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Supplement of

Comparison of hourly surface downwelling solar radiation estimated from MSG–SEVIRI and forecast by the RAMS model with pyranometers over Italy

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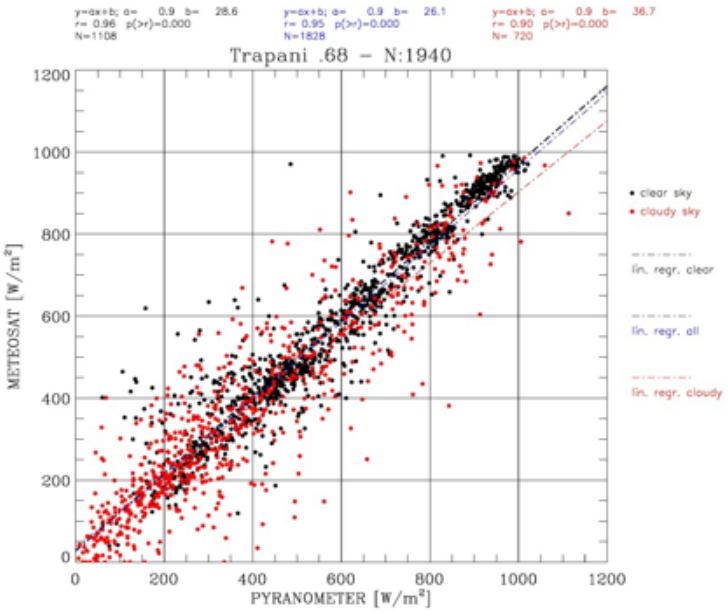
Supplement

We show the scatterplots of the pyranometers and MSG-GHI hourly estimate (Figures 1-12 a) and the scatterplots of the pyranometers and RAMS-GHI one-day hourly forecast (Figures 1-12 b) for all stations considered in this paper.

a)



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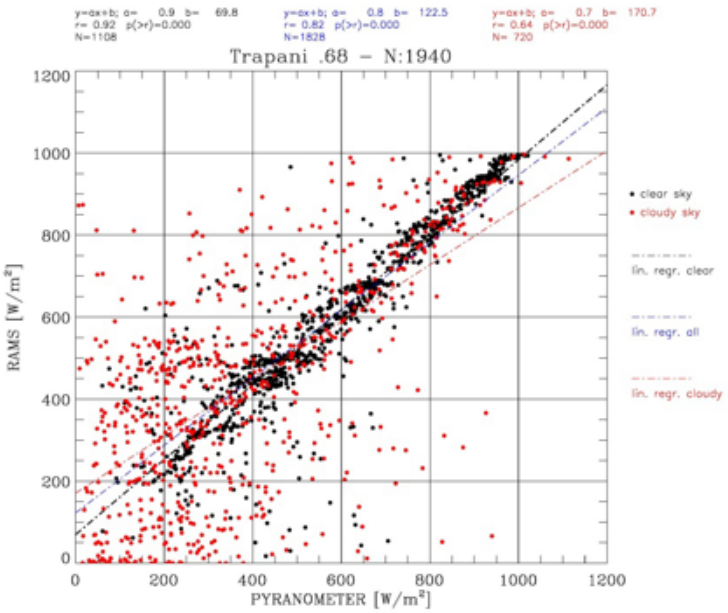
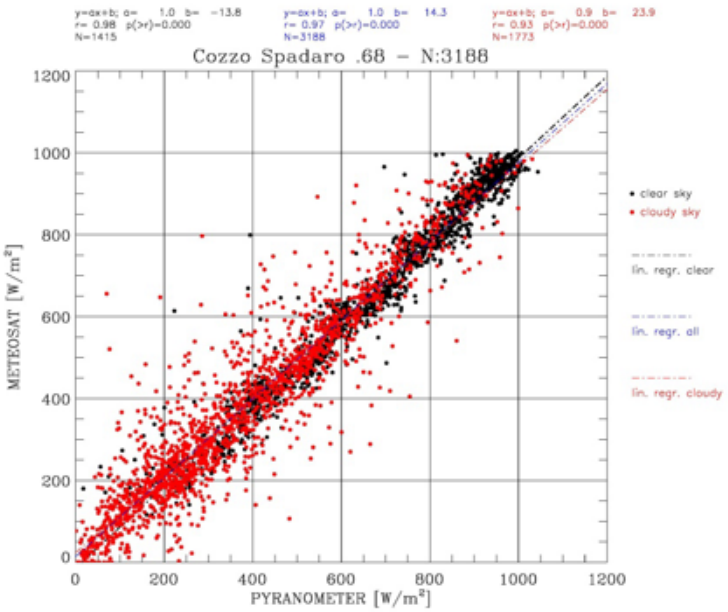


Figure 1 – Trapani (tra): a) scatter plot of the hourly GHI for the pyranometer (x-axis) and MSG (y-axis). The black dots are for clear sky conditions while the red dots are for both contaminated and overcast skies; b) as in a) for the RAMS one-day ahead hourly forecast. Regression lines are shown in their respective colours (blue is for all data, i.e. both clear and cloudy conditions).

