Hazard Specific Resource Guide

Planning Best Practices:

ND Department of Emergency Services (NDDES): Recovery and Mitigation Program provides the coordination between the federal and local governments. There are programs such the individual and public assistance programs that provide aid to private and public partners. The state provides guidance is planning, approval, and funding. For more information: https://www.des.nd.gov/recovery-mitigation

Hazard Mitigation Grant Program (HMGP): HMGP is a federally operated program providing grants post-disaster giving up to 75 percent of mitigation project funding. All applicants must be FEMA-approved, but funding can be used for public and private projects. Local governments must apply on the individuals behalf. For more information: https://www.fema.gov/grants/mitigation/hazard-mitigation

Environmental Planning and Historic Preservation: The Federal Emergency Management Agency (FEMA) provides resources to maintain the integrity of the natural and historic landscape. Environmental historic preservation experts are available to assist through the process of integrating cultural and historic planning into day-to-day efforts. For more information: https://www.fema.gov/emergency-managers/practitioners/environmental-historic

Integrating Climate Change: With changing climate data climate change poses increasing impacts to infrastructure and communities' safety. As we move to the future climate change and looking into the future is critical for planning.

Information:

- https://toolkit.climate.gov/topics/built-environment/disaster-planning
- https://climate.nasa.gov/evidence/
- https://www.ncei.noaa.gov/news/calculating-cost-weather-and-climate-disasters
- https://resilience.climate.gov/
- https://www.ncei.noaa.gov/

Example: https://www.state.gov/wp-content/uploads/2021/10/state-2021-cap-1.pdf

Educational Opportunities:

In-person Workshop Opportunities: NDDES offers multiple series of workshops regarding all facets of emergency management ranging from group facilitation to understanding the Homeland Security Exercise and Evaluation Program (HSEEP). For scheduling and registration, select here: https://apps.nd.gov/des/TrainingAndExercise

Disaster Recovery Guide: The American Planning Association (APA) provides guidance through a post-disaster planning guide. APA is future-oriented and has a strong focus on promoting resilient communities by sharing a best-planning practices guide. APA's Website: https://www.planning.org/nationalcenters/hazards/

Natural Hazards:

Flood:

ND Department of Water Resources (DWR): DWR is responsible for investigating, planning, constructing, and developing water-related projects including the funding that is necessary throughout the state. The agency provides detailed information related to all aspects of water including dam safety, floodplain management, mapping, and working with federal partners to provide insurance.   For more information: http://www.swc.state.nd.us/thedwr/

ND Risk Assessment MapService (NDRAM): NDRAM provides a GIS Interface that provides current flooding information, base level engineering (BLE), and regulatory floodplains through FEMA's National Flood Insurance Program (NFIP). To access NDRAM: https://ndram.dwr.nd.gov/

Risk Mapping, Assessment, and Planning (RiskMAP): Enhanced mapping and data sets provide detailed information that allow for effective flood mitigation completion. FEMA provided mapping can guide efforts for all of those involved. For more information: https://www.fema.gov/flood-maps/tools-resources/risk-map

Hazus: FEMA's methodology for estimating potential loss from floods, hurricanes, tsunamis, and earthquakes is known as Hazus in which uses GIS based information to estimate risk based on physical, economic, and social impacts of disasters. For more information: https://www.fema.gov/flood-maps/products-tools/hazus

National Weather Service (NWS): The NWS provides up-to-date and long-range flood risk maps to help with flooding forecasts and predictions. This tool helps with shorter-range planning with predictions being for up to three months. For more information: https://www.climate.gov/maps-data/dataset/river-levels-graphs - To access the mapping tool: https://water.weather.gov/ahps/

US Army Corps of Engineers: The Army Corps of Engineers is focused on providing innovative and environmentally friendly solutions as water resources evolve with climate and land use changes, the rise of invasion from exotic species, demographic shifts, and aging structures. For more information: https://www.erdc.usace.army.mil/Home/Enhance-Water-Resources/

Severe Summer/Winter Weather:

National Weather Service (NWS): The mission of the National Weather Service is to provide weather, water and climate data, forecasts, warnings, and impact based decision support for the protectiosn of life and property. NWS is the official weather agency for forecasting and warning during times of summer and winter weather. For more information: https://www.weather.gov/

