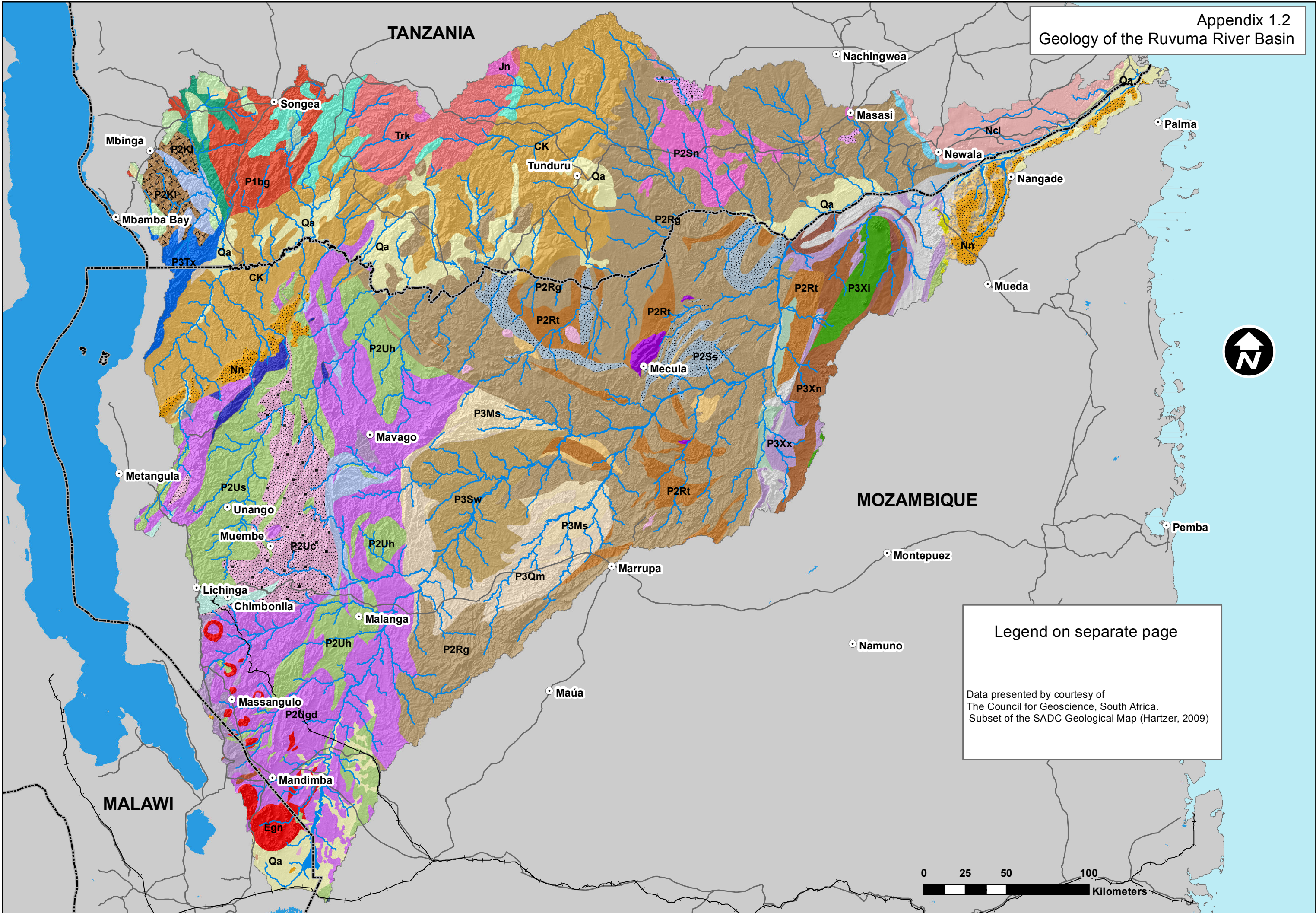


GEOLOGY LEGEND

	Eal	Alkali granite, perthitic gneiss and syenite, including the Dedza Syenite and the UlçnguŠ Suite (Pan African) [A, N,
	P1bg	Biotite Granite (Post Tectonic) [ML, T]; granite, syenite
	Ncl	Cenozoic continental and lacustrine sedimentary rock; including the Rukwa Formation, Manonga-Wembere Formation, Ten
	P2UI	Chala Gneiss [MZ, ML]; banded mafic granulitic gneiss
	P2Uc	Chiconono Gneiss [MZ, T]; granitic gneiss
	Cde	Dwyka, Eccca Groups [ZB, MZ, T]; Tillite, mudstone, coal, sandstone, sitstone
	Pe	Eccca Group [SA, A, N, MZ, T, B, SW]; shale , mudstone, sandstone, coal
	Qe	Eolian sand [MZ, SA]
	P2Sm	Gneiss and migmatitic gneiss (Southern Mozambique Belt) [T]
	Egr	Granite (Pan-African) [ML, ZB, MZ, D]; granite, microgranite, syenite
	P2Sg	Granite, granodiorite (Southern Mozambique Belt) [T]
	P2Sn	Granitic Gneisses (Southern Mozambique Belt) [T]
	P2Kg	Granulite, granulitic-charnockitic gneiss (Kibaren) [ZM, ML]; granulite, granulitic gneiss, charnockitic gneiss, hy
	P2KI	Kapalagulu Complex [T]; mafic and ultramfic rock
	CK	Karoo Supergroup [SA, T, ZM, ML, SW, MZ, N]; shale, sandstone, mudstone, tillite, coal
	P2K	Kibaren Gneiss [ZB, ZM, D, ML]; migmatitic gneiss, gneiss, granitic gneiss, granite
	P2Us	Lichinga Gneiss [MZ]; migmatitic enderbitic to charnockitic granofels and gneiss
	Crmc	M'Sawize Complex [MZ]; granodioritic to gabbroic gneiss, metagabbro, amphibolite, migmatitic granite
	Nn	Macomia Formation [MZ]; sandstone, conglomerate
	P2Rt	Marine Neogene Sediments, including the Puga Group, Mikindani Formation, Chinda Formation, Quissanga Formation, Alt
	P2Rd	Marrupa Complex banded tonalitic gneiss [MZ, T]; banded biotite-rich tonalitic gneiss, leucogneiss
	P2Rg	Marrupa Complex dioritic gneiss [MZ]
	P2Um	Marrupa Complex granodioritic gneiss [MZ, T]; granodioritic gneiss, granitic gneiss
	P2Ss	Meponda Gneiss [MZ]; biote, biotite-hornblende gneiss
	Trk	Metasedimentary rock (Southern Mozambique Belt), Marrupa Complex [T, MZ]
	Ems	Mkuju Formation [T]; feldspathic sandstone, calcareous sandstone, siltstone
	P3Sw	Monte Sanga Quartz Porphyry [MZ]
	P3Qm	Muaquia Complex meta-igneous rock [MZ]; granitic to granodioritic gneiss, amphibolitic gneiss

