



The Business Case for Urban Resilience

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ULI URBAN RESILIENCE

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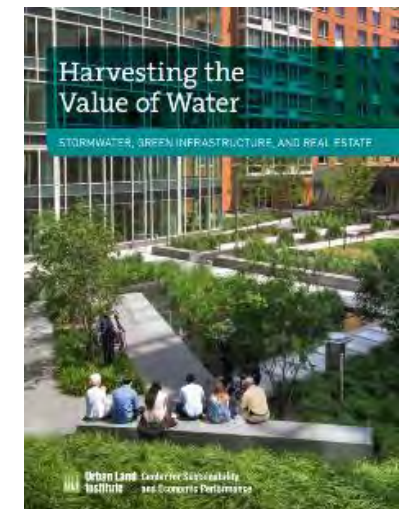
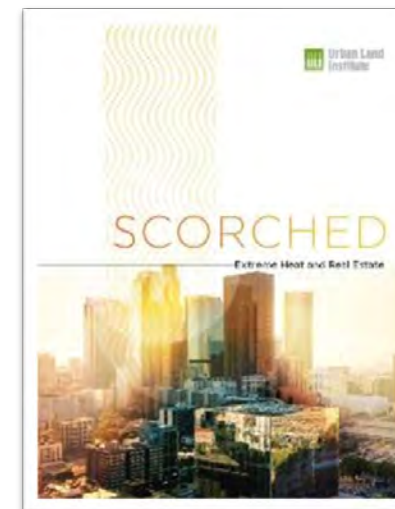
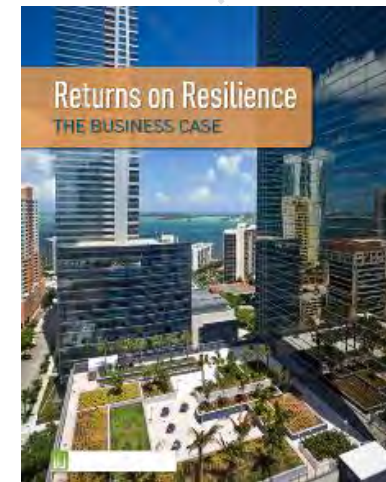
ULI's Urban Resilience Program

- ULI's resilience work focuses on how cities, buildings and communities can be more prepared for the impacts of climate change, including both environmental shocks and stresses
- Strategizing for buildings, communities, and cities to be more resilient to the impacts of climate change
 - Conducting Research
 - Advising Communities
 - Supporting Local-Level Resilience Work
 - Convening Leaders in Resilience
- Focus has shifted from preparedness and recovery from peak events (post Sandy) to broader best practices related to climate risk and land use
- A key focus: Better understanding, measuring and addressing climate risk and scaling resilience planning accordingly.



ULI Resilience Research

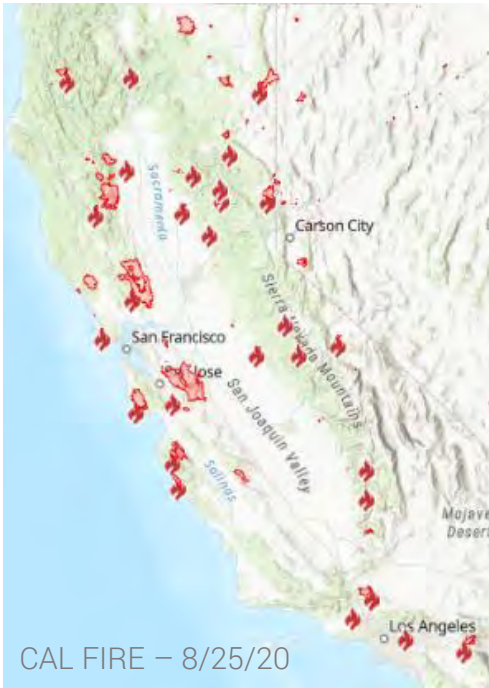
- How will climate change impact cities, land use and real estate?
- What are the opportunities for ROI?
- How will real estate and land use practices shift:
 - At the market scale
 - Within markets – what are land use and development strategy best practices?
 - At the building scale – what are best practices for mitigation?