a)



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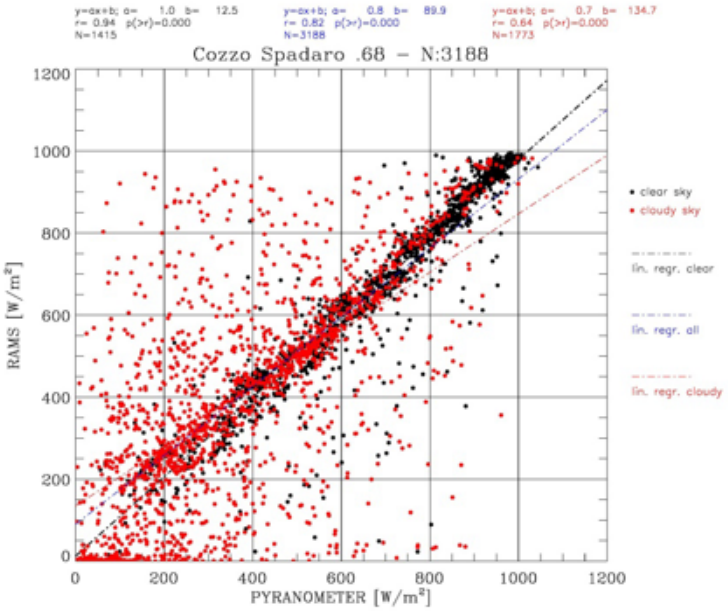
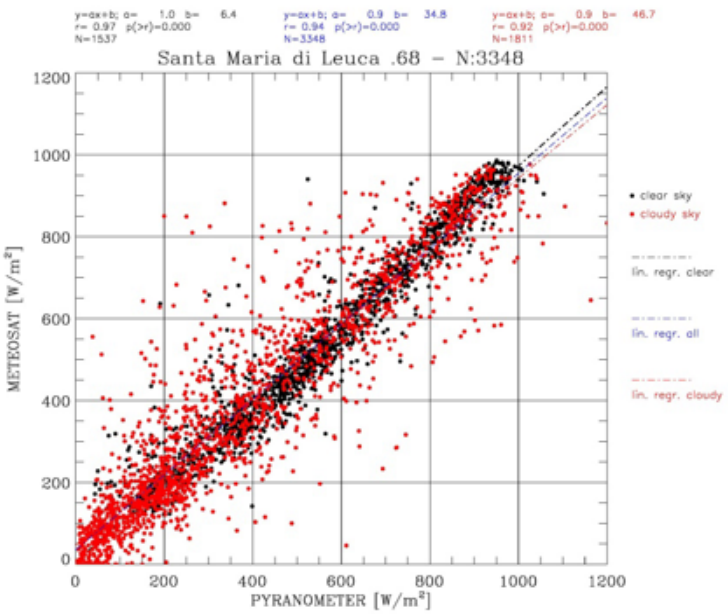


Figure 2 – Cozzo Spadaro (csp): a) scatter plot of the hourly GHI for the pyranometer (x-axis) and MSG (y-axis). The black dots are for clear sky conditions while the red dots are for both contaminated and overcast skies; b) as in a) for the RAMS one-day ahead hourly forecast. Regression lines are shown in their respective colours (blue is for all data, i.e. both clear and cloudy conditions).

a)



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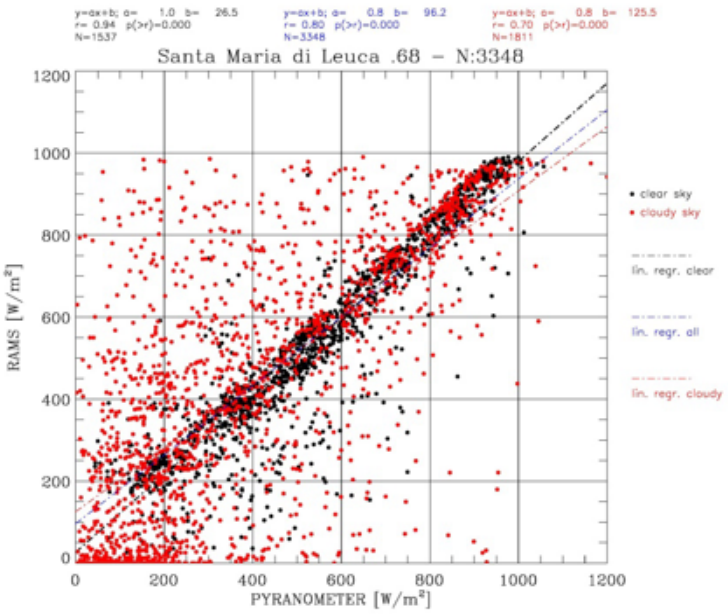
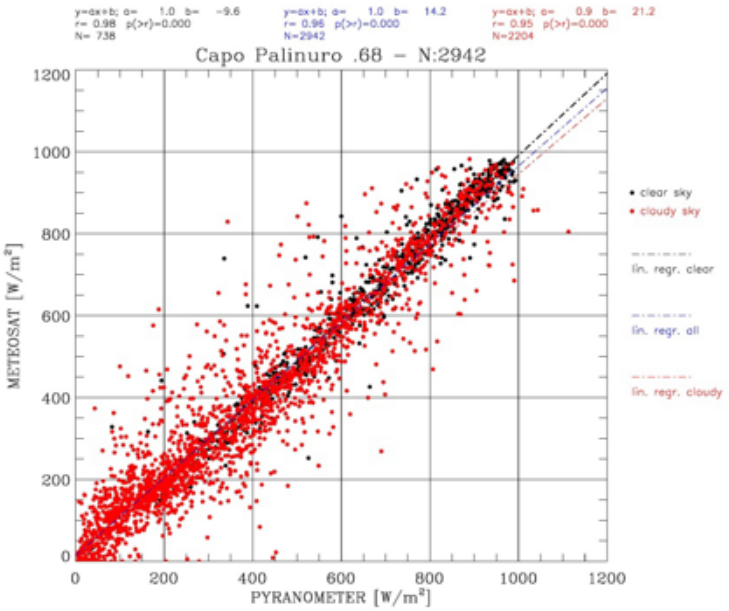


