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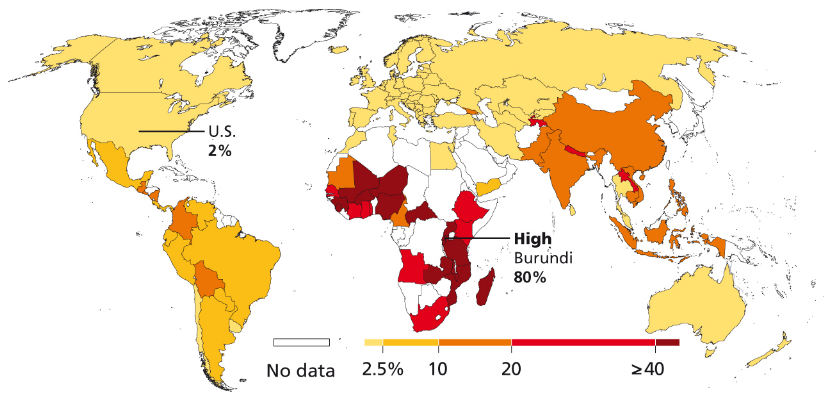
Introduction

The Atlantic Space is not merely an abstraction of international relations; it is a reality that is clearly evidenced by the high levels of interconnectivity in its physical, biological and chemical systems. This natural interdependence has provided the basis for inter-basin exchange and cooperation from the earliest times to the present day (Tedsen and Kraemer 2013). Unfettered access to the Atlantic's environmental (and human) resources was essential to the historical rise of the Euro-Atlantic civilisation (Sachs 2009). This model of development created a North-South dynamic of resource exploitation whose traces are still visible in the Atlantic Space of the 21st century. A key indicator of this imbalance is poverty, as figure 1 clearly demonstrates. Whilst there are differences within countries, as an example, the 2011 poverty rate (living on less than 2 dollars a day) in the US stood at 2% whereas it was 80% in Burundi.

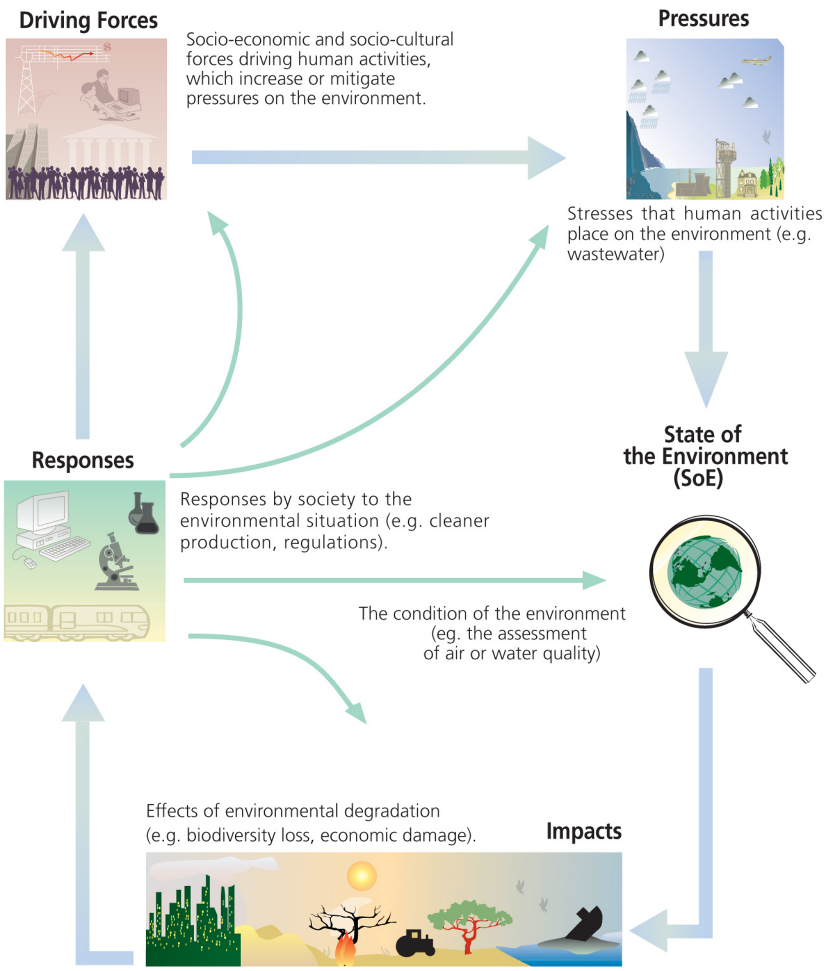
Figure 1. Poverty rates are highest in Africa and Asia (% of country's population that was poor in 2011)*



* This map shows the proportion of people within a country that were poor in 2011. It is one of five maps showing the shares of population in each country that live at different income levels. The income groups are the follows: the poor who live on $2 or less daily, low income on $2.01-10, middle income on $10.01-20, upper-middle income on $20.01-50 and high income on more than $50; figures expressed in 2011 purchasing power parities in 2011 prices.

