CLIMATE CHANGE ON MARITIME ENVIRONMENT: INTERNATIONAL REGIME FOR ADDRESSING IT

by

Ishaya N. Martins: PhD, Dean, Faculty of Law, National Open University of Nigeria, Abuja Nigeria. Phone +234 8036125516 mishaya@noun.edu.ng

Hilary Nwaechefu: PhD, LL.M, LL. B, B.L. Professor and Research Coordinator, School of Law, Kampala International University, Uganda; Phone +2567867082325. Email: hilary.nwaechefu@kiu.ac.ug

Abstract

A relative inconsistency of climate presence on large bodies of water due to global warming causes the rising temperature of the oceans and soaring sea levels. The planet is occupied by water accounting for more than two-thirds of the earth's space. Water is the principal source of organic growth without agrochemicals and climatic balance. The marine environment supports agriculture and aquatic life from which humans get nutrition balance and industrial resources that directly have consequences on human life, safety, and happiness. However, a global rise in extreme heat has become a world confrontation issue having serious devastation on different aspects of the environment due to the dissolution or liquefying of glaciers into the sea, excess chemicals and excess heat of water bodies, pollution and emission by international ships, among others. The adverse consequences of negative results have affected other regions today. The negative long-term effects have been recognized as a major issue for coastal and entire marine areas. This paper therefore focuses on the climate consequences on maritime areas of the world and examines the International Legal regime applicable to the maritime domain to reduce the effect of climate devastation on the marine environment generally. The paper concludes by providing recommendations in providing methods for reducing the impact of weather change on the maritime surroundings.

Keyword: Climate change, International convention, Maritime surrounding, Ships, Environment

1.0 Introduction

All the world's water body covers about two-thirds of the earth's appearance and a large body of water holds 96.5 percent of the planet's shore[1] showing its significant role in the world atmosphere. Moreover, having a strong influence on international jurisdiction as a means of the carriage of goods through large bodies of water. The oceans consist of different types of terrestrial and aquatic areas for marine resources. The overflow water of the earth provides human beings with different types of goods and services such as food, amusement opportunities, educational research technological advancement, and weapons testing at sea. Having derived or founded upon present technological fact, emissions of greenhouse gases from the human aspect of activities have been shown to cause important weather inconsistency in the 21st century[2]. Such weather variation will ignite or result in new problems for maritime states sharing boundaries with water, and water animals are already been affected by human activities and development in the sea floor, underwater, deep water, and subsoil beneath the sea, shipping pollution, and over-fishing activities. Coastal and water resources and world atmospheric inconsistencies are the eighth in a series of siting forum reports examining the potential harrowing of weather change on the surrounding marine vicinity. It explains the likely destruction of weather abnormality over the nutrients and oxygen to marine living animals. Changes in ocean movement and velocity models can also cause substantial abnormalities in regional waters, and land overheating leading to different distributions of marine species of economic seafood.

Weather abnormality increase as a result of overheat of ozone layer which also destroy health, ability to grow food, provide shelter, the condition of feeling been safe and in areas of employment. Some people are already expose to weather effects, such as people living off shore surrounded by water. Situations in water rise and saltwater entry into coastal areas have had to mass relocate to safe haven, and protracted droughts are putting people at risk of hunger. The long term manifestation of weather and other atmospheric conditions may likely increase the number of climate refugees or internally displaced persons running to other countries of the world as person seeking refuge due to a natural disaster looking for shelter and food.[3]

The regime of the Sea 1982, have been recognized as the grundnorm, that is the supreme law, for the oceans establishing rules and regulations for all international water affairs, but questions persist about disjointed nature of oceans administration and the

---

[1] *Janin, H.and Mandia, S.A,* Rising Sea Levels: An Introduction to Cause and Impact (Mc Farland publishers, Incorporated, 2012) 20, <https://education.nationalgeographic.org/resource/ocean/> accessed 15 February 2023

[2] Author Group, Assessment of Climate Change for the Baltic Sea Basin: The BACC Project (International BALTEX Secretariat Publication.No.35 2006) 26.

