

Modifications in the paper

- The matching of sonde and satellite profiles was correct and is unchanged.
- However, the assignment of those matches to each sonde site was incorrect.
 - The correction has led to changes in the statistics (correlation coefficient, bias, etc.) for individual sites.
 - It has also led to the inclusion of 8 sites that were not represented in the previous version (Legionowo, Hanoi, Kuala Lumpur, Nairobi, Ascension Island, Watukosek, Suva, & La Reunion Island).
 - These corrections affect only Figure 2 of the main text (which shows the number of matches at each site) and Figures in the SI.
- The assignment of the data to each site was done independently of the assignment of data to latitude bands, which was done correctly. The statistics for each latitude band shown in the Figures in the main text are unchanged.

Figure 2

This is the only figure in the main text that has changed. The number of satellite-sonde matches at each site is different, and there are 8 sites that were added because they had satellite-sonde matches that were not identified by the incorrect code (Legionowo, Hanoi, Kuala Lumpur, Nairobi, Ascension Island, Watukosek, Suva, & La Reunion Island). There is no new data, it is simply redistributed among the sites.

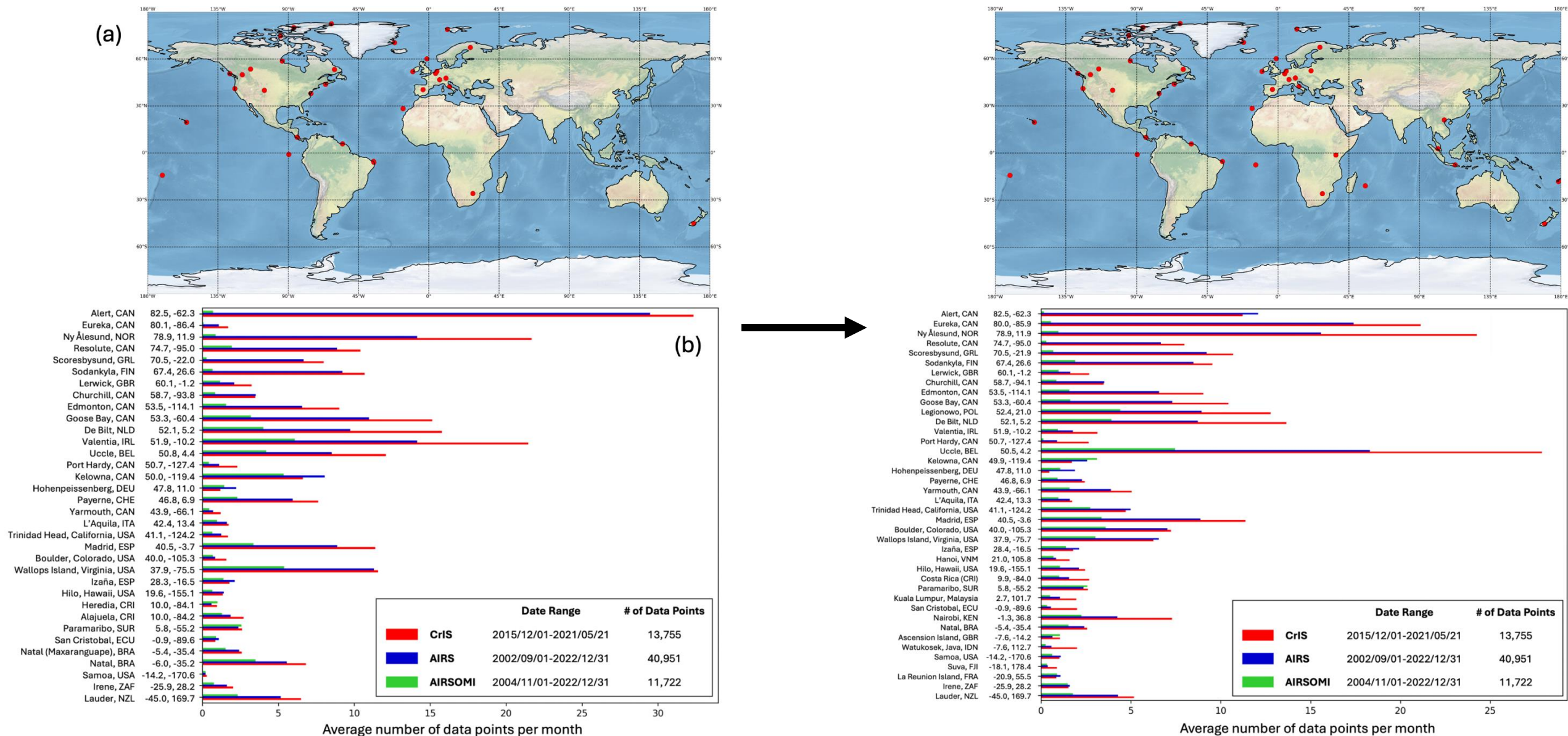


Figure S7a

Corrected site assignments. Similar behavior as previously:

- The joint AIRS+OMI product has the highest magnitude of percent bias
- The AIRS product has bias closest to zero with both positive and negative biases

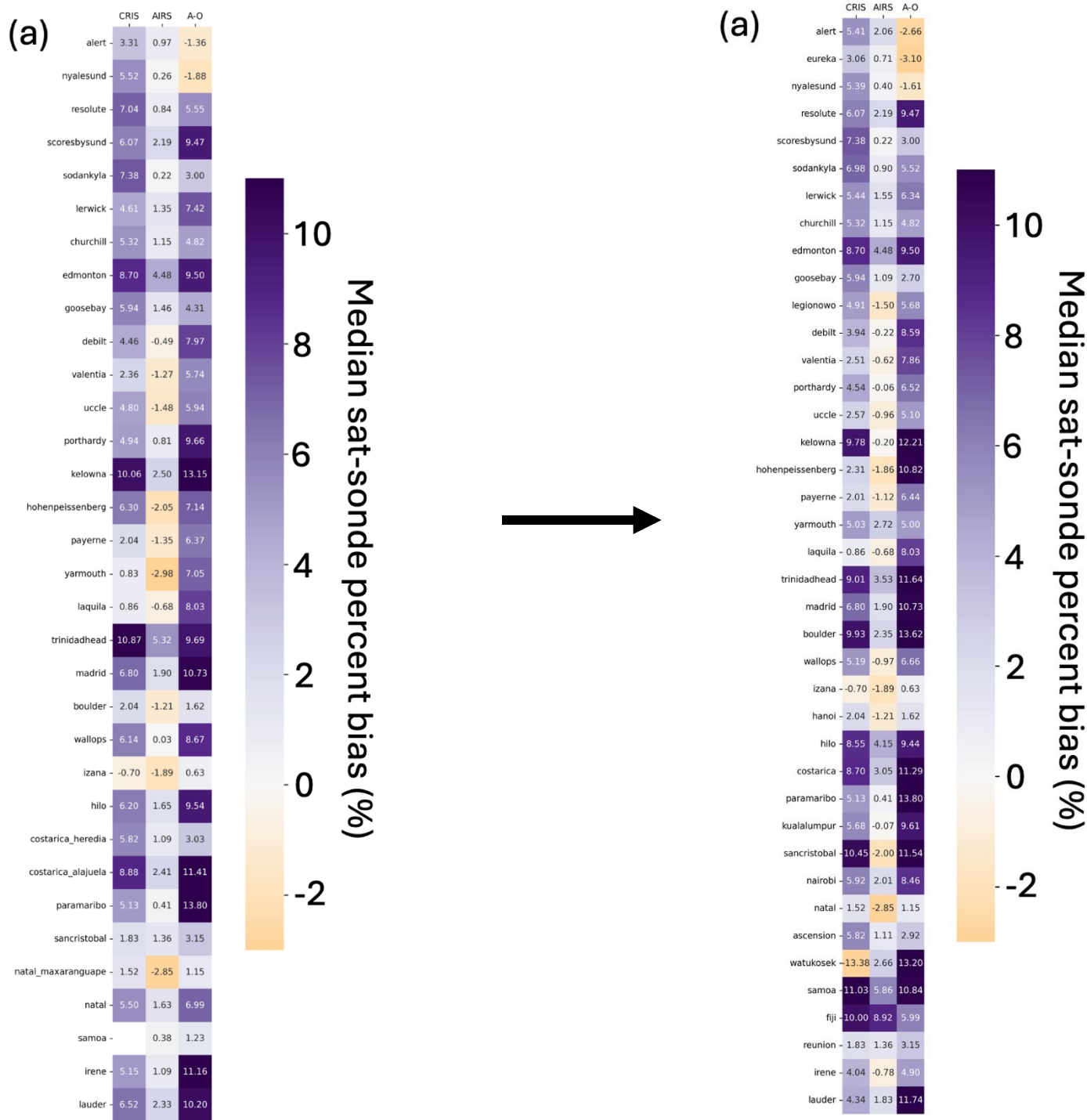


Figure S7b

Corrected site assignments. Similar behavior as previously:

- Similar magnitudes of trends
- Both positive and negative trends across sites and satellite products

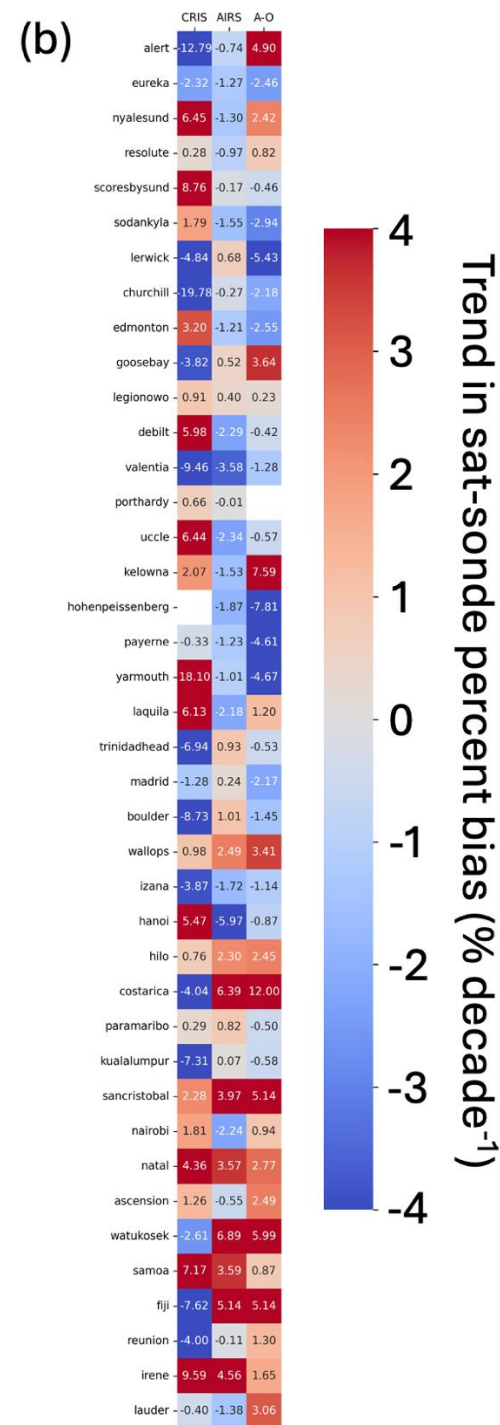
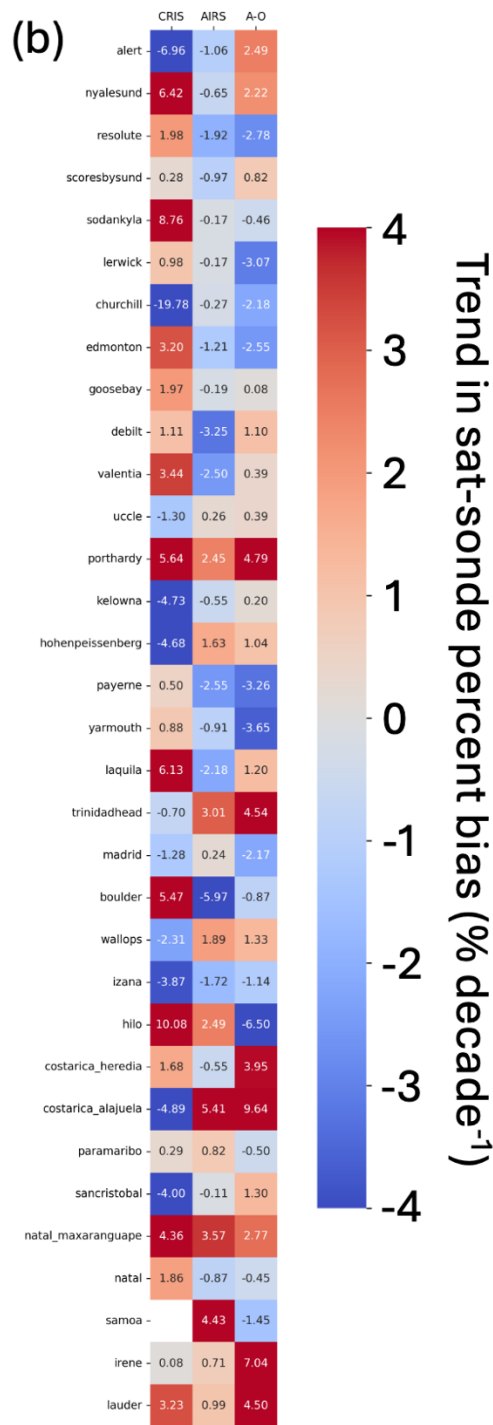