Source: Pew Research Center 2015.

Figure 2. The DPSIR Framework (Driving Force-Pressure-State-Impact-Response)



Source: Digout 2005.

The modern day "Atlantic lifestyle" that has emerged from the Euro-Atlantic civilization has created patterns of production and consumption that have led to the overuse of natural resources, pollution of the environment and already locked-in effects of greenhouse gas (GHG) emissions and climate change. These are challenges that are complex and mutually reinforcing. For example, industrial agricultural production aims to increase food supply, yet deforestation to clear land for high levels of production causes degradation of the soil and water systems on which future production depends. Climate change destroys critical carbon stocks which in turn puts additional stress on oceans already facing degradation and overexploitation. In this way, societal needs and human behaviour are eroding the capacity of ecosystems and climate systems to support life across the Atlantic. To analyse these interactions between society and the environment, this chapter takes a Driving Force-Pressure-State-Impact-Response (DPSIR) approach to evaluate environmental activity and resource use in the Atlantic Space (see figure 2) The chapter also highlights geopolitical dynamics in the region and the growing political and economic influence of southern Atlantic countries by drawing on examples of environmental cooperation and leadership in the context of emerging Atlantic polycentrism.

Environmental and biophysical context

The existence of an Atlantic Space is never more clearly evident than in the context of the marine and coastal environment. The Atlantic Ocean binds Europe, Africa and the Americas together at a fundamental level. Connections range from shared fish stocks and migratory species such as Atlantic bluefin tuna, leatherback turtles and the European eel, to global environmental commons (high seas and deep seabed), freshwater resources, river basins and transboundary movement of waters. Furthermore, the Atlantic Ocean provides essential ecosystem services to Atlantic coastal and inland populations including: provisioning services (e.g. dietary protein and raw materials); regulating services (e.g. coastal protection and water purification); cultural services (e.g. tourism and recreation), and supporting services (e.g. nutrient cycling).

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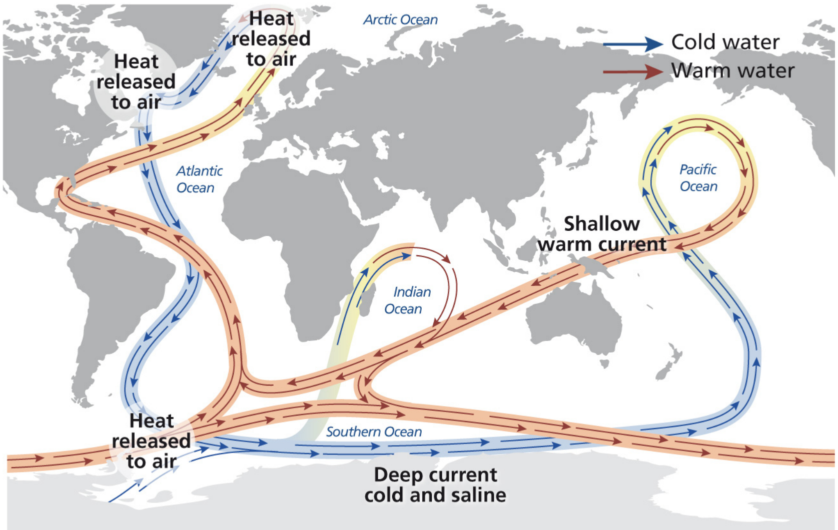
The Atlantic Ocean is the central drainage site for large river systems such as the Congo and Amazon river basins, the latter carrying 16% of global runoff (Uitto and Duda 2002). These basins are the figurative "lungs" of the Atlantic, with forests that provide climate regulation, cooling through evapotranspiration and buffering of climate variability (Megevand 2013). South America's Amazon contains roughly one third of the world's remaining tropical rainforest and stores approximately 120 billion tonnes of carbon. Transpiration in the forest also has far-reaching effects on rainfall throughout the Atlantic Basin (Schwartzman 2013). The other "lung" of the Atlantic, the Congo Basin, is the world's second largest contiguous block of tropical forest and covers 400 million hectares, storing an estimated 60 billion metric tonnes of carbon (Megevand 2013).

The southern Atlantic continents hold exceptional biological diversity. Latin America and the Caribbean account for some 33% of the world's total mammals, 35% of its reptilian species, 41% of its birds and 50% of its amphibians (UNEP 2010a). Plant life is also biologically unique and there is growing acknowledgement that flora and fauna in this region hold a wealth of genetic resources (ibid.). Africa also has extraordinary biodiversity, with 34 of the world's biodiversity hotspots on the continent (UNEP 2010b).