[3] .Letelier RM et al, 'Climate-driven trends in contemporary ocean productivity' (2006) Nature 752–755.

protection of marine environment.[4] Nonparty states to the international forum question the credibility and enforceability of the 1982 regime of the sea. Consequently, the exalted speed

of deterioration of the coastal surroundings, within national jurisdiction and ultra vires domestic areas, raises questions about the effectiveness of the legal regime across different international boundaries. This article considers whether the regime of the oceans and other international regime truly embraces all waters regulations in addressing the cause and result of climate change on marine domain. The article also carefully looks at areas of lacunas in the extant regime and at the

end provides recommendations on the way forward in mitigating the consequences of atmospheric change on marine geographical areas and maritime transport of goods.

1.1 Perspective of Climate

Many people are of the view that the climate system mainly means heat. But overheating rise in temperature is only the cradle of the issue or problem of weather change. The planet is a collection of whole and relationships, where many are linked, atmospheric abnormality in one vicinity may result in changes in other areas of waters of the world. The consequences of the Ozone layer are over-saturated with heat, inter alia, excessive duration of the low downpour, insufficient water, wildfire outbreaks, rising water levels, excessive flooding, dissolving ice, heavy storms and declining marine species.[5] Weather change, therefore, refers to long-term shifts in heat and atmospheric abnormality.[6] Changes in the atmosphere are caused by natural variations in the solar system as a result of the periodic movement of water. However, human activities over the years have been the main cause of weather consequences, primarily due to overuse or burning of coal, oil and gas flaring. Burning fossil fuels which generates large glass windows or plastic sheeting to trap heat from sunlight even in intemperate seasons affects the ozone layer, thereby trapping the sun's heat and raising extreme heat. Instances of greenhouse gas emissions are gases in the earth's atmosphere that trap heat that results to environmentally friendly. At day time, the sun rays heat the atmosphere, thereby warming the earth's surface. But at night the earth's surface cools, by releasing heat back into the air. But some of the heat is trapped by the greenhouse gases in the atmosphere. That is what keeps the earth's temperature at comfortable average.

The principal weather international meeting, is the world body forum on atmospheric abnormality which provides that weather inconsistency is, a long term negative consequences

[4] James Harrison, Making the Law of the Sea: A Study in the Development of International Law, (*Cambridge* university press 2011) 1.

[5] *Käse, et al, 'Phytoplankton Responses to Marine Climate Change: An Introduction'. Youmares – Oceans across Boundaries: Learning from each other (2018) 55–71.*

which is furnish expressly or impliedly by human activity that change the composition of the weather and which in addition to natural weather disaster been notice or view for a long duration.[7] The Climate Change Convention, that is, the United Nations Framework Convention on Climate Change (UNFCCC), defined climate change as a change of weather which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over long time.[8]

In Nigeria, weather accounts have explained inconsistency and abnormality as any period of change in mathematical account and data gathering of weather over a period ranging from a few years to many years. This is demonstrated by exhibiting changes in the sun over heat rising worldwide due to greenhouse gases ensnaring more heat in the ozone layer and may occur in specific areas of the earth. Atmospheric consequences refer to a change in weather that is capable of devastating directly or indirectly to human activities that vary the weather composition of the earth which leads to water warming. Weather abnormality has the capacity dire consequences for all-natural habitats and human existence and may be a threat to human progress and survival in all ramifications.[9]

1.2 Marine Environment

The question is what is marine environment? The maritime regime does not provide a definition of the marine domain but the negotiators generally understood that the maritime environment is about vessels, other natural resources such as oil and the natural surroundings of large bodies of water. A marine habitat is a body that supports marine life. Marine life depends on salt water that is in the sea. A habitat therefore is an ecological or environmental area inhabited by one or more living species. The marine environment supports many kinds of habitats and marine habitats are divided into coastal and open ocean habitats. Coastal habitats are found in the area that extends from as far as the tides comes on the shoreline out to the edge of the continental shelf including ports and cities sharing boundaries with the oceans, Most marine life is found in coastal habitats. Open Ocean habitat on the other hand are found in the

[7] Lawal Badru, 'Climate Change in Nigeria: causes, effects and legal framework of climate change' (2020) 4(1) Unilag Law Review 187.
[8] Lawal Badru, *Dan Stillman and J Casta, Green (Institute for Global Environmental Strategies NASA Educational Technology Services 2017)* 187
[9] Yusuf O Ali, 'legal profession and climate change in Nigeria' <https://yusufali.net/articles/legal_profession_and_climate_change _in_nigeria.pdf, >accessed 28 November 2024

deep ocean beyong the edge of the continental shelf.[10] Dictionary of Military and Associate term state the meaning of coastal vicinity as the oceans, seas, bays, estuaries, islands, coastal areas, and the airspace above sea level, including ports littorals.[11]

