

HYPERALLERGIC

Sensitive to Art & its Discontents

A Visual Search Engine for the Aerial Patterns of Cities

by [Claire Voon](#) on July 6, 2016



Pools in Pittsburgh (all images screenshots by the author)

Thanks to a small team of artists and coders, you may now explore cities through patterns of infrastructure as captured in aerial photography. [Terrapattern](#), developed at the Carnegie Mellon [Frank-Ratchye STUDIO for Creative Inquiry](#), is the first open-access visual search tool for satellite imagery. It is currently available for Pittsburgh, San Francisco, New York City, Detroit, Austin, Miami, and Berlin. This means you may scan these cities' landscapes for common forms of your particular interest that are not conventionally labelled on a map: circular backyard pools or cul-de-sacs, perhaps, or even dilapidated nautical wrecks. All you have to do is find the tile of topography that intrigues you, and dozens of search results of similar views will arrive courtesy of machine learning algorithms trained to sift through images from [OpenStreetMap](#). You can then export these images as a geographic text file.

There is an alluring and satisfying poetry in the composite images formed by the results of scattered sites brought together, but you're probably wondering what useful purpose Terrapattern might serve. STUDIO for Creative Inquiry's director and new-media artist, [Golan Levin](#), who headed the project, emphasizes that the team did not create Terrapattern with a specific objective in mind. Rather, working with developer [David Newbury](#), artist [Kyle McDonald](#), and students [Irene Alvarado](#), [Aman Tiwari](#), and [Manzil](#)

Zaheer, he hopes their tool will allow users to do whatever they would like with it, whether that means using it to understand the environment or for humanitarian projects or even for pure recreation. One of Levin's friends is hunting for empty swimming pools to jump into for guerrilla skateboarding. Online, the team **references** initiatives by **Monitoring of the Andean Amazon Project** and by **DataKind.org** as precedents. In this sense, Terrapattern is intended, as its developers put it, to "democratize geospatial intelligence," providing the everyday person with a power that lies largely in the hands of state actors or big corporations. But Levin also considers it an artwork that provides people with new insight into their cities.

"My hope for this project [is] that it is an influential prototype that allows people to suddenly think in a new way about satellite imagery," Levin told Hyperallergic. "It's what I would call a revelatory artistic practice, in which I'm trying to allow people to see the world in a new way. To give people this kind of view — this kind of panoptic perceptron that allows them to see connections in the landscape that they couldn't see before — is a power that I'm really pleased to be able to present in the form of an interactive networked artwork."



