

# ECMWF Copernicus Procurement

## Invitation to Tender



## Copernicus Climate Change Service

Technical Support for the Management of  
ECMWF's ECVs Contracts

## VOLUME II: Specification of Requirements

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# 1 Introduction

The Copernicus Climate Change Service (C3S), implemented by the European Centre for Medium-Range Weather Forecasts (ECMWF) on behalf of the European Union, develops and delivers authoritative, quality-assured information about the past, current and future states of the climate in Europe and worldwide. It aims to a) inform policy development to protect citizens from climate-related hazards such as high-impact weather events, b) improve the planning of adaptation practices for key human and societal activities, and c) promote the development of new applications and services for the benefit of society.

To support these goals, C3S provides reliable, open and free access to a wide variety of datasets via its Climate Data Store (CDS, accessible via <https://cds.climate.copernicus.eu/cdsapp#!/home>), including Climate Data Records (CDR) consistently derived from satellite observations, together with “Interim” extensions of those Climate Data Records (ICDR) based on recent observations that can be used to monitor climate change. C3S and its partners in Europe have made substantial progress in enhancing the capabilities for sustained generation of CDRs. The role of C3S is to facilitate the transition from research to operations by ensuring reliable access to the CDRs and all information needed to use them effectively. C3S relies on third parties for the development, production and updating of CDRs and ICDRs, together with technical documentation and specialist support as needed. The CDRs and ICDRs currently available on the CDS include a range of Essential Climate Variables (ECV) products (see also GCOS-245, available at <https://library.wmo.int/records/item/58111-the-2022-gcos-ecvs-requirements-gcos-245>) in the following domains:

- atmospheric physics,
- atmospheric composition,
- ocean,
- land hydrology,
- cryosphere, and
- land biosphere.

New Invitations to Tender (ITT) for provision of ECV products and services in each of the aforementioned domains will be issued in 2024 so that these new ECV contracts (see corresponding table in section 2.1) will provide continuity to the ECV services currently implemented in C3S.

**This ITT is for the provision of the technical support required by ECMWF for the management of operational ECVs contracts. The support provided by the Successful Tenderer will primarily involve their team of technical experts conducting thorough reviews of the numerous deliverables outlined in the new ECVs contracts. Additionally, the Successful Tenderer will be tasked with maintaining and updating master files, which will serve as comprehensive records of up-to-date progress achieved in each of the new ECVs contracts.**

The scope of the service and the corresponding technical requirements are detailed in section 2.

## 2 Technical requirements

### 2.1 Scope of the service

The Successful Tenderer of this ITT shall provide ECMWF with the technical support needed for the management of all ECV contracts under implementation during the period of the service subject of this ITT (see section 3.1). This includes, without being limited to, the following activities:

- To review all technical deliverables and milestones of the new ECV contracts while ensuring that they comply with the corresponding technical and contractual requirements;

- ❑ To monitor the status of all deliverables and milestones of the ECV contracts, i.e. to keep track of their delivery and completion with regards to the contractual due dates, record the reason for any delay observed and identify any possible mitigation;
- ❑ To monitor all actions agreed by parties in each of the ECV contracts, keep track of their status and perform the actions for which the Successful Tenderer will be the lead;
- ❑ To liaise proactively with ECMWF’s ECV Manager, Technical Officers (TO) and Contract Management Officer (CMO) and support them in their decision-making;
- ❑ To continuously optimize all processes (e.g. monitoring, review) implemented.

The service activities are gathered in 4 Work Packages (WP) whose corresponding technical requirements are described in sections 2.2 to 2.5.

The ECV contracts to be covered by this contract C3S2\_120a\_bis are currently subject to the following hypotheses:

Contract / ITT ref.	ECV domain	Number of ECV products	Expected start date	Expected end date
C3S2_313a	Atmospheric composition	3	01/05/2024	31/12/2027
C3S2_313b	Atmospheric physics	5-6	01/08/2024	31/12/2027
C3S2_313c	Land hydrology	3-4	01/08/2024	31/12/2027
C3S2_313d	Cryosphere	3	01/08/2024	31/12/2027
C3S2_313e	Land biosphere	3-6	01/10/2024	31/12/2027
C3S2_313f	Ocean	4	01/02/2025	31/12/2027

Relevant information about those upcoming contracts will be progressively available on ECMWF’s Copernicus Procurement ITT webpage at <https://www.ecmwf.int/en/about/suppliers/copernicus-procurement/updates>, with their respective ITT Volume II containing detailed descriptions of the concerned ECV products, tasks and deliverables, KPIs and other technical requirements for the suppliers of those services.

## 2.2 WP1: Review and quality assessment of ECV contracts deliverables and milestones

### 2.2.1 Requirements

The Successful Tenderer shall perform the following activities:

- [Req1.1]** To establish and sustain a proficient team of technical experts associated to each ECV product, that will review all corresponding technical deliverables. While this is not a mandatory requirement, it is desirable for those technical experts to be familiar with ECV contracts, or similar arrangements, best practices or possess experience in managing such type of contracts, to ensure that the highest possible scientific standards are efficiently reached. Tenderers should explain their approach in ensuring that such desirable requirements are effectively fulfilled by the assigned technical experts.
- [Req1.2]** To update, on request and in close cooperation with ECMWF, an Internal Guidance Document (IGD) providing all technical experts involved with the best practices to review and perform the quality assessment of all deliverables (a reference document already exists and shall serve as basis for the updates, if any).
- [Req1.3]** To deploy the relevant set of IT tools and ensure to all ECV contractors the necessary access to submit their deliverables for review by the Successful Tenderer’s team of technical experts. The

set of IT tools deployed shall allow the transfer, at the end of each ECV contract and whenever considered as necessary by ECMWF, of all concerned deliverables in ECMWF's contract management system (currently OpenText Core (OTC), considering that this system may evolve during the contract implementation).

