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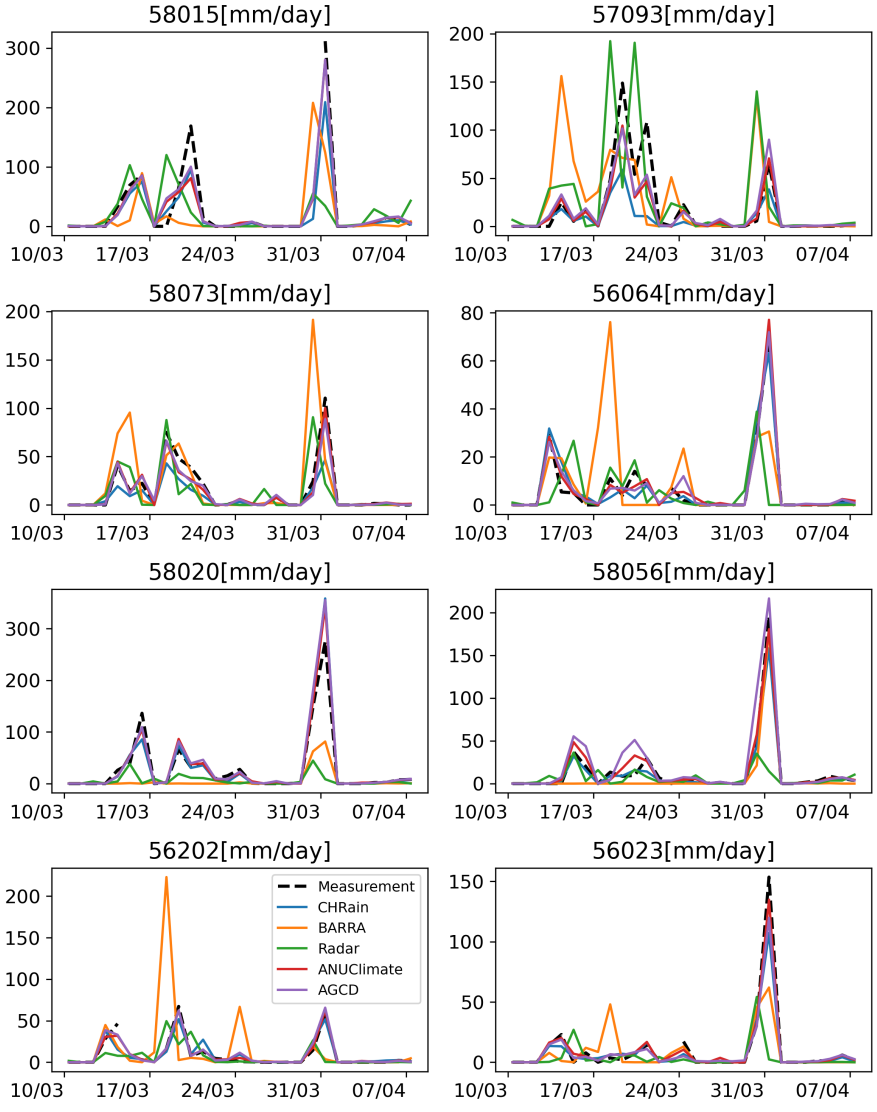

Figure 2. Comparison of hourly rainfall data extracted from the gridded datasets at 8 hourly stations during the flood event in 2017.

days with light rainfall, and medium to extremely heavy rainfall. The CHRain dataset performs better during periods of medium to very heavy rain compared to days with light rain, except at station 58015. For the Richmond River catchment, the light rain events usually occur at a small scale. A slight difference in the locations where rainfall values are extracted from the 24-hour total CHRain splines and the exact locations of daily rainfall gauges can lead to significant variations between the two datasets during light rain periods.

