



Togo

The sectors situated east of Lomé present high risks of submersion related to conjugations of high rainfall and continental spates and storm surges.

A large part of the Togolese Coast is undergoing a pronounced erosion east of the port of Lomé. The causes are on the one hand old: the Akossombo dam on the Volta and the disrupted supply of sediments as well as the establishment of Lomé of port infrastructure disrupting sediment movements according to the West -East coastal drift. At the west of the port the coast is undergoing accretion for the same reasons.

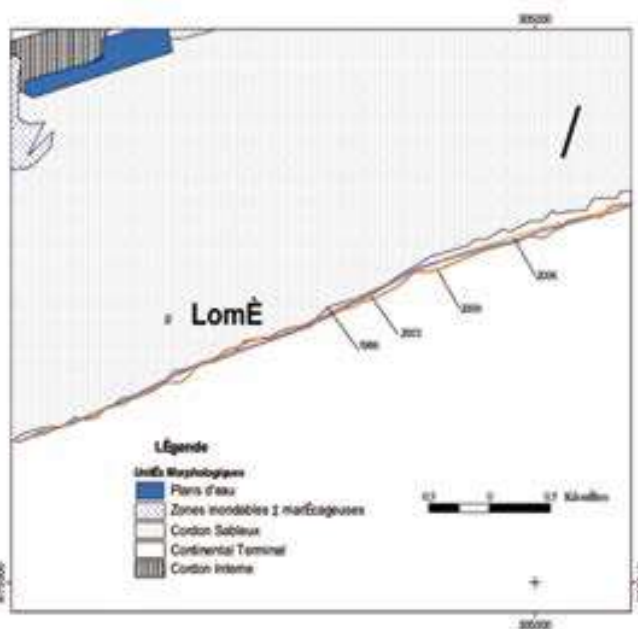
			URBAN
TG1-a	167 - GHANA BORDER - LOME WEST		
BASELINE			
Diagnostics	Vast, homogeneous sandy terrace. Dense, diversified urban habitation (eastern part residential) separated by a coastal road very close to the beach (approximately 100 m or less). The road-beach strip has been subject to the beginnings of seafront development, but this strip is undergoing urban encroachment near the border. Numerous signs of wastewater outlets on the beach. Probable eastward transfer of pollution via the coastal drift current. This concerns the sectors Lomé centre and east.		
Dynamics	Developments on the backshore in the vicinity of the border post influence-compensate for the accretion this sector should normally experience. Stable in places, erosion noted towards the west in the zones developed on the beach.		
Stakes	Control of urbanisation on the beach beyond the coastal road. Numerous installations and habitations at risk in the event of storm surge.		
Actions	Control development on the beach beyond the coastal road.		
Priority level	Moderate	Monitoring-observation	Regular
DEVELOPMENTS SINCE 2010			
Evolution of stakes	New buildings near the border of Ghana: Togolese Customs, Bank of Africa. Beginning of the circular boulevard and the two-lane seaside boulevard. Discharge of wastewater on the beach (19 points on the littoral of Lomé). Two-lane seaside boulevard. Gas pipeline		
Priority level	Moderate	Monitoring – Observation	Regular
Protected area	YES	Hazards	Accretion of the sector, west of the port

Togo Coastal Wetlands Ramsar Site	TG1-a / b / c / d / e
WII / Ramsar site : WII ID : 1TG004 – 1722 / WDPA ID : 903069	
The Togo Wetlands Ramsar site was designated as a Wetland of International Importance/Ramsar Site on April 2, 2008 (591,000 ha) (no map in WDPA), it covers the entire coastline of Togo.	

Transboundary Pipeline Gas Area (proposed)	TG1	BJ1
WDPA ID : inexistent		BJ2
Rules for the management of a buffer zone around the pipeline, in particular with regard to navigation and fishing, are currently in force in Togo and Benin, and a reflection on the creation of an MPA in this zone is initiated.		