- [Req1.4]** To review and perform the quality assessment of the deliverables of ECV contracts to ensure their compliance with the scope and all requirements of the corresponding ECV contract, and to ensure their scientific integrity and readability. This also concerns deliverables that include access to data, i.e. access to the CDRs associated with multiple ECV products, either generated by the service providers themselves or brokered from other sources (e.g. EUMETSAT SAFs, other Copernicus services). An independent quality check on technical and scientific requirements of C3S datasets is performed by the C3S EQC function for all CDS datasets (see **Annex 1** for a list of checked requirements). To facilitate that task, the Successful Tenderer shall ensure that all the required information for that purpose is provided prior to CDS publication, specifically information regarding scientific properties of the datasets (i.e. documentation) and their technical properties (e.g., metadata).
- [Req1.5]** To generate for each review a concise deliverable review report, documenting the conducted assessment, outlining the checks performed, and detailing any identified issues encountered throughout the review process.
- [Req1.6]** To complete each of the reviews and deliverable review reports and seek for the concerned (external) Technical Officer final approval or rejection within 10 calendar days once the concerned deliverable has been made available by the concerned ECV contractor, or within any other timeline agreed with ECMWF on a case-by-case basis.
- [Req1.7]** To ensure that the Successful Tenderer's team of technical experts liaise proactively with ECMWF's Technical Officers for seeking the final technical approval of deliverables that are recommended for approval.
- [Req1.8]** To provide support to the CDS team in their assessment of the compatibility of the data delivered under the ECV contracts since the data will be used by the Copernicus CDS.
- [Req1.9]** To allow some flexibility in organizing the reviews and quality assessment; the Successful Tenderer shall be able to adapt promptly to any surge of deliverables to review, as well as to potential delays in deliveries and milestones completion, during the ECV contracts execution.
- [Req1.10]** To support further developments of the workflow optimizations and automatizations concerning the data streams between the contractors of ECV contracts and the CDS.

Further in-depth evaluation of the scientific quality and fitness for purpose of the ECVs contracts data products with respect to the C3S requirements will be carried out independently by other contracted parties as part of the Evaluation and Quality Control function of C3S.

⇒ **It is strategic for the Tenderer to propose a set of technical experts with proven technical knowledge regarding the domains listed in section 1, as well as project management experience, considering that all domains shall be duly covered.** The technical experts must be able to work independently in their domains but will also be able to rely on ECMWF for inputs from ECMWF's internal or external scientific specialists where needed.

### 2.2.2 Deliverables and milestones

The table hereinafter provides the Tenderer with the foreseen list of deliverables and milestones\*, as well as the corresponding schedule and due dates, for the **Work Package 1 (WP1)**. The Tenderers shall complete the relevant table in Volume IIIA as part of their Tender, which shall include the deliverables and milestones for this Work Package already indicated in the table below. The Tenderers can list additional deliverables and milestones they deem necessary to duly cover the entire spectrum of activities to be performed under this Work Package. Volume IIIA will be used by the Tenderers to describe the complete list of deliverables,

milestones and schedules for this Work Package. All milestones and deliverables shall be numbered as indicated.

WP1 deliverables and milestones				
ID	Resp.	Nature	Deliverable / Milestone title	Due date
List of deliverables				
WP1-IGD-Opt1	Tenderer	Report	Internal Guidance Document update [optional] <sup>(1)</sup>	31/12/2025
WP1-IGD-Opt2	Tenderer	Report	Internal Guidance Document update [optional] <sup>(1)</sup>	31/12/2027
WP1-RS-1	Tenderer	Report	Reporting summary No 01 about the reviews of ECV deliverables and milestones	30/09/2024
WP1-RS-2	Tenderer	Report	Reporting summary No 02 about the reviews of ECV deliverables and milestones	28/02/2025
WP1-RS-3	Tenderer	Report	Reporting summary No 03 about the reviews of ECV deliverables and milestones	30/09/2025
WP1-RS-4	Tenderer	Report	Reporting summary No 04 about the reviews of ECV deliverables and milestones	28/02/2026
WP1-RS-5	Tenderer	Report	Reporting summary No 05 about the reviews of ECV deliverables and milestones	30/09/2026
WP1-RS-6	Tenderer	Report	Reporting summary No 06 about the reviews of ECV deliverables and milestones	28/02/2027
WP1-RS-7	Tenderer	Report	Reporting summary No 07 about the reviews of ECV deliverables and milestones	30/09/2027
WP1-RS-8	Tenderer	Report	Reporting summary No 08 about the reviews of ECV deliverables and milestones	29/02/2028
List of milestones				
WP1-IGD-M1	ECMWF	Decision	ECMWF's decision about activation of WP1-IGD-Opt1	30/09/2025
WP1-IGD-M2	ECMWF	Decision	ECMWF's decision about activation of WP1-IGD-Opt2	30/09/2027

(\*) Please note that **the review and quality assessment of deliverables and milestones are continuous activities that shall be performed as soon as a deliverable is submitted for review, or a milestone is completed by the concerned ECV contractor.** Therefore, this series of WP1-RS-x reports consists only in the reporting of the activities performed during the period covered since last report (e.g. number of deliverables submitted and reviewed per ECV contract, number of deliverables subject to major/minor correction, or directly recommended for approval, max/min/average duration of the review process per ECV contract) and for the Successful Tenderer to provide inputs about the general quality of the deliverables reviewed and what could be improved/optimized and how.

<sup>(1)</sup> The optional deliverables shall neither be submitted by the Successful Tenderer nor subject to payment unless expressly requested and activated by ECMWF in due time. It is envisaged that the deadline to activate each of these options shall be three months before the corresponding due date (cf. milestones WP1-IGD-Mx), unless otherwise agreed between the Successful Tenderer and ECMWF.

## 2.3 WP2: Coordination with ECMWF and the contractors of ECV contracts

### 2.3.1 Requirements

The Successful Tenderer shall perform the following activities:

- [Req2.1]** To create in close cooperation with ECMWF and maintain updated, at least on a weekly basis, the Schedule Masterfile for each of the ECV contracts to ensure effective and dynamic monitoring of all ECV contracts covered. This Masterfile shall precisely report the status of deliveries and reviews until the final approval of each deliverable and milestone. ECMWF shall be able to access the live version of the Schedule Masterfile at all times.
- [Req2.2]** To help plan and adjust the schedule of deliverables and milestones of each ECV contract in collaboration with ECMWF's team and ECV contractors, especially by alerting ECMWF of any specific delay in delivery.
- [Req2.3]** To develop contingency plans to mitigate the technical challenges and delays faced in the ECVs contracts, as they arise, in collaboration with ECMWF's team.
- [Req2.4]** To create, in close cooperation with ECMWF, and maintain updated, at least on a weekly basis, the Actions Masterfile, and monitor the due completion of each action for each of the ECV contracts to ensure effective and dynamic monitoring covering all ECV contracts in question. ECMWF shall be able to access the live version of the Actions Masterfile at all times.
- [Req2.5]** To ensure regular interactions between the Successful Tenderer, ECV contracts' Service Managers and team, ECMWF's ECV Manager, Technical Officer (TO) and Contract Management Officer (CMO) to keep all involved parties informed about the latest developments in each ECV contract.
- [Req2.6]** To arrange (e.g. agenda, scheduling) on request and attend remotely (Successful Tenderer's Service Manager and technical lead as a minimum) the ECV Cross-Climate Data Records (X-CDR) meetings and deliver the corresponding set of presentations and minutes of meeting. Main purposes of these X-CDR meetings shall be the following ones:
- To ensure that all ECV contractors are fully informed about the latest C3S developments and requirements.
  - To share information among the different ECV thematic hubs and contractors (e.g. issues faced, and solutions proposed, procedures and processes).
  - To identify common requirements and technical specifications for ECV product generation.
  - To share expertise and lessons-learned regarding the ECVs to avoid duplication of work.
- A maximum of two ad-hoc X-CDR sessions shall occur annually, each lasting approximately 1,5 hours. The Successful Tenderer's Service Manager and technical lead are expected to participate in those meetings.
- [Req2.7]** To arrange and attend remotely (Successful Tenderer's Service Manager and technical lead and external TO, if any, for the concerned ECV contract) each Progress Review Meeting (PRM) of each ECV contract.
- [Req2.8]** To attend physically (Successful Tenderer's technical lead for the concerned ECV contract) each annual Service Readiness Review (SRR) of each ECV contract.

