

Validation of SYNI Photosynthetically Active Radiation and Erythemal UV products

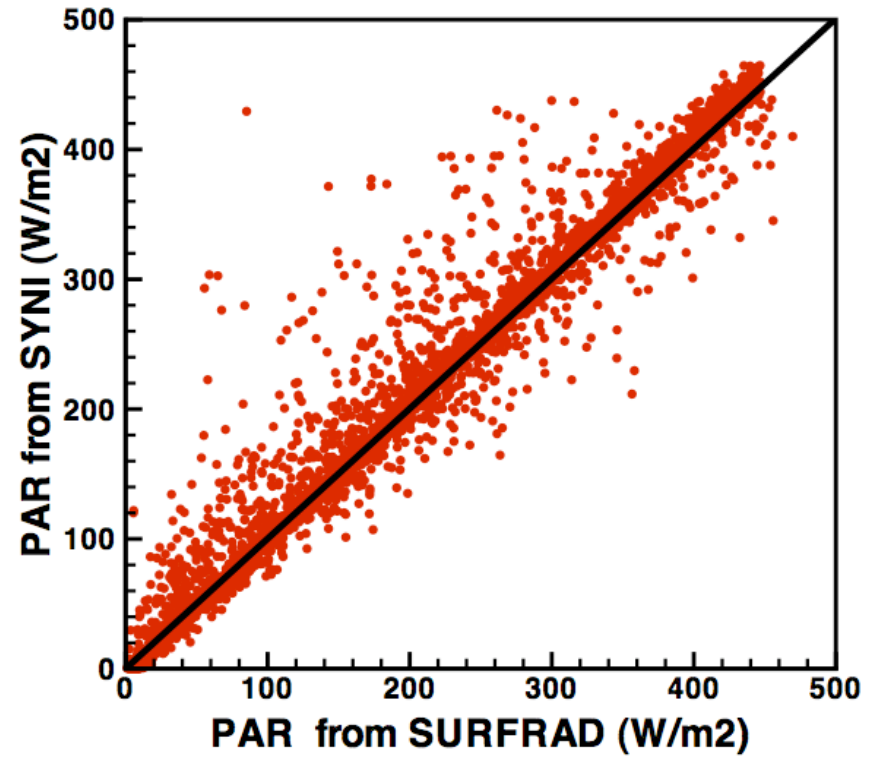
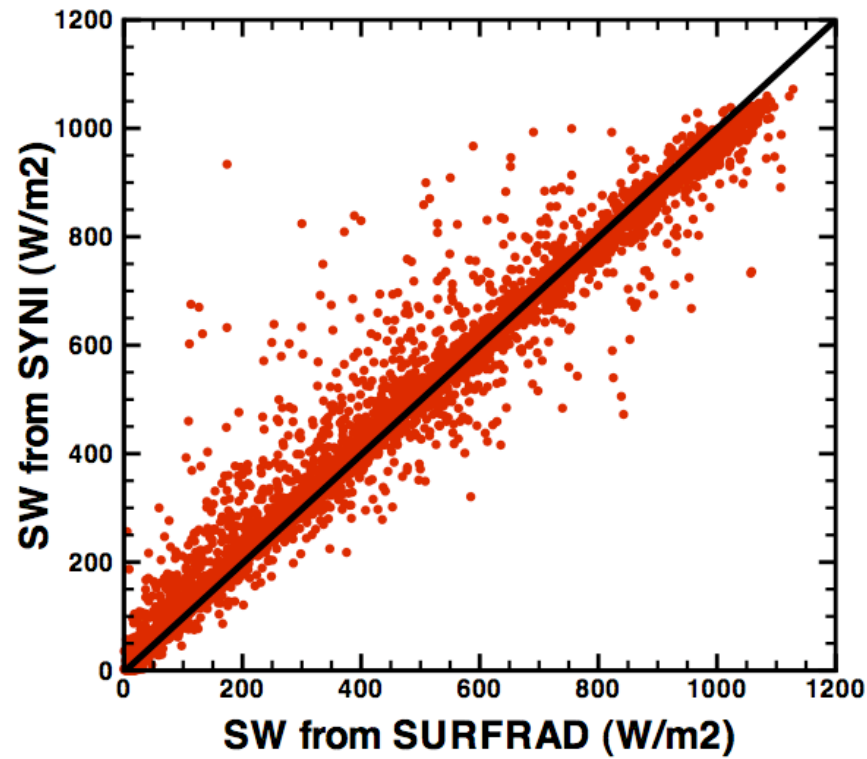
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Validation Data Set

- SYNI data set of 2002
- PAR and erythemal UV measurements from SURFRAD sites

Validation at Desert Rock



Validation at all six sites

Six Sites	SW				PAR			
	#	SYNI	Bias	RMS (%)	#	SYNI	Bias	RMS (%)
All	25830	368.4	5.8	89.5 (25)	23103	172.9	5.7	39.7 (24)
CERES	2439	568.3	1.2	110.9 (20)	2296	260.0	9.1	48.8 (19)
GGEO	7605	350.1	7.5	86.5 (25)	5893	176.4	6.1	39.3 (23)
Interp	15786	346.4	5.6	87.3 (26)	14914	158.0	5.0	38.2 (25)