2020 Resilience Perspectives

California on the Frontlines

Wildfires & Air Quality

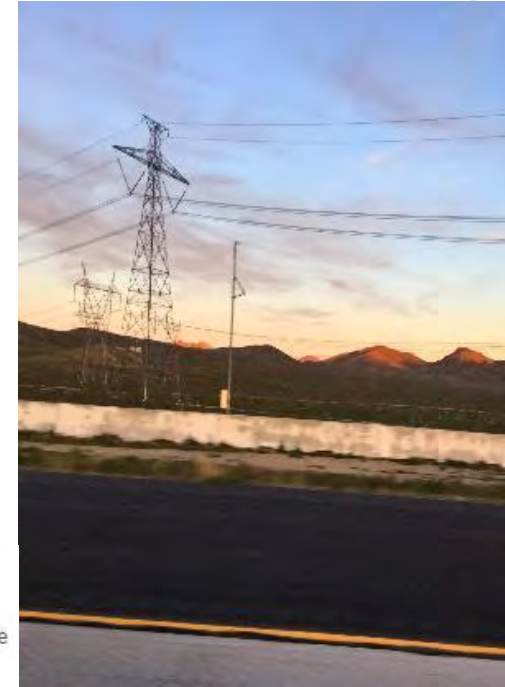


Heat Waves



sacramento.cbslocal.com › 2020/08/13 › sacramento-ex...
111-Degree High Forecasted Next Week, Would Be One Of ...
Aug 13, 2020 - **Temperatures** are expected to reach into the mid to high 100s through the weekend. ... NWS Sacramento (@NWSSacramento) August 13, 2020.

Energy Stress & Blackouts



2020 Resilience Perspectives

- Climate resilience can be one strategy for addressing long-standing racial inequities
- Low-income communities and communities of color are most at risk to climate hazards:
 - Low-income and communities of color are more likely to live in parts of cities vulnerable to flooding and extreme heat
 - Communities most at risk have fewer resources to rebound from disruptive events
 - Compounded risk in the time of COVID
- Challenges preparing for the 2020 hurricane/wildfire/heat summer season
 - City budget reductions
 - Dual vulnerability of low-income communities and communities of color to climate events and COVID
 - Physical distancing in shelters, evacuation transport, etc.
 - Household challenges obtaining food, supplies, etc.
 - Delayed climate resilience projects due to city budget crises

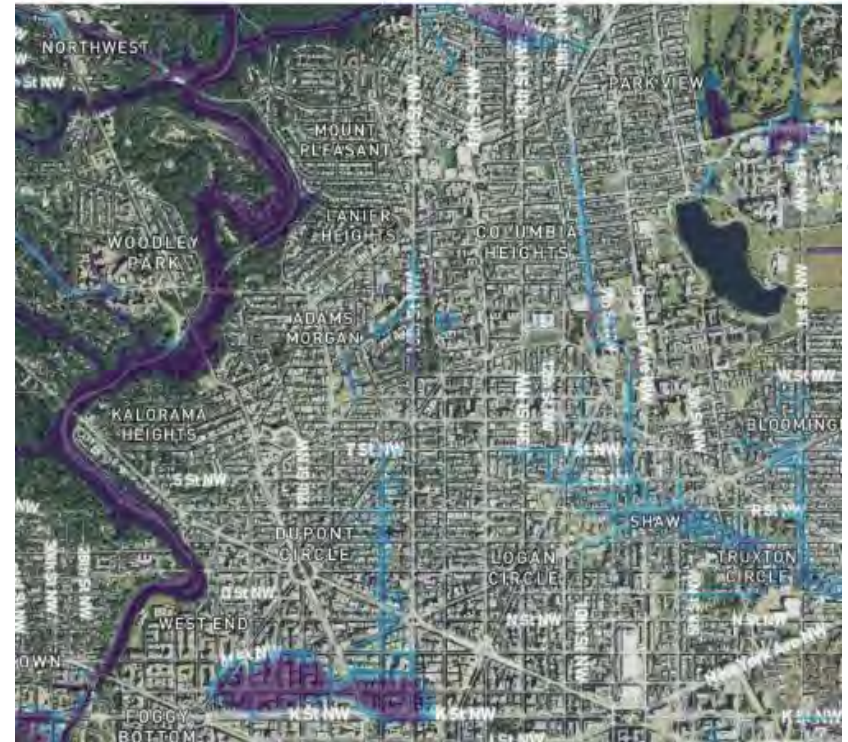


Insights from Climate Risk Research

Risk Type	Category	Potential Impacts
Physical Risks	Catastrophic events	Damage costs, business downtime, insurance changes
	Changes in weather patterns	Costs related to damages, operations, adaptation measures, insurance
Transition Risks	Market	Reduced economic activity, property demand, asset value; increased taxes
	Policy and regulation	Increased cost of business, taxes, capital investment; loss of subsidies/funding
	Resource availability	Increased costs for resources; additional expenditures for adaptation
	Reputation and market position	Reputation risk; lower liquidity