### 2.3.2 Deliverables and milestones

The table hereinafter provides the Tenderer with the foreseen list of deliverables and milestones\*, as well as the corresponding schedule and due dates, for the **Work Package 2 (WP2)**. The Tenderers shall complete the relevant table in Volume IIIA as part of their Tender, which shall include the deliverables and milestones for this Work Package already indicated in the table below. The Tenderers can list additional deliverables and milestones they deem necessary to duly cover the entire spectrum of activities to be performed under this Work Package. Volume IIIA will be used by the Tenderers to describe the complete list of deliverables, milestones and schedules for this Work Package. All milestones and deliverables shall be numbered as indicated.

WP2 deliverables and milestones				
ID	Resp.	Nature	Deliverable / Milestone title	Due date
List of deliverables				
WP2-SM-1	Tenderer	File (Excel)	Schedule Masterfile (frozen version No 01)	30/09/2024
WP2-SM-2	Tenderer	File (Excel)	Schedule Masterfile (frozen version No 02)	28/02/2025
WP2-SM-3	Tenderer	File (Excel)	Schedule Masterfile (frozen version No 03)	30/09/2025
WP2-SM-4	Tenderer	File (Excel)	Schedule Masterfile (frozen version No 04)	28/02/2026
WP2-SM-5	Tenderer	File (Excel)	Schedule Masterfile (frozen version No 05)	30/09/2026
WP2-SM-6	Tenderer	File (Excel)	Schedule Masterfile (frozen version No 06)	28/02/2027
WP2-SM-7	Tenderer	File (Excel)	Schedule Masterfile (frozen version No 07)	30/09/2027
WP2-SM-8	Tenderer	File (Excel)	Schedule Masterfile (frozen version No 08)	29/02/2028
WP2-AM-1	Tenderer	File (Excel)	Actions Masterfile (frozen version No 01)	30/09/2024
WP2-AM-2	Tenderer	File (Excel)	Actions Masterfile (frozen version No 02)	28/02/2025
WP2-AM-3	Tenderer	File (Excel)	Actions Masterfile (frozen version No 03)	30/09/2025
WP2-AM-4	Tenderer	File (Excel)	Actions Masterfile (frozen version No 04)	28/02/2026
WP2-AM-5	Tenderer	File (Excel)	Actions Masterfile (frozen version No 05)	30/09/2026
WP2-AM-6	Tenderer	File (Excel)	Actions Masterfile (frozen version No 06)	28/02/2027
WP2-AM-7	Tenderer	File (Excel)	Actions Masterfile (frozen version No 07)	30/09/2027
WP2-AM-8	Tenderer	File (Excel)	Actions Masterfile (frozen version No 08)	29/02/2028
WP2-XCDR-Opt1	Tenderer	Presentation and MoM	XCDR presentation and minutes of meeting <i>[optional]</i> <sup>(1)</sup>	15/12/2024
WP2-XCDR-Opt2	Tenderer	Presentation and MoM	XCDR presentation and minutes of meeting <i>[optional]</i> <sup>(1)</sup>	15/06/2025
WP2-XCDR-Opt3	Tenderer	Presentation and MoM	XCDR presentation and minutes of meeting <i>[optional]</i> <sup>(1)</sup>	15/12/2025
WP2-XCDR-Opt4	Tenderer	Presentation and MoM	XCDR presentation and minutes of meeting <i>[optional]</i> <sup>(1)</sup>	15/06/2026
WP2-XCDR-Opt5	Tenderer	Presentation and MoM	XCDR presentation and minutes of meeting <i>[optional]</i> <sup>(1)</sup>	15/12/2026
WP2-XCDR-Opt6	Tenderer	Presentation and MoM	XCDR presentation and minutes of meeting <i>[optional]</i> <sup>(1)</sup>	15/06/2027
WP2-XCDR-Opt7	Tenderer	Presentation and MoM	XCDR presentation and minutes of meeting <i>[optional]</i> <sup>(1)</sup>	15/12/2027
List of milestones				
WP2-PRM-2024	Tenderer	Meetings	Attendance to all concerned ECV contracts PRM in 2024	31/12/2024
WP2-PRM-2025	Tenderer	Meetings	Attendance to all concerned ECV contracts PRM in 2025	31/12/2025

WP2-PRM-2026	Tenderer	Meetings	Attendance to all concerned ECV contracts PRM in 2026	31/12/2026
WP2-PRM-2027	Tenderer	Meetings	Attendance to all concerned ECV contracts PRM in 2027	31/12/2027
WP2-SRR-2025	Tenderer	Meetings	Attendance to all concerned ECV contracts SRR in 2025	31/12/2025
WP2-SRR-2026	Tenderer	Meetings	Attendance to all concerned ECV contracts SRR in 2026	31/12/2026
WP2-SRR-2027	Tenderer	Meetings	Attendance to all concerned ECV contracts SRR in 2027	31/12/2027
WP2-XCDR-M1	ECMWF	Decision	ECMWF's decision about activation of WP2-XCDR-Opt1	15/10/2024
WP2-XCDR-M2	ECMWF	Decision	ECMWF's decision about activation of WP2-XCDR-Opt2	15/04/2025
WP2-XCDR-M3	ECMWF	Decision	ECMWF's decision about activation of WP2-XCDR-Opt3	15/10/2025
WP2-XCDR-M4	ECMWF	Decision	ECMWF's decision about activation of WP2-XCDR-Opt4	15/04/2026
WP2-XCDR-M5	ECMWF	Decision	ECMWF's decision about activation of WP2-XCDR-Opt5	15/10/2026
WP2-XCDR-M6	ECMWF	Decision	ECMWF's decision about activation of WP2-XCDR-Opt6	15/04/2027
WP2-XCDR-M7	ECMWF	Decision	ECMWF's decision about activation of WP2-XCDR-Opt7	15/10/2027

(\* Please note that **the monitoring of deliverables and milestones as well as the monitoring of actions are continuous activities** that shall be respectively reported in this series of WP2-SM-x and WP2-AM-x deliverables.