Wall materializing the border with Ghana
(Source MOLOA country branch of Togo)



Change in the shoreline over 1.2 km from the border of Ghana
(Source MOLOA country branch of Togo)

		URBAN	
TG1-b	168 - LOME CENTRE		
BASELINE			
Diagnostics	Zone of recent sandy sediment supply isolating a wetland from the former coastline. Dense urban habitation, urban effluent outlets on the beach (outlets on the beach to be related to the accretion of the sector and the burying of the sewage outlet). Vast vegetable growing area between the road and the beach; large housing scheme being built at the top of the beach.		
Dynamics	Sector undergoing accretion following the installations of the Lomé port. Width of beach 100 to 300 m.		
Stakes	Future of the urban facilities on the sea front. Sanitation and impact of the housing being built on the beach. Examine possibilities for extracting materials in the zone undergoing accretion.		
Actions	Shoreline monitoring. Urban waste and rainwater runoff management plan.		
Priority level	Moderate	Monitoring-observation	Regular
DEVELOPMENTS SINCE 2010			
Evolution of stakes	Two-lane seaside boulevard. Discharge of wastewater on the beach (19 points on the littoral of Lomé). Construction of Hotel Onomo, Coconut Residence, maritime car park, road parking. Port development/extension work (dock, third quay and dredging, extension of the south jetty), sand control dyke. Closure of a sand quarry. Two-lane seaside boulevard. Gas pipeline		
Characterization of port installations	The concession for the Port of Lome was granted to Togo Terminal, a subsidiary of Bolloré Africa Logistics. Construction work for a third quay (450m long, 15m deep and 38ha of storage) was initiated in March 2011 and finalized in October 2014.		
Priority level	Moderate	Monitoring – Observation	Regular
Protected area	YES	Hazards	Accretion of the sector, west of the port



Lome : Housing development on the beach area undergoing accretion (West of the port)



Discharge of wastewater on the beach



2009



2015

*Change in the port of Lome and related infrastructure between 2009 (top) and 2015 (bottom) Google earth)
The port of Lome has undergone extensive developments since 2010, including (i) the construction of a groyne perpendicular to the main breakwater of the port and (ii) the construction of a third quay and a container storage depot.
A distinction is made between the area undergoing accretion in the west of the infrastructure and the area undergoing erosion at the east*

		URBAN & PORT	
TG1-c	169 - LOME URBAN - EAST PORT		
BASELINE			
Diagnostics	Average quality housing quite dense right to the beach. Diversified urban fabric, warehouses, dwellings. Main road route lies outside the coastline.		
Dynamics	High rate of erosion, to be weighed up against the beachrock freed by the erosion.		
Stakes	Control of future new installations in the area between the road and the shore, from the point of view of the probable future densification of residential habitations.		
Actions	Monitor the shoreline and the status of the beachrock. Anticipate installations possibly subject to withdrawal measures. Actions to preserve the beachrock and seek alternatives to the extraction of materials. Sector scheme recommended		
Priority level	Very high	Monitoring-observation	Intensive and regular
DEVELOPMENTS SINCE 2010			
Evolution of stakes	Port development/extension work (dock, third quay and dredging, extension of the south jetty), sand control dyke. The port of Lomé has existed since 1967. Small-scale fishing station. Port-Baguida-Avepozo 2-lane boulevard. National 2 Avepozo-Aneho. New site of sports and leisure beach (pure beach and Moevi residence) in Avépozo. Novela Star Hotel. Gas pipeline Closure of a sand quarry. Two-lane seaside boulevard.		
Priority level	Very high	Monitoring – Observation	Intensive and regular
Protected area	YES	Hazards	Sector erosion, East of the port, sand and gravel extraction (alteration of the beach rock); Erosion: 35-meter retreat between February 2014 and March 2015; Breaking of the beach-rock line; erosion of Hotel beaches ; Coastal erosion (deposition of rubble from buildings and road on the beach top in Gbétsoygbé)



The West African Gas Pipeline, stretching from Nigeria to Takoradi port in Ghana, spans throughout the Togolese Coast. A marine protected area is being considered in the maritime exclusion zone of the infrastructure.



Coastal erosion in the east of the port of Lomé

		PERIURBAN	
TG1-d	170 - LOME EAST		
BASELINE			
Diagnostics	Homogeneous terrace, variable densities of habitation, of very unequal quality, seaside flats, hotels, relicts of agricultural concessions on standby. Road route outside the coastline.		
Dynamics	Straight coastline, tendency to «undulate», very unstable, subject to high erosion in places (cell east of Lomé port). The clearing of the beachrock by erosion has made the beach relatively stable.		
Stakes	In the long term: Urban consistency of the green sea front type avoiding coastal roads too close to the shore. High risk of flooding from continental waters.		
Actions	Avoid the building of dwellings and hotels too close to the beaches. Conserve green agricultural breaks in urbanisation that are still present. Monitor the shoreline and the status of the beachrock. Measures to preserve the beachrock and seek alternatives to the extraction of materials. Implement a sector scheme to frame periurban residential and tourist development.		
Priority level	High	Monitoring-observation	Intensive and regular
DEVELOPMENTS SINCE 2010			
Evolution of stakes	Gas pipeline		
Priority level	Very high	Monitoring – Observation	Intensive and regular
Protected area	YES	Hazards	Sector erosion, east of the port, sand and gravel extraction (alteration of the beach rock); coastal erosion in Afiagénigba-Gbodjomé-Agbodrafo (destruction of houses and leisure sites ; loss of rural lands);

