



CONTRACTS
FOR DATA
COLLABORATION

UN ENVIRONMENT AND GOOGLE PARTNERING TO MONITOR GLOBAL SURFACE WATER

A Case Study by SDSN TReNDS for C4DC



THIS CASE STUDY DOCUMENTS A SUCCESSFUL DATA SHARING AGREEMENT BETWEEN A PRIVATE COMPANY AND AN INTERNATIONAL ORGANIZATION DEALING WITH GLOBAL ENVIRONMENTAL DATA. GOOGLE AND UN ENVIRONMENT SIGNED A MEMORANDA OF UNDERSTANDING (MOU) IN 2018 THAT FORMALIZED THEIR COLLABORATION AROUND MEASURES OF SURFACE WATER. INFORMED BY INTERVIEWS WITH THE PARTIES AND THE ACTUAL AGREEMENT TEXT, THIS CASE STUDY DESCRIBES HOW THE MOU WAS NEGOTIATED AND HIGHLIGHTS KEY ELEMENTS FROM THE MOU. THE COMPLETE MOU CAN BE FOUND ON THE CONTRACTS FOR DATA COLLABORATION REPOSITORY AT [CONTRACTSFORDATACOLLABORATION.ORG](https://contractsfordatacollaboration.org).

ABSTRACT

In 2018, UN Environment and Google teamed up to create a global indicator of surface water that has now been incorporated into official Sustainable Development Goal reporting. The collaboration built on satellite derived measures of surface water produced by Google and the European Commission Joint Research Center, filling important data gaps for UN Environment. Although the collaboration involved publicly available data, the partners decided to form a memorandum of understanding, in part to show countries that the data was created through a partnership, and also to secure a long-term commitment to data sharing between Google and UN Environment. The agreement was kept general to provide flexibility, but it served to define the intent of the collaboration, commit to make data products publicly available, and indicate areas of primary responsibility, as well as to clarify the duration of the collaboration and to explain that there was no preferential treatment involved. The project was also enabled by a mutual spirit of cooperation and a collaboratively-developed work plan.



BACKGROUND TO COLLABORATION:

Following on the creation of the Sustainable Development Goals in 2015, the United Nations Environment Program (UN Environment) was made the custodian for 26 key sustainability indicators on a range of issues, including water, resource consumption, and biodiversity. Senior Management at UN Environment realized the need for additional capacity to meet this obligation, so a unit on SDG indicators and environment statistics was formed. The unit is led by Chief Statistician Jillian Campbell, who said “We had no idea how we were actually going to make this happen, so we started looking for people who were already doing work that we could take on board, that we could use, that we could develop a methodology around.”

In particular, UN Environment was tasked with monitoring SDG target 6.6, which states “By 2020 protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes”. Indicator 6.6.1 – the only indicator under target 6.6 – says to measure the “Change in the extent of water-related ecosystems over time”. UN Environment dissected this into sub-indicators that address the extent of water bodies, water availability and flow, the extent of water related ecosystems, and the health of water bodies and ecosystems. After surveying National Statistical Offices, UN Environment found that only around forty countries reported having data relevant to these topics, and available data was not necessarily comparable (Campbell, 2019). While continuing to work with countries on developing statistical capacity at the national level and supporting the use of data in water policy, UN Environment recognized the need for global data products that could help fill knowledge gaps. As Campbell explained, UN Environment concluded “We need to develop a product that we can use when countries don’t have anything, when they’re still trying to get their system up and running. We’re never going to be able to provide enough capacity building in countries so that every country is able to monitor the things that they need to monitor if they want to understand water.”