Initial Research Findings: Emerging Practices

- Mapping physical risk for current portfolios and potential acquisitions;
- Incorporating climate risk into **due diligence** and other investment decision-making processes;
- Incorporating additional **physical adaptation and mitigation measures** for assets at risk;
- Exploring a variety of strategies to mitigate risk, including **portfolio diversification** and investing directly in the mitigation measures for specific assets; and
- **Engaging with policy makers** on local resilience strategies and infrastructure investments



Source: First Street Foundation

What's Next? Climate Risk and Market Assessment:

Seeking an understanding of which markets face:

“ not necessarily the biggest risk, but...the biggest risk relative to what [the cities] are already paying to absorb that risk ”

Global Real Estate Investment Manager

Current Spectrum of Market Assessment Approaches

- **Not considering climate risk** in market assessments – each asset and opportunity is unique; asset-level mitigation may be prioritized
- **Suspending new growth** or reducing footprint in markets with climate risk concerns – typically in response to other concerns as well as climate risk
- **Divestment** – Examples are limited but increasingly exist, occurring in response to both peak events and overall risk.
- Of all these responses, very few market assessments were developed through a systematic, data-based approach analyzing both risk and resilience, showing **a gap in industry tools**.



Resilience for Sacramento Climate Hazards

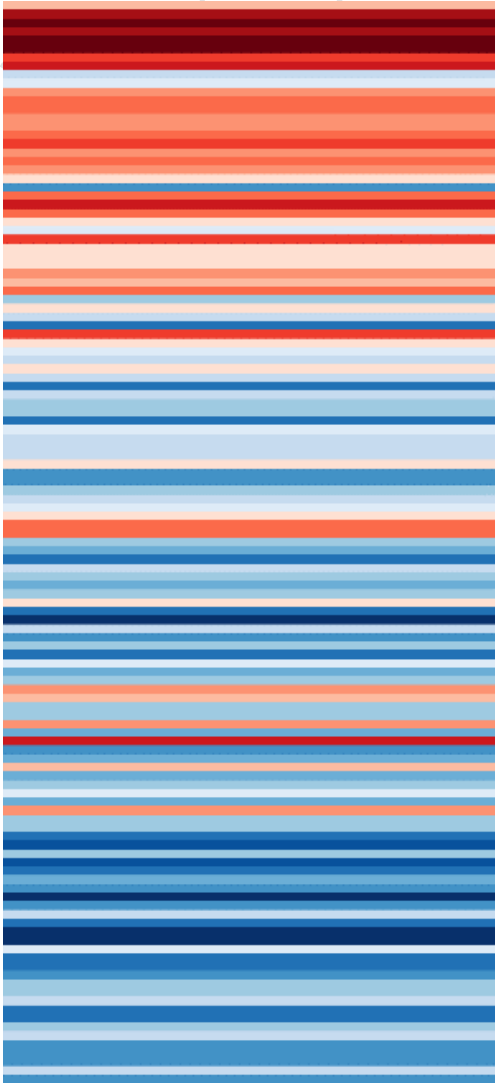


Source: Sacramento County



August 2020

Source: Annual average temperatures for California from 1850-2018 using data from UK Met Office. <https://showyourstripes.info>



Extreme Heat and Real Estate

“We’re facing scenarios where summers are 5°F hotter with prolonged heat waves every other year. **What types of properties will be attractive?** Where will people want to live....fill their leisure time?”

