



Orleans Parish, Louisiana – 2015 Hazard Mitigation Plan Update
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The Executive Summary for the Orleans Parish 2015 Hazard Mitigation Plan Update provides an overview of the purpose of the plan, the planning process, identified hazards and vulnerability (risk) assessment, capability assessment, the mitigation strategy, and the procedure for maintaining and updating the plan.

Purpose of the Hazard Mitigation Plan and Plan Update

Hazard mitigation is defined as any sustained action to reduce or avoid long-term risk to life and property from a hazard event in order to: 1) save lives and reduce property damage, 2) reduce the cost of disasters to property owners and all levels of government, and 3) protect critical facilities and minimize community disruption.

More recent disaster events, including Hurricane Katrina in 2005 and the BP oil spill in 2010, point to the urgency and need for a strong Hazard Mitigation Plan that the City continues to fund and implement to reduce future potential risks and losses for the residents and businesses of New Orleans. The City has demonstrated its commitment to building resiliency by participating in the Rockefeller 100 Resilient Cities initiative and by releasing the Resilient New Orleans Strategy in 2015, which outlines the City's priorities for adapting to the changing natural environment, and to prepare for future shocks. The Hazard Mitigation Plan is a vehicle towards these objectives for a safer and more resilient New Orleans.

Hazard mitigation planning provides a mechanism for understanding the risks and vulnerabilities of the City, as well as identifying actions that can reduce the risks and potential impacts. Hazard mitigation planning is also a federal requirement based upon the Disaster Mitigation Act of 2000, which authorized pre-disaster mitigation planning to reduce and control the cost of disaster assistance. This Act includes a requirement that state and local governments have an approved hazard mitigation plan that is updated every five years in order to apply for and/or receive grant funds for any of the hazard mitigation assistance programs. Although the Act was written to respond to natural disasters, state and local governments are encouraged to expand the scope of hazard mitigation planning to also include manmade disasters.

Identified Hazards for the 2010 Orleans Parish Hazard Mitigation Plan and the Five Year Plan Update

The City of New Orleans adopted its first Hazard Mitigation Plan in December 2005 and updated the plan in 2010. The 2010 plan update was developed through a public planning process and adopted after its review and approval by the Governor's Office of Homeland Security Emergency Preparedness (GOHSEP) and the Federal Emergency Management Agency (FEMA). The City's 2010 Plan Update included 12 identified natural hazards and 2 man-made hazards. For the 2015 five-year Plan Update, the City reviewed the list of hazards, considered additional hazards and prioritized the updated list of hazards for the 2015 Plan Update. The following table shows the 9 natural hazards and the 8 man-made hazards identified for the 2015 Plan Update and shows those hazards included in the 2010 Plan. The table includes notations on which hazards were dropped, added, and amended from the 2010 plan, based on input from the City's Working Group and the Advisory Committee.



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Identified Hazards, 2015 Plan Update

Natural Hazards, 2010 Plan	Natural Hazards, 2015 Plan
Floods	Floods
Hurricanes/Tropical Cyclones	Tropical Cyclones (Amended)
Tornadoes	Storm Surge
Thunderstorms (Dropped in 2015 Plan)	Coastal Erosion
Lightning (Dropped in 2015 Plan)	Tornadoes
Subsidence	Subsidence
Hail – (Dropped in 2015 Plan)	Winter Storms
Winter Storms	Drought
Drought	Extreme Temperatures (New)
Storm Surge	Man-Made Hazards, 2015 Plan
Coastal Erosion	Dam & Levee Failure
High Winds, part of Hurricanes - (Dropped in 2015 Plan)	Hazardous Materials Spills/Contamination, Fixed Site and Transportation (Amended)
Man-Made Hazards, 2010 Plan	Power Outages (New)
Dam & Levee Failure	Terrorism (New)
Hazardous Materials Spills/Contamination	Infrastructure Failure (New)
	Building Collapse (New)
	Civil Unrest (New)
	Pandemic (New)



