

SeaStates G20 2018

Marine Protected Areas in the G20 Countries

The G20 member countries are the most financially able countries in the world; collectively their economies account for approximately 85% of the gross world product and 80% of world trade. Yet their commitment to protecting their coastal waters is lacking, and capacity is clearly not the issue.

In conservation, it is often said that those with larger financial resources should be better stewards than those whose money is spread more thinly. The G20* countries are not only obligated to protect the environment because of their financial ability; the majority of these countries are signatories on international agreements with marine protection targets, such as the Convention on Biological Diversity (CBD) and the UN Sustainable Development Goals (SDG). The CBD Strategic Plan for Biodiversity 2011-2020 consists of a biodiversity target, Aichi Target 11, which states that by 2020 10% of coastal and marine areas will be conserved through effectively managed, ecologically representative and well-connected systems of protected areas. UN SDG 14 effectively mirrors the same marine target.

Concurrently, the IUCN voted in 2016 at the World Conservation Congress to recommend that 30% of each marine habitat be in highly protected areas by 2030.

With the exception of Saudi Arabia, all G20 nations have signed the Convention on Biological Diversity's Strategic Plan for Biodiversity 2011-2020. With a little over one year left to meet Aichi Target 11, this SeaStates G20 2018 report from Marine Conservation Institute and Pristine Seas assesses how the countries with our world's twenty largest economies compare as leaders in marine conservation and if they have kept their standing promises to protect our oceans. They have the means, are they doing their part?

**The European Union is considered a member of the G20 group and member countries' European marine estates are aggregated in this analysis, excluding all Overseas Countries and Territories. Additionally, France, Germany, Italy, and the United Kingdom are included as G20 countries in their own right. The UK is considered an EU member for this analysis while it negotiates an exit strategy from the European Union.*

Why Protect Marine Ecosystems?

Oceans are essential to human survival and prosperity, yet our activities are pushing many critical marine species toward extinction. Marine biologists suggest that the best way to maintain the oceans' diversity, abundance and resilience is to protect marine life in their ecosystems, especially in marine protected areas (MPAs) that minimize extractive activities such as fishing, mining and oil and gas development.

However, numerous MPAs lack the regulations and design characteristics critical to ensuring they successfully safeguard marine life. No-take marine reserves, in contrast, prohibit all extractive activities and deliver the conservation benefits that marine life need to thrive. Protecting biodiversity in marine reserves increases the abundance and diversity of marine life exported to surrounding areas, both securing food resources for millions of people and preventing loss of species. In this report we group these fully protected no-take marine reserves with large and isolated strongly protected MPAs where commercial extraction is prohibited, recreational fishing is by permit, carefully managed and highly restrictive, and subsistence use is minimal.

What is a Marine Protected Area?

Generally speaking, the phrase “protected area” refers to a place that is both recognized for some high level of biodiversity or natural health and is in some way managed through the restriction of impactful activities. One of the most challenging aspects of an international comparison is differing use of terminology. The International Union for the Conservation of Nature (IUCN) offers a comprehensive classification system to determine the baseline level of protection as well as the intended function of a protected space.

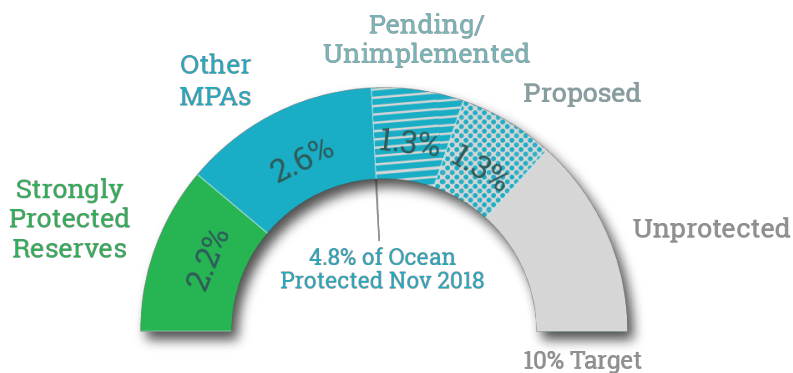
Unfortunately, not all marine protected areas are created equal. There are thousands of places governments call “marine protected areas” that are very poorly protected and can only be considered “paper parks.” To receive the most important benefits from marine protected areas, protection needs to be strong in order to be effective.

Why No-Take Reserves?

Many marine protected areas protect against only a few threats, and most allow people to fish within them in some fashion. No-take reserves are the strongest form of marine protected area as they safeguard marine life from the harmful effects of overfishing and other industrial and extractive uses, such as drilling for oil and gas. We use the term strongly protected reserves to refer to all fully protected no-take reserves along with a few select large and remote protected areas that limit extractive impacts to negligible levels.

