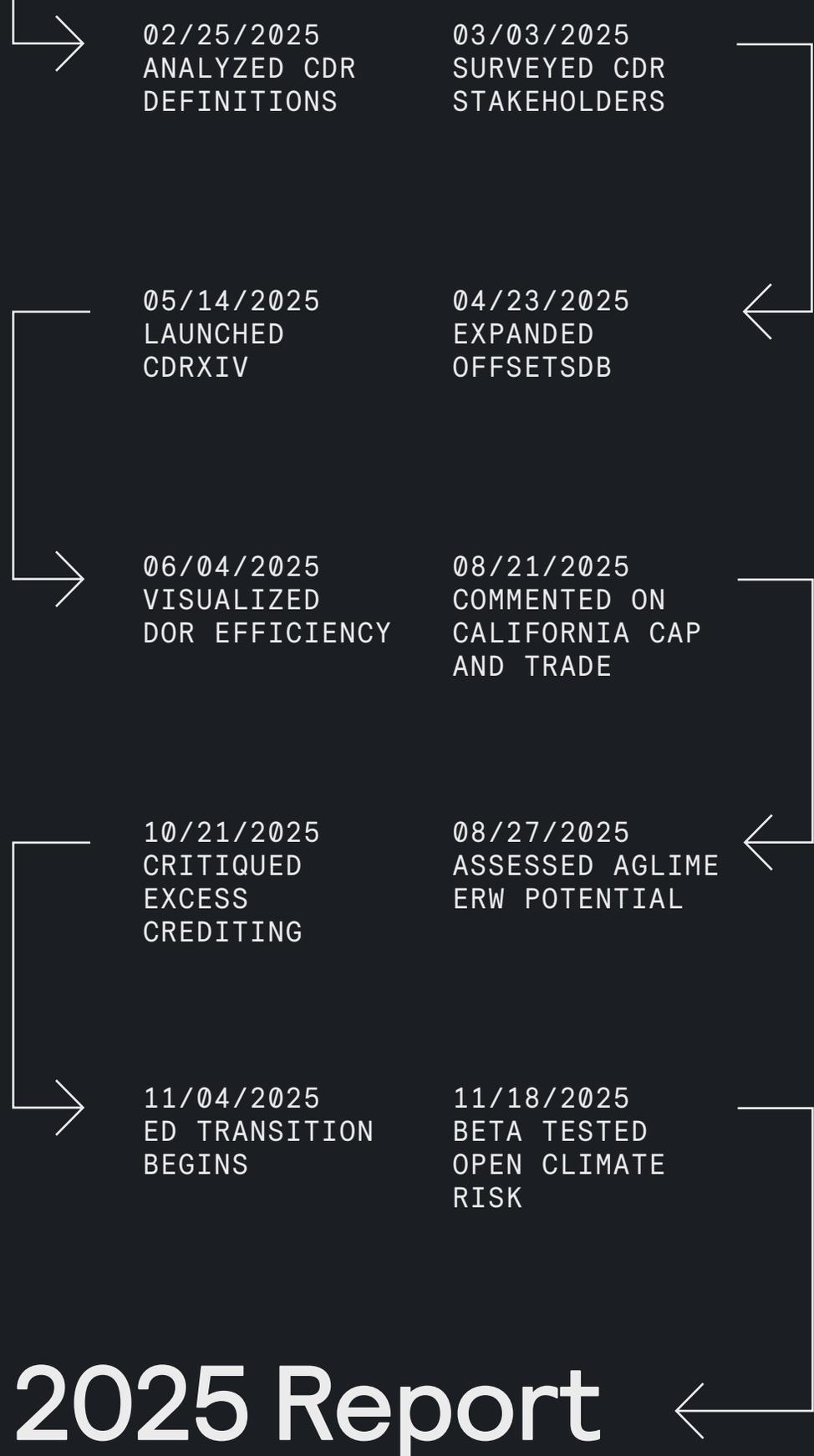


(carbon) plan



2025 Report

To our supporters

Last year, as we wrote our annual letter, we didn't know what 2025 would bring.

