



ICAS BLUE CARBON & CLIMATE CHANGE QUARTERLY

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(April - June 2022)

This Season's Global Climate Affairs

Special News Focus: Global Corporate Action on Climate Change

- Tesla's exclusion from the S&P environmental index and a recent investigation from a nonprofit watchdog group have called into question the greenhouse gas emissions reductions that the company claims to reduce overall.

- The Net Zero Tracker collaboration found that only 702 firms on the Forbes Global 2000 list of publicly traded companies have net zero emissions targets, and two-thirds of those fell far short of necessary detail, leaving major corporations open to accusations of greenwashing.

- The Energy and Policy Institute accused Southern Company of spending over \$30 million on climate misinformation while aware of the link between emissions and climate change. A statement was later issued by the company touting its reductions in greenhouse gas emissions for the past 15 years.

- In response to allegations of the Clean Air Act and state air pollution control laws violations, five subsidiaries of Westlake Chemical Corporation made \$110 million in upgrades and compliance measures to eliminate thousands of tons of air pollution from flares, with a payment of \$1 million civil penalties.

- On May 25, leaders of more than 50 global corporations convened at the World Economic Forum in Davos and declared the First Movers Coalition, pledging to purchase aluminum, steel, and other commodities made from processes that emit little to no carbon.

- On May 9, LG Chem and the Korea Institute of Science

Multilateral & Government Activity

- On June 30, the U.S. Supreme Court voted to restrict the Environmental Protection Agency's authority to regulate carbon emissions by citing the "major questions doctrine". This means that all government agencies, including the EPA, cannot enact rules that are transformational to the economy without explicit authorization from Congress.

- On June 26, G7 leaders launched the Partnership for Global Infrastructure and Investment with \$600 billion to offer low- and middle-income countries a choice to advance climate and energy security through the development of clean, climate-resilient infrastructure that drives job creation, accelerates clean energy innovation, and supports inclusive economic recovery.

- On June 17, COP26 leaders made plans to further strengthen national climate efforts by reducing methane emissions, speeding the commercialization of critical technologies, putting more zero-emission vehicles on the road, decarbonizing ocean-based shipping, and increasing fertilizer efficiency and alternatives.

- South Korea's industrial hub of Ulsan is increasing its efforts to transition to a hydrogen-based economy, aiming to replace fossil fuels with hydrogen-fueled vessels in the near future while developing business opportunities. For example, H2Korea, a public-private joint venture, has conducted tests on boats with hydrogen fuel cell power systems since last year.

- On May 24, Quad leaders launched the Quad Climate Change Adaptation and Mitigation Package in Tokyo, committing to further advance practical cooperation in

and Technology announced the joint technology of an electrochemical reactor for converting carbon dioxide into carbon monoxide at the highest level of efficiency, producing alternative fuels and plastic.

- On April 12, five climate activist groups released a joint statement to have submitted shareholder resolutions for consideration at AGMs of Japanese firms Sumitomo Mitsui Financial Group, Tokyo Electric Power, and Mitsubishi Corp, urging greater commitment to tackling climate change.

- U.S. companies Crowley and Shell Trading jointly committed to decarbonizing the maritime sector by providing lower-carbon fuel solutions through designing, building, and operating the nation's largest LNG bunker barge on the U.S. East Coast.

Associated News Sources:

[“Tesla faces questions on its climate-change bonafides”](#), *MarketWatch*, June 29

[“Forbes Global 2000 Firms Judged ‘Alarmingly Weak’ On Climate Plans”](#), *Forbes*, June 13

[“Southern Company spent millions on misinformation despite climate change warnings, report finds”](#), *Wabe*, June 9

[“Westlake Chemical Corporation Subsidiaries Agree to Reduce Harmful Air Pollution at Three U.S. Chemical Facilities”](#), Department of Justice, June 9

[“Corporations Pledge to Buy ‘Green’ at Davos Gathering”](#), *The Washington Post*, May 25 [Paywall]

[“LG Chem, KIST develop tech for efficient carbon dioxide conversion”](#), *The Korea Herald*, May 9

[“Japan's SMFG, Tepco, Mitsubishi face activist climate votes at AGMs”](#), *Reuters*, April 12 [Paywall]

[“Crowley and Shell Aim to Advance Decarbonization in Maritime”](#), *Cision PR Newswire*, April 12

addressing climate change, steadfastly implement the Paris Agreement, deliver the outcomes of COP26, and build on ongoing cooperation and progress.

