

▲ Newark - Multiple levels - isometric view

unique position to find creative strategies and make resilient waterfronts.

At James Corner Field Operations we have been fortunate to have the opportunity to work on a few large scale urban waterfronts in the New York area, as well as other cities in the USA such as Chicago, Seattle and Los Angeles, and other cities around the world. Each and every one of these sites, even when they are in

close proximity to one another, come with a different set of challenges and strengths, each has its' unique needs and relationship to that which is beyond their boundaries.

Three distinct strategies are exemplified in the following urban waterfront from the New York region: Cornell Tech campus on Roosevelt Island- from the project inception in 2011 Cornell's broad criteria for the campus required long term,

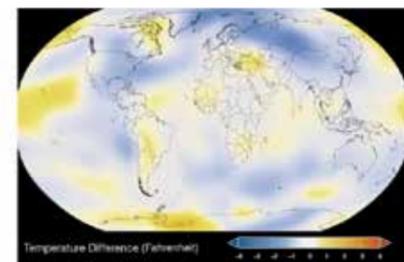
sustainable and environmentally smart campus design. Buildings are designed according to LEED, Net Zero and Passive Housing principals. The campus primary path running north to south and along all building entrances, is designed as an elegant elevated ridge, and raised to be above the elevation of a category 3 hurricane flood. The landscape is designed to hold, slow and treat runoff before it empties into the East River.

▼ New York City-Sandy Blackout-the city and the storm.

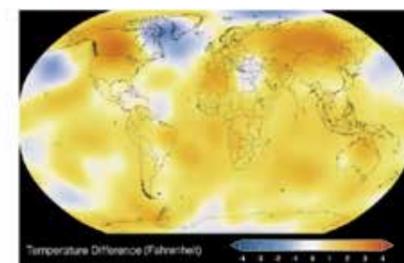
Dutch photographer Iwan Baan for the issue of New York Magazine / November 2012



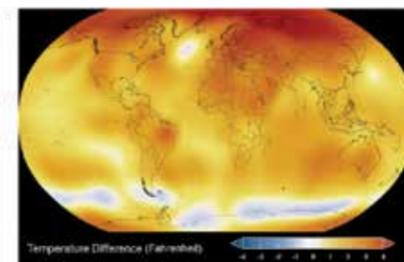
▼ Global warming by NASA. Time Series: 1884 to 2015, Data source: NASA/GISS, by NASA Scientific Visualization Studio



1970



1990



2015



▲ Cornell Tech - east river aerial phase 1

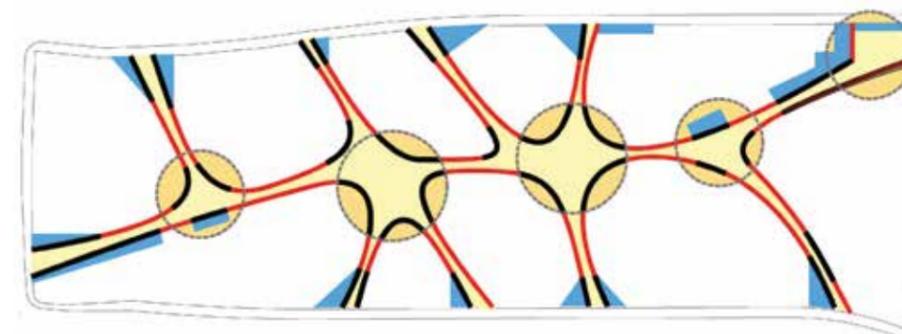
One kilometer south of the Cornell Tech campus, is the tip of Greenpoint, Brooklyn, where a very different approach to the Waterfront Park and residential development was being contemplated. Here the long linear Park, is 40-feet wide and designed in terraces. While the bottom most terrace, a wide esplanade, is allowed to flood, the upper terraces consist of planting and a secondary path system that is above the 100-year flood elevation.

The City of Newark, New Jersey has embarked on a new Waterfront plan in the downtown area along the Passaic River. The river is severely polluted and the city prohibits access to the water. The strategy here is to create a healthy river habitat on top of a

bulkhead. A riparian zone functions on multiple levels to change the perception of the river, create habitat, help treat stormwater runoff and accommodate inundation in case of a flood event.

