

Appendix D

Appendix D Data Sources List

| Natural Hazards | | |
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| Hazard | Data Source | Source Agency/Organization |
| Coastal Erosion | <ol style="list-style-type: none"> 1) Erie County Bluff Recession Hazard Areas 2) Annual Average Water Levels for Lake Erie 3) Average Bluff Recession Rate | <ol style="list-style-type: none"> 1) PA DEP, Coastal Resources Management Program, 2011 2) NOAA GLERL, 2018 3) PADEP, 2012 |
| Drought | <ol style="list-style-type: none"> 1) Declared Drought Status History (1980 - 2016) 2) FEMA National Risk Index: Drought (2000-2016) 3) PA Groundwater Information System (PaGWIS) 4) Climate Normals (1981-2010) 5) Census of Agriculture: State and County Profiles | <ol style="list-style-type: none"> 1) PA DEP, 2018 2) FEMA NRI, 2018 3) PA DCNR, 2018 4) NOAA, 2010 5) USDA Census of Agriculture, 2012 |
| Earthquake | <ol style="list-style-type: none"> 1) USGS National Seismic Hazard Maps 2) Pennsylvania Earthquake Epicenters (1973-2017) 3) Pennsylvania Earthquake History (1724 - 2003) | <ol style="list-style-type: none"> 1) USGS, 2014 2) USGS Earthquake Catalog, 2018 3) PA DCNR, 2009 |
| Extreme Temperatures | <ol style="list-style-type: none"> 1) FEMA National Risk Index: Excessive Cold and Wind Chill (2005-2017) 2) FEMA National Risk Index: Heatwave Warnings (2005-2017) 3) Rate of Temperature Change (1901-2014) | <ol style="list-style-type: none"> 1) FEMA NRI, 2018 2) FEMA NRI, 2018 3) NOAA National Centers for Environmental Information, 2016 |
| Flood, Flash Flood, Ice Jams | <ol style="list-style-type: none"> 1) Special Flood Hazard Areas 2) Flood History (1950-2017) 3) Flood Insurance Claims and Loss Payments 4) Change in Magnitude of Inland Flooding 5) Rate of Precipitation Change 6) DFIRM Year and Status 7) RL & SRL Properties | <ol style="list-style-type: none"> 1) FEMA (Map Service Center), 2018 2) National Centers for Environmental Information (NCEI), 2018 3) FEMA (CIS), 2018 4) Slater and Villarini, 2016 5) NOAA, 2016 6) FEMA, 2018 7) PEMA, 2018 |
| Hailstorm | <ol style="list-style-type: none"> 1) Hailstorm Event History (1950-2016) 2) Hailstorm Damage History (1950-2018) 3) FEMA National Risk Index: Drought (1986-2016) 4) Census of Agriculture: State and County Profiles | <ol style="list-style-type: none"> 1) NOAA Storm Prediction Center SVRGIS, 2016 2) National Centers for Environmental Information (NCEI), 2018 3) FEMA NRI, 2018 4) USDA Census of Agriculture, 2012 |

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| <i>Hazard</i> | <i>Data Source</i> | <i>Source Agency/Organization</i> |
| <i>Hurricane, Tropical Storm, Nor'easter</i> | <ol style="list-style-type: none"> 1) Historical Coastal Storms Events 2) FEMA National Risk Index: Hurricane (1851-2015) 3) HAZUS Hurricane Loss Estimation | <ol style="list-style-type: none"> 1) NOAA Coastal Services Center, 2018 2) FEMA NRI, 2018 3) HAZUS 4.0, 2018 |
| <i>Invasive Species</i> | <ol style="list-style-type: none"> 1) Census of Agriculture: State and County Profiles | <ol style="list-style-type: none"> 1) USDA Census of Agriculture, 2012 |
| <i>Landslide</i> | <ol style="list-style-type: none"> 1) Landslide Susceptibility & Incidence Zones 2) Previously Active Documented Landslides in Southwestern Pennsylvania | <ol style="list-style-type: none"> 1) USGS, 1997 2) Southwestern Pennsylvania Commission (SPC), 2017 |
| <i>Lightning Strike</i> | <ol style="list-style-type: none"> 1) FEMA National Risk Index: Cloud-to-Ground Lightning Flashes (1991-2016) 2) Lightning Event History (1950-2017) | <ol style="list-style-type: none"> 1) FEMA NRI, 2018 2) National Centers for Environmental Information (NCEI), 2018 |
| <i>Pandemic</i> | <ol style="list-style-type: none"> 1) West Nile Virus Surveillance Data and Maps | <ol style="list-style-type: none"> 1) Pennsylvania's West Nile Control Program, 2018 |
| <i>Radon Exposure</i> | <ol style="list-style-type: none"> 1) Radon Zones 2) Predictors of Indoor Radon Concentrations in Pennsylvania 3) Radon Levels in Pennsylvania Wells | <ol style="list-style-type: none"> 1) EPA, 2014 2) Casey et. al., 2015 3) USGS, 2017 |
| <i>Subsidence, Sinkholes</i> | <ol style="list-style-type: none"> 1) Karst Areas in Pennsylvania 2) Sinkholes and Surface Depressions in Pennsylvania | <ol style="list-style-type: none"> 1) USGS, 2014 2) PA DCNR, 2016 |
| <i>Tornado, Wind Storm</i> | <ol style="list-style-type: none"> 1) Tornado Shelter Design Wind Speeds 2) FEMA National Risk Index: Wind (1986-2016) | <ol style="list-style-type: none"> 1) ICC 500, 2014 2) FEMA NRI, 2018 |
| <i>Wildfire</i> | <ol style="list-style-type: none"> 1) Wildfire Occurrence in the United States (1992-2015) 2) Pennsylvania Wildfire History 3) FEMA National Risk Index: Wildfire | <ol style="list-style-type: none"> 1) Short, Karen (US Forest Service), 2017 2) PA DCNR, Bureau of Forestry, 2017 3) FEMA NRI, 2018 |
| <i>Winter Storm</i> | <ol style="list-style-type: none"> 1) Climate Normals (1981-2010) 2) FEMA National Risk Index: Winter (2005-2016) | <ol style="list-style-type: none"> 1) NOAA, 2010 2) FEMA NRI, 2018 |