- On May 23, the U.S. and Japan announced the Japan-U.S. Clean Energy Partnership to reinforce bilateral climate cooperation through decarbonization and clean energy, collaboration in the First Movers Coalition, and partnerships with the private sector.

- African nations, including Kenya, Madagascar, Gambia, Senegal, and Mozambique, implemented mangrove restoration projects to protect marine habitats from climate change and encourage investment.

- China intended to boost coal production capacity by 300 million tons as the government tries to revive a sluggish economy, setting back efforts to cut climate-changing carbon emissions from the biggest global source.

- On April 6, the Royal Thai Government Gazette implemented a ban to prohibit the use of single-use plastics and foam containers in all 155 national parks, which the Tourism Authority of Thailand advised.

Associated News Sources:

[“Supreme Court restricts the EPA's authority to mandate carbon emissions reductions”](#), *NPR*, June 30

[“Memorandum on the Partnership for Global Infrastructure and Investment”](#), The White House, June 26

[“Chair's Summary of the Major Economies Forum on Energy and Climate Held by President Joe Biden”](#), The White House, June 18

[“South Korea makes big bet on energy transition to hydrogen”](#), *Nikkei Asia*, June 9 [Paywall]

[“Quad Cooperation in Climate Change and launch of the Quad Climate Change Adaptation and Mitigation Package”](#), Quad, May 24

[“FACT SHEET: U.S.- Japan Climate Partnership”](#), The White House, May 23

[“Growing African mangrove forests aim to combat climate woes”](#), *AP News*, May 6

[“China promotes coal in setback for efforts to cut emissions”](#), *AP News*, April 24

[“Thailand imposes a ban on single-use plastic in national parks”](#), *TAT News*, April 8

The Geopolitics of Climate Change

- According to estimates from the International Energy Agency, global investments in coal are set to rise by 10% in 2022. China and India, which both experienced power shortages last year, are the primary drivers of this trend. Although the UK and EU are switching back to coal to compensate for the shortfall from Russian energy import bans, they are not investing more in coal.
- As human rights groups and U.S. officials accuse China of forced labor in Xinjiang, but rely on Chinese production of three-quarters of the world's lithium-ion batteries, a potential problem for the global effort to fight climate change revealed itself.
- On June 13, Power Construction Corp. of China Chairman Ding Yanzhang announced plans to start construction on more than 200 pumped hydro stations with a combined capacity of 270 gigawatts to complement renewable power by 2025, an "even-larger-than-expected" project.
- The World Shipping Council, which represents around 90% of the global ocean shipping industry, asked for the International Maritime Organization to overhaul its emissions directives to ensure that all carriers abide by the same enforceable rules as they make the expensive changes needed to cut the output of GHG emissions.
- As the U.S. Commerce Department investigates whether Chinese companies circumvent tariffs by moving components for solar panels through Southeast Asia, more than 300 solar projects in the United States have been canceled or delayed. On June 6, the White House announced to suspend tariffs for two years on solar panel imports from four Southeast Asian countries to ensure a sufficient supply of solar modules, but left China out.
- On April 20, U.S. Special Presidential Envoy for Climate John Kerry warned of inefficiencies in current climate actions as bilateral relations between U.S. and China intensifies, while acknowledging good faith from his Chinese counterpart Diplomat Xie Zhenhua.
- UK-based non-governmental organization Environmental Justice Foundation accused China of illegal overfishing, endangered species deprivation, and abuse of Southeast-Asian fishing crews based on graphic video footage captured by Indonesian fishermen.
- Disputes between the U.S., China, and Saudi Arabia over the definitions and corresponding responsibilities of countries under various development statuses delayed the latest U.N. Intergovernmental Panel on Climate Change report on cutting greenhouse gas emissions.