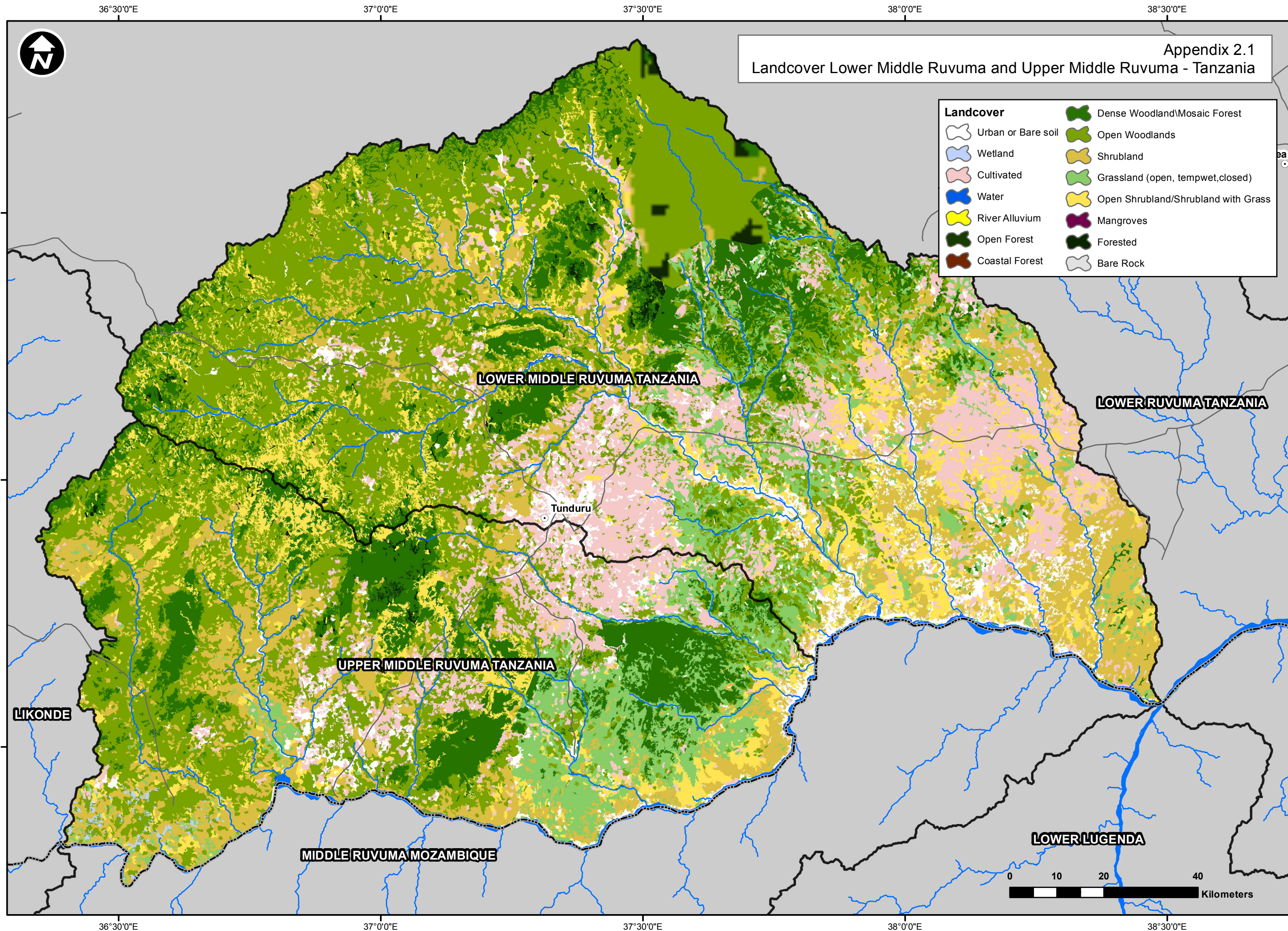
Legend to the Geology of the Ruvuma River Basin