Once it began, the dismantling of public infrastructure for the sciences and climate-related services was swifter and more dramatic than many expected. After assessing the new landscape, we decided that our best contribution, for now, is through our core work. So we've continued to do research that both speeds climate solutions, and interrupts overblown ones with accountability. And we've continued to build models, datasets, and tools that increase open access to important, actionable science.

As the year went on, we saw some resilient interest in nature-based solutions, and continued investment, though less media interest, in international carbon markets. In response, we released new tools and analyses for open system carbon removal, aimed both at speeding science and bringing nuance to credit conversations. As momentum shifted from federal and corporate actors to the states, we also took deep dives into offsetting accounting that threatens the long-term sustainability of innovative state cap-and-trade programs.

Disinvestment in environmental protection, disaster preparedness, and basic data collection has been interspersed with impossible to ignore climate impacts — including tragic wildfires and flooding — and growing public awareness of the intersection of

climate change and housing affordability. We continued to track the related rise of the proprietary climate analytics industry, and moved decisively towards creating an open, public alternative. We'll share more soon on this, in the new year.

We're also looking with excitement, and full hearts, towards our upcoming director search. In October, I (Jeremy) gave up my staff role as Executive Director, a post I've held since CarbonPlan was founded, in order to help launch an organization in another sector. And I (Tracy) stepped up from Deputy Director to Interim Executive Director, to steward the organization through the transition. We're excited to work alongside the board, which Jeremy continues to lead as Chair and President, and the staff, with their deep expertise, to define CarbonPlan's evolving leadership.

As we move into the new year, we're energized to keep building what only an independent climate science nonprofit can. Thank you for making this work — and this way of working — possible.

Sincerely,



TRACY AQUINO ANDERSON
INTERIM EXECUTIVE DIRECTOR

JEREMY FREEMAN
BOARD CHAIR AND PRESIDENT



What we do

The world of climate solutions right now is a mix of urgency and avoidance — we have billion-dollar disasters, agency closures and mass layoffs, and a climate intelligence boom all at once. With so much in flux, the opportunities for positive impact are significant. But there's also more risk than ever that we'll move forward without scientific grounding, locking scarce time and resources into false solutions. CarbonPlan is a nonprofit on a mission to bring more transparency, accountability, and clarity to this complex present so we can look forward to a better future.

We've been focusing on three areas: carbon removal, climate impacts, and carbon offsets. All three represent complicated, scaling industries that need improved oversight, established scientific standards, and transparency to ensure that solutions are accountable to the public. CarbonPlan's team collects data, runs analyses, and creates tools that can help lawmakers, scientists, and the public double down on the climate solutions that really work — and avoid the ones that don't.



We **advocate** for transparent and **accessible** climate information, and build software tools and datasets to support that goal.

We hold governments and corporations **accountable** to outcomes that reflect the best-available **science**.



We **help** stakeholders make more-informed **decisions** about climate change mitigation and adaptation.

Who we are

Team



ANDERSON BANIHIRWE
Software Engineer



KATA MARTIN
Product Lead



BECKY HURST
Operations Lead



MAGGIE KOERTH
Editorial Lead



CHRIS ALLEN
Policy Analyst



ORIANA CHEGWIDDEN
Research Scientist



CLAIRE ZARAKAS
Research Scientist



RAPHAEL HAGEN
Data Engineer



FREYA CHAY
Program Lead



SHANE LOEFFLER
Software Engineer



GRAYSON BADGLEY
Research Scientist



TRACY AQUINO ANDERSON
Interim Executive Director



JEREMY FREEMAN
Co-founder



TYLER KUKLA
Research Scientist

Board



ARJUNA DIBLEY
U. of Singapore



JEREMY FREEMAN
CarbonPlan Co-founder



GERNOT WAGNER
Columbia Business School



TRACY TEAL
openRxiv



KELLY GANNON
National Domestic
Workers Alliance

What we did

Articles + posts

Scaling enhanced weathering in limed fields [↗](#)

We explored how modifying liming for carbon removal works — and whether markets are the best way to fund it.