Issues & Updates on Blue Carbon

- On June 30, during the United Nations Ocean Conference 2022, the need for blue carbon conservation was brought to the forefront during a presentation on how it, as a nature-based solution to climate change, "requires good governance and cross-cutting partnerships to ensure credible long-term project results."
- Environment Agency - Abu Dhabi (EAD)'s Blue Carbon Environmental and Social Responsibility Project has been selected to harness the potential of blue carbon markets that "support environmental conservation, habitat restoration, and coastal management". The project aims to plant more than 35,000 mangrove seeds in the Mirfa Lagoon in Abu Dhabi with drones.
- Major corporations in Australia are leading a swarm of investments to purchase official carbon credits after an expansion was applied to some related government rules. According to Deakin University professor Peter Macreadie, there has been an "awakening" to the quality of carbon credits that exist even without market rewards, particularly as Australia is thought to be home to around 12% of the world's blue carbon ecosystems.
- Californian Assembly bill AB 2593, authored by Boerner Horvath, aims to require projects on public lands to compensate for greenhouse gas emissions by building or contributing to blue carbon projects, such as capturing carbon in wetlands or other natural systems.
- Pew Research Center launched the Blue Carbon Network to serve as a forum and clearinghouse to provide experts and state officials with opportunities to discuss blue carbon science, connect partners to share information and best practices related to blue carbon policy and management, and to troubleshoot challenges in coastal habitat data and mapping.
- During the Caribbean Renewable Energy Forum, Bahamian Prime Minister Philip Davis announced the government's plan to sell blue carbon credits as an effort to transition into renewable energy and build climate resilient infrastructure. Companies can pay to preserve already-existing ecosystems, preventing new carbon from being released into the atmosphere, or they can finance the rehabilitation of degraded habitats.
- The Blue Impact Fund, co-designed by Finance Earth, WWF UK, Alice Millest, and Allan Benhamou, aims to raise up to £75 million, investing £1-10 million per project in those value chains relate to seaweed and bivalves, to catalyze the growth of sustainable aquaculture in the UK.

Associated News Sources:

[“Record clean energy spending is set to help global energy investment grow by 8% in 2022”](#), *International Energy Agency*, June 23

[“Red Flags for Forced Labor Found in China’s Car Battery Supply Chain”](#), *The New York Times*, June 20 [Paywall]

[“China’s Massive Hydro Energy Storage Goals May Be Getting Bigger”](#), *Bloomberg*, June 14 [Paywall]

[“Top Sea Polluters Beg for Climate Rules That No Rival Can Avoid”](#), *Bloomberg*, May 4 [Paywall]

[“Solar Industry ‘Frozen’ as Biden Administration Investigates China”](#), *The New York Times*, April 29 [Paywall]

[“US climate chief says fraught relations with China spell ‘serious trouble’ for efforts to achieve goals”](#), *South China Morning Post*, April 21 [Paywall]

[“‘Devil vessels’: China’s fishing fleet faces claims of pillage and abuse”](#), *Financial Times*, April 4 [Paywall]

[“Landmark UN report on global warming solutions delayed by top polluters”](#), *Financial Times*, April 4 [Paywall]

Associated News Sources:

[“Blue Carbon: Charting the Path for Governance and Partnerships”](#), *United Nations*, June 30

[“EAD’s ‘Blue Carbon Project’ selected among 12 UpLink Ocean Top Innovations”](#), *Emirates News Agency*, June 2

[“Corporate giants line up to bury emissions in the mud”](#), *Financial Review*, June 2 [Paywall]

[“Companies can soon start paying the Bahamas to store carbon in the ocean”](#), *Salon*, May 11

[“New state bill could require ‘blue carbon’ to offset coastal development”](#), *The San Diego Union Tribune*, May 2

[“Pew Launches Blue Carbon Network to Help States Address Climate Change”](#), *Pew Research Center*, April 29

[“Pm: ‘We’re First To Sell Blue Carbon Credits’”](#), *The Tribune*, April 29

[“The fund that could kick-start the UK’s blue impact economy”](#), *The Fish Site*, April 5

Scientific Research and Beyond

Analysis & Commentaries

- [“The Great Blue Wall Initiative: At the nexus of climate change, nature conservation, and the blue economy”](#), Nassim Oulmane and Thomas Sberna, June 23, *Brookings*

- [“The Costly Contradictions of Biden’s Crusade for Green Energy”](#), Thomas J. Duesterberg, June 12, *The Wall Street Journal* [Paywall]

- [“China’s Energy Nationalism Means Coal Is Sticking Around”](#), Gabriel B. Collins and James A. Baker, June 6, *Foreign Policy* [Paywall]

- [“The Undersea Trove for Electric Vehicles”](#), Dennis Blair, June 2, *The Wall Street Journal* [Paywall]

- [“It’s Time to Give Companies Standalone Climate Ratings”](#), Felix Mormann and Milica Mormann, May 24, *Harvard Business Review*

- [“The West’s Poor Climate Track Record Is Spilling Over to Other Policy Areas”](#), Noah Gordon, May 23, *Carnegie Endowment for International Peace*