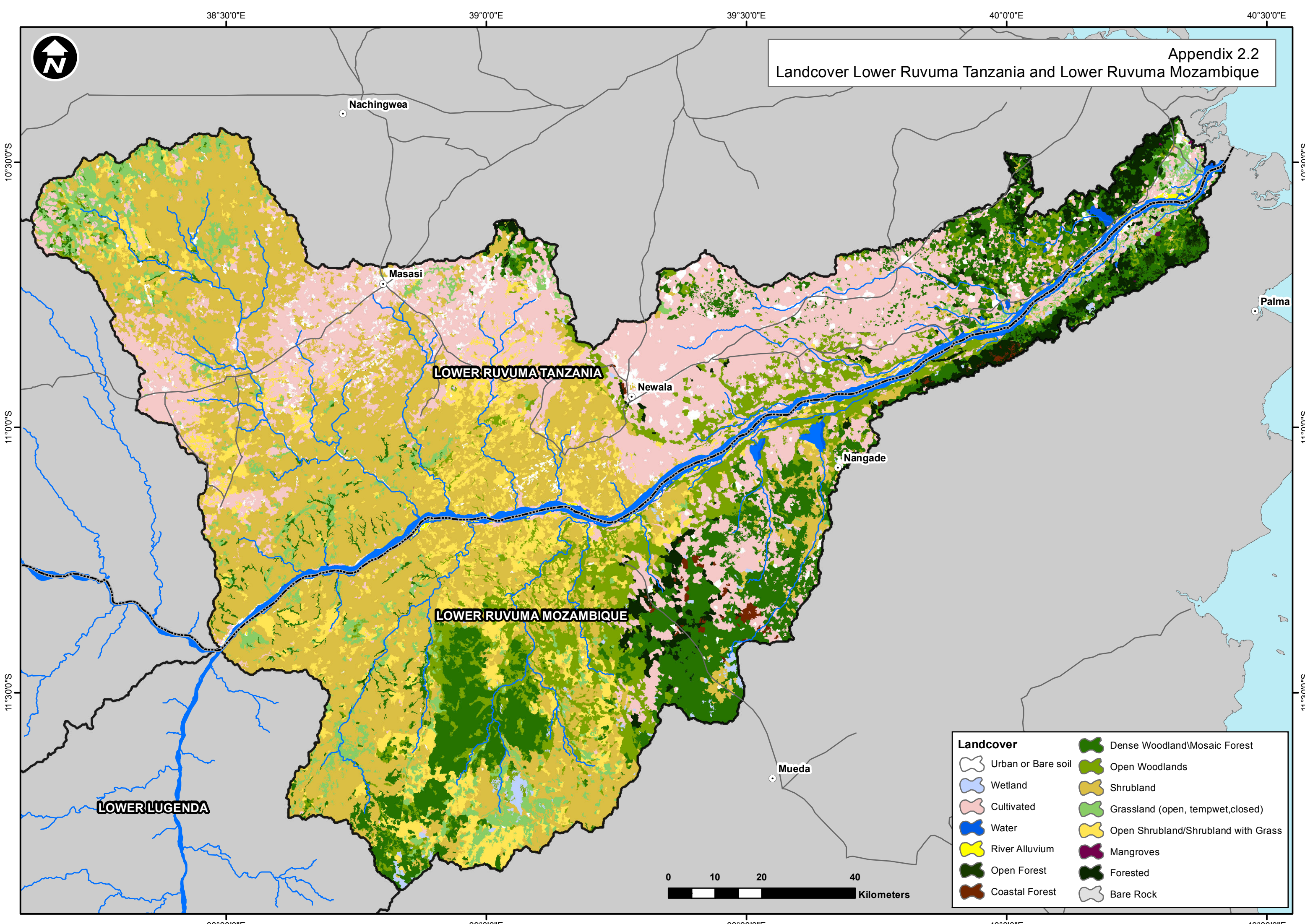
	P3Ms	Muaquia Complex metasedimentary rock [MZ]; quartz-feldspar gneiss, muscovite-biotite gneiss, meta-arkose
	P2Ku	Mung ri Gneiss [MZ]; garnet gneiss-granite, metasedimentary rock
	P2NR	N'Gapa Formation, Rio Mecole Formation [MZ]; arkosic sandstone, conglomerate
	Jn	Nairoto Complex [MZ]; metasandstone, biotite gneiss, granitic to granodioritic gneiss
	TrG	Nandanga Formation [T]; conglomerate, arkose, sandstone
	Egn	Niassa Suite [MZ, ML]; granite, syenite, quartz syenite
	Qa	Quaternary sediments [A, B, D, N, ML, MZ, SA, T, ZB, ZM]; alluvium, sand, gravel, calcrete
	P3Na	Serra Mecula Granodiorite [MZ]; granodioritic to granitic pegmatite
	P3Xn	Sierra Nacaga Suite [MZ]; tonalite, metagabbro, quartz diorite
	P3Tx	Txitonga Group [MZ, T]; metasandstone, metagreywacke, quartz-mica schist, chlorite schist, greenstone, greenschist,
	P1Uc	Ubendian Complex charnockitic rock [T]
	P1Un	Ubendian Complex gneiss [T, ZM, ML]
	P2Ua	Unango Complex banded migmatitic and augen gneiss [MZ, ML]
	P2Uh	Unango Complex charnockitic to enderbitic granofels and gneiss, including the Monte Linasse Granofels [MZ, ML]
	P2Ugr	Unango Complex granite [MZ]; granite, leucogranite, monzonite
	P2Ugd	Unango Complex granitic to granodioritic gneiss [MZ, ML]
	P2Uss	Unango Complex metasedimentary rock [MZ]; biotite gneiss, quartz-feldspar gneiss, hornblende gneiss, migmatitic str
	CrIm	Undifferentiated Middle and Lower Cretaceous sedimentary rock, including the Mamvuji Group (marine) [T]; shale, san
	P1U	Undifferentiated Ubendian Complex [T, ZM, ML]; amphibolite, granulite, granite, gneiss, charnockite, anorthosite, m
	P1A	Undifferentiated Usugaren Complex [T]; granulite, metasediment, migmatitic gneiss
	Pbu	Upper Karoo Group [SA, MZ, ZB, ZM]; granulestone, sandstone, conglomerate, siltstone
	P1Am	Usugaren Complex migmatitic gneiss [T]
	P3Xa	Xixano Complex amphibolitic gneiss [MZ]
	P3Xg	Xixano Complex granitic to granodioritic gneiss, including the Monte Mapancane Granite [MZ, T]; Granitic to granodi
	P3Xi	Xixano Complex meta-igneous rock [MZ]; metagabbro
	P3Xx	Xixano Complex metasedimentary rock [MZ]; metarhyolite, marble, quartz-feldspar gneiss, mafic granulite

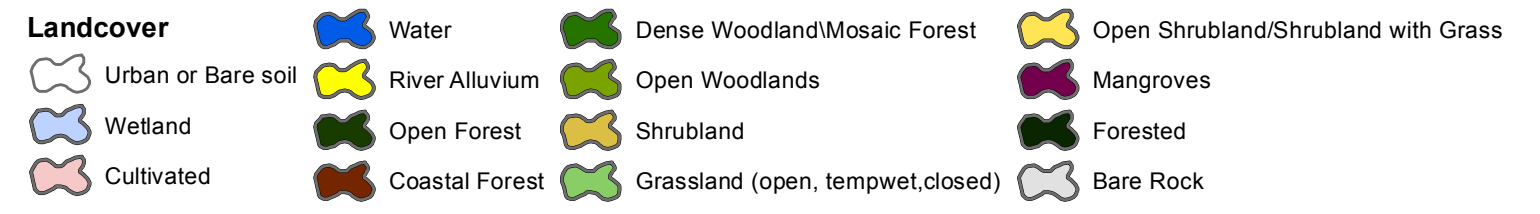
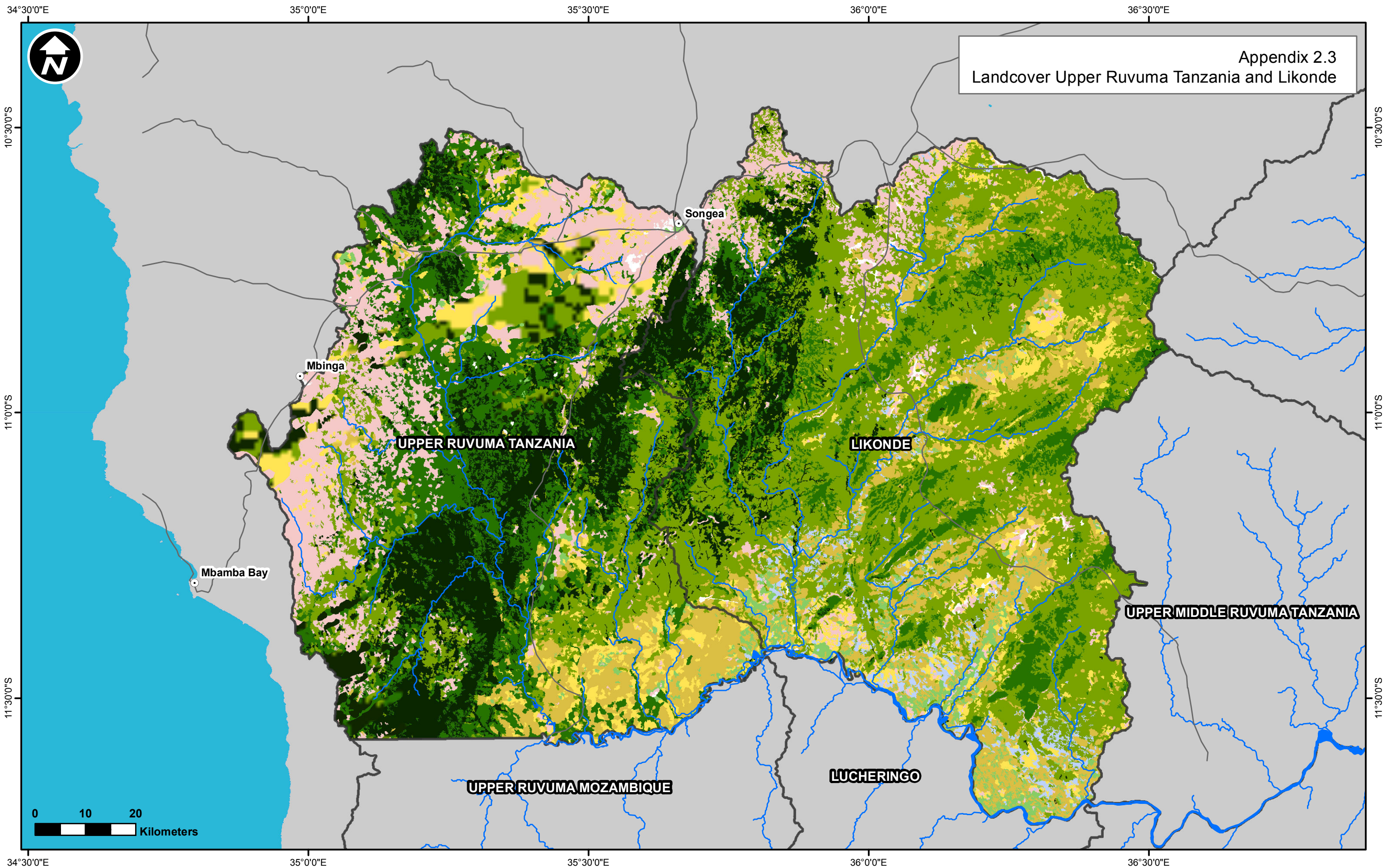


