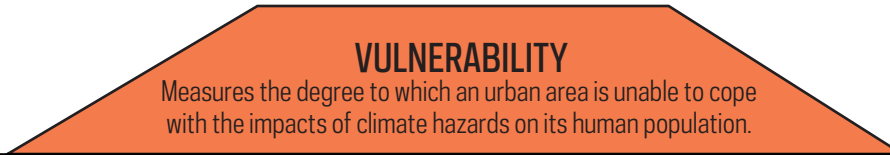# ND-GAIN Urban Adaptation Assessment

## RISK

Potential for something of value to be at stake because of its presence in a changing climate.
Risk is a function of climate hazard, and exposure and vulnerability of the social system.

**VULNERABILITY**
Measures the degree to which an urban area is unable to cope with the impacts of climate hazards on its human population.

| **HAZARD** Potential occurrence of a biophysical event, trend or impact caused by climate change | **SENSITIVITY** Extent to which an urban area will be affected by, or responsive to, a climate hazard | **ADAPTIVE CAPACITY** Ability of an urban area to prepare for or cope with a climate hazard | **EXPOSURE** Pecent of population that experiences a climate hazard |
|---|---|---|---|
| **INLAND FLOODING** Rx5day: Monthly maximum consecutive 5-day precipitation | Percent of area that is impervious surface | Quality of drinking water | Number of cars on roads in flood zone |
|  | Percent of buildings built after 1999 |  |  |
|  | Percent of population residing in mobile homes | Number of acute care hospital beds available per 1,000 residents | Percent of population living in flood plains |
|  | Percent of population that is 65 years old or older |  |  |
|  | Percent of population that is 18 years old or younger | Percent of population with health insurance | Number of buildings in the flood plain |
|  | Percent of workers without access to a vehicle |  |  |
| **EXTREME HEAT** WSDI: Warm Spell Duration Index Annual count of days with at least 6 consecutive days when daily maximum temperature higher than the 90 percentile of the maximum temperature in the base period | Percent of buildings built after 1979 | Percent of land covered by tree canopy | Number of people in city |
|  | Percent of population that is 65 years old or older |  |  |
|  | Percent of population that is 18 years old or younger | Number of acute care hospital beds available per 1,000 residents |  |
|  | Percent of population spending over 50% of income on rent |  |  |
|  | Percent of population that is chronically sick (12 seperate diseases) | Percent of population with health insurance |  |
|  | Outdoor workers |  |  |
| **EXTREME COLD** CSDI: Cold Spell Duration Index Annual count of days with at least 6 consecutive days when the daily maximum temperature lower than the 10 percentile of the maximum temperature in the base period | Percent of buildings built after 1979 | Percent of houses with heating | Number of people in city |
|  | Percent of population spending over 50% of income on rent |  |  |
|  | Percent of population that is 65 years old or older | Number of acute care hospital beds available per 1,000 residents |  |
|  | Percent of population that is 18 years old or younger |  |  |
|  | Percent of population that is chronically sick (12 specific diseases) | Percent of population with health insurance |  |

Please note: Indicators on drought and coastal flooding hazards are forthcoming.

# ND-GAIN Urban Adaptation Assessment

## READINESS

General features of urban areas that will enable policy change and action implimentation to reduce vulnerability to climate hazards. Readiness is composed of the measure of economic conditions, governance support, and social capacities.

| ECONOMIC READINESS | GOVERNANCE READINESS | SOCIAL READINESS |
|---|---|---|
| Measures financial enabler, which addresses two obstacles: lack of private sector confidence and financial challenge | Measures governmental enabler, which addresses one obstacle: weak government capacities | Measures demand-side enabler, which addresses one obstacle: challenges in project preparation |
| City revenue per resident | Total number of federal public corruption convictions by district | Percent of population with less than 12th grade education |
| City deficit per resident | Civic Engagement | General innovation capabilities |
| Readiness to accept adaptation investment | Community rating system (CRS) | Estimated percent of adults who think global warming is already harming people in the US now or within 10 years |
| Tax incentives for renewable energy | | |



**ND-GAIN**
**Urban Adaptation Assessment Components**

## LIVES & LIVELIHOODS

Impact of climate hazards on a city's population, specifically on lives and on livelihoods

| LIVES |
|---|
| Death toll per capita and per hazard occurrence |
| Injured population per capita and per hazard occurrence |

| LIVELIHOODS |
|---|
| Property damage per capita and per hazard occurrence |

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