Scientific studies have repeatedly shown increases in diversity, size of marine life and the overall abundance of animals in no-take reserves. Reserves also replenish fish and invertebrate populations outside their boundaries, a good outcome for both fish and fishermen. Additionally, strong protection allows female fishes and invertebrates to live longer, grow larger and produce far more eggs than the same number of younger females.

As of November 2018, 2.2% of the ocean is safeguarded in strongly protected reserves fully implemented on the water according to the Atlas of Marine Protection (Figure 1). Within national jurisdictions, strongly protected reserve coverage is currently 4.5%. One year previously in November 2017, 1.8% of the global ocean was fully protected in implemented reserves.



How Much of the Ocean is Protected?

Figure 1. Global marine protected area coverage as of November 2018, showing fully implemented strongly protected reserves in green, multiple-use marine protected area coverage in blue, sites pending implementation on the water in hatch marks, and known proposed areas with reported geospatial boundaries shown with a dot pattern.

Tracking Strongly Protected Marine Reserves

Accurately tracking no-take marine reserve coverage can be difficult. The International Union for Conservation of Nature has established global categories for all protected areas, terrestrial and marine. These categories are recognized by international bodies, such as the United Nations, and by many national governments as the global standard for defining and recording protected areas. Unfortunately, inconsistencies in the application of and reporting on the categories reduce the efficacy and use of the system as a global classification scheme. Their application to marine sites remains inconsistent despite guidelines to help apply them to marine areas. Making assumptions about IUCN category determination based on the name of a protected area (e.g. National Park, Sanctuary, etc.) rather than actual management objectives is a common problem with these designations. Further, conflicting jurisdictions and regulations between terrestrial and marine areas within the same protected area might result in an IUCN Ia category reserve on land with less restrictions on extractive uses within the marine component.

To this end, following the Malta Declaration at the Our Ocean conference in 2017 (<https://www.nationalgeographic.org/projects/pristine-seas/malta-declaration/>), an international coalition of marine scientists, conservationists and political operatives have devised a standardized framework for assessing the level of protection afforded by marine protected areas into several broad classes, from fully protected no-take reserves and strongly protected areas with limited allowances for extraction and destruction of marine life at the upper end down to areas with negligible ecological protection but with other possible social and operational benefits. At the time of this analysis, the marine protection classification framework was not ready to be systematically applied to the entire global marine protected area inventory, but we do assess sites at the strongly to fully protected levels.

Strongly Protected MPAs

Areas where commercial extraction is prohibited, recreational extraction is by permit, carefully managed and highly restrictive, and subsistence use is minimal. As of this report, in addition to fully protected no-take reserves, the term has been used only to describe a few large, remote MPAs where the impact of recreational use by permit is minimal due to the isolated location, size and management structure of the MPA.

Methods

We carefully combed through the marine protected areas of the 19 G20 countries and of the combined European Union ocean estate excluding associated Overseas Countries and Territories (OCTs) and compared publicly available management plans and reports to determine which sites formally fit the criteria of no-take areas. The marine protected area data was obtained from the Atlas of Marine Protection (mpatlas.org) in early November, which includes source data from the October 2018 release of the World Database on Protected Areas (WDPA, protectedplanet.net). The MPAtlas dataset provides missing records, corrections, and additional fields on top of the WDPA inventory, particularly in regard to no-take and implementation status. Some areas might have been unintentionally missed or overestimated, but this report provides a reasonable estimate of overall protection coverage for

comparison. We have refined each country's inventory of legally designated marine protected areas into both fully implemented sites in effect on the water and sites pending implementation. For example, the Atlas of Marine Protection has classified Australia's 2012 network of Commonwealth Marine Reserves as pending implementation for the past six years, only changing their status to actively implemented this past July 2018.

We used geospatial boundary data to determine the coverage of marine protected areas and strongly protected reserves wherever possible. For some sites only a point and an area estimate were reported. In these cases, we constructed a circle with an area matching the provided area estimate. In both cases, we clipped the constructed boundaries by a global high-resolution coastline data set to remove terrestrial components. For sites that were only indicated to be partial no-take and when the size of no-take area was available, but not the specific internal no-take zone boundaries, we scaled the size of the remaining marine area to match the known no-take area value. In these cases, there is no definite way to know exactly where the no-take zones are, but we still capture the correct amount of strongly protected marine area. Alternatively, if we know the site is partially no-take but do not have any size estimate, we assume the no-take zones comprise ten percent of the total area. This still offers some credit when no other information is known.

We compared the no-take coverage for each country within their combined exclusive economic zone (EEZ) and territorial waters - all waters out to 200 nautical miles (nm) - assessing core home-nation waters, overseas territories, and remote holdings. Figure 6 depicts a global map of marine protected areas and reserves from all G20 countries. We used the World EEZ version 10 dataset published at marineregions.org to determine the marine estate of all countries and territories.