At this same time, Google had collaborated with the European Commission Joint Research Center (JRC) to create the [Global Surface Water Explorer](#). This tool drew upon Landsat data and used Google’s computing infrastructure to [map surface water around the world](#) at a 30m resolution between 1984 and 2015. The work was a product of the Google Earth Outreach team. As Brian Sullivan, a program manager with Earth Outreach, explained, “...we’re dedicated to saying how do you leverage Google’s infrastructure, cloud computing, big data, machine learning, and people to address humanitarian, public health, and environmental and conservation issues? There’s a mandate within this small team at Google to push these projects forward, and we generally do this by partnering with other organizations that either have scientific, policy, or vertical expertise in those areas.” Leveraging the Google Earth Engine platform, the Earth Outreach works with academics and researchers to generate insights from remote sensing and satellite imagery. Using established connections with the European Space Commission, UN Environment reached out to Google and explained their interest in using the existing Global Surface Water Explorer for SDG monitoring. Google welcomed the opportunity, and as Sullivan said, “*We were very excited to move it beyond a data product and to a broader program that collaborated with member countries.*”

NATURE OF THE PARTNERSHIP AND TYPE OF AGREEMENT:

Data from the Global Surface Water Explorer had already been made freely available under a liberal license that allowed for public access, but both parties still found it valuable to produce a signed agreement. The parties decided to create a memoranda of understanding (MOU), which is UN Environment's preferred form of agreement for partnerships that do not involve an exchange of money. As Sullivan commented, *"it wasn't so much about saying the data was going to be made available, because the data was already freely available. It was more about saying that UN Environment and Google were committing to work together to address Sustainable Development Goals, starting with this example in water by making it more digestible and impactful for countries."* Having a formalized relationship was beneficial for UN Environment, because it allowed member countries to approach the private-sector collaboration with greater trust, knowing that UN Environment had already performed due diligence. An MOU also allowed Google to clarify that it was not making political or policy recommendations. But was instead entrusting stewardship of the data to other multilateral organizations. Sullivan noted that this was something of an exceptional arrangement, *"Generally, Google does not do many MOUs, but this was a particular case where we saw a clear value, so we were willing to accommodate what was needed."*

Building on initial email correspondence, Google and UN Environment held high-level discussions on the sidelines of a conference in late 2017. The parties discussed necessary steps and the assignment of roles and responsibilities, and then committed to form a legal document. Before creating an MOU, though, they wrote out a detailed work plan. UN Environment has a generic template that is used for managing all relationships, and Campbell completed this form to produce a first draft of the MOU. She then shared the draft with Google for comment. Only once they had a document that they were both comfortable with did they send it to their respective internal legal teams. The legal teams then made redline edits and suggestions, which were generally minor. Meanwhile, UN Environment performed a due diligence of Google according to UN protocol, while Google worked across its internal approval processes.

In total, actually negotiating and completing the MOU took approximately four months. The final document was only five pages long. It was then signed and announced in connection with the 2018 UN High Level Political Forum.

KEY ASPECTS OF THE AGREEMENT:

The focus of the MOU is on capturing the spirit of the collaboration, rather than detailing lengthy terms and conditions. The original draft of the MOU included more material from the internal work plan, yet as Campbell described, "...the legal team did have some problems, especially the one from Google when it was too specific, and so we then loosened it up." Sullivan explained that "the goal of it was to make it broad enough to cover this project, but give us the flexibility to expand in other areas without having to go through lots of internal and legal processes every time." This intention is clearly reflected in Article 2 on Areas of Cooperation:

"AS A PROOF OF CONCEPT, THE PARTIES WILL INITIALLY FOCUS ON SUSTAINABLE DEVELOPMENT GOAL TARGET 6.6" PROTECT AND RESTORE WATER-RELATED ECOSYSTEMS, INCLUDING MOUNTAINS, FORESTS, WETLANDS, RIVERS, AQUIFERS AND LAKES", THROUGH A PARTNERSHIP WITH UN ENVIRONMENT AS CUSTODIAN AGENCY, AND PERIODICALLY PRODUCING GEOSPATIAL MAPS AND DATA ON WATER-RELATED ECOSYSTEMS. ADDITIONAL SPECIFIC AREAS OF COLLABORATION MAY BE ADDED MOVING FORWARD."