		RURAL	
TG1-e	171 - TOGOVILLE – AGBODRAFO - ANEHO		
BASELINE			
Diagnostics	Sandy littoral rim bounded in the east by the mouth of the outlet of lake Togo and to the north by the channel- outlet of the lake. Low elevation. This sector is situated within the morphodynamic erosion cell which stretches from east of the port to Lomé. Habitation of variable density in urban zones in the urban centre of Aného. The system is subject to heavy metal pollution related to waste from the phosphate mine at Kpémé.		
Dynamics	Very high instability at the level of the Aného lagoon mouth. High erosion noted across the whole sector since the 1980s (shore recession of 6 to 8 m per year). Improvements have been made, which, for the moment, have stabilised the situation. However, these groynes are rapidly deteriorating. Between the two systems of protection of Kpémé-Gumukopé and Aného, there is a small cell subject to rapid erosion, with a recession of approximately 100 m to 600 m between 1988 and 2008, an average of 5m/yr.		
Stakes	High risks of destabilisation of the unit of the wharf and the infrastructure of the National Phosphate Company plant with considerable economic impacts. The environmental impacts of this phosphate concentration plant (Kpémé). Heavy threat to the sparse population installed on the sandy spit east of Aného. High risk of flooding from continental waters.		
Actions	Monitor and possibly strengthen the developments at Kpémé and Aného. Deliberately restrict building on a coastal fringe 200 metres from the shore. Preserve or even restore the natural vegetation on the banks of the mouth and relicts of mangroves.		
Priority level	Very high	Monitoring-observation	Intensive and regular

DEVELOPMENTS SINCE 2010			
Evolution of stakes	New urban road in Aneho, new bridge; Pipeline gas; Wharf of Kpémé Maritime parking defined by the national navy;		
Characterization of port installations	The Terminal of Kpémé is owned by the state-owned Société Nouvelle des Phosphates du Togo (SNPT), created following the dissolution of Bureau Togolais des Phosphates et International Fertilizers Group-TOGO (IFG-TG) in 2007. It is directly linked to the Hahotoe phosphate mines (Dagbat) and the Kpogame mines. A phosphate processing plant and the SNPT administrative services are in Kpémé.		
Coastal protection	6 groynes in the east and one in the west of the terminal of Kpémé constructed before 2010. 9 new groynes in front of the village of Gumukopé. Installation of protection structures (5 groynes) in Aného, 1500 m west of the old structures built in 1985. The start of coastal protection work in the immediate vicinity has provoked the reaction of the Benin government, and a consultation and coordination mechanism has been put in place.		
Priority level	Very high	Monitoring – Observation	Intensive and regular
Protected area	YES	Hazards	Sector in strong erosion with retreat rates ranging between 2010-2014 from 5 to 20 meters per year; translation bay mouth bar, erosion, sediment transport to Benin; Bay mouth breach (sand barrier, rolling and lowering of the topographic level)

Transboundary Biosphere Reserve in the Mono Delta (proposed)		TG1-e	BJ1-a-b
WDPA ID : inexistent			
A project supported by GIZ is currently Togo and Benin considering the inclusion of the Mono delta in UNESCO's global network of biosphere reserves before 2019. It has a simplified management plan drawn up in September 2016.			

Gbaga Channel Transboundary Ramsar Site (proposed)		TG1-e	BJ1-a
WDPA ID : inexistent			
An initiative to register Gbaga Channel in the Wetlands of International Importance Network was initiated in 2014 with the development of the first version of the Ramsar Information Sheets for the Togolese and Beninese parts of the site.			



Erosion along the coastal segment of Agbodrafo (2013) - source MOLOA country branch of Togo



Break of the sandy spit at Aného - source MOLOA country branch of Togo



Aneho fluvio-marine system (the groynes and rock fill can be seen at the bottom of the picture. (Source Google earth)



Micro-cliffs due to erosion in Aneho (MOLOA)



Groynes at Aneho