

SWALIM Quarterly Newsletter

UPDATE

April - June 2026

Gu 2026: Navigating Uneven Recovery and Rising Flood Preparedness Needs

The Gu 2026 rainy season (March–May) presented a complex picture across Somalia, reinforcing the importance of timely climate information in supporting humanitarian preparedness and resilience. While much of south-central Somalia received near-normal rainfall that improved water availability, pasture conditions and crop performance, the northern parts especially Puntland and parts of Somaliland experienced significant rainfall deficits, delayed onset and prolonged dry spells, prolonging drought conditions and limiting livelihood recovery.

Throughout the season, FAOSWALIM in collaboration with line ministries and partners continued to play a central role in monitoring evolving climate conditions and translating scientific information into actionable intelligence for government and humanitarian partners. Through an integrated system of meteorological, hydrological and drought monitoring, timely information that supported preparedness, early action and evidence-based decision-making across Somalia was produced and disseminated.

The season was characterized by highly uneven rainfall distribution. Southern riverine and agropastoral areas experienced localized recovery following improved rainfall, while many northern areas remained under significant drought stress due to below-average rainfall and prolonged dry spells. FAOSWALIM closely monitored these changing conditions through its weekly weather forecasts, seasonal climate outlooks, Combined Drought Index (CDI), river monitoring bulletins and the Gu 2026 Rainfall Performance Review, enabling partners to identify areas of recovery alongside persistent drought hotspots.

Beyond routine monitoring, FAOSWALIM significantly strengthened humanitarian preparedness by providing technical analyses and climate briefings to the National Food Security Cluster, Inter-Cluster Coordination Group (ICCG), donor forums and the Humanitarian Country Team (HCT). These products helped partners distinguish between areas experiencing partial recovery and areas where drought stress persisted, while also preparing for an increasingly complex risk environment in which drought, riverine flooding and flash-flood hazards may overlap.

FAOSWALIM also continued to support anticipatory action planning by providing climate risk assessments, seasonal outlooks and early warning information. River monitoring along the Juba and Shabelle rivers, combined with rainfall observations and hydrological forecasts, supported timely flood advisories and preparedness planning in flood-prone areas, while drought monitoring continued to guide interventions in regions where rainfall recovery remained limited. Recognizing that climate risks evolve beyond a single season, FAOSWALIM also monitored large-scale climate drivers, including the developing El Niño, and communicated its potential implications through seasonal outlooks and technical advisories. While forecast confidence was still evolving during the quarter, these analyses provided valuable early indications of increased flood risk later in the year and supported forward-looking preparedness planning.

The Gu 2026 season demonstrated that effective climate services extend beyond producing forecasts—they require transforming scientific information into practical guidance for decision-makers. Through its integrated monitoring systems, technical analyses and close engagement with government and humanitarian partners, FAOSWALIM continues to strengthen Somalia's capacity to anticipate, prepare for and respond to climate-related hazards, ensuring that climate information informs timely action and protects lives and livelihoods.

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SWALIM Portals

- Somalia water sources information management system ([SWIMS](#))
- Flood risk and response information management system ([FRRIMS](#))
- Somalia national river flow archive ([NRFA](#))
- Somalia climate timeseries and ground water data ([CTSD](#))
- Drought monitoring tool for Somalia ([CDI](#))
- Somalia spatial data portal ([SDP](#))

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Land Cover, Land Degradation and Drone-Based Watershed Mapping: Advancing Somalia's Resilience

Reliable information about land and water is one of the most powerful tools Somalia has for building a more resilient future. Between April and June 2026, FAOSWALIM in collaboration with the Federal Ministry of Agriculture and Irrigation, the Ministry of Environment and Climate Change, the State Ministries of Agriculture of Hirshabelle, Southwest and Jubaland, and the Information Management Centre of Puntland, delivered a series of results that put reliable land and water evidence directly into the hands of government institutions, communities and development partners.

- **10.4 million hectares mapped** across the Juba-Shabelle riverine corridor.