Figure 3 – Santa Maria di Leuca (sml): a) scatter plot of the hourly GHI for the pyranometer (x-axis) and MSG (y-axis). The black dots are for clear sky conditions while the red dots are for both contaminated and overcast skies; b) as in a) for the RAMS one-day ahead hourly forecast. Regression lines are shown in their respective colours (blue is for all data, i.e. both clear and cloudy conditions).

a)



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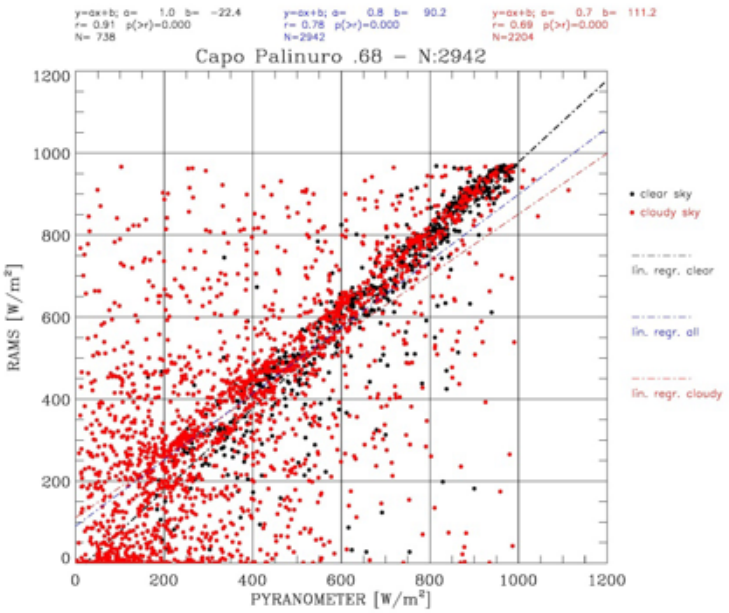
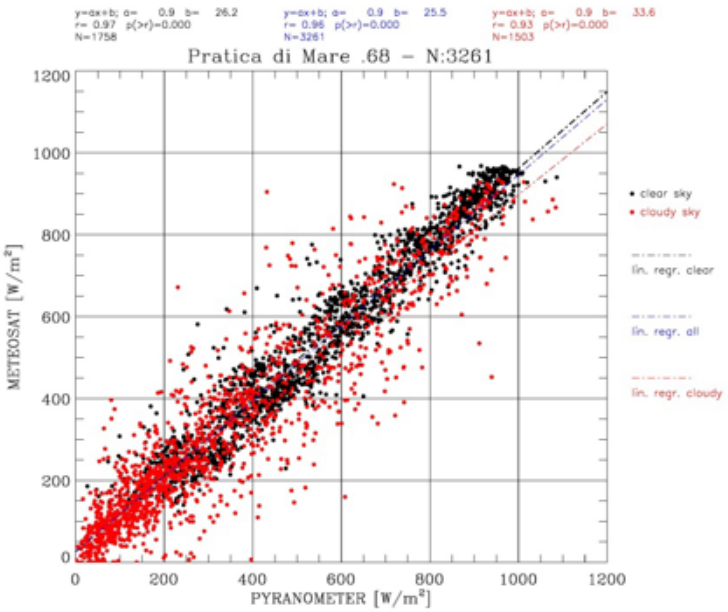


Figure 4 – Palinuro (pal): a) scatter plot of the hourly GHI for the pyranometer (x-axis) and MSG (y-axis). The black dots are for clear sky conditions while the red dots are for both contaminated and overcast skies; b) as in a) for the RAMS one-day ahead hourly forecast. Regression lines are shown in their respective colours (blue is for all data, i.e. both clear and cloudy conditions).

