

HEALTH HAZARD ASSESSMENT AND PRIORITIZATION TOOL

2019

BIOLOGICAL HAZARDS

HAZARD	PROBABILITY*	HEALTH SEVERITY	HEALTH SYSTEM IMPACT			MITIGATION CAPACITY		RISK SCORE
			PUBLIC HEALTH	EMS/ HEALTHCARE	BEHAVIORAL/ MENTAL HEALTH	RESPONDER AGENCIES	COMMUNITY AGENCIES	
			NA: 0 Negligible: 1 Marginal: 2 Critical: 3 Catastrophic: 4	NA: 0 Negligible: 1 Marginal: 2 Critical: 3 Catastrophic: 4	NA: 0 Negligible: 1 Marginal: 2 Critical: 3 Catastrophic: 4	NA: 0 Low: 1 Moderate: 2 High: 3 Extreme: 4	NA: 0 Low: 1 Moderate: 2 High: 3 Extreme: 4	
Aerosolized Anthrax	1	4	4	4	3	2	1	2.00
Agroterrorism	1	2	3	3	2	2	2	0.50
Antibiotic Resistant Mircroorganism	3	2	2	1	1	3	3	-0.75
Botulism	1	3	3	2	2	2	1	0.75
Emergent Disease	3	3	4	3	3	3	2	2.81
Intentional Food Contamination	2	3	3	3	3	2	2	1.88
Natural Food Contamination	4	2	2	2	2	3	2	0.50
Pandemic Flu	2	3	4	4	4	3	2	2.63
Pneumonic Plague	1	4	4	3	3	2	1	1.75
Smallpox	1	3	4	3	3	2	1	1.31
Tularemia	1	1	3	3	2	2	1	0.31
Vectorborne	2	2	2	2	2	1	1	1.00
Water Contamination	2	2	3	3	4	3	2	1.25

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2019

CHEMICAL & RADIOLOGICAL HAZARDS

HAZARD	PROBABILITY*	HEALTH SEVERITY	HEALTH SYSTEM IMPACT			MITIGATION CAPACITY		RISK SCORE
			PUBLIC HEALTH	EMS/ HEALTHCARE	BEHAVIORAL/ MENTAL HEALTH	RESPONDER AGENCIES	COMMUNITY AGENCIES	
	Improbable: 0 Remote: 1 Occasional: 2 Probable: 3 Frequent: 4	NA: 0 Negligible: 1 Marginal: 2 Critical: 3 Catastrophic: 4	NA: 0 Negligible: 1 Marginal: 2 Critical: 3 Catastrophic: 4	NA: 0 Negligible: 1 Marginal: 2 Critical: 3 Catastrophic: 4	NA: 0 Negligible: 1 Marginal: 2 Critical: 3 Catastrophic: 4	NA: 0 Low: 1 Moderate: 2 High: 3 Extreme: 4	NA: 0 Low: 1 Moderate: 2 High: 3 Extreme: 4	
Blister Agent	1	3	3	3	3	1	1	1.31
HazMat Incident – Fixed Facility	2	2	2	3	2	3	2	0.50
HazMat Incident –Transportation	3	3	2	3	3	3	2	1.69
Improvised Explosive Device	2	3	2	3	2	2	1	1.50
Multi Casualty HazMat Incident	1	3	3	3	3	3	2	0.75
Nerve Agent	1	4	3	3	2	2	1	1.25
Nuclear Attack – 10 Kiloton Device	1	4	4	4	4	3	2	1.75
Nuclear Facility Failure	1	3	4	4	4	4	4	0.75
Radiological Dispersal Device	1	3	3	4	3	3	3	0.75
Radiological Incident – Fixed Facility	1	3	2	3	3	3	2	0.56
Ricin	1	3	2	3	2	2	1	0.75
Small Casualty HazMat Incident	2	2	2	2	1	3	2	0.00