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Overview of the 2015 Five-Year Plan Update

FEMA requires that all local governments update their Hazard Mitigation Plan every five years in order to remain eligible to receive federal hazard mitigation assistance funds. In 2015, Orleans Parish reviewed and updated each section of its 2010 Hazard Mitigation Plan using a comprehensive planning process described below. Critical information updated in the 2015 Plan includes the following:

- The mission statement was reaffirmed and updated: To promote, implement, and sustain mitigation measures in Orleans Parish in order to reduce and manage risks to human life, the environment, and property. To protect Orleans Parish and the surrounding region from the effects of natural and manmade hazards, ensuring community continuity in the event of such hazards.
- Hazards included in the 2010 Plan were reviewed and a new list of prioritized hazards was prepared for the 2015 Plan Update
- The goals and objectives included in the 2010 Plan were reviewed and a new list of goals was prepared for the 2015 Plan Update.
- Each of the 17 prioritized hazards were identified and profiled to include: a description of the hazard, the location and extent of the hazard within the Parish, the severity of the hazard, and occurrences of the hazard in Orleans Parish.
- Orleans Parish's vulnerability to hazards was updated after reviewing this section in the 2010 Plan and studying new vulnerability and risk studies completed after the 2010 Plan was prepared.
- The risk assessment of potential losses with future hazard events was also updated using the most recent available data.
- The evaluation of land uses, development and redevelopment trends was reviewed and updated to reflect changes underway since Hurricane Katrina and anticipated changes for the near future. The focus of this evaluation was on the potential impact of redevelopment trends on hazard mitigation planning.
- An updated and expanded planning process was used to review and update the plan to ensure broad representation from the community.
- The ability of Orleans Parish to implement the mitigation actions proposed in the Plan was updated following a thorough review of all agencies and departments that support hazard mitigation activities. The updated Capability Assessment also includes a review of federal and state programs available to support Orleans Parish in implementing the 2015 Plan Update.
- The updated and expanded Mitigation Strategy includes updated goals, a review of the 2010 Plan and accomplishments over the past five years, an updated mitigation action plan that addresses the updated hazards and risk assessment, and a discussion of the Parish's compliance with the National Flood Insurance Program

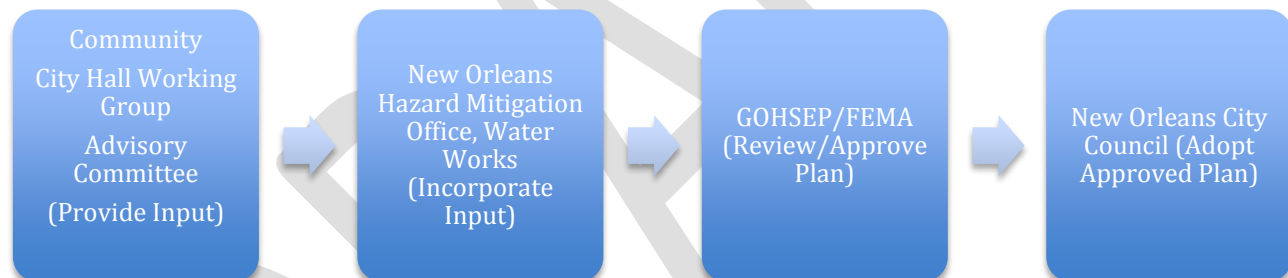


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(NFIP) and participation in the NFIP's Community Rating System (CRS).

- The Plan Maintenance procedure has been rewritten and expanded to provide more detail on how the process will be implemented, how the community will be kept informed of progress in implementing the plan, and how changes will be incorporated into the plan.

Hazard Mitigation Planning Organization

The diagram below shows the various groups involved in the planning effort to update the Orleans Parish Hazard Mitigation Plan. The Hazard Mitigation Office received guidance and recommendations from the community, City Hall Working Group, and Advisory Committee to prepare the updated plan. Once the plan was reviewed by the City, it was sent to the Governor's Office of Homeland Security Emergency Preparedness (GOHSEP) and the Federal Emergency Management Agency (FEMA) for approval before being submitted to the City Council for final adoption.



