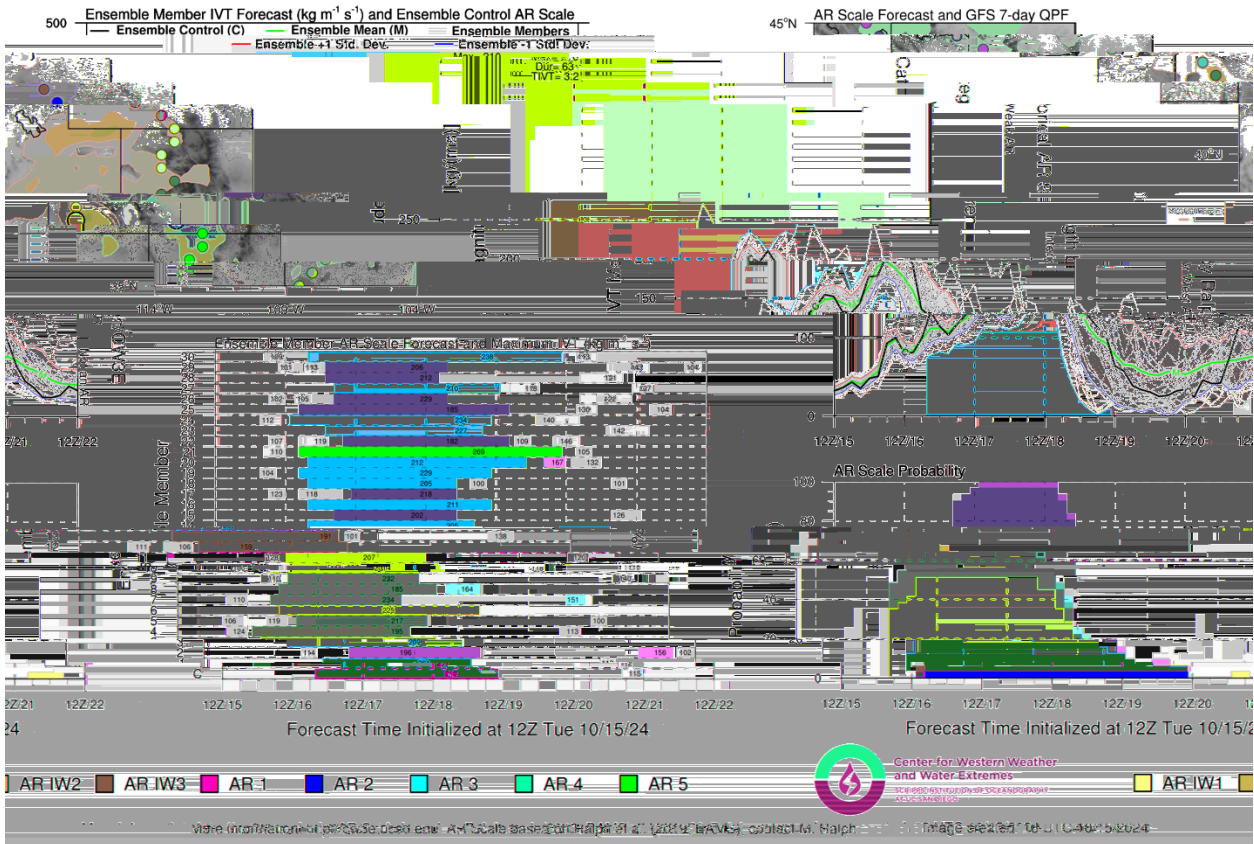
**Stay alert to official NWS forecasts, watches, and warnings at [weather.gov](https://www.weather.gov) and follow guidance from local emergency management officials**