<sup>(1)</sup> The optional deliverables shall neither be submitted by the Successful Tenderer nor subject to payment unless expressly requested and activated by ECMWF in due time. It is envisaged that the deadline to activate each of these options shall be two months before the corresponding due date (cf. milestones WP2-XCDR-Mx), unless otherwise agreed between the Successful Tenderer and ECMWF.

## 2.4 WP3: External Technical Officer for ECV contract [OPTIONAL]

### 2.4.1 Requirements

The Tenderer shall consider this WP corresponding activities and deliverables as optional in its Tender. Those needs and requirements will be confirmed or rejected by ECMWF during the contract negotiations phase. In case this optional WP is confirmed, an expert is required to take on the role of external TO for one ECV contract whose corresponding domain will be confirmed during the contract negotiations (external means here that it is not ECMWF's staff member covering the role of TO as usual). Therefore, it is recommended for the Tenderer to consider in its Tender the following three domains listed in section 1: atmospheric physics, atmospheric composition and ocean, even though only one may potentially be agreed in the end or none. Tenderers are expected to propose names of candidates/experts for each of these three domains, along with a description of their experience and qualifications.

As an external TO, the proposed expert shall conduct the following activities:

- [Req3.1]** To provide the technical support for contract management, for instance by liaising closely with both ECMWF's ECV manager and CMO to manage unexpected delays in the concerned ECV contract implementation and deliveries and to constantly seek for improvements of the service.
- [Req3.2]** To constantly monitor JIRA tickets (or similar monitoring system of the ECV contracts deliverables) pertinent to the designated ECV domain and ECV contract, which includes tracking issues and actively participating in them to ensure a swift and efficient resolution.

**[Req3.3]** To provide, not later than 7 calendar days after the deliverable review report with recommendation has been sent by the concerned technical expert (working under WP1) or after the deliverable has been directly shared by ECMWF's CMO or the concerned ECV contractor (for non-technical deliverables), or within any other timeline agreed with ECMWF on a case-by-case basis, either the substantiated final technical approval of the said deliverable once all requirements have been met by the concerned ECV contractor or the substantiated rejection of the said deliverable.

**[Req3.4]** To provide inputs and recommendations to ECMWF's CMO in assessing and compiling the Payment Milestone Verification Reports (PMVR) for payments under the concerned ECV contract.

**[Req3.5]** To liaise with CDS team and data provider to ensure smooth preparation of data products in the CDS catalogue (the external TO will not be responsible for the final publication in the CDS catalogue).

**[Req3.6]** To attend all necessary meetings (X-CDR, PRM, SRR, C3S GA) with the ECV contractor and ECMWF's ECV manager and CMO in what regards the concerned ECV contract.

#### 2.4.2 Deliverables and milestones

The table hereinafter provides the Tenderer with the foreseen list of deliverables and milestones\*, as well as the corresponding schedule and due dates, for the **Work Package 3 (WP3)**. The Tenderers shall complete the relevant table in Volume IIIA as part of their Tender, which shall include the deliverables and milestones for this Work Package already indicated in the table below. The Tenderers can list additional deliverables and milestones they deem necessary to duly cover the entire spectrum of activities to be performed under this Work Package. Volume IIIA will be used by the Tenderers to describe the complete list of deliverables, milestones and schedules for this Work Package. All milestones and deliverables shall be numbered as indicated.

<b>WP2 deliverables and milestones</b>				
<i>ID</i>	<i>Resp.</i>	<i>Nature</i>	<i>Deliverable / Milestone title</i>	<i>Due date</i>
List of deliverables				
WP3-TOSR-1	Tenderer	Report	External TO summary report No 01	30/09/2024
WP3-TOSR-2	Tenderer	Report	External TO summary report No 02	28/02/2025
WP3-TOSR-3	Tenderer	Report	External TO summary report No 03	30/09/2025
WP3-TOSR-4	Tenderer	Report	External TO summary report No 04	28/02/2026
WP3-TOSR-5	Tenderer	Report	External TO summary report No 05	30/09/2026
WP3-TOSR-6	Tenderer	Report	External TO summary report No 06	28/02/2027
WP3-TOSR-7	Tenderer	Report	External TO summary report No 07	30/09/2027
WP3-TOSR-8	Tenderer	Report	External TO summary report No 08	29/02/2028
List of milestones				
There is no milestone foreseen for this WP.				

(\*) Please note that **the review of deliverables and milestones is a continuous activity** that shall be duly reported in this series of WP3-TOSR-x summary reports. With regards to the concerned ECV contract, those reports shall especially list the deliverables reviewed by the external TO during the period covered since last report as well as the meetings attended, inform about the delays observed (in deliveries but also in reviews),

provide inputs about the general quality of the deliverables reviewed and what could be improved/optimized and how.

## 2.5 WPO: Management and coordination

### 2.5.1 Requirements

The following management and coordination activities are part of WPO to ensure the correct implementation of the contract and shall be described and completed, if necessary, in the Tender:

**[Req0.1]** To plan, coordinate and monitor all Work Packages activities and corresponding resources.

**[Req0.2]** To implement all contractual obligations as described in the Volume V Framework Agreement, especially in its Clause 2.3 “Reporting and Planning” and Annex 5 “Report content”.

**[Req0.3]** To organise and/or attend the following meetings:

- ECMWF and the Successful Tenderer will organise a Kick-Off Meeting during the first month of the contract’s implementation.
- ECMWF and the Successful Tenderer’s Service Manager and technical lead will organise Progress Review Meetings (teleconferences, ca. 1 hour) to assess the progress achieved.
- ECMWF will organise annual C3S General Assemblies that the Successful Tenderer’s Service Manager, technical lead and external TOs, if any, shall attend physically.
- ECMWF will host regular ad-hoc teleconference meetings to discuss this C3S service provision and other topics. The Successful Tenderer’s Service Manager and/or technical lead shall represent the Successful Tenderer in such meetings.

