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Interactive comment on "The International Satellite Cloud Climatology Project H-Series Climate Data Record Product" *by* Alisa H. Young et al.

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I insert this editorial comment to recognise and help resolve disparate recommendations of two reviewers, to add some review comments of my own, and to clarify the intent of ESSD.

First, I thank both reviewers for good efforts! Reviewing a data set for ESSD requires more time and more effort than reviewing a paper for a research journal. If, in this case, the review process took longer than expected, in the end we have two thoughtful reviews to evaluate.

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Discussion paper

As the open discussion forum shows, one review asks for clarification of the differences (improvements?) of the newly-submitted version of ISCCP data, e.g. H (new) vs D (prior), and explicit guidance for users adopting the newer product but recommends publication. A second review notes that the manuscript fails to explicitly evaluate the impact of ISCCP products in relation to other satellite-based cloud climatologies and lacks a validation section; this second reviewer recommends rejection.

I hope I understand both viewpoints but I also hope I see a larger picture. I see, for example, that the ESA Cloud CCI (the only serious 'competitor' to ISCCP from the list recited by reviewer 2, as the other products in that list represent narrower efforts focused on fewer sensors, generally - as the NCAR mirror of the EUMETSAT CM SAF product reports - "still not of sufficient quality to allow global climate trend analysis") has submitted its own data description to ESSD: ESSD-2017-48, accepted for publication. Some reasons for the disparities evident in the reviews emerge from comparison of these two data descriptions. We find one long-standing (ISCCP) and one very new (ESA Cloud CCI) product. ISCCP has decades of evaluation and scrutiny (including validation and invalidation) in the cloud and climate literature. ESA Cloud CCI seeks to establish their own identity and credentials with this first ESSD product. ISCCP quotes WCRP and CDR (climate data records) while ESA Cloud CCI quotes GCOS and ECV (essential climate variables). WCRP and GCOS represent close partners but, in addition to technical distinctions, CDR and ECV tend to have geographic identities: CDR prevalent in North America and US science agencies, ECV prominent in Europe and European science agencies. ISCCP present 3-hourly data at 10 km, but only at two wavelengths. ESA Cloud CCI presents multi-spectral data but mostly in monthly averages. ISCCP uses polar orbiting and geostationary satellites; ESA Cloud CCI focuses entirely on polar orbiters. ISCCP uses international satellite data streams to cover the globe, ESA Cloud CCI uses European and US satellites to cover 60N to 60S. Itemising these differences and their plausible influence on reviewer's viewpoints obscures a fundamental and very positive fact: through ESSD, users can get free and well-documented access to both data products!

(And, I note, to a third related data product on satellite-derived water vapour measurements - ESSD-2017-128, newly submitted - involving authors from both the ISCCP and ESA Cloud CCI communities.)

Review 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? 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?

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? You should cite ESSD-2017-48 as it predates your contribution in the same journal? Use ESSD-2017-48 as an example? What do they include that you might also include?

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. 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.

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.

In summary, for ESSD, I tend to think the ISCCP submission qualifies as a valid and useful data product. For ESSD we expect authors to provide an interesting data set with potential wide application, with sufficient detail to assure quality and reproducibility, and with sufficient graphic or tabular examples to demonstrate quality and utility. We recognise and support the probability of periodic data updates. ESSD does not invite or expect full rigorous scientific analysis of the data. Taking the present examples, ESSD encourages ESA Cloud CCI and ISCCP to describe and share their data but we would not expect either to conduct a full intercomparison with the other. That intercomparison very likely represents an important and valuable scientific contribution, but for publication in ACP, Jnl of Climate or BAMS, not ESSD. If the ESSD process has succeeded, researchers conducting that intercomparison will enjoy open access and detailed descriptions.

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