The Atlantic Basin is connected at a biophysical level by a range of atmospheric and climatic patterns. A large portion of climate variability in the Atlantic is associated with the North Atlantic Oscillation (NAO) that influences oceanic circulation and temperatures, wind patterns, weather and climate in the Atlantic. The Atlantic meridional overturning circulation (AMOC) – also referred to as the Gulf Stream system – further acts as a "thermohaline conveyor belt", providing a critical net transfer of heat from the South to the North Atlantic (see figure 3). The AMOC produces cyclical variations in sea surface temperatures in the North Atlantic, affecting atmospheric circulation and causing climatic variations over northern Europe (Ward 2003).

Figure 3. Thermohaline circulation



Source: Ahlenius 2007.

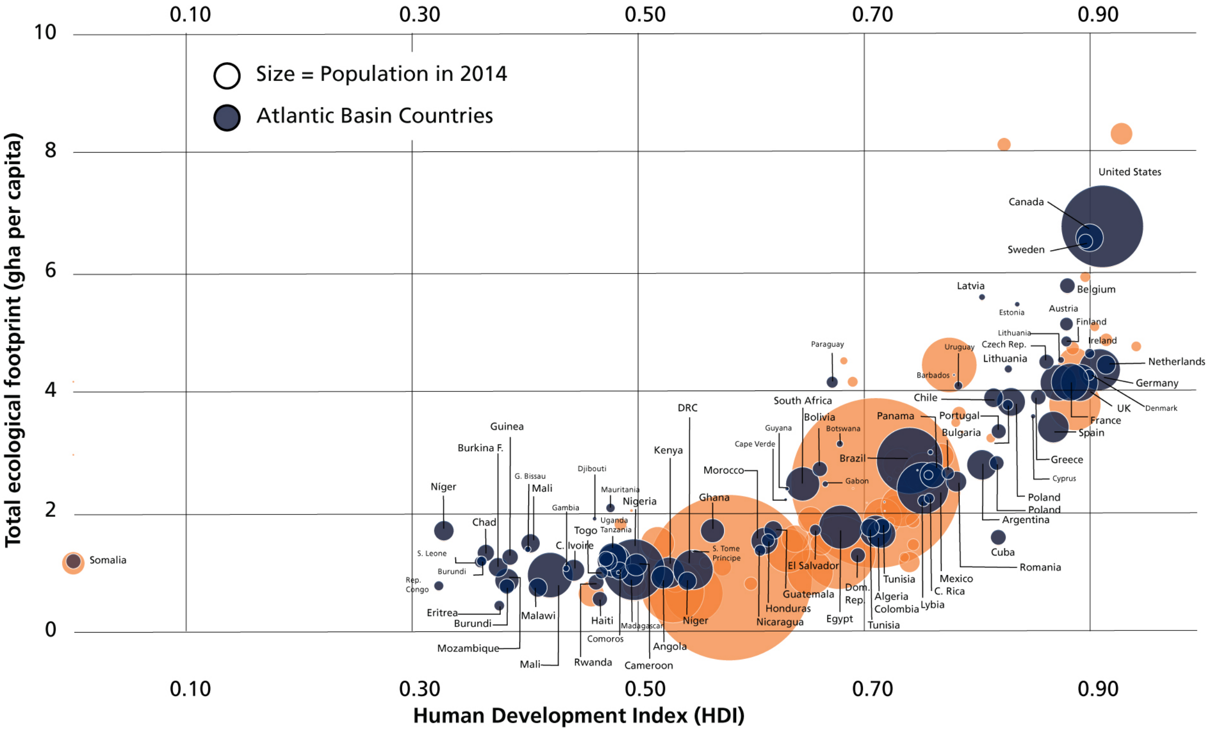
Human environmental dynamics in the 21st century

Driving forces

Lifestyles and consumer behaviours in the Atlantic Space – as across the globe – are extremely diverse and depend on a myriad of factors, including culture, rural or urban location, income and the price of goods (de Mooij 2011). Nonetheless, historically, the rise of the Euro-Atlantic model of industrialisation, urbanisation, economic development and market globalisation can be seen to have had an important influence in shaping global lifestyle choices (Sachs 2009). One example of the globalisation of the Euro-Atlantic model is the spread of "western" dietary preferences (Frenk 2015). These preferences – that include a higher consumption of animal protein rather than the direct consumption of food crops – require increased resource loads to meet demands and put heavy strains on the environment (Godfray et al. 2010).

Indeed, the inherent problem with the globalisation of the Euro-Atlantic development model and associated "Atlantic lifestyle" is that it presupposes a way of life that exceeds the carrying capacity of our planetary system. As illustrated by figure 4, increased levels of human development in Atlantic states are strongly associated with greater (and unsustainable) ecological footprints. Wolfgang Sachs (2009) notes that: "the resources for democratising automobile society, high-rise housing, chemical agriculture, or a meat-based food system at a global scale would be too vast, too expensive, and too damaging for local ecosystems and the biosphere". This development model has, by common consensus, also led to a rapid accumulation of GHG in the upper atmosphere and consequently to global warming (Woodgate 2010). Yet despite the impracticability of this lifestyle, Sachs (2009) remarks that it is "too late" – Southern aspirations have already been shaped by Euro-Atlantic patterns of production and consumption: "the imagination of the world is shaped by the Euro-Atlantic civilisation, yet the means for everyone in the world to live in such a civilisation are ever less available". Thus, while lifestyles and consumer preferences are locally and culturally specific (de Mooij 2011), the Euro-Atlantic development model and its systems of consumption and production continue to act as an important driving force for unsustainable resource use in the Atlantic Basin (see "The story of corn: systemic production and consumption" below).

