

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
<p>Comments for Maturity rating</p> <p>Avg rating = 3.9</p>	<p>POR 1854 to present</p> <p>ship and buoy data consists of (ICOADS2.4 + marine obs after 2006)</p> <p>NOTE: pseudo calibration uses average statistical adjustment factors not instrumental</p> <p>Historical data has large uncertainty</p>	<p>Code documented throughout</p> <p>Multiple papers published</p> <p>Source code is packaged and deployable</p>	<p>FGDC compliant</p> <p>User Manual available</p>	<p>Algorithm techniques published in multiple papers</p> <p>Internal wiki page with overview, flow chart, white papers, and code descriptions</p> <p>Source code is packaged and deployable</p>	<p>comparisons made with equivalent products e.g., HadSST and GSST</p> <p>comparisons with simulations (e.g., GFDL CM2.1 but need others)</p> <p>comparisons among previous versions</p>	<p>Data archived and available on ftp server</p> <p>Product updated monthly</p>	<p>Well published and referenced research</p> <p>Most recent version will need a paper after testing MetOffice adjustment factors and new ICOADS release</p>