SkyTruth

Annual Report 2024

skytruth.org

SkyTruth Annual Report 2024

Contents

Letter from the CEO

John Amos
CHIEF EXECUTIVE OFFICER

I am deeply concerned.

Here in the United States we are courting catastrophe. As I reflect on the past year, I feel compelled to address the urgent challenges facing our nation, our world, and our environment. A concerning trend among political leaders suggests a belief that minimal government and regulation are the paths to freedom, as they advocate for the privatization of public lands, unrestricted exploitation of natural resources, and a weakening of democratic institutions that protect the people.

If you're a billionaire, this might work out fine for you.

For the majority of citizens, this radical ideology threatens to undermine decades of bipartisan efforts to conserve the nation's natural heritage and safeguard public health. These policies, regulations, and legal frameworks, born from a horrific series of environmental catastrophes in the 20th century, not only protect us from toxic air and water pollution but also reflect our growing understanding that human well-being is inextricably linked to a healthy, functioning environment. Dismantling these protections will undoubtedly have far-reaching consequences for all of us and for future generations.

The rapid unraveling of environmental protections is being compounded by a troubling lack of transparency. We're witnessing the removal of taxpayer-funded maps and datasets from public access, a shutdown of government information websites, selective exclusion of journalists from government functions, and the promotion of uncritical propagandists over objective reporters. The cornerstones of democracy—the public's right to know, and public participation in decision-making processes—are under a withering attack.

In response to these urgent challenges, SkyTruth stands firm in its commitment to provide transparency and accountability in environmental stewardship. If citizens are kept in the dark, democracy is not possible, and true freedom does not exist. SkyTruth was founded on the premise, and still believes, that in a truly great society:

- Every individual has the right to safe food, clean air, and pure water.
- Citizens are entitled to information about environmental factors affecting their families' health and well-being.
- All people are treated with equality, fairness, respect, and care, regardless of their economic or social status.

These principles are not partisan ideologies but universal human values that resonate with the majority of us and align with fundamental American ideals. I founded SkyTruth as an independent force for transparency and fairness. Our work, by design, is intended to operate independently from government influence, promote public interest and participation in conservation efforts, and utilize publically available tools and data to illuminate environmental issues worldwide. From our own neighborhoods to remote rainforests to the vast expanses of the open ocean, SkyTruth is shining a light on environmental concerns across the globe. By providing free access to our products and services, we ensure that critical information remains accessible to all. This approach has proven time and again that public engagement in conservation efforts is the most effective driver in safeguarding the health and well-being of current and future generations.

In an era when access to reliable information is being increasingly challenged, SkyTruth's commitment to transparency serves as an imperative counterbalance. I am convinced that our work is more important now than it has ever been. I invite you to explore our annual report to learn more about SkyTruth's impactful work, and to consider joining our cause. Your support is essential in enabling us to continue our mission of promoting environmental transparency and accountability, and to foster a more informed and engaged global community.

CLIMATE

AI for Good: Improving Marine Oil Pollution Detection

Kris Moreau
PRINCIPAL PRODUCT MANAGER

Artificial intelligence isn't just transforming how we search the internet—it's changing how we protect our planet. Cerulean, SkyTruth's AI-powered marine oil pollution detection tool, is illuminating chronic environmental threats that have long evaded human detection. By leveraging advanced machine learning and smart automation, Cerulean makes marine oil slick monitoring 100 times more cost-effective than manual review, enabling 24/7 oversight of the world's ocean.

SkyTruth's major upgrades to Cerulean's AI model in 2024 brought significant improvements. The enhanced oil slick detection model now delivers more accurate results, allowing analysts to identify pollution events faster and with greater confidence. Cerulean's improved source attribution system more reliably links oil slicks to vessels or offshore structures likely responsible. These advancements don't replace human expertise; they amplify it, allowing analysts to focus on critical cases where their expertise makes the biggest impact.

Scaling this kind of environmental intelligence—in a domain as vast as the ocean—takes teamwork. As a part of the Open Ocean Project, an ambitious initiative to map all human activity at sea, SkyTruth joined forces with Global Fishing Watch (GFW) to develop cutting-edge technology for tracking maritime activity. This partnership is expanding the boundaries of detection, enhancing capabilities to identify elusive targets that have historically evaded observation.

One key focus is on "dark vessels," ships that may be engaging in polluting activities while deliberately concealing their GPS locations to avoid detection. SkyTruth is leveraging GFW's advanced AI model and object detection data to track potential dark vessels. By combining this information with Cerulean's slick predictions, SkyTruth is exploring whether these unidentified vessels are contributing to ocean oil pollution. Simultaneously, the team is undertaking a global effort to map abandoned oil infrastructure, commonly referred to as "idle iron." This comprehensive data is already providing valuable applications. For instance, a nonprofit partner in Louisiana is utilizing our data to spearhead a cleanup campaign, with the potential to remove these hazards and pave the way for future wind energy development.

SkyTruth's AI-driven approach extends beyond mere pollution detection. It's accelerating public empowerment by providing a clearer understanding of how human activities shape marine environments. This enhanced visibility, in turn, enables civil society to respond more effectively to environmental challenges.

SkyTruth's commitment to ethical AI practices is evident in Cerulean's design. The tool focuses on industrial pollution from oil and gas corporations—companies that rarely disclose the full extent of their environmental impact voluntarily. The satellite imagery fueling Cerulean's insights comes from the European Space Agency, which has provided the public with trustworthy satellite data for over a decade. Operating under open-source principles, Cerulean serves the public interest, ensuring journalistic integrity and enabling independent verification of findings.

By making the invisible visible, Cerulean is equipping the public, policymakers, and advocates with critical knowledge to hold maritime polluters accountable. Through Cerulean, AI isn't just observing—it's catalyzing real environmental change, creating a cleaner, more transparent future for our ocean.

