

Memorandum



Date: May 19, 2026

Agenda Item No. 2(B)(12)
October 6, 2026

To: Honorable Chairman Anthony Rodriguez
and Members, Board of County Commissioners

From: Daniella Levine Cava *Daniella Levine Cava*
Mayor

Subject: Report on the 2026 Annual Report Card Program on the Health of Biscayne Bay – Directive No. 180799

Executive Summary

This report is provided pursuant to Resolution No. R-463-18, which I sponsored as Commissioner, directing the County Mayor or County Mayor's designee to develop an annual report card program that evaluates the health of Biscayne Bay and employs a simple and easy-to-understand "stoplight" approach to reporting on the health of Biscayne Bay. The Resolution further directed that the health evaluation shall be data-driven, shall use sound scientific principles, shall incorporate information on water quality and habitat values throughout Biscayne Bay, shall include easy-to-read graphics suitable for the general public to understand, and that the results of the health evaluation shall be made publicly accessible.

The Biscayne Bay Report Card methodology was developed by the Department of Environmental Resources Management (DERM), and each year DERM scientists and other technical staff conduct the analysis required to summarize the health of the Bay. The annual Biscayne Bay Report Card provides the public with information related to the status of each water quality and habitat quality indicator evaluated for bay health and each indicator's annual "stoplight" score (red, yellow, or green) across the Bay based on data collected during the prior calendar year. Each red, yellow, or green stoplight score by region translates into conditions that are poor (red), fair (yellow), or good (green). The report card also illustrates locations of monitoring stations and other information about DERM's programs and highlights the County's accomplishments toward Biscayne Bay restoration over the past year as well as what the public can do to help protect the Bay. The public can access the annual report cards in an interactive format online via the County's dedicated Biscayne Bay webpage (www.miamidade.gov/BiscayneBay). Please find attached the maps associated with the 2026 Biscayne Bay Report Card for your review, which provide a summary of Biscayne Bay health using data collected during the 2025 calendar year.

The data utilized in compiling the annual Biscayne Bay Report Card are the result of a year-long effort by DERM's field biologists. The Surface Water Quality Monitoring Program collects various physical, chemical, and biological water quality parameters monthly at 138 locations, within all major canals across the County and throughout Biscayne Bay. Additionally, the Benthic Habitat Monitoring Program collects data on the health and presence of benthic resources such as seagrass, macroalgae, sponges, hard corals, and soft corals at 475 locations across Biscayne Bay on an annual basis. These data are then reviewed for quality assurance and analyzed by our Senior Water Scientist and other key staff, and then transformed into maps based on the red, yellow, or green scores assigned to each indicator. Water quality indicators include nutrients, bacteria, and water clarity and habitat indicators include seagrass and sponges. Translating this information into the tables, maps, and graphics presented in the report card requires a dedicated team of DERM's scientists, cadastral staff, and policy experts while working alongside the Communications, Information, and Technology Department and Regulatory and Economic Resources Department teams who help bring the report to life in our interactive online format for the public to access.

2026 Biscayne Bay Report Card Findings

Overall, we see slight improvements in water clarity and seagrass coverage in a few north regions of Biscayne Bay, but an increase of nutrients in the south regions of the bay. In general, there have been minimal changes to the Bay's health as compared to last year. While we have not experienced a major fish kill in the Bay since 2022, however given the predictions of this year's "El Nino", we will be diligent in monitoring key indicators associated with water temperature and dissolved oxygen. In 2023, in collaboration with municipal partners, DERM added 30 new sampling locations to its surface water quality monitoring program for additional monitoring coverage across the Biscayne Bay watershed. Additionally, we are partnering with Florida International University (FIU) and University of Miami (UM) to provide research, analysis, and other services to characterize and address water quality issues and habitat restoration efforts in the Bay. Findings of the 2026 Biscayne Bay Report Card continue to support analyses from prior years indicating that nutrients and bacteria from within the watershed are documented in canals and in segments of the Bay at concentrations that can ultimately impact Bay resources, and that chlorophyll-a, an indicator of nutrient loading, is impacting segments of Biscayne Bay. Most regions of Biscayne Bay, including the highly compartmentalized basins of northern Biscayne Bay largely remain in the poor to fair range for various nutrient indicators like chlorophyll-a, nitrogen, and phosphorus. **The South North Bay-B, Oleta River and Princeton Canal segments went from poor to fair condition and South North Bay-C went from good to fair condition.**

Water clarity, a measure of the amount of turbidity in the water column, appeared to be improved in several regions of Biscayne Bay and its tributaries (such as North Central Offshore and South Central Inshore) or remained the same. There is evidence that these northern regions, which experienced significant seagrass die-off in recent years, are recovering and are shifting back from a macroalgae-dominated habitat to a seagrass dominated system. Seagrass serve as nurseries, feeding grounds, and shelter for a wide range of marine species and contribute to healthy ecosystem diversity in the Bay, along with other ecosystem services such as wave energy/force reduction during storms. Seagrass abundance has increased and expanded in certain parts of northern Biscayne Bay, with some improvement in coverage shown in two South North Bay regions to the highest levels since 2018. Although seagrass density is still low overall, and presence of macroalgae remains high—which is usually an indicator of nutrient enrichment, increased seagrass coverage has been documented in these areas.

Biscayne Bay is the blue heart of our economy and our regional prosperity, now and for future generations. Given that the Bay and the tributaries canals and groundwater that feed it are facing unprecedented threats to their health and resilience, my administration continues to actively and aggressively pursue short-term and long-term actions to restore the health of our Bay. The water resources of our County know no jurisdictional bounds, and these actions will require ongoing support and long-standing commitment from our municipal, state, and federal partners. Building upon our successes in the past few years, many additional actions were taken in 2025 to improve the health and resilience of Biscayne Bay. A summary of policy and legislative updates, grants, restoration projects, and education and outreach efforts are provided below.

Policy and Legislative Updates

Boards

The Biscayne Bay Watershed Management Advisory Board (BBWMAB) and the state Biscayne Bay Commission (BBC) provided policy recommendations and opportunities for important public engagement in support of protecting and restoring Biscayne Bay. Actions include supporting investigations to inform our scientists about sources of pollution impacting our ground and surface waters as well as supporting our state and federal partners with regional restoration projects. In addition, the board was provided updates on the County's efforts to employ innovative technology to further stormwater and wastewater reduce pollution from entering into our ground and surface waters and ultimately the Bay.

Reorganization

This past year, I announced that the Division of Environmental Resources Management, previously under the Regulatory and Economic Resources (RER) Department, would become an independent department led by newly appointed Director and Chief Resilience Officer, Loren Parra. This strategic reorganization aims to streamline County functions to improve key services for our residents and businesses, strengthening our commitment to protecting our environment while helping businesses to thrive across our community by making processes and approvals more efficient and customer friendly. Along with the establishment of DERM as an independent department, comes a robust education and outreach presence with independent social media handles and communications to share DERM's mission with our residents and visitors, including ways they can help protect Biscayne Bay. DERM will also be a leader in guiding environmental policy and delivering updates to our environmental code, providing multiple benefits to our community and ensuring environmental safeguards for future generations.