- [“How businesses are taking the lead to get the world to net-zero”](#), Roger Martella, *World Economic Forum*

- [“Spot the greenwashing”](#), Manuela Andreoni, May 20, *The New York Times* [Paywall]

- [“Competition With China Can Save the Planet”](#), Andrew S. Erickson and Gabriel Collins, May/June, *Foreign Affairs* [Paywall]

- [“We Need Better Carbon Accounting. Here’s How to Get There.”](#), Robert S. Kaplan and Karthik Ramanna, April 12, *Harvard Business Review*

- [“The US should treat climate policy as economic policy”](#), Jonas Nahm and Johannes Urpelainen, April 12, *Brookings*

- [“Climate-Reporting Rules Could Let Companies Look Greener Than They Are”](#), Phred Dvorak, April 7, *The Wall*

Street Journal [Paywall]

- [“To Solve Climate Change, Dive Into the Power of the Ocean”](#), Surangel Whipps Jr., U.S. Department of State, April 7
- [“Climate change creates financial risks. Investors need to know what those are.”](#), Michael Panfil and David Victor, March 9, Brookings
- [“Green Upheaval”](#), Jason Bordoff and Meghan L. O’Sullivan, January/February, *Foreign Affairs* [Paywall]

Scientific Research

- [“How to build an efficient blue carbon trading market in China? - A study based on evolutionary game theory”](#), Yunmeng Cao, Ziqian Kang, Jiandong Bai, Yue Cui, I-Shin Chang, and Jing Wu, *Journal of Cleaner Production*, June 24
- [“Hydrogen in Maritime: Opportunities and Challenges”](#), Jan Matthé, Pooja Jain, and Jonathan Pierre, *WSP*, June 15
- [“Aligning artificial intelligence with climate change mitigation”](#), Lynn H. Kaack, Priya L. Donti, Emma Strubell, George Kamiya, Felix Creutzig, and David Rolnick, *Nature Climate Change*, June 9
- [“Estimating the timing of geophysical commitment to 1.5 and 2.0 °C of global warming”](#), M. T. Dvorak, K. C. Armour, D. M. W. Frierson, C. Proistosescu, M. B. Baker, and C. J. Smith, *Nature Climate Change*, June 6
- [“Climate benefits from establishing marine protected areas targeted at blue carbon solutions”](#), Emilia Jankowska, Robin Pelc, Jimena Alvarez, Mamta Mehra, and Chad J. Frischmann, *The Proceedings of the National Academy of Sciences*, June 2
- [“A climate club to decarbonize the global steel industry”](#), Lukas Hermwille, Stefan Lechtenböhmer, Max Åhman, Harro van Asselt, Chris Bataille, Stefan Kronshage, Annika Tönjes, Manfred Fischedick, Sebastian Oberthür, Amit Garg, Catherine Hall, Patrick Jochem, Clemens Schneider, Ryna Cui, Wolfgang Obergassel, Panagiotis Fragkos, Saritha Sudharmma Vishwanathan, and Hilton Trollip, *Nature Climate Change*, May 23
- [“Did concern about COVID-19 drain from a ‘finite pool of worry’ for climate change? Results from longitudinal panel data”](#), Thea Gregersen, Rouven Doran, Gisela Böhm, and Bjørn Sætrevik, *The Journal of Climate Change and Health*, May 21
- [“Quantification of blue carbon in tropical salt marshes and their role in climate change mitigation”](#), Nipuni Perera, Erandathie Lokupitiya, Devanmini Halwatura, Susantha Udagedara, *Science of The Total Environment*, May 10
- [“Evolution of blue carbon trading of China's marine ranching under the blue carbon special subsidy mechanism”](#), Yuyan Wang, Tingting Guo, T.C.E. Cheng, Ning Wang, *Ocean & Coastal Management*, May 1
- [“Underestimated PAH accumulation potential of blue carbon vegetation: Evidence from sedimentary records of saltmarsh and mangrove in Yueqing Bay, China”](#), Runqiu Huang et al., *Science of The Total Environment*, April 15, Volume 817
- [“Constraining the increased frequency of global precipitation extremes under warming”](#), Chad W. Thackeray, Alex Hall, Jesse Norris, and Di Chen, *Nature Climate Change*, April 14
- [“How much blue carbon does Seychelles have? Local experts work on monitoring and awareness”](#), Salifa Karapetyan, *Seychelles News Agency*, April 11
- [“Carbon flow through inland and coastal waterways. implications for climate”](#), Patricia Craig, Penn State University, April 5

Climate-Focused Events of Note

April 2022

- On April 13-14, the Republic of Palau and the United States co-hosted [the 7th Our Ocean Conference](#). All video recordings of the conference are available online.
- On April 14, the Wilson Center held a virtual event on [“Dark Horse Contender for Decarbonization: Nuclear Power in China”](#). A full recording of the event is available online.