Figure S9

The sites included in this figure were updated with the new site assignments (from Figure 2). Some site-to-site comparisons (e.g., Alert versus Kuala Lumpur) have little data that overlap in time and are available for a computation of r^2 , leading to a high correlation. The figure caption will be updated to note that. The overall message of the figure is unchanged: there is low correlation in bias between sites, and no regional dependence of bias.

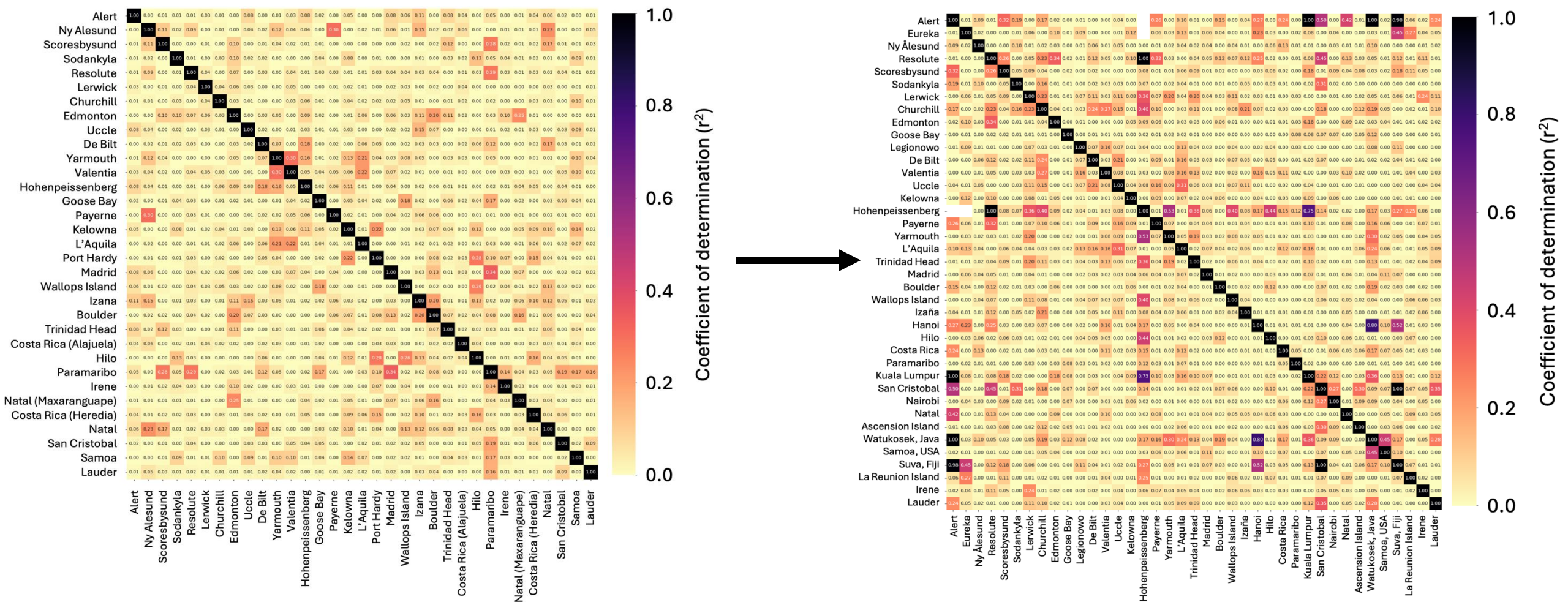


Figure S10a

Corrected site assignments, cropped to CrIS time period. Similar behavior as previously:

- The joint AIRS+OMI product has the highest magnitude of percent bias
- The AIRS product has bias closest to zero with both positive and negative biases
- Some sites (e.g., Watukosek and Legionowo) have no data available in the CrIS time period.

