CLIMATE RISK AND VULNERABILITY ASSESSMENT (CRVA) UPDATE

2030 Climate and Energy Action Plan Webinar
Steve Walz, Department of Environmental Programs Director

April 13 & 16, 2020

Metropolitan Washington
Council of Governments

Climate Risk & Vulnerability Assessment

- **GCoM Framework Requirements:**
  - Identifies the **type** of climate hazards and **current and future risk** level of each hazard
  - Assesses **intensity and frequency** of past/current hazards and expected change in intensity and frequency for future hazards
  - Describes **impacts** experienced in the past, list of impacted sectors and the magnitude of impact for each sector

- **Climate Hazards:**
  - Coastal Flooding
  - Flooding (Flash and Riverine)
  - Extreme Heat Days
  - Drought
 - Extreme Winter Conditions
  - Lightning / Thunderstorm

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Climate Hazards and Adaptive Capacity

Hazard	Probability	Consequence	Risk
Extreme Heat Days	3	3	9
Drought	2	3	6
Flooding (Flash and Riverine)	3	3	9
Lightning & Thunderstorm	3	2	6
Extreme Winter Conditions	2	3	6
Coastal Flooding	3	2	6

Factor	Degree of Challenge
Access to Basic Services	Moderate
Access to Healthcare	Moderate
Public Health	Moderate
Housing	Moderate
Poverty	Moderate
Economic Health	Low
Environmental Conditions	Moderate
Infrastructure Conditions/ Maintenance	High
Community Engagement	Moderate

