Re: Interactive (EC1) comment on "The International Satellite Cloud Climatology Project H-Series Climate Data Record Product" by Alisa H. Young et al.

Thank you for your comments.

Take much more care with language. We read (page 3, line 51) that the D-Series product "has not been updated beyond December of 2009". But, the new H-Series data as presented also do not, as of this submission, extend beyond 2009. The sentence in question should read 'has not been updated since' Dec 2009? Or some other confusion intervenes?

On page 3 Line 51 of the updated manuscript, the language has been revised to show that the product has not been updated since Dec. of 2009.

In the later section (Section 4.1, page 6) each description of an H-Series product includes some reference to the prior D-Series product. In some cases the authors write 'HXX represents the analog to DX'. That we can understand. In many other cases, however, we read that HXX "is like" DX. But, because of improved spatial resolution and other factors, HXX is different to, better than, but NOT like, DX? Choose a precise terminology and apply it in all comparison statements?

The language in Section 4.1 has been revised to better illustrate the parallels between the D-Series and H-Series products. The language you've mentioned that could cause confusion, has been removed/replaced with more appropriate terminology. In addition, other parts of the text have been updated to take better care in describing the ISCCP H-Series product, processing, and updates.

Recognise other contributions. The reader gets a strong sense of attention to ISCCP and recognition of ISCCP historical versions, impact and contributions, but no sense that this author team recognises any other similar or related efforts elsewhere? At least give the reader some sense that you pay attention to other efforts? Sections 1 and 2 of the paper now have more references to other cloud datasets and work that has been done to evaluate ISCCP. The language now provides more context regarding cloud datasets, and where the ISCCP products fit within that general schema.

Please note the following text that was written on this issue in response to Reviewer #2 ".....However, the updated manuscript has been modified to address the Reviewer's concerns. The Introduction of the paper now contains more references to other cloud datasets and work that has been done to evaluate global cloud characteristics and ISCCP. The language now provides more context regarding a broader scope of other cloud datasets, and addresses where the ISCCP products fit within that general schema. "

The following references have been added:

Cao, C., De Luccia, F. J., Xiong, X., Wolfe, R., and Weng, F.: Early on-orbit performance of the visible infrared imaging radiometer suite onboard the Suomi National Polar-Orbiting Partnership (S-NPP) satellite,

Evan, A. T., Heidinger, A. K., and Vimont, D. J.: Arguments against a physical long-term trend in global ISCCP cloud amounts, Geophysical Research Letters, 34(4), 2007.
Hutchison, K. D., Roskovensky, J. K., Jackson, J. M., Heidinger, A. K., Kopp, T. J., Pavolonis, M. J., and Frey, R.: Automated cloud detection and classification of data collected by the Visible Infrared Imager Radiometer Suite (VIIRS), International Journal of Remote Sensing, 26(21), 4681-4706, 2005.

Jiménez, C., Prigent, C., Catherinot, J., Rossow, W., Liang, P. and Moncet, J.L.: A comparison of ISCCP land surface temperature with other satellite and in situ observations, Journal of Geophysical Research-Atmospheres, 117(D8), 2012.

Norris, J. R.: What can cloud observations tell us about climate variability? Space Sci. Rev., 94(1–2), 375–380, 2000.

Platnick, S., King, M. D., Ackerman, S. A., Menzel, W. P., Baum, B. A., Riédi, J. C., and Frey, R. A.: The MODIS cloud products: Algorithms and examples from Terra, IEEE Transactions on Geoscience and Remote Sensing, 41(2), 459-473, 2003.

Raschke, E., Bakan, S., and Kinne, S.: An assessment of radiation budget data provided by the ISCCP and GEWEX-SRB, Geophysical Research Letters, 33(7), 2006.

Stengel, M., Stapelberg, S., Sus, O., Schlundt, C., Poulsen, C., Thomas, G., Christensen, M., Henken, C.C., Preusker, R., Fischer, J. and Devasthale, A.: Cloud property datasets retrieved from AVHRR, MODIS, AATSR and MERIS in the framework of the Cloud_cci project, Earth System Science Data, 9(2), 881, 2017.

Stubenrauch, C.J., Rossow, W.B., Kinne, S., Ackerman, S., Cesana, G., Chepfer, H., Di Girolamo, L., Getzewich, B., Guignard, A., Heidinger, A. and Maddux, B.C.: Assessment of global cloud datasets from satellites, A Project of the World Climate Research Programme Global Energy and Water Cycle Experiment (GEWEX) Radiation Panel, 2012.

Stubenrauch, C.J., Rossow, W.B., Kinne, S., Ackerman, S., Cesana, G., Chepfer, H., Di Girolamo, L., Getzewich, B., Guignard, A., Heidinger, A. and Maddux, B.C.: Assessment of global cloud datasets from satellites: Project and database initiated by the GEWEX radiation panel, Bulletin of the American Meteorological Society, 94(7), 1031-1049, 2013.

You should cite ESSD-2017-48 as it predates your contribution in the same journal?

We now cite ESSD-2017-48 in the introduction of the text where more references are now included to highlight a broader collection of other cloud datasets. (Please see added references listed above).

Use ESSD-2017-48 as an example? What do they include that you might also include?
ESSD-2017-48 is a good paper. However, it introduces a new dataset. ISCCP is not new although the H-Series product does provide a new version of the dataset with updates outlined in the text. There is much documentation on ISCCP. Thus, the specific elements captured in the text for ESSD-2017-48 does not need to be captured to the same degree for the ISCCP H-Series paper. Moreover, the paper is designed to highlight the general updates of the product. The reader may also refer to the full 179pp ISCCP H-Series Climate-Algorithm Theoretical Basis Document (C-ATBD) which is already publicly available.

Show ISCCP as a fresh relevant contribution. Google Analytics showing that a 25 year old paper, Rossow and Schiffer 1991, has 1500 citations, does not send the message you want.
The message that we would like to send is that ISCCP has a long legacy. Although, the figure is not new and informative for this particular reader, you assume that all users will be aware of its history and relevance. However, this is not the case. Figure 1, provides some context regarding why continuing ISCCP, beyond its 2009 product updates is beneficial to the climate and modeling communities and also highlights its accomplishments as a dataset. Yes, the earlier references are old. However, all papers do not have this frequency of reference. Do citations, no longer mean anything? I argue that they do and that it is highly valuable and worth continuation, despite the (fixable) flaws within the product and its competition with other datasets that rely on more advanced methods based on technologically superior instruments.
If you want to use citation statistics, perhaps citations of ISCCP since 2015 from Google Scholar?
I did not find Figure 1 useful or informative. (Please see previous response).

In an additional paragraph or two, answer both the 'what do I need to know to use this new version' question from reviewer 1 and, by citing key papers from the ISCCP literature, at least show that you know that other researchers have evaluated and reported on accuracy and validation questions from reviewer 2.
These points have been addressed. Table 2 has been added to satisfy Reviewer 1 who requested that the key differences between the D and H-Series products be better highlighted and again, additional language has been added in the Introduction to highlight the contributions of other datasets for cloud detection and retrieval.