Septic to Sewer Progress

As of January 1, 2023, conventional onsite sewage treatment and disposal systems (i.e., septic systems) are no longer approved for new or complete replacement systems. This is a significant win for water resource protection in Miami-Dade County because performance-based treatment systems (PBTS), of which there are several types, can significantly lower concentrations of nutrients and bacteria that reach groundwater and/or surface water. A total of 531 new PBTS were approved in 2025. Of the total number of projects approved, over 95% were for single-family residences (SFR) with Type 3 systems. For example, the equivalent of 531 three-bedroom homes each with a waste stream of 300 gallons per day, would otherwise have the potential to load total nitrogen at a rate of 48,524 pounds per year and total phosphorus at a rate of 8,734 pounds per year. Using a Type 3 PBTS at 531 single-family homes, **there was an estimated 70% reduction in total nitrogen down to 14,557 pounds per year and a 44% reduction in total phosphorus down to 4,852 pounds per year, helping reduce the amount of nutrients reaching the Bay through groundwater.**

Collaboration with State and Local Partners to Reduce Nutrient Pollution

On March 1, 2022, the Board of County Commissioners adopted Resolution No. R-184-22, directing the development of a Reasonable Assurance Plan (RAP) to be approved by the Florida Department of Environmental Protection (DEP) to address Biscayne Bay's water quality impairments. Biscayne Bay faces water quality impairments under the federal Clean Water Act through non-compliance with state nutrient criteria including exceedances of nitrogen, phosphorus, and chlorophyll-a. These excess nutrients have led to the Bay facing unprecedented threats to its health and resilience as evidenced by incidences of seagrass die offs, fish kills, and algal blooms. Actively and aggressively pursuing short-term and long-term actions is imperative to restore the health of the Bay. A RAP is considered an alternative restoration plan by DEP, specifically an alternative to the state's regulatory process of establishing a Total Maximum Daily Load allocation for the pollutant leading to the impairment, and associated Basin Management Action Plan to implement pollution reduction and restoration goals. This alternative approach allows the County to get to "cleaner water faster".

The RAP is a stakeholder-driven effort wherein key stakeholders who contribute nutrient loads to Biscayne Bay collaborate to develop a plan to meet nutrient reduction allocations. Quantifying nutrient loads and identifying sources is a major component of the RAP, and this includes sources from more urban land uses such as stormwater and septic tanks as well as agricultural runoff. Miami-Dade County DERM is leading coordination and development efforts which has included finalizing procurement of technical services needed to develop the RAP, identifying and initiating coordination with stakeholders both internal and external to Miami-Dade County, identifying data needs, and coordinating with DEP including submission of the RAP Plan of Study which received approval in November 2024. Ultimately, nutrient allocations will be established to reduce the nutrient load reaching Biscayne Bay. A team of technical experts who have developed such

plans support the County's effort and that of key stakeholders including all municipalities. **A draft RAP is on track to be submitted to DEP by Fall 2026.**

Grants and Projects Update

Comprehensive Everglades Restoration Plan - Biscayne Bay Coastal Wetlands Project

In December, we celebrated the completion of the Biscayne Bay Coastal Wetlands (BBCW) Project. The BBCW Project is a part of the larger Comprehensive Everglades Restoration Plan (CERP) by the US Army Corps of Engineers and South Florida Water Management District (SFWMD) in partnership with Miami-Dade County. The BBCW Project includes three components: Deering Estate, L-31E Flow Way, and Cutler Wetlands, all of which are now finished, which means another major CERP project is complete. This project now delivers freshwater from the C-1 Canal through the S-701 pump station in order to rehydrate coastal wetlands adjacent to Biscayne Bay, diverting water that would otherwise be discharged directly into the Bay with no treatment, carrying pollutants with it. I championed these rehydration projects even before becoming Mayor, and the County will continue to provide its historic support for CERP through the many supporting activities that occur through DERM.

Marine Debris Program

Many restorative actions were taken on a local level to reduce the amount of marine debris and further reduce the amount of pollution reaching the Bay. **DERM staff removed 40 derelict vessels last year, bringing the County's total number of derelict vessels removed to date to over 500.** While there have been challenges in coordination between multiple jurisdiction agencies, DERM continues to pursue grant funding and maintain close collaboration with law enforcement to progress our marine debris program. Additionally, hundreds of abandoned crab and lobster traps were removed. DERM staff also works with individuals who must serve court-mandated community service hours for environmental offenses. DERM organized 21 cleanup events and, through the effort of staff and these individuals, removed over 15 tons of marine debris from the County's coastal areas. DERM's Environmentally Endangered Lands (EEL) Program acquired 101.09 acres of land with high environmental value for the period of January 1, 2025 through December 31, 2025. These lands help the County protect water resources by storing stormwater and recharging the Biscayne Aquifer. The EEL program manages over 28,000 acres of environmental land for this and future generations.

State and Federal Grants

The County continues its tasks related to the Biscayne Bay Water Quality Improvement (BBWQI) grant program, funded by DEP. Phase 5 funding for FY 2024-2025 included \$1.65 million and Phase 6 funding for FY 2025-2026 totaled \$4.25 million. The main objective of the grant's Characterization and Pollution Reduction project is to identify and quantify pollution sources reaching Biscayne Bay, determine where those pollutants end up, and ultimately employ various tools and technologies to eliminate them. This work includes characterizing sources of pollution reaching Miami River, Little River, Biscayne Canal, and Arch Creek, and piloting nutrient-reducing stormwater and wastewater technologies. DERM continues to spearhead the effort to innovate not only stormwater solutions that can help eliminate and reduce nutrient pollution impacting our Bay but also wastewater solutions such as Smart Covers largely through state grant funding. There remains a total of 426 Smart Covers installed across the County, which resulted in 1,688 high level alarm notifications received, alerting utilities to the potential of a sewage spill based on system conditions.

Under Task 3 of the BBWQI grant, complex coordination between DERM, Florida International University, and the University of Miami is underway to begin the field work of characterizing water quality and identifying potential sources of pollution in the Miami River, Little River, and Biscayne Canal. More than 400 water quality and 100 sediment samples will be collected over five sampling events and an opportunistic storm event. Additionally, under Task 7 DERM has been working closely with the Department of Transportation and Public Works to install 199 stormwater treatment devices across five locations in the Little

River basin. The County will be testing the nutrient removal efficiency of these devices and evaluate their maintenance needs to determine options available to meet each basin's nutrient removal needs once the RAP is developed.

DERM was awarded \$593,600.00 from the Environmental Protection Agency (EPA) for Community Project Funding (CPF) to support the Miami-Dade County Water Pollution Prevention Project. This effort focuses on hydrological improvements to Goulds Canal. By backfilling the canal, the project will reduce nutrient pollution entering Biscayne Bay from upland sources, improving water quality in the South Florida coastal wetlands and Biscayne National Park. **Additionally, DERM was awarded \$1,411,538.00 for the Goulds Canal Filling and Restoration to Reduce & Prevent Pollution Project.** When funded, this initiative will prevent contaminants from entering Goulds Canal, the adjacent L-31E canal, and the CERP S-705 pump station project. By reducing nutrient inputs, the project will directly benefit Biscayne Bay, while supporting CERP goals.

The County also received a \$500,000 state legislative appropriation to develop the Biscayne Bay Watershed Plan, which is a key function and goal of the Biscayne Bay Watershed Management Advisory Board (BBWMAB). This plan will serve as a binding blueprint used to achieve water quality, seagrass restoration, and the overall health of Biscayne Bay. While the Reasonable Assurance Plan which is exclusively focused on water quality and nutrient reduction in order to restore impacted habitat, to this end the watershed plan considers growth and development policies, stormwater management policies and activities, access to and recreational usage of the Bay, and other potential activities that can impact or conflict with restoration of Biscayne Bay's health and resilience. Providing recommendations for the watershed plan is a key duty of the BBWMAB and I look forward to their leadership and input on this critical priority.

