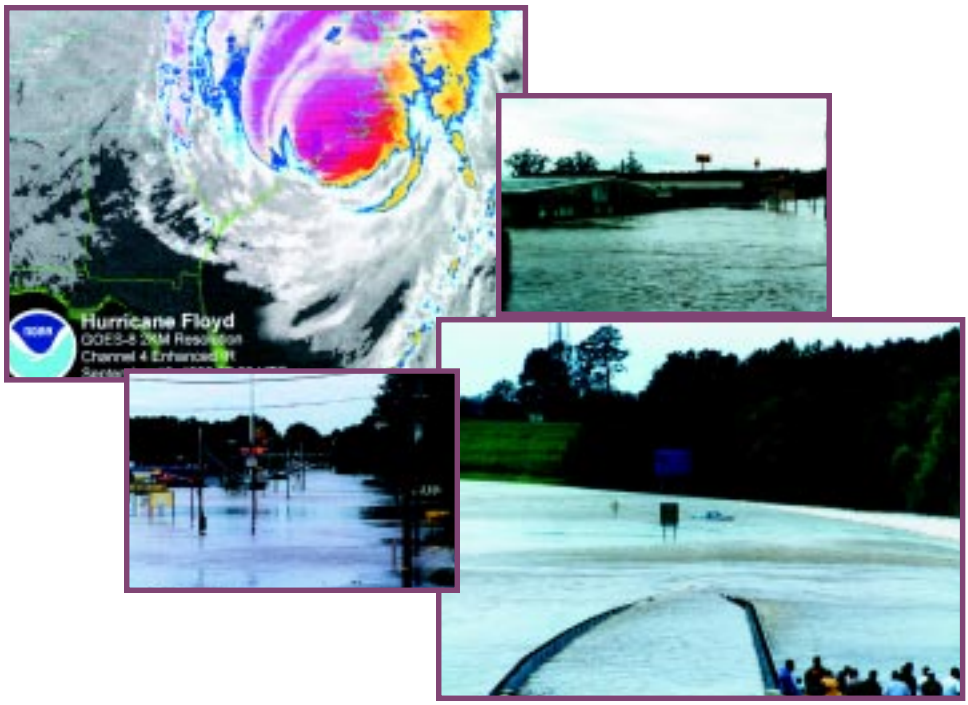

Section 1

1.1 Overview

On September 15 and 16, 1999, Hurricane Floyd struck the coast of North Carolina near Cape Fear. It moved north through the State, creating coastal damage and widespread flooding of communities and farmland, principally along the Neuse, Tar, and Cape Fear Rivers. There was a resultant loss of life; destruction of homes, businesses and infrastructure; loss of livestock and crops; and a disruption of commerce. Several counties received over 20 inches of rainfall and sustained winds of 115 miles per hour. The President declared a major disaster that included 66 of the 100 counties in the State. The Federal Emergency Management Agency (FEMA) characterized the impact of the storm and its aftermath as severe in 14 counties, moderate in 16 and minor in 14. Based on damage reports received by FEMA, the impacts on the remaining counties were negligible.

As part of its effort to better determine the impacts of this disaster and most effectively assist the State and affected communities in their recovery, FEMA requested that the Economic Development Administration (EDA) of the U.S. Department of Commerce (DOC)

Economic Impacts of Hurricane Floyd

Business Structures	$1 billion
Business Revenues	$4 billion
Agricultural Losses	$1 billion
Total Losses	$6 billion

Only includes losses to businesses and agriculture.

undertake an assessment of the economic impacts of the Hurricane. The purpose of the assessment is to:

- provide recommendations for accelerating the business recovery process,
- provide recommendations to State and community officials on how to create disaster-resistant businesses and jobs through the recovery process, and
- continue the development of a database to assess economic impacts of disasters in the United States.

This report documents the results of field assessments, individual interviews, a survey of impacted businesses (the Business Impact Survey), and analyses that were conducted shortly after Hurricane Floyd. While it is important to note that this report does not reflect impacts on residential housing, the State has made the acquisition of floodprone structures throughout flood impacted areas its priority for mitigation funding.

This economic assessment was performed by a Team consisting of representatives from EDA, local academic institutions, Economic Development Commissions throughout the impacted areas, URS Greiner Woodward Clyde, and FEMA, with close coordination from the State of North Carolina.

Because the affected area was so widespread, the Team, following careful review of damage reports received by FEMA, decided to focus on the 44 most impacted counties. The report analysis is divided into non-agricultural and agricultural business sectors due to the physical and operational differences between the two sectors.

1.2 Conclusions

Non-Agricultural Business Sector

In spite of the approximately $1 billion in physical damage to businesses and $4 billion in lost revenue, there is no direct evidence of a significant long-term (three to five years) effect on the non-agricultural sector of the State's economy. This is due primarily to three factors: (1) the strong and resilient economy of the State of North Carolina, (2) the rapid and effective response by both State and Federal agencies, and (3) actual and anticipated funding from Federal, State and private sources. The long-term effect on the impacted region's overall economy will depend on the ability of the State to implement and apply its pre-

disaster economic development plans and mitigation initiatives in the current post-disaster recovery environment.

