

Supplementary information

Validation of Space-based Albedo Products from Upscaled Tower-based Measurements over Heterogenous and Homogeneous Landscapes

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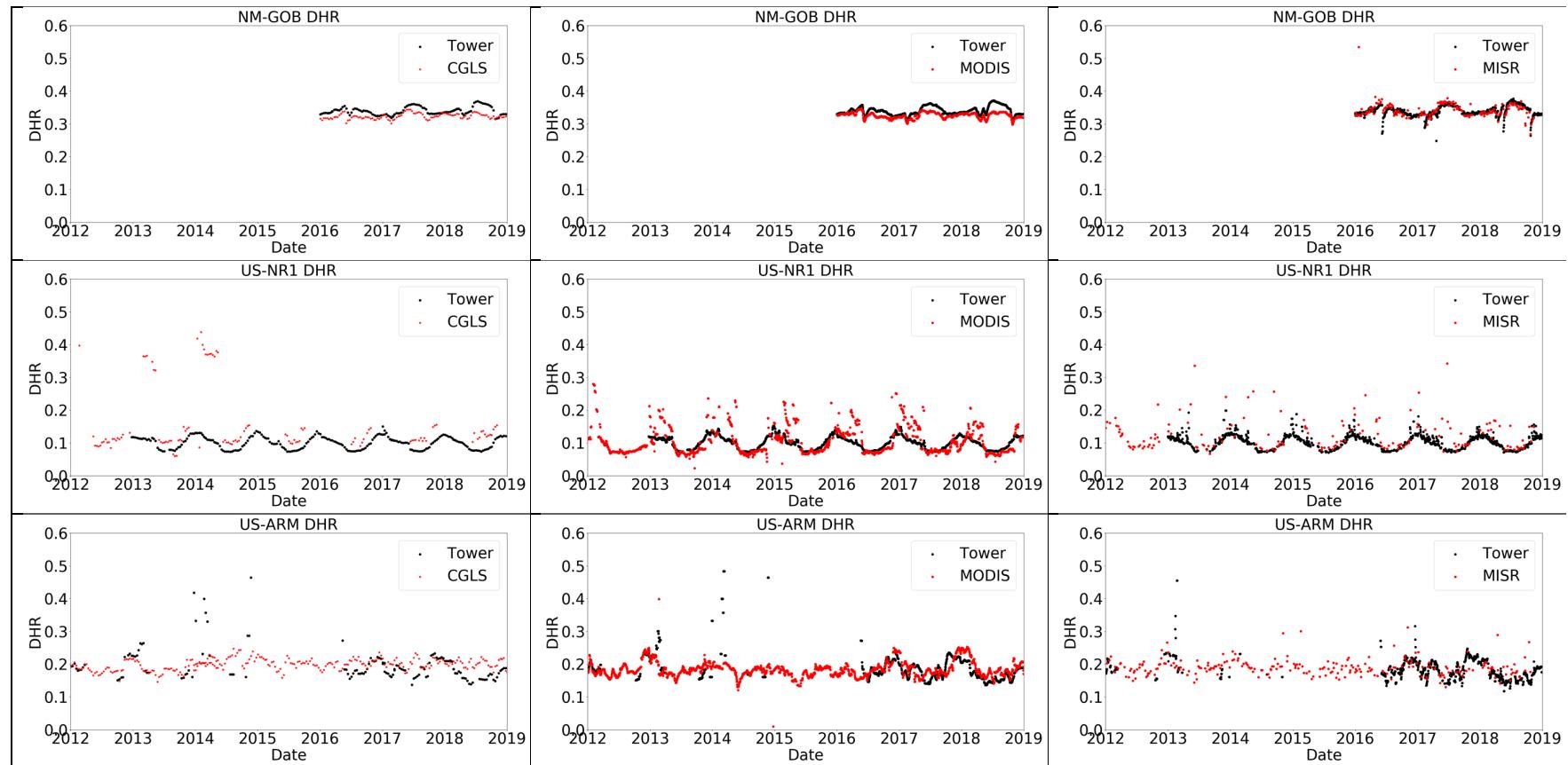
¹³ ACRI-ST, 260 route de Pin Montard, BP 234, 06904 Sophia Antipolis, France; christophe.lerebourg@acri-st.fr (C.L.)