CLIMATE

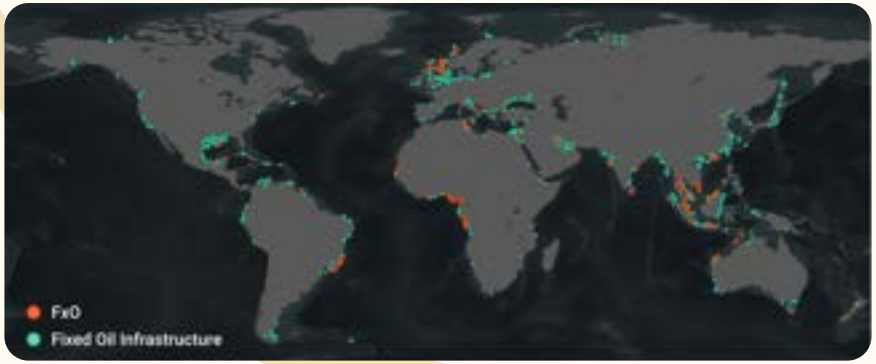
Expanding the Global Database of Offshore Oil Infrastructure

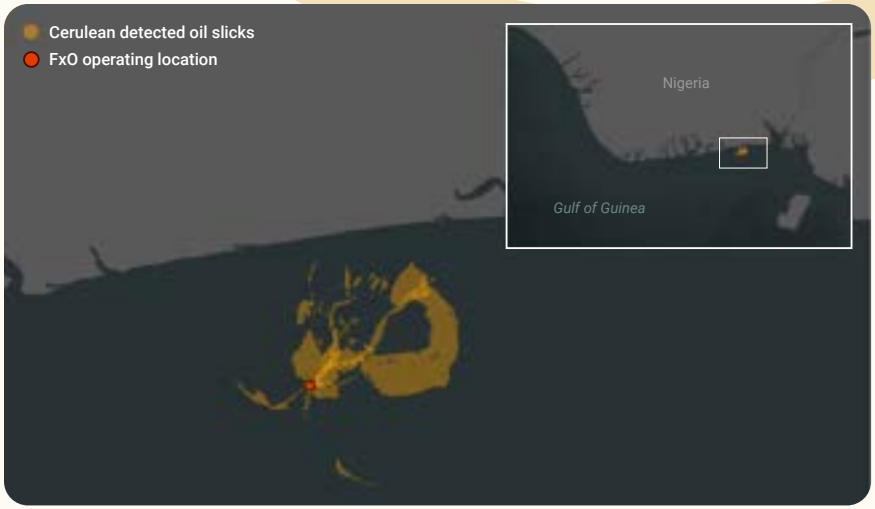
Kris Moreau
PRINCIPAL PRODUCT MANAGER

For decades, offshore oil infrastructure has operated largely out of sight and out of mind. Unlike vessels, which move from place to place, oil platforms—both fixed and floating—remain anchored in the same locations, making them a persistent threat to marine ecosystems and coastal communities. Until recently, there has been no comprehensive, free, open-source global dataset tracking these structures, leaving a significant gap in understanding offshore drilling's contribution to pollution. In 2024, SkyTruth played a pivotal role in changing this landscape.

As part of the Open Ocean Project, SkyTruth contributed to creating the first-ever public map of offshore oil and gas infrastructure. This landmark dataset, published in Nature in early 2024, marks a significant advancement in environmental transparency at sea. SkyTruth's involvement was crucial, not only in the dataset's creation, but also in providing extensive quality control and human review to train AI models.

Cerulean is already utilizing this new dataset to connect oil pollution events with specific offshore structures. The recently improved models for detecting oil slicks and their sources now enable systematic, global-scale monitoring of pollution from offshore drilling operations. This AI-powered detection system has successfully identified numerous chronic offenders—offshore facilities responsible for repeated oil slicks.





A striking example is the Princess Aweni, a former oil tanker built in 1975, now serving as a floating production facility off Nigeria's coast. In just 18 months, this single vessel was linked to 12 separate oil slicks. The new dataset encompasses not just fixed oil platforms but also floating production, storage, and offloading units (FPSOs), a rapidly expanding sector as companies venture further offshore in search of new reserves.

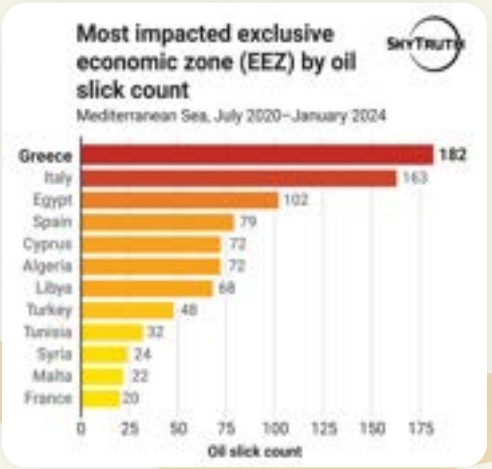
The identification of these hidden threats is just the beginning. SkyTruth's independent, data-driven approach provides governments, researchers, and advocates with crucial information to hold polluters accountable. A comprehensive global analysis of offshore oil pollution was recently published in April 2025.