The Business Impact Survey indicated that eastern North Carolina's small business sector was the most impacted by Hurricane Floyd. Small businesses comprise almost 80 percent of the businesses that sustained damage. A number of small businesses have not been able to resume operations; however most medium- and large-sized businesses were able to resume business within a week or two after the water receded. Based on projections from the survey sample, the average repair cost for all business sizes was $40,000. Lost revenue per business averaged $80,000.

Several success stories included in this report demonstrate that communities in the 44-county impacted area that had implemented mitigation measures prior to Hurricane Floyd were less impacted than those that had not undertaken similar measures.

Agricultural Business Sector

For the agricultural business sector, Hurricane Floyd had a significant regional impact on individual farmers and other agricultural producers, with total losses reaching almost $1 billion. Crop losses were in excess of $500 million, over half of which were in cotton and tobacco. Almost 3 million chickens and turkeys, 30,000 hogs and 1,000 cattle were lost. Farm equipment and facility losses were over $300 million. Losses to the fisheries and forestry industries totaled $25 million and $90 million, respectively. However, Hurricane Floyd did not have a significant impact on State or national agricultural markets. A number of previously existing trends, including impacts of drought, were exacerbated but not significantly altered by Hurricane Floyd.

Following Hurricane Floyd, it was anticipated that floodwaters would have widespread, long-term environmental effects on the health, welfare and usability of the impacted area. Fortunately, the environmental effects appear to have been less than anticipated due in part to the quick action of emergency response teams. The State is collecting data to assess short-term and long-term environmental damage.

1.3 Recommendations

Section 5 of this report contains a listing and discussion of recommendations for local, State, and Federal levels to establish a partnership to accelerate economic recovery and enhance the ability of the local economy to resist future dislocations. The following recommendations are key fundamental steps that can be taken to speed the recovery of sustainable business enterprises:

- Initiate a long-range strategic planning process that includes relocation of critical facilities, vulnerable structures, and unsafe land-use activities out of the floodplain. To the extent these actions can be accomplished in conjunction with the rebuilding process, the community can recover and grow in a more disaster-resistant, livable, and sustainable manner.
- The State should move forward with their efforts to establish and implement a comprehensive State Disaster Recovery Program within the Governor's Office.
- FEMA and the National Flood Insurance Program (NFIP) State Coordinator should examine the reason for the low participation in the NFIP and take appropriate steps to improve participation.

In addition to the above, the following recommendations are discussed in detail in Section 5:

Non-Agricultural Business Sector

- Integrate mitigation concepts within short- and long-term economic recovery planning.
- Review building codes and ensure effective enforcement.
- To the extent possible, relocate critical facilities outside the floodplain or, where this is not feasible, protect them from flooding through approved structural measures.
- Unsafe land-use activities should be relocated and prohibited from high hazard floodplains.
- The State should continue its efforts to enact comprehensive disaster mitigation legislation that consolidates all mitigation functions into a single authority.
- The State should implement its Comprehensive Strategic Economic Development Plan and ensure that the plan is used to guide disaster economic recovery.
- State and local governments need to plan and finance economic development activities that will assist recovery and mitigation efforts.
- The State should continue efforts to establish a land-use program that defines statewide goals and that delegates to local governments the responsibility for action plans to implement the goals. The program should incorporate regional needs, particularly river basins.
- The State is encouraged to partner with Federal agencies and others, in conducting disaster recovery seminars and workshops.

- The State is urged to pursue a river-basin/watershed area project, preferably in the Neuse, Tar, or Cape Fear river basin, to demonstrate mitigation strategies and sustainable economic development. The project could be constructed around the Project Impact model.
- The State is encouraged to monitor the need to expand the resources available through the Local Governments Commission to counties and municipalities in the area of debt restructuring and budgeting in anticipation of greater demand for these services over the next year.
- Economic development organizations at the State and local level should establish new capital sources targeting medium and small businesses.
- An evaluation of the effectiveness of the actions implemented as a result of this report should be undertaken. This evaluation should take place approximately one year after the publication of this report. It should focus on lessons learned from implementing mitigation measures and on actions to provide for disaster-resistant and economically sustainable communities.

Agricultural Business Sector

- Agricultural structures and facilities should not be rebuilt in the floodplain, and damaged structures should be repaired using floodproofing techniques.
- Farmers should consider alternative agriculture management practices that are more flood-resistant.
- Local, State, and Federal agencies need to assist farmers with disaster preparation and response coordination.
- Farmers can decrease the economic risk posed by natural disasters by purchasing flood, property, and crop insurance.
- The preservation of small family-owned farms will depend on State and Federal support.
- Knowledge gained from Hurricane Floyd should be used to enhance existing policies.

Section Two of this report outlines the approach and methodology used to develop the data and recommendations. Sections Three and Four explain the important aspects of the pre- and post-disaster economies of the State and the 44-county area respectively. Section Five details the relevant conclusions and the full range of recommendations for the 44-county area.