- **Six Puntland sub-watersheds assessed** using drone imagery, satellite data, field surveys and community consultations.
- **Nationwide Prosopis field data collection completed** across ten priority districts.

Together, these achievements help ensure that Somalia's decisions on food security, climate adaptation and natural resource management are grounded in evidence and that the institutions and partners who invest in that evidence see a clear return in better-targeted, better-informed programming.

Mapping Somalia's Breadbasket: The 2026 Riverine Area Land Cover Map

Somalia's most important farming landscape has now been mapped in greater detail than ever before. The 2026 Riverine Area Land Cover Map, finalised by FAOSWALIM with the Federal Ministry of Agriculture and Irrigation and the State Ministries of Agriculture of Hirshabelle, Southwest and Jubaland, covers 10.4 million hectares of the Juba and Shabelle river corridors, the country's breadbasket. It is the first major update to this critical dataset in nearly two decades; the previous FAOSWALIM baseline dates to 2007.

The map combines very high-resolution satellite imagery, object-based image analysis, visual interpretation and field validation. It is classified using [Somalia's new National Land Cover Reference System](#), ensuring that government institutions and partners apply a common standard when describing land cover.

Natural and semi-natural vegetation still dominates the corridor, covering 8,225,746 hectares (78.9%), but cultivated and managed vegetation has expanded to 1,920,214 hectares (18.4% of the mapped area), an increase of about 20% since 2007.

Rainfed cropping accounts for two-thirds of that growth, with irrigated and post-flooded systems making up the remainder, concentrated in Lower Shabelle, Middle Shabelle and Middle Juba. Artificial surfaces, towns, villages, airports and IDP settlements have grown more than six-fold since 2007, from 13,860 to 106,933 hectares, reflecting rapid urban expansion in Mogadishu and secondary towns.

The three Federal Member States in the corridor show markedly different profiles (Table 1). Southwest State, the largest component at 4.1 million hectares, is the most intensively cultivated: agriculture covers nearly 26% of the state, driven by extensive rainfed sorghum and maize in Bay and Bakool and intensive irrigated production in Lower Shabelle.

Jubaland, by contrast, remains overwhelmingly under natural vegetation (90.7%), with cultivation confined narrowly to the Juba River. Hirshabelle sits between the two, with a mixed agropastoral and riverine profile split roughly evenly between rainfed and irrigated cropping. This detail lets government and donor partners target investment to the realities of each state, rather than a single national assumption.