PAGE 08

Mapping the efficiency of direct ocean removal [↗](#)

We collaborated with [C]Worthy to build a tool for investigating where a marine carbon removal approach called direct ocean removal is most efficient.

PAGE 08

Stakeholder views on independent CDR protocol review [↗](#)

We conducted a stakeholder survey showing broad support for independent review of CDR protocols, though views diverge on the desired scope and function of such a review.

PAGE 10

A letter from our Board President and Chair [↗](#)

Jeremy Freeman reflected on CarbonPlan's first six years, and his transition to a Board-only role.

PAGE 02

California's forest offsets program has a reporting problem [↗](#)

We documented a concerning long delay in reporting the carbon consequences of the 2020 Lionshead Fire.

PAGE 10

Building CDRXIV in the open [↗](#)

We described the open source tools that we used to build CDRXIV, a preprint server for sharing research and data on carbon dioxide removal.

PAGE 09

This fire season promises to be rough.

We're tracking its impact on offsets. [↗](#)

We announced the annual launch of our forest offsets tracking tool for the 2025 fire season.

PAGE 10

Workshop notes: Accounting for aglime in enhanced rock weathering [↗](#)

We held a workshop on accounting for counterfactual liming in enhanced weathering crediting protocols.

PAGE 08

Introducing CDRXIV: A preprint server and data repository for CDR [↗](#)

We launched a new platform for openly sharing research results on carbon dioxide removal.

PAGE 09

We've added retirement user and project type data to OffsetsDB [↗](#)

We expanded our database of offset data with searchable project types and details about who is using offset credits.

PAGE 10

What we did (cont.)

Posts (cont.)

New accounting rules blur the line between decarbonization and carbon dioxide removal ↗

We examined Isometric's new protocol for wastewater alkalinity enhancement and argued it risks counting decarbonization as carbon dioxide removal. PAGE 10

Dynamic baselines close an offsets loophole, but we still need to know where the trees are ↗

We discussed a worrying trend in the carbon market where projects fail to disclose their precise location, which undermines third-party market oversight. PAGE 10

We're thinking differently about carbon removal ↗

We connected two pieces we wrote discussing which real-world activities should "count" as carbon removal, and explained how our thinking evolved over the last year and a half of debate. PAGE 10

New data added to the Compliance Users tool ↗

We updated the Compliance Users tool to include the latest available cap-and-trade program data about who used which offsets in 2024. PAGE 10

Commentary

Verra doesn't have a good solution for excess crediting ↗

We explained the inadequacies in how the world's largest registry proposes to address the existence of millions of excess credits it issued to the Kariba offset project. PAGE 10

Offsets are no free lunch ↗

We described how offsets provide few climate benefits and cost California hundreds of millions of dollars each year, urging lawmakers to eliminate their use. PAGE 10

"What is CDR?" is the wrong question ↗

We summarized the ongoing debate around what "counts" as CDR, highlighting the trade-offs of each proposed definition, suggesting an alternative framework for making effective CDR investments. PAGE 10

Comments to the California Air Resources Board on SB 905 implementation ↗

We provided initial input to the California Air Resource's Board about the scope and focus of their new Carbon Capture, Removal, Utilization, and Storage program. PAGE 10

What we did (cont.)

Commentary (cont.)

Comments to the Washington State Department of Ecology on the US Forest Protocol [↗](#)

We highlighted shortcomings in the science behind the design of Washington State's proposed forest offsets program. [PAGE 10](#)

Additional comments to the Washington State Department of Ecology on the US Forest Protocol [↗](#)

We shared scientific research that demonstrates how the proposed offsets program is vulnerable to future legal challenges. [PAGE 10](#)

Verra should address its hydropower offsets problem [↗](#)

We argued that a growing supply of hydropower offsets demonstrate the need for market reforms that proactively identify, and eliminate, low-quality credits. [PAGE 10](#)

Data + tools

CDRXIV [↗](#)

We built and launched a new preprint server for freely sharing research and data on carbon dioxide removal. [PAGE 09](#)

OffsetsDB [↗](#)

We added retirement and project type data to our searchable database of offset information from five of the largest registries. [PAGE 10](#)

DOR Efficiency Atlas [↗](#)

We collaborated with [C]Worthy to build an interactive tool for exploring the efficiency of direct ocean removal. [PAGE 08](#)

Open system CDR



Illustration from our explainer article about scaling enhanced weathering in limed fields.