Edward Dixon
Director, Sustainability Insights
LandSec

Business Case for Extreme Heat Mitigation

PROJECT DEVELOPMENT	PROJECT MARKETING	PROJECT COMPLETION	PROJECT OPERATIONS
<ul style="list-style-type: none">• Reduced construction costs and reduced likelihood of construction delays caused by extreme heat• Faster permitting and increased buy-in from influential stakeholders, including investors, public officials, and community groups• Reduced stress on public infrastructure, potentially helping sustain long-term economic vibrancy and climate resilience in the local area	<ul style="list-style-type: none">• Enhance project branding or boost a firm's reputation through high-quality, resilient design• Capture market demand for "green" building with extreme heat resilience as a differentiator• Public recognition through awards or iconic features	<ul style="list-style-type: none">• Increased occupant comfort, site visitation, and/or retail sales when property is available as a cool place of refuge during normal hot-weather months and extreme heat events• Enhanced asset value, higher rent premiums, lower vacancy rates, or faster lease-up because of increased occupant comfort and/or likely increased productivity of building occupants	<ul style="list-style-type: none">• Sustained value from avoidance of additional costs replacing heat-damaged materials, upgrading per regulatory requirements, and/or adding additional amenities per consumer demand• Long-term utility cost savings because of decreased cooling load and energy use, supporting an improved net operating income• Higher chance of sustained operations (business continuity) and occupant health during extreme heat events

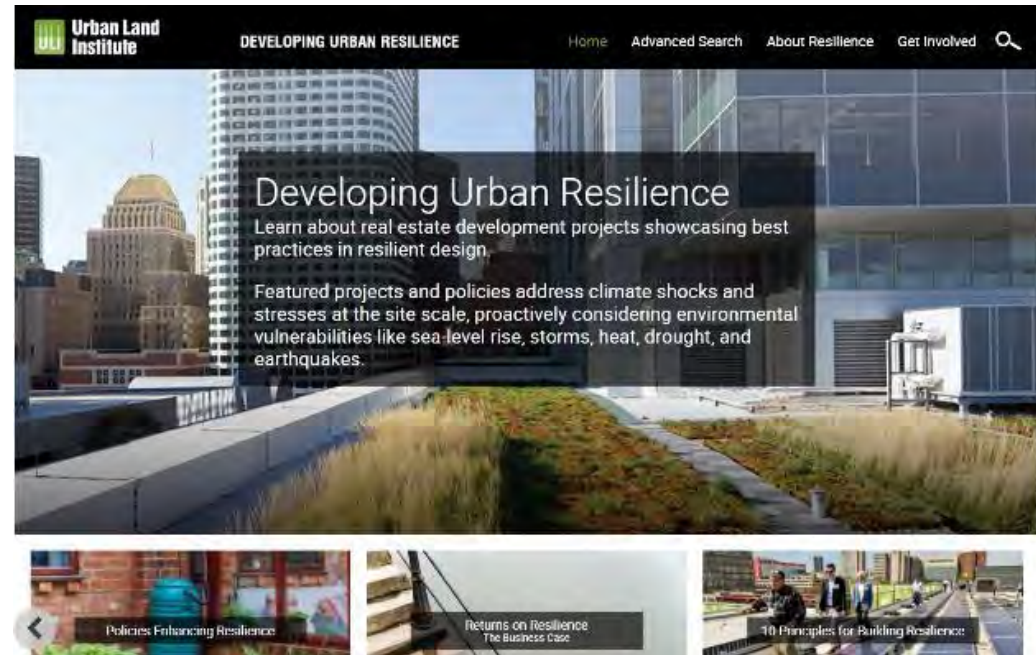
Business Case for Green Infrastructure

- Cities increasingly encourage or require private development to incorporate green infrastructure as strategy to mitigate heat and flood risks
- Real estate projects can harness opportunities for operational and land use efficiencies, reduce risk, and otherwise create value to projects
- Successful development outcomes include
 - Increased developable land
 - Increased market value
 - Enhanced marketing opportunities
 - Placemaking opportunities, amenity value, and improved building user experience
 - A smooth permitting process
 - Avoided losses in peak weather events
 - Reduced operating and maintenance costs
 - Decreased potable water use



ROI for Resilient Development

- Developing Urban Resilience (DUR) is an online case study library
- Examples of value add in profiles:
 - Avoided losses/ Business continuity
 - Increased likelihood of/speed for permitting
 - Opportunities for enhanced market value or faster lease-up
 - Enhanced attractiveness to tenants/Brand value – user experience, placemaking
 - Energy and water usage reductions
 - Extended building life
 - Opportunities for decreased insurance premiums
- ULI welcomes nominations for additional projects to profile