If considered necessary, the Tenderer can propose additional project meetings, whose added value must be precisely substantiated, as part of its Tender.

**[Req0.4]** To ensure quality assurance and control as well as risk management, including in what concerns the Sub-contractors’ activities if any. The final quality check of all deliverables (contents, use of ECMWF’s templates for deliverables and reports, format, deliverables/milestones numbering and naming, typing errors, etc.) shall be made by the Successful Tenderer.

**[Req0.6]** To ensure proactive and dynamic communication towards and between all parties involved in the contract.

**[Req0.7]** To manage the personal data in accordance with the Volume V Framework Agreement Clause 2.8 and its Annex 6 “Personal Data Protection”.

**[Req0.8]** To manage the Sub-contractor(s), if any, in accordance with the Volume V Framework Agreement, including dispute resolution (the Successful Tenderer will be responsible for settling disagreements, although advice/approval from ECMWF may be sought on the subject).

The Tenderer shall outline and justify the proposed management methodology for this contract in its technical proposal. The Tenderer shall provide a list of its quality assurance processes and management systems and if applicable, any quality related accreditations or certifications it holds. The Tenderer shall also describe in its Tender how the Volume V Framework Agreement, in particular Clause 2.9 “Sub-contracting”, has been flowed down to all their Sub-contractors.

### 2.5.2 Deliverables and milestones

The table hereinafter provides the Tenderer with the complete list of deliverables and milestones, as well as the corresponding schedule and due dates, for the **Work Package 0 (WPO)**. The Tenderers shall complete the relevant table in Volume IIIA as part of their Tender, which shall include the deliverables and milestones for this Work Package already indicated in the table below. Volume IIIA will be used by the Tenderers to describe

the complete list of deliverables, milestones and schedules for this Work Package. All milestones and deliverables shall be numbered as indicated.

<b>WPO deliverables and milestones</b>				
<b>Deliverable / Milestone ID</b>	<b>Resp.</b>	<b>Nature</b>	<b>Deliverable / Milestone title</b>	<b>Due date</b>
<b>List of deliverables</b>				
WPO-QIR-YYYYQQ	Tenderer	Report	Quarterly Implementation Report YYYYQQ <i>YYYYQQ being here the previous quarter (e.g. 2024Q3)</i>	Quarterly on 15/04, 15/07 and 15/10
WPO-AIR1-YYYY	Tenderer	Report / Other	Annual Implementation Report for year YYYY – Part 1 <i>including both:</i> <ul style="list-style-type: none"> <li><i>the Quarterly Implementation Report YYYYQ4 and</i></li> <li><i>the requested preliminary financial information for year YYYY</i></li> </ul> <i>YYYY being here the year n-1</i>	Annually on 15/01
WPO-AIR2-YYYY	Tenderer	Report	Annual Implementation Report for year YYYY – Part 2 <i>YYYY being here the year n-1</i>	Annually on 28/02
WPO-FIR	Tenderer	Report	Final Implementation Report	Not later than 60 days after the end of contract and once all other activities duly performed
WPO-AIP-YYYY	Tenderer	Report	Annual Implementation Plan for year YYYY <i>YYYY being here the year n+1</i>	Annually on 30/09
WPO-FIN-YYYY	Tenderer	Other	Copy of Prime Contractor’s general financial statements and audit report for year YYYY <i>YYYY being here the year n-1</i>	Annually, not later than on 15/12 <sup>(1)</sup>
WPO-KOM	Tenderer	Presentation and MoM	Kick-Off Meeting	Not later than 30 days after the start of contract
WPO-PRMxx	Tenderer	Presentation and MoM	Progress Review Meeting No. xx <i>xx being here the iteration number of the PRM</i>	Circa every 3 months <sup>(2)</sup>
<b>List of milestones</b>				
WPO-C3SGA-YYYY	Tenderer	Meeting	C3S General Assembly YYYY <i>YYYY being here the concerned year</i>	Annually, not later than on 15/12 <sup>(3)</sup>

These due dates are indicated to frame the corresponding deliverables and milestones schedule only, consequently the following shall be considered by the Tenderer:

- <sup>(1)</sup> the general financial statements shall be sent by the Successful Tenderer as soon as available,
- <sup>(2)</sup> the schedule of the PRMs shall be aligned with the different Payment Milestones,
- <sup>(3)</sup> depending on the year, the C3S GA may take place at a different period of the year. In 2024, the C3S GA will take place from the 17<sup>th</sup> to 20<sup>th</sup> of June in Brussels, cf. <https://climate.copernicus.eu/7th-c3s-general-assembly>. C3S GAs shall therefore be considered only for 2025, 2026 and 2027 in the Tender.

## 3 General requirements

### 3.1 Implementation schedule

**ECMWF intends to award a Framework Agreement for a period of maximum 43 months, which shall be implemented via a single Service Contract expected to commence in August 2024.**

The Tenderer shall provide a detailed implementation plan of proposed activities for the full period of the contract.

### 3.2 Conflict of Interest Management and Mitigation

The Successful Tenderer will be required to deliver specialised technical and contract management support services to ECMWF, which involves close collaboration with a large number of ECMWF contractors and their Sub-contractors. In light of this, the Successful Tenderer must uphold the highest standards of integrity and impartiality throughout the lifetime of this contract.

Prior to the award of this contract, the Successful Tenderer shall be required to submit an initial written declaration about any direct, potential, or perceived conflicts of interest that could impact their performance vis-à-vis the then known entities engaged under the respective ECV contracts (cf. table in section 2.1). This declaration must address any financial, personal, or other interests in any entities that might be perceived as a conflict of interest.

In the context of this ITT Volume V Clause 2.3.6, as part of their response, Tenderers shall describe their approach for identifying, disclosing and managing any future conflicts of interest. This approach should outline procedures for the ongoing assessment of potential conflicts as new ECV contractors are introduced and should detail strategies for mitigation and resolution of such risks to maintain fairness and transparency throughout the lifetime of this contract.

### 3.3 Deliverables and milestones

The Tenderer shall provide the list of deliverables and milestones (cf. ITT Volume IIIA “Pricing and deliverables”, Excel spreadsheet “Deliverables List”) for each WP. All deliverables and milestones must be consistent with the activities and objectives described in section 2 of this ITT Volume II:

- A deliverable is a substantial, tangible or intangible good or service produced as a result of a project (see also the deliverable definition in this ITT Volume V Clause 1.2 and Clause 3.2). In other words, a deliverable is a verifiable outcome produced in response to the specific objectives of the contract and is subject to approval by both ECMWF’s TO and CMO before being considered as contractually approved. All document deliverables shall be periodically updated and versioned as described in section 2.
- Milestones should be designed as markers of demonstrable progress in service development and/or quality of service delivery during the contract implementation (see also the milestone definition in this ITT Volume V Clause 1.2). They should not duplicate deliverables.