Open system carbon dioxide removal (CDR) approaches harness natural processes to remove CO₂ from the atmosphere. These strategies are especially promising due to their potential for large-scale impact and relatively low costs — but they remain highly uncertain. This year our team focused on both novel research and making the best available science accessible and interpretable to everyone. We built a modeling framework for enhanced rock weathering (ERW) that allows us to simulate entire enhanced weathering deployments across space and time, from sourcing the rock to storing the CO₂ in the ocean. Using this framework, we compared silicate (a standard ERW material) with aglime (a common agricultural input) across a range of soil conditions. Contrary to conventional wisdom, our results show that aglime can, in some cases, deliver more carbon removal than silicate. We shared these results in a preprint and an accompanying article. The trade-offs between novel ERW deployments and pre-existing liming practices mean that markets alone may not be able to maximize the climate benefits of spreading rocks on agricultural fields, highlighting the need for alternative funding mechanisms. We also co-hosted a workshop with Stripe and Cascade Climate on accounting for pre-existing liming in ERW crediting. The workshop cemented a new consensus that the liming counterfactual must be explicitly considered, and that assuming liming is always a source of emissions is no longer acceptable. On the ocean front, we collaborated with the nonprofit research group [C]Worthy to create an interactive map and accompanying explainer showing how the results of direct ocean removal (DOR) can change depending on where and when it's performed.

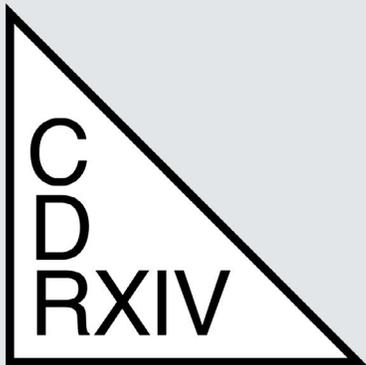
[ENHANCED WEATHERING PREPRINT ↗](#)

[ENHANCED WEATHERING EXPLAINER ↗](#)

[DIRECT OCEAN REMOVAL TOOL ↗](#)

[DIRECT OCEAN REMOVAL EXPLAINER ↗](#)

A new preprint server



Preprints and Data for Carbon Dioxide Removal

Banner advertising CDRXIV.

If we're going to learn as fast as we need to, the carbon dioxide removal (CDR) community needs to embrace open science principles, including sharing work early and openly. This year, we launched CDRXIV, a new platform for sharing CDR research and data, modeled on preprint servers in other fields. Preprints are early versions of scientific papers posted online before formal peer review, accelerating the scientific conversation — sometimes by years — and creating a public copy accessible even if the research is later published behind a paywall. While some researchers already use existing preprint servers, CDR is highly interdisciplinary, and work is scattered across platforms. CDRXIV is an experiment: could centralizing CDR preprints improve findability and encourage open science norms? Recognizing that companies drive much of CDR research but often lack incentives to publish papers, we also built CDRXIV to make sharing standalone datasets easy. CDRXIV launched in May 2025, with a board of external advisors and volunteer expert reviewers to support the submission process. The platform grew to 33 submissions by the end of the year, and, in its second quarter of existence, we believe it received more CDR preprint submissions than any other preprint server. In order to continue to shape CDRXIV to meet the needs of the community, we hosted gatherings at AGU and other conferences, and are laying the groundwork to assess whether it is helping accelerate learning in CDR.

[CDRXIV](#) ↗

[CDRXIV
ANNOUNCEMENT](#) ↗

Carbon market oversight



Illustration from our explainer article about OffsetsDB.