- On April 14, China Institute held a virtual event on "[Building U.S.-China Climate Collaboration: The Role of Next Gen](#)". A full [recording](#) of the event is available online.
- On April 20, East-West Center held a virtual event on "[Inundated: Jakarta Floods and Capital Relocation in Indonesia](#)". A full recording of the event is available online.
- On April 20, the Wilson Center held a virtual event on "[Food System Transformation Reduce Greenhouse Gas Emissions in China and Beyond: A Green Tea Chat with Global Alliance for the Future of Food's Patty Fong](#)". A full recording of the event is available online.
- On April 21, the Wilson Center held a virtual event on "[Arctic Cooperation in the Shadow of Russian Aggression: Armchair Discussion with Icelandic Foreign Minister Thórdís Kolbrún Reykfjörð Gylfadóttir](#)". A full recording of the event is available online.
- On April 26, the Center for Strategic and International Studies held a hybrid event on "[U.S. Responses to the Global Energy Crisis](#)". A full recording of the event is available online.

May 2022

- On May 10, the Wilson Center held a virtual event on "[Climate Action Down on the Farm: Food and Climate Nexus Opportunities in China and the US](#)". A full recording of the event is available online.
- On May 11-12, the Coat of arms of the City of London co-hosted the "[Net Zero Delivery Summit](#)" with the UK Presidency Priorities 2022 and the Glasgow Financial Alliance for Net Zero. All [video recordings](#) of the summit are available online.
- On May 12, the Center for Strategic and International Studies held a virtual event on "[U.S.-Canada Energy Cooperation](#)". A full recording of the event is available online.
- On May 16, the Wilson Center held a virtual event on "[Global Agreement on Plastic Pollution and Accelerating U.S. and Japanese Action](#)". A full recording of the event is available online.
- On May 18, the Atlantic Council held a virtual event on "[Report launch: Squaring the energy transition circle in southeast Europe and the eastern Mediterranean](#)". A full recording of the event is available online.
- On May 19, the Atlantic Council held a virtual event on "[EnergySource Innovation Stream with Boston Metal: Decarbonizing the steel industry](#)". A full recording of the event is available online.
- On May 31, the Atlantic Council held a virtual event on "[Energy security and oil sanctions: A transatlantic balancing act?](#)". A full recording of the event is available online.

June 2022

- On June 1-2, stakeholders from the United Nations, Governments, business, civil society and all Local Networks convened virtually at [the 2022 UN Global Compact Leaders Summit](#).
- On June 2, the Paulson Institute held a virtual event on "[Using Carbon Capture, Utilization, and Storage to Reverse the Trend of Carbonization](#)". A full recording of the event is available online.
- On June 8, Resources for the Future held an event called "[Decarbonization Policy and International Competitiveness](#)" where Senator Sheldon Whitehouse introduced his legislation on the Clean Competition Act.
- On June 9, the Wilson Center held a virtual event on "[Accelerating Lessons Learned from State-Level Climate and Environmental Policies for U.S. Climate Action](#)". A full recording of the event is available online.
- On June 14, the Atlantic Council held the in-person "[Seventh annual Central and Eastern European energy security conference](#)". A full recording of the event is available online.
- On June 21, the Wilson Center held a virtual event on "[Seabed Mining, International Law, and the United States](#)". A full recording of the event is available online.
- On June 26-27, the International Academy of Research Engineers and Doctors held the in-person "[13th Global Conference on Climate Change and Environmental Engineering](#)".
- On June 30, during the UN Ocean Conference 2022, an event was held on "[Blue Carbon: Charting the Path for Governance and Partnerships](#)". A full recording of the event is available online.

The Climate Survey - The South China Sea

A reset of science collaboration allays ecological disaster and ensures peace-building opportunities in the South China Sea

By James Borton

The South China Sea is a unique natural laboratory for ocean research and exploration. And yet, this rifted basin, dotted with atolls, coral reefs and islets, some reclaimed, is mired in disputed territorial claims between China, Vietnam, Taiwan, the Philippines, Malaysia, and Brunei. Rather than serving as a promising gateway for oceanographic research, peace, and prosperity, rising tensions and mistrust in the region reveal a serious threat to Southeast Asian geopolitical and ecological security.