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Equity Emphasis Areas National Capital Region
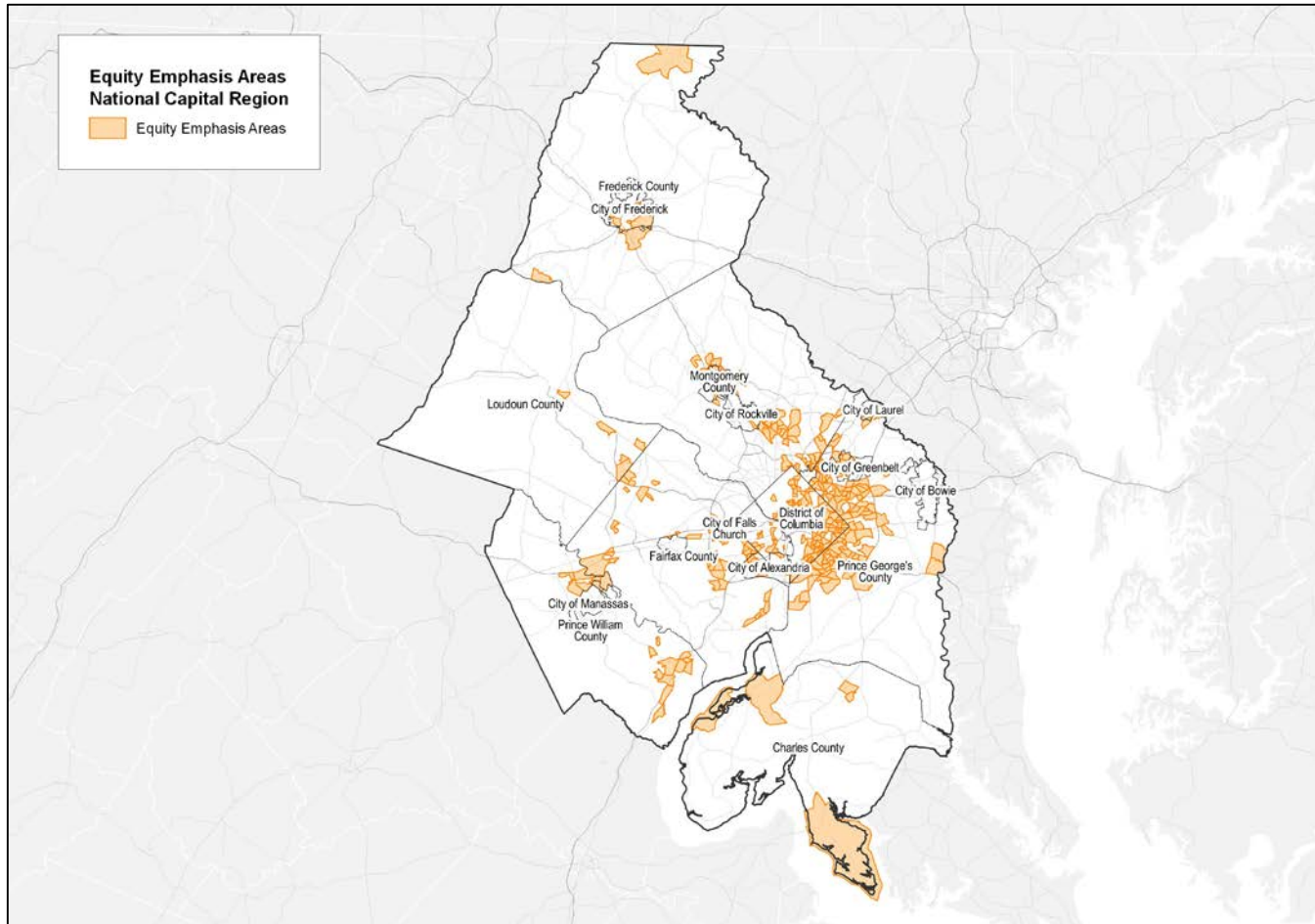
Equity Emphasis Areas & Healthy Places Index
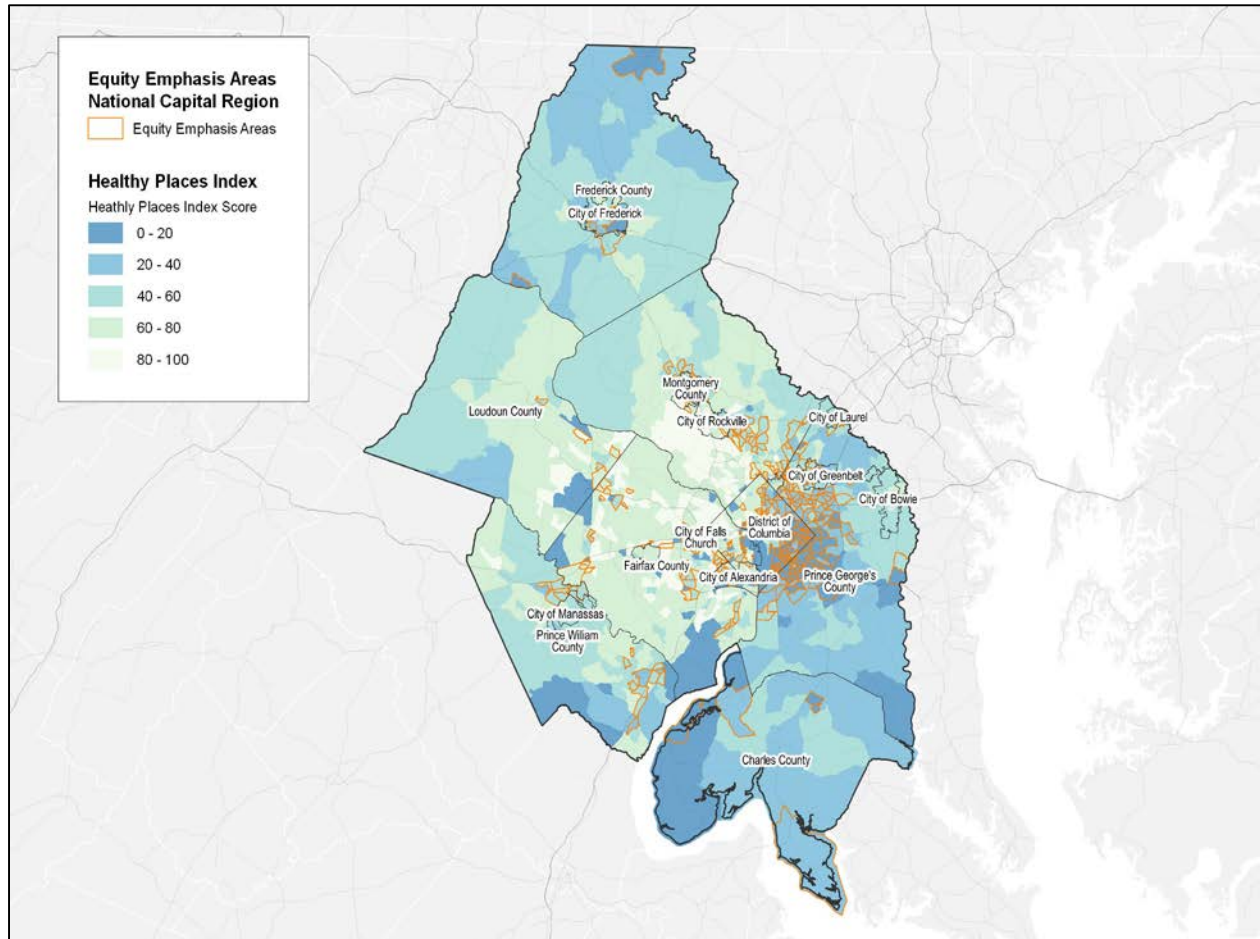
Extreme Heat