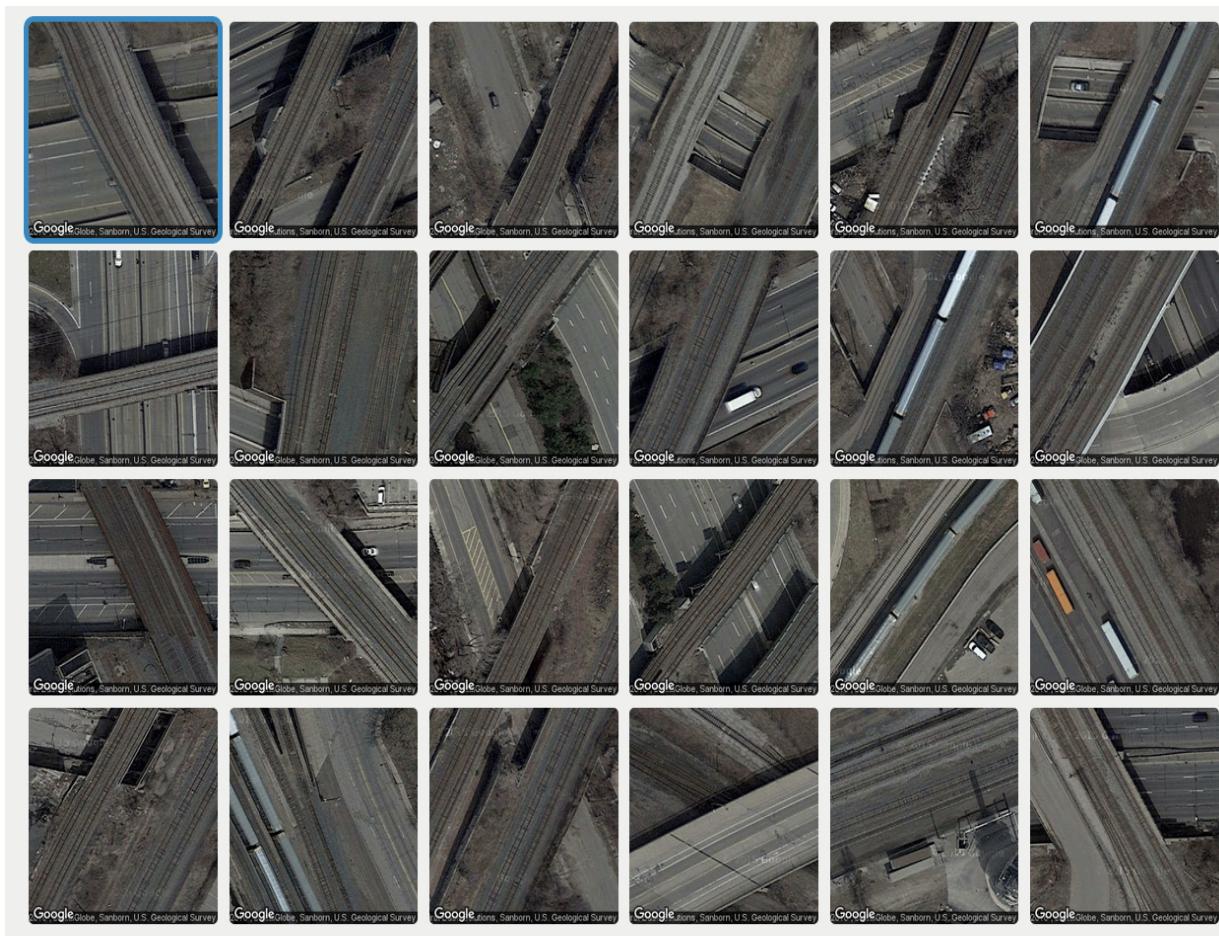
Purple tennis courts in San Francisco

It's easy to while away time on Terrapattern, even if you don't really have a set intention. Clicking around invariably leads to some interesting, visual understandings of urbanism, even if they don't necessarily carry great social meaning. For instance, I could easily use GoogleMaps to search for tennis courts in San Francisco, but Terrapattern allows me to see how many purple ones the city has. Perhaps more helpful to some is how easy the project makes it to find buildings with solar panels on their roofs. In Pittsburgh, you'll find neighborhoods rife with round yard pools and cul-de-sacs; contrasting with these indicators of suburbia are the shipping container yards of New York City, with cars neatly lined up like colorful bits of unused chalk; or the areas in Detroit where expressways intersect, which, when compiled, form a giddy snapshot of urban transportation. I was also able to locate the sections of New York City's overflowing cemeteries that are divided by wide roads, a collection of images that alludes to the city's history of

negotiating the relationship between its dead and its living.

Of course, users are not restricted to only tracking infrastructure. The Carnegie Mellon team has collected images of boat wakes in rivers; one of my first searches was for clusters of yellow taxi cabs. Such tiled images of ephemeral forms exemplify Terrapattern's potential for all sorts of discovery. Terrapattern is currently in alpha mode, and its developers are working to roll out more cities soon. On deck next are London and Johannesburg.