Figure 4. Human Development Index in relation to ecological footprint (biocapacity in relation to human demand) per capita



Source: Created by CIDOB using data from UNDP (2011 HDI data), World Bank (2014 population data) and Happy Planet Index (2008 data).

The story of corn: systemic production and consumption

Underlying individual lifestyle choices and habits is an entrenched system of production designed to maximize output and dependent on a parallel maximization of consumption and demand. The story of corn and its influence on the US diet serves as an interesting example of how a system of production can develop to produce and shape a coordinated system of consumption that is of relative scale.

Following the World War I and the American depression, a series of policies were implemented to dramatically increase production which over time led to the transformation of family farm agriculture into business (agribusiness) (NFFC 2015). Hybrid varieties of corn were introduced and excessive chemical fertilizer applied resulting in unprecedented yields which actually led to chronic excess (NFFC 2015; Pollan 2009). In turn, surplus corn caused the price to be artificially low, leading the cost of corn to fall below the actual cost of production. Corporations controlling both sides of the supply chain (i.e. sale of seeds, grain traders, food processers) were able to benefit from their position and the low price of corn. Agribusiness in the US expanded and new products were developed to absorb this cheap surplus. Corn was remodeled into a variety of inexpensive, portable products that were marketed to the American public (Pollan 2009). The main developments were the production of high-fructose corn syrup and corn-fed livestock (i.e. poultry, beef, and pork) (Foley 2013). Both these corn "products" fundamentally transformed the American diet, with high-fructose corn syrup being used in an ever-increasing variety of processed food (and non-food) products (Pollan and Schlosser 2009).

Such systems of production came over time to be supported by similar commercial marketing and advertising campaigns to increase consumption further resulted in the sizing up of products, servings and food intake. For example, the supersizing method has taken the standard size for a bottle of Coca-Cola from 8 fluid ounces to 20 fluid ounces (Pollan 2009).

This example serves to illustrate the interdependency of consumption habits and the methods or systems of production that support or shape those habits. Today, the American industrial agriculture system is globalised with many of the American grain companies dominating the international grain market as well as influencing prices, product development and eating habits at home and abroad (NFFC 2015). In Brazil, trends that occurred half a century ago in the US are taking place with forested areas being cleared for growing soybeans, which in turn are being produced to feed the growing and lucrative cattle industry (Nepstad, Stickler and Almeida 2006; Barona 2010).

Between 2000 and 2010, 10 million hectares of land were converted for soy production in Brazil and the country is now one of the largest producers accounting for some 30% of world production (Gerdes, Kaphengst and Davis 2014). The production of soy is accelerated by Brazil's commodity exports and its burgeoning domestic cattle industry. Brazil is currently one of the top three producers of beef and has concurrently developed one of the highest per capita consumption rates of beef in the world (FAS/USDA 2015).

Pressures

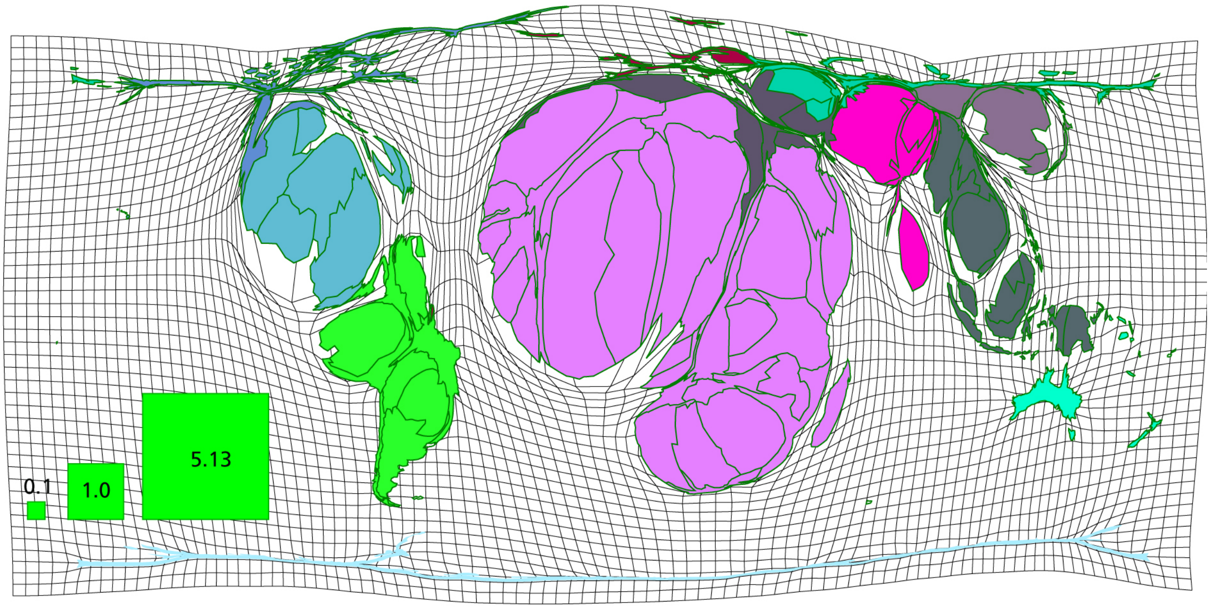
Not least among the environmental pressures of the Atlantic lifestyle are the GHG emissions in sectors that contribute to the production and consumption needed to maintain it such as agriculture, industry and transport (Godfray et al. 2010). The countries that occupy the Atlantic Space emit just over 40% of global GHG emissions (US EIA 2015). Differences between North and South in levels of consumption and production are evident within the Atlantic Space: of total emissions in 2012, North America produced more than 19%, Europe 13%, Latin America 4%, and Africa 3.7% (ibid.). Nevertheless, future emissions trajectories depend on regional and national dynamics, development paradigms (towards an Atlantic lifestyle or otherwise) and the political will to transition away from a fossil fuel-heavy model of development towards renewables (Stefes and Kraemer 2015).