Probability	3
Consequence	3
Risk Level	9
Change in Intensity *(How strong?)*	Increase
Change in Frequency *(How often?)*	Increase
Timescale *(By when?)*	Immediately (by 2025)

Equity Emphasis Areas
National Capital Region
☐ Equity Emphasis Areas

CDC Extreme Heat Days
2016 Extreme Heat Days
- 1 - 2 Days
- 3 - 4 Days
- 4 - 5 Days
- 5 - 6 Days
- 6 - 7 Days
- 7 - 8 Days
- 8 - 9 Days
- 9 - 10 Days
- 10 - 11 Days
- 11 - 12 Days

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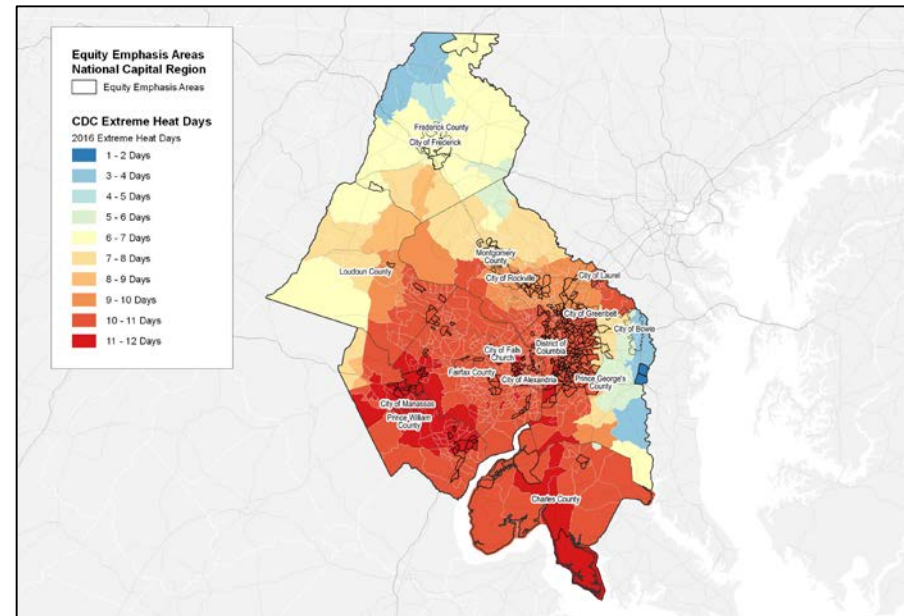
Extreme Heat

Impacted Sectors, Assets, and Services	Magnitude of Future Impact
Energy	High
Public Health	High
Transport	High
Information & Communications Technology (ICT)	High
Law and Order	High
Environment, Biodiversity, and Forestry	Moderate
Water Supply and Sanitation	Low
Commercial	Low

Vulnerable Groups	
Women and Girls	Persons with Chronic Diseases
Children and Youth	Low-Income Households
Elderly	Unemployed Persons
Indigenous Populations	Persons in Sub-Standard Housing
Marginalized Groups	Other
Persons with Disabilities	Persons with Allergies