More than 625 million people of the 10 Association of Southeast Asian Nations (ASEAN) depend upon a healthy global ocean. Meanwhile, coral reefs are dying as a result of an ecological catastrophe unfolding in the region's once fertile and prized fishing grounds. As reclamations destroy marine habitats, agricultural and industrial run-off poison coastal waters, and overfishing depletes fish stocks, it is no wonder that more marine biologists' voices are vital in a rules-based ecological approach to protect the environment and the threats to endangered species, including sea turtles, sharks, and giant clams.

There's encouragement that the China-ASEAN Plan of Action on a Closer Partnership of Science, Technology and Innovation plan (2021-2025) was agreed upon to explore new and sustainable science-driven cooperation mechanisms. This agreement, along with marine environment-focused forums and workshops, is shaping a new South China Sea narrative about the ecological dangers of biodiversity loss, climate change, coral reef depletion, pollution, and collapsing fisheries. "As scientists, we should rise above the politics and focus on the bigger and more important questions central to humanity's long-term wellbeing," claims Professor Nianzhi Jiao, an ecologist at Xiamen University, at a past South China Sea forum held in Shanghai.

There are historical precedents for oceanic international collaboration. This includes the International Ocean Discovery Program (IODP) tectonics drilling surveys conducted in 2014 among scientists from the United States, Japan, China, South Korea, Australia, India, and Brazil in the South China Sea. Others like, the South China Sea Monsoon Experiment (1996-2001), initiated by China's Ministry of Science and Technology, brought together scientists from Taiwan, Australia, and the US. The collaboration chronicle includes the Joint Oceanographic Marine Scientific Research Expeditions conducted between the Philippines and Vietnam in the South China Sea (JOMSRE-SCS) from 1996-2007. More recently, the Philippines and Vietnam have agreed to resume their joint marine scientific expedition later in 2022.

Additionally, China and Vietnam previously established a Working Group on Cooperation for Maritime Development, to enhance cooperation in waters beyond the Gulf of Tonkin in less sensitive

geographic areas. Both nations successfully carried out bilateral maritime cooperation on sea-wave storm tide forecast models. Dalian Law Professor, Yen Chiang-Chang, believes that as China seeks to identify a cooperative development approach in the face of widespread disputed maritime zones, marine scientific research, with its low sensitivity offers distinct advantages in serving as a foundation for cooperation.

Marine scientists believe that the most effective way to engage in ocean science cooperation is to examine regional common interests. This encompasses an examination of climate change, ocean acidification, severe weather patterns associated with an increasing number of typhoons, and marine protected areas. Also, China has previously participated in the International Oceanographic Commission (IOC) for the Western Pacific (WESTPAC) in collaborative ocean workshops held in Manila in 2009. The Monsoon Onset Monitoring and its Social and Ecosystem Impacts (MOMSEI) drew participants from Myanmar, Indonesia, Thailand, the Philippines, and Vietnam.

Dr. Weidong Yu, a senior researcher at the School of Atmospheric Sciences at Sun Yat-Sen University, advocates for regional oceanographic cooperation. “I think the ocean science cooperation is the best way forward in collecting and stimulating the common interests to address many challenges, including climate change, extreme weather and marine ecosystems.” Although science diplomacy is not a new approach to international relations in general, the timing for its adoption in dispute management in the South China Sea has arrived. Ocean science has been adopted as a diplomatic tool for peace building since scientific evidence informs negotiations and fosters joint marine research and capacity building.

For example, science diplomacy has been used effectively in the Arctic through the Arctic Council, a leading intergovernmental forum, established in 1996. Comprised of eight Arctic nations, including rivals US and Russia and indigenous groups, it is a stellar example of science and technology-based collaborative research. Through scientific leadership, the Council members have enacted several legally binding agreements reinforcing environmental protection and sustainability, one of the recent ones was signed in May 2017 to enhance Arctic scientific cooperation. “The Arctic Science Agreement reflects a common interest to enhance scientific cooperation even when diplomatic channels among nations are unstable, recognizing first the importance of maintaining peace, stability, and constructive cooperation in the Arctic,” claims Dr. Paul Berkman, past director of the Science Diplomacy Center at Tufts and Fulbright Arctic Chair.