Community Outreach and Education

The County's fertilizer ban goes into effect **May 15 – October 31**, and outreach last year included educational fertilizer awareness mailers being sent to all licensed pesticide and fertilizer applicators in the County. DERM also partnered with fertilizer retail outlets for the display of informational signage at fertilizer points-of-sale in Lowes, Home Depot, and Walmart Garden Centers during the restricted fertilizer application period. The County also launched a paid campaign which included search engine marketing, web banners, and social media advertising. For communities interested in educating their residents on responsible fertilizer use under the ordinance, please visit www.miamidade.gov/BiscayneBay to download our toolkit.

Residents can also do their part to help protect Biscayne Bay by volunteering for Baynanza. **This past month we celebrated the 44th anniversary of Baynanza**, the County's signature annual cleanup of Biscayne Bay that DERM has coordinated from its inception. This event spans the length of the County, providing opportunities for volunteers to find a location closest to them to help give the Bay a hand. **This year, 3,500 participants collected over 10 tons of trash at 33 sites along the Bay. I am pleased to report that DERM hosted cleanups in all 13 Commission districts for the first time—because no matter where we are in the County, we can impact the health of Biscayne Bay when trash gets into our stormwater system.** These initiatives continue to be supported by thousands of volunteers and stakeholders whose work contributes greatly to the restoration and future health of Biscayne Bay and the County is grateful for their dedication.

Additionally, I created the Boater Safety and Bay Education Task Force, working closely with the Lucy Fernandez Foundation. My administration is committed to the protection of residents and visitors on the water and protection of our natural resources. Over the last year we have increased outreach and education before boating holidays countywide, and I look forward to implementing the recommendations of this task force to continue boater education with the goal of eliminating preventable accidents and fatalities on our waterways

while protecting bay habitats.

In partnership with The Miami Foundation and several local organizations, we reached the goal of 3,000 Biscayne Bay Specialty License Plate registrations resulting in statewide production of the plates in 2025. The license plate not only helps to raise awareness about the critical importance of Biscayne Bay but will also provide a source of ongoing funding to preserve and restore Biscayne Bay including water quality improvements, marine debris clean-up and monitoring, and critical habitat restoration grants.

Conclusion

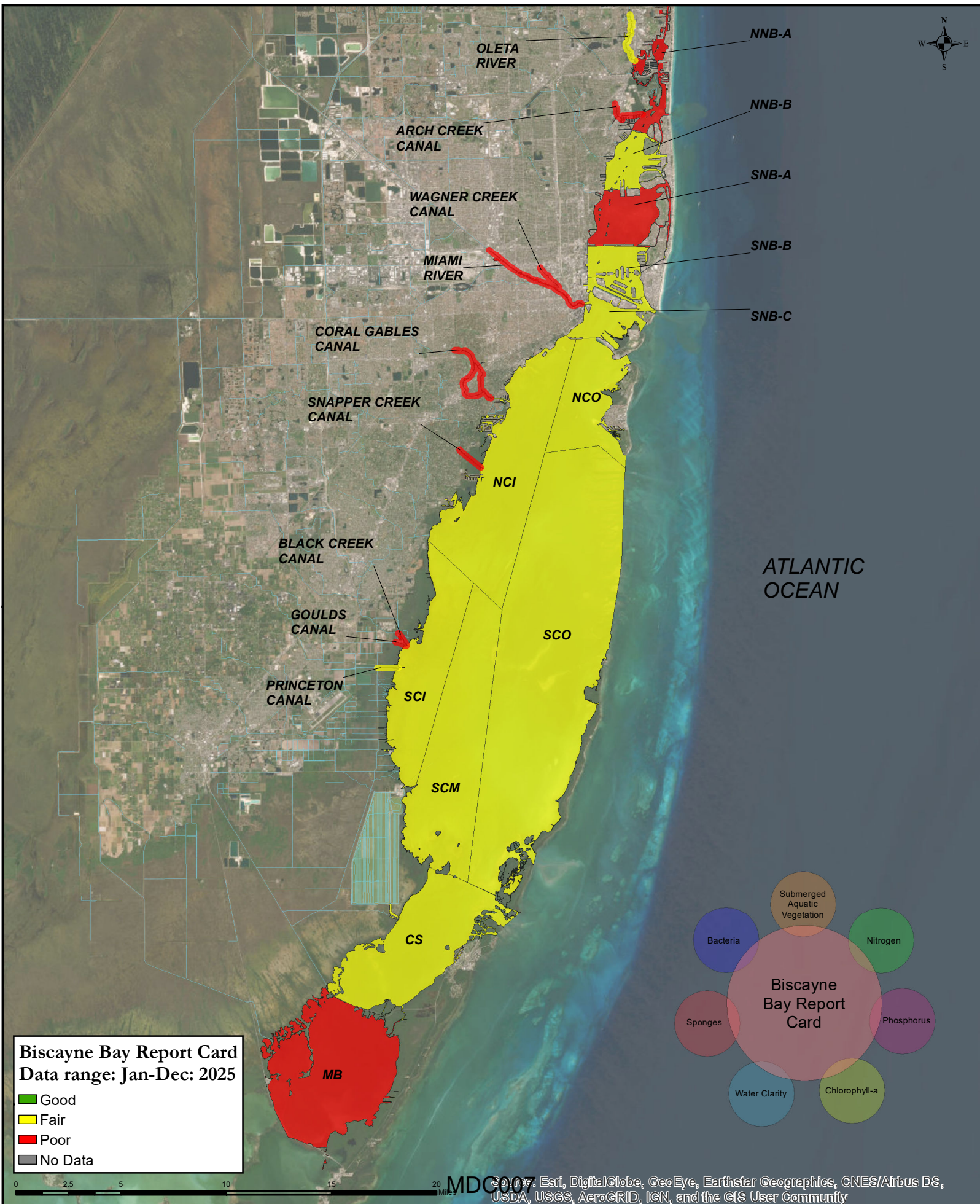
As we continue to balance the needs of our growing community, it is essential that we prioritize the work of restoring the health and resilience of Biscayne Bay to protect not only our environment but our economy. My administration remains steadfast in our commitment to continue to pursue tangible and necessary actions to protect the health of Biscayne Bay, collaborate with our stakeholders at all levels, and implement needed policies, legislation, research, and outreach to accomplish the goals we have set forth together.

In accordance with Ordinance No. 14-65, this report will be placed on the next available Board meeting agenda. If you have any questions regarding this report, please contact Loren Parra, Director and Chief Resilience Officer, Department of Environmental Resources Management, at Loren.Parra@miamidade.gov.