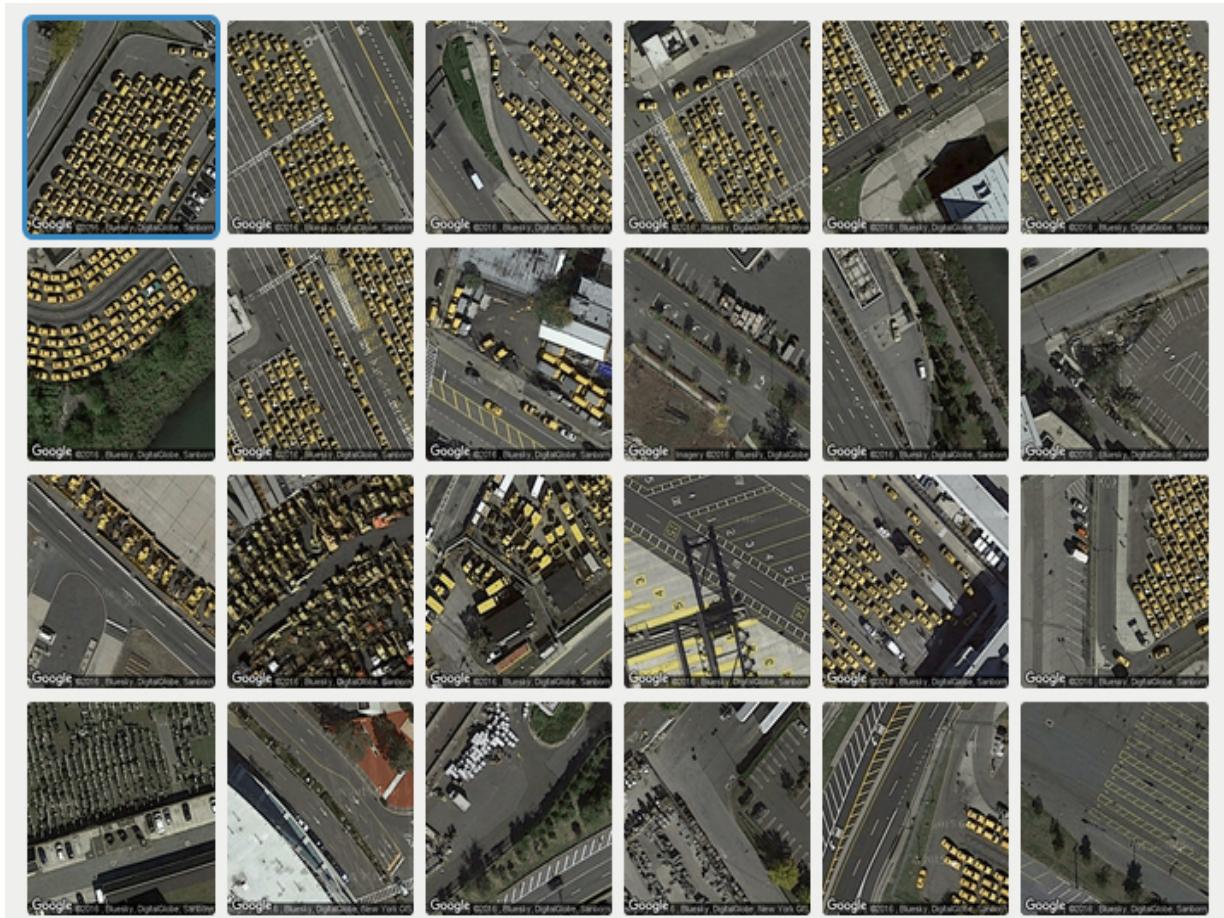
"Mostly I want to give people this fun experience, where they spend time clicking around and think this is fascinating even if they don't really know what it's good for," Levin