National Centers for Environmental Information (NCEI): NCEI is the leading authority for environmental data and manages the largest archives of atmospheric, coastal, geophysical, and oceanic research in the world. When looking for summer or winter weather climate trends or past history that may be a valuable tool. For more information: https://www.ncei.noaa.gov/

National Oceanic and Atmospheric Administration (NOAA) Storm Prediction Center: The Storm Predication center uses innovative science and technology to deliver timely and accurate watch and forecast products/information specifically for tornados, severe thunderstorms, lightning, wildfires, and winter weather. For more information: https://www.spc.noaa.gov/

North Dakota State Climate Office (NDSCO): As part of the North Dakota State University system the NDSCO works to provide information for natural resource management and climate assessment to many public and private stakeholders. The agency works to serve as a liaison between the users of weather and climate information in the State of ND, regional, and national climate centers. The office holds lots of archives on North Dakota climate history, current conditions, and future projections. For more information: https://www.ndsu.edu/ndsco/

North Dakota Association of Rural Electric Cooperatives (NDAREC): NDAREC is the binding association for the 16 electric distribution co-ops and five generation and transmission co-ops in North Dakota. With power outages being one of the greatest impacts from summer and winter storms gathering information may be valuable to planning. For more information: https://www.ndarec.com/

Fire: (urban and wildland)

U.S. Forest Service: Responsible for research, collaboration, and support to state forest service operations the U.S. Forest service provides a wide variety of expertise and resources. A key part of agency is research relating to forests and grasslands, invasive species, sustainability, and climate. For more information: https://www.fs.usda.gov/

National Wildfire Coordinating Group: The mission of the National Wildfire Coordinating group is to track fire occurrences nationally, updated the National Fire Danger rating system, and coordinate the fire danger subcommittee. The website provides access to the Fire Occurrence Dataset (FDA FOD) that is a national scale, quality controlled, and consolidate dataset. For more information: https://www.nwcg.gov/committees/fire-danger-subcommittee/nfdrs/fire-occurrence

West Wide Wildfire Risk Assessment: The West Wide Wildfire Risk Assessment provides detailed maps quantifying fire risk for the 17 western states including North Dakota. Maps highlight many factors such as: drinking water importance areas, forest assets, infrastructure assets, riparian assets, and wildland development areas (housing density) to create a summarized rating for the geographic area. For more information: https://www.adaptationclearinghouse.org/resources/west-wide-wildfire-risk-assessment.html

National Fire Incident Reporting System (NFIRS): Acting as a database of fire information more than 24,000 U.S. fire departments work together to reduce fire risk and other emergencies by reporting incident data. This database can provide planners with up-to-date information and risk analysis. For more information: https://www.usfa.fema.gov/nfirs/

NDSU –North Dakota Forest Service: The mission of NDFS is to care for, protect, and improve forest and natural resources to enhance the quality of life for present and future generation. The agency holds lots of services ranging from fire suppression, technical forestry advice, etc. NDFS is also responsible for fire tracking in coordination with NDDES. For more information: https://www.ag.ndsu.edu/ndfs

Current fire information from ND Response: https://www.ndresponse.gov/burn-ban-restrictions-fire-danger-maps

North Dakota Attorney General's Office: The State Fire Marshall's office within the Attorney General's office assists local fire departments and law enforcement agencies with fire orgina

and cause investigations. The State Fire Marshall is also responsible for writing and enforcing the state fire codes conduction inspections on above ground fuel dispersing and bulk tank storage, public buildings, childcare facilities, and schools. For more information: https://attorneygeneral.nd.gov/public-safety/fire-safety-information-0/fire-departments

Human Pandemic Outbreak:

Centers for Disease Control and Prevention (CDC): The CDC is the leading agency related to all public health related issues. The agency is focused on providing the best information possible with helpful and innovative information. For more information: https://www.cdc.gov/

ND Department of Health: The ND Department of Health provides medical resources and expertise for the jurisdictions throughout the state on all levels. The agency provides testing opportunities, education, and personnel resources. For more information: https://www.health.nd.gov/

Animal Disease Outbreak:

U.S. Department of Agriculture (USDA): The Pests and Animal Disease sector of the USDA provides resources and relevant information for stakeholders responding and recovering to all-hazard emergencies. The agency is focused on providing research and expertise on both plants, animals, and the diseases associated with them. For more information: https://www.usda.gov/topics/disaster-resource-center/pests-and-animal-disease

