Automated QC algorithm checks

- Unrealistic value
- Standard deviation (± 5 
- Peak-to-average wind speed ratio
- Vertical consistency
- Temporal consistency

Manual QC procedure for temperatures

- Heights of 1.8 m and 16.5 m
- Calculate % data availability
- Generate frequency distributions for towers with > 70% availability
- Identify towers with data outliers
- Generate 2D frequency diagrams versus UTC hour and year
- Use 2D diagrams, climate data, and adjacent towers to isolate bad data
- Example shown below for March data

QC data imported to S-PLUS® software

- Statistics calculated for each variable
  - Variables: \( T_{1.8m}, T_{16.5m} \)
  - Wind Speed, \( \sigma \)

Stratification of statistics

- By variable, month, and UTC hour
- By wind direction bin and season
- Wind direction bins every 45 degrees
- Cool/dry season: November to April
- Warm/wet season: May to October

Quality Control (QC)