As we embark into the new frontier of

global climate change, now more than ever before in the realm of landscape architecture it is critical that we consider future projections, that we work within each site uniquely, that we walk the frontier with our eye wide open.



▲ Cornell Tech - site organization

Photos: © James Corner Field Operations

KAREN TAMIR, Principal, RLA

Karen is a registered landscape architect and urban designer at James Corner Field Operations, and brings over 15 years of professional experience in Landscape Architecture. Karen is recognized for her experience designing and implementing major projects throughout New York City, especially along the waterfront. Karen is the lead Landscape Architect for the Cornell Tech campus on New York's Roosevelt Island; Newark's Central Passaic Waterfront Park; the Greenpoint Landing Waterfront Park in Greenpoint Brooklyn; the Domino Sugar Factory waterfront in Williamsburg Brooklyn; and Columbia University's Muscota Marsh project on the Harlem River.

Karen earned her master of Landscape Architecture degree from the University of Pennsylvania, where she was awarded the Faculty Medal of Excellence, the ASLA Honor award, and the Ian L. McHarg Prize among others and her Bachelor of Fine Arts from the Milwaukee Institute of Art and Design.



▲ Greenpoint - waterfront terrace

The New Frontier

By landscape architect Karen Tamir

fron·tier - "The extreme limit of settled land beyond which lies wilderness". (From the American frontier)

The new frontier is everywhere. The edge of human settlement and wilderness is no longer limited to a line in plan-view - of where a settlement boundary lies and the wild is beyond. Our generation's wilderness is a four dimensional wilderness, global climate.

Nowhere is this wilderness more present than at the most densely populated coastlines. In the last 25 years urban waterfronts have become synonyms with urban revitalization, economic growth and dynamic cultural attractors. In the same 25 years temperatures and sea water level have risen steadily. The changes manifested themselves around the globe - more frequent and larger storms, severe floods, and harsher droughts and wildfires. In the United States, "Weather, water and climate events, cause an average of approximately 650 deaths and \$15 billion in damage per year and are responsible for some 90 percent of all presidentially-declared disasters".

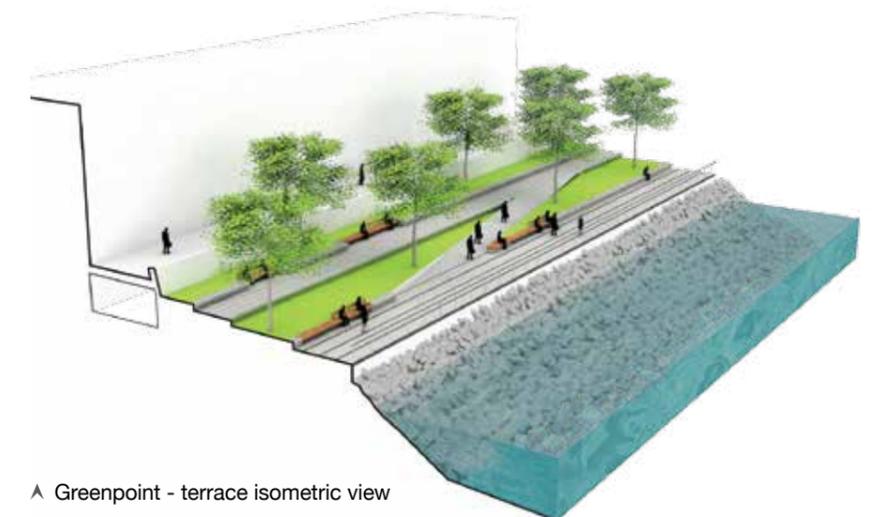
(National Oceanic and Atmospheric Administration).

Here, in the Northeast of the United States, this new reality came into focus when superstorm Sandy hit the dense metropolitan area of New York/ New Jersey with devastating force in October 2012.

Urban waterfronts are challenging for many reasons - they are typically

constrained in space, they either lack infrastructure altogether or have old systems, they are often burdened by complex land ownership, and are plagued by contamination from historical uses that now requires remediation.

Landscape architects working on large scale urban waterfronts - the edge of this new frontier - are in a



▲ Greenpoint - terrace isometric view