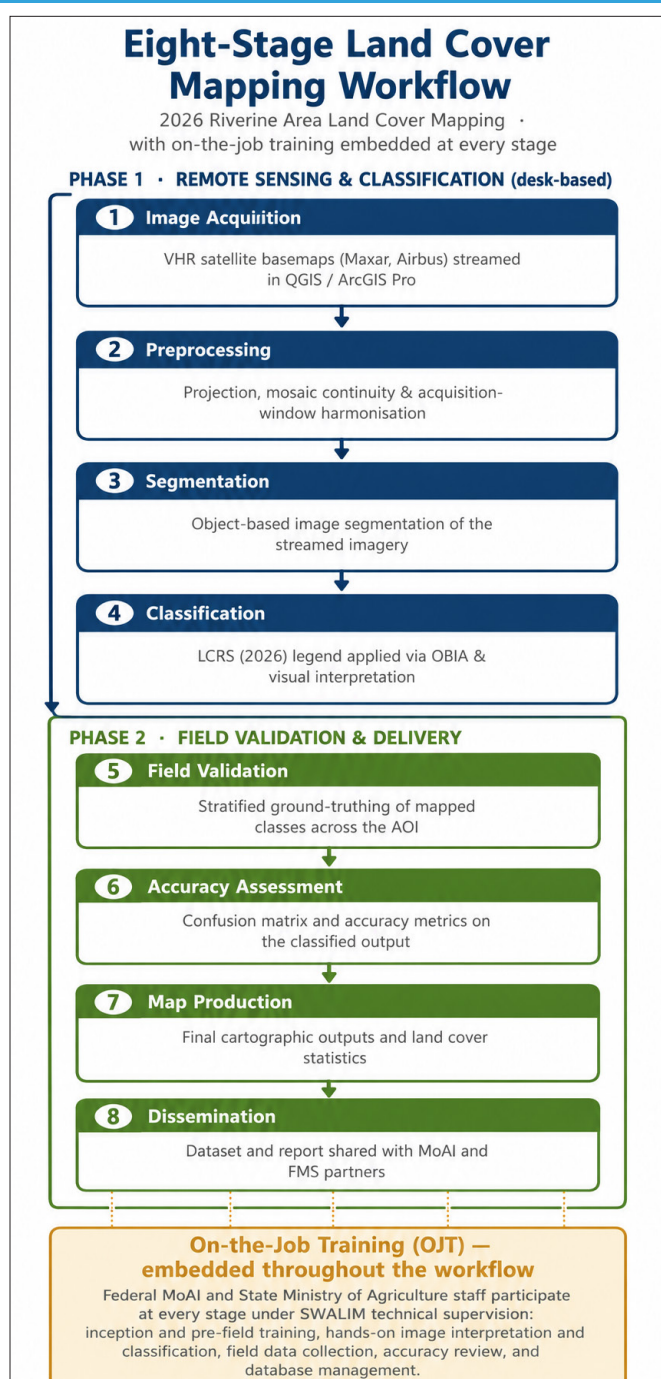


Figure 1: The eight-stage land cover mapping workflow applied in the 2026 Riverine Area assessment, from image acquisition through field validation to dissemination, with on-the-job training embedded at every stage. Source: FAO SWALIM, 2026

Land Cover Change in the Riverine Corridor, 2007-2026

By high-level LCRS category (million hectares)