a)



b)

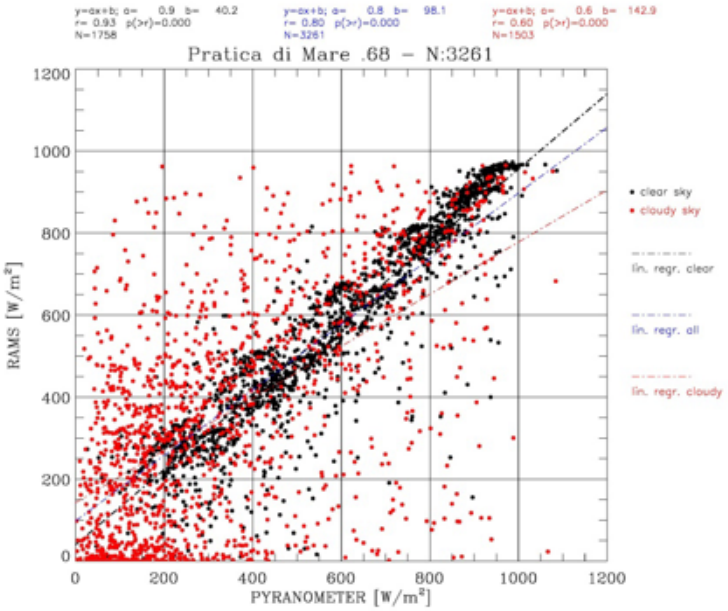
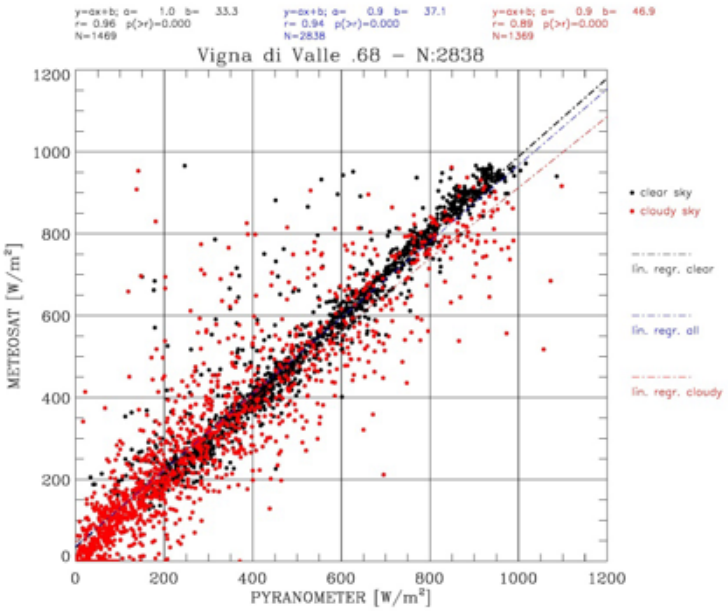


Figure 5 – Pratica di Mare (pdm): a) scatter plot of the hourly GHI for the pyranometer (x-axis) and MSG (y-axis). The black dots are for clear sky conditions while the red dots are for both contaminated and overcast skies; b) as in a) for the RAMS one-day ahead hourly forecast. Regression lines are shown in their respective colours (blue is for all data, i.e. both clear and cloudy conditions).

a)



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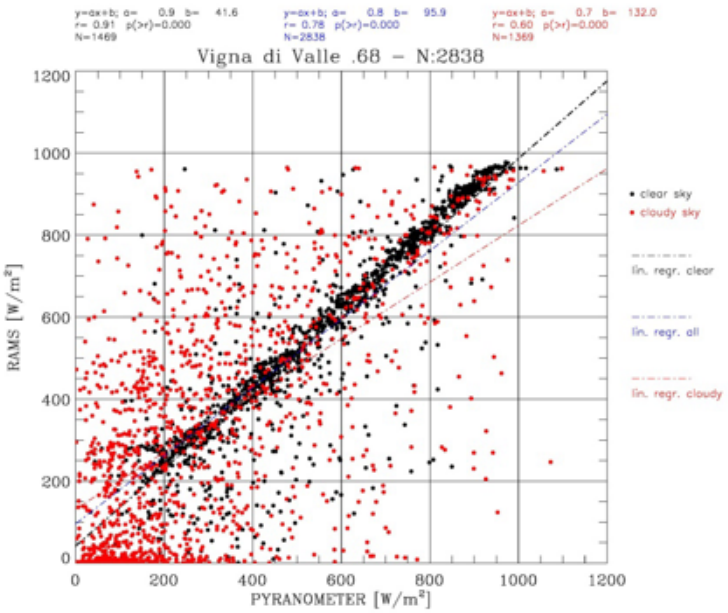
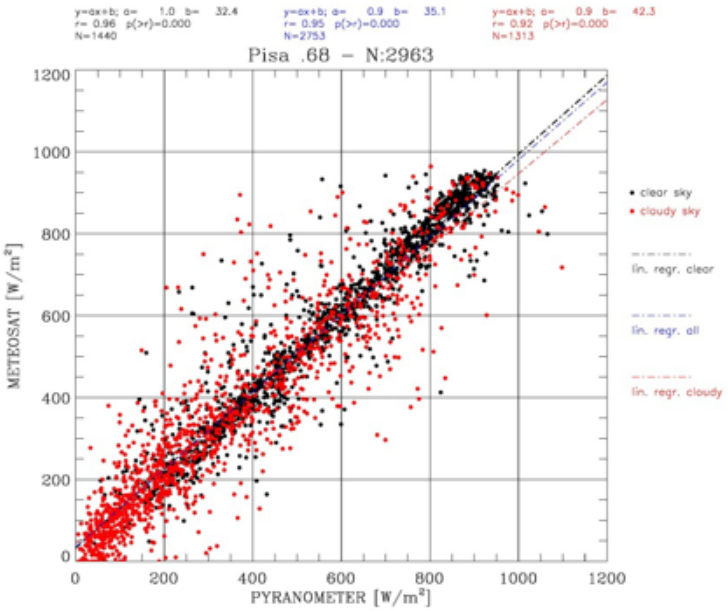