Deforestation takes place to produce timber for direct use in production, however the primary driver has been the expansion of cultivated land and pastures for agriculture (Knickel 2012). The dietary choices (i.e. greater consumption of animal-based proteins) associated with the Atlantic lifestyle can be seen through a comparison of land use. While North America and Europe devote only about 40% of their croplands to direct food production, Africa and Asia allocate typically over 80% of their cropland to food crops (Foley et al. 2011). Simply explained, this means that in order to sustain the Atlantic lifestyle diet a much larger surface area of land is necessary to produce both animal-based proteins and plant-based crops (Reijnders and Soret 2003; Wakarmiya 2011). 80% of all Amazonian deforestation has taken place in Brazil, driven primarily by trade and global consumption of Brazilian beef and soybeans (Malhi et al. 2008; Karstensen, Peters and Andrew 2013). Brazil has been responsible for an estimated 2.7 billion tonnes of CO_2, or 30% of carbon emissions associated with deforestation in the last decade, due to soybean production and cattle ranching. Deforestation rates in the Congo Basin have been relatively low compared to those observed in other tropical forests, in part due to tax receipts from oil and mineral industries (Angelsen and Rudel 2013). However, pressures are rising, such as increasing population density and demand for fuel wood and timber resources, and clearing of land for (largely small-scale) agriculture. Between 2000 and 2010, the world's highest rates of tropical forest loss occurred in South America and Africa (UNEP 2012) (see figure 5).

The Atlantic was the first of the world's oceans to be overfished and the north-west Atlantic was the site of a collapse in cod stocks in the 1970s, one of the most iconic tragedies of the commons[1]. Today stocks in most major fishing areas in the Atlantic are overexploited due to overfishing (UNEP 2006; Holthus, De la Gorce and De Saint Salvy 2012). Meanwhile, global consumption of fish continues to rise, driven by changing dietary preferences and population and economic growth. With wild fish catches stagnating or in decline, aquaculture aims to meet the demand and continued growth in its use is predicted. Like livestock, many aquaculture enterprises feed their fish on corn and soy products (Pollan 2009).

1. The "tragedy of the commons" (Hardin 1968) refers to the failure of cooperative governance of a common resource by individuals guided only by self-interest leading to collapse of the resource.

Figure 5. Global Deforestation (1990-2011, % of change)



Source: World Bank Databank.