2.0 Causes of Climate Change Today

It is important at this juncture to ask what the causes of climate change today. Climate change is a global problem which directly affects human life and also destroys property which is the resultant effect of pollution of the atmosphere. When there is excessive emission of Green-House-Gases (GHG) into the atmosphere, it becomes polluted. Greenhouse gases are accumulating in Earth's atmosphere as a result of human activities.[12] The causes of climate change include but not limited to the following: largely man-made activities, over heat temperatures, volcanic eruption etc. The effect of volcanoes has on the climate is short-term cooling. It pumps out clouds of dust and ash, which blocks out some sunlight. Another causes of climate change is oceans which constitute a major component of the climate system. Ocean currents are located at the ocean surface and in deep water below 300 meters (984 feet).[13] Meteorite impacts have contributed to climate change by releasing some powerful materials into the atmosphere. These materials insulate the earth from solar radiation and cause global temperature to fall; the effects can last for a few years. The sun is the source of energy for the

Earth's climate system. Although the sun's energy output appears constant from an everyday point of view, small changes over an extended period can lead to climate change.[14]

What then is the connection between climate change and the marine environment? Oceans play an integral role in climate change mitigation, absorbing about 23% of human-caused carbon dioxide emissions and more than 90% of the excess heat created by human-caused greenhouse gases. The heat and carbon dioxide absorbed are already affecting ocean temperature which in turn affects biodiversity and ecosystems. Moreover, island nations with the threats of rising sea levels as a result of steady global warming, sea-surrounded Island nations are at a graver danger

[10] Abercromie M. et al, Dictionary of Biology, (Penguin Reference Book 1966)
[11] Marjorie and Reaka-Kudla, Diversity in Major Global habitat with Special Reference to Marine Environment, 2nd edn, (Joseph Henry National Academic Press, 2013) 83-94
[12] Lawal Badru, 'Climate change in Nigeria Causes, effects and Legal frame work' (2020) 4(1) Unilagos Law Review
[13] Ibid
[14] NOAA Earth System Research Laboratory, 'Teacher Background: Natural climate change'< https://www.google.com/url?sa=>accessed 21 September 2024

than of littoral states, though sea levels are not equal in all places. Cities that are close to the sea are also affected by rising sea levels and the danger of been wash away by erosion.

Weather transformation or abnormality is one major obstacles as a result of increase of human activities or, call it human abuse of the earth leading to several direct and indirect consequences on the health of human beings and water seafood. These weather abnormalities have a range of poisonous effects including a rise in sun rays' conditions susceptible to death, mix water and deadly substances, and spread of unwanted diseases, lack of adequate food, and damage to public health equipment, migration of both man and animals to other areas of the world waters. A sovereign country like Nigeria, just like other independent countries in the world has its own taste of weather disasters the one that struck over two decades in the northeastern region now comprising Borno and Yobe states, part of Lake Chad, the section that lies within Nigerian territorial sovereignty.

Tropical grassland and scattered trees in Nigeria areas are not left either in weather abnormality. The hewing of trees and overreliance on firewood for cooking have destroyed a greater part of this area of its natural cover. The situation is the same in the south, where the forest areas of Ibadan and environs have long been degraded to grass areas. The southeastern part of the country has been affected by other consequences. Over there in that area, gulley erosion has devastated many cities and villages' areas and farmlands, leading to poverty and hunger among people.[15] It does not stop there. The northern part of the country Nigeria is also affected and thus becoming a desert as a result of drought. The rich oil areas of the Niger Delta region and the moving back and forth of waterways make it extremely exposed to flooding, apart from being at danger of rising water level, it has become a victim of severe oil devastation and oil spillage. Also, in the southern part of the country, weather consequences is also manifested in the over flood experienced in the year 2012, where houses, farms, farm produce, properties and even human beings were wash away[16]. Also, the analysis released by the southwest zonal office of the National Emergency Management Agency two years ago show that no fewer persons were grossly affected and houses demolished consequence of windstorm which occurred in four states in the south -west areas.[17] Natural consequences will change types

[15] Lawal Badru, 'Climate Change in Nigeria: causes, effects and legal framework' (2020) 4(1) Unilagos Law Review 187
[16] Ibid
[17] Jumoke Bioyeku, Climate Change in Nigeria: A brief review of causes, effects and solution (Mondag publication 2016)

of wind and water movement in the ocean surroundings environment. Such alteration may influence the up and down movement of large body of waters, i.e., upwelling and down welling, increasing or decreasing the availability of essential source of food and oxygen to maritime species.