The following shall apply to the deliverables and milestones:

- The deliverables and milestones should be consistent with and meet the technical requirements specified in section 2 of this ITT Volume II;
- All contract deliverables shall be produced in English;
- The quality of reports shall be equivalent to the standard of peer-reviewed publications and practice;
- Unless otherwise specified in the contract, or requested by ECMWF during the contract implementation the final version of each deliverable shall be made available to ECMWF without any comments and tracked changes in electronic format (Microsoft Word/Microsoft Excel/HTML or compatible, PDF in case of signed version, while all other formats – if any – must be agreed during the contract negotiation) via the Copernicus Deliverables Repository portal – OpenText Core (OTC).

The following shall apply in ITT Volume IIIA “Pricing and deliverables” (cf. Excel spreadsheet “Deliverables

List”):

- Deliverables and milestones shall respectively follow the referencing system used in section 2 of this ITT Volume II. Additional deliverables and milestones, if any, shall follow the same referencing system.
- Each deliverable shall have an associated resource allocation and price (cf. column I “Nb of PM allocated” and column J “Estimated price”), while the only resource type to be considered is “payroll” (the total of these allocated resources and prices shall therefore amount to the total price associated with payroll in Volume IIIA spreadsheet “Costs and Prices”).
- Milestones shall not attract the budget under Volume IIIA in the Excel spreadsheet “Deliverables list”.

The Tenderer shall provide a due date for each proposed deliverable and milestone (in accordance with those indicated in section 2 for each WP).

Please note that any dependencies on input data, whose origin must be specified, shall be detailed by the Tenderer, and also accounted for in the risk register (cf. ITT Volume IIIB Section 5.6).

### 3.4 Communication

All communication activity must be agreed with the ECMWF Copernicus Communication team in advance. This includes, but not exhaustively, communication planning, branding and visual style, media outreach, website and social media activity, externally facing written and graphic content and events. Such agreed communication activity would also need to be evaluated and reported on, once complete, so that success measures and KPIs can be provided to the European Commission.

### 3.5 Data and IPR

It is a condition of EU funding for Copernicus that ownership of any datasets developed with Copernicus funding passes from the suppliers to the European Union via ECMWF. Ownership will pass from the date of creation of the datasets. Suppliers will be granted a non-exclusive licence to use the datasets which they have provided to Copernicus for any purpose.

All software and products used by the Successful Tenderer to produce the Copernicus datasets will remain the property of the Successful Tenderer, except for those components which are acquired or created specifically for Copernicus purposes, with Copernicus funding, and which are separable and useable in isolation from the rest of the successful Tenderer’s production system. The identity and ownership of such exceptional components will be passed to the European Union via ECMWF annually. The Successful Tenderer will be granted a non-exclusive licence to use them for any purpose.

### 3.6 Key Performance Indicators (KPIs)

The Successful Tenderer shall report to ECMWF on a set of Key Performance Indicators (KPIs) suitable for monitoring the service performance.

The tables below provide the minimum set of KPIs to be used by the Tenderer in its Tender. Therefore, the Tenderer may propose additional KPIs suitable for the activities subject of this ITT but shall limit them to the sole KPIs whose reporting and analysis may help to optimize the performance of the contract in case of deviation per comparison with the performance targets.

KPI #	KPI Title	Performance Target and Unit of Measure	Frequency of Delivery	Explanations / Comments
KPI.C1	Deliverables submitted on time for review during last quarter	100% of deliverables submitted on time	Quarterly via QIR	Due dates are the deadlines (inclusive) for the deliverables to be submitted for review by ECMWF

<b>KPI.C2</b>	ECV deliverable reviews completed on time by ECV experts during last quarter	Review(s) of each deliverable completed within 10 calendar days of ECVs deliverables availability (unless otherwise agreed with ECMWF)	Quarterly via QIR	Review shall be considered achieved once the deliverable review report with recommendation is sent to the (external) Technical Officer for final approval or rejection. Several iterations may occur per deliverable.
<b>KPI.C3</b>	ECV deliverable final approval or rejection completed on time by external Technical Officer during last quarter	Final approval or rejection of each deliverable provided within 7 calendar days (unless otherwise agreed with ECMWF) after the deliverable review report with recommendation has been sent by the concerned technical expert (working under WP1) or after the deliverable has been directly shared by ECMWF's CMO (for non-technical deliverables)	Quarterly via QIR	Final approval or rejection shall be considered achieved once the deliverable is formally declared approved or rejected by the external TO in charge. Several iterations may occur per deliverable.
...	...	...	...	...

All KPIs shall be labelled and numbered as indicated in the tables above.

During the contract implementation, all KPIs shall be duly reported by the contractor in the Quarterly Implementation Reports (QIR, cf. deliverables WPO-QIR-YYYYQQ and WPO-AIR1-YYYY) in accordance with their frequency of delivery.

For the sake of clarity, the Tenderer shall provide preliminary versions of the completed tables as part of its Tender.

### 3.7 Payment Plan

The Tenderer can propose a draft Payment Plan in ITT Volume IIIA "Pricing and deliverables" (cf. Excel spreadsheet "Payment Plan preparation"):

- Given the total duration of the contract, it is recommended to abide by a circa 6-month frequency between the Payment Milestones and associated payments. Any other structure than the one proposed hereinafter can be submitted by the Tenderer but shall be duly substantiated.
- The frequency of the PRMs might be adapted to synchronize with the anticipated date of completion of each PM (i.e. with one PRM ca. 15 days before each PM anticipated date of completion, and one PRM between each of those PRMs associated to PM).
- In case of request for a payment at contract signature, please note that this shall be duly substantiated by the Tenderer (e.g. in terms of investment that would be necessary prior to or during first weeks/months of implementation for ensuring the initial set up of the project). It is necessary to relate this payment amount to activities subject to other PMs.