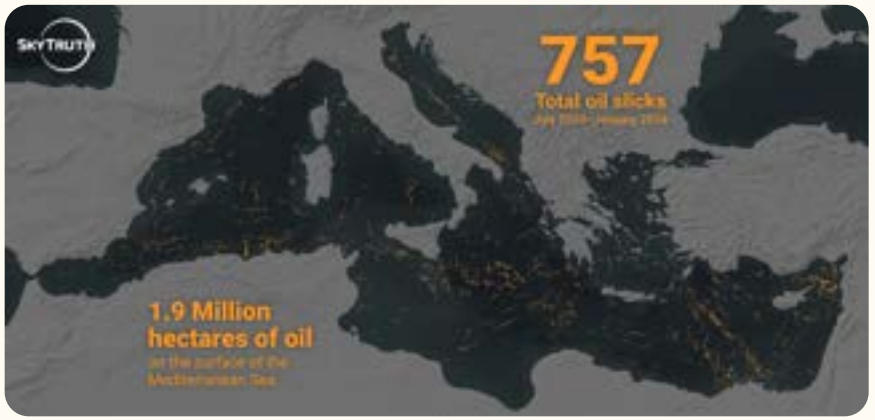
By making environmental destruction visible, this work opens new avenues for action, bringing unprecedented transparency to an industry that has long operated in the shadows and beyond public scrutiny.

CLIMATE

Uncovering the Scale of Chronic Oil Pollution in the Mediterranean

Kelly Franklin
CREATIVE DIRECTOR





In April 2024, SkyTruth unveiled a groundbreaking report at the Our Ocean Conference in Greece, shedding light on a pervasive oil pollution problem in the Mediterranean Sea. The Mediterranean Sea Chronic Oil Pollution Analysis, covering a period from July 2020 to January 2024, revealed a staggering 757 oil slicks spanning an area of nearly 2 million hectares.

The majority of these slicks were produced by transiting oil or chemical tankers. Two of the largest exclusive economic zones in the region, Greece and Italy, experienced the highest slick counts at 182 and 163, respectively.

Home to approximately 11% of all marine species in less than 1% of the global ocean habitat, the Mediterranean Sea is a key part of the global shipping network and faces severe threats from associated chronic pollution. One concerning finding for this biodiversity hotspot was the number of oil slicks that appeared within the boundaries of Marine Protected Areas (MPAs). Two particularly affected MPAs were the Mediterranean Cetacean Migration Corridor in Spain and the Pelagos Sanctuary for the Conservation of Marine Mammals established by France, Italy, and Monaco. These two areas, crucial for protecting feeding, breeding, and migration zones of vulnerable and endangered whales, have been classified as “minimally protected” by The Marine Protection Atlas—a determination supported by SkyTruth’s discovery of more than 30 slicks within their collective boundaries.

SkyTruth’s analysis has garnered significant attention, generating several news stories and was referenced in a scientific journal. In October 2024, the International Maritime Organization reported that multiple Mediterranean countries were collaborating to better protect the marine environment through improved reporting, monitoring, and sharing of data on shipping pollution events. By bringing increased media attention to the issues plaguing the region, SkyTruth has played a crucial role in illuminating the true scale of chronic oil pollution occurring within the Mediterranean Sea. This increased visibility is a vital step towards improving outcomes and protecting this critical marine ecosystem.

CLIMATE

Holding Chronic Polluters Accountable in the UK's North Sea

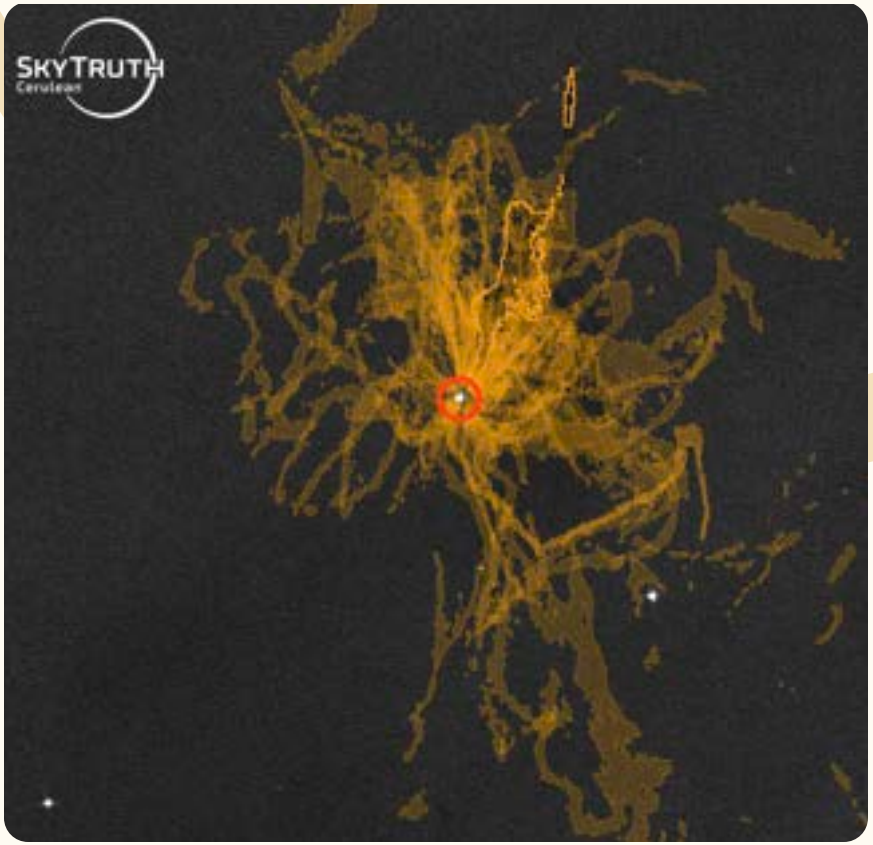
Eric Teller
IMPACT PROGRAM MANAGER

A vibrant waterway surrounded by several European nations, the North Sea is not only home to key fishing grounds, vital shipping routes, and a bustling coastal tourist economy, but also serves as a hub for Europe's oil and gas industry. With over 1,500 installations dotting its surface, the region faces significant environmental challenges.