2.1 Negative Consequences of Atmospheric Abnormality to Marine Areas

Frequent rise in water level along the coast of Nigeria, cause coastal destruction which has devastating consequences on some villages in Delta State which continue from time to time. It has been forecast that a water rise along the coast could cause damage adjacent to the coast in the Niger Delta areas of this country[18]. For instance, in the year 2018, UN recount and description by many scientists and government agencies on marine affairs consented that there should be a reduction of world heat level to no more than 1.5^{o}c. This will assist the world to avoid the worst weather impacts and maintain an endurable and suitable for living atmosphere. The flaring of gas that cause ozone layer depletion come from most part of the industrial or technologically advanced countries and it affect humanity, some states produce much more heat than other nations**.** Three major consequences of weather abnormality in the water areas are changes in resulting to water warming**,** insufficient oxygen**,** leading to death of humans' beings and marine mammals in different areas of the world.[19]

2.2 Effects of Climate Change on Maritime Transport

Daily operational strategy in water transport industry in the carriage of goods by sea using international ships can safely handle some aspect of marine transport but atmospheric, but exhaust from ships engine also cause pollution and heat of the atmosphere which affects maritime environment. Long-term abnormality in the Earth atmospheric whole produced by world warming may have a dire consequence on water ways infrastructure such as railways, ports, piers, highway culverts, bridges marine traffic lights and other navigation infrastructure. When the weather becomes more extreme, the bounds of what is considered normal climate, water navigational infrastructure becomes less dependable and less safe. Rising water level and over flooding affect the safety and functionality of international ships. Weather overheat distort or collapse railroad tracks and land ways, heavy tropical cyclones inundate can damage navigational infrastructure under pressure at ports or at sea, leading to delay in delivery of

[18] Orubebe Bibiobora, Environment Legal implications on oil and gas exploration in Nigeria (Caleb University press, 2022) 20
[19] Jessica Pink, 'Five ways that climate change affects the oceans' 2018

cargo and services that attracts demurrage. Seagoing ships burnt great quantity of fuel thereby pollute the marine environment which has a significant impact on the water and its surrounding. The maritime sector also aggravates to the worsening of weather distortion through carbon dioxide waste sent out resulting from the combustion of maritime fuel resulting to global warming.

Deviation in navigational routes becomes more common by master or captain of a ship as a result of bad weather consequences of change in weather: Report from World Maritime University at Malmo, in Sweden, that ice blog continues to dissolved into the waters of the North Pole due to world heat, water levels are rising, coastal derogation is getting more

impair, and sedimentation patterns are changing.[20] These significant changes in weather have destruction ship channels. Consequently, extant water ways are no longer safe or easy to travel as they were in the past, shipping companies have to allot time and financial resources on planning alternative routes.[21]

Lack of motivation on desire for purchase of goods as a result of low rainfall, longer and severe dry period which as result of weather inconsistence led to low volume water into ports for bigger ship find it difficult to sail into ports without stranded a ground to load and unload cargoes. As a result of fewer cargo to be loaded and transported, there will be less demand for the services of shipping companies. Most profits generated by seaports users will decline or drastically reduce as the number of available businesses also drops.[22]This weather transformation affects maritime business and its areas of operation.[23]

Weather consequences on seaports**:** Considering the important functions of seaports in the world trading system of buying and selling of goods. Exporters and importers are exposed weather transformation, devastation, disruptions and waste of time, poor weather resilience is a matter of strategic socio-economic importance for the world economy and as a whole[24]. Many littoral states and backward maritime countries depend on their seaports for economic

