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Applying the Heliosat-4 method to three different cloud properties databases for the estimation of the surface downwelling shortwave irradiance

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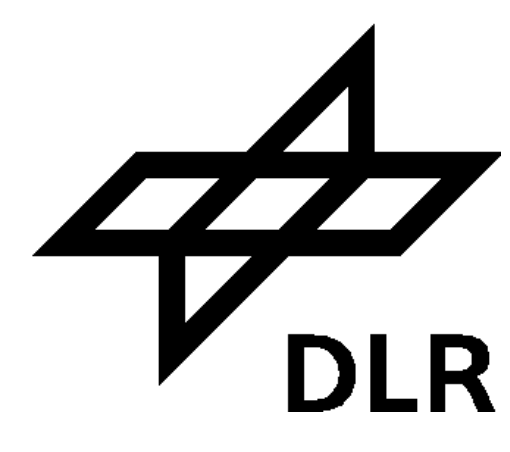


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Deutscher Wetterdienst
Wetter und Klima aus einer Hand

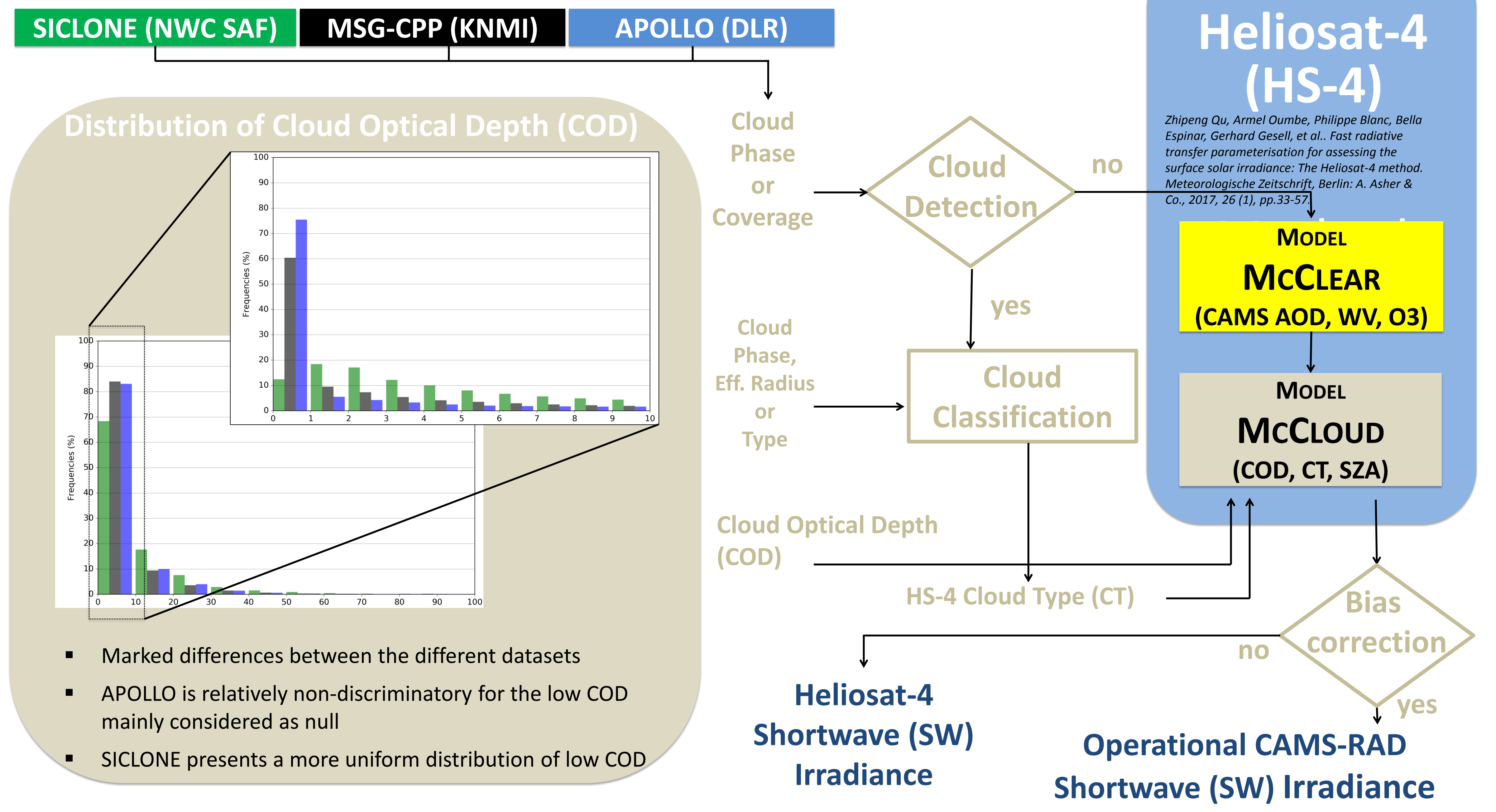


CONTACT

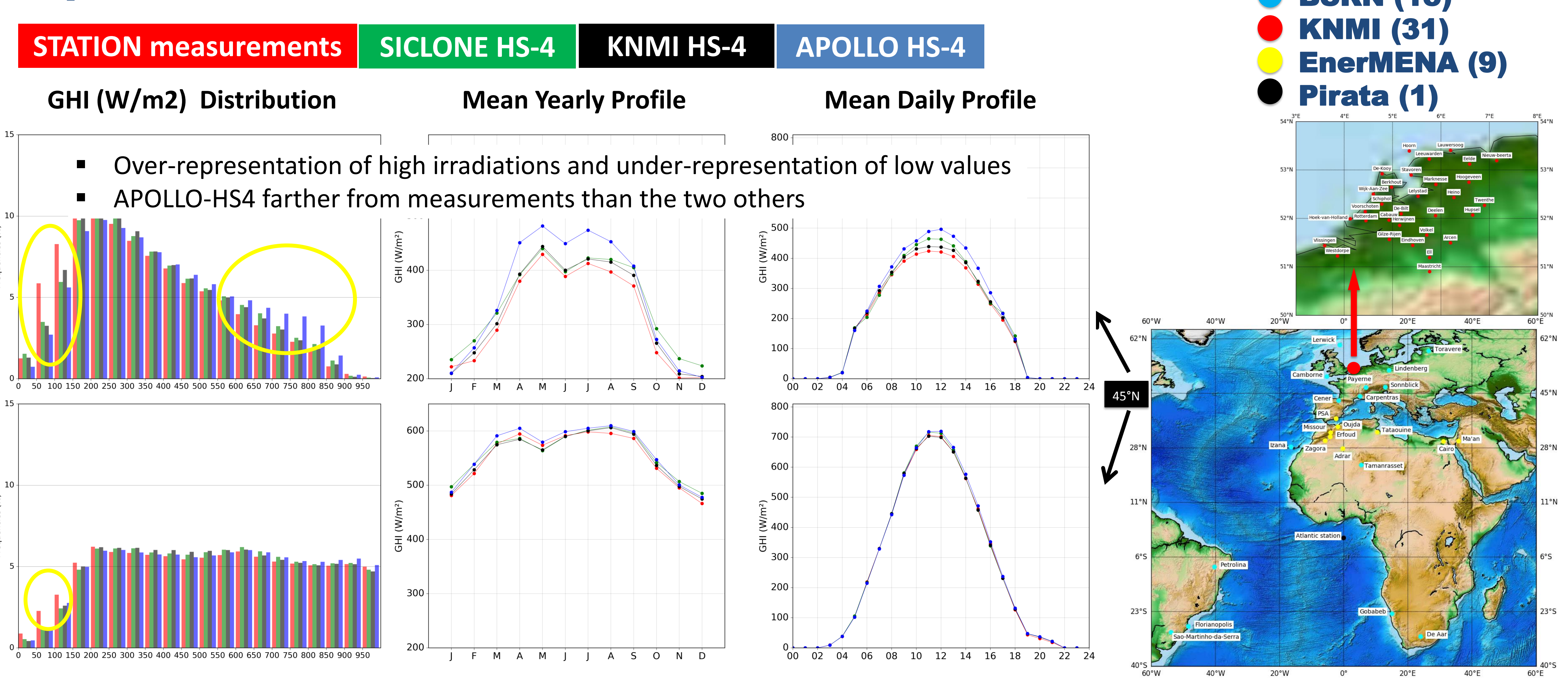
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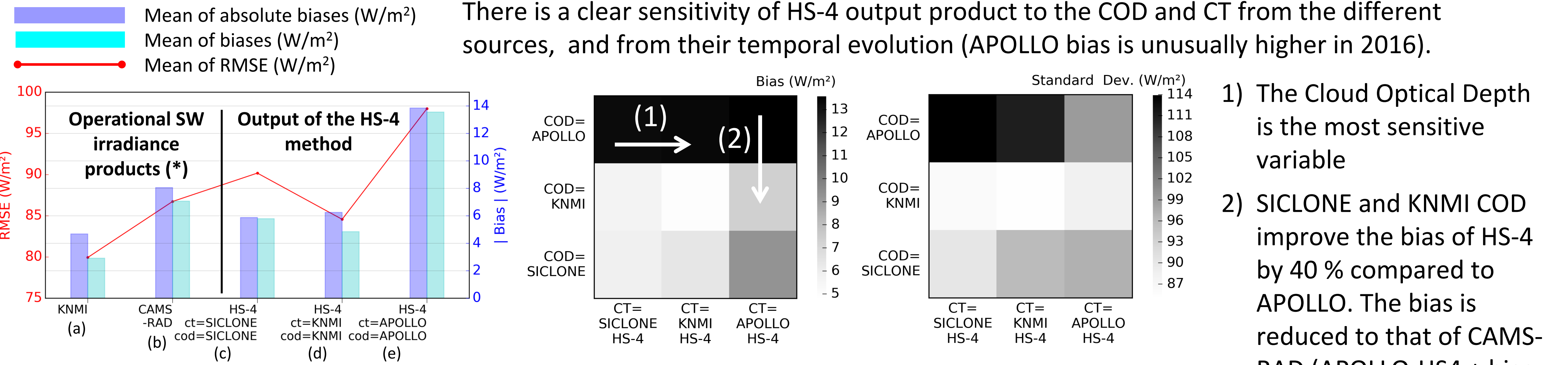
Year 2016: a CAMS-RAD anomaly in the Netherlands investigated with a comparison of different cloud properties databases



Impact on Heliosat-4 SW irradiance for 56 stations:



Sensitivity of HS-4 to the cloud properties for the 37 northern stations



(*) A Model Output Statistics is implemented for KNMI on Dutch stations and CAMS-RAD on BSRN stations.
(a, d) <http://msgcpp.knmi.nl/>
(b, e) <http://www.soda-pro.com/web-services/radiation/cams-radiation-service>
(c) <http://reuniwatt.com/en/applications/atmospheric-sciences>

Conclusion

- Heliosat-4 method is simple to use and to implement with different databases of cloud properties
- There are significant differences among existing cloud properties databases that have a noticeable effect on SW irradiance from Heliosat-4
- This work demonstrated the relevance of inter-comparison of cloud properties databases