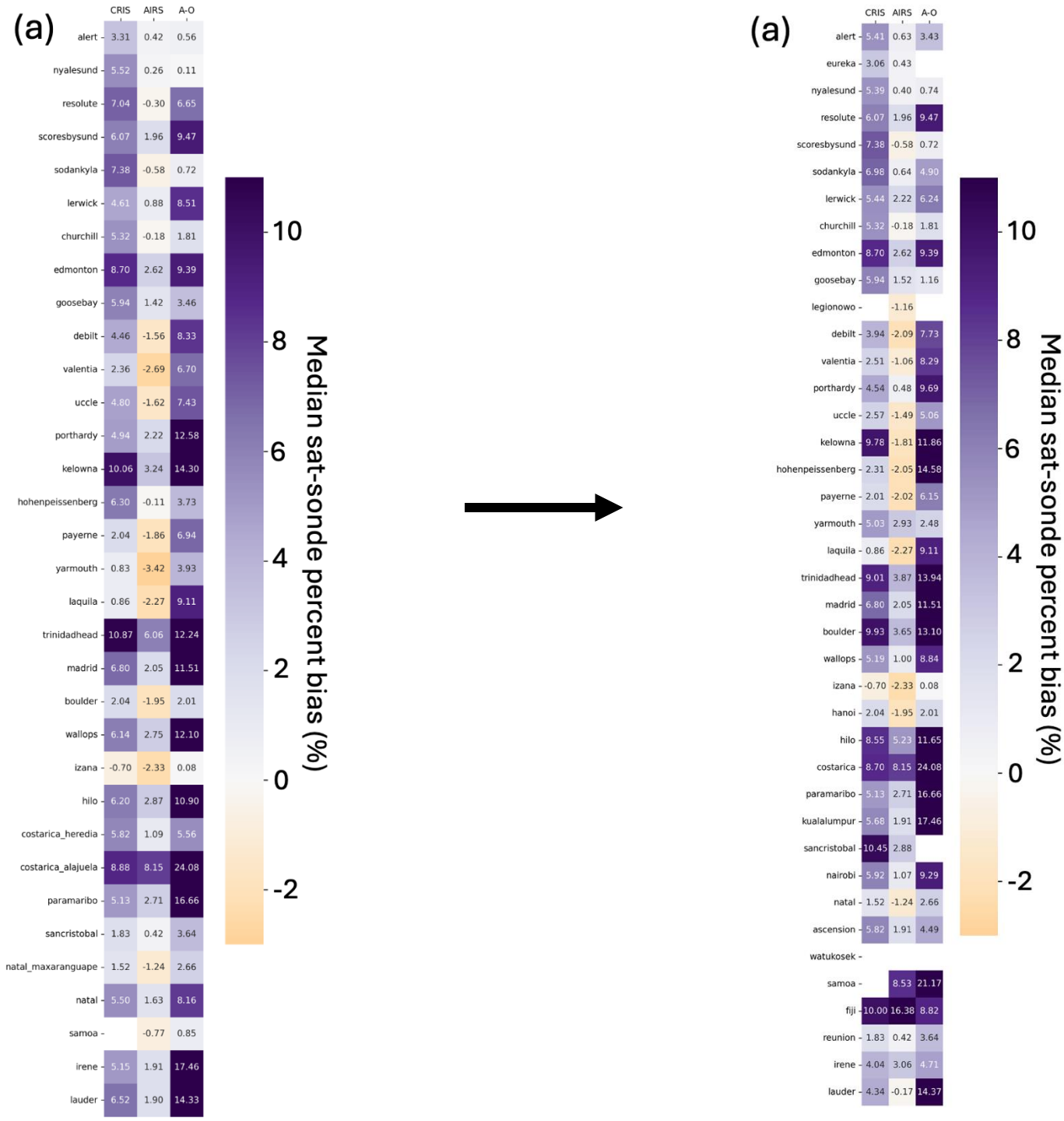


Figure S10b

Corrected site assignments, cropped to CrIS time period. Similar behavior as previously:

- Similar magnitudes
- All satellite products display both positive and negative trends
- Some sites (e.g., Hohenpeissenberg and Watukosek) do not have enough data to calculate a long-term trend.