Unfortunately, China has officially redacted most MPA records from the World Database on Protected Areas even though the sites have not been degazetted, making it difficult to assess real protected area coverage in Chinese waters. Marine Conservation Institute has no confidence in the assessment of Chinese marine reserves in this report but plans to work with partners in country in early 2019 to reconstruct an improved inventory of Chinese MPAs. Actual MPA coverage may be in the range of 3-4% or greater, with a significantly smaller amount in strongly protected reserves.

Results

Of the 19 G20 countries, only 6 have protected more than 1% of their oceans in strongly protected reserves.

Of the 19 G20 countries, only 6 have protected more than 1% of their oceans in strongly protected reserves (Figure 2, Figure 5). The United Kingdom (UK) and United States (US) lead the pack of front runners, with a full 23.3% and 23.1% of their respective marine estates fully protected. Almost 49% of the total UK marine estate (an additional 25% on top of the marine reserve coverage) is contained in any form of marine protected area, though many of those areas may be weakly regulated. The US total MPA coverage is 25.9%, an increase of only 2.8 percentage points over the area under strong protection. With a comprehensive marine park network coming into force this past July 2018 after six years of limbo, Australia ranks in third place with 9.2% of its entire marine estate within no-take reserves and 36.0% within any form of MPA. In fourth place, Mexico has strongly protected about 4.7% of its marine area with 21.9% falling within all forms of marine protected areas. Brazil follows behind with 3.3% of its ocean in strong reserves and 26.3% within any form of MPA, with a significant contribution from the two new massive Environmental Protection Areas of Sao Pedro e Sao Paulo and Trinidad e Martim Vaz. In sixth place, France strongly protects about 1.5% of its vast marine estate and contains nearly 22.3% of marine area in all MPAs.

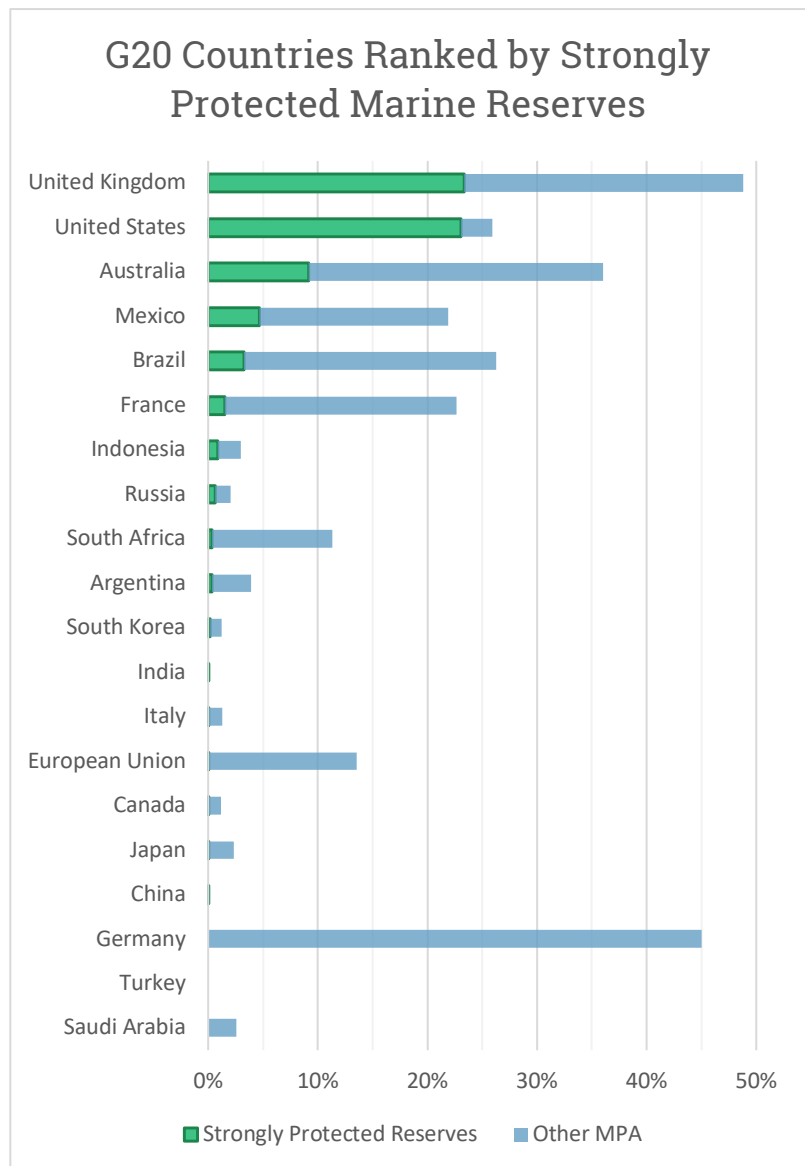


Figure 2. G20 countries ranked by proportion of their total marine estate strongly protected in designated marine reserves, shown in green, with additional coverage of marine protected areas of all protection levels shown in blue. Legally designated sites currently awaiting implementation are grouped with fully implemented protected areas in this ranking.