Attachment: *2026 Biscayne Bay Report Card*

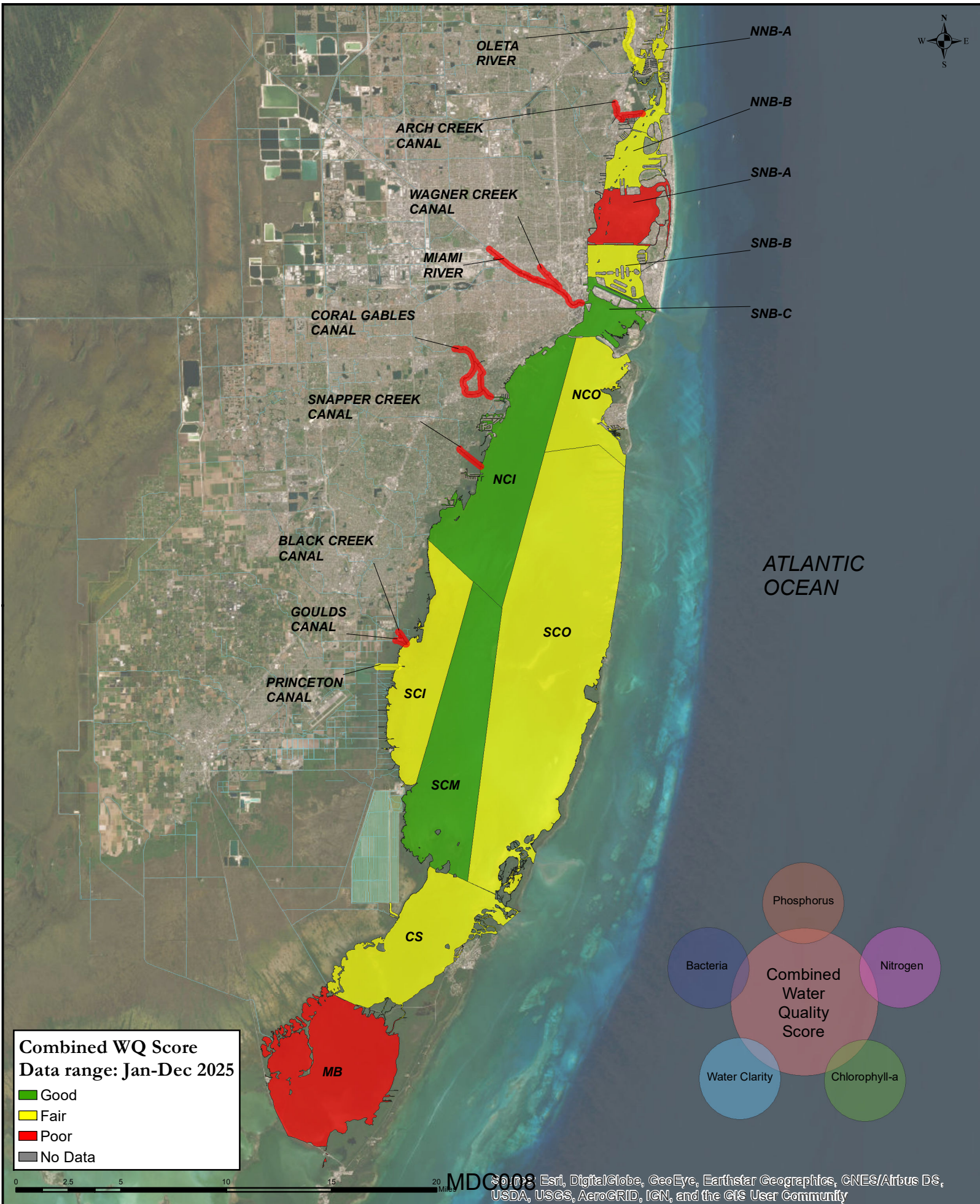
c: Geri Bonzon-Keenan, County Attorney
 Jess M. McCarty, First Assistant County Attorney
 Office of the Mayor Senior Staff
 Christina Cicilia, Director, Office of Policy and Budgetary Affairs
 Loren Parra, Director, Department of Environmental Resources Management
 Yinka Majekodunmi, Commission Auditor
 Basia Pruna, Director, Clerk of the Board
 Eugene Love, Agenda Coordinator

