

Interactive comment on “ObsPack: a framework for the preparation, delivery, and attribution of atmospheric greenhouse gas data” by K. A. Masarie et al.

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[Reviewer] Title: the word “data” is ambiguous and misleading for many readers. For instance, the paper does not demonstrate that Obspack is technically fit for the distribution of large-volume satellite data, of TCCON data, or of 4D model data (either from raw forward simulations or from a data assimilation process). The title should therefore be rewritten to narrow the paper scope.

[Authors] It is true the term “data” is used with varying meanings within the atmospheric greenhouse gas measurement, modeling, and satellite retrieval communi-

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ties. We are careful to define how we use the term “data” in the abstract and in the introduction, and thought “atmospheric greenhouse gas data” in the title would be unambiguous. To improve our meaning in the title, we have replaced the term “data” with “measurements”. While the ObsPack framework was developed with atmospheric greenhouse gas measurements in mind, the methodology and concepts are likely applicable to large-volume data sets like TCCON and 4D model output. CarbonTracker has already used the ObsPack framework to distribute a subset of model data (<http://www.esrl.noaa.gov/gmd/ccgg/obspack/data.php>), and the 4D model fluxes and mole fractions are already distributed with metadata using the netCDF protocol (<http://www.esrl.noaa.gov/gmd/ccgg/carbontracker/download.html>).

[Reviewer] P. 496, l. 7: Data products created using Obspack actually do not all represent the next generation of value-added observation products after Globalview. For instance, an MLO measurement record available within an Obspack package is not a value-added product. There are also certainly value-added observation products that are not packaged with Obspack. The sentence should be rewritten more sharply.

[Authors] Point noted. We have modified the text to read “. . .represent a next generation of value-added products. . .”.

[Reviewer] P. 497, l. 28: I suggest rephrasing as “: : : as *more* modellers using **assimilation strategies”. Indeed these assimilation strategies (like ensemble or variational Bayesian methods) were already well established well before 2007 and scientific papers using them for GHG measurements appeared before 2007.

[Authors] Done.

[Reviewer] P. 498, l. 2: I suggest inserting “synthesis” between “new” and “products”, in order to precise the need.

[Authors] This point is well taken. Modeler’s were indeed in need of a new synthesis product. However, we want to be clear to all readers that 1) we are describing a new

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“data” product, which includes either original data or values derived from original data; and 2) as a data product, it will likely be useful in studies other than synthesis. We have inserted the word “data” instead. The reviewer may again suggest the word “data” is ambiguous. In the abstract and introduction we define what we mean by “atmospheric greenhouse gas data”.

[Reviewer] P. 498, l. 3: the authors seem to ignore their own beneficial role or the role of WDCGG.

[Authors] We recognize the role of NOAA, WDCGG, and the many laboratories that have made their data easily and readily available. The WDCGG is acknowledged elsewhere in the text and individual data providers are explicitly listed in the acknowledgement.

[Reviewer] P. 498, l.23: if Obspack is as successful as Globalview, most PIs will receive about 1,000 Emails each year. I doubt that this is really manageable by humans who would not dedicate a large portion of their time for this, and therefore that the communication target (as stated at the beginning of Section 5) of this procedure can be properly reached.

[Authors] The use of automated e-mails has been discussed with the measurement community at GGMT-2011, GGMT-2013, and in subsequent e-mail correspondence. However, if the reviewer is correct, we believe this problem will be welcomed by most measurement PIs. In the past, many providers have not known how their data were being used and by whom. Nonetheless, we too have recognized this potential and have mentioned to providers that they can configure their e-mail client to automatically redirect these e-mails to a folder on their local server (for later reference), or they can elect to not receive these automated e-mails.

[Reviewer] P. 506, l.10: the stated obligation to discuss work with PIs at early stage may be impractical. Indeed, researchers will unlikely discuss early research ideas, because such formal communication may often slow down research, may unnecessarily

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raise expectations for some of the PIs, and for ideas that may be later abandoned or reoriented or collected by competitors through this communication process itself. What will often likely happen in practice is that researchers will do most of their research on WDCGG-type hubs or from undeclared redistributed Obspack datasets first, before getting in the open once the paper, if there is one is nearly ready.

[Authors] We acknowledge that in some instances it may not be practical. However, in reality, data providers are often notified by researchers only as a manuscript is submitted to a journal or, in some instances, not at all. This is unacceptable and a disservice to both users and providers. Users will develop a better understanding and appreciation of data by communicating with those directly responsible for the measurements. And, providers can better understand how their data are being used and perhaps learn from users what additional metadata could be provided that would greatly enhance their value. We hope product users will communicate in good faith with data providers early in the process.

[Reviewer] P. 511, l.19, TANSO, plus SCIAMACHY, IASI, etc. satellite retrievals are also available through ESA's portal <http://www.esa-ghg-cci.org/>.

[Authors] We have included these additional retrievals in the text. We also recognize the list of observations and products highlighted in the conclusions is not exhaustive and have added the words, "A partial list includes:"

[Reviewer] P. 512, Gloor's first initial is E. here but M. in p. 513, l. 5. But this is likely the same person.

[Authors] Thank you for bringing this to our attention. Emanuel Gloor uses both Emanuel and Manuel, which creates some confusion. For consistency in this paper, we changed E. Gloor to M. Gloor.

* The revised manuscript is included as a supplemental PDF file.

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Please also note the supplement to this comment:

<http://www.earth-syst-sci-data-discuss.net/7/C270/2014/essdd-7-C270-2014-supplement.pdf>

Interactive comment on Earth Syst. Sci. Data Discuss., 7, 495, 2014.

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