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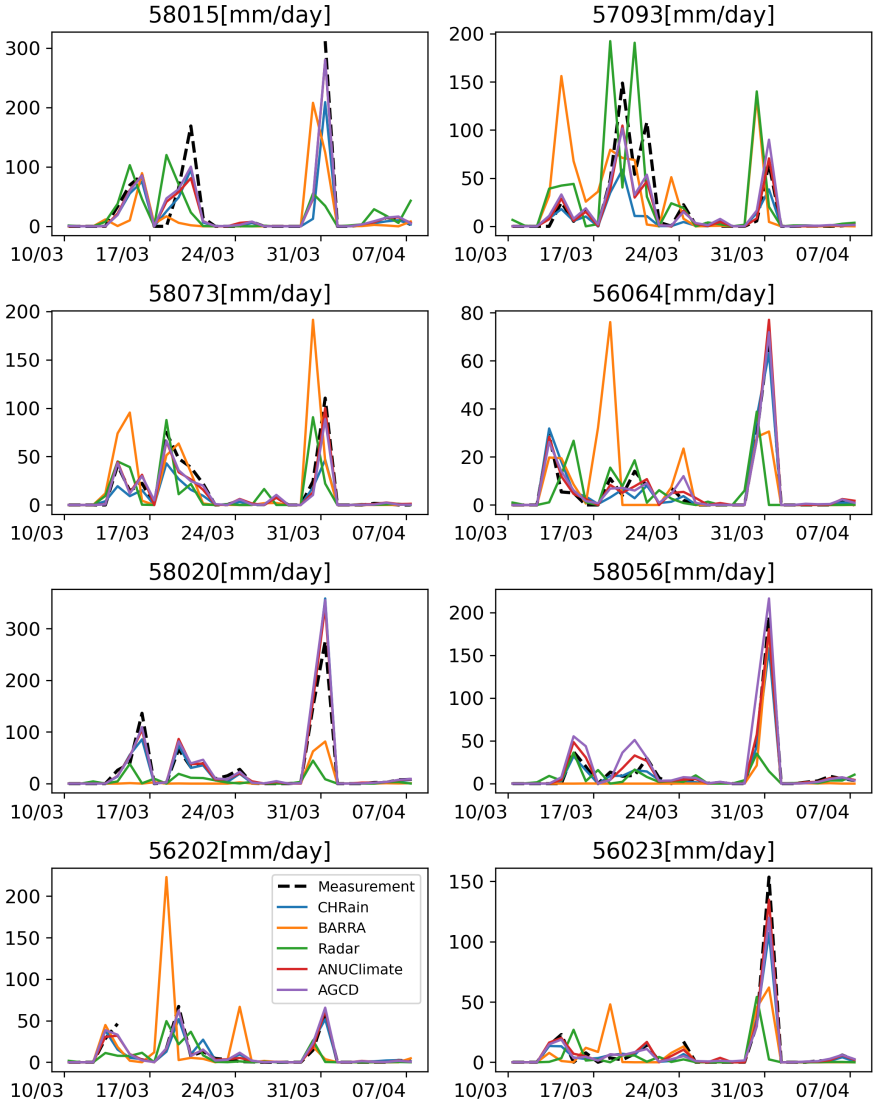

Figure 3. Comparison of daily rainfall data extracted from the gridded datasets at 8 daily stations during the flood event in 2017.

affecting storm depth, intensity, and local climate is topography (orographic effects). Interpolating rainfall surfaces using daily point data also increases the smoothing effect in generating the splines than using the hourly measurements.

335 Fig. 6 compares the rainfall surfaces from the 24-hour total CHRain, the ANUClimate, and the AGCD datasets at the peak of the 2017 flood event on 31/03/2017. It can be seen that there is an agreement in the distribution of the rainfall represented in the three datasets. The variation in the rainfall values within a 5 km window clearly shows that the CHRain can capture the sub-grid variability far better than the other 2 datasets with the range of 57.9 mmd^{-1}, 7.4 mmd^{-1}, and 0 mmd^{-1} for CHRain,