The remaining G20 group members have fully protected less than 1% of their oceans: Indonesia, Russia, South Africa, Argentina, South Korea, India, Italy, Canada, Japan, China, Germany, Saudi Arabia and Turkey. Their total MPA coverage ranges from 45.0% down to 0.04%. Evaluating the European Union marine area, excluding Overseas Countries and Territories, shows a miniscule 0.02% safeguarded within strongly protected reserves compared to 13.5% within all forms of MPA designation, a significant portion of which are Natura 2000 sites and special protection areas under the Birds Directive that may lack many restrictions on extractive activities within their boundaries.

Home Waters and Overseas Territories

A salient trend is that strong protection of large, remote areas makes up the vast majority of the no-take protection for the leading G20 countries (Figure 3). For example, the United Kingdom has only a handful of small no-take areas in surrounding waters, with the vast majority of their no-take area occurring in British Overseas Territories. The same hold true for the United States, the UK's rival MPA heavy weight (Figure 4). Removing remote areas from the analysis, the top four countries for strongly protected marine areas in order are Australia, Mexico, Brazil, and Indonesia.

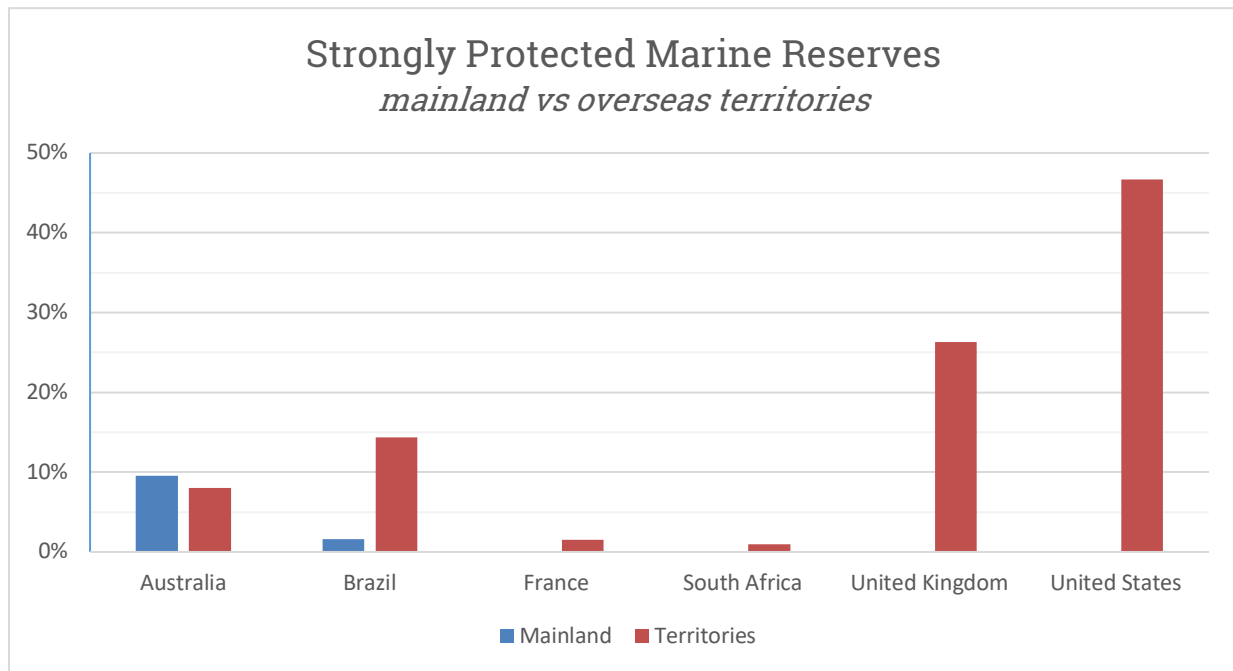


Figure 3. Strongly protected marine reserve coverage in those G20 countries with overseas territories or dependencies, comparing the proportion of protected mainland marine estate (blue) to the protected territorial marine estate (red). Legally designated sites currently awaiting implementation are grouped with fully implemented protected areas in this ranking.

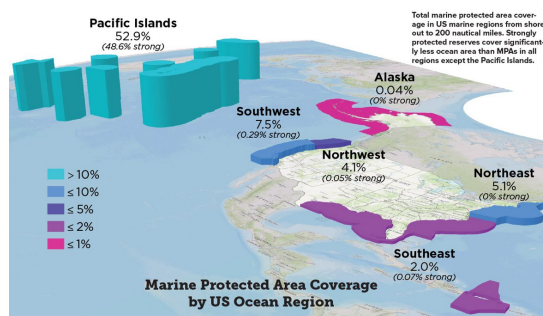


Figure 4. US marine protection across various regions showing the stark dichotomy between the amount of protected area around North America compared to the Central and Western Pacific.

