**Product Quality Metrics: Project & DAAC Checklists**

G. Hunolt, June 17, 2013

The cooperative agreement for MEaSUREs-2012 projects includes a requirement that Product Quality Checklists be completed. The following paragraph is reproduced from Appendix A, Product Quality Checklists.

"Product quality is considered to be a combination of scientific quality of the data and the completeness of associated documentation and ancillary information. The responsibility for the product quality is shared between the projects generating the ESDRs and the DAACs that eventually archive and distribute them. Through discussions with the MEaSUREs 2006 projects, a pair of checklists has been established. The first is to be filled by the projects generating the ESDRs and the second by the DAACs responsible for archiving and distributing them. As the projects progress through the development, production and transition of the ESDRs to the DAACs, these checklists should be filled in periodically. The suggested interval is 6 months, starting with the routine generation of products until the end of the project (and completion of product transfer to the DAACs)."

The cooperative agreement contains nominal reporting milestones for Product Quality Checklists at 36, 42, 48, 54, and 60 months. If routine generation of a standard product(s) begins before, or after, the 36th month, then the first checklists for that product(s) would be required earlier or later, i.e. when the routine production actually begins.

The products documented in the checklists should be those new ESDRs developed by the project under MEaSUREs funding. Other products that the project might produce, such as intermediate products, non-MEaSUREs legacy products, etc., should not be documented on the checklists.

The header information at the top of each form is used to link project and DAAC checklists, for example to document that project and DAAC points of contact for the ESDR or the ESDR Group have been appointed and are aware of each other.

The checklists should be completed for each ESDR, or group of ESDRs that are handled as a package by a project or DAAC. The project and DAAC can make as many copies of the tables as needed, and fill in responses for each ESDR or group of ESDRs.

When a checklist is completed for a group of ESDRs, the response to the question "ESDRs Included in Group" should be a list of the included ESDRs, using for each a short descriptive name (ideally a name used generally for the ESDR, such as for its entry in the GCMD (Global Change Master Directory). If Digital Object Identifiers (DOIs) have been assigned to the ESDRs at the time the checklists are filled, the DOIs should be included as well.

The response to each question (in the box following each question) would be 'yes', 'partial', or 'no'. Explanations of a ‘partial’ or negative response or any other explanatory comments would be entered into the ‘comments’ row below each question. The comments may be as long as needed; as text is entered into the comment fields they will grow to accommodate it, and the number of pages occupied by the checklist will grow as needed. With succeeding versions of the checklists for a given ESDR or group of ESDRs, 'partial' and negative responses should be resolved as progress is made.

Brief comments are very helpful, and requested, even when the response is a simple "yes".

The intended audience for the checklists is NASA MEaSUREs program management and science staff. Comments should be self-standing, i.e. perhaps including references, but not only references.

The project P.I. is asked to coordinate with the partner DAAC and ensure that project and DAAC checklists are complete and consistent and provide the set of project and DAAC checklists to e-Books as Other Documents -> Others.

The two tables that follow on the next pages are the blank Project and DAAC checklists.

|  |  |  |
| --- | --- | --- |
| **Project ESDR / EDSR Group Checklist** | **Date:** | |
| **ESDR or ESDR Group Name:** | | |
| **P.I. Name:** | | |
| **Project Name:** | | |
| **Project Point of Contact:** | | |
| **DAAC Name:** | | |
| **DAAC Point of Contact:** | | |
| **ESDRs included in Group:** | | |
| **Science Quality Level** | | **Response** |
| **1. Have the data been evaluated by external users? (Summarize results)** | |  |
| Comment: | | |
| **2. Is the data set complete as proposed? (Explain 'partial').** | |  |
| Comment: | | |
| **3. Is the data set consistently processed as proposed? (Explain 'partial').** | |  |
| Comment: | | |
| **4. Are uncertainties estimated and documented, including in their spatial or temporal dimension?** | |  |
| Comment: | | |
| **5. Have the data been validated, i.e. ‘assessed for uncertainties, to the extent possible by comparison with alternative measurements’?** | |  |
| Comment: | | |
| **6. Have differences between new products and any comparable existing products been documented?** (Explain how, in what ways) | |  |
| Comment: | | |
| **7. Have promised improvements in the new data compared to existing products been achieved?** | |  |
| Comment: | | |
| **8. Have the ESDR’s algorithm or analysis method, product description and product evaluation results been published in peer-reviewed literature?** | |  |
| Comment: | | |
| **Documentation Quality Level** | | **Response** |
| **1. Is the data format well and completely described and/or is a commonly accepted appropriate standard format used?** | |  |
| Comment: | | |
| **2. Has data format description been provided to the DAAC?** | |  |
| Comment: | | |
| **3. Are the algorithm and processing steps described?** | |  |
| Comment: | | |
| **4. Have algorithm and processing steps description been provided to DAAC?** | |  |
| Comment: | | |
| **5. Is the metadata complete?** | |  |
| Comment: | | |
| **6. Is the documentation of the metadata complete?** | |  |
| Comment: | | |
| **7. Has documentation of the metadata been provided to the DAAC?** | |  |
| Comment: | | |
| **Usage and Satisfaction** | | **Response** |
| **1. If project is distributing products, is the targeted community using the data? (Indicate trend)** | |  |
| Comment: | | |
| **2. If project is distributing products, is the broader community using the data? (Indicate trend)** | |  |
| Comment: | | |
| **3. If project is distributing products, are users satisfied with the data product? (Indicate trend)** | |  |
| Comment: | | |

|  |  |  |
| --- | --- | --- |
| **DAAC ESDR / ESDR Group Checklist** | **Date:** | |
| **ESDR or ESDR Group Name:** | | |
| **DAAC Name:** | | |
| **DAAC Manager:** | | |
| **DAAC Point of Contact:** | | |
| **Project P.I. Name:** | | |
| **Project Name:** | | |
| **Project Point of Contact:** | | |
| **ESDRs included in Group:** | | |
| **Science Quality Level** | | **Response** |
| **1. Have differences between new products and any comparable existing products been documented? (Summarize results)** | |  |
| Comments: | | |
| **Documentation Quality Level** | | **Response** |
| **1. Is the data format well and completely described and/or is a commonly accepted appropriate standard format used?** | |  |
| Comments: | | |
| **2. Are the algorithm and processing steps described?** | |  |
| Comments: | | |
| **3. Is the metadata complete?** | |  |
| Comments: | | |
| **4. Is the documentation of the metadata complete?** | |  |
| Comments: | | |
| **Accessibility / Support Services Quality** | | **Response** |
| **1. Is it easy for users to discover the data?** | |  |
| Comments: | | |
| **2. Is it easy for users to access the data?** | |  |
| Comments: | | |
| **3. Are tools and services that enable reading and use of the data readily available?** | |  |
| Comments: | | |
| **4. Are there existing tools for analysis of this data set?** | |  |
| Comments: | | |
| **5. Can the users get help with discovery, access and use of the data?** | |  |
| Comments: | | |
| **Usage and Satisfaction** | | **Response** |
| **1. For products distributed by DAAC, is the targeted community using the data?** | |  |
| Comments: | | |
| **2. For products distributed by DAAC, is the broader community using the data? (Indicate Trend)** | |  |
| Comments: | | |
| **3. For products distributed by DAAC, are users satisfied with the data product? (Indicate Trend)** | |  |
| Comments: | | |