Although the carbon market made few headlines this year, proponents of both new and old forms of offsetting continued to advocate for their adoption, with real-world consequences for climate action. Accordingly, we've continued to provide science-based oversight and analysis of carbon accounting. First, we released a significant update of OffsetsDB, our open database of offset projects and credits. This extension allows users to search for companies by name and bring up all known offset projects associated with that company, enabling investigation of the quality of credits underlying specific sustainability claims. We've also continued to uncover how things can go wrong in offset programs. In particular, we focused on forests and why they're unreliable. We engaged with Washington State's process of establishing a new forest offset protocol, including serving on the State's Forest Offset Technical Working Group, and providing multiple rounds of comment. We also pointed out examples of serious risks that are introduced by the human systems underpinning offsets. Specifically, we examined Verra's proposed remedy for the 15 million credits they acknowledge don't represent climate benefits, and pointed out that the excess crediting problem is likely much larger. Finally, we weighed in on high-integrity carbon accounting for long-duration carbon dioxide removal, flagging challenges in distinguishing removals from avoided emissions in protocols like Isometric's wastewater alkalinity enhancement, and providing early input to California's Carbon Capture, Removal, and Storage program, which we expect will set a precedent for other jurisdictions.

[OFFSETSDB
UPDATES ↗](#)

[OFFSETSDB
EXTENSION POST ↗](#)

[BLOOMBERG
ARTICLE ↗](#)

[OREGON CAPITAL
CHRONICAL
ARTICLE ↗](#)

[CAP AND TRADE
COMMENTARY ↗](#)

[VERRA
COMMENTARY ↗](#)

Climate impacts data



Subset of map showing wildfire risk to buildings in the contiguous United States.

As climate impacts become increasingly visible, the demand for risk data is growing rapidly. Private climate analytics companies have gained traction in real estate, insurance, and other markets, but the data products they sell are expensive, opaque, and unvetted. Last year we established that these companies can produce substantially different estimates of the same underlying risks, casting doubt on the legitimacy of any single risk assessment. In 2025, we continued to share this analysis with journalists, and participated in roundtables examining the intersection of risk data and concerns around rising insurance costs. We also joined rapid-response, coalition-led discussions on threats to federal datasets, and our team member was one of the National Climate Assessment contributors who, after being dismissed en masse, continued the work as an independent group of authors. In a time of disappearing funding for public data, and increasing privatization, we've prioritized developing unique new climate impacts datasets for open use and evaluation. One of these extended our extreme heat dataset to cover cities in Central Asia, and was used to underpin a report issued by the World Bank in June. Another — a wildfire risk model — is the basis for Open Climate Risk, a platform which will provide building-level risk estimates for the contiguous United States. Currently in closed beta testing, its wildfire model will be released in 2026, with the dataset and methods fully open, inspectable, and usable by anyone.

[CNN ARTICLE ON RISK DATA ↗](#)

[JOURNALIST'S RESOURCE GUIDE TO RISK DATA ↗](#)

[WORLD BANK REPORT ↗](#)

Open source tools



Example map demonstrating our approach of rendering GeoParquet data directly in a webmap.

Open source software is the basis, and the result, of all of our work at CarbonPlan. While we publish code for all technical projects, a couple open source contributions stand out this year. First, CDRXIV, our preprint server for research on carbon removal, includes features that are new in the preprint server space, such as the ability to host standalone datasets, and its distinct, user-friendly design. Our team worked closely with Janeway, an open source scholarly publishing platform, on their new API, creating features that can be reused by other groups building a customized preprint server. Second, we updated our open source library for visualizing multidimensional Zarr data on the web, @carbonplan/maps, to accept any version of the web mapping applications MapLibre or Mapbox, instead of requiring a specific version of Mapbox GL JS. We hope this allows a far wider variety of organizations to incorporate Zarr data into their applications. This year we also presented at the Cloud Native Geospatial Conference on new ways we are using GeoParquet; contributed to VirtualiZarr; and prototyped creating efficient, virtualized Zarr access to CMIP6 datasets. In January, we wrapped up our multiyear project with NASA building capacity for Python-based machine learning applications in the earth sciences. And throughout the year we provided technical assistance to Columbia University's Learning the Earth with Artificial Intelligence and Physics (LEAP) center.