Figure 6 – Vigna di Valle (vdv): a) scatter plot of the hourly GHI for the pyranometer (x-axis) and MSG (y-axis). The black dots are for clear sky conditions while the red dots are for both contaminated and overcast skies; b) as in a) for the RAMS one-day ahead hourly forecast. Regression lines are shown in their respective colours (blue is for all data, i.e. both clear and cloudy conditions).

a)



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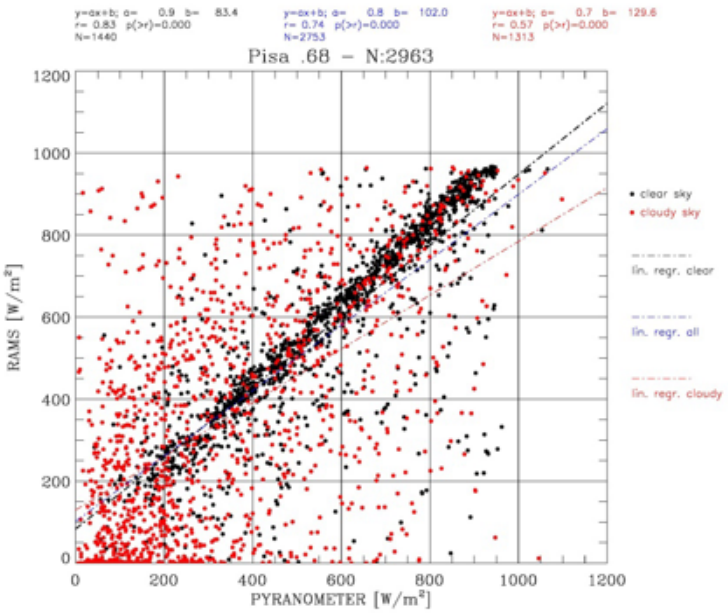
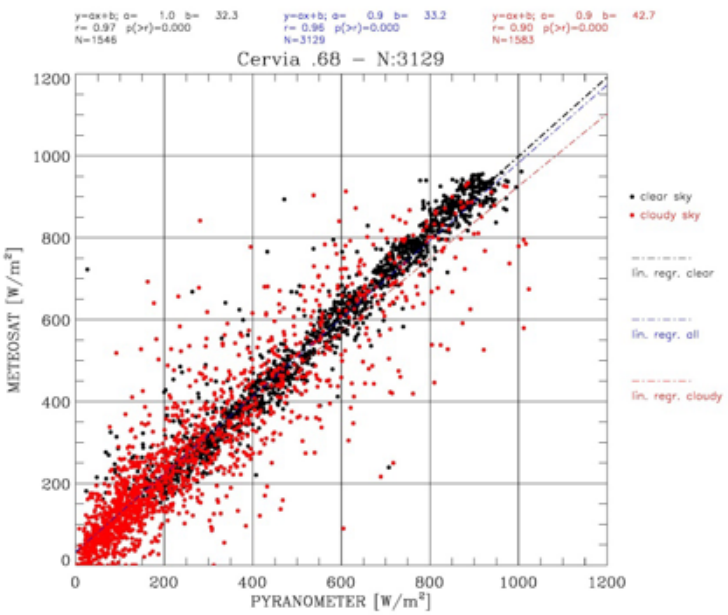


Figure 7 – Pisa (pis): a) scatter plot of the hourly GHI for the pyranometer (x-axis) and MSG (y-axis). The black dots are for clear sky conditions while the red dots are for both contaminated and overcast skies; b) as in a) for the RAMS one-day ahead hourly forecast. Regression lines are shown in their respective colours (blue is for all data, i.e. both clear and cloudy conditions).