In fact, the UK, US, France, Brazil, and South Africa all have the greater part of their no-take reserves in remote waters far from centers of population (e.g., the Northwestern Hawaiian Islands, Pacific Remote

Islands, Pitcairn, Ascension, South Georgia, French Southern and Antarctic Lands, and the Prince Edwards Islands). All but Brazil strongly protect less than 1% of their home waters. These countries will need to improve protection of the heavily used waters closer to home, in order to ensure protections across all ecosystems and habitats. Australia and the US state of California have all designated no-take marine reserve networks demonstrating that domestic coastlines can be effectively and systematically protected. And yet Australia's marine park network is also a reminder of the complex social and political forces at play regarding marine protected area design and designation with many of the final no-take zones being pushed off to the edges of the continental shelf or with narrow slivers running from the coastal zone to the continental slope.

Marine Reserve Coverage in G20 Countries

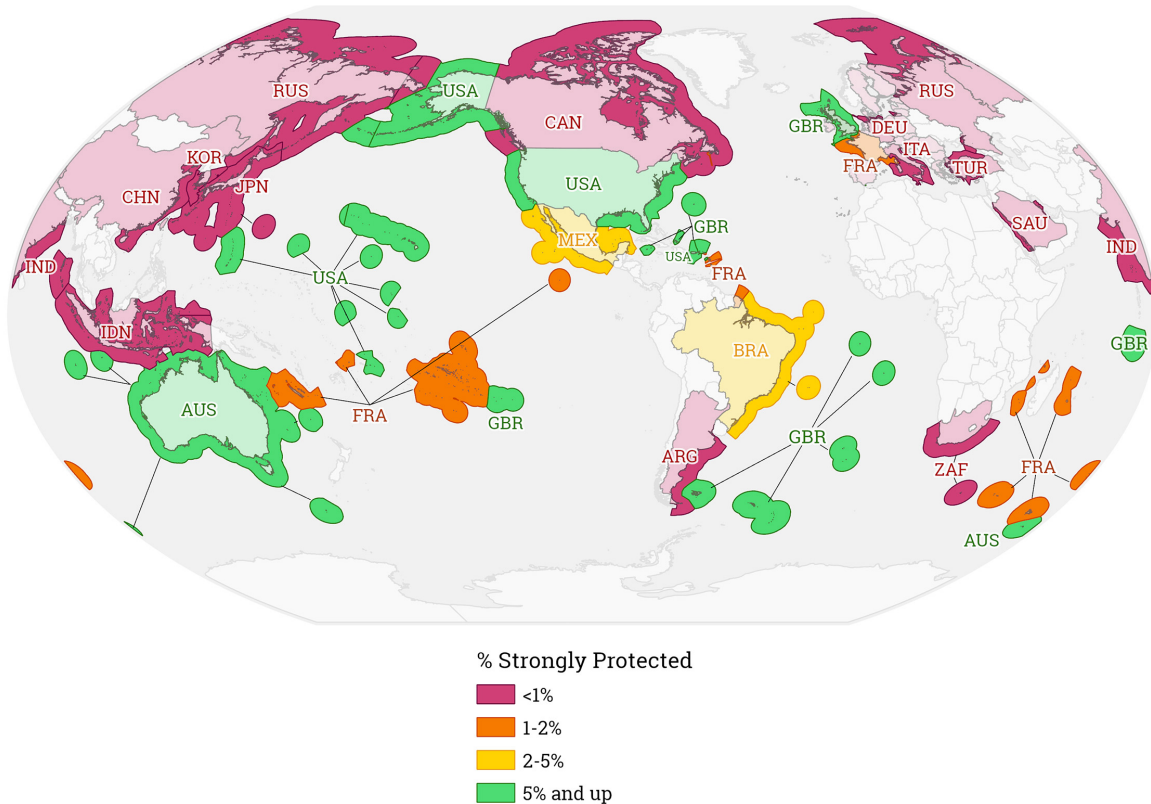


Figure 5. Proportion of the total marine estate for each G20 country safeguarded by strongly protected marine reserves. Mainland and territorial marine areas are aggregated and legally designated sites currently awaiting implementation are grouped with fully implemented protected areas in this assessment.