Legend on separate page

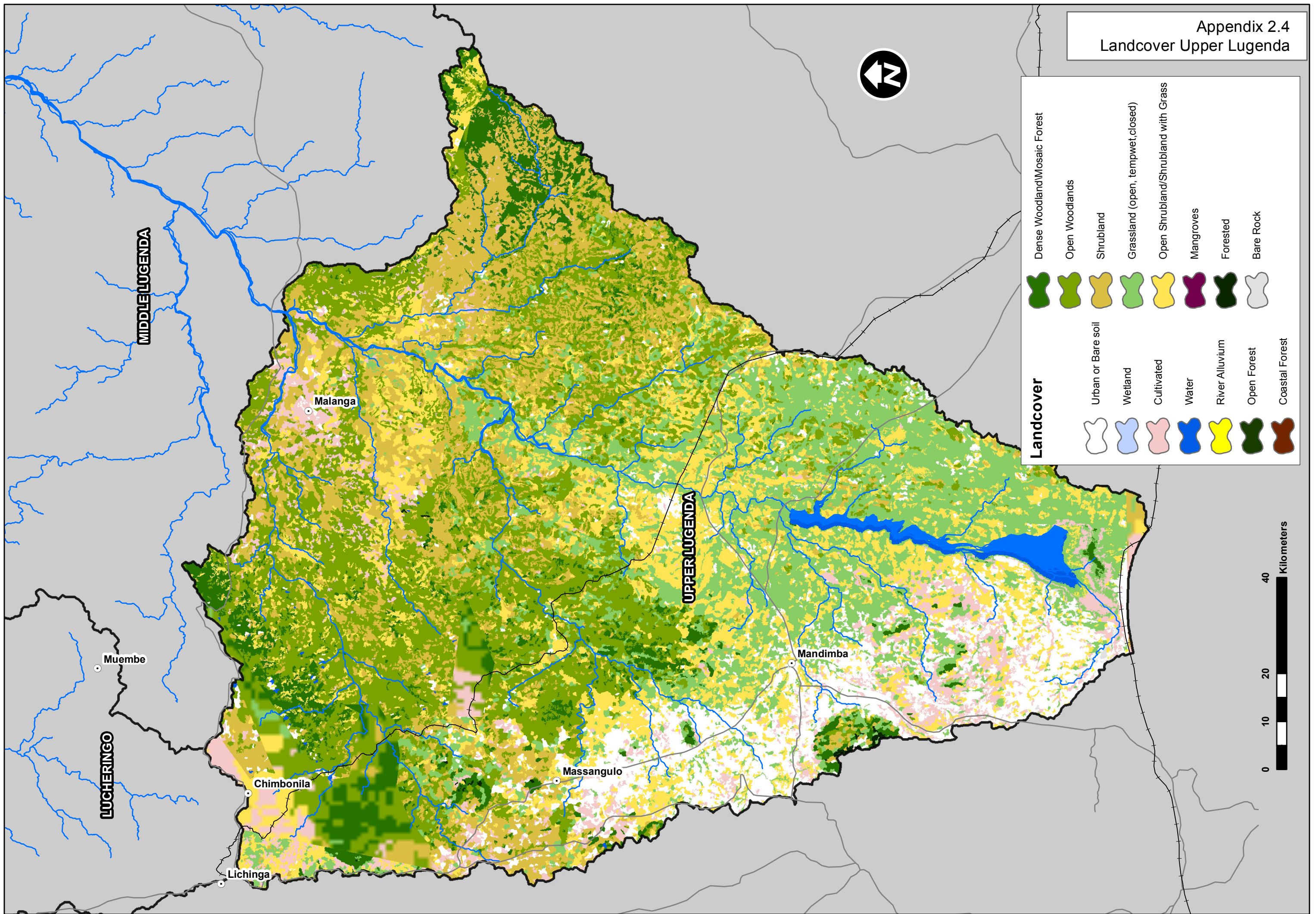
Data presented by courtesy of
The Council for Geoscience, South Africa.
Subset of the SADC Geological Map (Hartzer, 2009)

