

Response to Reviewer #1 (In Blue)

1. Abstract: it would be useful (for users) to learn about main differences between D&H series (resolution, data format, impacts of algorithms . . .) Please see lines 31-35 of the abstract. They provide the following language. "Key refinements included in the ISCCP H-Series CDR are based on improved quality control measures, modified ancillary inputs, higher spatial resolution input and output products, calibration refinements, and updated documentation and metadata to bring the H-Series product into compliance with existing standards for climate data records." This info is a general description of the changes from the D-Series to the H-Series product.
2. Table 1 shows the comparisons of ancillary products used by ISCCP for D- and H-series. It would be very useful to have one table showing the differences between D- & H-series ISCCP products. It is the most important thing from a user perspective. As the reviewer mentions in Comment #4, the paper does identify the differences between the D-&H-Series product. An additional table highlighting the differences between the H and D series products and the impacts of these changes has been provided in an updated draft of the paper and are now included in Table 2.
3. L212-213: Pls. provide the reference for "ISCCP Climate-Algorithm Theoretical Basis Document". The reference for the ISCCP C-ATBD has been added.
4. The authors did a good job on listing the differences between D- & H-series in Sections 2-4, but it is lack of discussions on specific impacts of the changes for each. What should the users be aware of? Should they be concern about the validity of their conclusions made in their prior publications? The dataset paper introduces the users to the new H-Series product. We do not make any updates to correct issues that users have previously described in other papers. There are plans to address some calibration related issues in future re-processing. However, at this time, the v01r00 of the CDR product is basically the same D-product but processed at the higher spatial resolution. Any known issues for the D-Series product would then apply to the H-Series product. This point is referenced in Lines 295-301.
5. L233-238: What you said about "higher" or "lower" is opposite of what shows in Fig. 4 since Fig. 4 black line shows H-D. Pls. check. " The black line in Fig 4a-c shows the time series of differences for H-D. For the global case the average monthly differences are 0.21%. This means that H-Series Global Cloud Fraction is greater (higher) than D-Series. Please let me know if I misunderstand your point.
6. Fig. 4: it seems that there is a shift in H-D differences around 1994. What causes it? This appears to be an optical effect caused by the difference line crossing the CF anomaly lines -- if you look carefully there is no real change in CF anomaly between D and H versions.
7. Pls. add x-axis tick marks for all panels and add some vertical grid lines to make it easier to read years. These updates have been completed.
8. Are there differences in estimated CF trends? This is a dataset paper, we simply introduce the new H-Series and provide similarities with the D-Series product. We do not argue for or against trends in CF or other cloud properties. However, we do list references that have evaluated CF trends in the ISCCP D-Series products. Trends should be evaluated with caution.

	D-Series	H-Series	Impacts
Input Resolution	30-km, B3	10-km, B1U	Higher spatial resolution output products
Cloud Algorithm	Combination of IR and VIS, and NIR channels in polar regions	Only IR and VIS for entire period of record	Reduces low-level cloud sensitivity over snow and ice in polar regions
Metadata	N/A	CF 1.6	Improved documentation for product reproducibility
Improved/Added Ancillary Data		Example: Macv1 Aerosols Product	Increases cloud fraction due to volcanic eruptions and reduce cloud optical thicknesses in areas with larger aerosol abundances
Period of Record	07/1983–12/2009 w/ no additional production planned to extend POR	07/1983–12/2009 w/ additional production planned to extend POR	Restores research application of ISCCP data post 2009
Format	Binary	Netcdf for all products except HXS	Supported by netcdf software applications and tools
Available Products	DX (~30 km, 3hrly)	HXS (~10 km, 3hrly)	
	N/A	HXG (0.1°, 3hrly)	
	DS	HGS (1.0°, 3hrly)	
	D1 (2.5°, 3hrly)	HGG (1.0°, 3hrly)	
	D2 (2.5°, 3-hrly monthly avg.)	HGH (1.0°, 3hrly monthly avg.)	
	D3 (2.5°, monthly avg.)	HGM (1.0°, monthly avg.)	

Table 2: High-level summary of differences between ISCCP D-Series and H-Series products and their impacts. Other details on differences are provided