The Center of Food Security and Public Health (CFSPH): CFSPH's mission is to "increase national and international preparedness for accidental or intentional introduction of disease that threaten food production or public health." The organization provides advanced research allowing stakeholders to prepared for the individualized threats that face them. For more information: https://www.cfsph.iastate.edu/

North Dakota Division of Animal Health: The North Dakota Department of Agriculture's Division of Animal Health in both domestic animals and non-traditional livestock. There is a corps of veterinary professionals that participate in animal emergency response and preparedness provided through the agency. For more information: https://www.nd.gov/ndda/animal-health-division

ND Farm Service Agency (FSA): ND FSA provides farmers and ranchers supports through various programs including the farm loan program, price support, risk coverage, and conservation. The Emergency Assistance for Livestock, Honey Bees, and Farm-Raised Fish (ELAP) provides financial assistance to eligible producers. For more information: https://www.fsa.usda.gov/programs-and-services/disaster-assistance-program/emergency-assist-for-livestock-honey-bees-fish/index

Drought:

Drought Hotline Interactive Map: The interactive Map details counties where producers have called the hotline expressing a need for hay, as well as those with hay to sell, pasture or hayland to rent, and individuals who are available to move hay. North Dakotans and producers from nine other states have contacted the department and are willing to sell hay or rent pastureland to North Dakotans in need. For more information: https://www.nd.gov/ndda/news/goehring-launches-drought-hotline-interactive-map

Livestock Rebuilder Loan Program: This program assists local financial institutions in providing loans to North Dakota livestock producers who plan to purchase and rebuild breeding stock in an effort to recover from the 2021 drought. BND has set aside $150 million for the 2021 drought related programs. Funds will be allocated on a first-come basis. For more information: https://bnd.nd.gov/ag/livestock-rebuilder-loan-program/#1443041725764-13111670-495f

NDSU Extension Drought Website: Provides drought resources on crop, livestock, lawns, garden, trees, property, and other resources. NDSU Extension agents are also able to provide insight to impacts on the community as continual checks are a part of their responsibilities. For more information: https://www.ndsu.edu/agriculture/ag-hub/ag-topics/disasters/drought

Farm and Ranch Rural Stress: The Farm and Ranch Rural Stress Programs provided by NDSU Extension and ND State agencies provide grant funded mental health services at no cost for farmers and ranchers. The goal is to provide accessible mental health care and education to rural communities throughout North Dakota. For more information: https://www.ndsu.edu/agriculture/ag-hub/ag-topics/farm-safety-health/managing-stress Find a provider for you using the North Dakota Department of Health and Human Services registry: https://www.hhs.nd.gov/behavioral-health/program-registry

Space Weather:

NOAA Space Weather Prediction Center: Serving as a hub of data the NOAA Space Weather prediction center provides historical, current, and future forecasts of solar radiation. Space weather may impact the ability for satellites to communicate with one another due to solar flares and radiation from the sun therefore creating communication challenges. For more information: https://www.swpc.noaa.gov/

- Electric power grid: https://www.swpc.noaa.gov/impacts/electric-power-transmission
- HF radio communication: https://www.swpc.noaa.gov/impacts/hf-radio-communications
- Satellite communication: https://www.swpc.noaa.gov/impacts/satellite-communications
- GPS navigation systems: https://www.swpc.noaa.gov/impacts/space-weather-and-gps-systems
- Weather and climate: https://www.swpc.noaa.gov/impacts/space-weather-impacts-climate

Reviewing the Economic Impact of Space Weather: In an article from Eastwood et al., (2017) authors explore the impacts of space and human activity in space and on earth while considering the socioeconomic factors of increased technology integration. While space weather is not new, the research and information regarding the subject is in new to the general public and continues to be explored by disaster scientists and emergency management professionals. For more information: https://onlinelibrary.wiley.com/doi/full/10.1111/risa.12765

Adversarial/technological Hazards:

Civil Disturbance:

Department of Homeland Security (DHS): Established in 2002 DHS works to protected the country through a wide range of missions from aviation, border security, emergency response, and cybersecurity analysis. The agency works to provide analysis and response services to keep the nation safe. For more information: https://www.dhs.gov/

