

Session 10: Way Forward & Closing Ceremony: summary notes

GGOS-Africa 2026 Workshop, Nairobi · Wednesday 7 October 2026 · 16:09–17:15 EAT

Moderator: Jack Radcliffe (for Paul Baki, who joined later)

Written from the Zoom transcript, cross-checked against the Secretariat's slides, the action register and the resolutions document shown in the session. Please check against the recording, and refer to the final published resolutions, before quoting.

Key points

- **The Secretariat summarised the workshop and proposed an action register** leading to the **official launch of GGOS-Africa in 2027**. The register proposes the launch at the African Astronomical Society (AfAS) conference, 27 June – 2 July 2027, at Rhodes University, Makhanda, South Africa (still under discussion).
- **Countries are asked to:**
 - nominate **National GGOS Focal Points** (NGFPs) by **30 November 2026**;
 - send comments on the **Founding Framework and Terms of Reference** by **20 November 2026**.
 - The Secretariat will then form an Interim Steering Committee and four Technical Working Groups (a fundraising group was also suggested).
- **Eleven workshop resolutions were presented and adopted in principle**. Participants can comment further before the final version is published.
- **Leadership passes to Africa**. South Africa's Department of Science, Technology and Innovation will host the Secretariat, with **South Africa as founding Chair and Kenya as founding Vice-Chair**. The UK-funded pilot project hands over, and the website moves from Manchester to South African hosting.
- **Recordings, slides and session summaries** will be put online.

Talks

Hubert Mathebula: Workshop Summary and Way Forward for GGOS-Africa Implementation

(GGOS-Africa Secretariat, South Africa)

Recap, session by session:

- **Opening:** GGOS-Africa is internationally recognised. Africa has the expertise, infrastructure and history for geodetic excellence. The priority now is a coordinated, sustainable, politically supported continental geodesy ecosystem.
- **S1, global and African perspectives:** governance, coordination and sustainability are now bigger challenges than infrastructure. Operationalise and sustain what exists, embed geodesy in AU and African Space Agency structures, and invest in advocacy.
- **S2, GGOS-Africa:** a continental coordination platform organised around pillars:
 - infrastructure;
 - AFREF;
 - data sharing;
 - analysis centres;
 - human capital;
 - policy and advocacy;
 - partnerships.It must move from discussion to implementation and measurable outcomes.
- **S3, infrastructure:** substantial infrastructure exists. Strengthen continuity, data sharing and analysis; identify priority sites for fundamental stations; improve inventories and monitoring.
- **S4, frames and heights:** AFREF reaffirmed; more participation in AFREF data sharing and analysis needed; a unified African vertical reference system is important. Governance, data sharing and continuity remain the gaps.
- **S5, country presentations** (Ghana, Tunisia, Nigeria, Zimbabwe, Uganda, Cameroon): real progress

through innovative funding and governance models such as PPPs, but continuing problems with governance, maintenance, standards and data sharing.

- **S6, geodynamics, astronomy, space weather:** strong cross-domain links support a multi-domain approach, perhaps including a data-centre model spanning domains.
- **S7, GGOS Days:** affiliates stressed national capacity, contributions to international geodesy, networking and knowledge sharing.
- **S8, human capacity:** programmes exist but few progress to master's and PhD level. The survey identified the top five skill gaps. Proposals for regional training hubs with a common curriculum and for a Pan-African Geodetic Research Consortium.
- **S9, analysis centres:** a distributed network of analysis nodes, coordinated with UN-GGIM: Africa and AFREF, using existing HPC. Start by assessing what exists and who is willing.

Action register:

#	Action	Owner	Target
A1	Workshop report	Secretariat	27 Nov 2026
A2	Country inputs into the Terms of Reference	All countries	20 Nov 2026 (6 weeks)
A3	Final draft ToR, for adoption at the next GGOS-Africa meeting	Secretariat	27 Nov 2026
A4	Establish National GGOS Focal Points (application form and institutional support letter)	All countries	12 Oct – 30 Nov 2026
A5	Formalise membership. Registered NGFPs (plus co-opted members for unrepresented regions; at least one per region) form the Interim Steering Committee, which sets up Working Groups: Infrastructure Assessment, Simulation & Site Development; Analysis Nodes, Data Products & Standards; Capacity Development, Education & Training; Advocacy, Communication & Multi-Domain Partnerships	Steering Committee / Secretariat	30 Nov 2026 – 15 Feb 2027
A6	Response to the GGOS review: updated Founding Framework and ToR with the WP2 assessment, submitted with the workshop report	Secretariat	27 Nov 2026

#	Action	Owner	Target
A7	Formal launch of GGOS-Africa at the first GGOS-Africa meeting (proposed: AfAS conference, Makhanda, 27 Jun – 2 Jul 2027)	All	mid-2027
A8	Continental infrastructure and capacity assessment kept as a living document; NGFPs to validate their country's entry	NGFPs	Ongoing
A9	Move the website from University of Manchester to South African hosting	Secretariat	30 Nov 2026
A10	Launch a member resource hub, ideally shared with the UN-GGIM: Africa AFREF Working Group	Secretariat	30 Nov 2026

- The Secretariat will circulate guidance on how national focal points can be organised (based on South Africa's experience) and the registration forms.
- A representative must represent a national structure and have a supporting letter from a mapping agency or other formal geodetic body.
- A **fundraising working group** was suggested on top of the four.

