



Sea Conditions Guide: Gulf of Guinea

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Climate key features

Region is delimited by the International Hydrographic Organization between Cape Lopez, Gabon and Cape Palmas, Liberia.

Gulf of Guinea's climate pattern is driven by the seasonal variation of the Intertropical Convergence Zone (ITCZ) or doldrums as frequently named by mariners.

Intertropical convergence zone – squalls, thunderstorms and weather pattern

The ITCZ subtle variation Northerly-Southerly (Summer-Winter) over the region throughout the year, brings one drier season (November-March) and one rainy season (March-July) with another smaller drier and rainy seasons in between like a well-known called August Break period which starts a sudden dry period right after the main wet season.

Note the term applied was drier and not dry, because across the Gulf itself squalls with stormy weather and abundant rain can develop throughout the year.

During the summer season over the Northern Hemisphere the ITCZ is positioned more northwards therefore the southwestern monsoon is more active along the Gulf and squalls develop frequently and daily over the area. In the winter season the ITCZ is positioned roughly over the Gulf and the northeasterly trade winds bring dry conditions across the continental shelf

but over the ocean the ITCZ causes convergence at the surface and possible squall formations as weather along the Zone is driven by thunderstorms.

DTN uses near-real time products to warn clients when thunderstorms and squall lines are moving towards the local port operations or vessels with harsh weather and sea conditions which can disrupt operations and prove dangerous for safety onboard.

Harmattan winds – dry conditions but dangerous for harbour and offshore operations

During the dry season when the northeasterly trade winds are located closer to the Gulf and the ITCZ over it, dangerous conditions could develop following the continental African Harmattan winds.

Harmattan conditions develop with specific synoptic scale pressure distribution across the Western Sahara. The general distribution is associated with the Azores High subtropical ridge advecting a high amount of dust southwards from the and Sahel area.

This airmass is often characterized by poor visibilities, low relative humidity and generally colder temperatures can disrupt port and vessel operations and is dangerous for helicopter operations which rely often on visual flight rules, therefore visual meteorological conditions to operate.