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Flash and Riverine Flooding

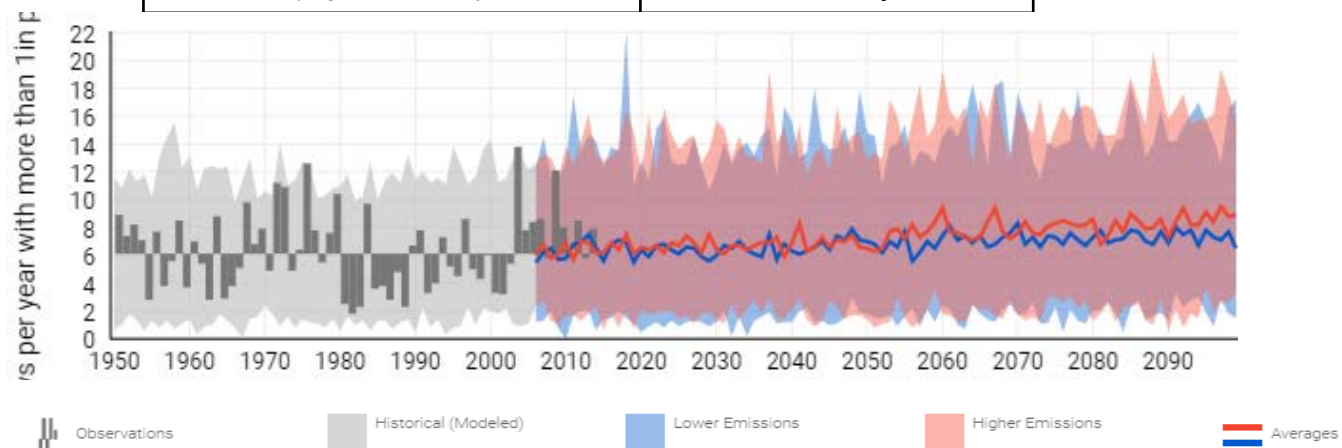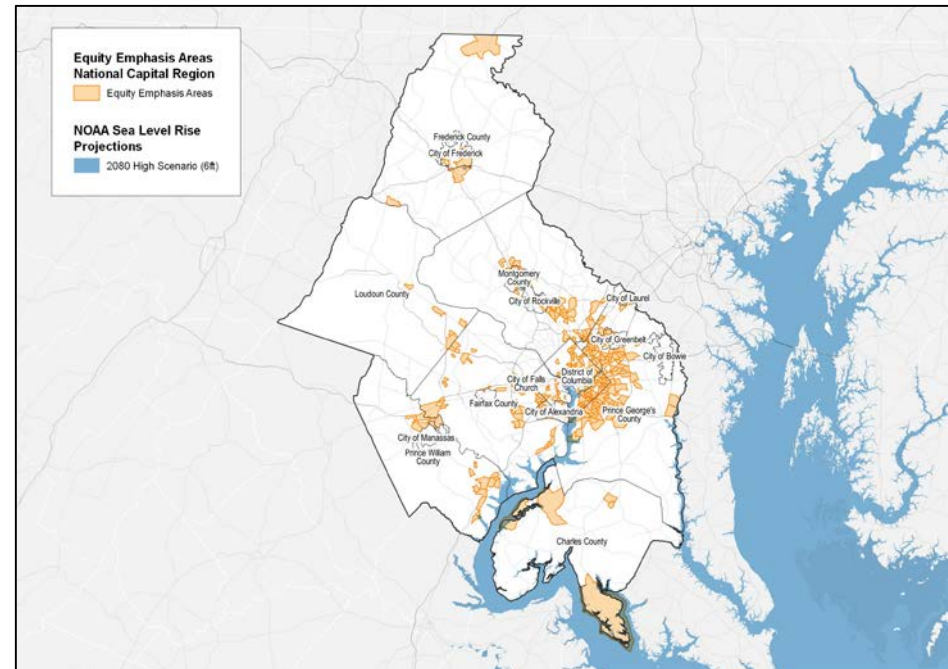|	
Probability	3
Consequence	3
Risk Level	9
Change in Intensity *(How strong?)*	Increase
Change in Frequency *(How often?)*	Increase
Timescale *(By when?)*	Immediately (by 2025)