In 2024, SkyTruth's long-standing partner, Oceana UK, raised concerns about the Piper Bravo platform, the replacement rig for the now infamous Piper Alpha, which exploded and sank in July of 1988, claiming 167 lives. Suspecting significant chronic oiling events from Piper Bravo, Oceana UK sought to use SkyTruth's Cerulean oil pollution monitoring system to confirm this suspected activity.

Despite a history of health and safety notices dating back to 2005, the true volume of oil spilled by Piper Bravo remained unknown due to opaque, convoluted, and often incomplete reporting requirements for oil and gas companies operating in the area. This lack of transparency allowed chronic polluters like Repsol Resources, Piper Bravo's parent company, to continue receiving new oil and gas licenses in the UK with minimal penalties or accountability.

SkyTruth Cerulean detected 47 separate instances of possible oil slicks originating from Piper Bravo, accounting for nearly a quarter of all satellite images of the rig in 2023. This finding was instrumental in Oceana UK's report, Sea Slick: The true scale and impact of chronic oil pollution in UK seas, in which Cerulean identified Piper Bravo as one of the worst offenders in the North Sea.



Building on this collaboration, Oceana UK produced a short documentary, "Spill: The true scale of chronic oil pollution in UK seas," using Cerulean to visualize the extent of the oil spills. The film featured local environmental advocates and scientists discussing the potential health impacts and the true scale of chronic oil pollution in the North Sea, including a live analysis of satellite imagery by SkyTruth CEO, John Amos.

Oceana UK has leveraged these resources to campaign for an end to all new North Sea oil and gas development. They presented the film and policy recommendations from the report during the 2024 UK Labour Party Conference, continuing to advocate for the cessation of offshore oil leasing in the North Sea.

This partnership between SkyTruth and Oceana UK demonstrates the power of combining advanced satellite monitoring technology with targeted advocacy to expose environmental threats and push for accountability in the oil and gas industry.

CLIMATE

Analyzing the Threats of Fossil Fuel Development in the Coral Triangle

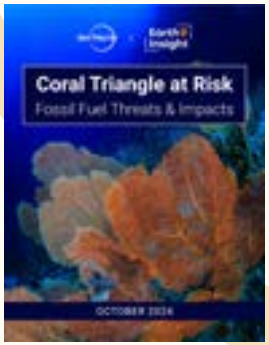
Kelly Franklin
CREATIVE DIRECTOR

At the 2024 COP16 UN Biodiversity Conference in Colombia, SkyTruth, in collaboration with Earth Insight, CEED Philippines, and Say No to LNG, released a groundbreaking analysis of oil and gas development and pollution in the Coral Triangle region. The report exposed the alarming overlap between fossil fuel production and critical marine protected areas.

Spanning the tropical waters connecting the Indian and Pacific oceans, the Coral Triangle is a biodiversity hotspot of global significance. The region harbors 76% of the world's known coral species and over 2,000 types of coral fish. It serves as a sanctuary for six of the seven marine turtle species and provides crucial feeding grounds for whales and other marine mammals, including many threatened small cetaceans.

This unique ecosystem faces numerous threats from fossil fuel development and expansion. SkyTruth's analysis paints a grim picture of the potential impact. The report found that if all the existing oil and gas blocks were to go into production, approximately 16% of the Coral Triangle would be directly impacted by fossil fuel development. Between July 2020 and April 2024, transiting vessels produced 793 oil slicks, exacerbating the stress on already fragile ecosystems. About a quarter of the region's critical marine habitats—coral, mangrove, and seagrass beds—are impacted by oil and gas development, with 80 protected areas completely covered by oil and gas blocks.

SkyTruth's report highlights the severe risks posed by increased vessel traffic, particularly from the growing liquefied natural gas (LNG) industry. LNG tankers not only contribute to chronic oil pollution but also pose



a significant threat to global warming due to methane leaks, a potent greenhouse gas with a warming potential 80 times higher than carbon dioxide.

The publication of the Coral Triangle report has sparked widespread media attention, featuring in prominent outlets such as Mongabay, Environment and Energy Leader, Energy News Pro, Oceanographic Magazine, Inside Climate News, and Agence France Presse. The story's syndication across 84 other news outlets worldwide underscores the global significance of this issue.

Through collaborative efforts like this, SkyTruth is playing a critical role in raising awareness about the rapidly accumulating threats to highly biodiverse and sensitive habitats from fossil fuel development worldwide.

CLIMATE

A Clearer View of Global Gas Flaring

Jason Schatz
CHIEF TECHNOLOGY OFFICER

In 2024, SkyTruth completed a major overhaul of its Flaring Map application, introducing a modern and more intuitive interface for tracking gas flaring from oil and gas operations worldwide. These updates enhance the platform's stability and reinforce SkyTruth's commitment to providing clear, accessible insights into the scale and impact of flaring.

Flaring—the burning of excess natural gas at oil wells—is a significant yet often-overlooked contributor to global greenhouse gas emissions. To expose and track this issue, SkyTruth provides two dynamic flaring map applications:

- **Natural gas flaring footprint**: A global, annual heatmap of flaring activity from 2012 to the present, providing a high-level view of where flaring continues to occur worldwide.
- **Annual flaring volumes**: A dataset that aggregates satellite-observed flaring activity by source and year and estimates the volume of natural gas burned, allowing users to track trends, compare regions, and assess cumulative impacts over time.

Both maps utilize flare detection data from the Colorado School of Mines Earth Observation Group (EOG), the leading source of satellite-based global flaring data.

The comprehensive refresh of both maps improves their usability, stability, and flexibility for future enhancements. With improved filtering, visualization, and data summary options, SkyTruth's flaring maps empower journalists, researchers, and environmental watchdogs to monitor fossil fuel industry emissions and push for accountability and change.