[BUILDING CDRXIV IN THE OPEN ↗](#)

[MAPPING LIBRARY GITHUB ↗](#)

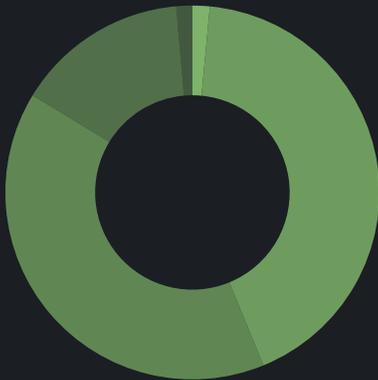
[GEOPARQUET PRESENTATION ↗](#)

Finances

We are committed to financial transparency, and to maximizing the impact of our generous donors. Here we provide preliminary data on our 2025 revenue and expenses by category. Final data will be released in 2026 as part of our public 2025 tax filings.

Revenue

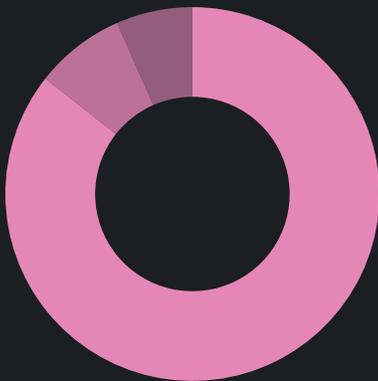
\$4,509,962



- Project-specific (contracts) (1.4%)
- Project-specific (grants + in-kind) (41.1%)
- Unrestricted (individuals + other revenue) (41.8%)
- Unrestricted (foundations) (14.4%)
- Consulting (1.3%)

Expenses (by type)

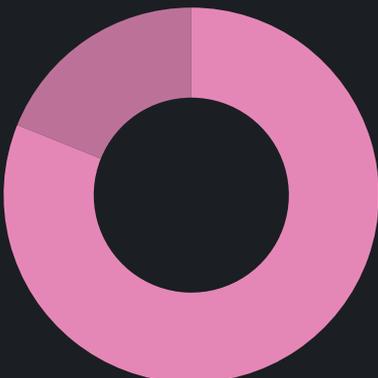
\$3,230,652



- Staff (salary + benefits) (86.0%)
- Services (legal + design + consulting) (7.1%)
- Operations (computing + SaaS) (6.9%)

Expenses (by area)

\$3,230,652



- Program work (81.1%)
- Administration and fundraising (18.9%)
- Decision support (0.0%)

Thank you

Our work would not be possible without the generous support of our donors and partners. Here we provide a list of funding sources in 2025 greater than \$1,000, all of which are included in the totals listed previously. Some funding in 2025 supported projects that were not completed or announced in 2025. Those sources are included in our 2025 revenue totals, but not listed below, and will be in next year's report.

See carbonplan.org/funding for an up-to-date list reflecting all funding sources.

Unrestricted

ADAM WINKEL + ABIGAIL WINKEL
 VALLEJO VENTURES TRUST
 COLIN RUST + JEANNIE TSENG
 PAMELA MENSCH
 JOHN WOLTHUIS
 JACOB TREFETHEN

MICHAEL TUCKER + RACHEL TUCKER
 ROBERT PARKE + MARTHA PARKE
 VANGUARD CHARITABLE
 AMBROSE CARR +
 SHARONMOYEE GOSWAMI
 ELIZABETH + JAMES BATSON FUND

Project-specific

WORLD BANK
 RHODES TRUST HORIZON FUND
 [C]WORTHY
 NASA
 PATRICK J. MCGOVERN FOUNDATION
 COLUMBIA UNIVERSITY
 CARBON MARKET WATCH
 GIVING GREEN
 (VIA GIVING WHAT WE CAN)

Extreme heat dataset extension
 Schmidt Science Fellowship grant
 OAE Efficiency Atlas + DOR Atlas
 Pangeo ML
 Open Climate Risk + OffsetsDB + CDRXIV
 LEAP
 CRCF methodologies review
 Moving CDR beyond the market assumption