While some policy experts believe that China’s embrace of scientific cooperation offers evolving evidence of what Beijing characterizes as its ‘peaceful rise, others view the nation’s blue water ambitions and regional hegemonic actions in the South China Sea as a clear and dangerous threat to every state in the region. In the interim, claimant nations understand that there’s no time to waste in providing mechanisms for ocean governance in navigating a charted course in the development of science diplomacy to prevent geopolitical battles over the management of marine resources in the [‘Global Commons’](#). The convergence of science and geopolitics necessitates the expansion of scientific forums and collaborative problem solving among all neighbors.

Although nation-states have different approaches toward science diplomacy, in general, this type of diplomacy is defined by the [American Association for the Advancement of Science](#) (AAAS) as: (i) science in diplomacy (science to inform foreign policy decisions); (ii) diplomacy for science (promotion of international scientific collaborations) and (iii) science for diplomacy (establishment of scientific cooperation to ease tensions between nations). In that sense, it is widely accepted among environmental policy planners that science diplomacy contributes measurably to the terms of conflict resolution.

Policymakers may do well to take a lesson or two from nature as they examine how best to address the complex and myriad of intractable sovereignty claims through the lens of science. After all, marine biologists and oceanographers share a common language that cuts across political, economic, and social differences.

One specific area where there's a consensus is the expansion of marine protected areas to mitigate the collapse of fisheries in the region. Destructive fishing practices and climate change are cited as major threats to coral reefs. China has more than 270 marine protected areas, and its neighbor Vietnam has 12 under protection. This linkage is an excellent opportunity for a revived China-ASEAN Cooperation Framework, especially in workshops on marine environmental protection. With the largest fleet of marine research vessels deployed in the Indo-Pacific, China has the ability to provide data sharing and the mapping of ecologically sensitive areas, in order to support fisheries for the benefit of all states.

In other words, science diplomacy can establish a useful and convenient starting point for regional cooperation to deal with assessing environmental problems but also in providing evidence on conservation and sustainability practices to ensure the region's prosperity and peace in general. Of course, geopolitics is always at play in the contested South China Sea. While the Biden administration has called managing America's relationship with Beijing "the biggest geopolitical test of the 21st century", Woods Hole Oceanographic Institute (WHOI) and the Ocean University of China (OUC) have been engaged in promoting research collaborations in deep-ocean and coastal regions in a changing climate.

In fact, cooperative science activities do not have any effect on the status quo of the South China Sea disputes. However, it keeps alive the hope for a solution to these disputes by creating a myriad of confidence-building activities with all of the involved parties engaged, instead of freezing activities and deadlocking the South China Sea issue, especially with regard to environmental and economic aspects.

For now, the tide may be lifting the possibility for science research surveys above the geopolitical noise and fray of sovereignty claims.

James Borton is a senior fellow at Johns Hopkins University SAIS Foreign Policy Institute and the author of a new book, "Dispatches from the South China Sea: Navigating to Common Ground."

BCCC Program Updates

---ICAS Expert Voices Initiative ---

James Borton on Science Diplomacy as a Solution to South China Sea Maritime Disputes

July 1, 2022



James Borton joins ICAS in this installment of Expert Voices Initiative to discuss how multilateral science diplomacy can help resolve disputes and improve regional security in the South China Sea. On the agenda for discussion are:

- Outcomes of the June 2022 IISS Shangri-La Security Dialogue
- Impact of the Philippine Presidential Election Results on Southeast Asia
- Comparison of Vietnam's Maritime Policies with that of China's and SE Asia's
- The History of Vietnam as a 'Traditional' Custodian of the South China Sea
- The Role of China's 'Maritime Militia'
- 'Science Diplomacy' as a Solution to South China Sea Disputes
- The Clash Between Geopolitics and Scientific Cooperation
- How to Incentivize Policymakers to Act on Marine Conservation
- Lessons for Policymakers on Promoting Successful Scientific Cooperation

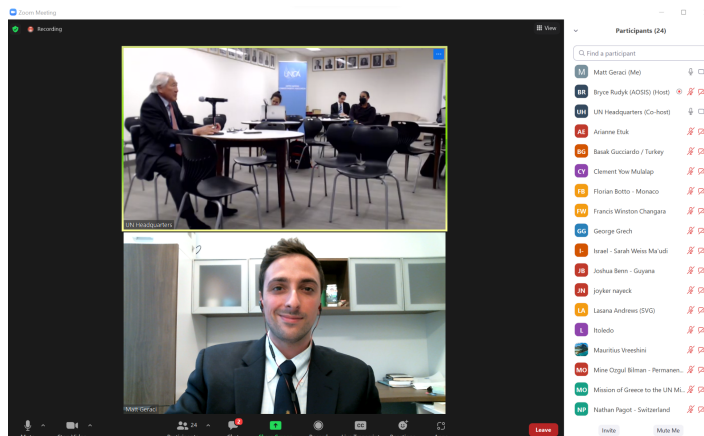
Watch the full video on our website!

