

Initial Exploration of TRMM Data

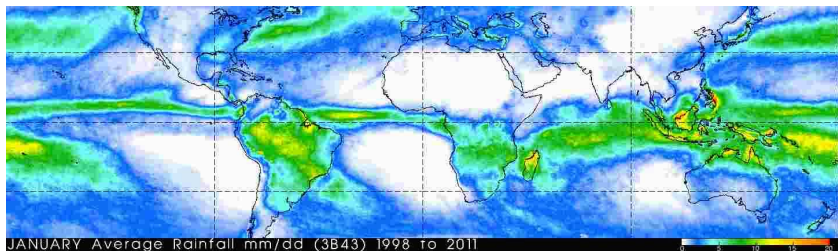
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March 20, 2012

TRMM: Tropical Rainfall Measuring Mission

1. radar, microwave, visible, infrared, ...
2. various products raw (level 1) → bias corrected (level 3)
3. 3B-43 product (“TRMM and Other Data”) incorporates all elements of TRMM and *rain gauge data* to provide the “best” precipitation estimates
4. 50°S-50°N coverage, 0.25° resolution, monthly time series 1998-present

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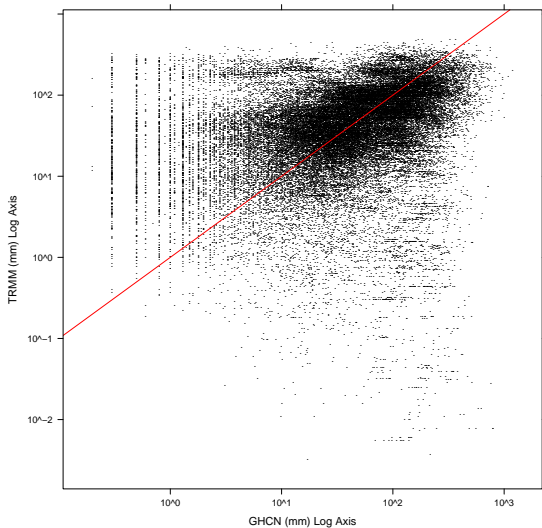


Comparison with Oregon Data

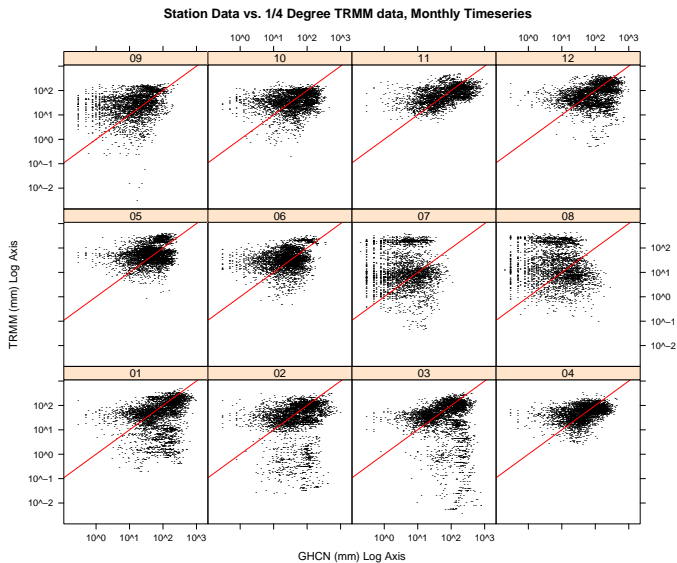
1. Extract Oregon stations from GHCN database
2. Generate monthly total precipitation (time series and long-term means)
3. Compare with TRMM estimated precipitation

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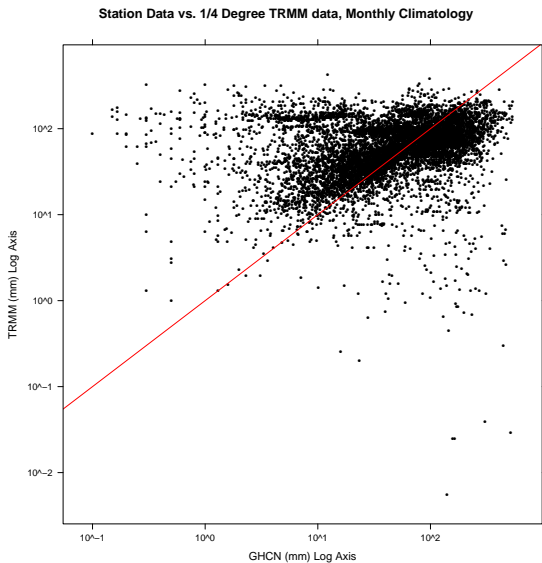
Station Data vs. 1/4 Degree TRMM data, Monthly Timeseries



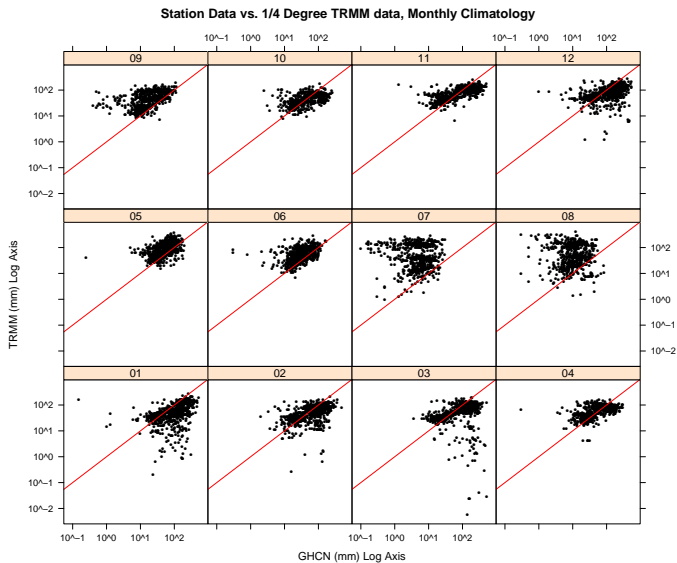
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1. Long term means better than monthly data
2. Perhaps useful, but don't expect miracles
3. 1/4 degree \rightarrow 1km?

Multivariate Response

Incorporate t_{\max} , t_{\min} , and (perhaps) ppt into a single model?

1. Borrow strength across variables (increase n)
2. Increases model complexity (and probably run-time)
3. Improves fit???

Develop using spBayes package in R [http:](http://cran.r-project.org/web/packages/spBayes/index.html)

[//cran.r-project.org/web/packages/spBayes/index.html](http://cran.r-project.org/web/packages/spBayes/index.html)