a)



b)

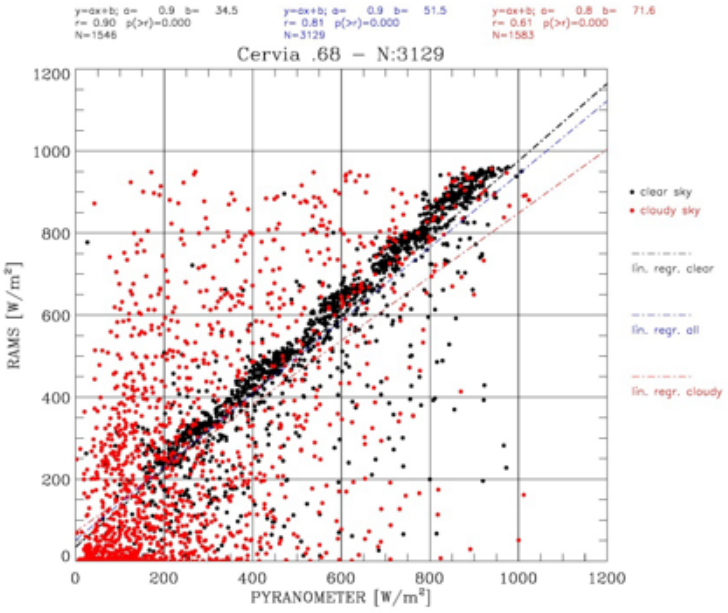
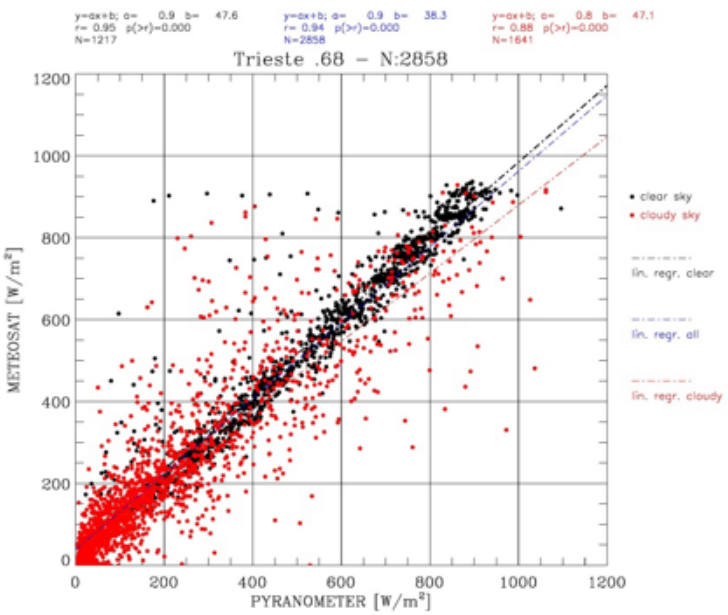


Figure 8 – Cervia (cer): a) scatter plot of the hourly GHI for the pyranometer (x-axis) and MSG (y-axis). The black dots are for clear sky conditions while the red dots are for both contaminated and overcast skies; b) as in a) for the RAMS one-day ahead hourly forecast. Regression lines are shown in their respective colours (blue is for all data, i.e. both clear and cloudy conditions).

a)



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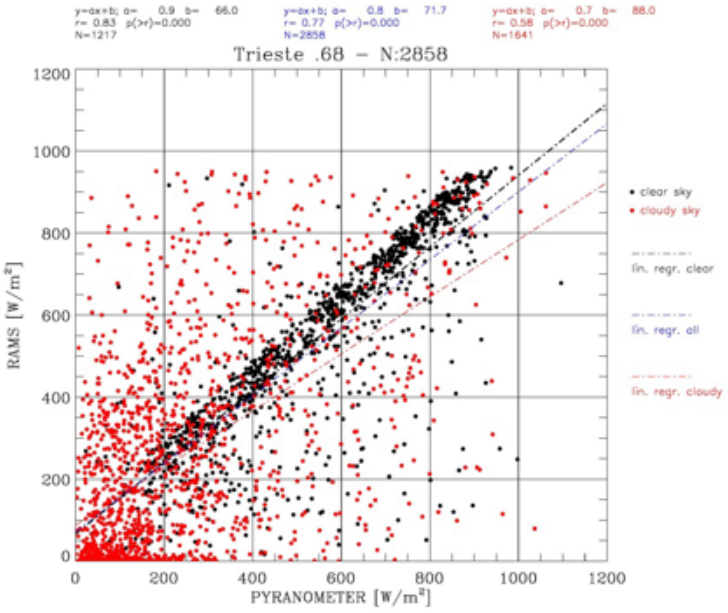
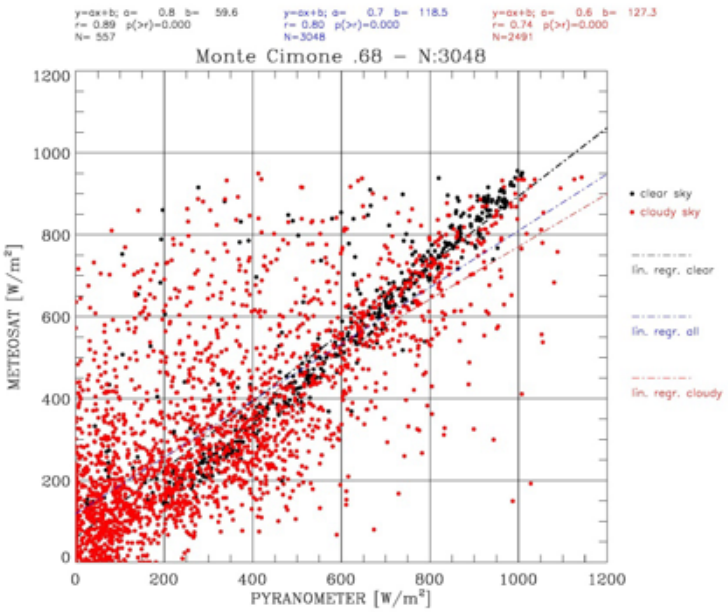