[Watch the Recording](#)

---Past ICAS Academic Engagement---

On Tuesday, April 26, 2022, ICAS Research Associate Matt Geraci delivered a briefing held at a United Nations seminar for delegates from over 60 UN Missions on how small island states can utilize satellite imagery and GIS applications to demarcate existing land territory and maritime zones.

[Learn More](#)



---ICAS Commentary---

Marine Protected Areas in the High Seas: A Multilateral Resolution and Unilateral Quandary for Blue Carbon Conservation

By Matt Geraci

June 21, 2022

Blue carbon was first acknowledged as a field of study in the 2009 United Nations Environment Programme report in recognition of the ocean's role as the earth's most significant carbon sink. "Blue Carbon" processes naturally sequester atmospheric carbon dioxide into sediments and conserve marine ecosystems over the long run when it remains undisturbed. These ecosystems typically include coral reefs, mangroves, sea grasses, salt marshes, kelp forests, and more. According to the U.S. National Oceanic and Atmospheric Administration, coastal blue carbon ecosystems, including seagrasses, salt marshes, and mangroves, "store three-to-five times more carbon per unit area than tropical forests, and [sequester] carbon at a rate ten times greater than tropical forests," making them a crucial component of a country's carbon emissions stock. Marine protected areas (MPA) are necessary for conserving blue carbon resources in coastal and deep-sea ecosystems. However, history has shown that if geopolitics is the driving force behind their declaration, sovereignty disputes will only intensify. A new, enforceable, and comprehensive international treaty covering the creation of MPAs on the high seas must be drafted and ratified for blue carbon resources to be adequately protected globally.

[Link to Full Commentary](#)

This commentary was published in [China-US Focus](#) on June 21, 2022.

---ICAS Issue Brief---

Technology Solutions to Determine Maritime Zones:

Applying High-Resolution Satellite Imagery and GIS to Demarcate Sovereignty and Sovereign Rights Claims

by Matt Geraci and Yilun Zhang

May 26, 2022

- Sea-level rise threatens the environment of island countries disproportionately. It presents increasingly urgent political complications as they face an imminent need to record and submit international evidence to prove their existing baselines.
- Noticing the pressing need from dozens of island countries to produce evidence and records of maritime zones,

scholars at the Institute for China-America Studies (ICAS) launched a special research project to explore technology solutions to this issue.

- Combining High-resolution satellite imagery (HRSI) with a Geographic Information System (GIS) for mapping baselines and maritime zones for small island developing countries provides a relatively low-cost way for governments to achieve this.
- Obtaining the most accurate high-resolution imagery will require a financial investment. Fortunately, these costs are far less expensive when compared to traditional methodologies of measuring maritime zones.
- The findings suggest that island countries could cooperate with non-profits, universities, and companies to borrow the know-how from the world's most advanced experts to significantly reduce the barriers to accessing these resources.
- Maritime zone demarcation methodologies stemming from satellite technologies provide cost-effective solutions and ought to be seriously explored. Without consideration of novel pathways, sea-level rise and climate change will force UNCLOS signatories to adapt to harsh realities with severe legal implications as their coastlines recede.

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---ICAS in the News---

On Friday, May 13, 2022, Research Associate Matt Geraci spoke to [China-US Focus](#) regarding 'what's on the table' for U.S.-China cooperation moving forward.

- "The best way to understand how a functional framework could be developed is to first determine what is not necessarily just on the table but what is entirely off the table. What technologies are considered dual-use technologies that could be employed for military use, for instance? Those types of technologies would not necessarily be on the table for joint research or collaboration.
- "In some ways it could be seen as a process of elimination...but if you can't understand what isn't okay for us to pursue, than it's really difficult to answer the question: 'Alright, well what is it that we can do?'...For example there has been, over the last several decades, collaboration on these less contentious areas [such as] joint research bases in the Arctic and Antarctic regions."