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TECHNOLOGICAL HAZARDS

HAZARD	PROBABILITY*	HEALTH SEVERITY	HEALTH SYSTEM IMPACT			MITIGATION CAPACITY		RISK SCORE
			PUBLIC HEALTH	EMS/ HEALTHCARE	BEHAVIORAL/ MENTAL HEALTH	RESPONDER AGENCIES	COMMUNITY AGENCIES	
	Improbable: 0 Remote: 1 Occasional: 2 Probable: 3 Frequent: 4	NA: 0 Negligible: 1 Marginal: 2 Critical: 3 Catastrophic: 4	NA: 0 Negligible: 1 Marginal: 2 Critical: 3 Catastrophic: 4	NA: 0 Negligible: 1 Marginal: 2 Critical: 3 Catastrophic: 4	NA: 0 Negligible: 1 Marginal: 2 Critical: 3 Catastrophic: 4	NA: 0 Low: 1 Moderate: 2 High: 3 Extreme: 4	NA: 0 Low: 1 Moderate: 2 High: 3 Extreme: 4	
Communications Failure	3	2	3	4	4	3	3	1.88
Cyber Attack	4	3	3	3	3	2	3	3.00
Electrical Failure	3	3	3	4	3	2	1	3.94
Information Systems Failure	3	1	3	3	3	1	1	1.31
Sewer Failure	3	2	2	3	3	3	1	1.50
Supply Shortage	2	3	3	4	3	2	2	2.25
Transportation Failure	2	2	2	3	3	3	1	1.00
Water Supply Contamination	2	3	3	4	3	3	2	1.88
Water Supply Disruption	2	2	3	3	3	3	2	1.00

HEALTH HAZARD ASSESSMENT AND PRIORITIZATION TOOL

2019

NATURAL HAZARDS

HAZARD	PROBABILITY*	HEALTH SEVERITY	HEALTH SYSTEM IMPACT			MITIGATION CAPACITY		RISK SCORE
			PUBLIC HEALTH	EMS/ HEALTHCARE	BEHAVIORAL/ MENTAL HEALTH	RESPONDER AGENCIES	COMMUNITY AGENCIES	
			NA: 0 Negligible: 1 Marginal: 2 Critical: 3 Catastrophic: 4	NA: 0 Negligible: 1 Marginal: 2 Critical: 3 Catastrophic: 4	NA: 0 Negligible: 1 Marginal: 2 Critical: 3 Catastrophic: 4	NA: 0 Low: 1 Moderate: 2 High: 3 Extreme: 4	NA: 0 Low: 1 Moderate: 2 High: 3 Extreme: 4	
Civil Disorder	1	1	1	2	2	2	1	0.13
Active Assailiant	2	3	2	3	3	2	2	
Climate Change	4	3	2	1	1	1	1	1.50
Coastal Erosion	4	1	1	2	1	2	0	0.50
Dam Failure	1	3	3	3	2	3	3	0.38
Drought	3	2	2	1	1	1	1	0.75
Earthquake - Catastrophic	2	4	4	4	4	1	2	4.50
Earthquake - Moderate	2	3	3	3	3	2	3	1.50
Expansive Soil	2	1	1	1	1	1	1	0.13
Extreme Summer Weather	4	2	2	2	2	2	2	1.00
Fire - Large-scale Urban	2	3	3	3	3	2	3	1.50
Flood	3	3	3	3	3	2	3	2.25
Hailstorm	1	1	1	1	1	1	1	0.06
Land Subsidence	1	1	1	1	0	1	1	0.00
Landslide	3	2	2	3	2	2	1	1.50
Severe Winter Storm	2	3	3	3	3	2	2	1.88
Storm Surge	2	2	2	2	1	1	1	0.75
Thunderstorm & Lightning	4	1	1	1	1	1	1	0.25
Tornado	1	2	1	1	1	1	1	0.13
Tsunami	2	2	2	3	2	3	3	0.25
Wildfire	4	3	3	3	3	3	3	2.25
Windstorm	2	1	2	2	2	2	1	0.38
Levee Failure	3	2	2	1	1	4	3	-1.13