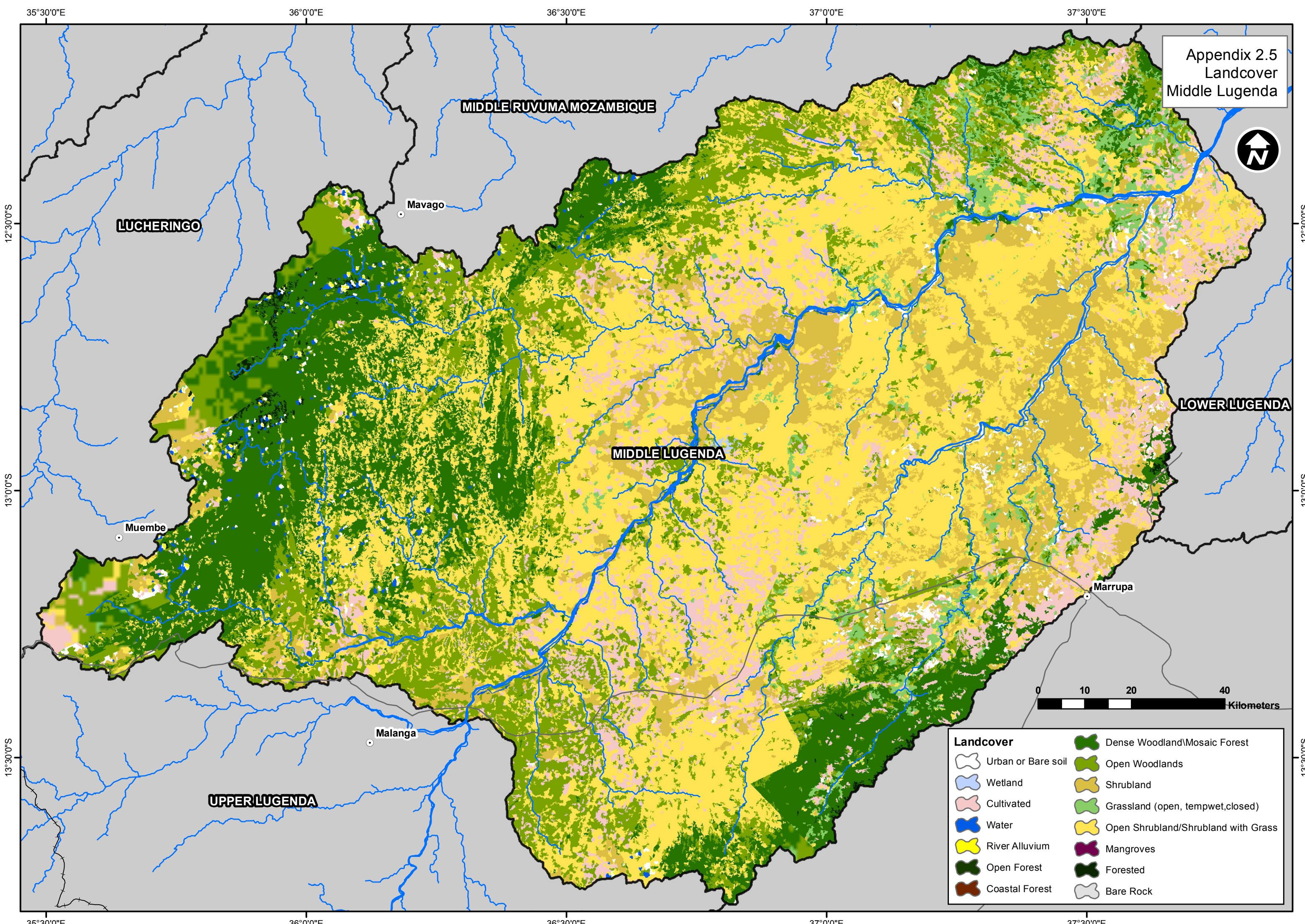


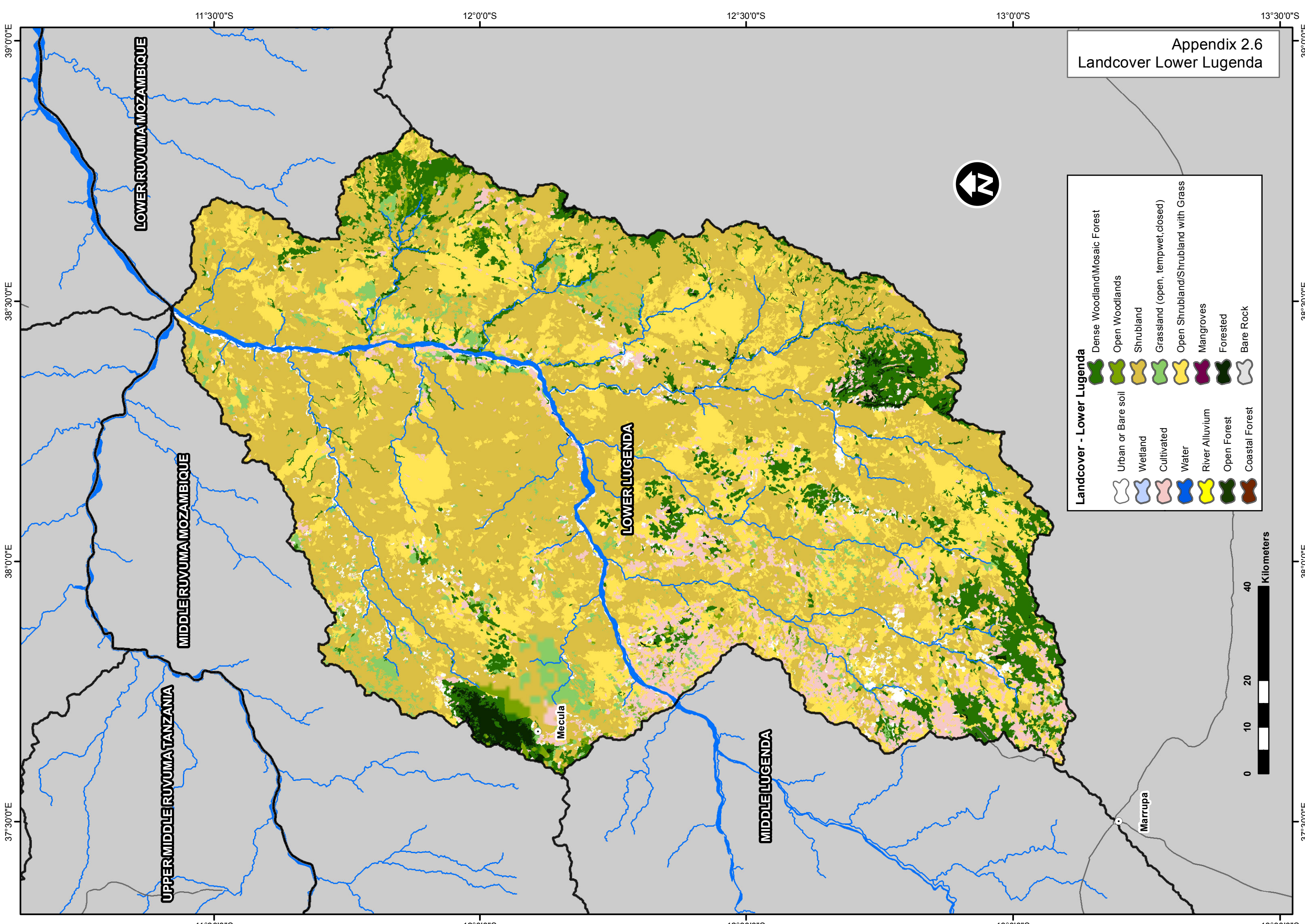




Appendix 2.4
Landcover Upper Lugenda





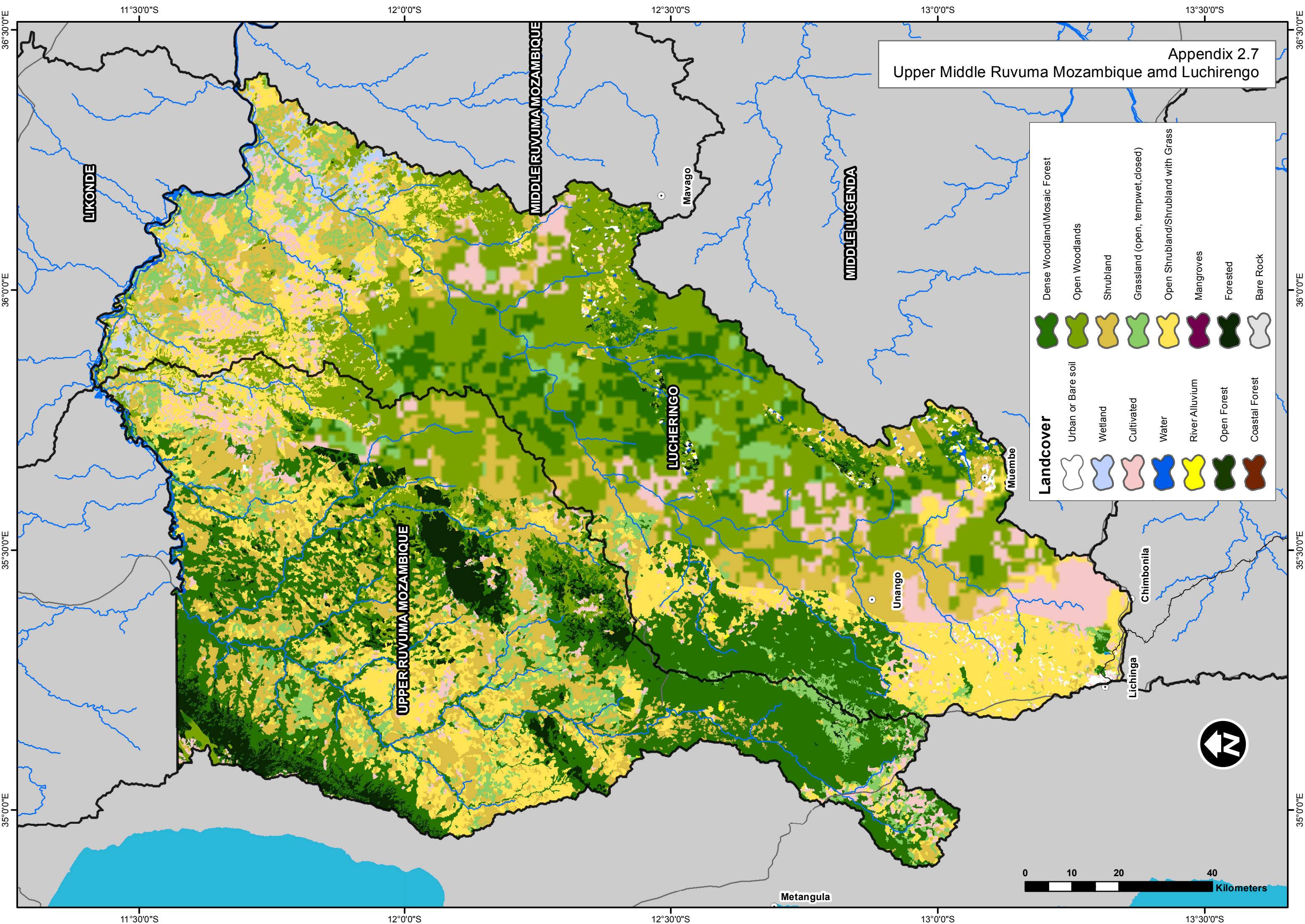