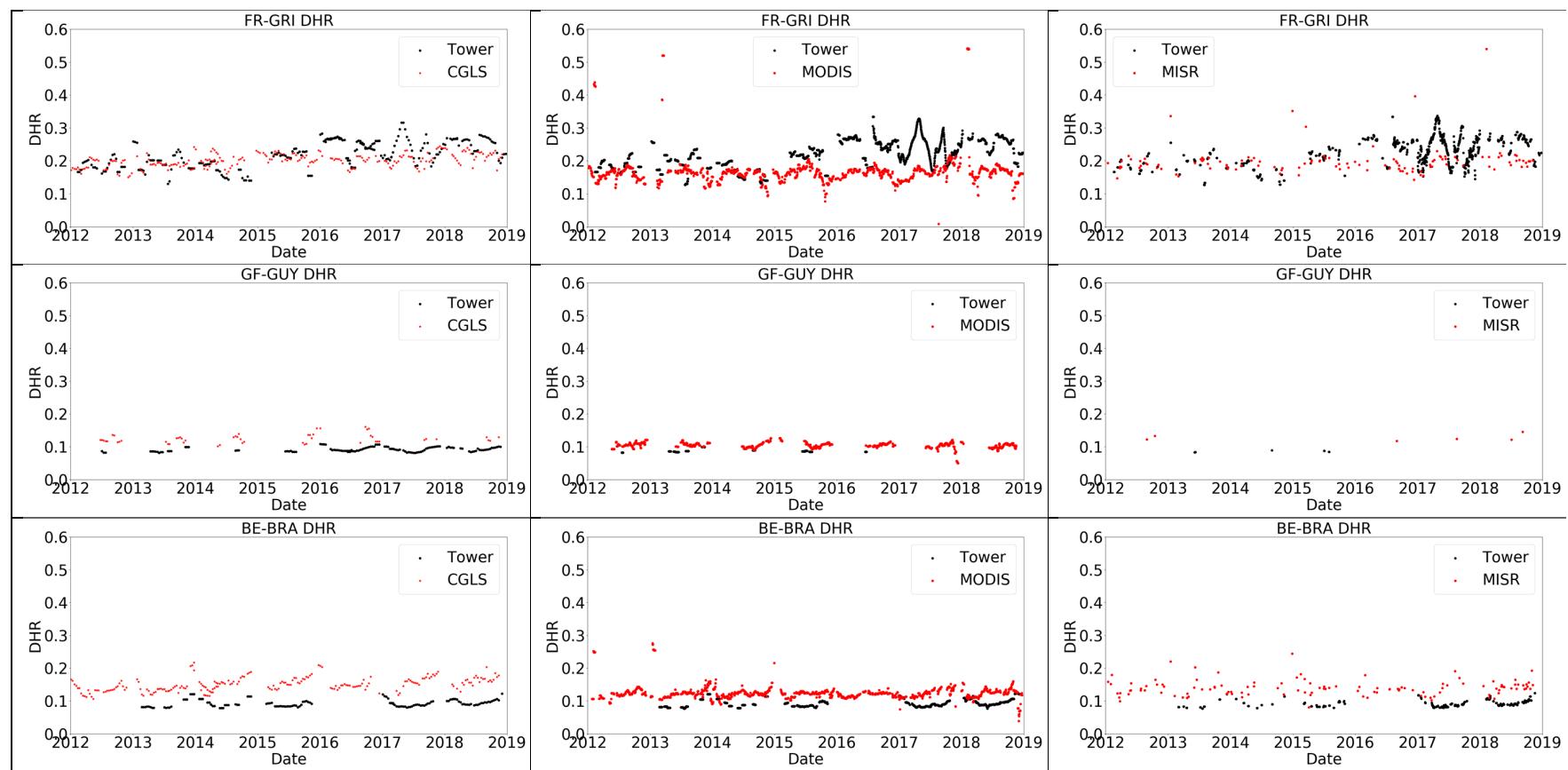
* Correspondence: rui.song@ucl.ac.uk

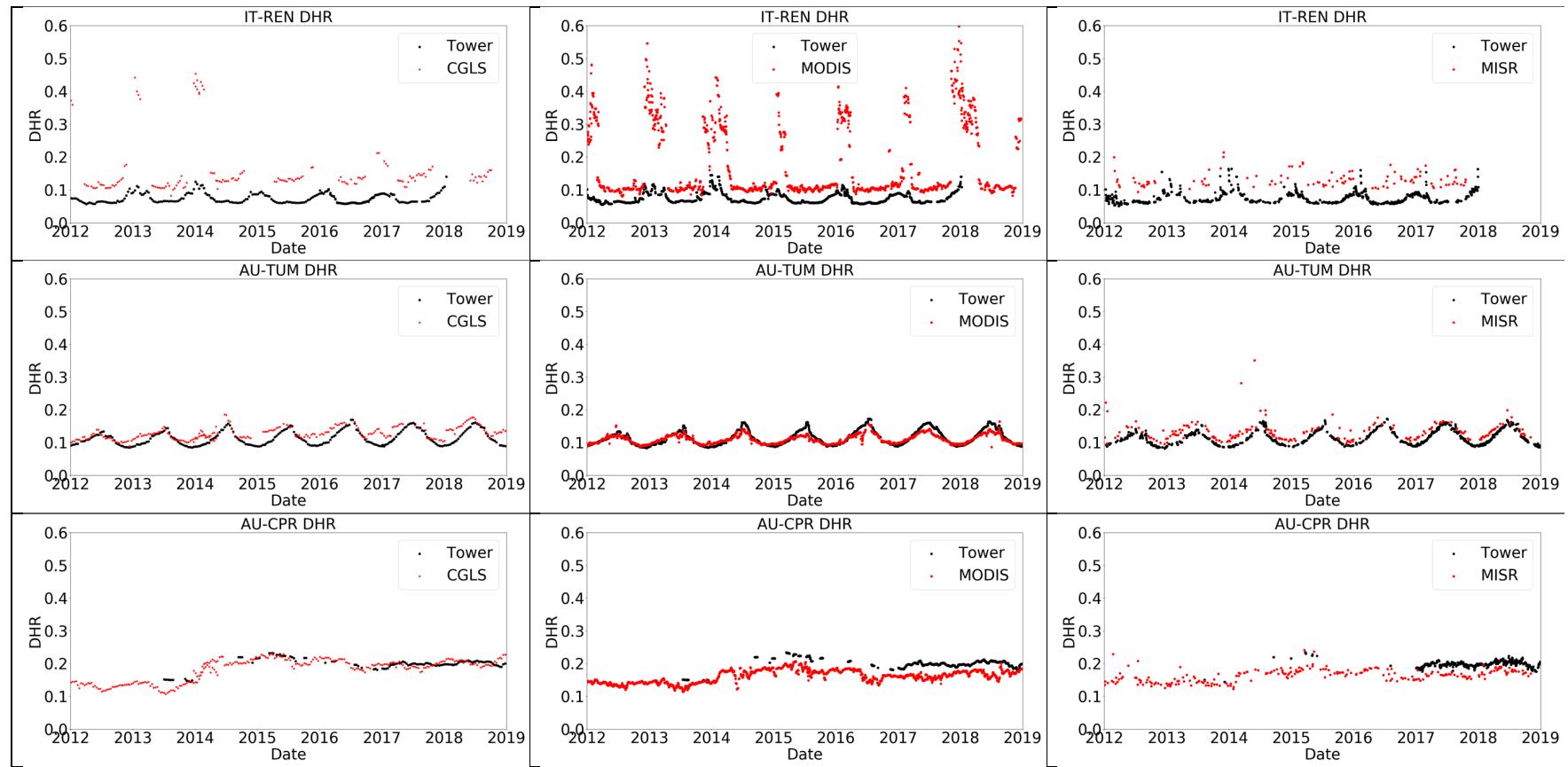
Received: December 2019;

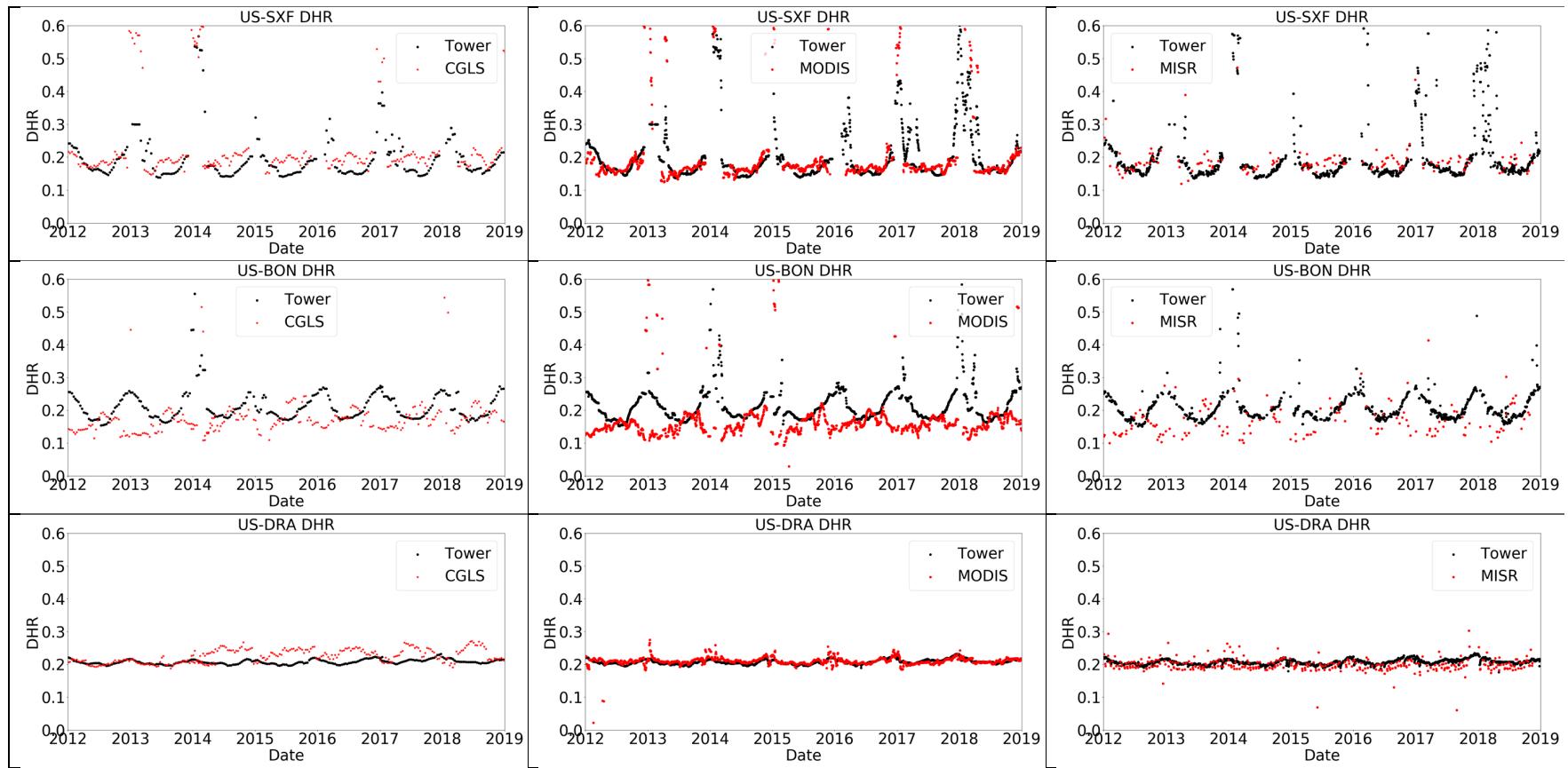
The input radiances used to calculate the albedo (DHR and BHR respectively) are available for downloading from <https://land.copernicus.eu/global/gbov/>. The CGLS data is available from <https://land.copernicus.eu/global/products/sa>. The MODIS data can be downloaded from <https://e4ftl01.cr.usgs.gov/MOTA/MCD43A3.006/>. The MISR data can be accessed via <https://misr.jpl.nasa.gov/getData/accessData/> The reader is referred to Table 1 in the main manuscript for details of the sites.

The first two sets of plots show a comparison of the time series of tower albedometer and EO datasets for all the derived products of DHR and BHR. This is followed by images of the sites showing the footprint of the MODIS and CGLS grids as well as a nominal 500m footprint of a tower-based albedometer.