Specificity was added separately through the work plan, which was referenced later in the MOU under Article 5 on Implementation:

"THE PARTIES WILL WORK OUT A PLAN ENVISAGED UNDER THIS MOU INCLUDING SPECIFIC ACTIVITIES PROJECTS AND PROGRAMMES, WHOSE DEFINITION AND IMPLEMENTATION SHALL BE SUBJECT TO DETAILED SEPARATE AGREEMENTS, IN ACCORDANCE WITH ARTICLE 1."

- Clarifying the lack of preferential or financial partnership

Given Google's ethics and compliance standards, the company must avoid even the appearance of having financial transactions with governments. As a result, the MOU had to clearly state that this was not a financial partnership and that no preferential treatment was involved:

"THIS MOU SHALL NOT REPRESENT ANY COMMITMENT ON THE PART OF EITHER PARTY TO GIVE PREFERRED TREATMENT TO THE OTHER IN ANY MATTER CONTEMPLATED UNDER THIS MOU OR OTHERWISE. THE DEFINITION AND IMPLEMENTATION OF ANY SUBSEQUENT SPECIFIC ACTIVITIES, PROJECTS AND PROGRAMMES PURSUANT TO THIS MOU, INCLUDING THOSE INVOLVING THE TRANSFER OF FUNDS BETWEEN THE PARTIES, SHALL BE SUBJECT TO SEPARATE AGREEMENTS THAT MAY BE ENTERED INTO BETWEEN THE PARTIES UNDER THIS MOU. ... NOTHING IN THIS MOU SHALL BE DEEMED TO CONSTITUTE A JOINT VENTURE, AGENCY, INTEREST GROUPING OR ANY OTHER KIND OF FORMAL BUSINESS GROUPING OR ENTITY BETWEEN THE PARTIES."

- Making data products publicly available

The MOU also had to make clear that data products would not be subject to any additional licenses, but would instead be made publicly available. This is explained under Article 2:

"TO ENSURE HOLISTIC MONITORING OF THE ENVIRONMENTAL DIMENSION OF SUSTAINABLE DEVELOPMENT, THE PARTIES ALSO AGREE TO COLLABORATE IN TERMS OF DATA DISSEMINATION AND VISUALIZATION. UNDER THIS AREA OF COLLABORATION, THE PARTIES AGREE TO MAKE DERIVED DATA PRODUCTS OF THE COLLABORATION PUBLIC AND FREELY AVAILABLE (WHEN POSSIBLE BASED ON THE LICENSE OF INPUT DATASETS, OTHER PARTNER RESTRICTIONS AND GOOGLE'S COMMERCIALLY REASONABLE EFFORTS) IN THE SPIRIT OF OPEN DATA AND USING STANDARD FORMATS FOR DISTRIBUTION WHEN POSSIBLE. THE DERIVED PRODUCTS WILL BE AVAILABLE FOR VISUALIZATION AND DOWNLOADING WITHIN THE RESPECTIVE DIGITAL ECOSYSTEMS OF BOTH GOOGLE AND UN ENVIRONMENT."

• Clarifying the partnership duration

Additionally, the parties needed the MOU to last for a sufficient length of time. As Sullivan explained, “we want to make sure that the term of the deal was long enough to see us through this initial project. Generally, we want to set it to auto-renew so that we don’t have to go through this process, but both parties have the ability to cancel as needed given notice.” This is described under Article 10 on Term, Termination, Amendment:

“THIS MOU SHALL HAVE AN INITIAL TERM OF THREE YEARS AND RENEW AUTOMATICALLY STARTING FROM THE DATE ON WHICH IT IS DULY SIGNED BY BOTH PARTIES, UNLESS TERMINATED EARLIER BY MUTUAL CONSENT OR BY EITHER PARTY UPON THREE MONTHS’ NOTICE IN WRITING TO THE OTHER PARTY.”