Burbank Water and Power EcoCampus

Burbank, California

- Context
 - A community-owned public utility site
 - ~80% impervious surface
 - Aging facilities with inefficiencies and higher utilities rates
- Strategies
 - Water filtration strategies
 - Landscaping with native plants and trees
 - Recycled water treatment system
 - Green street demonstration project
 - Redesign of decommissioned electrical substation
 - Green roofs
 - Solar panels
- Outcomes
 - Lowered operating costs, which led to more affordable utility rates for the citizens of Burbank
 - net-zero stormwater runoff from the campus
 - Reduced piped water by as much as 100,000 gallons per day
 - green roofs absorbs 70% of rainwater and saves facility \$14,000/yr
 - BWP boasts some of the lowest rates for utilities in southern California
 - Improved morale of employees and recruitment capabilities of younger talent
 - Numerous awards and Sustainable Sites and LEED Platinum certifications



Stylye Allgair, Heliphoto

Heat-aware Development

SkySong (Scottsdale, Arizona)

- Motivation
 - Talent attraction
 - Year-round enjoyable use
 - Operational efficiencies
- Strategies
 - Artistic, functional shade structures
 - Building orientation and siting
 - Efficient building facades
 - Energy efficient lighting and HVAC
- Outcomes
 - \$588 million in local economic output
 - Tenant retention - 57 companies
 - Year-round foot traffic (5,500 visitors/month)
 - LEED Silver



Heat-specific Policy

Cool Surfaces: Roofs and Roads (Los Angeles, California)

- Green Building Code cool roof requirement in 2014 (residential)
 - 20,000 new cool roofs in Los Angeles
- Cool paving pilot projects 2017 – now
 - Street level 10°F decrease in surface temp
 - Significant press and social media attention
 - Expanding pilot tests from parking lot to streets to adjacent city blocks
 - Additional state-level funding secured



LA Bureau of Street Services

Public Sector Leadership

How will climate change impact cities and economies, and how can infrastructure be more prepared?

- Miami Beach, Florida
 - Developed \$600 million stormwater infrastructure program, including pumps and elevated streets
 - Brought ULI in to assess the plan
 - Conducted a business case analysis on the program
- California State Lands Commission
 - Adopted in AB 691 – Proactively Planning for Sea-Level Rise Impacts in 2015
 - Requires grantees to assess the impact of sea level rise on granted trust lands
 - Updated in 2018 with best available science and statewide planning guidance



Wildfire Resilience and Real Estate

New report published Fall 20202

The 2017 North Bay Fires disaster was a housing disaster. Costs are higher because of the fires, and demand is higher as a result of a number of homes lost.” - Developer

“We have to plan our communities better, especially in high fire severity zones.” – City Manager

“One of our best wildfire mitigation tools is to get back some semblance of the native plant community” – Landscape Architect

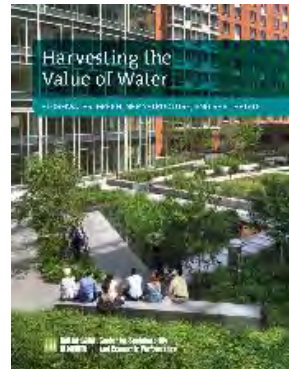
“We won’t have environmental resilience unless our community is resilient in other ways, including workforce, equity, and economic resilience.” – Conservation Foundation President

“Every time we create localized energy solutions, we take a lot of pressure off infrastructure at risk.” - Engineer

We’re in this symbiotic relationship between the town, our development, the public forest, and the commercial woodlots. You have to work with your neighbors to manage wildfire risks together. - Developer

Ways to get involved

- Contribute to research as an interviewee or peer reviewer
- Nominate a case study for Developing Urban Resilience
- Host or attend a virtual event
- Participate in a Technical Assistance or Advisory Services Panel
- Invite ULI to provide technical assistance to a local community or organization



Thank you!

- Visit the Urban Resilience Program website:
<https://americas.uli.org/resilience>
- All reports are available for download in the reports section
- Project profiles can be accessed at
<https://developingurbanresilience.uli.org>
- Email: resilience@uli.org