Flash and Riverine Flooding

Sectors, Assets, and Services	Magnitude of Future Impact
Water Supply and Sanitation	Moderate
Environment, Biodiversity, and Forestry	Moderate
Transport	High
Public Health	Moderate
Energy	Moderate
Residential	Moderate
Commercial	Moderate
Society / Community and Culture	Moderate
Information & Communications Technology (ICT)	Low

Vulnerable Groups	
Women and Girls	Persons with Chronic Diseases
Children and Youth	Low-Income Households
Elderly	Unemployed Persons
Indigenous Populations	Persons in Sub-Standard Housing
Marginalized Groups	Other
Persons with Disabilities	

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Coastal Flooding

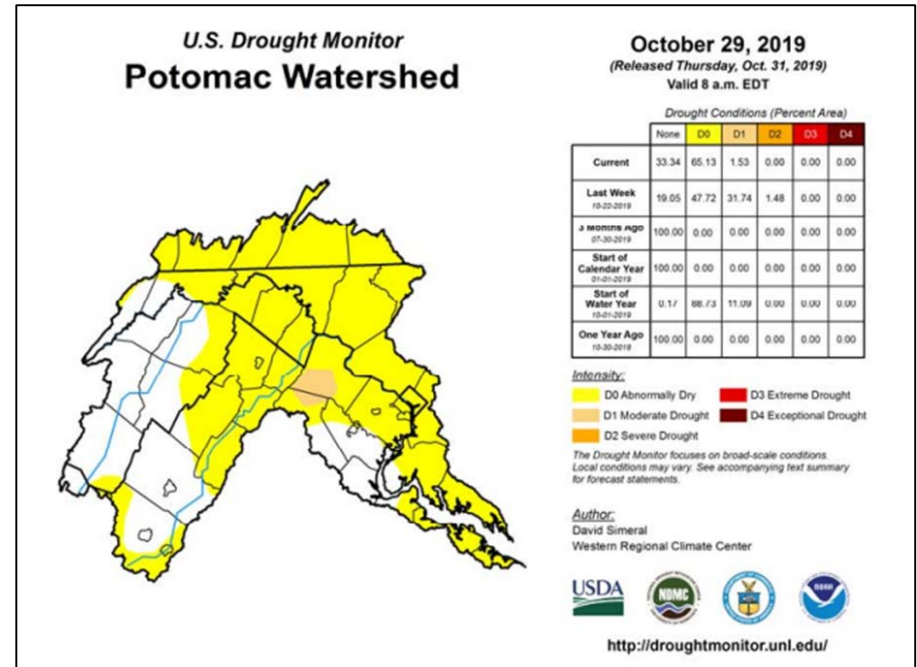|	
Probability	3
Consequence	2
Risk Level	6
Change in Intensity (How strong?)	Increase
Change in Frequency (How often?)	Increase
Timescale (By when?)	Medium Term (by 2050)

Equity Emphasis Areas National Capital Region
Equity Emphasis Areas

NOAA Sea Level Rise Projections
2080 High Scenario (6ft)

Coastal Flooding

Impacted Sectors, Assets, and Services	Magnitude of Future Impact
Other – Economy	High
Water Supply and Sanitation	Moderate
Environment, Biodiversity, and Forestry	Moderate
Transport	Moderate
Residential	Moderate
Commercial	Moderate
Emergency Services	Moderate
Tourism	Low

Vulnerable Groups	
Women and Girls	Persons with Chronic Diseases
Children and Youth	Low-Income Households
Elderly	Unemployed Persons
Indigenous Populations	Persons in Sub-Standard Housing
Marginalized Groups	Other
Persons with Disabilities	Communities that are isolated (specifically language barriers)
	Communities in proximity to polluted sites

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Drought

Probability	2
Consequence	3
Risk Level	6
Change in Intensity (How strong?)	Increase
Change in Frequency (How often?)	Increase
Timescale (By when?)	Medium Term (by 2050)