2007 2026

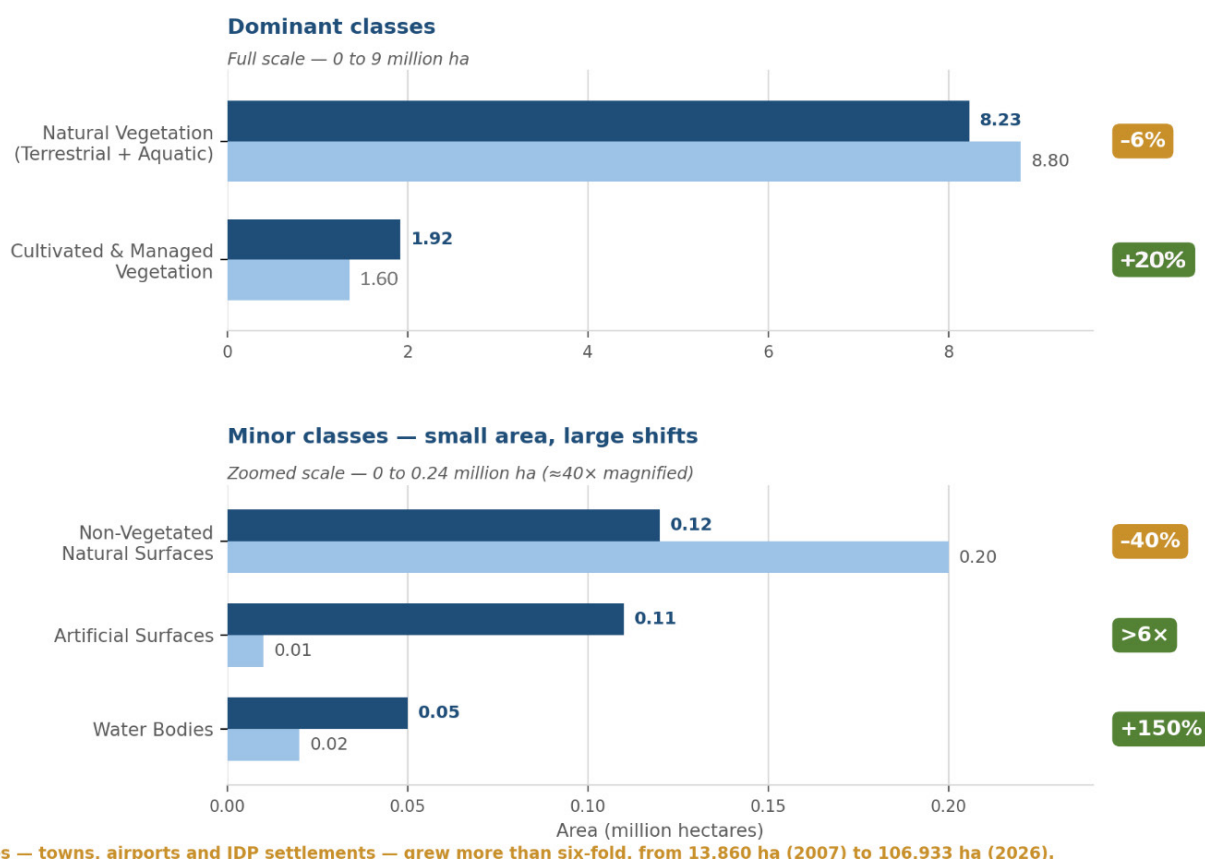


Figure 2: Land cover change in the riverine corridor between 2007 and 2026, by high-level LCRS category. Source: FAO SWALIM, 2026 Riverine Area LCM Report.

Agricultural land in the Juba-Shabelle corridor has expanded by 20 percent since 2007, while artificial surfaces have grown more than six-fold, evidence that is critical for water allocation, food security planning and land-use governance.

State / Administration	Status	Area (ha)	% of AOI	Natural Veg. %	Cultivated %
Hirshabelle State	Federal Member State	2,540,869	24.4%	72.7%	23.9%
Southwest State	Federal Member State	4,117,231	39.5%	71.5%	25.9%
Jubaland State	Federal Member State	3,744,054	35.9%	90.7%	6.6%
Banadir Regional Admin.	Regional Administration	21,290	0.2%	49.0% (shrub)	1.6%
Total AOI	—	10,423,444	100.0%	78.9%	18.4%

Table 1: Administrative and land cover breakdown of the 2026 Riverine Area of Interest. Source: FAO SWALIM, 2026 Riverine Area LCM Report.

The initiative drew on the combined support of the World Bank (Somalia Crisis Recovery Project), the European Union (CLIMB programme) and the Government of Sweden through Sida (Building Resilience in Middle Shabelle project), a rare alignment of three major donors behind a single national dataset, and a strong signal of confidence in FAOSWALIM's technical model. It also strengthened Somalia's own institutions.

More than 35 government staff from the Federal Ministry of Agriculture and Irrigation and the State Ministries of Agriculture of Hirshabelle, Southwest and Jubaland took part in a structured, six-month on-the-job training programme spanning inception training, satellite image interpretation, field data collection and database management, hands-on capacity that will let these institutions sustain and update this vital dataset long into the future, at progressively lower cost to donors.

Drone Mapping and Field Data Collection Across Puntland's UGBAAD Sub-Watersheds

Land cover is only part of the picture. FAOSWALIM also strengthened Somalia's evidence base for climate-smart agricultural investment through an intensive programme of drone-based field mapping and land assessment across Puntland. Under a Letter of Understanding with the Information Management Center for Water and Land Resources in Puntland, FAOSWALIM supported integrated assessments of land capability, water resources, community livelihoods and local institutions across six sub-watersheds: Eyl, Aftogweyne and Ceelmadoobe in Eyl District, and Timirka, Abareey and Qabaal in Garowe District. The work supports Outcome 1 of the Green Climate Fund's UGBAAD project establishing inclusive, climate-informed Landscape Management Committees and co-developing participatory, evidence-based Landscape Management Plans.

IMC's technical team combined very high-resolution drone imagery (16 cm) with Landsat 8 satellite imagery, Digital Elevation Models and GPS-referenced field surveys to map land use and land cover across all six watersheds, classified against the FAO Land Cover Classification System (LCCS3). In the Eyl watershed alone, a 9,518-hectare catchment on the Nugaal coast, the classification achieved 82% overall accuracy against independent GPS reference points, a level of precision that gives government and donor partners confidence in the data behind investment decisions. Household surveys, key informant interviews, focus group discussions and structured GPS observation ground-truthed the drone and satellite interpretation, while community mobilisation and sensitisation meetings with district authorities, traditional elders, women's groups and youth secured local ownership of the process.