Community stakeholders for the hazard mitigation planning effort included non-profit organizations, community organizations, environmental groups, and regional governmental agencies with an interest in hazard mitigation planning. The Advisory Committee included representatives from a cross section of the community, including community members, university representatives, and governmental and non-governmental organizations. The City Hall Working Group included representatives from the City of New Orleans departments that worked on the 2010 approved Hazard Mitigation Plan and other organizations that work closely with hazard mitigation planning efforts for Orleans Parish.



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Planning Process for the 5 Year Plan Update

The Hazard Mitigation Office began the 2015 Plan Update process in February 2014 by convening advisors and initiating conversations with relevant City departments. Beginning in May 2015, the City accelerated the Plan Update process, with the assistance of Water Works, L3C. The planning team held convened a formal Advisory Committee and City Hall Working Group beginning in June 2015. The City Hall Working Group met eight times between June and October 2015. The purpose of each meeting was as follows:

- June 26, 2015 – Overview/Hazards: overview of the hazard mitigation planning process; review the 2010 Plan; hazards activity to rank hazards and discuss correlation to 2010 risk assessment
- July 13, 2015 –Assets and Goals: shared draft maps and discussed data sources; exercise to develop updated goals for 2015 Plan
- July 31, 2015 – History of Impacts: update on risk assessment; discussion of proposed goals; hazards exercise to discuss what could have been done to reduce impacts of different hazards in past 5 years
- August 13, 2015 – Risk Assessment: update on risk assessment; overview of hazard impacts
- September 14, 2015 – Mitigation Strategies: mitigation actions activity to determine how actions fit under updated goals
- September 25, 2015 – Capabilities/Implementation: capability assessment and mitigation action implementation activities to determine process for city departments to implement mitigations strategies
- October 9, 2015 – Hazards Ranking/Draft Review: activity to rank hazards; review draft of 2015 Plan Update
- October 23, 2015 – Final Draft Review: review of final 2015 Plan Update prior to submittal to GOHSEP

The Advisory Committee met four times between July and October 2015. The purpose of each meeting was as follows:

- July 8, 2015: Assets, Goals, Capabilities
- August 5, 2015: Risk Assessment



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- September 18, 2015: Mitigation Strategies
- October 7, 2015: Implementation and Draft Review

In addition to the City Hall Working Group and the Advisory Committee, two additional groups were convened for the purpose of holding a discussion specific to their sectors. These two groups included a Public Safety Group and a Non-Profits and Community Organizations Group. The Public Safety Group was convened to discuss the alignment of the risk assessments across the various relevant plans, as well as to discuss hazard vulnerability and mitigation actions.

The Non-Profit and Community Organizations Group was convened in order to facilitate a discussion with local organizations regarding their concerns and needs regarding hazards; as well as how they can best interact with the City in support of risk reduction.

The City also reached out to representatives from the neighboring parishes responsible for hazard mitigation planning, including Jefferson Parish, St. Bernard Parish, and Plaquemines Parish. Following the invitation to participate, there were two meetings that allowed the City's Hazard Mitigation Office to receive Regional input to the 2015 Plan Update. These included a presentation at a meeting of the regional Community Rating System (CRS) Users Group, Flood Loss Outreach and Awareness Taskforce (FLOAT) and an additional meeting sponsored by the South Louisiana Flood Protection Authority-East, which brought together the Planners and Emergency Managers from various neighboring jurisdictions.

Community members were informed of the planning process through a press release, as well as the City's Hazard Mitigation website (<http://www.nola.gov/hazard-mitigation/>). A survey was circulated to the general public in August and September of 2015 and received over 80 responses and a public comment form was posted on the City's Hazard Mitigation website. Due to the many other public engagement processes ongoing in the City of New Orleans in 2015, such as the Resilient New Orleans Strategy, a public meeting for the Update was not held until October of 2015. This meeting was publicized in the Times-Picayune.