States and impacts

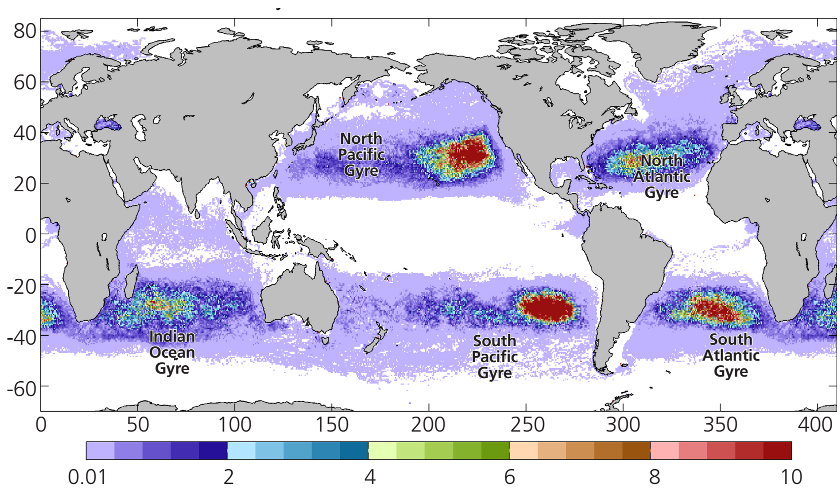
Despite marked diversity in climatic and biophysical conditions, GHG emissions and climate change have created certain common patterns and vulnerabilities (Stefes et al. 2014). A significant percentage of the population of the Atlantic Basin lives in coastal zones, including a number of major cities and population clusters around sensitive river deltas such as the Congo. Climate change impacts pose direct threats to regional development, human security and well-being in these areas through widespread rising sea levels, coastal flooding and erosion, saltwater intrusion, ocean acidification, temperature and precipitation changes, species loss, degradation of ecosystems and their services (ibid.). Ice sheet melt is not only contributing to sea level rise in the Atlantic, recent observations support evidence of a weakening of the AMOC, one of the Atlantic's critical systems, through significant freshening from increased ice sheet melt in Greenland causing associated surface cooling in the North Atlantic (Rahmstorf et al. 2015).

Healthy, functioning natural systems are necessary for any form of agriculture, which is essential to human food and security. At the same time, agriculture is one of the sectors that is most sensitive to climate change and associated temperature and precipitation variability. This is particularly the case for (wholly or partially) rain-fed agriculture (USAID 2013) and thus presents particular challenges for the southern Atlantic where reliance on precipitation for agriculture is greater; in sub-Saharan Africa, for example, it is estimated that agricultural losses will be the equivalent of 0.2% of regional GDP by 2100 (Calzadilla et al. 2010). Worsening natural drought conditions will likely be magnified by climatic variability and will be further impacted by the clearance of Amazonian forests which release moisture southward. Lower water levels also lead to reduced hydropower output which will have implications for energy production in countries reliant on this power source, such as Brazil.

In addition to producing greenhouse gas emissions, anthropogenic pressures such as large scale deforestation and intensive farming systems lead to environmental impacts that have far-reaching consequences throughout the basin.

In addition to producing greenhouse gas emissions, anthropogenic pressures lead to environmental impacts that have far-reaching consequences throughout the basin. Large-scale deforestation taking place for the expansion of agriculture is likely to reduce rainfall and impact regional circulation of atmospheric moisture, possibly pushing Amazonia into a permanently drier climate regime (Malhi et al. 2008). Intensive farming systems for industrial agriculture lead to greater levels of pollutants in the atmosphere and reductions in biodiversity through the growth of monocultures (Altieri 1998). Westhoek et al. (2011) estimate that 30% of human induced biodiversity loss is related to the production of livestock. As developing countries in the South are frequently dependent on these resources, they are subject to a disproportionately high degree of vulnerability to declines in biodiversity and ecosystem service provisioning (Tedsen and Kraemer 2013). Furthermore, rivers such as the Amazon and Congo become the conduits for land-based sources of pollution from run-off and nonpoint discharges, leading to hypoxia and algal blooms which affect freshwater quality, harming coastal and marine ecosystems as well as human health (Lau 2013; IOC/UNESCO et al. 2011; Ruckelshaus et al. 2008; UNEP 2006; Biswas 2004). In addition, street litter, food packaging and medical waste, which degrade increasingly scarce freshwater resources, are transported into the marine environment. Once in the Atlantic, these are added to ocean-based sources of pollution such as discarded fishing vessels or equipment, oil spills or lost cargo. The resulting marine litter ends up in the shared commons of the Atlantic Ocean where two large "garbage patches" with high concentrations of macro- and micro-plastics have been produced (Law 2010; Morét-Ferguson et al. 2010) (see figure 6). This marine litter is further washed up on the shores of countries around the basin, creating substantial environmental as well as socio-economic problems. Added to this are the impacts of overfishing, which presents one of the greatest threats to marine biodiversity, the sustainability of marine resources and future food supplies (Lester et al. 2013; Barbier 2012; Billé, Druel and Rochette 2011; Gjerde and Breide 2003).

Figure 6. Global garbage gyres



Source: McNally 2010.

Responses

In an attempt to manage some of these impacts and pressures, a fragmented constellation of cooperative initiatives has emerged in the Atlantic Space. Differing in their range and objectives, these initiatives include: overarching multilateral frameworks involving countries from all Atlantic continents; regional cooperative relationships (particularly for trans-boundary environmental management – e.g. marine resources, river basins); and flexible and specific bilateral relationships based on shared mutual interest or shared experience (e.g. socioeconomic development, historical and cultural ties or specific geophysical and biological features).

A fragmented constellation of initiatives has emerged to manage impacts and pressures: multilateral frameworks involving countries from all Atlantic continents; regional cooperative relationships as well as bilateral relationships based on shared mutual interest or experience.