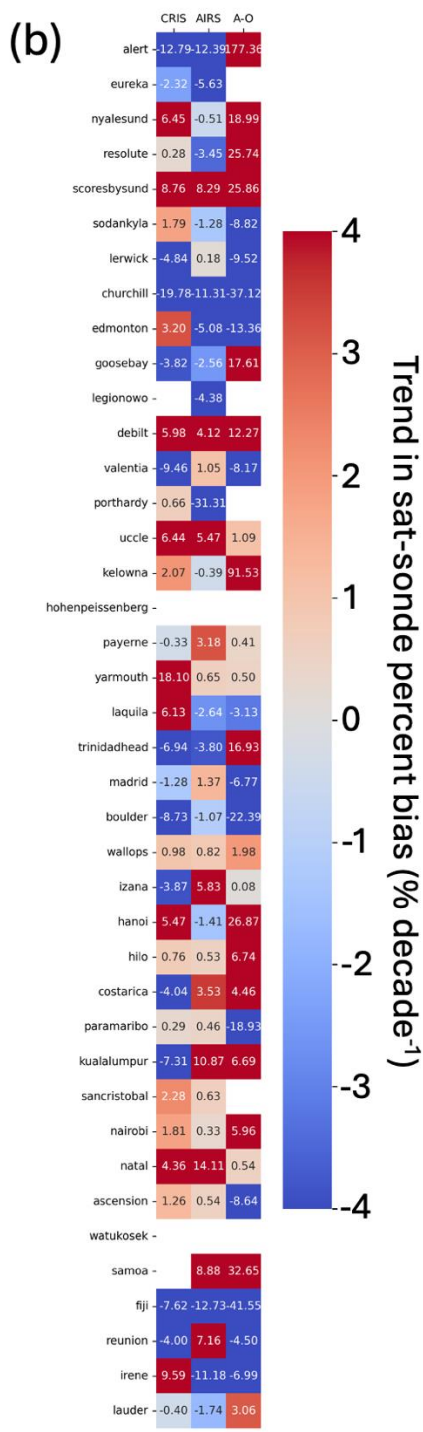
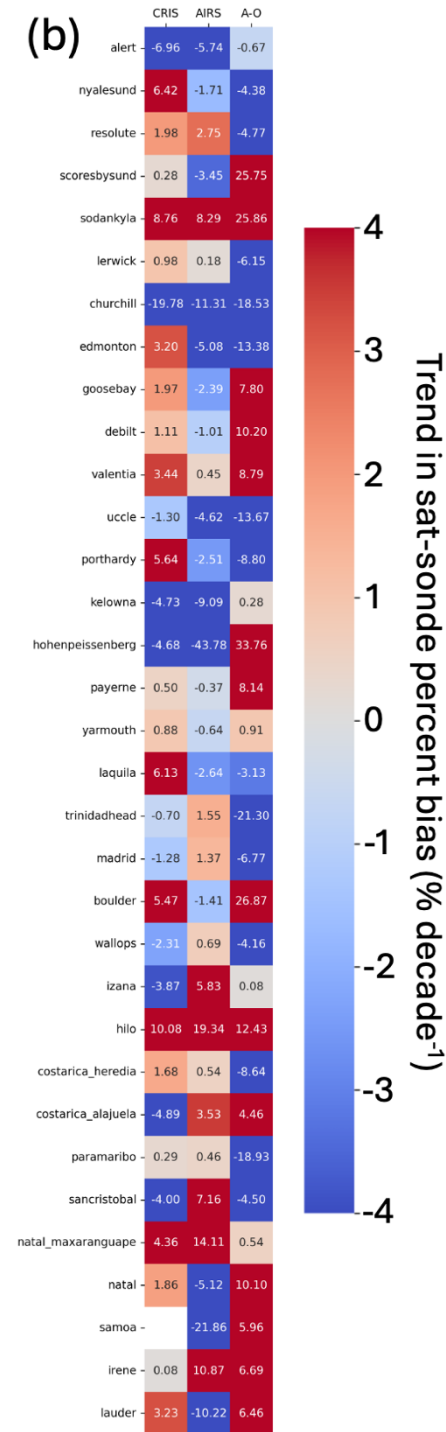


Figure S10c

Corrected site assignments, cropped to CrIS time period. Similar behavior as previously:

- The standard error of the bias is large at all sites compared to the trends in Fig. S10b, so the trends in bias are statistically insignificant
- Some sites (e.g., Hohenpeissenberg and Watukosek) do not have enough data to calculate a long-term trend.