Appendix D

| <i>Human Made Hazards</i> | | |
|---|--|--|
| <i>Hazard</i> | <i>Data Source</i> | <i>Source Agency/Organization</i> |
| <i>Building and Structure Collapse</i> | 1) Year Structures Built 2) Structurally Deficient Bridges | 1) ACS, 2012-2016 5-Year Estimates 2) PennDOT, April 2018 |
| <i>Civil Disturbance</i> | 1) Past Civil Disturbance Incidents (2001 – 2009) 2) PEMA-KC Civil Disturbance Events (2012-2018) | 1) Pennsylvania Emergency Incident Reporting System (PEIRS); PEMA, 2009 2) PEMA, 2018 |
| <i>Cyber-Terrorism</i> | 1) PEMA-KC Cyber-Terrorism Events (2012-2018) | 1) PEMA, 2018 |
| <i>Dam Failure</i> | 1) Pennsylvania Dams 2) National Inventory of Dams | 1) PA DEP, 2018 2) USACE, 2018 |
| <i>Environmental Hazard – Coal Mining</i> | 1) Distribution of Pennsylvania Coals 2) Coal Mining Operations in Pennsylvania | 1) PA DMCR, 2018 2) PA DEP, 2018; PADA |
| <i>Environmental Hazard – Conventional Oil and Gas Wells</i> | 1) Oil & Gas Wells | 1) PA DEP, 2018; PASDA |
| <i>Environmental Hazard – Unconventional Oil and Gas Wells</i> | 1) Marcellus Shale 2) PEMA-KC Gas and Oil Well Incidents (2013-2018) | 1) DCNR, 2013; PASDA 2) PEMA, 2018 |
| <i>Environmental Hazard – Hazardous Materials Releases</i> | 1) Toxic Release Inventory (TRI) Facilities 2) PEMA-KC Hazardous Materials Incidents (2012-2018) 3) Hazardous Material Release Incident Statistics (2008-2017) | 1) EPA, 2016 2) PEMA, 2018 3) PHMSA, 2017 |
| <i>Environmental Hazard – Gas and Liquid Pipeline</i> | 1) Pennsylvania Pipeline Mileage 2) Major Pipeline Locations 3) Pipeline Incidents (1998-2017) 4) PEMA-KC Pipeline Incidents (2014-2018) | 1) PHMSA, 2016 2) EIA, 2018 3) PHMSA, 2018 4) PEMA, 2018 |
| <i>Levee Failure</i> | 1) Midterm Levee Inventory Database 2) Sponsorship of Levee Systems, National Levee Database | 1) FEMA-Region III, 2012 2) USACE, 2018 |

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| <i>Hazard</i> | <i>Data Source</i> | <i>Source Agency/Organization</i> |
| <i>Nuclear Incidents</i> | <ol style="list-style-type: none"> 1) Nuclear Power Plants/EPZ 2) At-Risk Populations 3) Census of Agriculture: State and County Profiles | <ol style="list-style-type: none"> 1) PEMA, 2013 2) US Census, ACS 5-Year, 2016 3) USDA Census of Agriculture, 2012 |
| <i>Opioid Addiction</i> | <ol style="list-style-type: none"> 1) Drug Overdoses in Pennsylvania | <ol style="list-style-type: none"> 1) DEA, 2016 |
| <i>Terrorism</i> | <ol style="list-style-type: none"> 1) Past Terrorist Reported Incidents (2001 – 2009) 2) PEMA-KC Terrorist Activity Events (2012-2018) | <ol style="list-style-type: none"> 1) Pennsylvania Emergency Incident Reporting System (PEIRS); PEMA, 2009 2) PEMA, 2018 |
| <i>Transportation Accidents</i> | <ol style="list-style-type: none"> 1) Pennsylvania Highway Traffic Volume 2) Airports/Passenger Volume 3) Rail Incidents (2014-2017) 4) Structurally Deficient Bridges | <ol style="list-style-type: none"> 1) PennDOT, 2018 2) US DOT, 2018 3) Federal Railroad Administration, 2018 4) PennDOT, 2018 |
| <i>Urban Fire and Explosion</i> | <ol style="list-style-type: none"> 1) Year Structures Built 2) PEMA-KC Urban Fire and Explosion Events (2012-2018) | <ol style="list-style-type: none"> 1) ACS, 2012-2016 5-Year Estimates 2) PEMA, 2018 |
| <i>Utility Interruption</i> | <ol style="list-style-type: none"> 1) Gas & Liquid Pipeline Mileage 2) Electricity Interruption Events in 2016 3) Utility Interruption Events Reported to PHMSA 4) Utility Outage Incidents (2001 – 2009) | <ol style="list-style-type: none"> 1) NPMS, 2018 2) PUC, 2017 3) PHMSA, 2018 |