Marine Protected Areas in G20 Countries

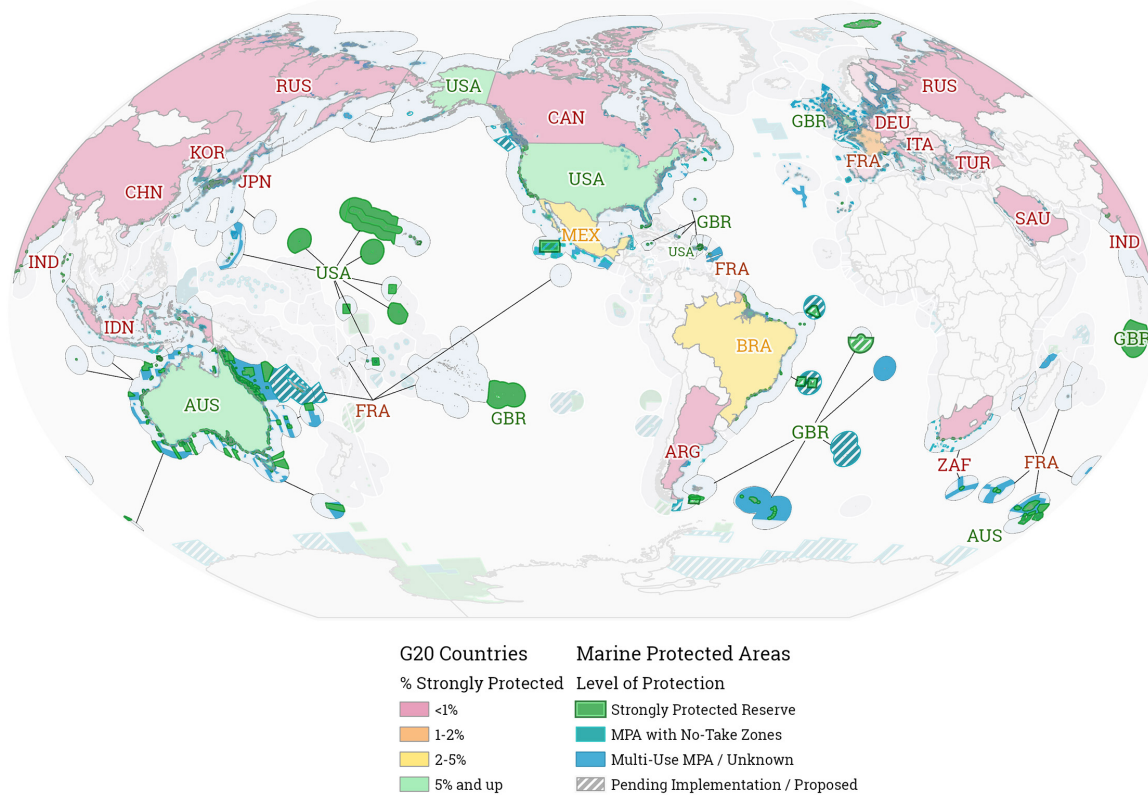


Figure 6. Strongly protected marine reserves, shown in green, and other classes of marine protected areas, shown in blue, for all G20 countries and associated territories. Legally designated sites currently awaiting full implementation and proposed protected areas are shown with hatch marks. Marine protected areas for all other non-G20 jurisdictions are shown in light shades for background context.

Country Summaries

Argentina

Strongly Protected: 0.34% 3,659 km²

MPAs are a recent introduction in Argentina, where the National Congress, in consultation with stakeholders and scientists, designates protected areas. MPAs are generally zoned for multiple uses, and can emphasize biodiversity protection, sustainable eco-tourism, or fisheries management. Currently, only a small fraction of ocean is protected by no-take reserves, but government and non-governmental organizations are actively advancing marine protected area proposals along the length of Argentina, including notable extensions to Namuncurá-Burdwood Bank and the proposed Yaganes reserve off Tierra del Fuego.

Australia

Strongly Protected: 9.17% 827,600 km²

Notwithstanding the political controversies of the past 6 years, Australia has produced a vibrant network of MPAs, with over 9% of its waters protected in no-take reserves. The recent implementation in July 2018 of the final management plans for the Commonwealth Marine Reserves designated back in 2012 brings Australia's more than doubles Australia's strongly protected marine park coverage.

Brazil

Strongly Protected: 3.26% 119,752 km²

Brazil's 9,000 km coastline – crucial to over 43 million coastal inhabitants along with countless forms of sea life – faces threats from rapid population growth, fishing, and oil and gas exploration. Yet, barely 2 percent of the marine and coastal expanse falls within any official system of protection until the announcement of the massive Environmental Protection Areas of Sao Pedro e Sao Paulo and Trindade e Martim Vaz pushed marine park coverage past 25%. Brazil's National Commission on Biodiversity (CONABIO) set a national target of eventually bringing a minimum of 10 percent of all marine and coastal zones under protection, intending to finalize plans by 2020 for the Brazil Blue Initiative followed by implementation in subsequent years.

Canada

Strongly Protected: 0.02% 920 km²

Canada's Oceans Act tasks the Minister of Fisheries and Oceans to lead and coordinate the development and implementation of a national network of marine protected areas. Global commitments to establish networks of marine protected areas have been made, but as current no-take reserves are at 0.02%, much work remains to establish strongly protected zones across Canada's marine regions. With the world's longest coastline, the country has a vested interest in insuring a healthy marine future.