As flaring remains a pressing environmental issue, SkyTruth's commitment to making these insights accessible and visible is stronger than ever. By providing a clear, user-friendly tool for tracking and analyzing gas flaring, SkyTruth continues to play a vital role in driving awareness and action toward reducing this harmful practice.

CLIMATE

Flaring at Sea: Methane From Offshore Oil Production

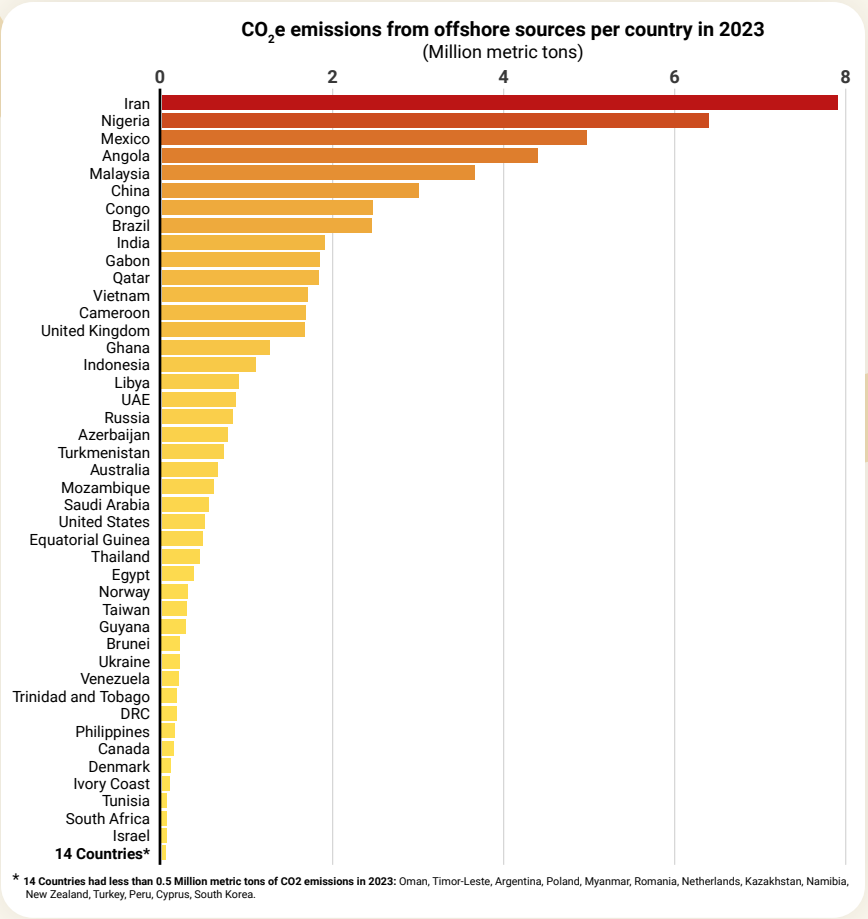
Christian Thomas
GEOSPATIAL ENGINEER

In 2024, SkyTruth initiated work on a white paper, released in April 2025, examining the climate impacts of offshore oil and gas production, with a key focus on the practice of methane flaring. By monitoring flaring at offshore facilities, SkyTruth can assess the effectiveness of climate initiatives aimed at reducing greenhouse gas emissions and identify concerning behavior at these sites.

SkyTruth employs a comprehensive approach to monitor flaring events, including observations detected by the VIIRS satellites, as provided by the Colorado School of Mines' Earth Observation Group. SkyTruth augments this dataset with flare detections from the Landsat 8, Landsat 9, and Sentinel-2 satellites, using Shortwave Infrared (SWIR) band thresholds. This combined dataset offers detailed information on flaring occurrences, enabling the creation of monthly summaries of flaring activity at known offshore oil facilities.

Using EOG Nightfire data's Flare Volume Estimates from 2017 to 2023, SkyTruth processed offshore locations to determine annual "flare upstream" volumes. Key findings for 2024 include:

- Total global offshore flare volume was 23.07 billion cubic meters (BCM)—equivalent to 58.7 million tons of CO_2
- Top countries with the greatest volume of offshore flared gas:
  Iran: 3.10 BCM
  Nigeria: 2.51 BCM
  Mexico: 1.95 BCM



These figures underscore the significant environmental impact of offshore flaring and highlight the need for more stringent regulations and improved practices in the oil and gas industry.

Ongoing research by SkyTruth plays a crucial role in providing transparent, data-driven insights into the environmental consequences of offshore oil and gas production. By making this information accessible, SkyTruth empowers policymakers, researchers, and environmental advocates to push for more sustainable practices in the industry.

BIODIVERSITY

SkyTruth in Focus at the United Nations Biodiversity Conference

Eric Teller
IMPACT PROGRAM MANAGER

SkyTruth took to the stage at the 16th United Nations Conference of the Parties to the Convention on Biological Diversity (COP16) in Cali, Columbia. This global summit, where world leaders convened to chart the course for protecting 30% of Earth's lands and waters by 2030, offered an opportunity for SkyTruth to demonstrate its cutting-edge tools and groundbreaking research. The conference served as a pivotal platform for SkyTruth to showcase its innovative approaches to environmental monitoring and conservation.

SkyTruth's presence at COP16 was marked by several key achievements, including unveiling a major upgrade to the 30x30 Progress Tracker: the addition of all terrestrial protected areas. John Amos lent his expertise to a lively panel discussion, further emphasizing the organization's leadership in the race toward 30x30.

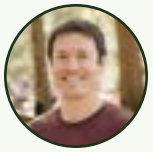
Cerulean also had its moment in the spotlight at the conference when SkyTruth released a joint report with Earth Insight, Coral Triangle at Risk: Fossil Fuel Threats and Impacts. Working collaboratively, CEED Philippines, Earth Insight, and SkyTruth presented these findings directly to conservation practitioners and international media during a panel and press conference.