Most multilateral environmental governance frameworks tend to be global in scope (e.g. UNFCCC and REDD+) with relatively few examples of frameworks that are specific to the Atlantic. At this level, North-South dynamics continue to be visible, for example in agreements that combine development aid with environmental objectives such as climate change adaptation and mitigation. In these scenarios, northern Atlantic countries predominantly take on a funding role. Motivations for such funding are manifold, but can, in part, be in recognition of the climate justice agenda (see, for example, the Mary Robinson Foundation 2013) and the observation that the impacts of climate change are not evenly distributed and that some regions in the southern hemisphere are particularly vulnerable to socioeconomic impacts (Smit and Wandal 2006). Such North-South multilateral initiatives include EUROCLIMA, a cooperative programme between Latin America and the EU on climate change mitigation and adaptation, and the Caribbean Risk Management Initiative (CRMI), funded by UNDP through contributions from Italy and Norway. In some cases, cooperation can be based on historical, cultural and linguistic ties such as the *Red Iberoamericana de Oficinas de Cambio Climático* (RIOCC): a cooperative effort between Spain and Portugal and 21 Latin American countries. The acknowledgement of shared risk and particular climate change-related challenges has in some cases been the impetus for regional and South-South multilateral cooperation. The Great Green Wall Initiative (GGWI) is a regional reforestation project in Africa to address desertification and land degradation. CARIBSAVE is a cooperative effort between small island states in Latin America for risk management of climate-induced disasters and sea level rise. Private sector initiatives responding to development and climate change have also emerged at the regional level. For example, Coffee Under Pressure is an initiative funded privately by a US company, Green Mountain Coffee Roasters, to improve resilience to climate change for coffee growers in Central America. The Atlantic Future project found that stakeholders in every Atlantic region positively responded to the creation of a specifically Atlantic network of sustainable cities to mirror similar initiatives such as the C40 Cities Climate Leadership Group (Drummond 2014).

Shared *commons* in the Atlantic Space such as fish stocks, seas and river basins that demand transnational governance often bring about multilateral and regional cooperation. There are currently 15 Regional Fishery Bodies (RFB) operating in the Atlantic. These include, for example, the Northwest Atlantic Fisheries Organization (NAFO), the Ministerial Conference on Fisheries Cooperation among African States Bordering the Atlantic (COMHAFAT-ATLAFCO) and the International Commission for the Conservation of Atlantic Tunas (ICCAT). Depending on their focus, RFB aim to conserve, manage and develop fisheries, and members and contracting parties include countries from both northern and southern hemispheres in many different constellations. UNEP's Regional Seas Programme aims to address ocean degradation and sustainable management and includes wide international participation and 13 programmes in the Wider Caribbean, Mediterranean, and Western Africa, most of which are accompanied by legally-binding regional seas conventions (e.g. the Cartagena Convention for the Caribbean and the Barcelona Convention for the Mediterranean)[2]. Studies from the Atlantic Future project suggest that potential willingness exists for an agreement on the protection of Biodiversity Beyond National Jurisdiction (BBNJ) within and/or between basin countries, although it is less likely that such agreements would be legally binding (Drummond 2014). Support for the expansion of Marine Protected Areas (MPA) is strong within Atlantic states, even in the case that an agreement is legally binding (ibid.). A recent example of Atlantic marine cooperation is the Sargasso Sea Declaration, which was signed between the governments of Bermuda, the Azores, Monaco, United Kingdom and the United States in March 2014, committing to the conservation of the Sargasso Sea – a vast patch of mid-Atlantic Ocean known for its unique floating seaweeds that harbour rich biodiversity.

Within the Atlantic Space a number of South-South partnerships exist, particularly around climate issues. The emerging partnerships between Brazil and a host of African countries – specifically those that are Portuguese speaking – on tropical agriculture and climate change serve as an example of these new, dynamic bilateral relationships. Brazil has engaged with several African countries, providing policy and technological support in tropical agriculture in an attempt to tackle low levels of productivity in sub-Saharan Africa (Shankland and Cabral 2013). Between 2003 and 2010, agriculture accounted for 22% of Brazil's technical cooperation with Africa (ibid.). Underlying Brazil's agricultural technical cooperation is a distinct focus on socioeconomic goals and rural development, including food and human security, poverty alleviation and improvement of agricultural productivity (ibid.). The biophysical similarities between Brazil's arid terrain and that of sub-Saharan Africa including soil, seed and geological pressures (e.g. rainfall) provide a strong basis for inter-basin cooperation in resource management.

