

Review of ICARTT file format implementation and operational suitability

Implementation Experience questions:

1. *(Your background)* While I participated in campaigns where the format was used, it was as a satellite data provider. I never actually had to implement the format as either a data provider or user. Nonetheless, I do have opinions, mostly favorable, about the format.
2. *(Completeness)*
It would be useful if the specification were extended in two ways, which are both straightforward: (1) 2-D and 3-D geolocation. For satellites, but also potentially for other types of measurement, it would be useful to have the ability to specify measurement pixel (e.g., as 4 corners and a center location, or as left, center, and right of a spatial scan), and vertical extent of a measurement (perhaps as a series of values retrieved for a layered atmosphere. (2) The treatment of uncertainties could be improved to include random and systematic errors separately, and to include such things as degrees-of-freedom of signal, a priori contributions to values, and smoothing errors. The degree of confidence (i.e., 1-sigma, etc) is OK handled in the metadata as in one of the examples.
3. *(Accuracy)* OK
4. *(Clarity)* OK
5. *(Usefulness)* Very well indeed. I think this is a terrific format that, with the suggested modifications, should be standard.
6. *(Implementation)* N/A

Operational Suitability questions:

7. *Do you currently use or plan to use the ICARTT format in a production setting? Do you plan to distribute data in this format to science collaborators and other researchers?* Not at present, but that could change.
8. *Why do you choose to use the ICARTT format over other data formats for your applications?* N/A
9. *Does the ICARTT file format meet your requirements for storing and accessing data?* For campaign data, as modified. Not for ongoing data products.
10. *Have you or your users encountered any difficulty when using some of the data in the ICARTT format?* Not to my knowledge.
11. *What operational challenges or limitations does ICARTT present? Please provide details.* Unsuitable for large sets of data products.

12. *What benefits does the ICARTT file format present? Are there any drawbacks to using this file format? (e.g., Does it offer the flexibility you want to package the data types in your applications? Does it facilitate interdisciplinary studies?)* Yes and yes.
13. *How much data do/will you provide or archive in the ICARTT format? (Number of distinct data sets, total data volume, number of files.)* No plans for any at the moment, but that could change with measurement types and new campaigns.
14. *How many users do you have or expect to have for data in the ICARTT format, and what is your expected user community?* Unsure.
15. *(User comments) Any additional comments, observations or criticisms of the ICARTT format and the RFC can be provided here.* N/A