

| Maturity | Sensor Use | Algorithm stability | Metadata & QA | Documentation | Validation | Public Release | Science & Applications |
|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| 1 | Research Mission with limited period of record | Significant changes likely | Incomplete | Draft Operational Algorithm Description (OAD) | Minimal | Limited data availability to develop familiarity | Little or none |
| 2 | Research Mission with limited period of record | Some changes expected | Research grade (extensive) | OAD Version 1+ | Uncertainty estimated for select locations/times | Data available but of unknown accuracy; caveats required for use. | Limited or ongoing |
| 3 | Research Mission with sufficient period of record | Minimal changes expected | Research grade (extensive); Meets international standards | Peer-reviewed OAD and product descriptions | Uncertainty estimated over widely distribute times/location by multiple investigators; Differences understood. | Data available but of unknown accuracy; caveats required for use. | Provisionally used in applications and assessments demonstrating positive value. |
| 4 | Operational Mission with sufficient period of record | Minimal changes expected | Stable, Allows provenance tracking and reproducibility; Meets international standards | Public Operational Algorithm Description (OAD); Peer-reviewed product descriptions | Uncertainty estimated over widely distribute times/location by multiple investigators; Differences understood. | Data archived and available but of unknown accuracy; caveats required for use. | Operationally used in applications and assessments demonstrating positive value. |
| 5 | All relevant research and operational missions; unified and coherent record demonstrated across different sensors | Stable and reproducible | Stable, Allows provenance tracking and reproducibility; Meets international standards | Public OAD and Validation Plan; Peer-reviewed product and validation articles | Consistent uncertainties estimated over most environmental conditions by multiple investigators | Multi-mission record is archived and publicly available with associated uncertainty estimate | Used in published applications and assessments by different investigators |
| 6 | All relevant research and operational missions; unified and coherent record over complete series; record is considered scientifically irrefutable following extensive scrutiny | Stable and reproducible; homogeneous and published error budget | Stable, Allows provenance tracking and reproducibility; Meets international standards | Product, algorithm, validation, processing and metadata described in peer-reviewed literature | Observation strategy designed to reveal systematic errors through independent cross-checks, open inspection, and continuous interrogation | Multi-mission record is publicly available from Long-Term archive | Used in multiple published applications and assessments by different investigators |
| Comments for Maturity rating Avg rating = 3.3 | POR=1980 to present multiple GEOs intercalibrated using SNO technique with HIRS commonly used by many | Code documented throughout Multiple papers published Source code is packaged and deployable | Users manual available. Public website contains everything one needs FGDC compliant | Source code is packaged and deployable Multiple papers published Algorithm Techniques published in papers | Data compared against HIRS. Calibration from ISCCP also depends on comparison with AVHRR. Both are quite stable | Data in archive and available on ftp server | Used by many applications, but not operationally (otherwise this would be a 4-5) |