The combined drone, satellite and field datasets were processed in ArcGIS Pro, QGIS and Google Earth Engine to produce a suite of thematic outputs for each watershed: land use and land cover maps, land capability classification maps, watershed and drainage network maps, and soil loss and erosion risk maps. In the Eyl watershed, for example, the assessment mapped 22 water sources, including boreholes, dug wells and springs and flagged drainage lines exposed to severe soil loss along the main wadi channels, evidence now feeding directly into the design of erosion control and water harvesting interventions. Beyond the biophysical mapping, IMC's teams carried out socio-economic baseline and institutional profiling surveys across the six watersheds, documenting demographics, livelihoods, resource dependence and vulnerability to drought and water scarcity, alongside the roles and capacities of local government, traditional leadership and community-based organisations.

These findings were integrated with the land cover, land capability and water resource datasets in a landscape and climate risk scenario analysis, overlaying drought, flood, land degradation and socio-economic vulnerability data to pinpoint priority intervention areas. Together, this evidence base is directly shaping the Landscape Management Plans that communities in Garowe and Eyl will use to guide restoration, water harvesting and climate-resilient investment under the UGBAAD project, a replicable, cost-effective model that FAOSWALIM and the Government of Puntland are well placed to extend to further watersheds as financing allows.

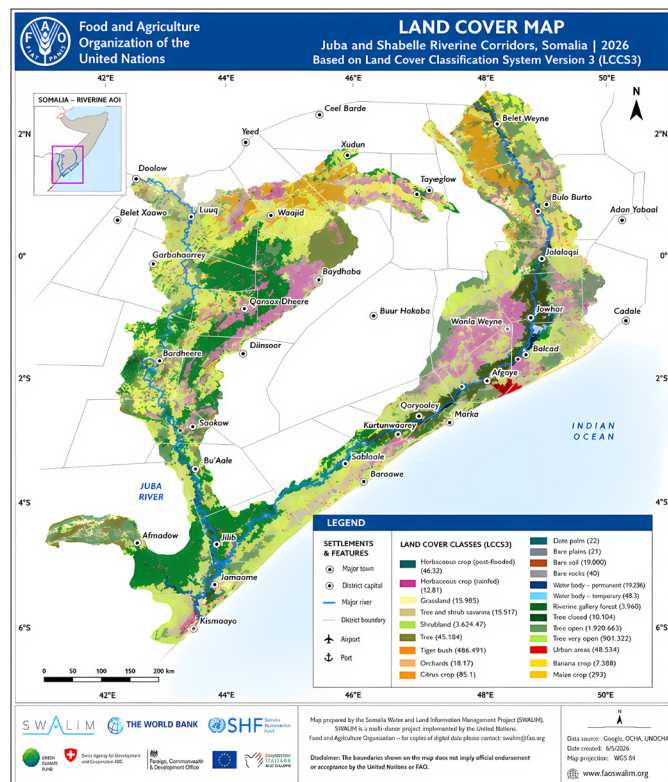


Figure 3: The 2026 Land Cover Map of the Juba and Shabelle riverine corridors, mapped at 1:5,000 scale, showing the distribution of cropland, tree and shrub formations, urban areas and water bodies. Source: FAO SWALIM, 2026.



Figure 4: drone imagery captured during the 2026 field mapping campaign, showing a settlement fringe. Source: IMC PL



Figure 5: Drone imagery showing open shrubland, the dominant land cover type across the assessment area. Source: IMC PL



Figure 6: Image from a field team recording a ground-truth observation during drone and satellite validation surveys in the Eyl watershed. Photos: IMC PL.



Figure 7: Riparian vegetation along a seasonal watercourse in the Eyl watershed, one of six sub-watersheds assessed under the UGBAAD project. Photos: IMC PL.