Proposed structure of the payment plan:

	Duration	Amount (EUR)
Overall duration and price of the Framework Agreement (maximum)	43 months	xxx.xxx,00
Duration and price of the Service Contract 1	43 months	xxx.xxx,00

Payment Milestone reference	Payment method	Anticipated date of Payment Milestone completion	Period of activities covered	Activities and deliverables/milestones covered by Payment Milestone	Full value of activities covered (EUR)	Payment amount (EUR)	%	Cumulative budget (EUR)	Anticipated review time (days)
SC1-PM1	PAP	30/09/2024	01/08/2024 to 30/09/2024	All continuous activities, deliverables and milestones with due dates part of the period of activities covered	Payroll xxx.xxx,00 + Travel xxx.xxx,00 + ... = xxx.xxx,00	xxx.xxx,00	xx	xxx.xxx,00	45
SC1-PM2	PAP	28/02/2025	01/10/2024 to 28/02/2025	All continuous activities, deliverables and milestones with due dates part of the period of activities covered	Payroll xxx.xxx,00 + Travel xxx.xxx,00 + ... = xxx.xxx,00	xxx.xxx,00	xx	xxx.xxx,00	45
SC1-PM3	PAP	30/09/2025	01/03/2025 to 30/09/2025	All continuous activities, deliverables and milestones with due dates part of the period of activities covered	Payroll xxx.xxx,00 + Travel xxx.xxx,00 + ... = xxx.xxx,00	xxx.xxx,00	xx	xxx.xxx,00	45
SC1-PM4	PAP	28/02/2026	01/10/2025 to 28/02/2026	All continuous activities, deliverables and milestones with due dates part of the period of activities covered	Payroll xxx.xxx,00 + Travel xxx.xxx,00 + ... = xxx.xxx,00	xxx.xxx,00	xx	xxx.xxx,00	45
SC1-PM5	PAP	30/09/2026	01/03/2026 to 30/09/2026	All continuous activities, deliverables and milestones with due dates part of the period of activities covered	Payroll xxx.xxx,00 + Travel xxx.xxx,00 + ... = xxx.xxx,00	xxx.xxx,00	xx	xxx.xxx,00	45
SC1-PM6	PAP	28/02/2027	01/10/2026 to 28/02/2027	All continuous activities, deliverables and milestones with due dates part of the period of activities covered	Payroll xxx.xxx,00 + Travel xxx.xxx,00 + ... = xxx.xxx,00	xxx.xxx,00	xx	xxx.xxx,00	45
SC1-PM7	PAP	30/09/2027	01/03/2027 to 30/09/2027	All continuous activities, deliverables and milestones with due dates part of the period of activities covered	Payroll xxx.xxx,00 + Travel xxx.xxx,00 + ... = xxx.xxx,00	xxx.xxx,00	xx	xxx.xxx,00	45
SC1-PM8	PAP	29/02/2028	01/10/2027 to 29/02/2028	All continuous activities, deliverables and milestones with due dates part of the period of activities covered  + ...  + WPO-FIR (due max 60 days after the end of the contract)	Payroll xxx.xxx,00 + Travel xxx.xxx,00 + ... = xxx.xxx,00	xxx.xxx,00	xx	xxx.xxx,00	45
TOTAL					xxx.xxx,00	xxx.xxx,00	100		

## 4 Tender Format and Content

This section describes specific requirements to prepare the technical proposal for this particular Tender, along with guidelines for minimum content expected to be included in the proposal, additional to the content described in the general guidelines of Volume IIIB. This is not an exhaustive description and additional information may be necessary depending on the Tenderer's response.

## 4.1 Page Limits

As a guideline, it is expected that individual sections of the Tenderer's response do not exceed the page limits listed below. These are advisory limits and should be followed wherever possible, to avoid excessive or wordy responses.

<b>Section</b>	<b>Page Limit</b>
<i>Executive Summary</i>	1
<i>Track Record</i>	2 (for general) and max. 2 (per entity/expert)
<i>Quality of Resources to be Deployed</i>	1 (excluding Table 1 in Volume IIIB and CVs with a maximum length of 2 pages each)
<i>Technical Solution Proposed</i>	10 (Table 2 in Volume IIIB, the section on references, publications, patents and any background IP is excluded from the page limit and has no page limit)
<i>Management and Implementation</i>	6 (excluding Table 4 and Table 5 in Volume IIIB) + 2 per each work package description (Table 3 in Volume IIIB)
<i>Pricing Table</i>	No limitation

## 4.2 Specific additional instructions for the Tenderer's response

The following is a guide to the minimum content expected to be included in each section, additional to the content described in the general guidelines of Volume IIIB. This is not an exhaustive description and additional information may be necessary depending on the Tenderer's response.

### 4.2.1 Executive Summary

The Tenderer shall provide an executive summary of the technical proposal, describing the objectives, team and service level.

### 4.2.2 Track Record

The Tenderer shall demonstrate for itself and for any proposed Sub-contractors/experts that they have experience with relevant projects in the public or private sector at national or international level.

The Tenderer shall describe in brief terms its company's (including its Sub-contractors', if any) history and track record in the relevant domain of expertise, as well as recent provision of services in the sector(s) relevant to this ITT. ECMWF may ask for evidence of performance in the form of certificates issued or countersigned by the competent authority.

### 4.2.3 Quality of Resources to be deployed

The Tenderer shall propose a team providing the skills required for providing operational services that meet the technical requirements set out in section 2. The team shall include a Service Manager with at least 5 years of experience in management of large-scale projects. The Tenderer shall describe the experience of the Service Manager and the technical project team in performing activities related to the various aspects of this Tender.

### 4.2.4 Technical Solution Proposed

The Tenderer shall give a short background to the proposed solution to demonstrate understanding of the state-of-the-art in the C3S context and hence justify their proposed solution.

This section shall also provide a matrix of compliance for each technical requirement formulated throughout this document (cf. section 2), describing how the proposed solution meets all requirements.

#### 4.2.5 Management and Implementation Plan

As part of the general project management description, and in addition to the guidance provided in Volume IIIB, the Tenderer shall consider the elements described in section 2.5 above. Note that costs associated with fulfilling WPO requirements shall not exceed 10% of the total price of the Tender.