[20] Hariesh Manaadar, 'Adverse effects of climate change on maritime Transport' (The New York Times, 2nd October 2019).
[21] ibid
[22]Anderson et al, 'Prospects for Carbon Capture and Storage Technologies'(2004) 29Annual Review of Environment and Resources 109-142
[23] Hariesh Manaadar, footnote: Five Adverse Effects of Climate Change on Maritime Transport' (The New York Times, 2 October 2019).
[24] Ibid

survival for external business, food and energy security, tourism is often major steering of economic growth and progress. Seaports always provide vital socio-economic liege and are vital to regional and inter-regional nexus of international trade. However, many of these coastal nations, have been notice to be under risk to weather transformation. Most nations are often described as being in the forefront of weather prolong period of damage, a hot spot of natural disaster.[25] Critical assets are at elevated and growing risk of weather transformation depletion of coastal over flooding.

Natural catastrophe can affect anchor areas of ships shelter, such as sun rays, waves, excessive winds and rainfall results in sea-level rise and associated extreme sea-levels pose a particularly important threat, which is gradually manifesting. Economic losses arising from physical destruction of infrastructure and operational delays over interconnected world supply linkages can be extensive, particularly in regions affected by tropical winds.[26]

Marine Biodiversity Loss due to weather negative consequences: A lot of investigations on negative long tern disaster of excessive heat on marine waters are spreading in the deep ocean than on the surface floor. Research.[27] As a result of the warming, marine mammals are more at dangerous than ever before particular at depths between 200 and 1.000 meters.[28] Consequences of weather long term results on Coral Reefs**:** Coral reefs and many aquatic photosynthetic organisms including seaweeds are important to large bodies of water ecosystems and they are in competition with one another due to insufficient resources to survive harsh weather. Hot water and the process of making coral reefs suffers from higher temperature and the consequences of acidification and being weaken by bad fishing practices affects them also.

2.3 The Nexus between Climate Change and Protection of Marine Environment in Nigeria Oil and Gas Sector

Climate Change Vulnerability Index published of 2017 by the UK-based risk company, Verisk Maplesoft, classifies developing countries most especially Nigeria as a region of high risk, and indicated that the country is one of the topmost vulnerable countries in the world.[29] Nigeria's relationship with climate change is further complicated by the fact that the nation's mono economy is almost entirely dependent on oil mining and export which does not only make it hard to decouple emissions from economic growth trajectory but also leaves Nigeria in a

[25] De Águeda Corneloup I, Mol APJ, 'Small Island Developing States and International Climate Change Negotiations: The Power of Moral Leadership' (2014*)* Int. Environ. Agreem. Polit Law Econ 81–97
[26] Ibid
[27] Intergovernmental Science-Policy on Biodiversity and Ecosystem Services, 'Summary for Policymakers of the Global Assessment Report on Biodiversity and Ecosystem Services' (Zenodo, November 25, 2019) https://doi.org/10.5281/accessed 27 January 2025
[28] Worm et al, 'Marine Biodiversity and Climate Change'(2016) 2nd edn, Journal of marine science, 195–212.
[29] <https://unfccc.int/sites/default/files/resource/Nigeria>accessed 27 January 2025

highly unstable and vulnerable fiscal and macroeconomic condition with high fluctuations in global oil price linked to global transition to the green economy and other factors driving energy demand.[30] Nigeria's economy is the largest in Africa, although it remains a lower middle-income country, with an income per capita of about $2,800 in 2015. Nigeria policy respond to climate change has been very slow. Agriculture is Nigeria's single largest economic sector, and one of the most important areas for development for the country. The human health status is a key factor of the development of the country, but Nigeria's performance in this sector remains poor. The country faces a wide range of environmental challenges. Some of the specific phenomena include Climate Change, which is negatively affecting every sector of the country's economy, particularly oil and gas sector and the Niger Delta of Niger.[31] The country is also confronted with a myriad of socio-economic challenges. One of these is inflation, which has remained in double digits for many years. Nigeria recognizes that one of her main development challenges is to tame climate change from creating a catastrophe for its people and environment. To this end, and in line with global best practices, two sets of measures have often been advocated for confronting climate change. These are mitigation measures (such as reductions in emissions of GHG and black soot) to prevent the degree of climate change from becoming unmanageable; and adaptation measures (such as building irrigation systems and adjusting agricultural practices. Globally, the oil and gas sector are a major source of GHG emissions. According to the