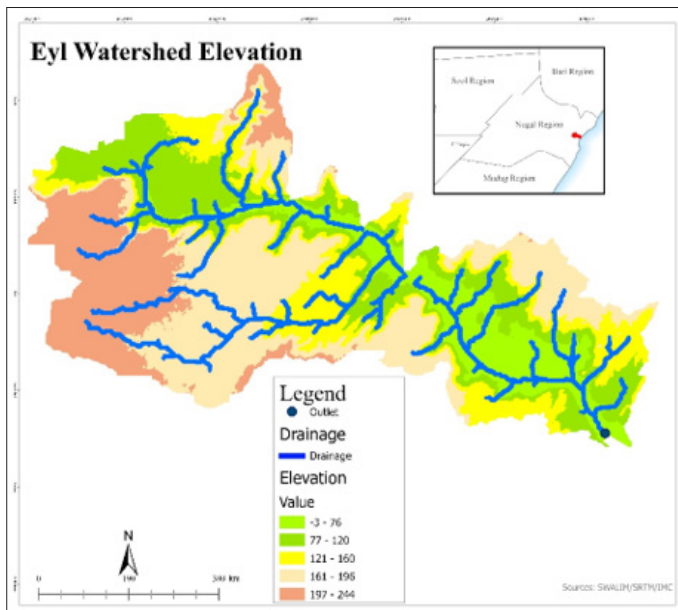


Figure 8: Watershed elevation and drainage network for the Eyl sub-watershed, derived from drone imagery and DEM. Source: IMC PL

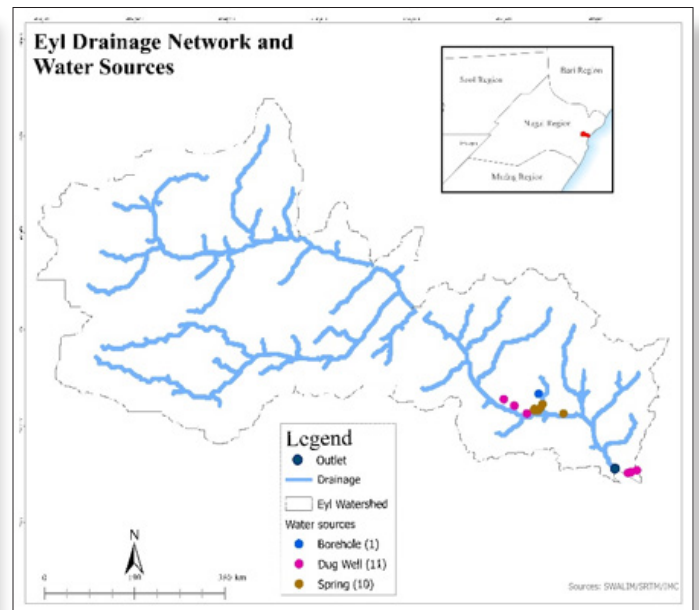


Figure 9: Mapped water sources — boreholes, dug wells and springs — identified through field survey and drone-supported mapping. Source: IMC PL