Figure 9 – Trieste (tri): a) scatter plot of the hourly GHI for the pyranometer (x-axis) and MSG (y-axis). The black dots are for clear sky conditions while the red dots are for both contaminated and overcast skies; b) as in a) for the RAMS one-day ahead hourly forecast. Regression lines are shown in their respective colours (blue is for all data, i.e. both clear and cloudy conditions).

a)



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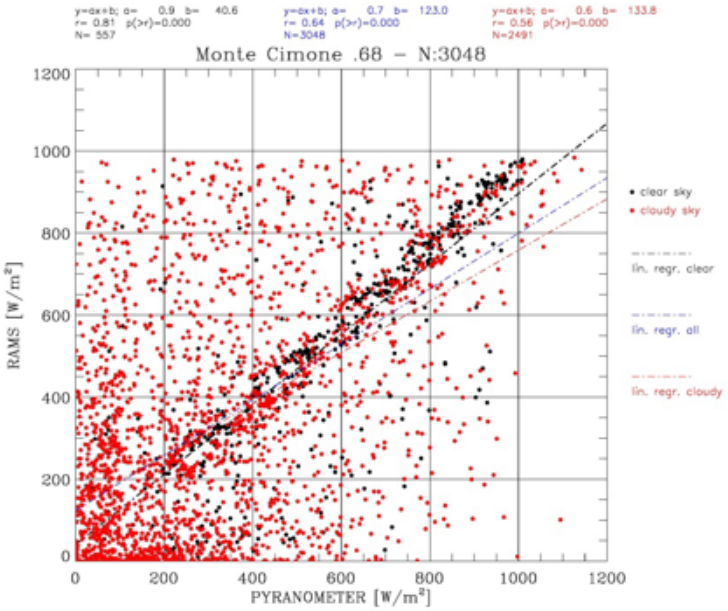
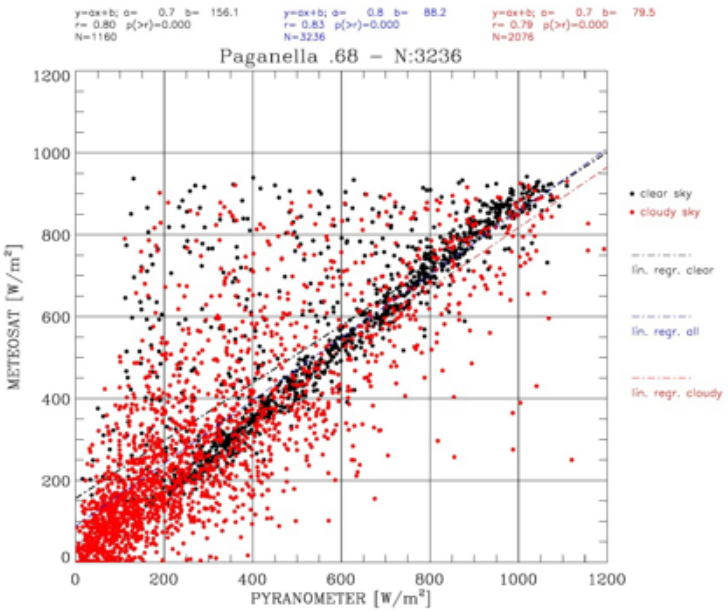


Figure 10 – Monte Cimone (cim): a) scatter plot of the hourly GHI for the pyranometer (x-axis) and MSG (y-axis). The black dots are for clear sky conditions while the red dots are for both contaminated and overcast skies; b) as in a) for the RAMS one-day ahead hourly forecast. Regression lines are shown in their respective colours (blue is for all data, i.e. both clear and cloudy conditions).

a)