2026 Biscayne Bay Report Card



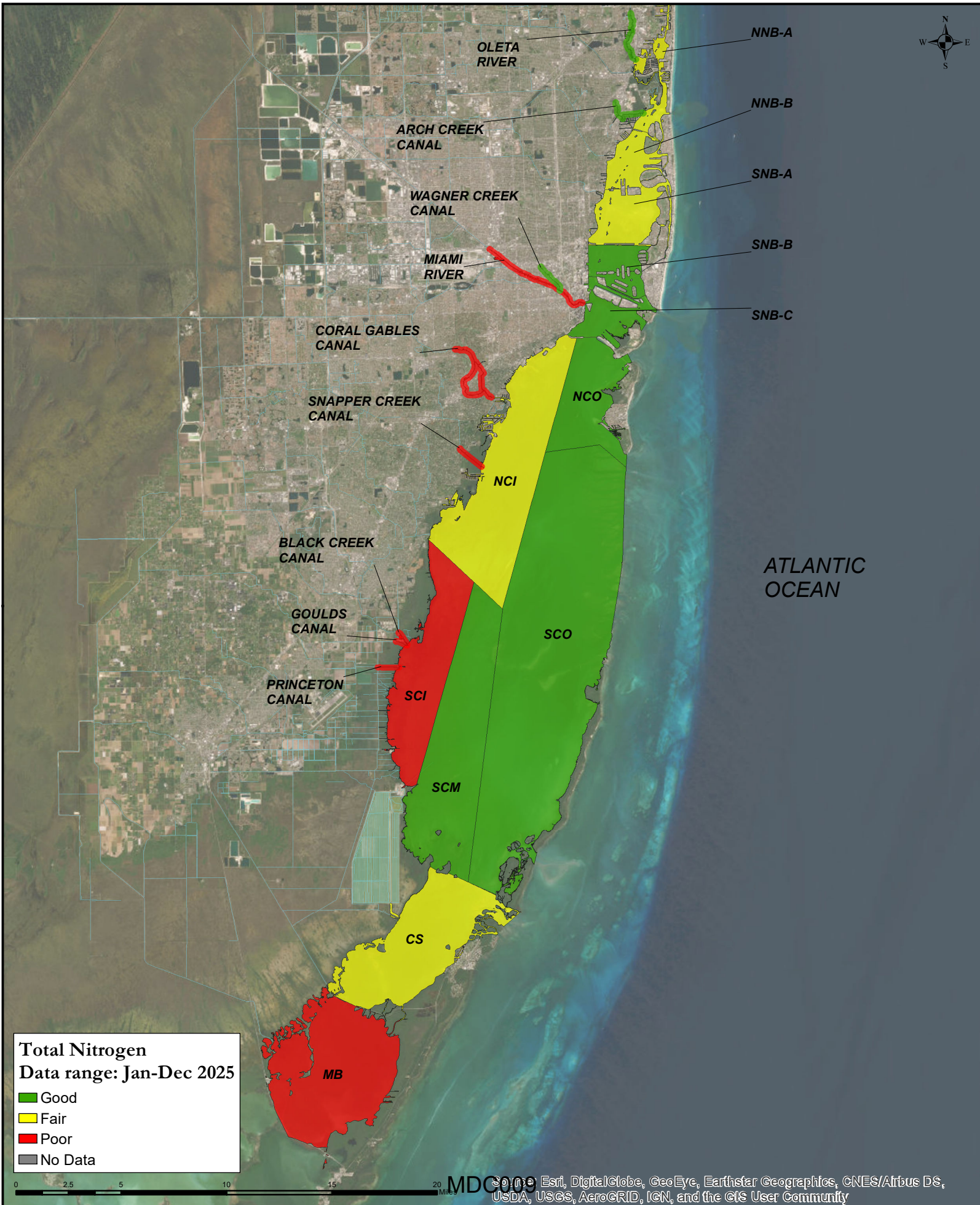
2026 Biscayne Bay Report Card

Water Quality Combined Score



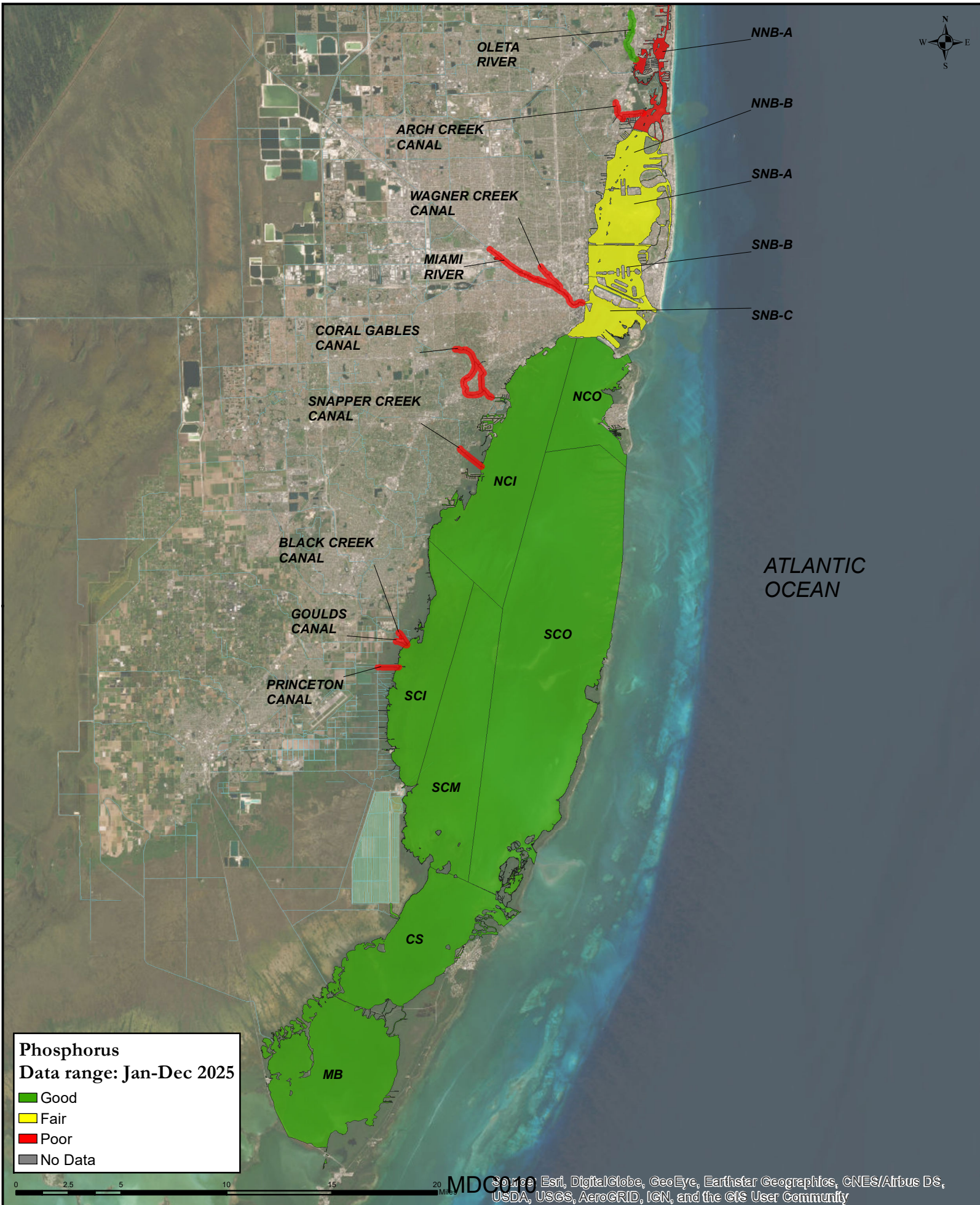
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Total Nitrogen Score