SkyTruth's impact at the conference extended beyond these major releases. Project Manager Bjorn Bergman engaged journalists and civil society in Cali with Spanish-language presentations on monitoring illicit vessel activity. Meanwhile, Chief Technology Officer Jason Schatz worked to ensure that experts at the conference understood how to apply SkyTruth's suite of tools in their conservation efforts.

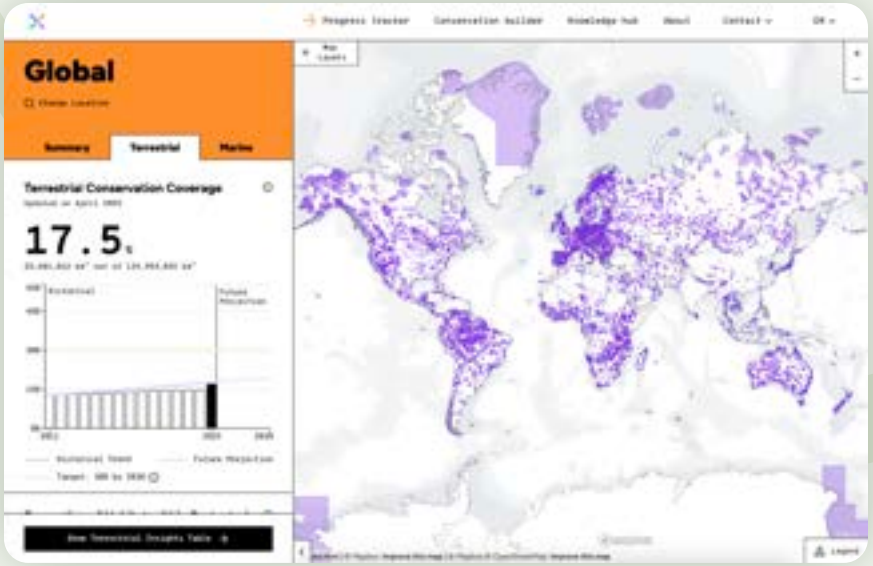
The impact of SkyTruth's participation at COP16 resonated throughout the conference. Attendees from various countries approached the team, eager to explore implementing the organization's tools in their local conservation projects. These interactions sparked numerous conversations about leveraging technology for biodiversity protection, setting the stage for future collaborations and wider adoption of SkyTruth's innovative approaches in global conservation efforts.

BIODIVERSITY

Where Data Meets Policy: Improving 30x30 Progress Tracking



Jason Schatz
CHIEF TECHNOLOGY OFFICER



As we approach the critical deadline of 2030, SkyTruth has taken a leading role in addressing key questions about global progress toward the 30x30 goal: Are we on track to meet protection targets? Where are the gaps? And crucially, how effective are these protections?

In 2024, SkyTruth launched the 30x30 Progress Tracker—a groundbreaking free, public platform that offers clear, independent tracking of national and global progress toward the 30x30 conservation goal. This innovative tool combines data on both the expansion of protected areas and their effectiveness, providing a comprehensive view of global conservation efforts.

The Progress Tracker achieved two significant milestones in 2024. In April, marine protected area tracking was unveiled at the Our Ocean Conference in Athens, Greece. Later in October, terrestrial protected area tracking was launched at the UN COP16 Biodiversity Conference in Cali, Colombia. These launches marked crucial steps in making conservation data accessible and actionable.

Since its inception, the Progress Tracker has garnered impressive engagement, attracting users from 186 countries. It has become an invaluable resource, providing baseline data for campaigns aimed at creating additional protected areas and supporting independent global assessments of the gap between commitments and reality in achieving 30x30 goals.

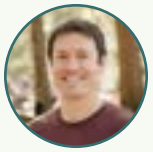
In 2025 and beyond, SkyTruth is committed to accelerating the Progress Tracker's impact. The organization will focus on simplifying data access to highlight the gap between current protections and 2030 targets, making data more accessible through downloads and APIs. Through the Progress Tracker, SkyTruth will strengthen advocacy connections, ensuring policymakers and campaigners can effectively use the Tracker to push for stronger protections.

A key area of development will be expanding protection quality tracking by creating better metrics of protected area effectiveness, particularly for terrestrial ecosystems where global data is not yet publicly available. This expansion will provide a more nuanced understanding of conservation efforts worldwide.

By making global conservation tracking data transparent and accessible, SkyTruth is playing a critical role in holding decision-makers accountable to their commitments. The 30x30 Progress Tracker serves as a powerful tool for driving stronger conservation action, bridging the gap between data and policy to support the ambitious global 30x30 goal.

BIODIVERSITY

Introducing SkyTruth Monitor: New Name, Improved Functionality



Jason Schatz
CHIEF TECHNOLOGY OFFICER

In October 2024, SkyTruth unveiled Monitor, a comprehensive redesign of its longstanding environmental tracking platform, SkyTruth Alerts. This launch marked a significant evolution in environmental monitoring and technology, transforming Monitor into a modern, accessible tool that empowers anyone to act as an environmental watchdog.

SkyTruth Alerts, initially launched in 2011 to track oil and chemical spills reported to the US National Response Center (NRC), has grown into a sophisticated environmental monitoring system. By 2024, the need for an overhaul became evident to meet the increasing demands for advanced tools in identifying and responding to global environmental threats. The result was SkyTruth Monitor, a free, open platform providing access to satellite imagery, geospatial mapping data, and environmental alerts.

Beyond usability improvements, SkyTruth Monitor introduced several key enhancements. Users can now explore historical imagery, apply before-and-after comparisons, filter cloud cover, and analyze changes. The platform incorporates images and data from various sources, including Sentinel-1, Sentinel-2, Landsat, and NAIP. Monitor now supports vector and raster data uploads, allowing users to upload their data and imagery to the dynamic map.