North Dakota State and Local Intelligence Center (SLIC): The ND SLIC's mission is to gather, store, analyze, and disseminate information on crime that are both real and suspected. Crimes that impact the law enforcement community, government officials, and private industry concerning crimes such as drugs, fraud, organized crime, terrorism, and other criminal activity. Civil disturbance protests are tracked and followed by the ND SLIC. For more information: https://www.ndslic.nd.gov/ For in time information: https://ndresponse.gov/

Cyberattack:

Cybersecurity & Infrastructure Security Agency (CISA): Providing a wealth of knowledge CISA explores manmade threats and provides tools for private and public resilience growth. There are several resources and services such as operations resilience, cybersecurity practices, organizational management of external dependencies, and other key elements to provide a robust and resilient cyber framework. For more information: https://www.cisa.gov/cyber-resource-hub

North Dakota State and Local Intelligence Center (SLIC): The ND SLIC's mission is to gather, store, analyze, and disseminate information on crime that are both real and suspected. Crimes that impact the law enforcement community, government officials, and private industry concerning crimes such as drugs, fraud, organized crime, terrorism, and other criminal activity. Cyber activity and crimes are tracked by the cyber division within ND SLIC. For more information: https://www.ndslic.nd.gov/

North Dakota Information Technology (NDIT): NDIT holds a wide range of services from providing internet, radio, and software support to tracking and defending against cybersecurity incidents. Providing 24/7 support to agency business partners, IT Staff, and employees of team ND NDIT plays a critical role in everyday and out of the blue IT incidents. For more information: https://www.ndit.nd.gov/

Hazardous Materials:

ND Department of Transportation: Railways are key aspect of North Dakota's oil industry and economy, yet also face as a hazard to our communities and environment. The state has created a plan that is regularly updated. For more information: https://www.dot.nd.gov/divisions/planning/railinfo.htm To view the 2007 plan: https://www.dot.nd.gov/divisions/planning/docs/railplan.pdf

U.S. Department of Transportation: The Pipeline and Hazardous Materials Safety Administration (PHMSA) provides data and resources that enforce and advance standards, education, and continuing research. There focus is on pipeline and hazardous material safety and standard enforcement. For more information: https://www.phmsa.dot.gov/

ND Department of Health: Both the state agency and local public health units provide environmental health services including air and water quality regulation. Local public health departments maintain records and provide healthcare services to those who would otherwise not have them. Use search engines to find local departments. State Dept. of Health: https://www.health.nd.gov/

ND Department of Agriculture: The Department of Agriculture is responsible for all pesticide and fertilizer regulation including anhydrous ammonia. The Risk Management Program (RMP) for

anhydrous ammonia provides guidance for those around the state navigating safety regulations and planning. For more information: https://www.nd.gov/ndda/divisions

ND Department of Mineral Resources: The Oil and Gas Division regulate drilling and production of oil and gas throughout the state with the goal of promoting development, production, and utilization of resources. The agency is responsible for regulating oil and gas usage including the spill reporting system. For more information: https://www.dmr.nd.gov/dmr/ To report a spill: https://northdakota.hazconnect.com/Account/Login.aspx

National Pipeline Mapping System: The National Pipeline Mapping System (NPMS) is a map available to the public that designed to share data related to gas transmission and hazardous liquid pipelines, liquefied natural gas plants, and breakout tanks. For more information and mapping tools: https://www.npms.phmsa.dot.gov/

Hazardous Materials Notification: Canadian Pacific offers hazardous materials notification list to assess the materials transported through specified locations. Understanding the materials commonly being transported aids in planning efforts. Request form: https://www.cpr.ca/en/safety/transporting-dangerous-goods/notification-list-US

Dam Failure:

National Dam Safety Program: Dam infrastructure plays a critical role in water resources and economic development in the United States. FEMA's Dam Safety programs promotes the establishments and maintenance of federal and state dam safety programs to include the rehabilitation of high hazard dams, federal guidelines for dam owners, and available grants. For more information: https://www.fema.gov/emergency-managers/risk-management/dam-safety

North Dakota Department of Water Resources (NDDWR): Previously known as the State Water Commission the NDDWR holds the authority to investigate, plan, construct, and develop water related projects. In addition to these regulatory services NDDWR also drives the state Dam Safety program that provides permits, inspections, emergency action plans, dam inventory, etc. For more information: https://www.swc.nd.gov/

Dam Safety: https://www.swc.nd.gov/reg_approp/dam_safety/

Criminal, Terrorist, or Nation/State Attack:

United States Department of Homeland Security (DHS): The mission DHS has the mission to secure the national from the threats that we face including aviation, border security, emergency response, cybersecurity analyst, and assistance in chemical facility inspectors. Additionally, the agency is focused on preventing terrorism and criminal attacks by understanding the evolving and emerging threats and how to improve terrorism prevention tactics. For more information: https://www.dhs.gov/preventing-terrorism-overview

United States Department of Justice (USDOJ): The mission of the U.S. Department of Justice (DOJ) is to uphold the rule of law, to keep our country safe, and to protect civil rights. Their website holds lots of resources for education, grant funding, and resources for small & disadvantaged business utilization. For more information: https://www.justice.gov/

United States Census Bureau: The Census Bureau's mission is to serve the nation in providing quality data about people and the economy. Collecting information from populations within the

country is critical for situational awareness and guiding planning for a whole community approach. For more information: https://www.census.gov/en.html

North Dakota State and Local Intelligence Center (SLIC): The ND SLIC's mission is to gather, store, analyze, and disseminate information on crime that are both real and suspected. Crimes that impact the law enforcement community, government officials, and private industry concerning crimes such as drugs, fraud, organized crime, terrorism, and other criminal activity. For more information: https://www.ndslic.nd.gov/

North Dakota Attorney General's Office: The Attorney General's office represents the state in all legal matters where the state is named as a party or any involvement in litigation. The agency also provides legal services and opinions to state officials, agencies, boards and commissions as well as providing crime database services for the state. For more information: https://attorneygeneral.nd.gov/

Geological Hazards:

United States Environmental Protection Agency (EPA): Responsible for all environmental topics, laws, and regulations the EPA gathers data relating to all geological hazards and risks to the environment. For more information: https://www.epa.gov/

North Dakota Geological Survey: ND Geological survey provides data-driven information regarding the landscape of the state including the hazards within specifically targeting landslides and earthquakes. The soils and topography of the land create hazards such as landslides with occasional earthquakes. For more information: https://www.dmr.nd.gov/ndgs/

> North Dakota Geological Survey offers a great tool for examining risk related to landslides. Link: https://www.dmr.nd.gov/ndgs/landslides/

North Dakota Department of Transportation (NDDOT): NDDOT works to maintain an efficient transportation system including surface transportation being highways, bridges, rail, transit, pedestrian, and bicycle paths across the state. The agency collects detailed information regarding the damages and costs needed to make the correct repairs or clearing of roadways during emergency response. For more information: https://www.dot.nd.gov/

North Dakota Department of Mineral Resources (NDDMR): NDDMR is has jurisdiction over all topics related to the oil and gas industries, geological survey, and paleontology. The Industrial commission has responsibility for many industries and utilities that are found in North Dakota. For more information: https://www.dmr.nd.gov/dmr/

Abandoned Mine Lands (AML): The North Dakota Public Service Commission provides funding per the amount of material that was excavated from the location. There are many opportunities for what is to be done with these abandoned locations. These resources are also applicable to filling sinkholes. For more information: https://psc.nd.gov/jurisdiction/aml/projects.php

Transportation Incident:

National Transportation Safety Board (NTSB): NTSB works to make transportation safer than ever using tools such as accident investigations, advocating for safety improvement, and administering pilots and mariners' certifications. All serious aviation and maritime accidents must be reported to them for consideration of the captain's license. For more information: https://www.ntsb.gov/Pages/home.aspx

National Pipeline Mapping System: The National Pipeline Mapping System (NPMS) is a map available to the public that designed to share data related to gas transmission and hazardous liquid pipelines, liquefied natural gas plants, and breakout tanks. For more information and mapping tools: https://www.npms.phmsa.dot.gov/

Rural Transportation Safety and Security Center (RTSSC): The vision of RTSSC is to promote and enhance the region's transportation and security. Rural communities are reliant on transportation systems for day-to-day essentials and critical needs such as hospitals. For more information: https://www.ugpti.org/rtssc/

North Dakota Department of Transportation (NDDOT): NDDOT works to maintain an efficient transportation system including surface transportation being highways, bridges, rail, transit, pedestrian, and bicycle paths across the state. It is the emergency managers and local jurisdictions responsible to ensure that the community is aware of the rail lines and substances that are being transported on them. The agency collects detailed information regarding the damages and costs needed to make the correct repairs or clearing of roadways during emergency response. For more information: https://www.dot.nd.gov/