Comparative Risk Scores

2019

Hazard	Risk Score	Rank
Aerosolized Anthrax	2.00	9
Agroterrorism	0.50	40
Blister Agent	1.31	23
Botulism	0.75	32
Civil Disorder	0.13	48
Climate Change	1.50	17
Coastal Erosion	0.50	40
Communications Failure	1.88	10
Cyber Attack	3.00	3
Dam Failure	0.38	44
Drought	0.75	32
Earthquake - Catastrophic	4.50	1
Earthquake - Moderate	1.50	17
Electrical Failure	3.94	2
Emergent Disease	2.81	4
Expansive Soil	0.13	48
Extreme Summer Weather	1.00	28
Fire - Largescale Urban	1.50	17
Flood	2.25	6
Hailstorm	0.06	51
HazMat Incident – Fixed Facility	0.50	40
HazMat Incident –Transportation	1.69	16
Improvised Explosive Device	1.50	17
Information Systems Failure	1.31	23
Intentional Food Contamination	1.88	10
Land Subsidence	0.00	52
Landslide	1.50	17
Levee Failure	-1.13	54
Mass Casualty HazMat Incident	0.75	32
Natural Food Contamination	0.50	40
Nerve Agent	1.25	26
Nuclear Attack – 10 Kiloton Device	1.75	14
Nuclear Facility Failure	0.75	32
Pandemic Flu	2.63	5
Pneumonic Plague	1.75	14
Radiological Dispersal Device	0.75	32
Radiological Incident – Fixed Facility	0.56	39
Ricin	0.75	32
Severe Winter Storm	1.88	10
Sewer Failure	1.50	17
Small Casualty HazMat Incident	0.00	52
Smallpox	1.31	23
Storm Surge	0.75	32
Supply Shortage	2.25	6

Comparative Risk Scores

2019

Hazard	Risk Score	Rank
Thunderstorm & Lightning	0.25	46
Tornado	0.13	48
Transportation Failure	1.00	28
Tsunami	0.25	46
Tularemia	0.31	45
Vectorborne	1.00	28
Water Contamination	1.25	26
Water Supply Contamination	1.88	10
Water Supply Disruption	1.00	28
Wildfire	2.25	6
Windstorm	0.38	44

Overall Ranking 2019

Hazard	Risk Score	Rank
Earthquake - Catastrophic	4.5	1
Electrical Failure	3.9375	2
Cyber Attack	3	3
Emergent Disease	2.8125	4
Pandemic Flu	2.625	5
Flood	2.25	6
Supply Shortage	2.25	6
Wildfire	2.25	6
Aerosolized Anthrax	2	9
Communications Failure	1.875	10
Water Supply Contamination	1.875	10
Intentional Food Contamination	1.875	10
Severe Winter Storm	1.875	10
Nuclear Attack – 10 Kiloton Device	1.75	14
Pneumonic Plague	1.75	14
HazMat Incident –Transportation	1.6875	16
Sewer Failure	1.5	17
Earthquake - Moderate	1.5	17
Improvised Explosive Device	1.5	17
Fire - Largescale Urban	1.5	17
Landslide	1.5	17
Climate Change	1.5	17
Blister Agent	1.3125	23
Smallpox	1.3125	23
Information Systems Failure	1.3125	23
Water Contamination	1.25	26
Nerve Agent	1.25	26
Vectorborne	1	28
Water Supply Disruption	1	28
Transportation Failure	1	28
Extreme Summer Weather	1	28
Radiological Dispersal Device	0.75	32
Botulism	0.75	32
Mass Casualty HazMat Incident	0.75	32
Nuclear Facility Failure	0.75	32
Ricin	0.75	32
Drought	0.75	32
Storm Surge	0.75	32
Radiological Incident – Fixed Facility	0.5625	39
Natural Food Contamination	0.5	40
HazMat Incident – Fixed Facility	0.5	40
Coastal Erosion	0.5	40
Agroterrorism	0.5	40

Calculate

**Overall Ranking
2019**

Hazard	Risk Score	Rank
Dam Failure	0.375	44
Windstorm	0.375	44
Tularemia	0.3125	45
Thunderstorm & Lightning	0.25	46
Tsunami	0.25	46
Civil Disorder	0.125	48
Tornado	0.125	48
Expansive Soil	0.125	48
Hailstorm	0.0625	51
Land Subsidence	0	52
Small Casualty HazMat Incident	0	52
Levee Failure	-1.125	54



