HelioClim-4, or how to build a successful and sustainable business service based on CAMS radiation service
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HelioClim-4, a successful and sustainable business service based on CAMS radiation service

ICEM 2017, 27-29 June 2017, Bari, Italy

HelioClim-4 (HC4) = CAMS radiation enhanced with several value-added post-processing layers

Horizon

- CAMS radiation components are horizon free data (gray + yellow values).
- HC4 proposes an option to take into account (yellow values + a fraction of gray values) the shadowing effect due to the far horizon computed from SRTM

Evaluation of the performance

18 stations (hourly data) => 4 groups (A, B, C, D):
- 17 non-shadowed pyranometers (pyr.) measuring Global Tilted Irradiation (GTI) 25° South => evaluate the performance of fix-tilted data in HC4
- 1 pyr. measuring GHI with a discriminant horizon => horizon

Statistical results (bias in %, Standard Deviation STD in %, Root Mean Square Error RMSE in % and Correlation Coefficient CC) are provided for both HC4 CASE 1 and CASE 2, and for HC3v5

Conclusions

- HC4 is fairly close to HC3v5 in most cases
- HC4 Case 1 returns better results than Case 2: the use of an empirical algorithm should be avoided
- Improvement when horizon is taken into account

Perspectives

- Reliable precursor of service
- Further development: e.g. modulate HC4 value with the height of the selected point inside a Meteosat pixel