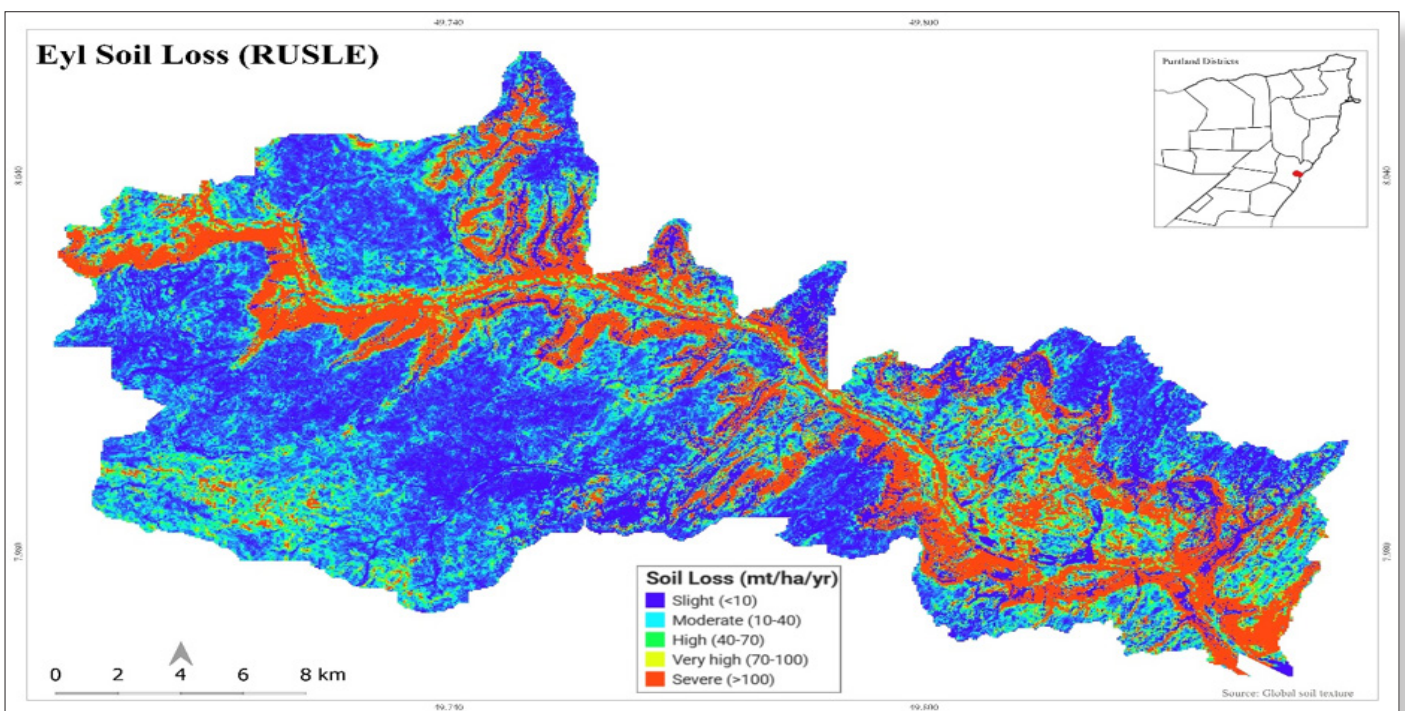


Figure 10: Modelled soil loss (RUSLE) across the Eyl watershed, highlighting severe erosion risk along the main drainage channels — evidence used to prioritise restoration investment. Source: IMC PL field and geospatial assessment, 2026.

Turning the Tide on an Invasive Species

Prosopis, one of the most damaging invasive plants in the Horn of Africa, has spread for years along riverbanks, grazing land and irrigation canals, blocking community access to water and shrinking the land available for livestock. Building on a mapping and training programme launched earlier in the year with environment ministries and authorities from Hirshabelle, Jubaland, Puntland, Somaliland, Galmudug and Southwest State, FAOSWALIM completed a nationwide field data collection campaign across ten priority districts.

Government enumerators used ODK mobile data collection tools to gather at least 100 GPS-referenced sample points per district, evenly split between confirmed Prosopis presence and absence, and building on preliminary distribution maps generated by a machine-learning model trained on earlier reference data.

This far more representative dataset is now being used to validate the preliminary maps and retrain the machine-learning model. The next step is to use the validated field data to further improve the model and produce a more reliable national Prosopis risk map for investment planning, enabling future outputs to capture the true extent of Prosopis far more accurately.

The resulting evidence is sharpening Somalia's understanding of where the species poses the greatest risk and directly informing future investment in the control, restoration and protection of the water points, canals and grazing reserves that rural communities depend on, a clear example of donor-funded science translating into targeted, cost-effective action.

"Nationwide field data collection on Prosopis is complete — turning a rough estimate into the operational evidence Somalia needs to protect its grazing land and water access."

Accessing SWALIM Water and Land Information for a Resilient Somalia

For over two decades, the Somalia Water and Land Information Management project (FAOSWALIM) has worked to fill the information gap left by the collapse of Somalia's hydrometeorological monitoring network. Today, SWALIM in collaboration with Somalia line ministries, manages one of the richest collections of water, land, and climate data and information in the Horn of Africa.