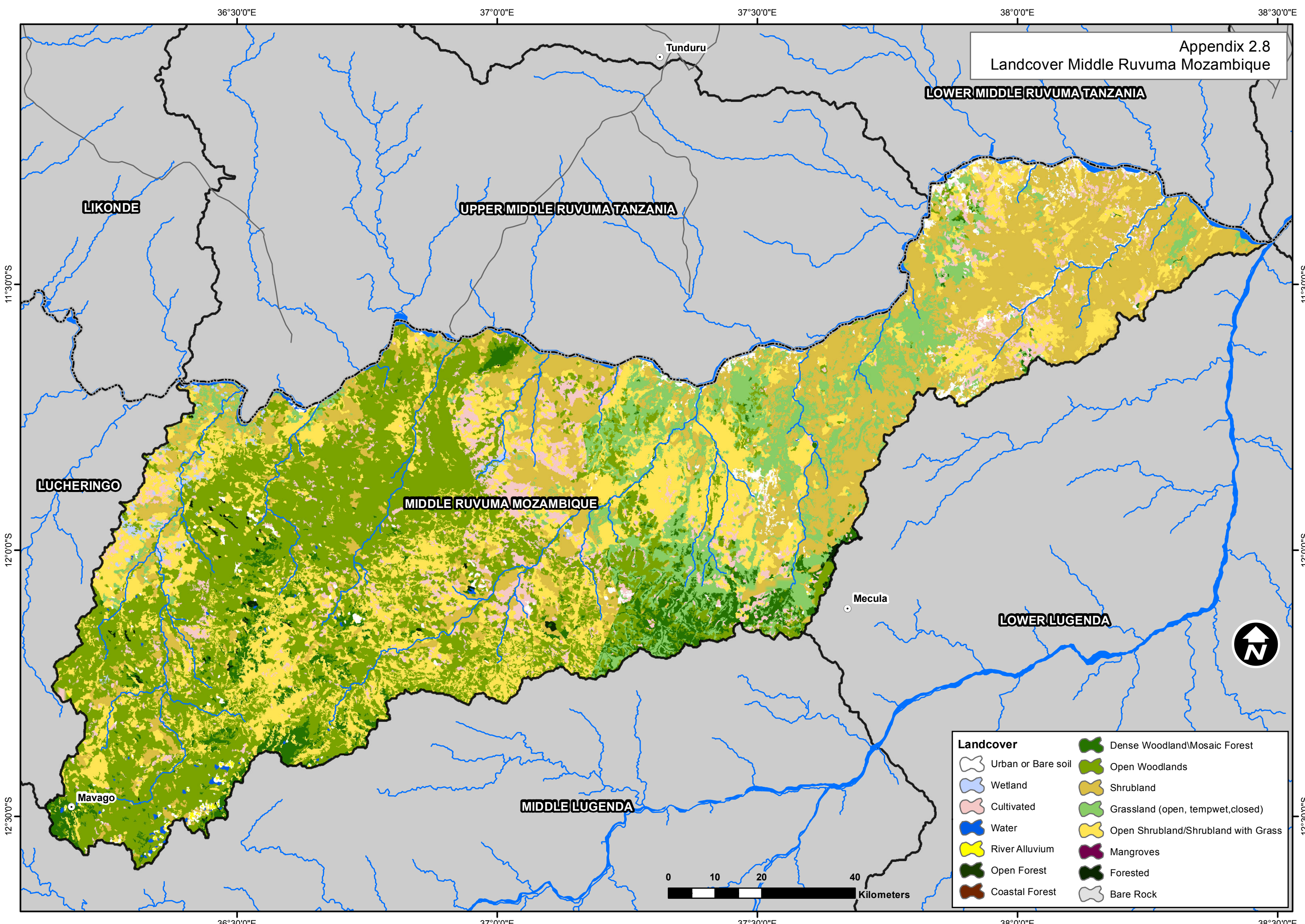
Appendix 2.6
Landcover Lower Lugenda

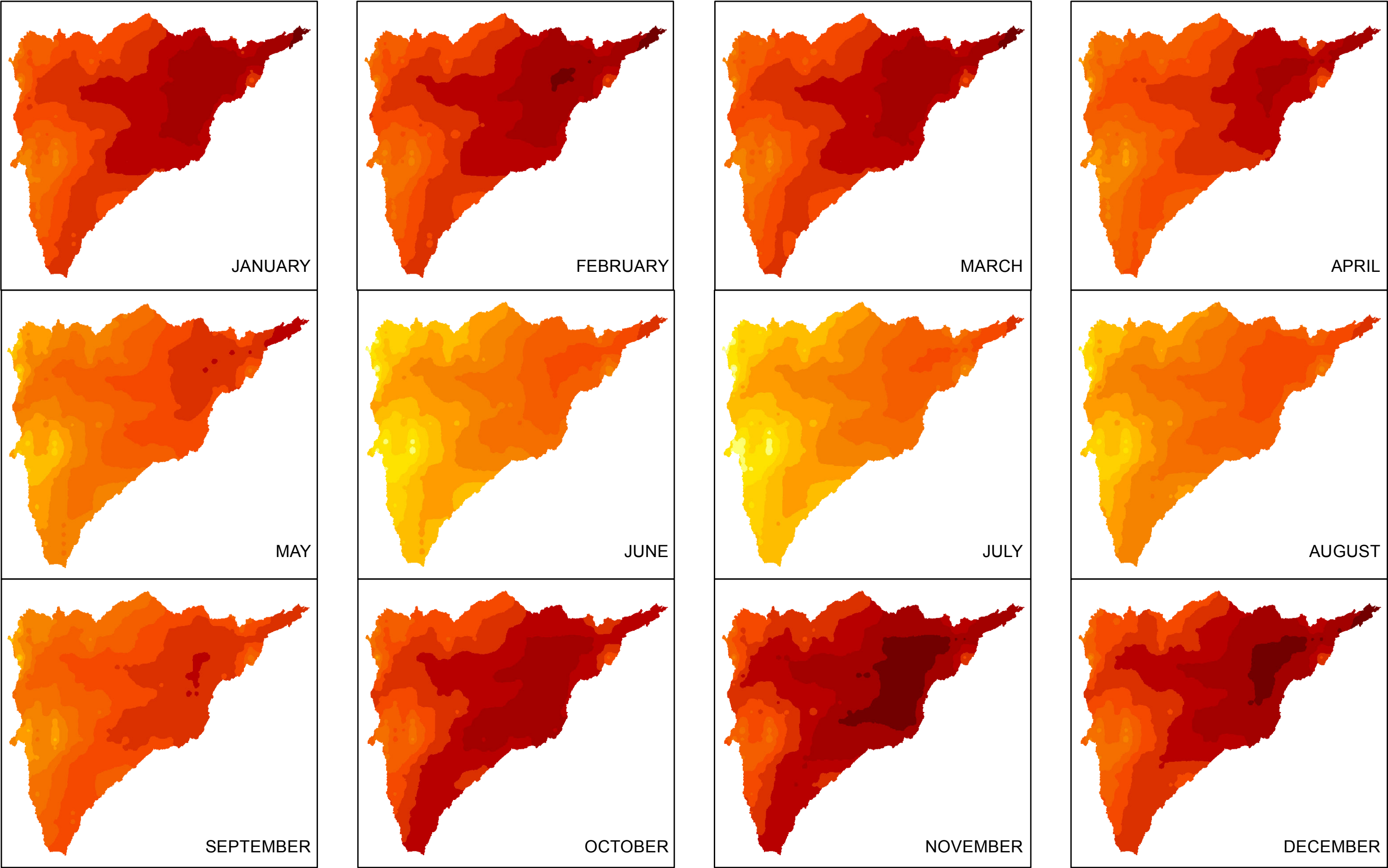
Landcover - Lower Lugenda

	Dense Woodland/Mosaic Forest
	Open Woodlands
	Shrubland
	Grassland (open, tempwet, closed)
	Open Shrubland/Shrubland with Grass
	Mangroves
	Forested
	Bare Rock
	Urban or Bare soil
	Wetland
	Cultivated
	Water
	River Alluvium
	Open Forest
	Coastal Forest