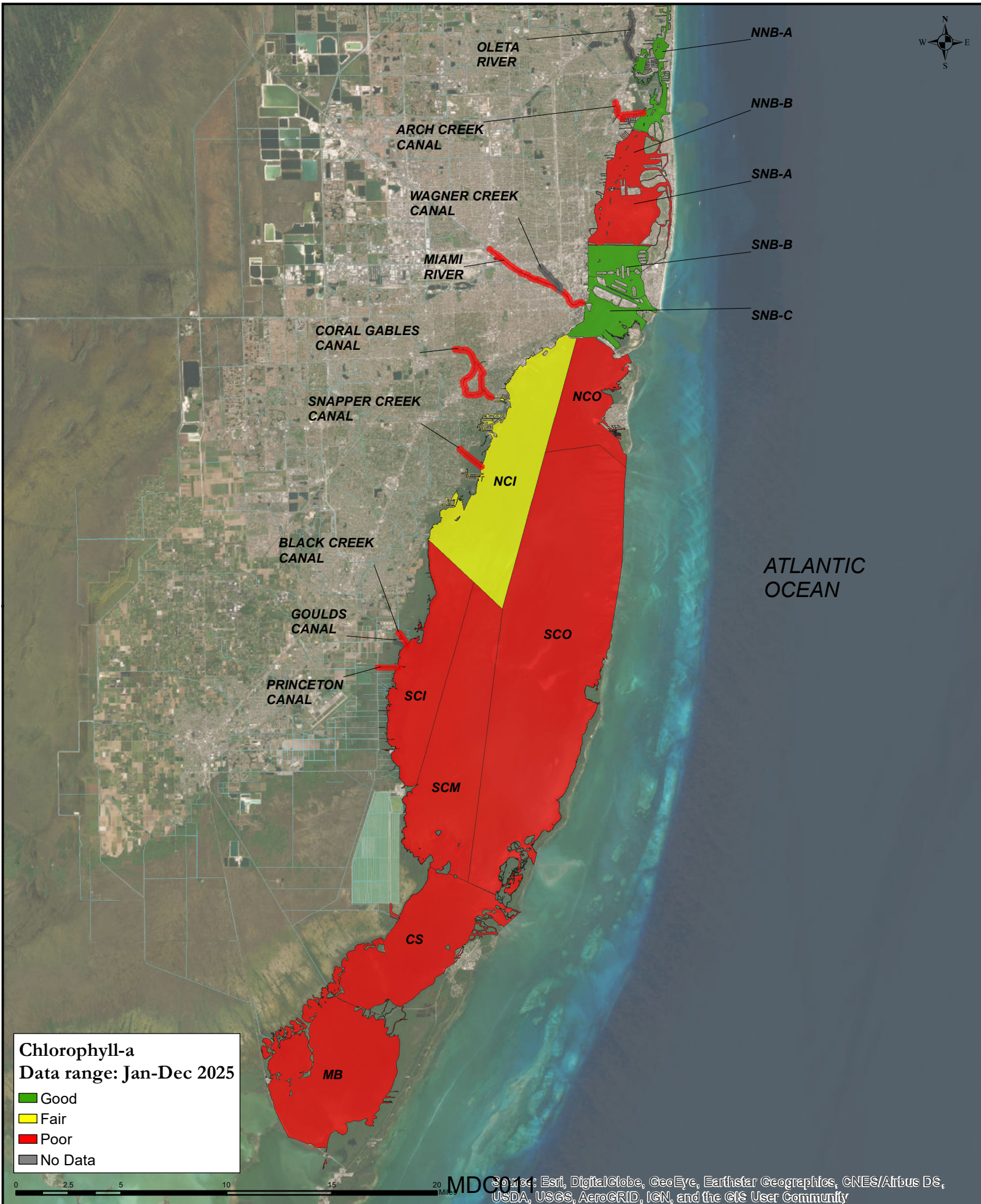
2026 Biscayne Bay Report Card

Total Phosphorus Score



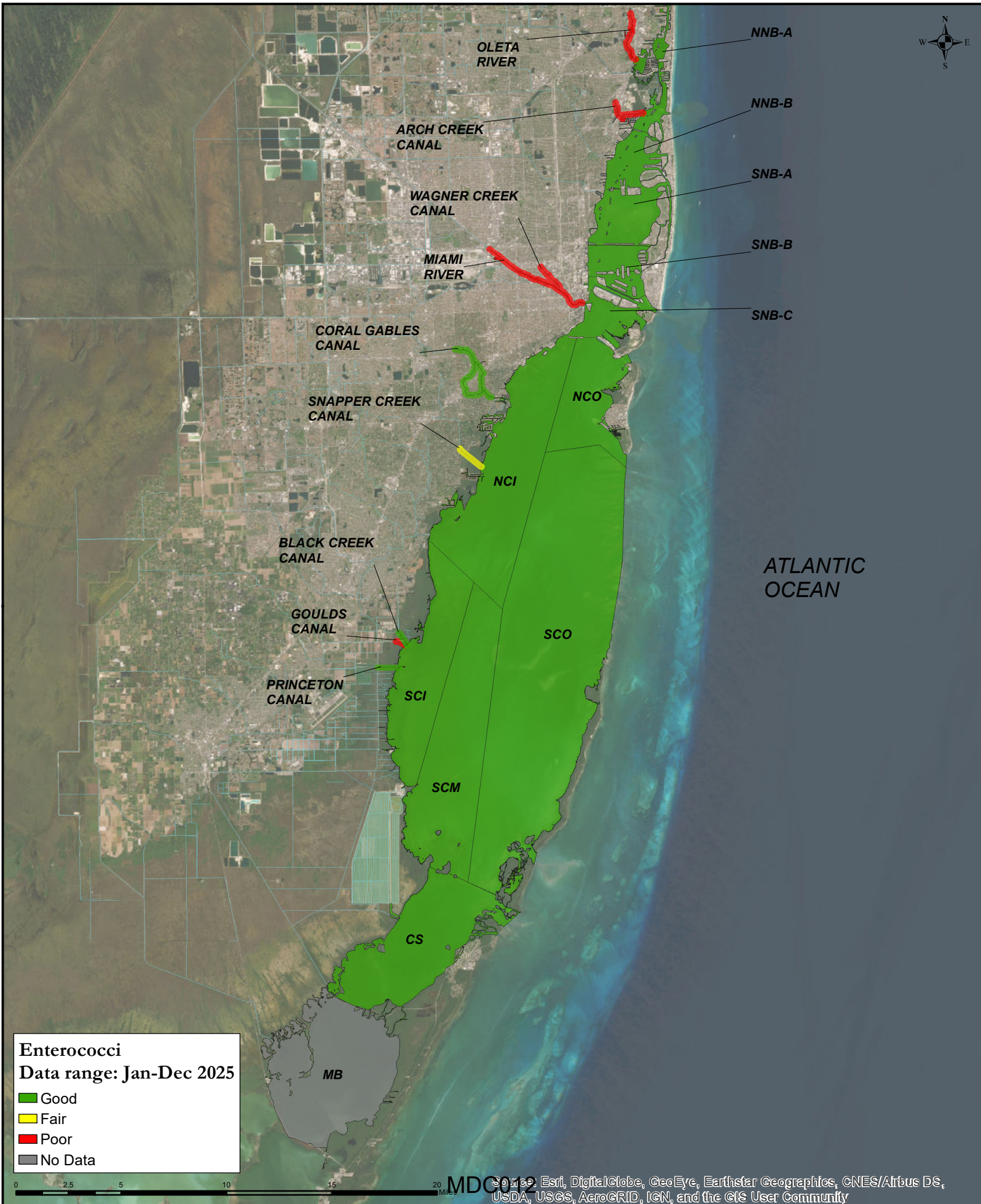
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Chlorophyll-a Score



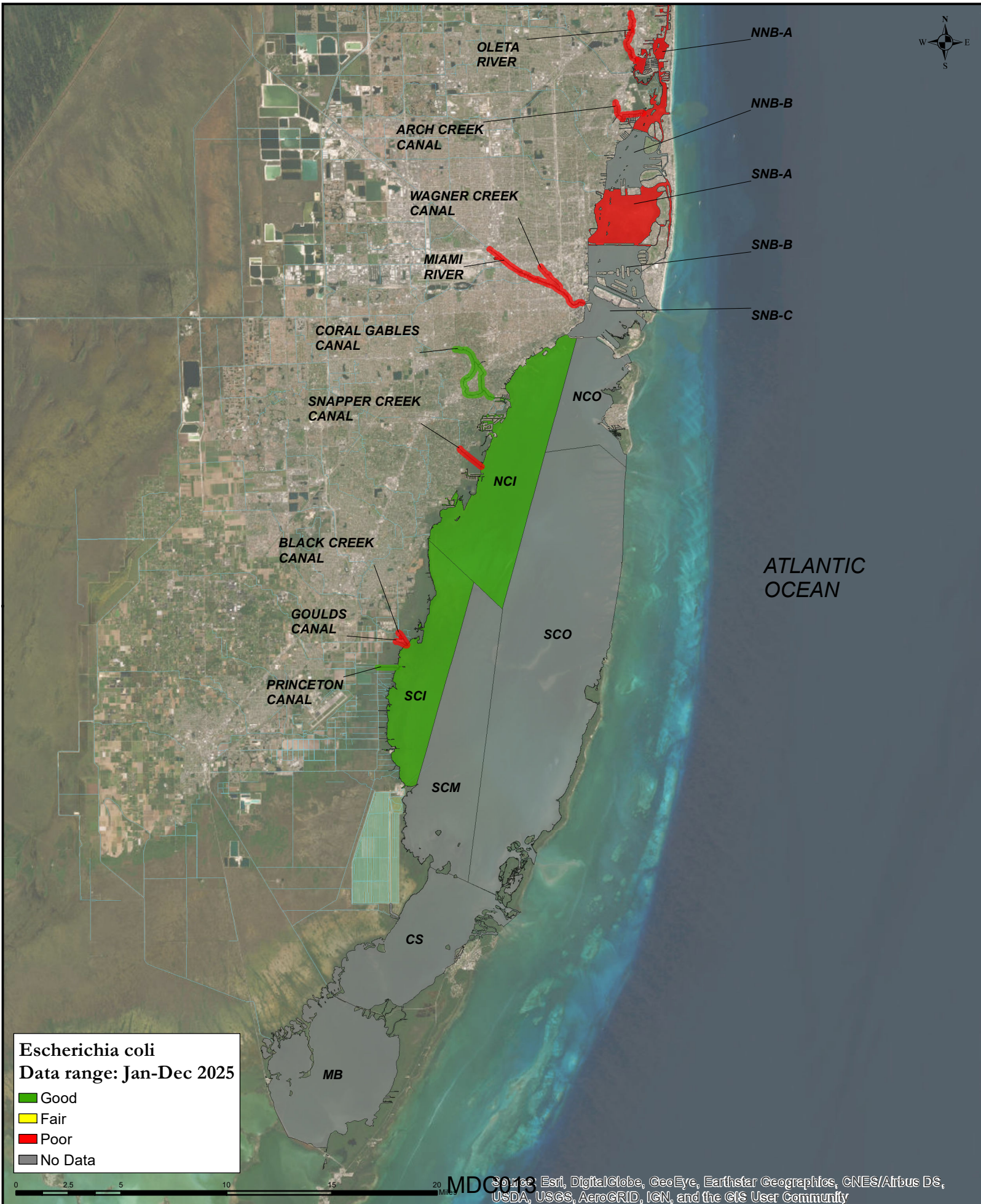
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Bacteriological Score (Enterococcus spp.)