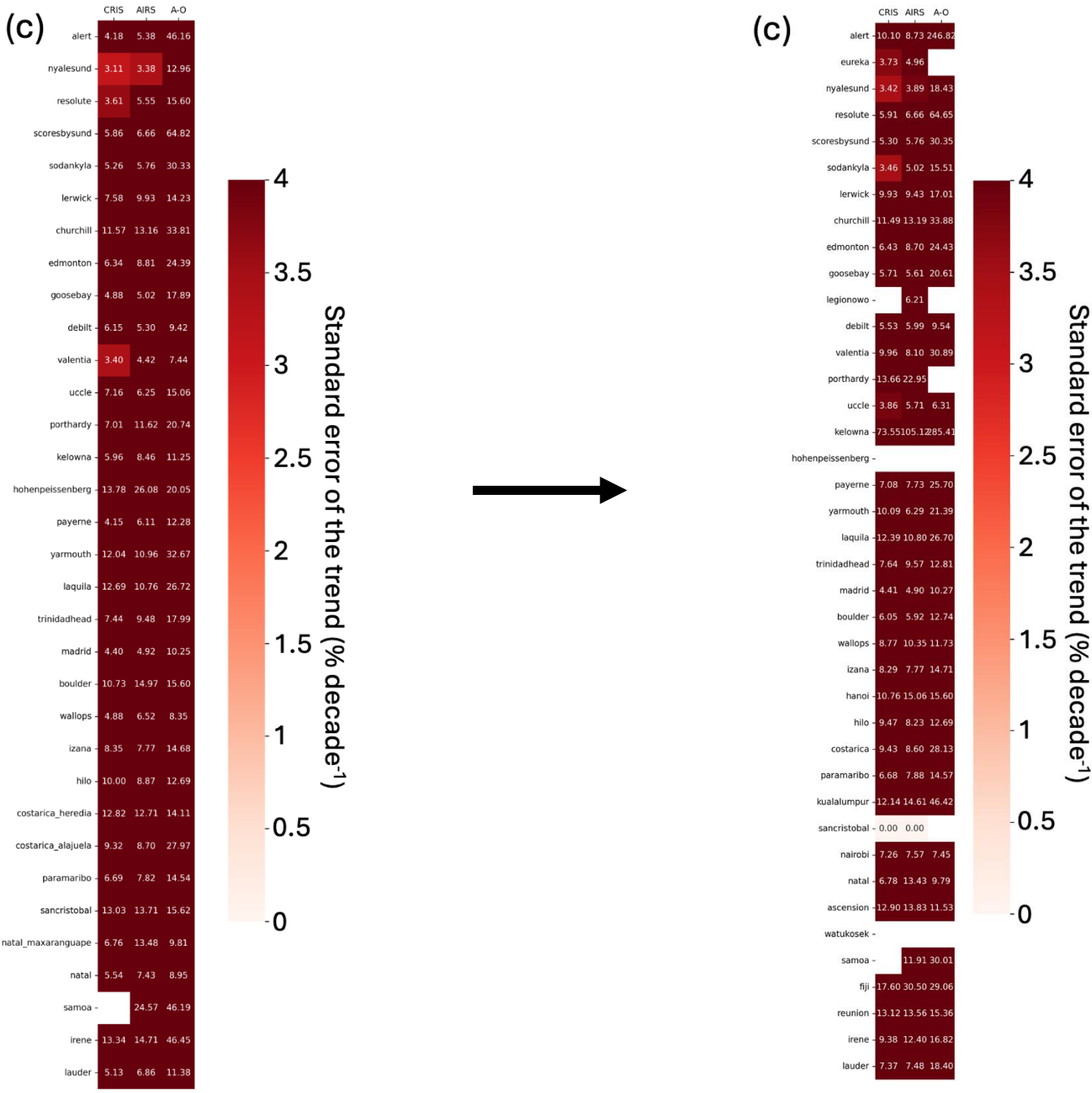


Figure S10d

Corrected site assignments, cropped to CrIS time period. Similar behavior as previously:

- Similarly high p-values (and none under the “high certainty” limit of 0.05), again suggesting that the trends in bias are uncertain
- Some sites (e.g., Hohenpeissenberg and Watukosek) do not have enough data to calculate a long-term trend.