said. "If someone spent two hours with it, that indicates this is something profound."



Intersecting expressways in Detroit



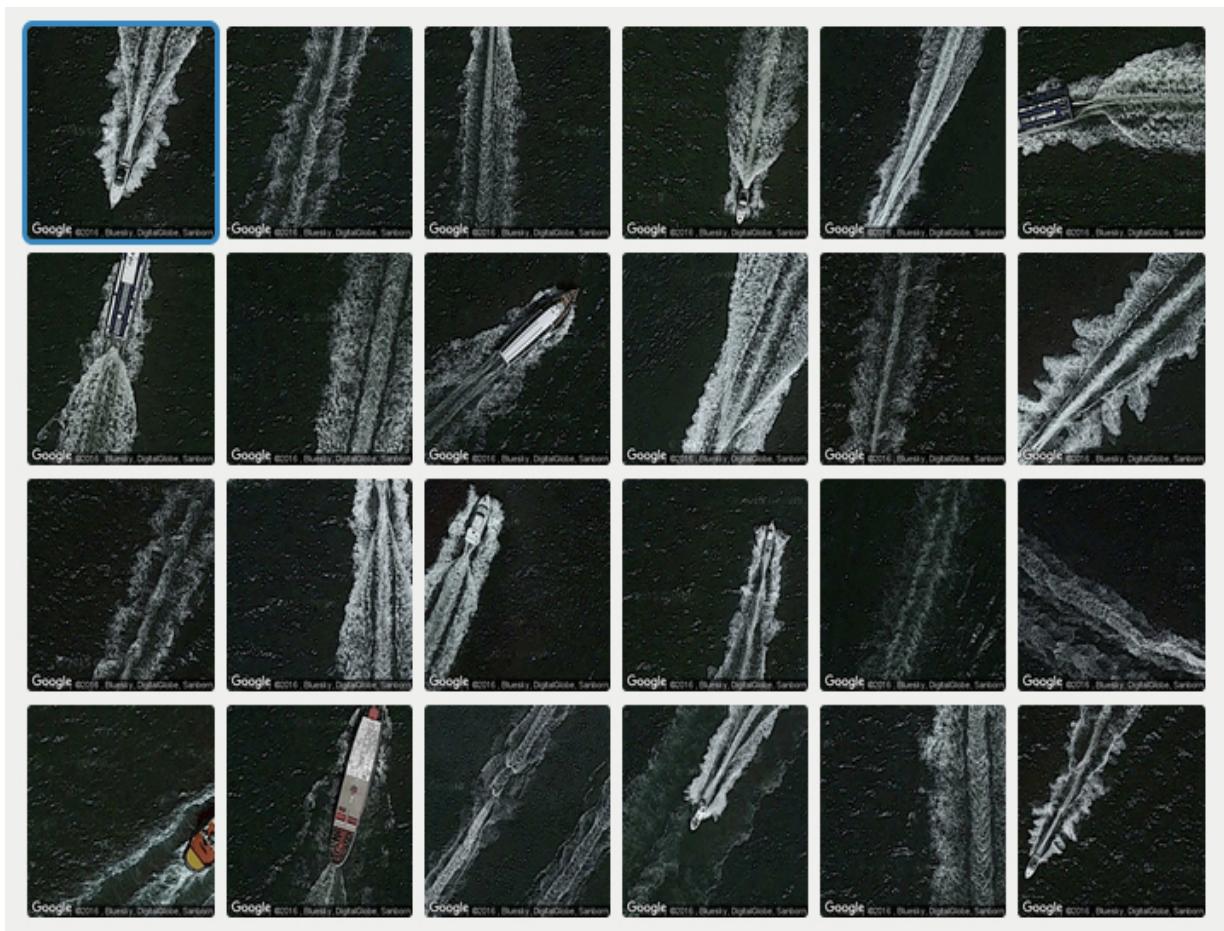
Areas of cemeteries divided by roads in New York City