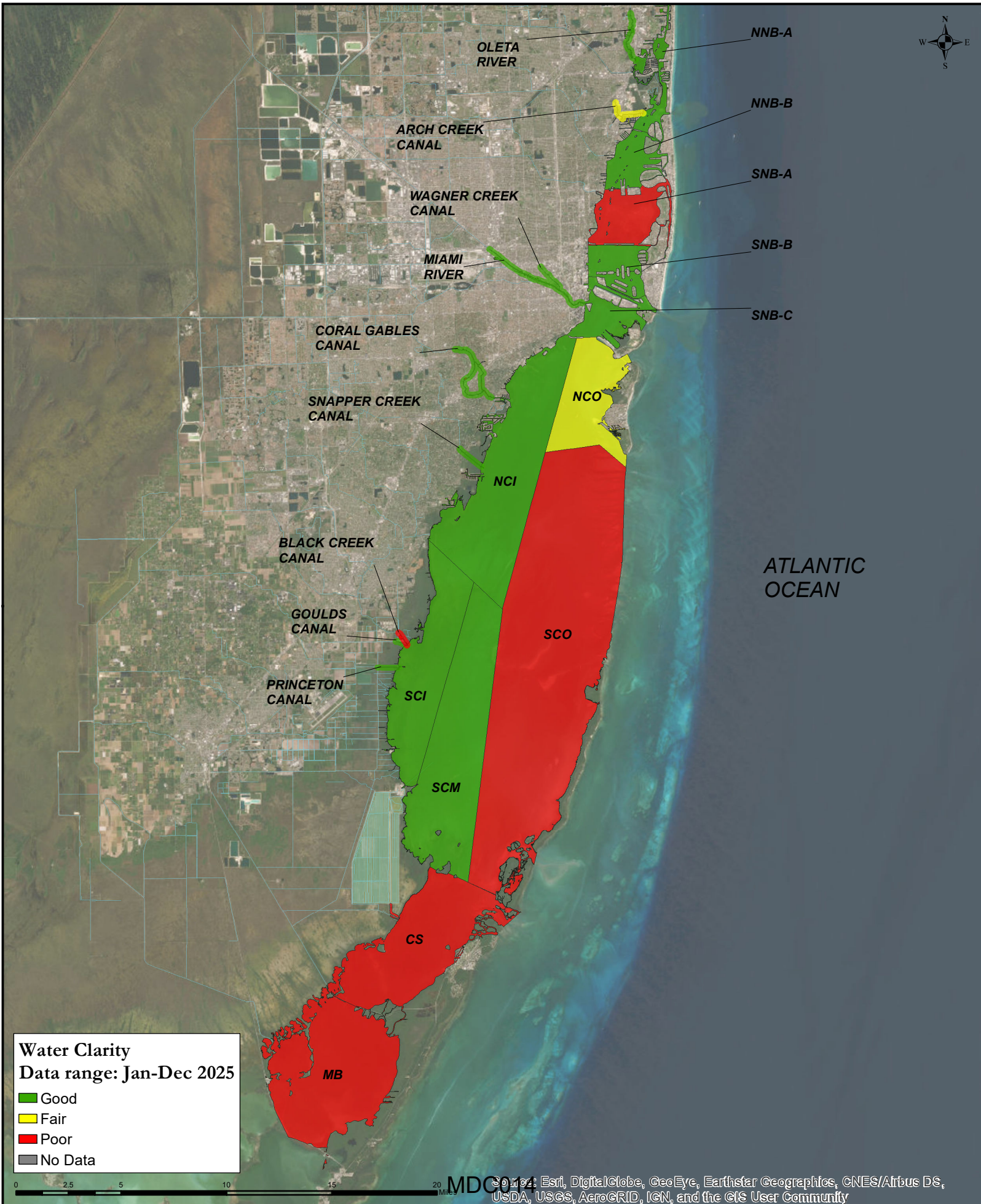
2026 Biscayne Bay Report Card

Bacteriological Score (Escherichia coli.)



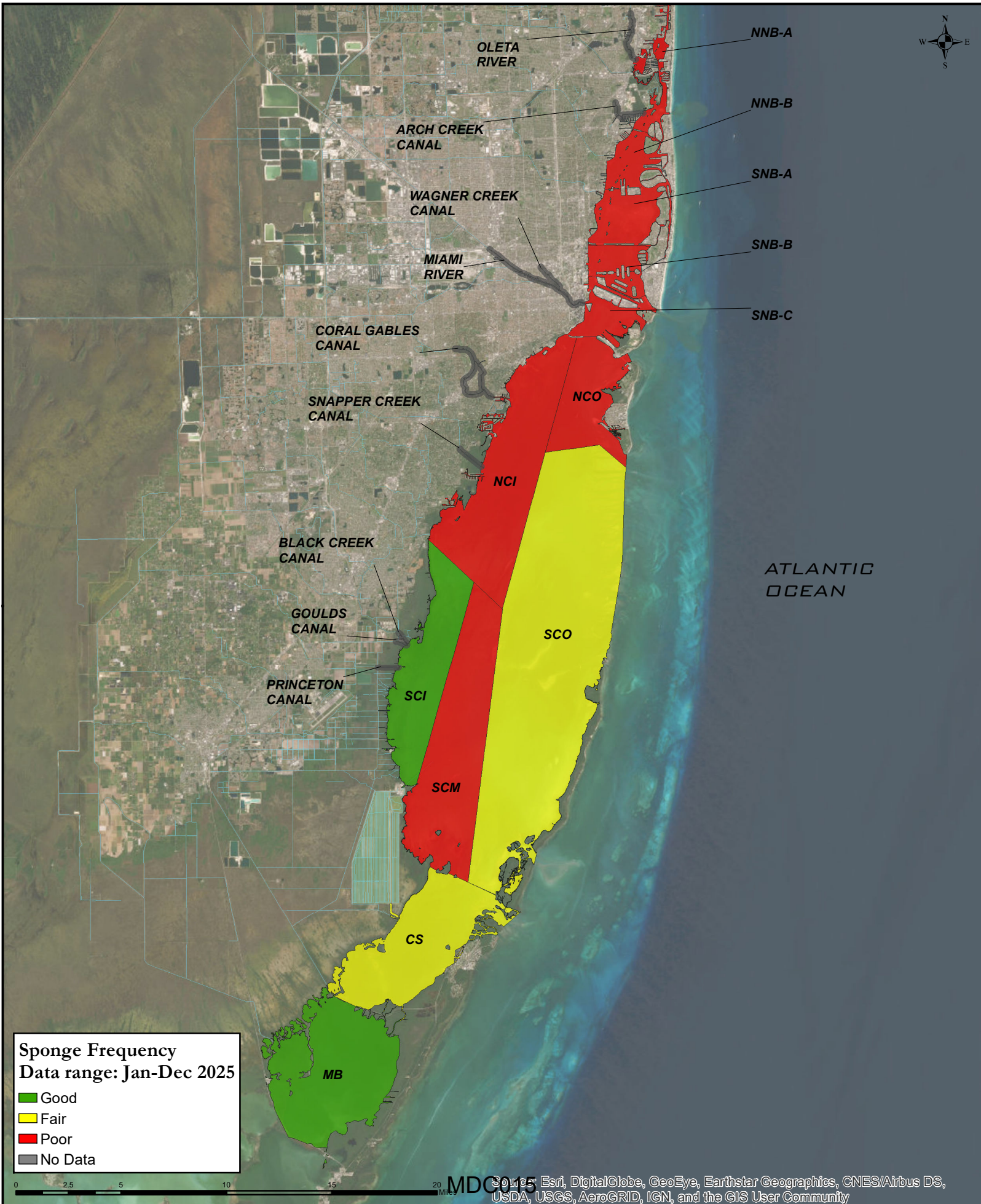
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Water Clarity Score



