natural capital PROJECT

Urban InVEST:
Designing resilient cities by nature

In a rapidly urbanizing world, the design of cities will determine the health and wellbeing of billions of people. Although cities are highly engineered places, incorporating nature into urban design can yield large benefits. Urban InVEST provides tools to show how incorporating the value of nature into urban design can deliver better outcomes for people and the planet.

The Platform
We are creating a data and modeling platform called Urban InVEST that provides information and analytics to developers, lenders, municipal governments, consultants and advocacy groups. Urban InVEST features spatially explicit biophysical and socio-economic models that enable users to quantify and map the impacts of alternative urban designs on multiple urban ecosystem services (e.g. urban water management, heat island mitigation, mental health benefits), showing the benefits and costs to communities by socioeconomic status and vulnerability.

Building on Success
Urban InVEST builds on the Natural Capital Project's existing free and open-source Integrated Valuation of Environmental Services and Tradeoffs (InVEST) platform. InVEST is the result of a 11-year partnership between Stanford University, the University of Minnesota, the Nature Conservancy, and World Wildlife Fund working together with local and international organizations. InVEST is used in planning by governments worldwide, with active users in over 80 countries.

The Demand
The demand for Urban InVEST is high and growing rapidly, motivated by an urgent need to mitigate risks from climate change, pollution, and unplanned development. Cities are looking to nature-based solutions to address these challenges, but leaders lack tools and approaches that integrate urban ecosystem services in city design and spatial planning. The demand for Urban-InVEST is coming from:
- city leaders interested in evaluating alternative urban growth scenarios
- advocates for greater investments in parks and open space
- municipal governments seeking to plan green infrastructure and its co-benefits
- multi-lateral development banks interested in making more strategic and resilient loans

Early development
We are partnering with municipal governments and city leaders across the United States and in Asia-Pacific to co-develop Urban-InVEST. The first applications will support urban ecological assessments in major Chinese cities (Beijing, Shanghai, Shenzhen, Dalian) and the evaluation of co-benefits of green infrastructure in Minneapolis-St Paul and the San Francisco Bay Area.

Services and development leads:

Stormwater management	*NatCap-Stanford*	*Habitat quality*	*NatCap-Stanford*
Flood risk mitigation	*NatCap-Stanford*	*Coastal vulnerability*	*CAS*
Urban heat island mitigation	*NatCap-Stanford*	*Mental health*	*NatCap-UW*
Recreation/physical health	*NatCap-Stanford*	*Noise attenuation*	*CAS*
Carbon sequestration	*NatCap-Stanford*	*Air quality*	*CAS*

*CAS: Chinese Academy of Sciences; UW: University of Washington

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