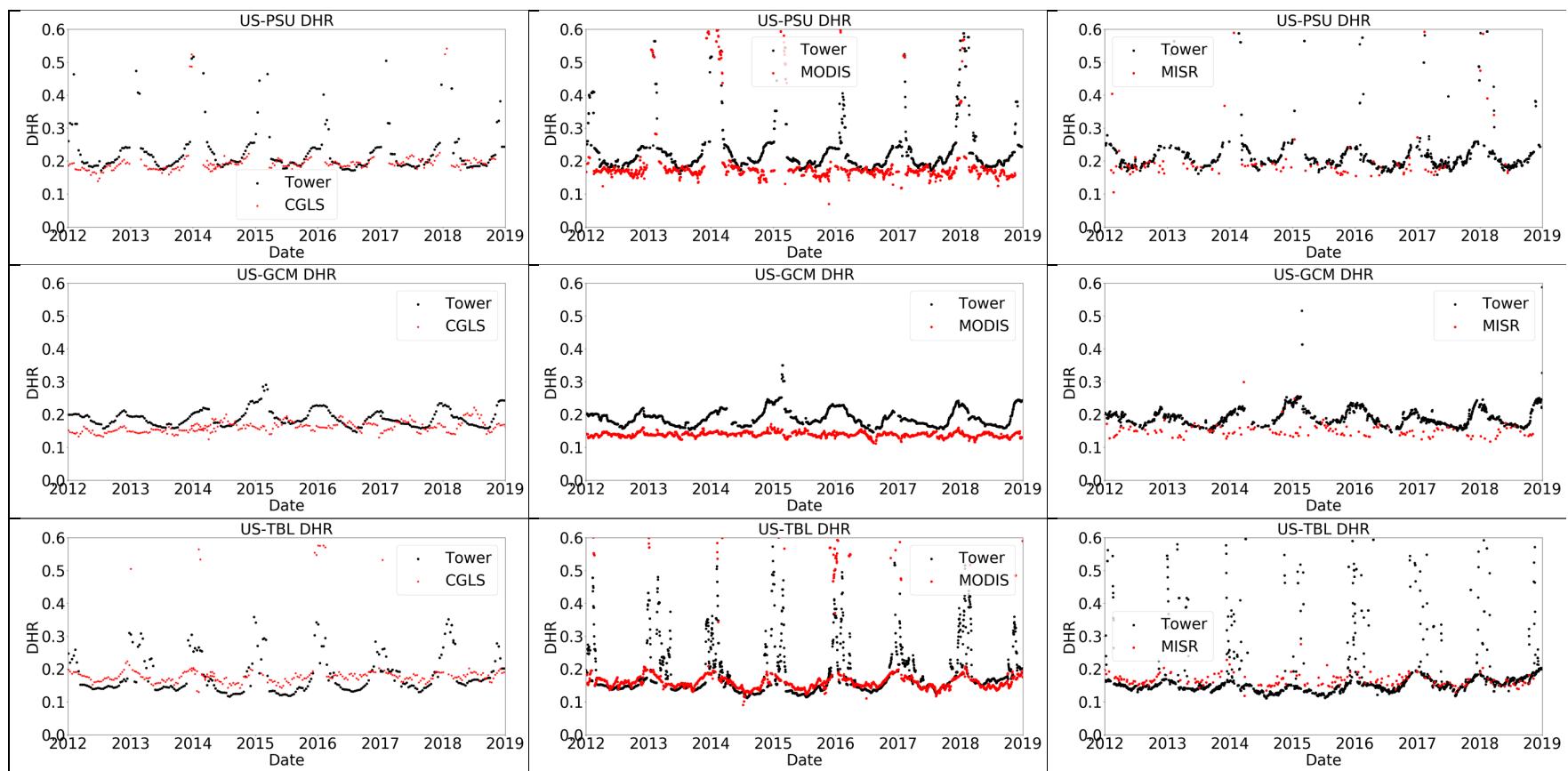
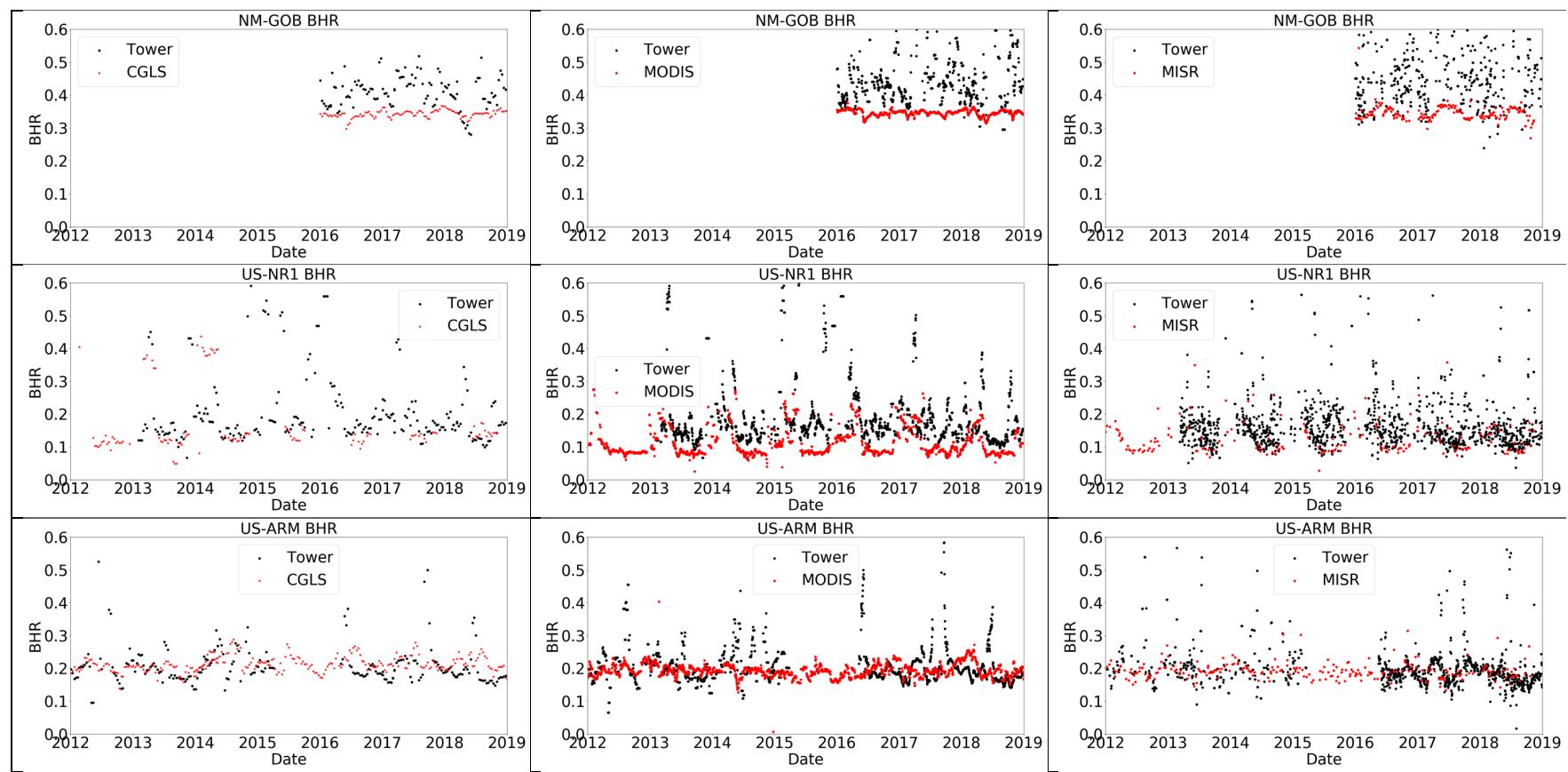
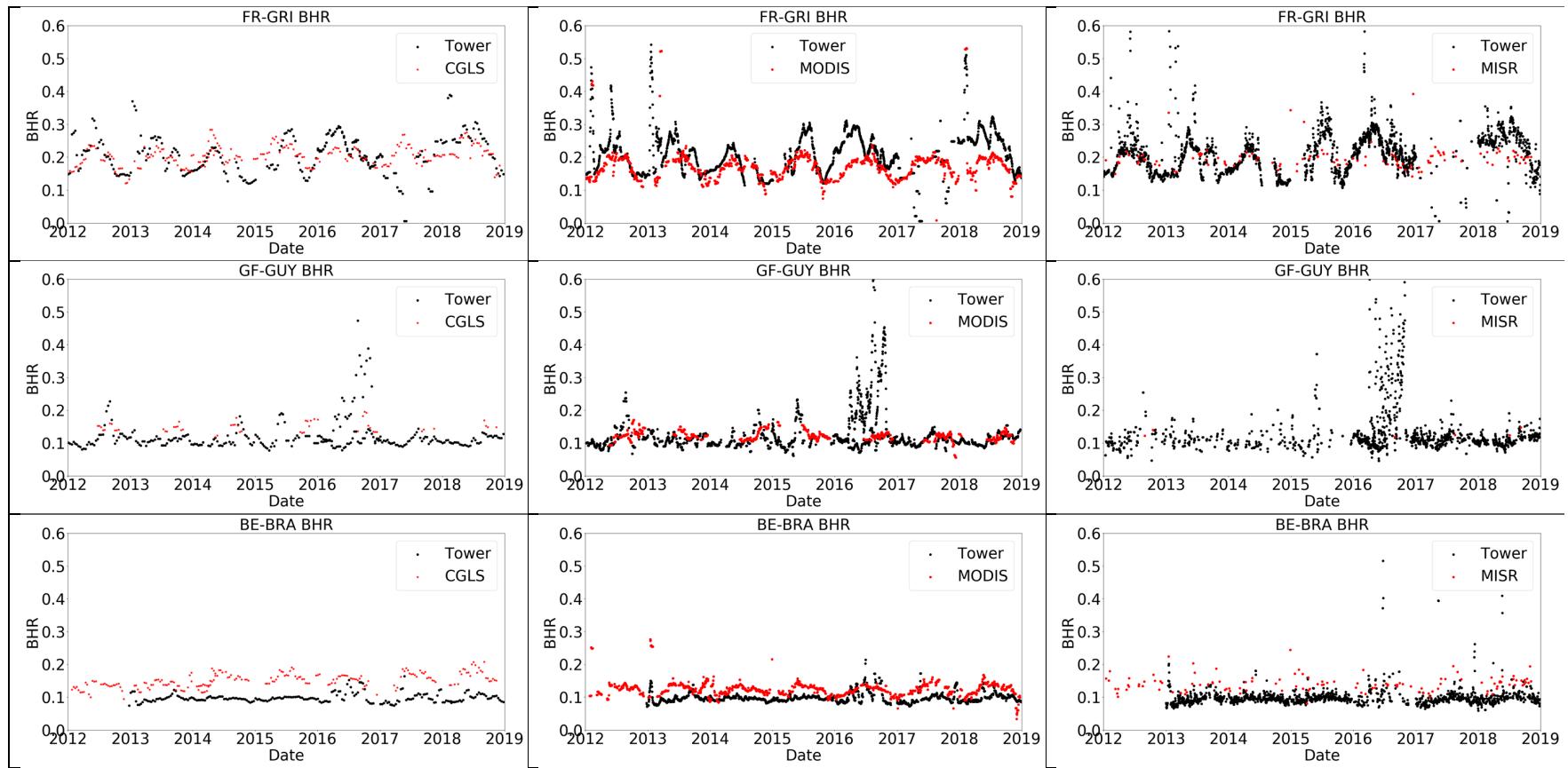