International Energy Agency's (IEA) World Energy Outlook 2018, indirect GHG emissions from oil and gas operations, including carbon dioxide and methane emissions, make up about 5.2 billion tons of carbon-dioxide equivalent. The oil and gas sector in Nigeria contribute up to 14% of the country's GDP, and accounts for 95% of the foreign exchange earnings. It also contributes to 65% of the annual federal budget[32] Critical policy measures that can be advanced for a carbon neutral oil and gas sector in Nigeria, as indicated in the National Climate Change Policy includes but not limited to the following: Pursue green jobs and just transition strategy to attain low-carbon transition for oil and gas sector in addition to strategy that anticipate and accommodate stranded assets in the country, supporting low-cost, technically feasible solutions to reduce methane emissions in oil and gas operations, including recovery and use of escaping gas, investment and use of smart technologies in oil refining; reducing fugitive emissions in the sector. From the fore mention problems in the oil and gas sector.

The question that readily comes to mind is how can climate change and protection of marine environment be incorporated into EIA in Nigeria? The answer is that, Climate change incorporation in environmental assessment is a growing research area, particularly following the Paris agreement. Environmental Impact Assessment is considered in many quarters to be an important tool in factoring climate-related components in the planning and design of a project. However, many recent researches have shown that EIA has, so far, struggled in the

[30] See Orubebe Bibiobra Bello, Environmental Legal Implications of Oil and Gas Exploration in the Niger Delta of Nigeria
[31] ibid
[32]United Nation Framework Convention on Climate Change, 'Nigeria'<https://unfccc.int/sites/default/files/resource/Nigeria>accessed 27 January 2025

attempt to incorporate climate change into its procedures. The level of consideration is still a far cry from the requirements if EIA is to be considered to be an important tool in addressing challenges of climate change in Nigeria.

3.0 International Legal Framework Regulating Climate Change

The General Assembly of the world body comprises of Heads of government adopted Resolution 172I (XV1) in 1901 created various groups with the task to contribute knowledge of discovery on the natural causes of severe weather conditions. A Conference of UN member states was held in Stockholm, Sweden, became the first international meeting on negative weather consequences resulted in the creation of the United Nations Environmental Protection Commission after some years witness the First World Weather Conference declaration identifying Ozone layer depletion and oversaturated with heat as an emergency challenge to the whole world. Consequently, this led to the creation of World Climate

Programmed and, in 1979, a formal agreement on Long-Range and Transboundary Air Pollution became the pioneer international legally binding consensus on climate transformation followed by the Law of the Sea meeting of 1982.

The 1982 pact provides the legal framework for ocean businesses and establishes a legal order for the controlling or regulating the waters of the world. The law of the sea 1982 is regarded as the constitution of the sea, though it has its shortcomings because it did not provide all the details regulating other aspects of the ocean, such as the administration of the large body of waters of the world. However, it made allowances for the development and evolution of the law of the sea through the adoption of other norms in various institutional settings. The Vienna Assembly for the Protection of the Ozone Layer and its related protocol known as the Montreal Protocol**,** were adopted and opened for signature in the year 1985 and 1987 respectively. In the year 1988, the Intergovernmental Panel on Climate Change was also established. These are some of the innovations that were introduced to reduce the consequences of weather abnormality.

3.1 Various International Legal Framework on Climate Change

a. United Nations International Convention on Climate Long-term Consequences

General Assemblies of the world body held an international convention on Climate Change that has a widespread membership among nations of the world. It has the main objective of preventing dangerous human-induced interference with the atmosphere that has consequences on the marine environment for economic sustainability without risking irreversible damage to marine life and human health.

b. The Kyoto Protocol of 1997

The term protocol in international law simply signifies or means an instrument that adds or amends something to an already existing convention. The tern consists of the instrument which is subsidiary to a treaty. The Kyoto addendum and amendment to the United Nations pact on weather abnormality was adopted in 1997 to introduce a more robust legally binding agreement in discharging or reduction of heat so that it will not cause negative consequences in marine areas. This addendum came into existence in 2005. Later followed by Paris Agreement of 2015 It has a mandate to settle disputes that may arise from parties over the interpretation or application of the treaty. The Paris pact is the pioneer international environmental agreement that conspicuously addresses the link between climate change and human rights issues[33]

c. Regional International treaty: Different regions of the world also had legally binding treaty on atmospheric weather negative consequences cause by ozone layer overheat. Such as wetland management, pollution from maritime shipping treaty, air pollution, hazardous

d. Waste disposal in marine areas agreement. Also, in place is the Asia and the Pacific and other regional bodies' framework on atmospheric management.