Hussein Farah: Adoption of Workshop Resolutions

- The resolutions draw on each session. They begin “We, the participants...” because everyone owns them. Farah highlighted each one; participants can send further input (via a shared document) before the final version.
- **The eleven resolutions** (titles as in the document shown):
 1. **Establishment and strengthening of GGOS-Africa.** Welcomes its approval as a GGOS Affiliate (GGOS Governing Board, 21 September 2026). Calls for close coordination with UN-GGIM: Africa and its AFREF Working Group to avoid duplication. Thanks GGOS, South Africa's DSTI, UKRI/STFC and Manchester, and TU-K and the Survey of Kenya.
 2. **Strengthening AFREF.** Countries to contribute GNSS data to AFREF (subject to national policy), support African AFREF data and analysis centres, and hold regular continental computations.
 3. **CORS and geodetic infrastructure.** Coordinated expansion and sustainable operation, standards, quality monitoring, and PPPs where appropriate.
 4. **Vertical reference systems.** A unified African vertical reference frame with AFREF and the African Geoid Project; share levelling, gravity and tide-gauge data.
 5. **Fundamental stations and space geodesy.** Notes Africa has one functional geodetic VLBI station and one active ILRS station (both at Hartebeesthoek) and DORIS in only three countries. Requests a prioritised continental infrastructure plan.
 6. **Data and analysis centres.** Move the distributed analysis node network to implementation. Expressions of interest from host institutions by 30 November 2026. Goal: at least two African institutions recognised as analysis centres by the end of 2028.
 7. **Human capacity and education.** Joint courses and postgraduate programmes. A training programme built on the five priority needs from the assessment, with RECTAS/AFRIGIST and RCMRD as anchor partners and a first school by end-2027 (subject to funding). Early-career participation and gender balance as standing objectives.
 8. **Data sharing, standards and interoperability.** FAIR-aligned open sharing as a founding principle, with data sovereignty resting with countries. The continental assessment maintained as a living

dataset.

9. **Geodesy for societal and scientific applications:** climate, disasters, land administration, engineering, agriculture, hydrology, coasts and sea level, Earth and space science.
 10. **Partnerships and resource mobilisation.** A sustainable funding model and resource-mobilisation strategy, since the UKRI/STFC seed funding ends in 2027. A formal working arrangement with the UN-GGIM: Africa AFREF WG. Engagement with North Africa (ARABREF), and with AfAS, the African Space Agency and related communities.
 11. **Governance, coordination and implementation.** Endorses the Founding Framework and ToR (draft v1.7) with South Africa as founding Chair and Secretariat host and Kenya as Vice-Chair. NGFPs invited, with at least one per region needed to adopt the ToR. Four Working Groups. Launch in South Africa in 2027 and a **second continental workshop in 2028** in a different region. The report, with resolutions and action register, to be published open access with a DOI within eight weeks; presenters invited to deposit slides in the GGOS-Africa Zenodo community.
- **Adopted** in the room by acclamation (“They’ve given me a hammer... adopted”), subject to the final comments round.

Jack Radcliffe: Official Closing

(Project lead, GGOS-Africa pilot project, University of Manchester)

- **The workshop crowns 18 months of the pilot project.** It assessed Africa’s geodetic infrastructure and human capacity, planned where new infrastructure should go, trained the next generation, raised awareness of geodesy for sustainable development, and set up GGOS-Africa.
- **Recap:**
 - The continental assessment: infrastructure responses from 22 countries, human capacity from 16. He urged participants to check it and fill in missing entries.
 - The space-geodesy gap: one VLBI station (soon two, with Nigeria) and DORIS beacons in only three countries, a weakness for the global frame.
 - AFREF, CORS, vertical datums, country experiences, geodynamics, astronomy, space weather, AFRIGIST and RCMRD, the GGOS affiliates, and analysis centres.
- **Next steps:** the official launch of GGOS-Africa, the handover from the pilot project, the first Extended Steering Committee with full members, and a second continental workshop after that.
- **GGOS-Africa was approved two weeks ago** as the newest GGOS affiliate. GGOS President Laura Sánchez called it an important step and a great opportunity to strengthen collaboration with the African geodetic community.
- **Handover:** “GGOS-Africa should be led from Africa.” South Africa’s Department of Science, Technology and Innovation will hold the Secretariat, with South Africa as founding Chair and Kenya as founding Vice-Chair.
- **Thanks:**
 - Hosts: Technical University of Kenya (Prof. Paul Baki; the Vice-Chancellor) and the Survey of Kenya (Director Weldon Maritim).
 - Funders: UKRI and STFC through the Africa-UK Physics Partnership, the University of Manchester, and partner countries Kenya, South Africa, Ghana and Uganda.
 - The IAG, GGOS, UN-GGIM: Africa and UN-GGCE (André Nonguierma, Richard Gross, Laura Sánchez, Nicholas Brown); the speakers and moderators; participants in the room and online; and the local organising committee.
- **Outputs:** recordings and slides will be deposited on the website (unless anyone has reservations), along with session summaries. “This is the first GGOS-Africa workshop. Let’s make sure it’s the first of many.”

Vote of thanks (participant, on behalf of the participants): thanks to the organisers, TU-K and the South African team for bringing people together. “GGOS-Africa has come to stay.”

Housekeeping: anyone with Kenya Airways rescheduling problems should contact the Secretariat so airport transfers can be adjusted.

Actions and follow-ups mentioned

- See the action register above. Key dates: ToR comments by **20 Nov 2026**; NGFP nominations **12 Oct – 30 Nov 2026**; workshop report and response to the GGOS review by **27 Nov 2026**; website handover and resource hub by **30 Nov 2026**; analysis-node expressions of interest by **30 Nov 2026**; Interim Steering Committee and Working Groups by **15 Feb 2027**; launch in **2027**.
- Final comments on the resolutions via the shared document, then publication with the workshop report (open access, with a DOI).
- Recordings, slides and session summaries to be posted on the workshop website; presenters invited to deposit slides in the GGOS-Africa Zenodo community.