PASC
PAN-AFRICAN STANDARDS COUNCIL

STANDARD / INSTITUTIONAL EDITION

PASC-ATSS-1.2 · ED. 1.2 · NOVEMBER 2026

Auditable Transformative Science Standard

Research integrity · Evidence · Reproducibility · Scientific utility

Issuing authority
Pan-African Standards Council (PASC)

Publication status
Council-approved · Published

Publication date
1 November 2026

Foreword

ATSS 1.2 establishes an auditable framework for research and institutional knowledge. A substantive claim must identify its question, method, observations, limitations, validation path and practical significance. A publication is traceable from its cited source to its corrected edition. Scientific value is examined through demonstrable work and the extent to which the outcome can be inspected, challenged, repeated, transferred or used.

The standard addresses research integrity, independently examinable methods, provenance, usefulness, ethical safeguards, accessibility and sovereign control over scientific outputs. Research disciplines retain their specialized methodological requirements. ATSS provides a common evidence and reporting architecture across those disciplines.

1. Scope and normative language

1.1 ATSS applies to scientific papers, technical reports, institutional studies, policy analyses, experimental reports, datasets, research software, methodological protocols, registries, training research, and standardization reports. A declared assessment scope SHALL identify the document, contributing institution, version and relevant outputs.

1.2 **SHALL** denotes a mandatory requirement, **SHOULD** an advised improvement and **MAY** an allowed implementation choice. The word *conformant* means that evidenced requirements applicable to a defined work or implementation are met. The terms *certified* and *accredited* have the distinct meanings specified in PASC's public recognition framework.

1.3 Existing scholarly identifiers, DOIs, ISSNs, ISBNs and repository records MAY be used alongside PASC-compatible identifiers. ATSS does not replace intellectual-property law, institutional ethics review or professional discipline requirements.

2. Document identity, ownership and accountable review

ATSS.ID.01 Each controlled research output SHALL carry a stable title, responsible creator or institution, dated edition, language, abstract, declared scope, canonical citation and persistent file identity. Where a persistent identifier is not available, a stable institutional identifier SHALL be assigned.

ATSS.ID.02 The publication record SHALL distinguish contribution, authorship, methodological verification, editorial review and authorization. Editorial involvement SHALL NOT be presented as a scientific endorsement without substantive evaluation.

ATSS.ID.03 A publicly released edition SHALL carry an immutable checksum. Superseding editions SHALL have new identifiers or explicit edition increments, documented changes and a link to the previous edition.

ATSS.ID.04 Restricted personal, patient, contractual or institutional data SHALL be retained in controlled evidence stores. Public metadata SHALL identify the availability and access route of supporting evidence without disclosing protected material.

3. Research problem, theory and contextual understanding

ATSS.RS.01 A work SHALL identify a concrete research question, hypothesis, design question or institutional problem. The work SHALL distinguish verified observations, proposed explanations, assumptions and normative recommendations.

ATSS.RS.02 Context SHALL identify affected populations, geography, time period, data-generation conditions and relevant historical or institutional factors. Researchers SHALL explain why contextual differences affect the meaning or applicability of results.

ATSS.RS.03 Prior work SHALL be cited accurately, including original contributions from underrepresented research communities when material. Claims of novelty SHALL be linked to a reproducible comparison with prior literature, tools or practice.

ATSS.RS.04 Where alternative mechanisms or competing explanations are plausible, the research SHALL report the basis for preferring one interpretation and the evidence that could alter that choice.

4. Methods, reproducibility and research artefacts

ATSS.ME.01 Every substantive result SHALL have a documented method. The method SHALL specify inputs, collection and selection procedures, instruments, transformations, exclusion rules, calculations, analysis steps and applicable software or equipment versions.

ATSS.ME.02 Statistical, computational, laboratory or qualitative analyses SHALL state their assumptions, unit of analysis, uncertainty, sample limitations and error sources. A qualitative finding SHALL identify its evidence-selection and interpretation procedure.

ATSS.ME.03 Research software, prompts, model configurations, notebooks, recipes, calculation logic or equivalent operational traces SHALL be preserved where they materially influence the result. A reproducibility package SHALL describe how an authorized reviewer can reconstruct the stated outputs.

ATSS.ME.04 Restricted data SHALL support controlled verification using anonymization, synthetic test data, enclaves, lawful researcher access or independently executable procedures. Restriction of raw data does not eliminate the obligation to preserve a verifiable method.

ATSS.ME.05 A methodological change made after an experiment, field collection or model evaluation SHALL be recorded with the reason, date, affected outputs and effect on the interpretation.

5. Evidence integrity and independent verification

ATSS.EV.01 Each major claim SHALL be linked to at least one identifiable supporting item, including page, timestamp, dataset slice, computation, protocol step, interview identifier or source record as applicable.

ATSS.EV.02 Evidence SHALL be classified in the record as direct observation, source testimony, independent corroboration, derived calculation, model estimate, interpretation or recommendation. Different evidence classes SHALL NOT be represented as interchangeable.

ATSS.EV.03 The work SHALL document accuracy checks, completeness checks and method-specific validity tests. Failure cases, contradictory observations and unresolved measurement uncertainty SHALL be recorded.

ATSS.EV.04 Independent review SHALL establish whether a competent reviewer can reconstruct the claim from the specified materials and method. A source list without a claim-to-evidence trace is insufficient for full ATSS conformity.