China

Strongly Protected: 0% 0.4 km²

The number of MPAs in China has increased since the 1980s. Designation and management of these areas often falls to provincial lawmakers and local stakeholders, rather than the central government, though China has recently been promoting an inventory of national marine protected areas. Unfortunately, China has officially redacted most marine protected area records from the World Database on Protected Areas even though the areas have not been degazetted, making it difficult to assess real protected area coverage in Chinese waters. Marine Conservation Institute has no confidence in this assessment of Chinese marine reserves but plan to work with partners in country in early 2019 to reconstruct an improved inventory of Chinese MPAs. Actual MPA coverage may be in the range of 3-4%.

France

Strongly Protected: 1.51% 151,866 km²

France has aimed high when it comes to MPAs, especially with massive sustainable-use marine protected areas in many of its overseas territories. However, the country has a long path towards achieving coverage that emphasizes no-take reserves over extractive-use MPAs, as current no-take reserves cover less than 2% of its oceans. Of note, the huge Natural Park of the Coral Sea in New Caledonia has no-take zones surrounding a number of atolls and lagoons and the Terres Australes

Francaises National Nature Reserve contains several strict marine protection zones. Along the French mainland Atlantic and Mediterranean coasts, few marine protected areas are strongly protected.

Germany

Strongly Protected: 0% 0 km²

In May 2004, Germany was the first EU Member State to nominate a comprehensive set of 10 Natura2000 marine sites to the European Commission, covering 31.5% of its offshore EEZs in the Baltic and North seas. Conflict between fishing activities and conservation objectives continue to pose a problem across the Natura2000 sites, and there is a distinct lack of any no-take reserves in the country's waters.

India

Strongly Protected: 0.08% 1,896 km²

MPAs in India fall in a complicated system of protection levels, ranging from National Parks which ban all human activities (unless there is a conservation benefit, such as with tourism or research) to sanctuaries which may allow fishing and other extractive activities. A growing population continues to exert increasing pressure on the country's marine environments. The Indian National Board for Wildlife publically acknowledged in early 2018 that that they are unlikely to meet the 10% MPA coverage target by 2020 or the 17% terrestrial protection target.

Indonesia

Strongly Protected: 0.89% 53,607 km²

With the world's second longest coastline and the greatest coral reef area of any country, Indonesia has established over 200 MPAs administered at various local and regional and national levels. While many of these MPAs are often managed for sustainable fishery extraction rather than conservation objectives, 50,000 square kilometers of no-take marine reserves have been established in Indonesia, including Misool Marine Reserve in Raja Ampat, a locally administered reserve which was just recognized as a 2018 platinum-level inductee into the Global Ocean Refuge System.

Italy

Strongly Protected: 0.03% 177 km²

In 1982, Italy formally began its system of marine protected areas with the passage of a law authorizing the designation of up to 50 MPAs. Italy's MPAs generally utilize a zoning system, wherein a central or key area of the preserve is off-limits to extractive activities. The surrounding waters form a buffer zone with some fishing restrictions. The remainder of the reserve generally includes only more basic restrictions, such as a prohibition on trawling.

Japan

Strongly Protected: 0.001% 27 km²

There is no formally established national definition for MPAs in Japan, which can vary in objective. Protected areas are established both on the national level, through legal action by the Fisheries Agency

and the Ministry of the Environment, along with other federal agencies, as well as on the local level, through NGO or citizen action. Consensus-building with local stakeholders is a fundamental part of MPA creation, and many MPAs allow historic fishing practices to continue.

Republic of Korea

Strongly Protected: 0.16% 707 km²

MPAs were first introduced to the Republic of Korea in 2006 under the Law on Conservation and Management of Marine Ecosystem. They are designated under the categories of Marine Wetland Areas and Ecosystem Reserves. The number of reserves has been steadily increasing since 2006, but the overall number of no-take reserves is still very small, and more work is needed to protect the Republic's important marine ecosystems.

Mexico

Strongly Protected: 4.67% 148,966 km²

Mexico began protecting its marine waters in 1962 and since then has designated around 80 MPAs. Mexico has made massive strides over the past few years to bolster its network of marine protected areas. Mexico now hosts the greatest coverage of marine protected areas and strongly protected reserves around the North American coastline, as the bulk of US marine reserves are in remote Pacific territories. In this analysis of strongly protected reserves, we have excluded the core zones of the Pacífico Mexicano Profundo Biosphere Reserve as they have depth-stratified zoning that fully protect only the water column below 800 meters.

Russia

Strongly Protected: 0.65% 51,084 km²

MPAs in Russia are designated as national parks, wildlife refuges and strict nature reserves, and are managed by federal, regional and local governments. While many of Russia's land-based reserves contain marine components, the Far Eastern Marine Reserve created in 1978, is one of the few protected areas that is almost exclusively marine. Lack of funding for enforcement, scientific research, and public outreach is a major threat to the success of Russia's MPAs. Significantly, in 2016 the government expanded the Russian Arctic (Russkaya Arktika) National Park to include Franz Josef Land, the world's northernmost chain of islands, contributing the bulk of Russia's national no-take reserve coverage.