• Establishing the principle of consultation and collaboration

The MOU begins to spell out responsibilities for the parties, but more importantly, it describes the collaborative approach that they are to pursue. There are several instances where the parties have the ability to agree on specifics after signing, as with Article 6 on Acknowledgement of the Partnership:

“THE PARTIES AGREE TO RECOGNIZE AND ACKNOWLEDGE THIS PARTNERSHIP, AS APPROPRIATE. TO THIS END, THE PARTIES SHALL CONSULT WITH EACH OTHER CONCERNING THE MANNER AND FORM OF SUCH RECOGNITION AND ACKNOWLEDGEMENT, INCLUDING THE USE OF THEIR NAME AND LOGOS”

- Although the MOU remains general, it does lay out the initial areas for collaboration. Article 2 states that “all activities will be done in partnership”, but the parties are assigned different areas of primary responsibility. Google committed to provide visualizations and easy data downloading options of the Global Surface Water Explorer. Meanwhile, UN Environment took on data use training, advocacy and capacity building activities with national-level stakeholders, and coordinating collaboration with other partners.

OUTCOMES AND LESSONS:

Following on the project announcement, Google and UN Environment collaborated together to create a user interface for easy exploration of the surface water map. The parties held an initial preview of the tool at the UN World Data Forum in Dubai in October 2018, and then they launched it more broadly at the UN Environment Assembly in Nairobi in March 2019. The online resource is available at www.sdg661.app. Google has been present at these international events along with UN Environment to help present the project and interface with member countries. Google has also provided technical expertise and guidance, as well as making computing and storage capacity available for the collaboration.

Since its launch, the collaboration has empowered both global SDG monitoring and national-level action. Considering the project's success, Campbell said *"this is the only example of this, where the data is officially going into the SDG reporting. If you look at the Global database on the SDGs, the data under this partnership shows up in that Global database...this is officially being used to report into the SDGs. I think that's kind of amazing. And, we get a lot of questions from countries on this data and how they can use it."* Notably, the fresh water data has been tested by [Namibia Statistics Agency](#) and [Statistics Canada](#), and the United Kingdom is helping with pilot applications in Kenya and South Sudan (Campbell, 2019). Moreover, the tool is now used by UN Environment staff that provide SDG and water related policy advice. Sullivan agreed on the project's success, saying *"This was a really striking case where UN Environment was able to bring a scale and an outreach to something that Google is not in a position to do. UN Environment has a mandate and direct relationships across 194 countries for training, capacity building, and development, so the whole nature of the partnership works so well."*