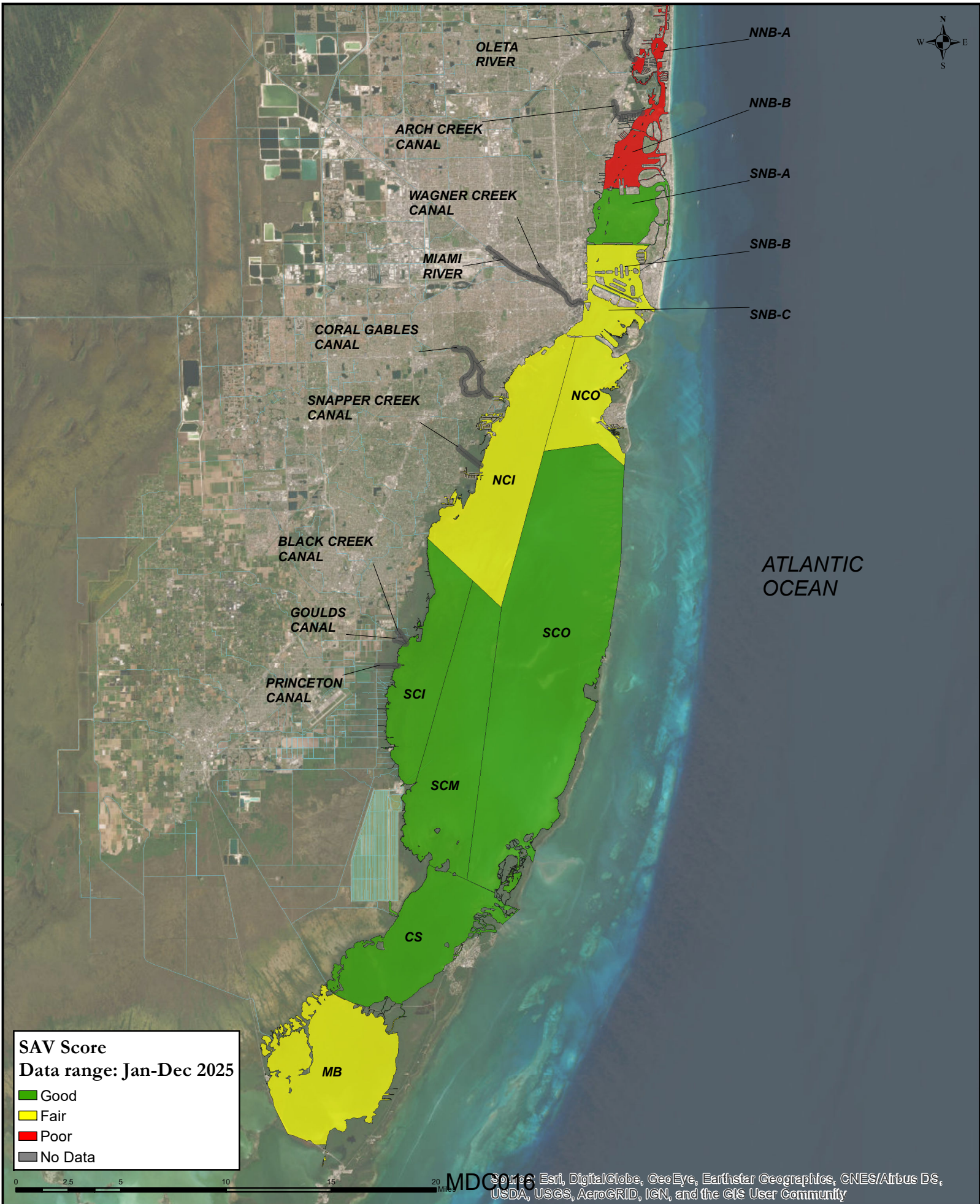
2026 Biscayne Bay Report Card

Sponge Frequency Score



2026 Biscayne Bay Report Card

Submerged Aquatic Vegetation Score



Report Card Region	Report Card Region	2021 Overall Score (2020 data)	2022 Overall Score (2021 data)	2023 Overall Score (2022 data)	2024 Overall Score (2023 data)	2025 Overall Score (2024 data)	2026 Overall Score (2025 data)	Comment
NNB-A	Northern North Bay NNB-A	2	3	2.5	2.1	2.1	2.7	Chlorophyll-a (Chl-a), Total Nitrogen (TN), and Total Phosphorus (TP) decreased by 44%, 39%, and 18%, respectively.
NNB-B	Northern North Bay NNB-B	2.9	3	3.3	3.1	3.3	3.1	Chl-a and Water Clarity decreased by 23% and 17%, respectively. Invertebrates and Submerged Aquatic Vegetation (SAV) increased by 77% and 28%, respectively.
SNB-A	Southern North Bay SNB-A	1.4	2	1.4	2.3	2.1	2.5	Chl-a, TN, TP and Water Clarity decreased by 35%, 11%, 12% and 18%, respectively. Invertebrates increased by 100%.
SNB-B	Southern North Bay SNB-B	3.4	3	3	3.1	2.8	3.9	Invertebrates, Water Clarity, Chl-a, SAV, and Enterococci improved by 100%, 17%, 17%, 6.6%, and 44%, respectively. TN and TP increased by 18% and 2%.
SNB-C	Southern North Bay SNB-C	3.9	4	3.9	4	4.1	3.9	TP, TN, and Enterocci increased by 27%, 21%, and 23% respectively. Chl-aa decreased by 16%.
NCO	North Central Offshore -NCO	3.4	3.5	3.4	3.7	3.4	3.4	TN increased by 24%; Chl-a and Water Clarity decreased by 23% and 16%, respectively.
NCI	North Central Inshore -NCI	2.8	3	3.6	3.3	3.6	3.7	Chlorophyll and Water Clarity improved by 33% and 23%, respectively. TN increased by 14%.
SCO	South Central Offshore -SCO	3.5	3	3.7	3.3	3.4	3.4	Chl-a and Water Clarity decreased by 26% and 31%, respectively. TN increased by 49% and Invertebrates decreased by 31%.
SCI	South Central Inshore -SCI	3	3	3.3	3.8	3.2	3.9	Chl-a, TN, and Water Clarity decreased by 40%, 25% and 24%, respectively.
SCM	South Central Mid Bay -SCM	3.6	3	3.6	3.7	3.4	3.7	Chl-a and Water Clarity decreased by 23% and 30%, respectively. Invertebrates decreased by 64%.
CS	Card Sound -CS	3.25	3	3.2	3.3	3.4	3.1	Invertebrates decreased by 59% and TP increased by 20%.
MB	Manatee Bay -MB	2.5	3	2.7	2.7	2.1	2.7	Invertebrates and SAV increased by 40% and 10%, respectively.