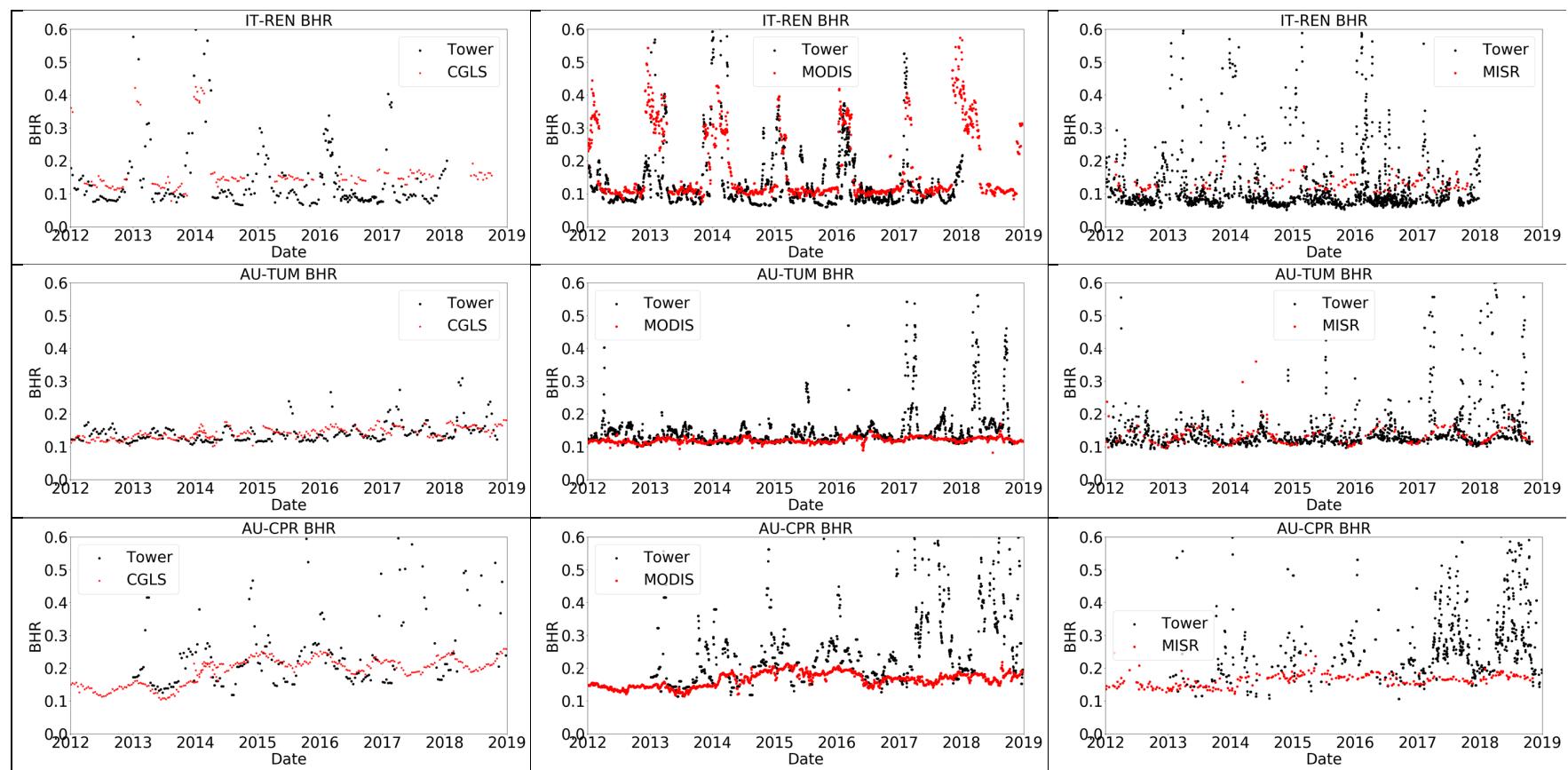
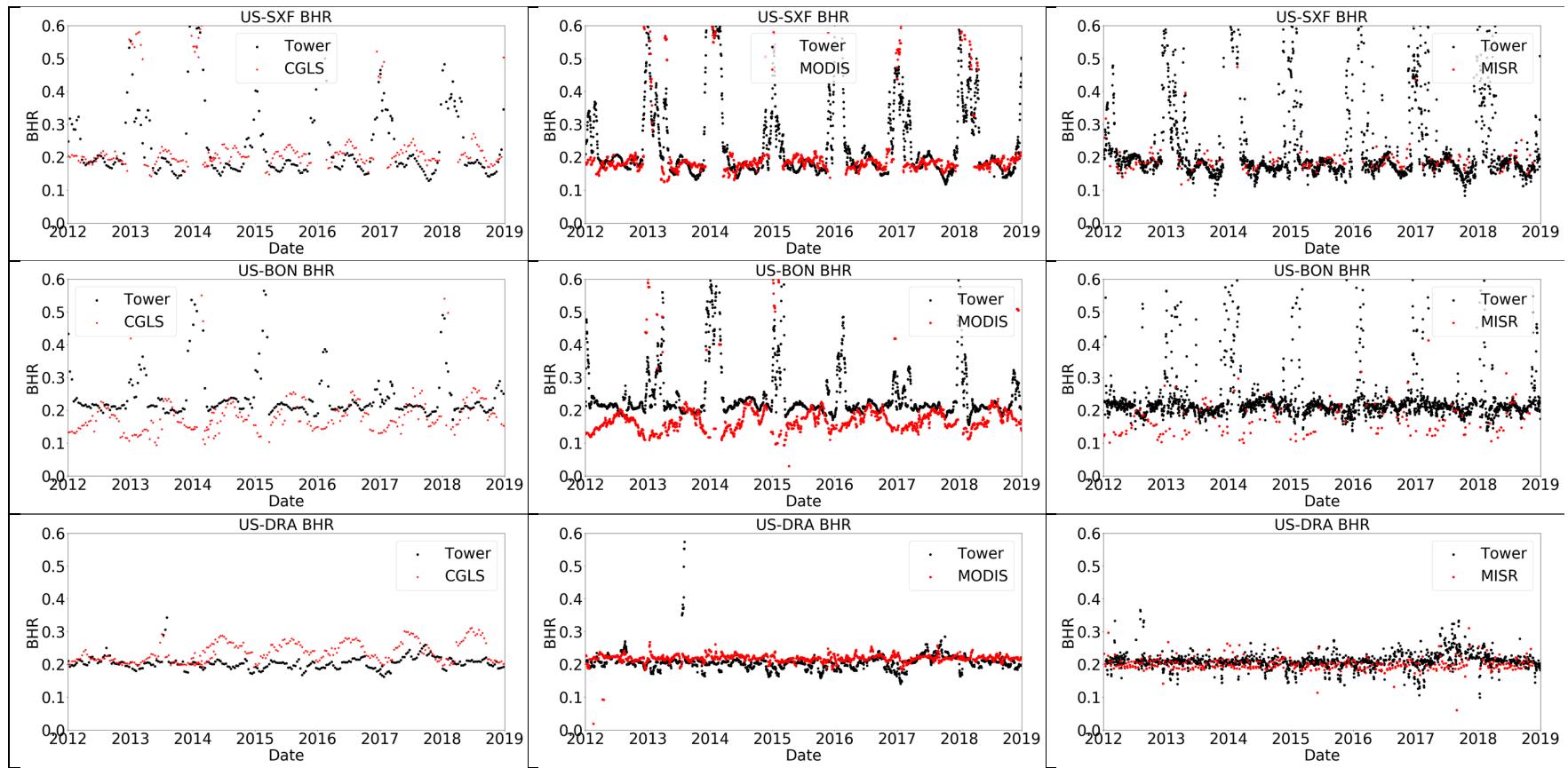


Figure 1. CGLS (column 1), MODIS (column 2) and MISR (column 3) DHR products compared with tower derived DHRs.









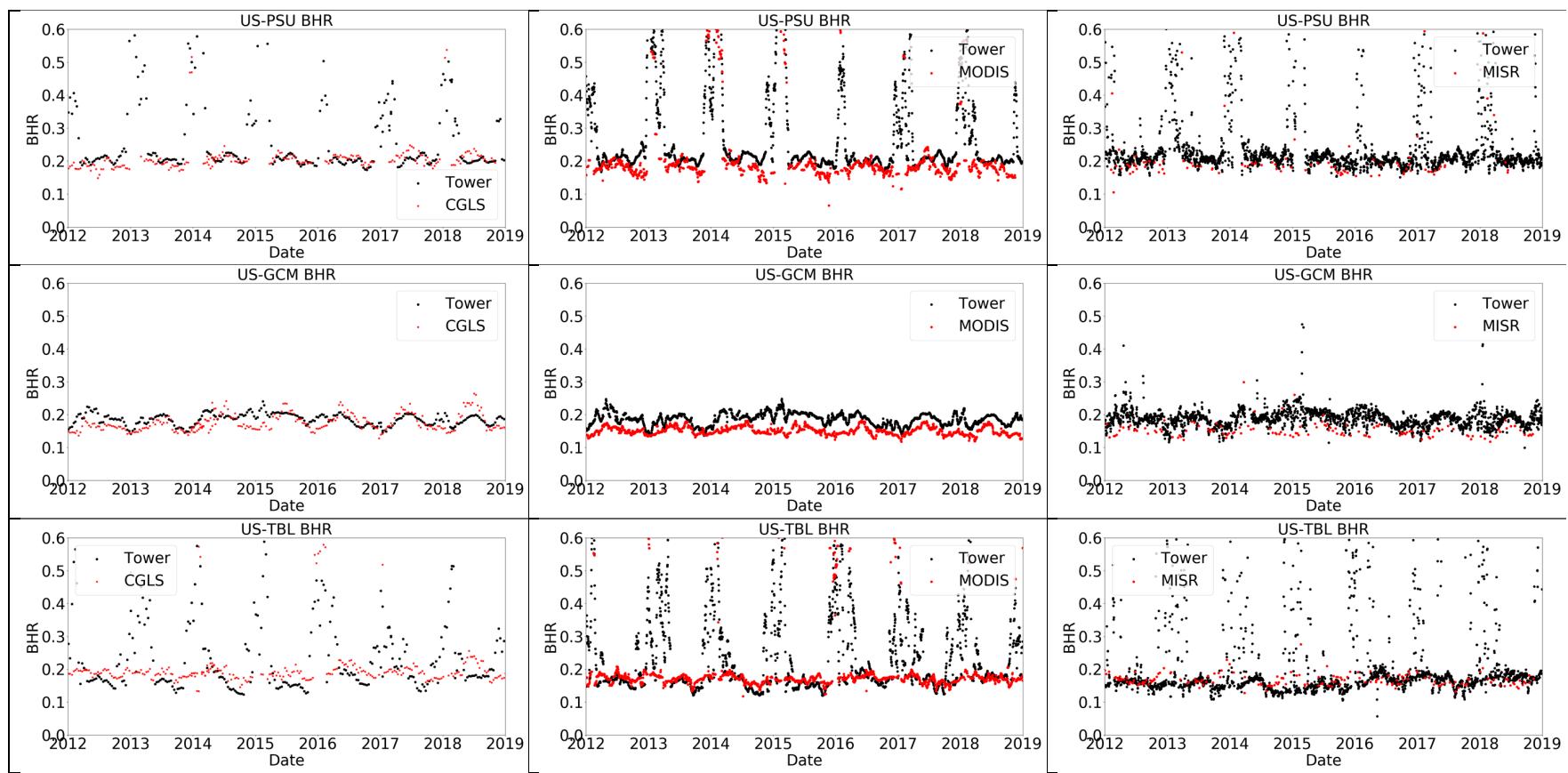


Figure 2. CGLS (column 1), MODIS (column 2) and MISR (column 3) BHR products compared with tower derived BHRs.