Once GOHSEP and FEMA reviewed and approved the 2015 Plan Update, a final Progress and Coordination meeting was held to review the final plan with the Planning Team and Steering Committee before submitting the Plan to the New Orleans City Council for final adoption. Hazard Identification, Profiles and Ranking

Each of the 17 prioritized hazards were identified and profiled to include: a description of the hazard, the location and extent of the hazard within the Parish, the severity of the hazard, and occurrences of the hazard in Orleans Parish. The Orleans Parish 2015 Plan Update includes a complete review and update of the Orleans Parish 2010 Plan, as well as the State of Louisiana's 2014 Hazard Mitigation Plan. The 17 hazards were identified and prioritized by the 2015 Orleans Parish Hazard Mitigation Planning Team and presented to the community for their review. One new natural hazard not included in the 2010 Plan was added to the 2015 Plan Update: extreme temperatures; six new man-made hazards were added to the 2015 Plan Update: power outages, terrorism, infrastructure failure, building collapse, civil unrest, and pandemic.



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Vulnerability (Risk) Assessment and Loss Estimation

The 2015 Plan Update includes an overview and analysis of Orleans Parish's vulnerability to hazards. This vulnerability assessment includes a review of physical assets that could potentially be damaged by the hazards identified in the plan. The vulnerability assessment also includes the potential for physical injury or death from the identified hazards, as well as the potential for interruption of operations. The assessment examines the potential for loss of buildings by type (commercial, residential, government, etc.) and the potential monetary damage by types and number of structures. The vulnerability assessment focuses on levee vulnerabilities, flood and surge vulnerabilities, and hurricane wind vulnerabilities.

The estimates of potential losses focuses on four general categories of risk, including: 1) structure – direct damage to buildings or infrastructure, 2) contents – direct damage to contents of buildings, 3) loss of function – the value of services interrupted or lost during hazard events, and 4) injuries and fatalities – damage related to deaths and a range of injuries. Although all hazards have the potential to cause damage in all of these four categories, the hazards with the greatest potential for losses occurs with hurricane winds, storm surge, flooding, and levee failure. For this reason, the 2015 Plan Update focuses on potential losses from these four identified hazards. The loss estimates also include a review of the loss of property by National Flood Insurance Program flood insurance claims by planning area in Orleans Parish, as well as the repetitive loss properties.

This section of the plan concludes with an overview of land uses, development and redevelopment trends. Careful land use planning offers opportunities to mitigate vulnerabilities and potential losses from hazard events. Understanding risks associated with different types of development in Orleans Parish and mitigation planning is an essential part of comprehensive planning. For this reason the City's Master Plan includes a chapter on Resilience: Living with Water and Natural Hazards. Since the 2010 Plan, the City has also updated its Comprehensive Zoning Ordinance and released its Resilient New Orleans Strategy.

Capability Assessment

The 2015 Plan Update includes a review of all City departments, boards, commissions, as well as other organizations involved in activities related to hazard mitigation planning. The Hazard Mitigation Office will serve as the lead agency and will coordinate with other agencies as needed to implement the Mitigation Strategy of the 2015 Plan Update.

The Hazard Mitigation Office will also work with federal and state agencies and programs to implement the 2015 Plan Update. The capability assessment section of the plan highlights the federal and state programs that provide financial assistance for hazard mitigation planning.



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Mitigation Strategy

The Mitigation Strategy included in the 2015 Plan Update provides a long-term plan to reduce potential losses identified in the Vulnerability (Risk) Assessment. This strategy has been updated, expanded, and completely rewritten from the 2010 Plan to include updated goals and objectives, a review of the 2010 Mitigation Action Plan and accomplishments, and an updated Mitigation Action Plan that addresses the updated hazards and risk assessment. The Mitigation Strategy also includes a discussion of the Parish's compliance with the National Flood Insurance Program (NFIP) and participation in the NFIP's Community Rating System (CRS).