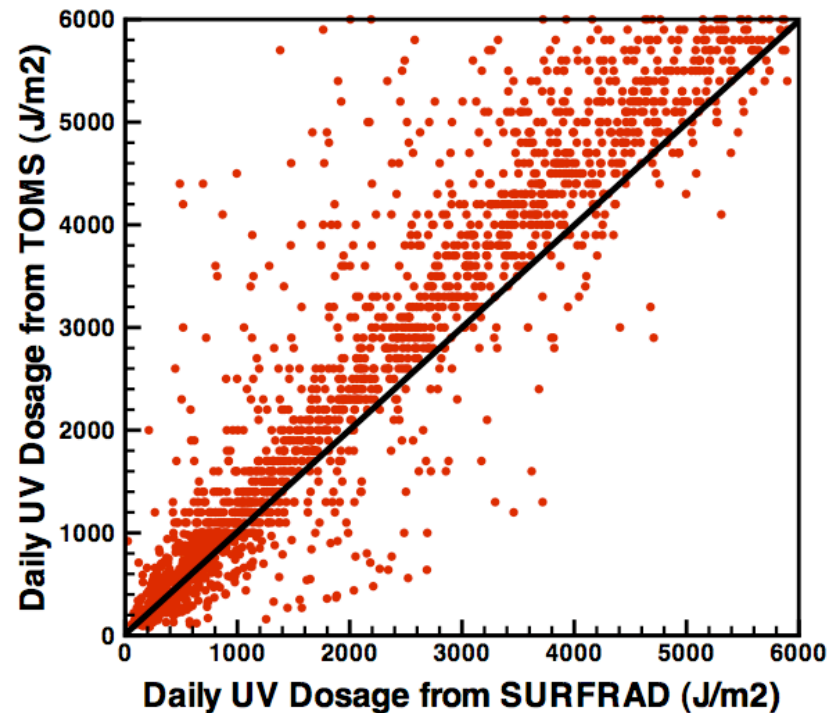
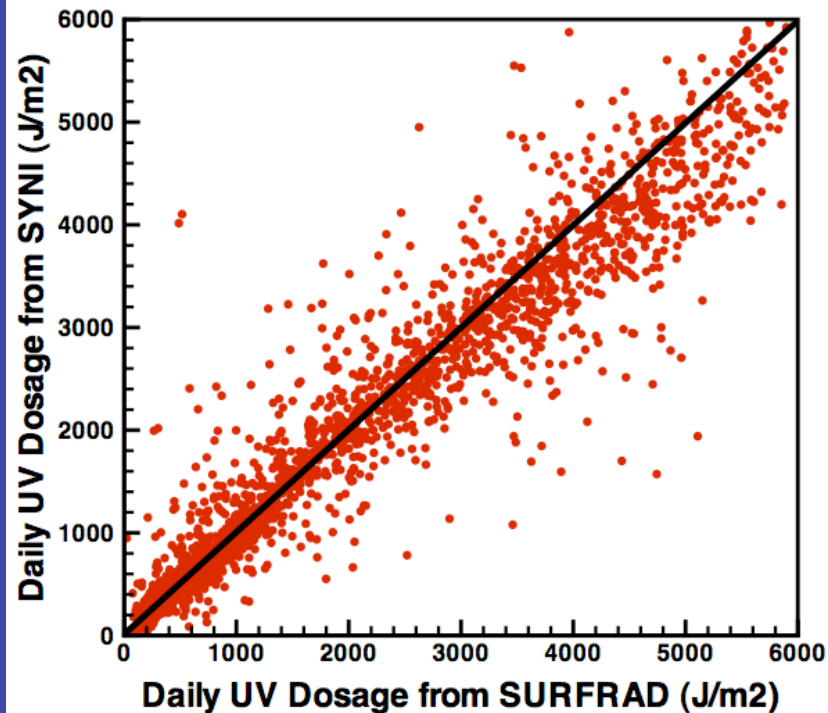
Bias=SYNI-OBS

%RMS=(RMS/OBS)*100%

Erythemal UV Validation

	#	SYNI	Bias	RMS (%)
All	24498	56.8	-2.4	18.1 (30)
CERES	2432	102.2	-3.0	25.3 (24)
GGEO	6279	57.8	-2.5	18.4 (30)
Interp.	15787	49.4	-2.3	16.6 (32)

UV Dosage Validation and Comparison with TOMS UV Dosage



SURFRAD average: 2450.2 J/m². Total sample is 1971
SYNI average: 2351.3 J/M², Bias: -98.9, RMS: 529.6 (22%)
TOMS average: 2891.2 J/M², Bias: 441.0, RMS: 907.2 (37%)