## 5 Additional information

### 5.1 Glossary

<b>C3S</b>	Copernicus Climate Change Service
<b>CDR</b>	Climate Data Record
<b>CDS</b>	Climate Data Store
<b>CMO</b>	Contract Management Officer
<b>ECMWF</b>	European Centre for Medium-Range Weather Forecasts
<b>ECV</b>	Essential Climate Variable
<b>EQC</b>	Evaluation and Quality Control
<b>GA</b>	General Assembly
<b>GCOS</b>	Global Climate Observing System
<b>HTML</b>	Hyper Text Markup Language
<b>ICDR</b>	Interim Climate Data Record
<b>IGD</b>	Internal Guidance Document
<b>IT</b>	Information Technology
<b>ITT</b>	Invitation to tender
<b>KPI</b>	Key Performance Indicator
<b>MoM</b>	Minutes of Meeting
<b>OTC</b>	OpenText Core
<b>PDF</b>	Portable Document Format
<b>PM</b>	Payment Milestone
<b>PMVR</b>	Payment Milestone Verification Report
<b>PRM</b>	Progress Review Meeting
<b>QIR</b>	Quarterly Implementation Report
<b>SAF</b>	Satellite Application Facilities
<b>SRR</b>	System Readiness Review
<b>TO</b>	Technical Officer
<b>WP</b>	Work Package
<b>X-CDR</b>	Cross-Climate Data Records

## Annex 1: Evaluation and Quality Control (EQC) User Requirements

The EQC function of the C3S provides a framework for the quality verification of all products and services that are available through the CDS. The framework is based on two types of quality verification that are performed independently from data providers:

- 1) *Quality assurance*, which consists of a checklist of verifiable technical user requirements (e.g., on documentation, metadata or data properties). The full list of User Requirements is provided in the table below.
- 2) *Quality Assessments*, which are short topical articles based on specific use cases and related user questions regarding the quality of the data, which may (or may not) assume a Jupyter Notebook form and report on scientific properties of the datasets, such as accuracy, precision, uncertainties, quality flags, spatial and temporal completeness, temporal stability, resolution, extremes detection and physical consistency among different datasets.

Altogether, by providing a high-level view on the quality of each dataset, these verifications inform on dataset key strengths and weaknesses, but also on its fitness-for-purpose considering a specific application. These will improve the user experience by avoiding going through extensive documentation and scientific literature to understand the basic properties of each dataset.

<i>List of User Requirements for ECVs and respective evaluation criteria to be applied in quality assurance</i>			
<b>Category</b>	<b>Requirement</b>	<b>Evaluation Criteria</b>	<b>Verification Method</b>
<b>1. Data Management</b>	1.1 Accuracy and Consistency: all information provided with the dataset must be consistent.	1.1.1 All information provided with the dataset must be consistent and reflect the data in the catalogue entry.	The information in the Overview and Documentation is checked against the Download form, as well as the metadata in the files themselves (where appropriate)
	1.2 Reliable Access: access to all information must be open, free, and reliable.	1.2.1 Access to all information must be open, free, and reliable.	Data policy is checked in the documentation and terms of use/license. Reliability of data access is assessed via the CDS Catalogue uptime statistic ( <a href="#">link</a> ), which should not be below 95% for longer than a week in the last 6 months.
	1.3 Versioning and Archiving: appropriate version control and archiving policies must be in place and documented.	1.3.1 Appropriate version control and archiving policies must be in place and documented.	Dataset version availability, and documentation of the policies, are checked.
<b>2. Data Records</b>	2.1 Consistency: the data must be complete and internally consistent.	2.1.1 Data records are global and/or regional ECV products derived from satellite observations.	The reliance of the dataset on satellite observations, rather than on ancillary data (in-situ, model or reanalysis), is checked in the Documentation.
		2.1.2 Data records are produced using methods and systems designed for climate data records (CDRs) that capture climate variability and change.	The requirements of basic accuracy, precision, stability, and completeness (including sufficient length) are checked in the Documentation.

		2.1.3 CDRs are periodically reprocessed in their entirety based on improved algorithms and/or newly available observations.	The periodical reprocessing of the dataset, by means of ingestion of new data or improved algorithms, is checked in the Documentation.
		2.1.4 CDRs and ICDRs are available on pre-defined space-time grid (data processing level 3 or higher).	The use of compliant spatial and temporal grids is verified by inspecting a data sample.
		2.1.5 Monthly averaged data are available for CDRs and ICDRs where appropriate.	The availability of monthly frequency data is verified in the Overview and Download form.
<b>3. Metadata</b>	3.1 Discovery and Use: metadata must include all necessary information for discovery and proper use of the data records.	3.1.1 Metadata include: data provenance; version; variable names and units; geolocation information; time information, producers, contact information.	Metadata content for a data sample is checked for the required information.
	3.2 Interoperability: metadata must comply with relevant international standards.	3.2.1 Metadata comply with applicable NetCDF CF conventions.	The convention compliance for a data sample is checked (if applicable).
		3.2.2 Data and metadata are available in the NetCDF4 format.	The format compliance for a data sample is checked (if applicable).
<b>4. Documentation</b>	4.1 Content: the content of data records must be fully documented.	4.1.1 Documentation must include a general overview of the ECV products included, their primary use, and the observing systems incorporated in the products.	The Overview and Documentation are checked for the required information.
		4.1.2 Documentation must include a detailed description of all data records contained in the dataset, their data processing levels, spatial coverage and resolution, temporal coverage and resolution, and data update frequencies.	The Documentation is checked for the required information.
		4.1.3 Documentation must refer to data provenance, data licenses, digital object identifiers (doi), key references.	The Documentation is checked for the required information.
	4.2 Scientific Basis: the scientific methodology used to produce the data must be fully documented.	4.2.1 The scientific basis for the CDRs contained in the dataset must be documented in peer-reviewed publications.	The Documentation is checked for the required information.
		4.2.2 The observing systems and algorithms used to derive the CDRs and ICDRs in the dataset, as well as methodology for uncertainty estimates, must be fully documented.	The Documentation is checked for the required information.
	4.3 Quality Control: quality control and validation activities must be fully documented.	4.3.1 Documentation must contain detailed information about the use of input observations, including data selection, quality control steps.	The Documentation is checked for the required information.

		4.3.2 Documentation must contain detailed information about methods, procedures and/or systems that have been implemented to optimize the accuracy and consistency of CDRs and ICDRs.	The Documentation is checked for the required information.
		4.3.3 Documentation must contain results of quality assessments based on GCOS requirements carried out by producers and/or third parties.	The Documentation is checked for the required information.
		4.3.4 Reprocessed CDRs must be provided with documentation that includes a description of changes in algorithms and input observations as well as an assessment of resulting changes in key performance indicators.	The Documentation is checked for the required information.
	4.4 User Guidance: detailed information must be available to assist users in using the data.	4.4.1 A user guide must be available, addressing essential characteristics of CDRs and ECV products, including uncertainties and how they are represented in the dataset.	The Documentation is checked for the required information.
		4.4.2 A description of known issues with the ECV products must be available.	The Documentation is checked for the required information.