4.0 Legal Issues on Maritime Climate Change Mitigation Areas

The international convention mandates States to reduce climate destruction flaring to zero no later than 2050. The pact provided a road map for the reduction of half-flaring emissions from ships by the year 2030[34]. Most issues encountered with the international movement of cargo arise from a lack of understanding from stakeholders, such as brokers not having an in-depth knowledge about the items contained in the pact. For instance, international seagoing vessels are exempted from regulation under the US discharge permit system, which the Clean Water Act that requires compliance with technology-based standards. In the Caribbean, many ports lack proper waste disposal facilities, and many ships dump their waste at sea. Another issue is complicated nature of shipping trade and the difficulties involved in regulating the shipping industry, generally acceptable regulatory framework on corporate responsibility for reducing evaporation of waste fossil oil will not actualize immediately. The negative consequences of nature on marine areas is ravaging all aspects of human life.

[33] The 26th Conference of the parties to the United Nations Framework Convention on Climate Change (UNFCCC) Glasgow, UK, November 2021

[34] The views and opinions expressed on the blog Conservation Law Foundation, our boards, or our supporters') 3 December, 2020)

Consequently, the maritime sector is not isolated from encountering with major technical and economic recession.[35]

4.1 National Policy on Climate Change in Nigeria

The country legislation on Climate Change Act 2021[36] shows the eagerness in which the Nigeria approached weather connected series of happenings of real immense danger. As a first legislative enactment covering almost every aspect of atmospheric management regime in Nigeria. The Act has the potential to become a strategic tool for weather change professional and a legal foundation for potential climate disputes resolution in the country. The legislation came into operation in the year 2021 provides a regime for weather mechanisms and process at the federal level and state. Most of the conceived actions set in motion envisioned in Nigeria's novel atmosphere Act build on prior weather policies, most of which were adopted in the year 2021 as stated earlier. There Long-Term Low Emission Vision 2050 is the first nationally determined contribution towards management of potential climate effect. The legislation applies nationally within Nigeria's territorial jurisdiction and directs to implement ways geared towards fostering a low-carbon emission, environmentally sustainable indefinite period without damaging or depletion of resources, and a climate resilient friendly society.

The Act also deals with legislative supervision or management is to enabled the headquarters to collaborate with civil society organizations, encourage climate education programme and to render annually account to the National Assembly on the state of the nation's weather transformation activities or hub within marine areas and to assess reports on the performance of climate change duties by private and public organizations in the country This legal regime imposes duties on ministries, departments, and agencies to establish desk officers for ensuring enforcement of the Act.[37]

5.0 The Glasgow Climate Pact

Glasgow covenant on climate administration took place in 2021 with many states members in attendance representatives of governments, civil societies, corporate

[35] International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978 (MARPOL1973/78)
[36] Nigeria Climate Change Act (Laws of the Federation of Nigeria 2021).
[37] Nigeria Climate Change Act (Laws of the Federation of Nigeria 2021). See also Ajumoke Lambo et al 'The climate change Act: Key Points to Note' (February 2023)

organizations, and youth society or struggle decided to have a say in weather struggle to keep 1.5 degrees within reach of low flaring of fossil oil into the atmosphere.[38] The meeting of the Assembly on weather transformation Conference, lasted for two weeks at Glasgow, Scotland. According to the new pact, developing countries are to be provided with financial aid by developed nations to adapt to the devastating impacts of climate inconsistency. The Paris pact of 2015 provided the framework for countries to tackle weather inconsistency, while the Glasgow, six years, was the major pioneer test of this high-water mark of global diplomacy.

The pact's main resolutions taken at the conference are: Discharge of waste reduction also known as mitigation: Current national plans on cutting heat discharge by ships, industrial production etc by 2030, and known as nationally determined contributions. Agreement goals or apms achievable. Adaptation and climate finance: It was also resolved that rich countries agreed in the year 2009 that poor countries would receive at least $100bn (£75bn) a year from 2020, from public and private sources, to help them reduce emissions and meet up with the impacts of the climate unstable situation of impending abrupt change. But by 2019, the latest year for which report were made available, only $80bn flowed was receive by the secretariat.