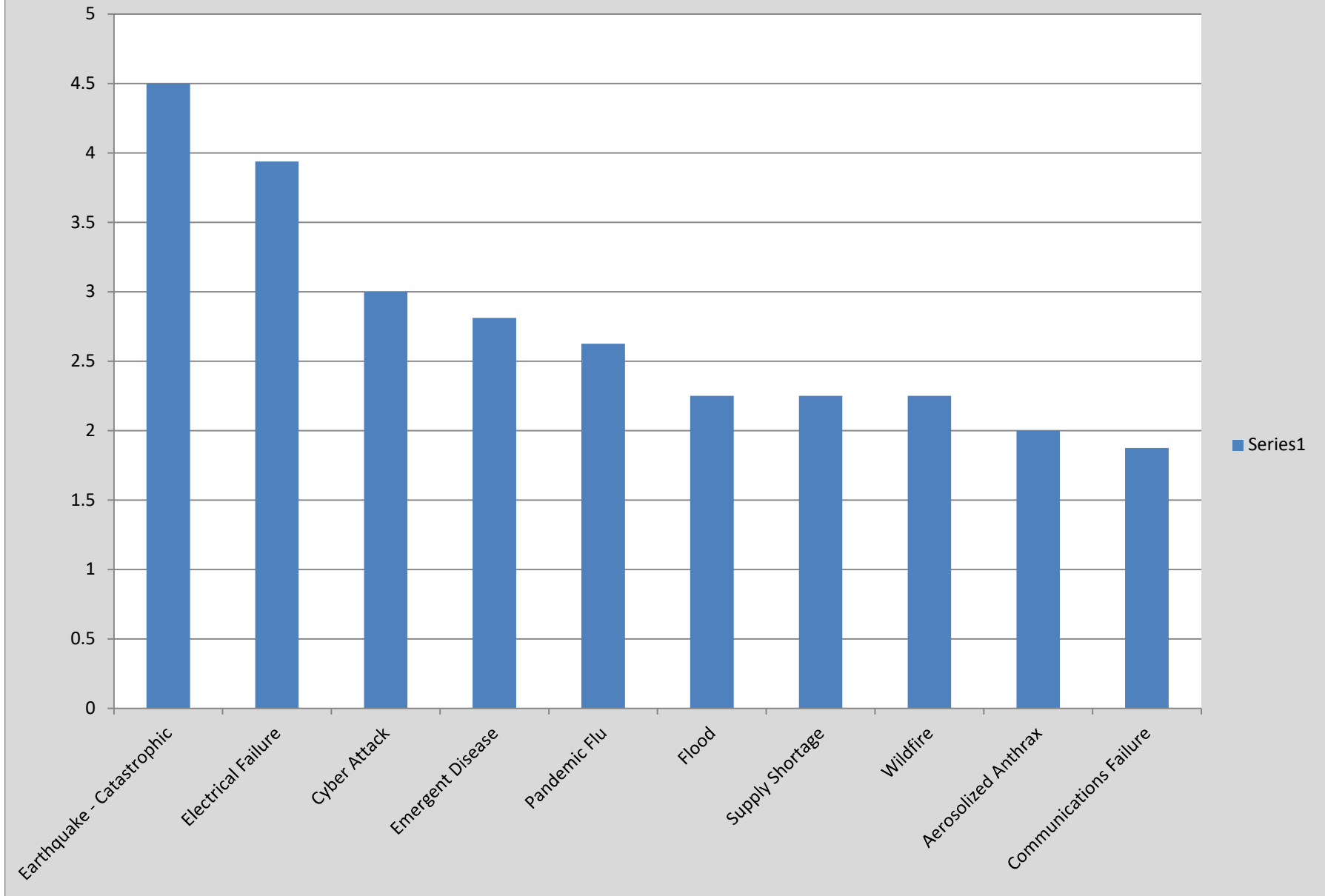
**Overall Ranking
2019**

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**Overall Ranking
2019**

2017

Top 10 Hazards



At Risk Populations

Are the following at-risk population categories at risk during the top hazards?

At-Risk Population Description	Top Hazards	
	Earthquake	Pan Flu
Health vulnerabilities such as poor health status	Yes	Yes
Limited access to neighborhood health resources	Yes	Yes
Reduced ability to hear, speak, understand or remember	No	No
Reduced ability to move or walk independently or respond quickly to directions during an emergency	Yes	No
Health vulnerabilities that may be exacerbated by chemical, biological or radiological exposure	No	No

Electrical Failure
Yes
Yes
No
Yes
No