

Community Vulnerability Assessment Tool

NOAA Coastal Services Center

Organisation

The National Oceanic and Atmospheric Administration (NOAA) Coastal Services Center offers training on how to do a risk and vulnerability assessment. More information on this training is available at www.csc.noaa.gov/training/cvat-tool.html.

The NOAA Coastal Services Center is an office within the National Oceanic and Atmospheric Administration devoted to serving the nation's state and local coastal resource management programs.

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Abstract

There are two primary components of the manual that address the vulnerability assessment methodology:

- ♦ The first is the tutorial, which defines a general process for conducting a community vulnerability assessment. It is very general in scope and provides a template, along with some basic examples.
- ♦ The second component is a case study in New Hanover County, North Carolina, which illustrates the use of the methodology in a specific community. The New Hanover County case study provides a more detailed look at the steps in this tutorial and also demonstrates the benefits of using a geographic information system (GIS).

Intended end users

The end users are **local government** staff and **community based organisations** in general.

Geographical focus

Although the manual was developed in the **USA**, it can be used throughout the world with the purpose of assessing vulnerability at the community level.

Language

The document is in English.

Scale of assessment

The assessment focuses on the **community**-level.

Type of Material

This is a **step-by-step manual** for conducting a community vulnerability assessment. It includes 7 steps with methods and tools for analysis within the steps. These 7 steps are:

- ◆ Hazard identification
- ◆ Hazard analysis
- ◆ Critical facilities analysis
- ◆ Social analysis
- ◆ Economic analysis
- ◆ Environmental analysis
- ◆ Mitigation opportunities analysis

The publication also contains case studies and examples illustrating the assessment process, including data sets, as well as providing detailed description of data tools: LIDAR Beach Mapping, Damage Assessment Tool and Remote Sensing Analysis. Data sets can be viewed if users have geographic information system software that supports shape files.

Type of assessment

This manual is focused on Hazard and Vulnerability Assessments (HVA). There is a natural hazards focus. Tools and methodologies consist of GIS, spatial mapping and analysis, as well as a variety of environmental/natural hazard models.

Analytical methods

The core of the manual consists of elements of each step of analysis that must occur in the **Hazard and Vulnerability Assessment (HVA)**.

This includes the following *general assessment methods*:

- ◆ Hazard identification
- ◆ **Hazard analysis**
- ◆ Critical facilities analysis
- ◆ Societal analysis

- ◆ **Economic analysis**
- ◆ **Environmental analysis**
- ◆ Mitigation opportunities analysis

Tools

Technical Assessment Tools include:

- ◆ Matrices for: probability of occurrence, potential impacts, magnitude, hazard risk scoring, facility assessments
- ◆ SLOSH model
- ◆ Inland winds model
- ◆ Floodplain maps
- ◆ Soils
- ◆ Land cover
- ◆ Erosion rates
- ◆ Hazardous waste
- ◆ **GIS**

***There is an entire section on data tools. This provides information on: LIDAR Beach Mapping, Damage Assessment Tool and Remote Sensing Analysis.

Notes on methods

- ◆ It provides a framework for vulnerability and risk assessment, which allows communities to carry out the assessment if assisted by experts, such as university staff, local government officials and contractors, who have the necessary technical expertise.
- ◆ This document would be most useful for people who wish to get an understanding of how to conceptualise community vulnerability.

Case studies/ practical examples

- ◆ This publication includes a detailed case study on New Hanover County, North Carolina, which illustrates the use of the Community Vulnerability Methodology Assessment methodology in a specific community.
- ◆ The document also contains several examples illustrating the assessment process, including data sets, as well as provides a detailed description of different data tools.

Resource person(s)

Tashya Allen at NOAA, Tashya.Allen@noaa.gov

Author of guidance note

Kristy Evans was commissioned by the Disaster Mitigation for Sustainable Livelihoods Programme (DiMP) at the University of Cape Town.

Contact: cra@ifrc.org