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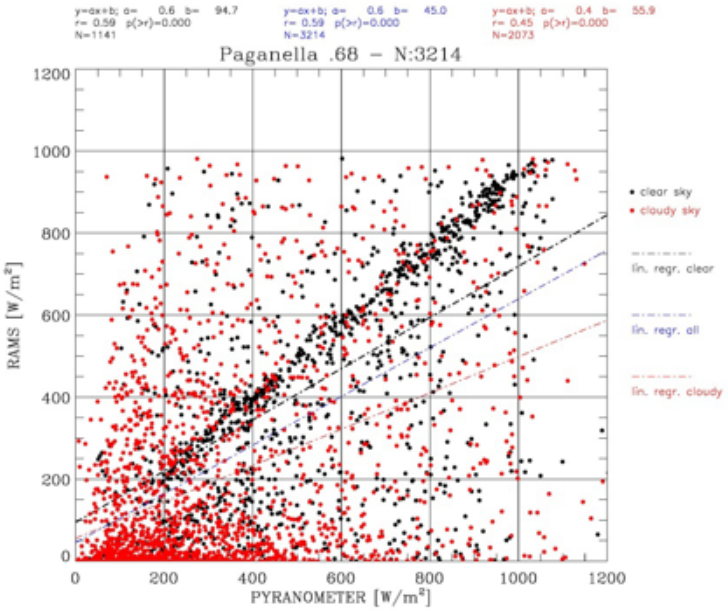
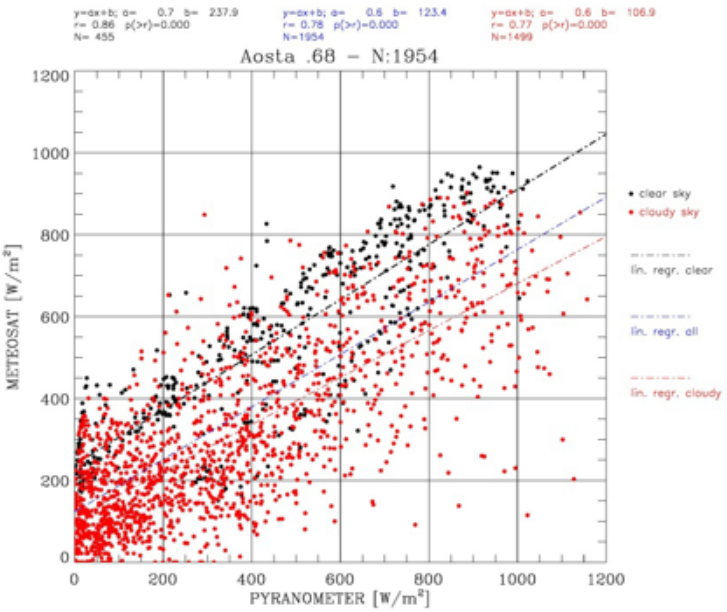


Figure 11 – Paganella (pag): a) scatter plot of the hourly GHI for the pyranometer (x-axis) and MSG (y-axis). The black dots are for clear sky conditions while the red dots are for both contaminated and overcast skies; b) as in a) for the RAMS one-day ahead hourly forecast. Regression lines are shown in their respective colours (blue is for all data, i.e. both clear and cloudy conditions).

a)



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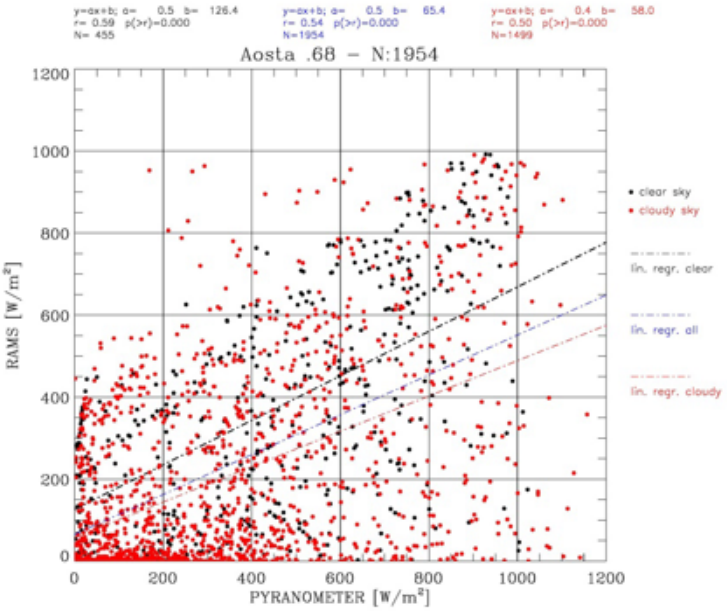

Figure 12 – Aosta (aos): a) scatter plot of the hourly GHI for the pyranometer (x-axis) and MSG (y-axis). The black dots are for clear sky conditions while the red dots are for both contaminated and overcast skies; b) as in a) for the RAMS one-day ahead hourly forecast. Regression lines are shown in their respective colours (blue is for all data, i.e. both clear and cloudy conditions).