A Guide to the Data Analysis of the ECV Inventory

* **Overall rating = Length/30+GAVG+Utility+resolution**
* **Pillar I or Sensing Pillar: Length** (length of the data record) = end date – start date
* **Pillar 2 or Climate Record Creation and Preservation Pillar: GAVG** (average of the G factors) = ( G1 + …..+ G12) /12
* G1 through G12 are measures of how well the data satisfies the GCOS-143 Guidelines 1-12 (included below)
  + G1=(COUNTIF(fcdr\_organization,"\*")+COUNTIF(tcdr\_organization,"\*")+COUNTIF(satellite1,"\*")+COUNTIF(cdr\_generation\_link,"\*"))/
  + G2=(COUNTIF(calibration\_organization,"\*")+COUNTIF(intercalibration\_organization,"\*")+COUNTIF(calibration\_in\_situ\_network,"y\*"))/3
  + G3=(COUNTIF(gcos\_requirements\_assessments,"\*")+COUNTA(horizontal\_resolution)+COUNTA(vertical\_resolution)+COUNTA(temporal\_resolution)+COUNTA(accuracy)+COUNTA(stability)+COUNTIF(gcos\_compliance\_assessment,"y\*"))/7
  + G4=COUNTIF(independent\_peer\_review\_organi,"\*")+COUNTIF(stability\_and\_homogeneity\_link,"\*"))/2
  + G5=(COUNTIF(independent\_peer\_review\_organi,"\*")+COUNTIF(scientific\_process\_link,"\*"))/2
  + G6=COUNTIF(coverage,"\*")
  + G7=COUNTIF(archiving\_organization,"\*")
  + G8=(COUNTIF(user\_service\_organization,"\*")+COUNTIF(contact\_email,"\*")+COUNTIF(fcdr\_availability,"\*")+COUNTIF(data\_format,"\*")+COUNTIF(data\_access,"\*")+COUNTIF(dissemination,"\*")+COUNTIF(data\_documentation\_link,"\*")-COUNTIF(fcdr\_availability,"no\*")-COUNTIF(data\_format,"no\*")-COUNTIF(data\_access,"no\*"))/7
  + G9=COUNTIF(data\_release\_period\_months,"\*")+COUNTA(data\_release\_period\_months)
  + G10=COUNTIF(user\_feedback\_organization,"\*")
  + G11=COUNTIF(maturity\_index\_link,"y\*")
  + G12=(COUNTIF(gcos\_requirements\_assessments\_,"\*")+COUNTIF(archiving\_organization,"\*")+COUNTIF(independent\_peer\_review\_compli,"y\*"))/3
* **Pillar 3 or Applications Pillar: Resolution** is a rating of 0 to 1 that weights the horizontal resolution, vertical resolution, temporal resolution, accuracy, and stability fields equally. If there is text or numbers in those fields than 0.2 is added.
* **Pillar 4 or Decision Making Pillar: Utility** is a rating of 0 or 1, 0 if the record has no description for the use and 1 if the description is included
* GCOS-143 Guidelines used to generate G1 through G12

1. Full description of all steps taken in the generation of FCDRs and ECV products, including algorithms used, specific FCDRs used, and characteristics and outcomes of validation activities

2. Application of appropriate calibration/validation activities

3. Statement of expected accuracy, stability, and resolution (time, space) of the product, including, where possible, a comparison with the GCOS requirements

4. Assessment of long-term stability and homogeneity of the product

5. Information on the scientific review process related to FCDR/product construction (including algorithm selection), FCDR product quality and applications

6. Global coverage of FCDRs and products where possible

7. Version management of FCDRs and products, particularly in connection with improved algorithms and reprocessing

8. Arrangements for access to the FCDRs, products and all documentation

9. Timeliness of data release to the user community to enable monitoring activities

10. Facility for user feedback

11. Application of a quantitative maturity index if possible

12. Publication of a summary (a webpage or peer-reviewed article) documenting point-by-point the extent to which this guideline has been followed