# [***TNC and Planet join forces to map Blue Carbon***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:680C-CHY1-DYG0-72R4-00000-00&context=1516831)

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**Section:** TECHNOLOGY & TELECOMMUNICATIONS

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**Highlight:** Planet Labs PBC and The Nature Conservancy (TNC) have unveiled collaborative efforts on the ***Blue Carbon*** Explorer (BlueCarbon.TNC.org), a digital tool developed by TNC that aims to map ***mangrove*** and seagrass ***blue carbon*** around the world.

**Body**

The tool also enables governments and coastal managers to make data-informed decisions on the protection and restoration of coastal ecosystems. ***Blue carbon*** refers to carbon stored in marine environments like seagrasses, ***mangroves***, and salt marshes. Notably, ***blue carbon*** ecosystems can store up to 5 times as much carbon as upland forests. The world's ***mangroves*** alone sequester more than 31 million tons of carbon in their soils and biomass each year.

With this in mind, both TNC and Planet believe that the protection and restoration of these environments is critical for supporting biodiversity, combating climate change, and helping communities to thrive. New tools to map, monitor, and quantify these ecosystems are key for their conservation. "These ecosystems really are a great ocean-climate link, and part of our strategy is to unlock this ***blue carbon*** potential for climate mitigation," said Lindsey Smart, Climate and Ocean Scientist at TNC. The ***Blue Carbon*** Explorer is a Google Earth Engine app developed by TNC that leverages field-collected data from drone and satellite imagery, including Planet's SkySat and PlanetScope imagery, to help identify key areas for restoration and protection. The tool helps to visualize if these ecosystems are degraded or healthy, enabling analysts to determine the best management decisions to aid in their conservation and restoration. "Thousands of PlanetScope scenes were used to derive the high-resolution ***mangrove*** and seagrass extent layers that the ***Blue Carbon*** Explorer relies on to perform analyses of temporal changes in habitat health and extract data on canopy height," said Valerie Pietsch McNulty, Conservation Scientist for TNC's Caribbean Division. "Planet's data has been a game-changer for decision-making due to its high resolution because restoration sites can be very small, so having this level of granularity in the spatial data allows us to really target specific areas, within expansive ***mangrove*** patches." This collaborative work has already started to reveal insights into changing coastal habitats throughout the Caribbean, Indonesia, and Papua New Guinea. For governments, the maps have revealed previously unknown regions of ***mangrove*** and seagrass habitats, helping them better account for their natural resources and potential ***blue carbon*** stocks. Leveraging Planet data and new techniques in artificial intelligence (AI), as well as lessons learned from the ***Blue Carbon*** Explorer, these insights can be used to better understand coastal habitats around the world. "Mapping coastal ***blue carbon*** is a critical step in securing these vital carbon stocks - and the immense social, ecological, climatological, and economic value they represent," said Planet's Chief Impact Officer Andrew Zolli. "By combining TNC's expertise with Planet's breakthrough Earth observation capabilities, the ***Blue Carbon*** Explorer makes these benefits visible and accessible to a wide variety of stakeholders. It's a vital tool for advancing a scientifically rigorous, just, and inclusive transition to a more climate-stabilized future." TNC's Smart noted, "In terms of carbon accounting, we really need high resolution globally consistent datasets because these systems are pretty dynamic. It's important to accurately quantify the carbon sequestered and stored in these systems and the changes through time. The fact that Planet data can be leveraged to do these things is a huge value add, especially for scaling ***blue carbon*** market projects." The process for developing the ***Blue Carbon*** Explorer deeply emphasized the role and needs of local stakeholders. The TNC team conducted extensive workshops and research with local communities and government leaders in building the tool and applying it to scale-up restoration efforts on the ground. "When prioritizing where to restore coastal habitats, it is critical to include the people component and identify areas where climate change is having the most impact," said Steve Schill, Lead Scientist for the Caribbean at TNC. "By evaluating these important coastal ecosystems with satellite data, we can zero in on the areas where the resilience of a coastal community can be improved and the benefits of coastal protection and enhanced livelihoods and human well-being are aligned."

**Classification**

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