The Mitigation Action Plan outlined in **Table __** includes projects that address the identified risks to protect lives, infrastructure, and the economy. There are a total of **__ actions** designed to reduce or eliminate risks from the hazards identified in the plan. The actions were prioritized using a modified STAPLEE methodology. STAPLEE is an acronym for Social, Technical, Administrative, Political, Legal, Economic, and Environmental. This methodology was used to examine opportunities (benefits) and constraints (costs) of implementing each action from the perspective of all seven of the STAPLEE criteria.

The actions included in the Mitigation Strategy provide a full range of actions, some of which are underway and will remain ongoing. Some can be implemented quickly over a couple of years, while others will require more planning and will be implemented over the next 10 years. The mitigation actions are organized by foundational principles and goals, including:

Foundational Principles: The following foundational principles are key to all of the Goals and Objectives:

1. Consider the principles of equity in risk reduction decisions, including land use, zoning, and the allotment of funds and resources
2. Plan for future conditions, including development and climate change
3. Plan for minimizing damage and maximizing disaster recovery
4. Treat risk reduction and hazard mitigation as part of an integrated system, with an emphasis on safety.

Goal #1: Reduce risk and vulnerability to the human environment including cultural resources, homeowners, renters, visitors, and transient populations.

Goal #2: Reduce risk and vulnerability to the built environment including current and future structures; critical facilities; historic structures; and infrastructure, including communications infrastructure.

Goal #3: Reduce risk and vulnerability to the natural environment including wetland restoration and recognition of New Orleans as a coastal city.



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Goal #4: Maximize the involvement of individuals, businesses, and groups in risk reduction measures through education/outreach on hazard mitigation appropriate to all groups, particularly vulnerable populations

Goal #5: Promote coordination locally, regionally, and nationally including all levels of government, private sector entities, as well as nonprofits and community based organizations.

Goal # 6: Ensure continuity of operations for, including protection of critical functions, businesses, records, and cultural assets

The actions will be implemented in a variety of ways. Some will be implemented through ongoing organization and routine assignments of City staff, while others will be implemented through strengthening City policies, programs, building codes, and other planning tools. Still others will be implemented through the new Master Plan and the new City Zoning Ordinance. Many actions are FEMA-funded projects and will require these federal funds before they can be implemented.

Implementation of the Mitigation Strategy will require a combination of local, federal, and state funds. Projected time frames are given for each mitigation action.



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Plan Maintenance Procedures

Once the Plan is approved by GOHSEP and FEMA and is formally adopted by the City Council, the Plan must be implemented and maintained. The 2015 Plan Update includes an overall process that Orleans Parish will use to update the plan and to keep the community informed of progress in implementing the plan. The Hazard Mitigation Office will be responsible for monitoring and updating the plan annually.

Because the annual monitoring and updating process will require extensive coordination between numerous agencies, both within City Hall and outside City Hall, a Disaster Risk Reduction Subcommittee of the Local Emergency Planning Committee (LEPC) will be convened within the first quarter following adoption of the 2015 Plan Update. This LEPC subcommittee will be responsible for producing an annual progress report of all action items. The report should be complete within 30 days of the end of the third quarter each year. This will necessitate tracking of progress on any action items underway as well as the strategic implementation of subsequent action items. In order to accomplish this, the subcommittee will need to continue to meet at least quarterly.

The 2015 Plan Update will also be reviewed, revised, and updated in 2020. The City should begin the 2020 update cycle no later than 2018 to ensure that proper attention can be brought to bear on the this comprehensive update. The 2020 Update will require GOHSEP and FEMA approvals, as well as Council adoption before the expiration of the 2015 Plan Update.

The public will be notified when the plan implementation process begins and will be given an opportunity to participate in the plan maintenance process. Public meetings should be held annually following the release of the progress report. The community will be given opportunities to comment on the progress in implementing the plan and on any proposed plan revisions or updates.

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