Saudi Arabia

Strongly Protected: 0% 0 km²

Saudi Arabia's marine protected areas are designated solely through the Saudi Wildlife Authority. Many areas have been proposed and suggested for MPA status but still await Royal declaration. Population growth in the coastal zone has increasingly threatened the sustainability of the country's marine ecosystems, and the large Farasan Islands MPA, established in 1996, still faces continued fishing pressure.

South Africa

Strongly Protected: 0.34% 5,318 km²

The first South African MPA was established in 1964, and in the intervening 50 years the country has added over 60 MPAs to its roster. The large and remote Prince Edwards Islands marine protected contains core no-take sanctuary zones surrounded by large multiple-use zones, but marine protected area coverage along the South African coast currently remains low at around one half of one percent, with strongly protected coverage in restricted areas such as De Hoop and Tsitsikama MPAs measuring less than 0.1%. Over the past several years, South Africa has made public commitments to increase marine protected area coverage to 5% and beyond. In 2016, 21 new MPAs of the Operation Phakisa Oceans Economy Marine Protected Area Network were announced in a draft notice that would establish an ecologically representative system of South African MPAs. As of October 25, 2018, the cabinet approved 20 sites to be designated in 2019, adding 50,000 km² to South Africa's protected ocean estate.

Turkey

Strongly Protected: 0% 0 km²

The proposed long-term aim for marine biodiversity conservation in Turkey's territorial sea is a reconfigured Marine and Coastal Protected Area (MCPA) network designed to protect biodiversity while optimizing its ecological service functions – under effective and sustainable adaptive management. Currently, Turkey does not report any strongly protected marine reserves within its waters.

United Kingdom

Strongly Protected: 23.33% 1,531,404 km²

Despite a 2004 Royal Commission report that proposed 30% of the UK's waters should be protected in no-take zones and a supporting petition with 500,000 signatures in 2009, little actual progress has been made creating no-take reserves around the main islands of the UK. To date only three areas, a total of 0.001% of mainland UK waters, have been protected in no-take marine reserves, while almost all of the total amount of the UK's marine reserves is in remote overseas territories. Nevertheless, these reserves are substantial and protect diverse and largely intact marine ecosystems in all the major ocean basins.

United States

Strongly Protected: 23.09% 2,812,262 km²

Of late, the US has been much lauded for expanding the Pacific Remote Islands and Papahānaumokuākea Marine National Monuments in 2014 and 2016 respectively. This represents a tremendous step for conservation, with 23% of its vast ocean estate in no-take reserves. Yet closer to home, the US has a long way to go before reaching conservation targets as US MPAs surrounding its North American coasts cover only 1.5% and strongly protected zones cover only 0.04% of ocean.

European Union

Strongly Protected: 0.02% 966 km²

The European Union is formally considered the 20th member of the G20 country group. Assessing the European marine estate without member states' Overseas Countries and Territories, the EU protects over 13% of the marine environment in some form of MPA. Yet a good number of these areas,

especially sites designated under Natura 2000 as opposed to national designations, rarely afford strict protective measures.

About Marine Conservation Institute

Marine Conservation Institute is a team of highly experienced marine scientists and environmental policy advocates dedicated to saving ocean life for us and future generations. The organization's goal is to help create an urgently needed worldwide system of strongly protected areas — the Global Ocean Refuge System (GLORES) — a strategic, cost-effective way to ensure the future diversity and abundance of marine life. Founded in 1996, Marine Conservation Institute is a US-based nonprofit organization with offices in Seattle, near San Francisco and in Washington DC. For more information, please go to: www.marine-conservation.org.

Marine Conservation Institute created this report using data from the Atlas of Marine Protection (<http://mpatlas.org>), an interactive resource to learn more about marine protected areas around the world that includes specifics about their protection status and history as well as analyses of global and country-level marine protection coverage.

About Pristine Seas

National Geographic Explorer-in-Residence Enric Sala launched the Pristine Seas project in 2008 to explore and help protect the last wild places in the ocean. Spending weeks at sea, diving thousands of hours, and seeking out some of the least explored and understood places in the ocean, Sala and a small team of determined scientists and filmmakers have worked to inspire the creation of protected areas where marine life can thrive—while ensuring effective management for years to come.

Our partnerships with country leaders, business leaders, NGOs, and local governments and communities are critical to our success. Our work with them has inspired the establishment of some of the largest marine reserves in the world.

Pristine Seas is National Geographic's largest initiative dedicated to environmental preservation. The National Geographic Society is a major nonprofit supporter of the environment.

For More Information

Please visit

www.nationalgeographic.org/projects/pristine-seas/

mpatlas.org

marine-conservation.org