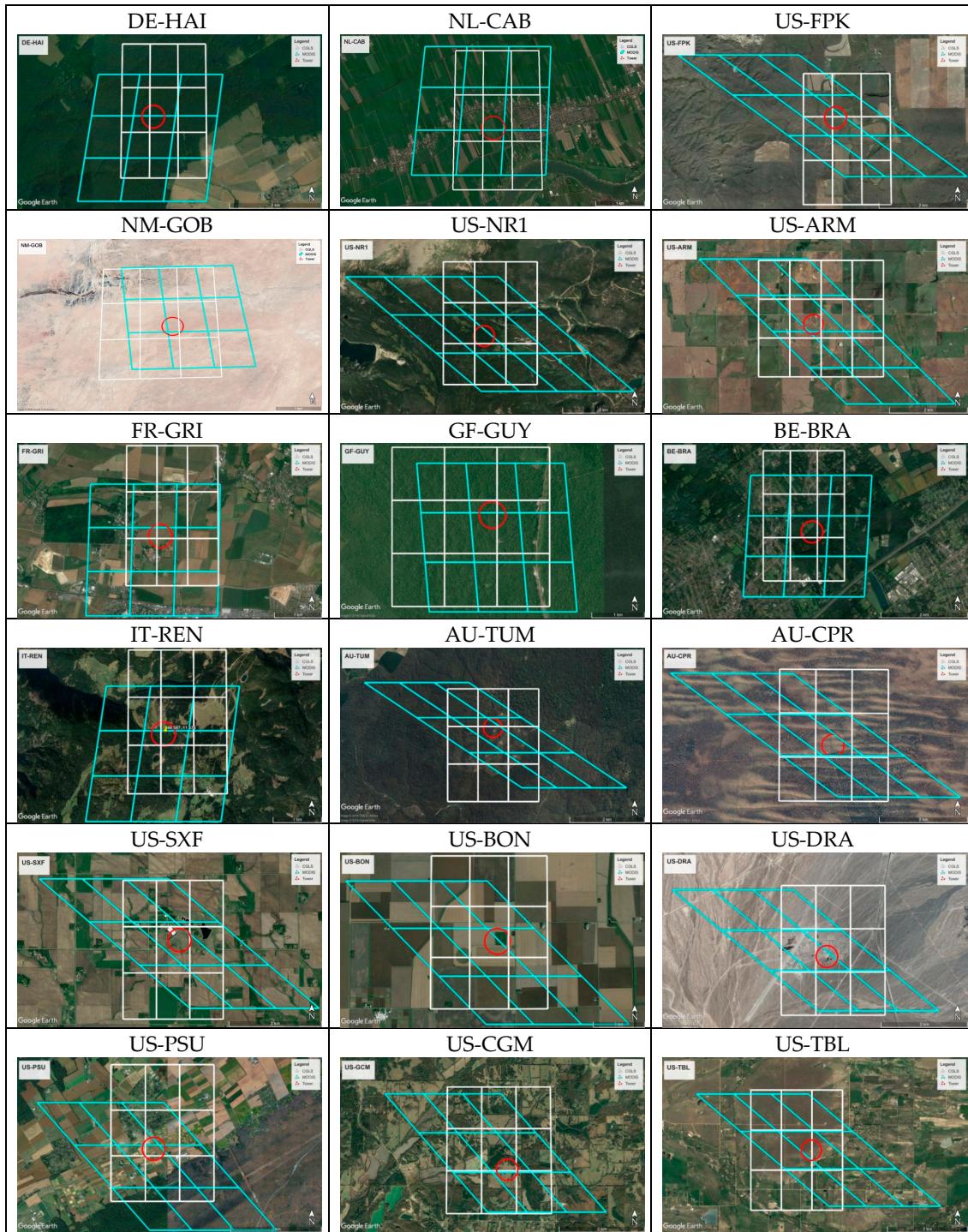


Figure 3. Overview of selected GbOV tower sites (taken using Google Earth). The MODIS SIN projection grid for 3 x 3 km pixels is shown in cyan. The red circle around the tower shows a 500m tower albedometer footprint. The white grid represents CGLS SPOT/VGT product pixel footprints of 1/112°. The site short-name is indicated and a nadir view employed.