At the last forum of Cop, deliberations moved on far enough for the setting up of a database and communications and accounting system, called the Santiago Network. Many progressing economy countries were hoping that Cop26 could provide a further and advance foot to the other, towards some form of funding strategies for loss and destruction as a result of abrupt consequences of the atmosphere on marine areas of the world. This has not yet complied by members countries, and the issue need to be revisited every conference until it comes to reality. Some countries attended the conference in Glasgow and made a stronger strategy and recommendations focusing on reduction to 1.5C. The main objectives are to hold heat rises below 2C before the industrial stages while pursuing efforts to reduce rises to 1.5C for better world and sustainability.

6.0 Recommendations for Addressing Maritime Climate Change

The following recommendations are made for the proper management of potential climate devastation of maritime communities and zones:

Need for new laws and policies to meet up unforeseen devastations of potential damage as a result of weather change in the world: The United Nations Regime large water body 1982 purports to provide a constitution for the oceans, providing a details regulatory framework,

[38] The UN Conference on Climate change' (Glasgow, UK, 2021)

yet it didn't deal with all aspect of oceans management of atmospheric issues in regulating and administration of maritime zones.

Maritime users of seawater should avoid dumping of iron into large bodies of water as a means of sequestering carbon and protecting marine areas. That is only permitted dumping should be allowed to be dumped in large water. Penalty should be imposed on violators and compensation paid by violators.

To actualize reduction in overheating of weather, goals set by the Paris Agreement on weather consequences and limiting the world average temperature increase to below 2°C above pre-industrial levels are vital to prevent the massive, irreversible destruction of ocean warming.

The law and policy of decarburization shipping should be reviewed to make work effectively.

Creating water-protected areas and in place adaptive measures, such as precautionary catch limits to prevent overfishing, can protect ocean ecosystems and shield humans from the consequences of ocean warming. Many plastics are washed or disposed into the marine environment from land-based sources every year, thereby polluting the marine environment. The oceans face a ironmen which constitutes health hazards to human beings and marine mammals and plants.

Grey, black wastes and Garbage generated onboard ships contribute negatively to marine pollution such as human defecation, laundry washing of clothes, washing kitchen utensils while on board a ship plastic, etc. There should be good waste and treatment reception facilities at ports and during voyages. Cautiously handling of these waste products is critical to reducing or preventing marine and atmospheric pollution of the environment.

Fleet managers should engage in having regular training programmers for crew members of all categories of staff on the danger of climate change, management and prevention. Advising on the dangers of the destructive nature of the atmosphere

Reduction of greenhouse gas waste discharge from international ships: It is also recommended the use of wind vanes to generate energy for light and the use of non-fuel automobile vehicles, planes and ships. States should embrace new technologies (Artificial Intelligence ships) otherwise known as autonomous ships that use charging batteries instead of fuel.

Implementation of strong measures that have the highest potential positive effect in addressing climate drivers worldwide, such as energy that is collected from renewable resources, such as wind power, hydropower or solar energy.

To combat atmospheric catastrophes in most regions of the world we need to reduce the rate of consumption of fossil fuels. The burning of coal, oil and gas flaring in industry processes. The world body must collaborate to replace coal, petroleum products, natural gas, oil usage with renewable and efficient energy.

The legal profession should engage in nature-based awareness in legal practice by continue educating legal practitioners and making them aware of matters relating to nature by providing good and reliable advice to clients on matters about the climate crisis since law regulates every human activity either land, sea, air and celestial bodies.

7.0 Conclusion

Atmospheric change and its impact on the maritime environment is due to rising maximum heat which increases the volume of water levels at sea and ocean warming, leading to an increase in heavy downpours, melting glaciers and thawing permanently frozen ground. International legal framework relating to the control of the coastal environment should be jealously guided, implemented and strong enforceable mechanisms should be put in place by all countries of the world for a safe, secure and sustainable atmosphere for mankind and the ecosystem to surmount climate transformation threat today and in the years ahead. The development and entry into force of several international conventions, notably the regime of the Sea 1982 agreement and the agreement on Biological Diversity which is the most important international law should be enforced in resolving most of the weather's uncontrollable consequences on human and ecosystem all over the world including cities, villages closely connected to the sea.