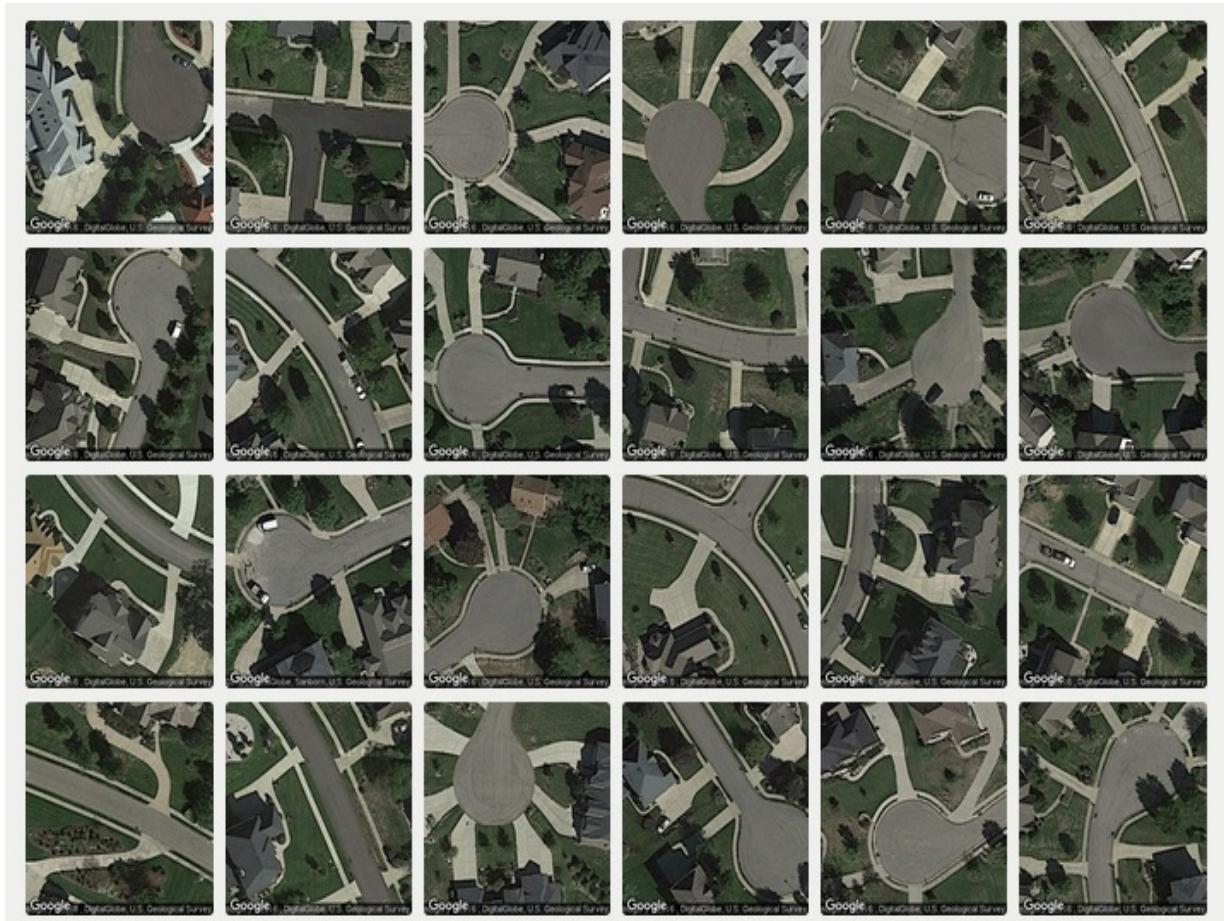
Clusters of cabs in New York City



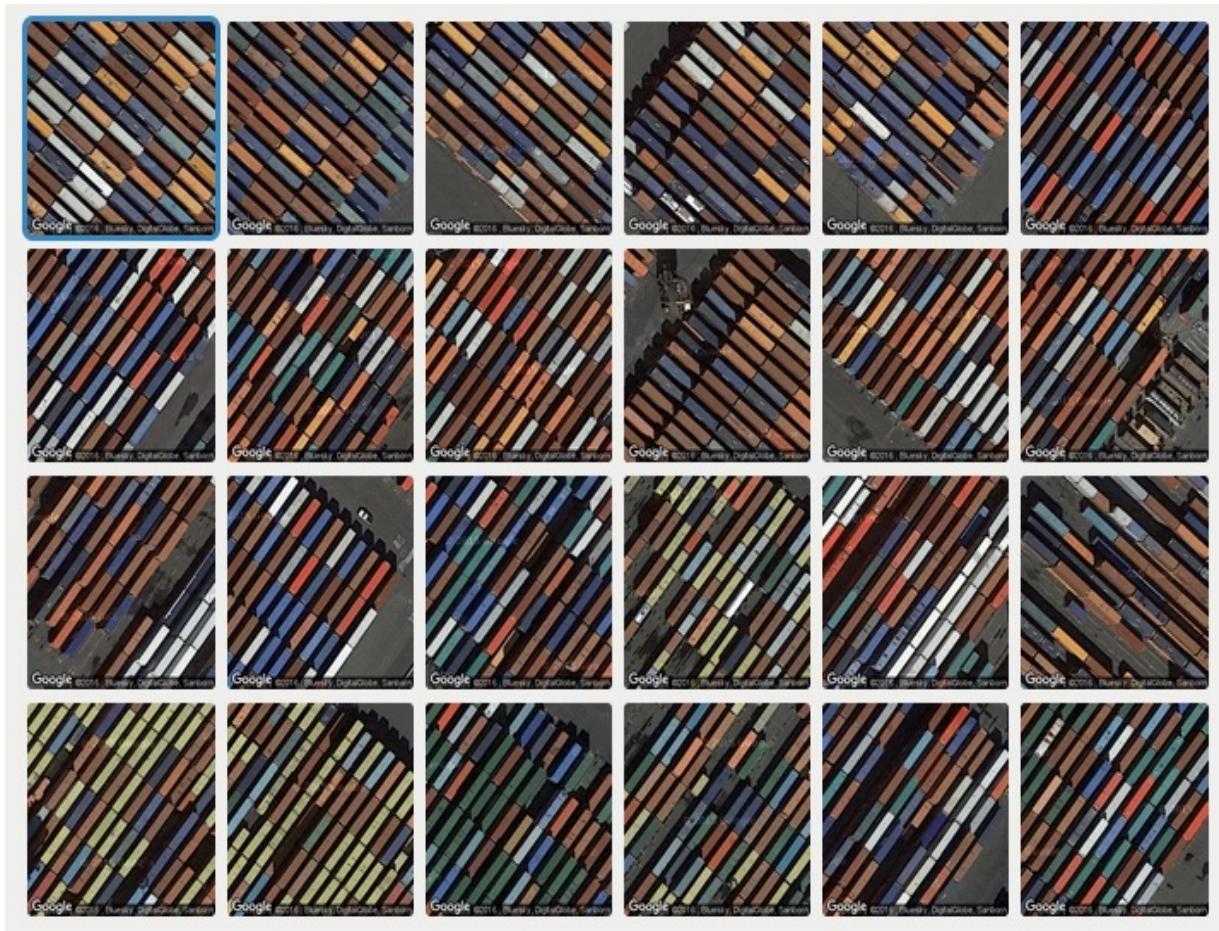
Dilapidated plots in Detroit



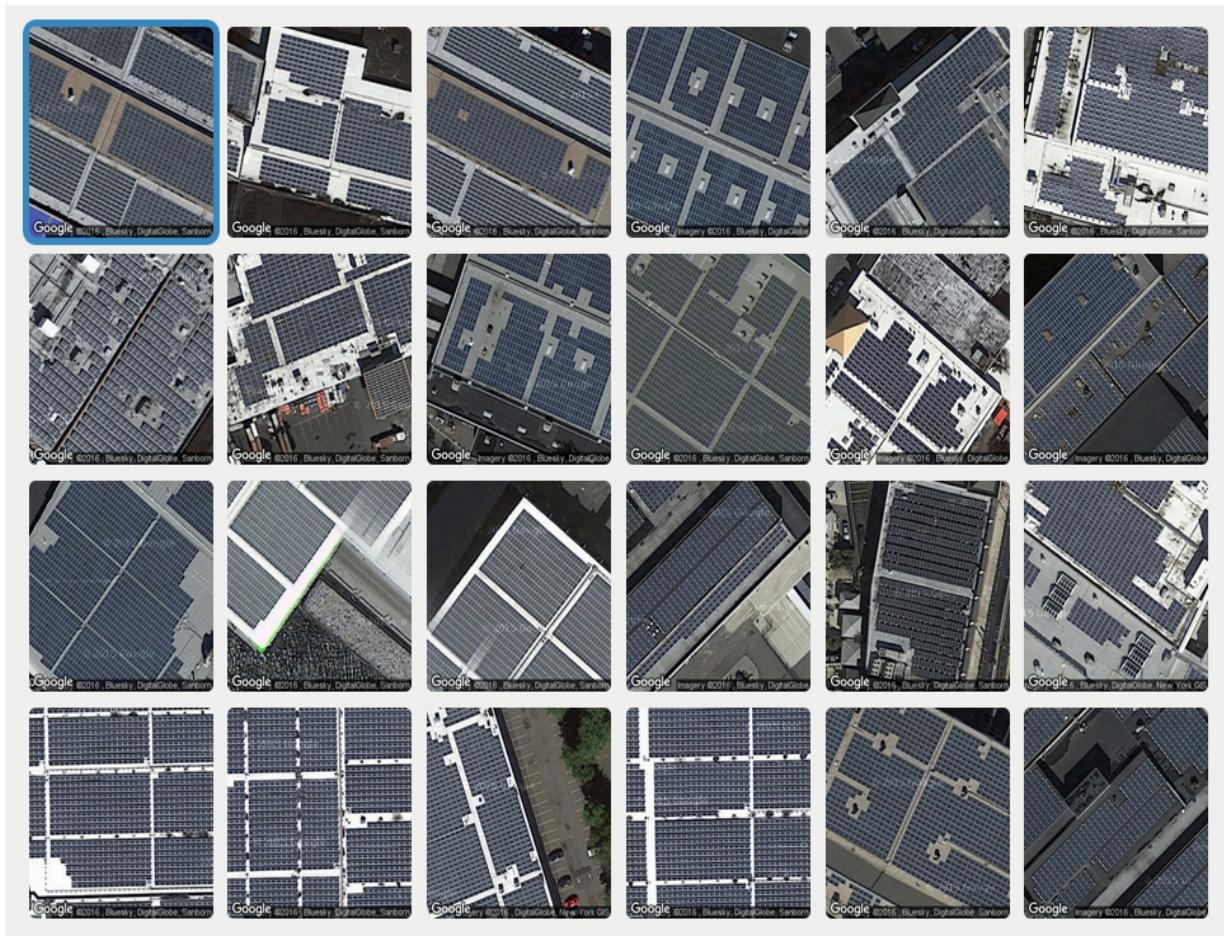
Boat wakes in New York City rivers



Cul-de-sacs in Pittsburgh



Shipping container yards in New York City



Solar panels in New York City

aerial photography
Aman Tiwari
David Newbury
Golan Levin
Irene Alvarado
Kyle McDonald
Manzil Zaheer
Terrapattern