Every dataset, map, report, and early warning bulletin that is produced by SWALIM is shared freely and openly with government institutions, humanitarian partners, researchers, and the public. At the heart of this open-data commitment is the SWALIM website, faoswalim.org, which serves as the gateway to a family of specialized online platforms.

The SWALIM data platforms

Behind every SWALIM product, be it a bulletin, map or a forecast, lies a suite of dedicated online platforms, each built purposefully to serve a specific information need from real time flood monitoring to long term climate records archival. Developed and refined over years in close collaboration with Somali government institutions and humanitarian partners, these platforms transform raw field observations, satellite imagery and station data into accessible, decision-ready information.

All the systems are web-based, free to access, and available around the clock to anyone with an internet connection. The platforms below form the backbone of SWALIM's open data ecosystem.

FRRIMS: [Flood Risk and Response Information Management System](#)

FRRIMS provides near real time river levels, seven-day rainfall and flood forecasts, river breakage maps and datasets, vegetation conditions, and temperature outlooks. During flood seasons, FRRIMS is Somalia's flood intelligence hub for the Juba and Shabelle rivers. It is the go-to reference for government flood task forces, humanitarian clusters, and communities along the riverine areas.

SWIMS: [Somalia Water Sources Information Management System](#)

SWIMS is a live, interactive database of strategic water sources including boreholes, dug wells, springs, and berkads across Somalia. Agencies drilling, rehabilitating, or managing water points use SWIMS to collect, update, and share water source information, help coordinate WASH investments and drought response, and avoid duplication of effort.

CLIMSERIES: [Somalia Climate Time Series Data](#)

CLIMSERIES provides access to historical and current hydromet observations including rainfall, river levels, temperature, and other climate variables from SWALIM's network of automatic and manual weather and river gauge stations, some with records stretching back decades. It is an invaluable resource for researchers, climate analysts, and project designers.

CDI: [Combined Drought Index](#)

The CDI integrates rainfall, vegetation, and temperature indicators into a single drought monitoring index, mapped by district. It is a cornerstone of drought early warning in Somalia and a key input to food security analysis and drought emergency declarations.

GeoNetwork: [Spatial Data Portal](#)

SWALIM's geospatial portal hosts downloadable GIS layers and metadata on soils, land suitability, land degradation, drainage, water points, administrative boundaries, and satellite derived products supporting mapping and analysis by partners across sectors.

How stakeholders can access the data

Accessing SWALIM data is simple and free. Stakeholders can browse and download information directly from any of the platforms above at no cost, with most content requiring no registration. Those who wish to receive rainfall forecasts, flood bulletins, and drought updates directly by email can subscribe to the SWALIM mailing list through the website.

For specific data needs, government ministries, UN agencies, NGOs, academia and development partners can request tailored datasets or analysis by contacting SWALIM at, swalim@fao.org, where the team is ready to assist. In addition, the Digniin SMS early warning service delivers flood alerts in Somali directly to at risk riverine communities, ensuring that life-saving information reaches those who need it most even without internet access.

Data that saves lives and shapes decisions

SWALIM data is not information for its own sake, it drives decisions. Flood early warnings disseminated through FRRIMS, and the Digniin SMS system have reached communities with hundreds of thousands of alert messages, enabling timely evacuations during events such as the 2023 El Niño floods in Belet Weyne and contributing to significant reductions in flood losses. The CDI underpins drought monitoring that informs national emergency declarations and humanitarian response planning. SWIMS guides water infrastructure investment, while SWALIM's soils, land suitability, and land degradation datasets support evidence-based agriculture and watershed management.

Equally important, SWALIM data strengthens Somali institutions. Through Information Management Centres in Puntland and Somaliland, and continuous capacity development with federal and state ministries. Institutional ownership and the capacity of Somali counterparts to use, manage and progressively sustain these platforms are being strengthened, ensuring the data serves Somalia long into the future.

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