Monitor is already proving its worth in major investigations, such as tracking illegal mining operations in the Peruvian Amazon and investigating offshore oil slicks. By combining publicly available datasets with advanced satellite imagery, Monitor enables SkyTruth, its partners, and users to identify and communicate environmental threats more rapidly than ever before.

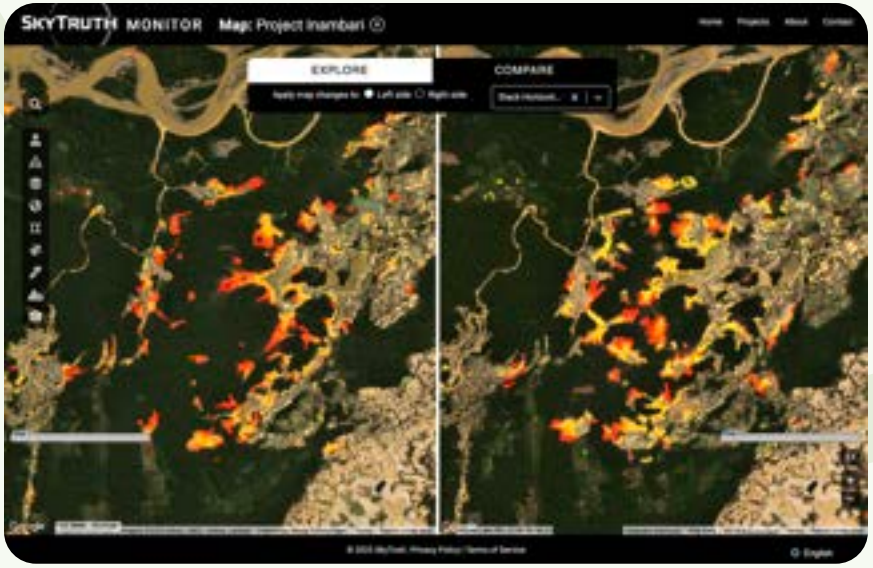
As global environmental changes accelerate, the need for vigilance has never been greater. Monitor equips a wide range of users, from local activists to global researchers, with real-time monitoring capabilities, empowering them to expose environmental harm and advocate for action effectively.

With Monitor, SkyTruth reaffirms its commitment to making satellite Earth observation freely available to all, ensuring that more eyes in the sky translates to greater accountability on the ground.

BIODIVERSITY

Monitoring Deforestation, Wildfires, and Illegal Gold Mining in Peru

Bjorn Bergman
PROJECT MANAGER



In 2024, SkyTruth collaborated with the Peruvian Park Service, Servicio Nacional de Áreas Naturales Protegidas por el Estado (SERNANP), to deploy SkyTruth Monitor to more accurately and efficiently detect and address environmental concerns within the Amazon Basin.

SERNANP is tasked with conserving protected areas in Peru and maintaining biological diversity while increasing accessibility for Peruvians. The vast and often rugged terrain of the areas under SERNANP's purview presents significant challenges for on-the-ground monitoring. SkyTruth Monitor provides a crucial solution, allowing SERNANP to identify and prioritize potential environmental incidents remotely, thereby increasing their capacity to oversee the entire area more efficiently and effectively.

In 2020, with support from Conservation X Labs, SkyTruth developed Project Inambari—a free, public map for monitoring gold mining activity. This tool provides near-real-time updates using satellite imagery, with monthly basemaps from Planet for visual verification of unauthorized mining events.

Project manager Bjorn Bergman worked closely with SERNANP to tailor the tool to their specific needs, particularly for monitoring illegal gold mining activity within the Peruvian Amazon. SERNANP has been able to integrate drone footage with satellite imagery, allowing for more accurate verification of suspected activities before determining intervention strategies.

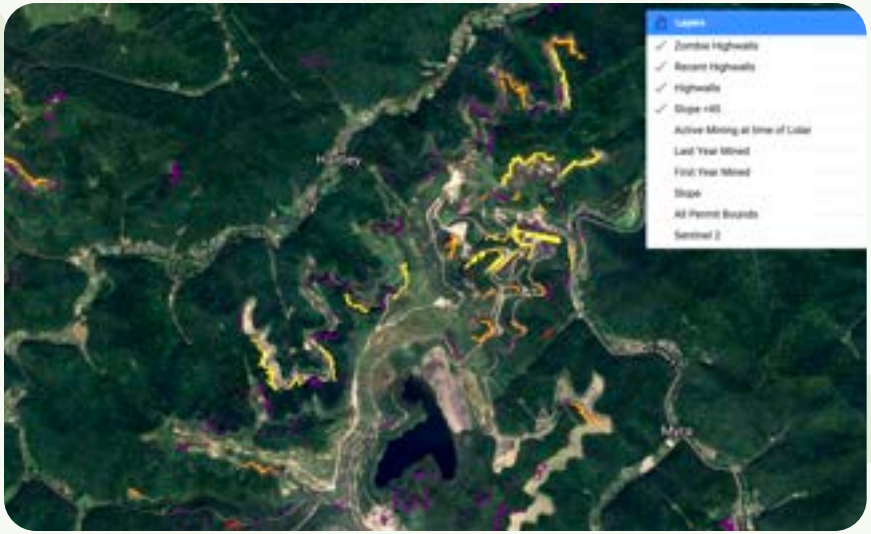
The collaboration has since expanded to encompass a wider range of environmental issues. SkyTruth Monitor now assists SERNANP in tracking wildfire burn rate and spread, incursions into remote protected areas, agricultural clearing activities such as access road construction and deforestation, and illegal gold mining.

