

To ensure regional uniform footprint sampling consistent with view angle when the CERES instrument is in cross-track mode, SRBAVG employs a threshold based on the following equation.

$$\text{Number}_{\text{Footprints}}/\cos(\text{latitude}) > (a_1 * \cos^2(\text{view angle}) + a_0) * 0.5$$

A region must have 50% coverage of the cross-track footprints to be used. From the scatter plot below very few region are rejected. All coefficients are based on 1° degree equal angle regions. For Terra a_1 is 69.0 and a_0 is -8.2 and for Aqua a_1 is 68.7 and a_0 is -8.2. The coefficients were obtained by linear regression.

Scatter plot of Terra footprints/cosine of latitude and cosine of the view angle squared for Dec. 2, 2003