## GFS 500-hPa Vorticity/Geopotential Height and IVT Forecasts: Valid 11 AM PT 18 Oct

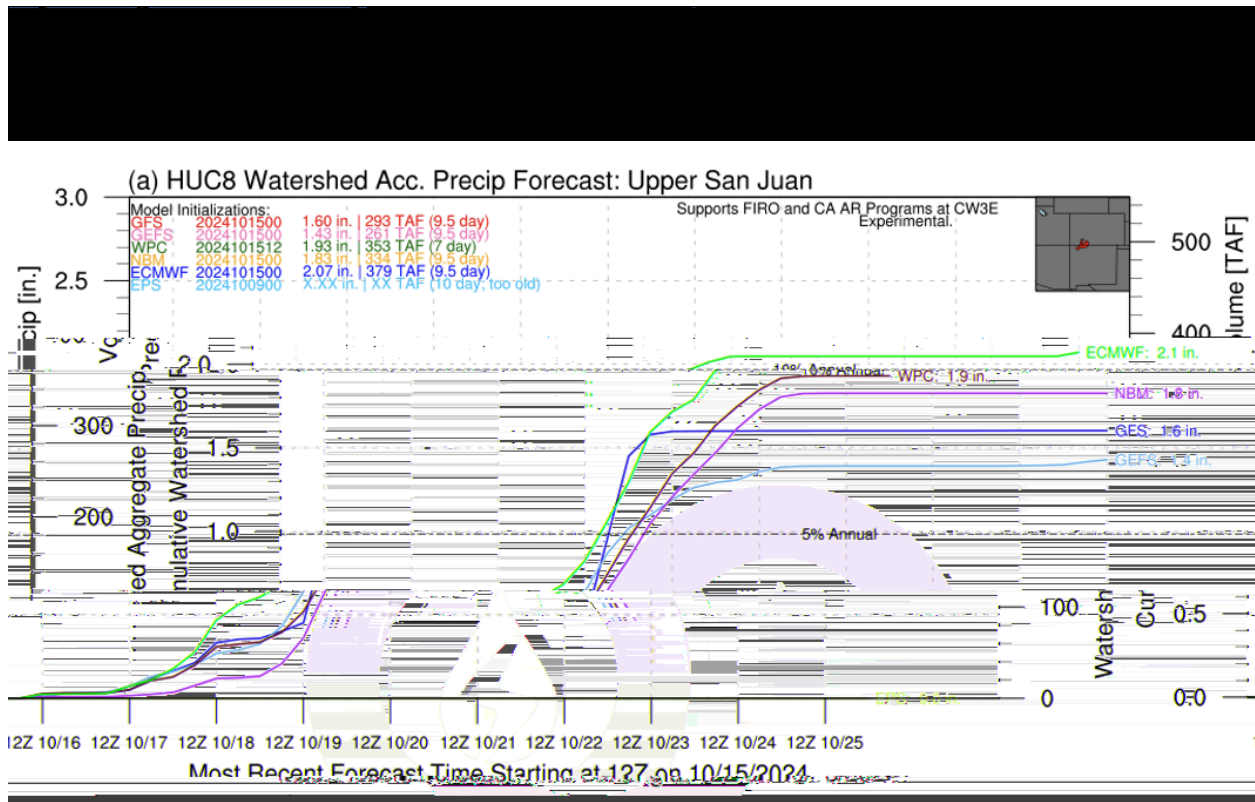


### GFS Ensemble Initialized: 12Z Tue 10/15/24

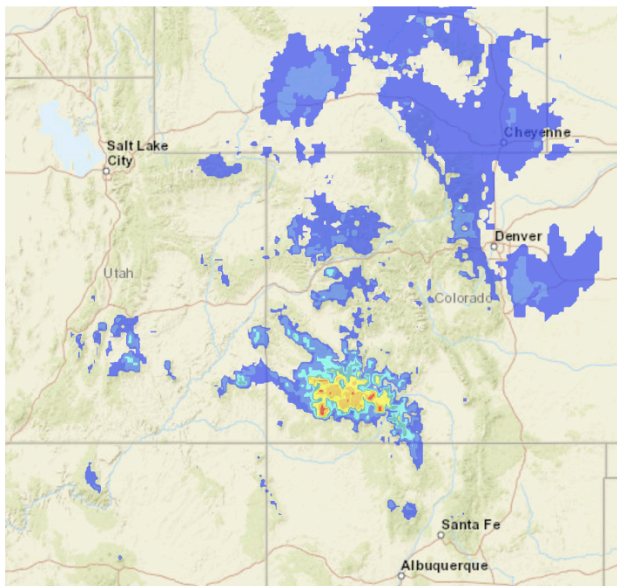
Location: 37.5°N 108°W







**Probabilistic Winter Storm Severity Index (Moderate Impacts)**  
Valid: 24-h period ending 5 AM PT 19 Oct



Source: NOAA/NWS Weather Prediction Center

| Potential Winter Storm Impacts  |  |
|---|--|
| <b>Minor Impacts</b>  | <p>Expect a few inconveniences to daily life.</p> <ul style="list-style-type: none"> <li>Winter driving conditions. <b>Use caution while driving.</b></li> </ul>   |
| <b>Moderate Impacts</b>   | <p>Expect disruptions to daily life.</p> <ul style="list-style-type: none"> <li>Hazardous driving conditions. <b>Use extra caution while driving.</b></li> <li>Closures and disruptions to infrastructure may occur.</li> </ul>  |
| <b>Major Impacts</b>  | <p>Expect considerable disruptions to daily life.</p> <ul style="list-style-type: none"> <li>Dangerous or impossible driving conditions. <b>Avoid travel if possible.</b></li> <li>Widespread closures and disruptions to infrastructure may occur.</li> </ul>   |
| <b>Extreme Impacts</b>  | <p>Expect substantial disruptions to daily life.</p> <ul style="list-style-type: none"> <li>Extremely dangerous or impossible driving conditions. <b>Travel is not advised.</b></li> <li>Extensive and widespread closures and disruptions to infrastructure may occur.</li> <li>Life-saving actions may be needed.</li> </ul> |
| <p><b>Likelihood of Impact</b></p> <p>&lt; 5% 5% 10% 20% 30% 40% 50% 60% 70% 80% 90% &gt; 95%</p> |  |

Additional Considerations:

- Visit [cbrfc.noaa.gov/](http://cbrfc.noaa.gov/) for specific river and stream forecasts and [weather.gov/](http://weather.gov/) for point specific watches, warnings, and forecasts.

In-depth AR forecasts products can be found here:

<https://cw3e.ucsd.edu/iwv-and-ivt-forecasts/>

Update by C. Castellano

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