Appendix 2.7
Upper Middle Ruvuma Mozambique amd Luchirengo





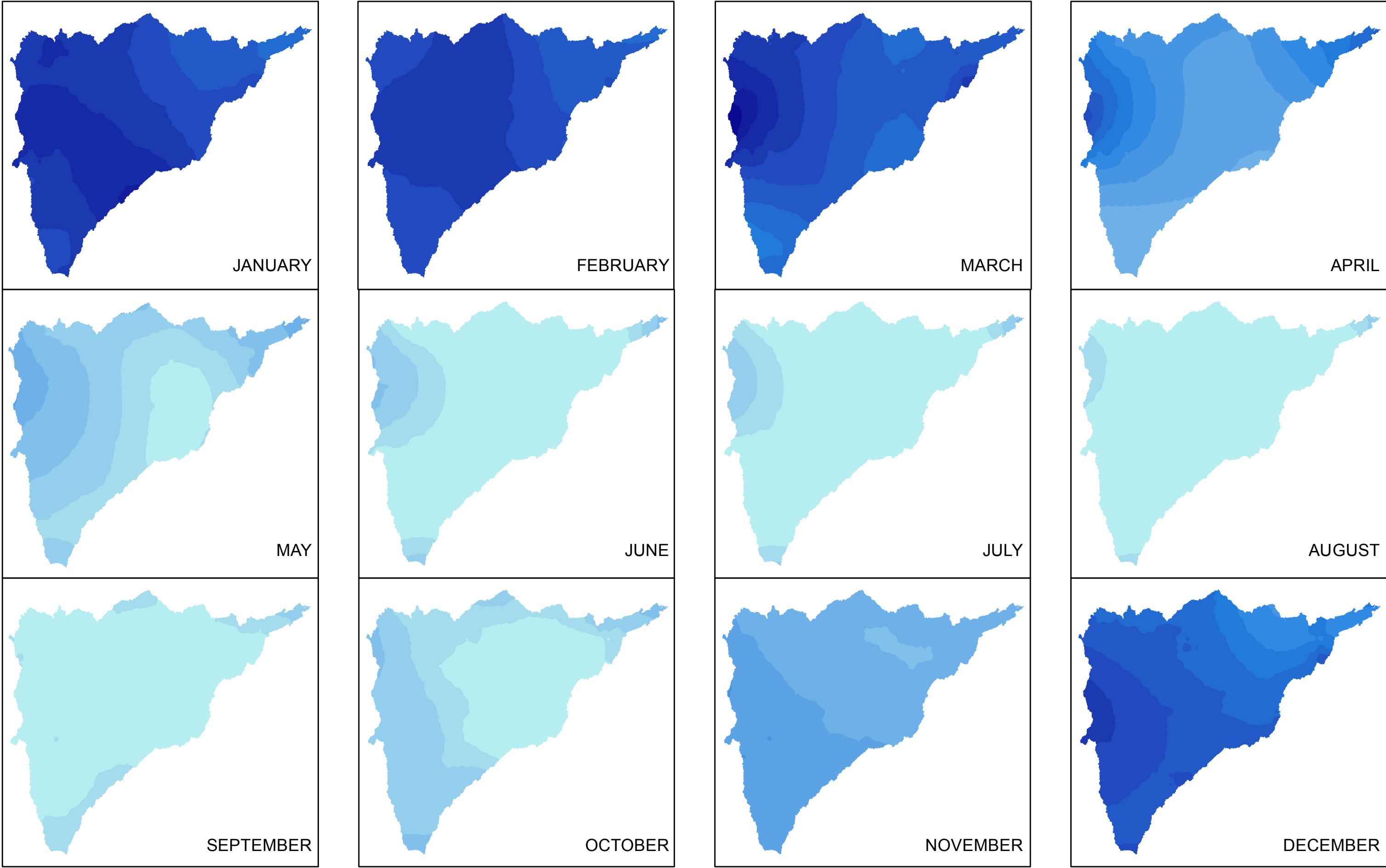


Mean monthly temperature (°C)



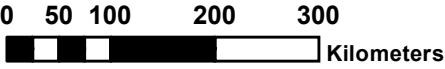
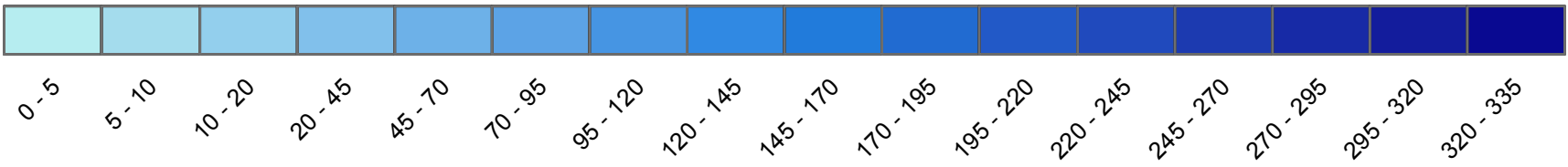
Source: New et al., 2002
Climate Research Unit, UK





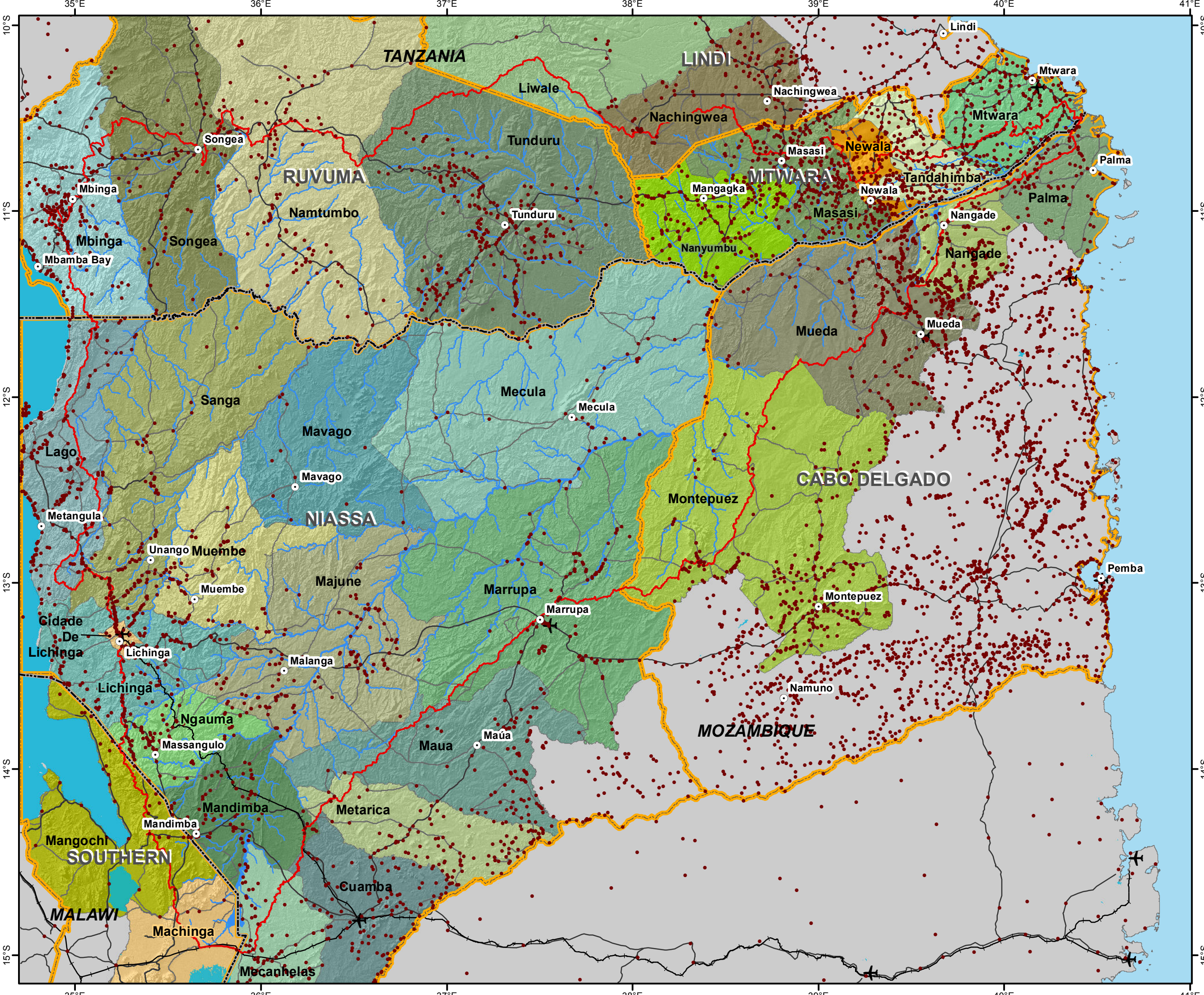
Mean monthly rainfall (mm)

Source: New et al., 2002
Climate Research Unit, UK



Appendix 5
Settlements and
Administrative Boundaries

- District capitals
 - Settlements (MtDC)
 - ✈ Airports
 - National boundaries
 - Ruvuma basin
 - Province/Region boundaries
- Districts**
- Cidade De Lichinga
 - Cuamba
 - Lago
 - Lichinga
 - Liwale
 - Machinga
 - Majune
 - Mandimba
 - Mangochi
 - Marrupa
 - Masasi
 - Maua
 - Mavago
 - Mbinga
 - Mecanheles
 - Mecula
 - Metarica
 - Montepuez
 - Mtwara
 - Mueda
 - Muembe
 - Nachingwea
 - Namtumbo
 - Nangade
 - Nanyumbu
 - Newala
 - Ngauma
 - Palma
 - Sanga
 - Songea
 - Tandahimba
 - Tunduru
- 0 25 50 100 km



GIS data on Settlements,
Administrative Boundaries
and Infrastructure, are presented
by the courtesy of the MtDC Project