SkyTruth continues to support conservation advocates throughout the Amazon basin and globally, providing detailed environmental intelligence. This partnership enables more efficient resource allocation, fosters a network of organizations and tools to combat illegal habitat destruction, and bolsters the success of conservation efforts. By leveraging advanced technology and local expertise, SkyTruth and SERNANP are setting a new standard for environmental monitoring and protection in one of the world's most critical ecosystems.

BIODIVERSITY

Restoration Ahead: Visualizing a Future After Mountaintop Mining

Christian Thomas
GEOSPATIAL ENGINEER



SkyTruth continues its vital work tracking the legacy of Mountaintop Mining (MTM) in the Central Appalachian coal basin. In 2024, the organization not only released its annual update to the MTM footprint dataset, but also significantly expanded its capabilities for monitoring post-mining ecological recovery and improving the overall accuracy of its mining footprint dataset.

The importance of verifying adequate environmental recovery on former mine sites cannot be overstated. This process ensures that mine operators fulfill their legal obligations to restore the land, thereby protecting states and local communities from the financial burden of additional restoration efforts.

A key achievement in 2024 was the initial assessment conducted for the Appalachian Citizens' Law Center. The study compared post-mining recovery on sites planted as a part of the Appalachian Regional Reforestation Initiative with sites reclaimed using alternative approaches. This assessment utilized SkyTruth's peer-reviewed Landsat-based recovery methodology alongside a novel method employing modeled forest canopy heights.

To enhance post-mining vegetation assessments, SkyTruth developed a canopy height model using LiDAR data from the USGS 3DEP dataset for the Central Appalachian region. This innovative approach allows for more accurate comparisons between former mines and reference forests, providing a clearer picture of recovery progress. The resulting dataset serves as a valuable baseline for future analyses as new LiDAR data becomes available.

SkyTruth also began improving the descriptive quality of its MTM dataset by identifying specific types of disturbances, with a focus on highwall mining operations. Highwalls represent the most expensive features to reclaim in mines. By pinpointing their locations SkyTruth can now estimate recovery costs more accurately. This dataset, developed in collaboration with Appalachian Voices, will be critical in assessing the adequacy of state reclamation funds for mine restoration in cases where operators fail to meet their obligations.

Through these efforts SkyTruth is not only tracking the environmental impact of mountaintop mining but also actively contributing to the visualization and planning of a restored, ecologically sound future for the Central Appalachian region.

SkyTruth Data in Action: Investigative Partnerships

SkyTruth in the News: Global Impact

1000+ media hits reaching an estimated **3.78b** views

MONGABAY

The Guardian

AP

TechCrunch

devex
Do Good. Do It Well.™

E+ELeader

bellingcat

THE CONVERSATION

SeafoodSource

SkyTruth Financials Fiscal Year 2024

Total Budget $3,709,361

Amber Nelson
DIRECTOR OF OPERATIONS AND FINANCE

SkyTruth's financial breakdown for 2024 demonstrates a strong commitment to its core mission, with the majority of funds allocated to program services. This allocation reflects SkyTruth's dedication to maximizing its impact on environmental conservation and monitoring.

SkyTruth has positioned itself as a critical resource for the conservation movement, attracting top-tier talent from diverse backgrounds. The organization has cultivated an inclusive, creative, and innovative culture, establishing itself as a technology leader and key partner in driving environmental impact.

Looking ahead, SkyTruth plans to grow the team to support advocates and stakeholders in leveraging Earth observation techniques to address climate change and biodiversity loss more rapidly and effectively.

Driven by a profound sense of purpose, SkyTruth has the expertise and vision to be a pivotal force in accelerating urgently needed environmental progress. With additional financial support, SkyTruth can rapidly scale its impact by providing powerful data analysis capabilities to those best positioned to create transformative change. SkyTruth's work contributes to the transition towards clean energy, addresses chronic pollution issues, and supports efforts to achieve ambitious global biodiversity targets.

Our Vision for 2025

Mitchelle De Leon
CHIEF IMPACT OFFICER

In 2024, SkyTruth made significant strides in leveraging satellite technology, AI, and open data to expose hidden environmental threats. We expanded our impact, empowering advocates, journalists, and policymakers with the tools to drive accountability for polluters and inform conservation decisions worldwide.

As we look ahead, SkyTruth's mission remains unwavering: leveraging geospatial technology to expose environmental harms and empower action.

The political climate poses challenges for environmental protection, with many regulations being weakened or removed, while fossil fuel production is projected to increase to levels that could more than double what's needed to limit global warming to 1.5°C by 2030. Despite these headwinds, climate action and biodiversity protection are more important than ever. The environmental movement must have accurate, freely available tools to confront the impacts of fossil fuels head-on.

We remain committed to scaling our ability to make environmental destruction visible, measurable, and actionable. Our focus in the year ahead will include:

- **Scaling Our Role as an Accelerator of Change**: We will continue driving real-world action, partnering with grassroots organizations, journalists, researchers, and policymakers to ensure that SkyTruth's tools and insights translate into measurable environmental wins.
- **Expanding Transparency on Oil and Gas Pollution**: We will enhance Cerulean's pollution detection capabilities and develop investigations to hold polluters accountable.
- **Deepening Our Involvement in Biodiversity Protection**: With global momentum behind 30x30, we will refine and expand our 30x30 Progress Tracker, ensuring that decision-makers and civil society have access to high-quality data to monitor conservation commitments.
- **Building a More Impactful SkyTruth**: To sustain and scale our work, we will target our investments in partnerships, technology, and capacity building to ensure that SkyTruth remains a trusted leader in environmental transparency.

The challenges ahead demand bold action, and we're ready to meet the moment. SkyTruth remains a steadfast independent watchdog, providing the transparency and accountability needed to protect ecosystems and communities. With your support, we will continue turning data into impact.


SkyTruth
skytruth.org