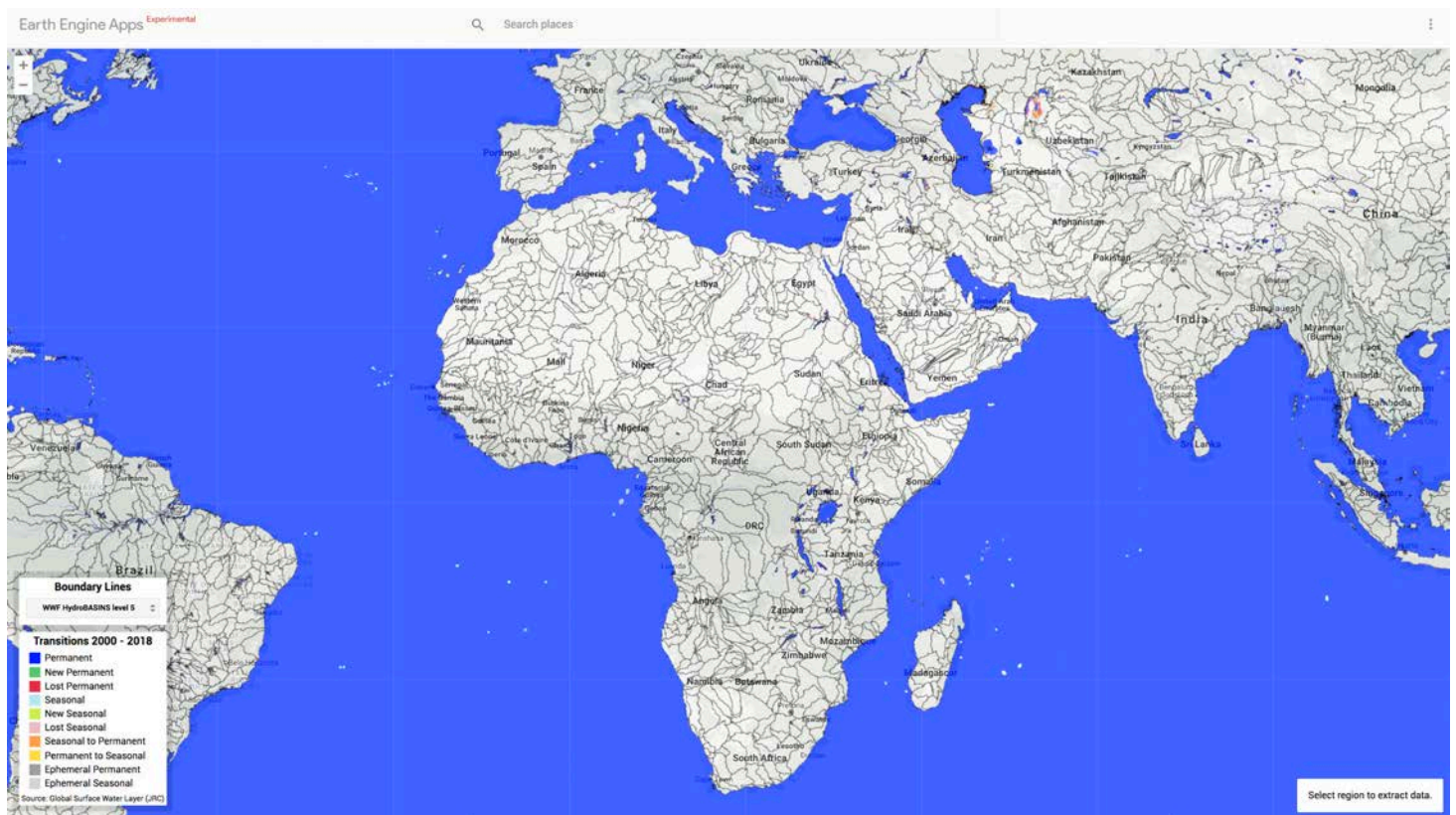


Illustration of the Surface Water Viewer depicting water dynamics between 2000 and 2018

The MOU between Google and UN Environment and their collaborative experience more generally provides useful insights:

- Creating a more general data sharing agreement can actually allow for greater flexibility and support future collaboration.
- An agreement can describe the purpose and responsibilities of a collaboration and leave the description of specific tasks to a separate, non-binding work plan.
- Even when data is publicly available, an MOU can help the external perception of a data collaboration. For example, this MOU states that there is no preferential treatment between the parties, and it shows other data users that the necessary due diligence has been performed.
- An MOU provides structure to a relationship. The parties committed to a three-year agreement and have continued to work together.
- Willingness to cooperate can be more important than a signed agreement itself. The MOU was a necessary step in the collaboration, but the success was determined more by the shared commitment by the parties and their internal work plan. Campbell explained that *“the other thing that made it work, if I’m just honest, is that we wanted it to work. ... the work plan that we had, the timelines and the deliverables and what exactly we were going to do, that’s not really captured in the MOU. So either party could have walked away from the work plan at any point. We committed to the work plan without the MOU basically. The MOU is something we wanted to have to show the partnership, but it’s not really what caused us to commit to one another.”*

Google and UN Environment remain in regular communication, and they have been in conversation about how to expand on their collaborative work. Along with other research partners, they have been considering how the same methods could be extended to measures of water quality, Mangrove extent, reservoirs and other areas. Sullivan said, “We saw it as an early prototype. It’s proven very well, so we’re looking to scale it out.”

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