Bilateral agreements that continue to demonstrate a North-South divide are those which relate to access to and benefit sharing of genetic resources. As noted above, there is a greater dependency in the South on biodiversity, where a higher level of genetic resources are concentrated, while traditionally, the biotechnological industry has been concentrated in developed countries in the North[3]. While, at the international level, the Convention on Biological Diversity's Nagoya Protocol provides a legal framework for improved access and benefit sharing procedures for genetic resources with prior informed consent and mutually agreed upon terms, negotiations have stalled (Tedsen and Kraemer 2013). Bilateral trade agreements and dialogues have helped fill gaps in improving access and benefit sharing for genetic resources, such as bilateral agreements between the EU and Latin American countries and ongoing negotiations between the EU and Mercosur (Oberthür et al. 2011). On the other hand, agreements between developing and developed countries (in particular EU member states and the US) sometimes include provisions

2. For more information, see http://www.unep.org/regionalseas/
3. In 2011 for example, the US was responsible for 40.5% of biotech patent applications filed under the Patent Cooperation Treaty system administered by the World Intellectual Property Organisation (WIPO), while the EU's share was 26.5% (OECD, 2015). Southern Atlantic countries such as Brazil and South Africa were responsible for just 0.4% and 0.1%, respectively.

that even exceed the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) demands regarding bio-prospecting (Biermann et al. 2009).

Analysis and conclusions

Although certain initiatives show potential for intra-basin cooperation, the overarching green policy context in the Atlantic Space is not yet well advanced.

The Atlantic lifestyle is sustained by high levels of consumption and production and has become increasingly prevalent with growing industrialisation and urbanisation both in the Atlantic Space and beyond. However, and as highlighted by the "Story of Corn", the existing production and consumption systems that support this type of lifestyle can be both inefficient and damaging to human and environmental health. The systems supporting this particular way of life have led to a wide range of pressures on land-based and aquatic ecosystems and the services they provide to the Atlantic population. Unfortunately, these pressures and impacts are intimately connected and as such, their mitigation is less than straightforward. Furthermore, path dependencies mean that northern countries are to a certain extent "locked-in" to a conventional model of fossil fuel-driven development, while at the same time, southern desires have already been shaped by Euro-Atlantic patterns of production and consumption (Sachs 2009). The key challenge now faced by the Atlantic to protect its environment and resources is to develop new solutions that transform production systems, consumption preferences and expectations of quality of life without jeopardising basic needs. For example, there is a need to increase agricultural productivity in the Atlantic Space, particularly in Latin America and Africa, whilst at the same time maintaining and preserving the significant biodiversity that exists in those continents' extensive and undeveloped rainforests, grasslands and ecosystems.

In addition, while the Atlantic Basin is strongly connected at a biological, physical and chemical level, it is neither entirely self-contained nor a closed system. Players both inside and outside the basin influence and are affected by environmental challenges in the Atlantic Space. Actors from outside the basin consume resources, contribute to pollution and shape developments, including via trade, foreign direct investment and technology transfer. For example, in the case of marine resources, countries generally face domestic trade-offs between promoting sustainability and supporting coastal livelihoods, yet it is often exogenous factors – such as, for example, climate change impacts and illegal fishing – that most greatly impact marine ecosystems and economies in Atlantic coastal countries (Tedsen et al. 2014). In this way, many of the challenges faced by the Atlantic states are "wicked problems" that "defy resolution due to the enormous interdependencies, uncertainties, circularities, and conflicting stakeholders implicated by any effort to develop a solution" and in the case of climate change a "super wicked problem" due to the fact that "the longer it takes to address the problem, the harder it will be to do so" (Lazarus 2009).

Although certain iniciatives show potential for intra-basin cooperation, the overall green policy context in the Atlantic Space is not yet well advanced (Drummond 2014) and the responses to environmental challenges are fragmented and diverse. They may be based on a combination of shared historical experience (i.e. language), perceived mutual interest and compatibility (e.g. shared biological and physical environments or challenges) around a specific issue (e.g. drought, management of marine resources, improving production in tropical agriculture). In the case of global commons such as fish stocks there is a very specific imperative to cooperate at a multilateral level. Bilateral and regional relationships exist to tackle a variety of challenges and there are important avenues of cooperation to be explored – such as Africa's openness to green policy and Europe's anticipated timeline as regards the transition towards a green economy, which scenario potentially opens up possibilities for North-South collaboration (Drummond 2014). Bilateral and regional agreements are by no means exclusively North-South but increasingly South-South and South-North as the South's populations, power, and consumption rise (Lesser 2010). Indeed, increasing engagement from the South can bring new and innovative solutions for resource conservation and governance to the table as in the proposal to gather international funding for the protection of the Yasuni National Park in Ecuador (Martin and Scholz 2014).

Thus the outlook for the governance of the Atlantic environment and its resources is – as in the rest of the 21st century world – polycentric and diffuse. From this perspective, the way forward for resource management and environmental protection in the Atlantic is not self-evident. To address the key pressures and impacts described in this chapter would above all require an acceptance of the principle of "contraction and convergence" as proposed by Audrey Meyer: "a commitment from all players to achieve the common goal of material and energy consumption compatible with the demands of other countries, while remaining within the carrying capacity of the biosphere" (Sachs 2009). Indeed, this would suppose a re-evaluation of the fundamental premise of the Atlantic lifestyle whose cultural sway still resonates across both hemispheres.

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