U.S. Drought Monitor
Potomac Watershed

October 29, 2019
(Released Thursday, Oct. 31, 2019)
Valid 8 a.m. EDT

http://droughtmonitor.unl.edu/

Drought

Impacted, Assets, and Services	Magnitude of Future Impact
Water Supply and Sanitation	High
Public Health	Moderate
Food and Agriculture	High
Environment, Biodiversity, and Forestry	High
Emergency Services	Moderate

Vulnerable Groups	
Women and Girls	Persons with Chronic Diseases
Children and Youth	Low-Income Households
Elderly	Unemployed Persons
Indigenous Populations	Persons in Sub-Standard Housing
Marginalized Groups	Other
Persons with Disabilities	

Lightning / Thunderstorm

Probability	3
Consequence	2
Risk Level	6
Change in Intensity *(How strong?)*	Increase
Change in Frequency *(How often?)*	Increase
Timescale *(By when?)*	Short Term

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Lightning / Thunderstorm

Impacted Sectors, Assets, and Services	Magnitude of Future Impact
Public Health	Moderate
Energy	Moderate
Water Supply and Sanitation	Moderate
Transport	Moderate
Food & Agriculture	Low
Emergency Services	Low
Commercial	Low

Vulnerable Groups	
Women and Girls	Persons with Chronic Diseases
Children and Youth	Low-Income Households
Elderly	Unemployed Persons
Indigenous Populations	Persons in Sub-Standard Housing
Marginalized Groups	Other
Persons with Disabilities	

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Extreme Winter Conditions

Probability	2
Consequence	3
Risk Level	6
Change in Intensity (How strong?)	Increase
Change in Frequency (How often?)	Increase
Timescale (By when?)	Immediately (by 2025)
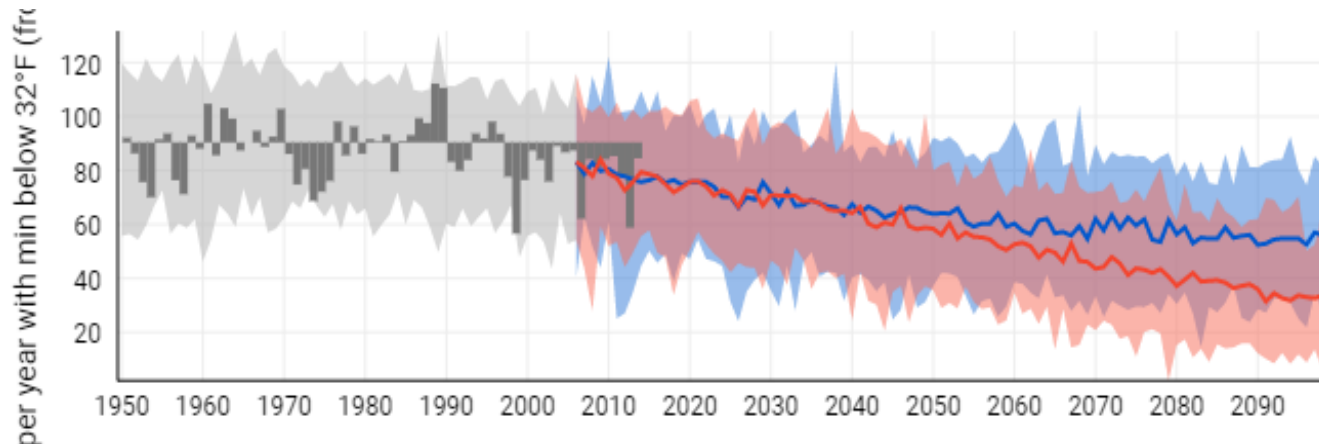
Extreme Winter Conditions

Impacted Sectors, Assets, and Services	Magnitude of Future Impact
Transport	High
Energy	High
Waste Management	Medium
Public Health	Medium

Vulnerable Groups	
Women and Girls	Persons with Chronic Diseases
Children and Youth	Low-Income Households
Elderly	Unemployed Persons
Indigenous Populations	Persons in Sub-Standard Housing
Marginalized Groups	Other
Persons with Disabilities	

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