ATSS.EV.05 A published correction SHALL identify the affected edition, claims, evidence, verification results and corrected publication. Silent replacement of findings is prohibited.

6. Research ethics, rights and institutional accountability

ATSS.ET.01 Research SHALL document participant consent, relevant ethical approval, lawful data processing and safeguarding measures where applicable. Human-subject or vulnerable-population research SHALL follow the competent professional and legal requirements.

ATSS.ET.02 Authors SHALL declare material financial, institutional or methodological interests through the appropriate controlled channels. The public record SHALL contain the permitted disclosure class; it SHALL not expose confidential committee files.

ATSS.ET.03 Fabricated evidence, falsified observations, plagiarism, manipulated attribution and deliberate concealment of contradictory results violate this standard. Such cases SHALL follow a recorded investigation and correction procedure.

ATSS.ET.04 Data and knowledge originating in a community SHALL be handled consistently with applicable rights, research agreements, attribution, stewardship and benefit-sharing obligations. Unrestricted publication is not presumed to be authorized.

7. Usefulness, transformation and institutional transmission

ATSS.UT.01 A work SHALL state the intended utility or knowledge contribution: explanatory advance, validated method, technical system, service improvement, policy decision, educational transfer, risk reduction or an explicitly justified foundational result.

ATSS.UT.02 Claims of practical improvement SHALL identify measurable outputs, comparator or baseline, conditions, limitations and evidence supporting the claimed change. Aspirational impact SHALL be separated from observed impact.

ATSS.UT.03 The publication SHALL identify which outputs another institution can reuse, reproduce, adapt or challenge, including the conditions, license or permission pathway.

ATSS.UT.04 In cross-institutional projects, records SHALL identify data custody, maintenance capacity, dependency risks and the ability of participating institutions to preserve, understand and independently operate the research artefacts.

8. Accessible, multilingual and machine-readable publication

ATSS.PU.01 Research outputs SHALL provide an accessible document structure with identified language, semantic headings, usable reading order, captions, alternative text for meaningful figures and explicit table headers.

ATSS.PU.02 References SHALL be complete and resolvable where possible. Bibliographies SHALL distinguish primary data, peer-reviewed literature, standards, institutional publications, software and public commentary.

ATSS.PU.03 The publication record SHALL include a machine-readable metadata representation covering document identity, title, contributors or responsible roles, date, language, version, abstract, keywords, subject, license and relevant related identifiers.

ATSS.PU.04 Translation SHALL preserve the meaning of technical terms, normative obligations and evidentiary qualifiers. Distinct language editions SHALL be linked, versioned and separately checked.

ATSS.PU.05 Deposited files SHALL have SHA-256 hashes and preservation arrangements. Corrections and withdrawals SHALL update metadata and retain an accessible version history.

9. Conformity and assessment evidence

9.1 An ATSS conformant *work* SHALL satisfy every applicable SHALL requirement in sections 2–8. Non-applicable clauses require a documented scope explanation. A missing critical requirement cannot be compensated by a high score on unrelated criteria.

9.2 The conformity file SHALL include (a) controlled manuscript and metadata, (b) claim-to-evidence matrix, (c) methods and reproducibility record, (d) ethics and rights declaration, (e) review and correction history, (f) accessibility/translation checks, and (g) checksum manifest.

9.3 Self-assessments SHALL be identified as self-assessments. An independent conformity finding SHALL identify assessor authority, declared scope, evidence evaluated, decision date and reference. Neither finding constitutes an individual certification or an institutional accreditation.

9.4 Authoring-tool quality scores are informative diagnostics. A locally implemented scale, including a 0–4 scale, SHALL NOT be represented as an official PASC certification score without a separate governing scheme decision.

10. Publication and review controls

ATSS.GV.01 Each edition SHALL specify its publication authority, revision history, maintenance route and correction contact. Substantive revisions SHALL distinguish new obligations from editorial corrections.

ATSS.GV.02 An editorial process SHALL support evidence-based corrections and challenges, with a retrievable case reference, reviewer response and documented disposition.

ATSS.GV.03 Public publication MAY be provided through institutional OJS repositories, interoperable indexes, open repositories or approved preservation networks, provided version provenance and integrity remain traceable.

ATSS.GV.04 The PASC publication record SHALL identify relevant companion implementation rules separately from ATSS itself. Partner or contributor methodologies are cited under their own institutional names, without transferring their governance to PASC.

Annex A — Claim-to-evidence matrix (normative)

Field	Required content
Claim ID	Stable item identifier
Claim type	Observation / derived result / interpretation / recommendation
Source	Full identifier, date, collection context, custody
Method	Procedure, transformation, software or instrument
Check	Independent verification, competing source or reproduction test
Limitation	Known error, missing evidence, relevant boundary
Outcome	Supported / qualified / unresolved / corrected

Annex B — Minimum release record (normative)

Document ID, title, edition, publication date, responsible institution, language, status, normative scope, reviewer roles, abstract, keywords, source references, preservation location, associated files, SHA-256 digest, license/access conditions, correction contact and prior-edition reference.

Annex C — Interoperability (informative)

ATSS 1.2 may be used alongside DOI/Crossref metadata, ORCID, OAI-PMH, DataCite, ISSN, ISBN, institutional repositories, OJS publication workflows and discipline-specific reporting standards. PASC's publication-control implementation guide provides operational templates for versioning, review, accessibility and evidence packaging.

Publication history

Edition 1.2 — PASC institutional publication, November 2026.