North Carolina Certified Floodplain Surveyor (CFS) Pilot Program

Dan Brubaker, PE, CFM
NFIP Coordinator
NC Department of Public Safety
(919) 825-2300
Dan.Brubaker@ncdps.gov
NC CFS Pilot Program Overview
North Carolina Certified Floodplain Surveyor (CFS) Pilot Program is a joint effort between:

- Federal Emergency Management Agency (FEMA)
- American Congress on Surveying and Mapping (ACSM)
- North Carolina Society of Surveyors (NCSS)
- North Carolina Division of Emergency Management (NCEM)
- North Carolina Geodetic Survey (NCGS)
North Carolina Emergency Management

NC CFS Pilot Program Overview

- **Goal of the CFS Program:**
  - Provide training to NC surveyors to enable them to submit completed Letters of Map Change (LOMCs) to FEMA in the proper format required to obtain a faster determination
  - Consistent and correct completion of Elevation Certificates

- **Who qualifies to be a CFS?**
  - Professional Surveyors Licensed in the State where the certification is offered
NC CFS Pilot Program Overview

- **Requirements**
  - Attend Training Sessions (2 ½ Days)
  - Pass Examination
  - Bi-Annual 4-hour Refresher Training

- **Examination**
  - 125 Questions, All Multiple Choice
  - 4 Hours, 2 Parts
  - Must receive 75% on Part I and 85% on Part II
  - Failing either part results in a failed exam
NC CFS Pilot Program Overview

- Statistics
  - There are currently 133 CFS Certified Surveyors in the state as this certification has become more popular with recent mapping updates.

- Benefits
  - A CFS can process “simple” Letters of Map Change (LOMCs) and submit these to FEMA for accelerated processing and issuance within 5 business days
  - Name listed as a CFS on NC Society of Surveyors web site
Certified Floodplain Surveyor (CFS) Program

This certification program educates surveyors on the forms and processes associated with floodplain properties and the submission of Elevation Certificates. To become CFS certified, licensed surveyors must successfully complete the three-day certification seminar and exam. PDH’s are awarded for the seminar, however no PDH credit is given for the exam. The specific topics covered in the course are: National Flood Insurance Program (NFIP), FIRM Maps, NFIP Regulations and Elevation Certificates, Letters of Map Correction and Letters of Map Correction Processing. There are currently over 200 CFS Certified Surveyors in the state as this certification has become more popular with recent floodplain/form changes. NCSS offers annually for surveyors seeking to add this certification to their resume.

CFS Contacts

North Carolina Emergency Management
History of the CFS Program

- Hurricane Floyd (1999)
- NC Floodplain Mapping Program (2000)
- NC Becomes CTS (2000)
- CFS Pilot Program (2002)
History of the CFS Program
Hurricane Floyd, 1999

- The effects of Hurricane Floyd on North Carolina
  - 51 deaths
  - $3.5 billion in damages to homes, businesses, roads, and infrastructure
  - 31,000 jobs lost

- Hurricane Floyd revealed flood hazard data and map limitations

- Most flood maps in NC were older than 12 years with some up to 30 years old
North Carolina Emergency Management

History of the CFS Program

- **Hurricane Floyd (1999)**
- **CFS Pilot Program (2002)**
History of the CFS Program
North Carolina Floodplain Mapping Program (NCFMP)

- What is the North Carolina Floodplain Mapping Program (NCFMP)?
  - The establishment of a statewide program to acquire, process, and disseminate current, accurate, and detailed elevation data, flood hazard studies, and digital FIRMs.
As part of the digital display environment and Map Maintenance Initiatives, the North Carolina Floodplain Mapping Program (NCFMP) created a website to disseminate information to mapping partners and the public.
History of the CFS Program
North Carolina Flood Risk Information System

The website contains digitally accessible flood hazard and risk data that are database driven, allowing for print-on-demand products such as flood maps and Flood Insurance Studies (FIS).

The website, shown on the right, also provides geospatial data and modeling information for use by others.
History of the CFS Program

- Hurricane Floyd (1999)
- NC Floodplain Mapping Program (2000)
- NC Becomes CTS (2000)
- CFS Pilot Program (2002)
History of the CFS Program
North Carolina becomes a Cooperating Technical State

- What is a Cooperating Technical State (CTS)?
  - A State, as designated by FEMA, that assumes primary ownership and responsibility of the National Flood Insurance Program (NFIP) Flood Insurance Rate Maps (FIRMs) for all its communities

- North Carolina was designated as the first Cooperating Technical State (CTS) in 2000
History of the CFS Program

- Hurricane Floyd (1999)
- NC Floodplain Mapping Program (2000)
- NC Becomes CTS (2000)
- CFS Pilot Program (2002)
NC CFS Program Training Course
The specific topics covered in the 2 ½ day course are:

- National Flood Insurance Program
  - Overview
  - Regulations
- Flood Insurance Study (FIS)
- Elevation Certificates (EC)
- Letters of Map Change (LOMC) Processing
- On-Line LOMC and eLOMA
- Flood Risk Information System
### NC CFS Program Training Course

**Training day 1 @ NCSS Office**  
**Wednesday, October 11**  
**8:00 am – 5:00 pm**

**Registration 7:30 - 8:00**

**Introduction**  
Gary Thompson, NCGS

**NFIP Overview**  
Dan Brubaker, NCFMP  
- FEMA & NFIP  
- Regs & terms  
- Profile BFEs  
- Quiz

**NFIP Regulations**  
Dan Brubaker, NCFMP  
- Overview  
- Part 65: ID & mapping of an SFHA  
- Part 70: Map correction  
- Homeowner Flood Insurance Affordability Act of 2014  
- Quiz

***LUNCH 12:00 - 1:00 pm***

**Training day 2 @ NCSS Office**  
**Thursday, October 12**  
**8:00 am – 5:00 pm**

**Registration 7:30 - 8:00**

**LOMC Processing: Part I**  
Steve Garrett, NCFMP  
- LOMA & LOMR-F  
- CFS processed LOMC  
- Data requirements: LOMA & LOMR-F  
- Fees, revalidations, & common problems  
- Labs

**LOMC Processing: Part II**  
Steve Garrett, NCFMP  
- LOMC issuance  
- FEMA oversight  
- CFS support  
- Labs  
- Quiz

***LUNCH 12:00 - 1:00 pm***

**Training day 3 @ NCSS Office**  
**Friday, October 13**  
**8:00 am – 5:00 pm**

**Registration 7:30 - 8:00**

**Online LOMC and eLOMA**  
Steve Garrett, NCFMP  
- Online LOMC requirements & info that may be required  
- eLOMA requirements  
- What eLOMA auditors audit

**FRIS Training**  
Stacey Fuller Bobbitt, NCFMP  
- Print on demand: FIS & FIRM  
- Data download: Shapefile, DFRM, LIDAR, & geodatabase  
- Flood hazard & risk info  
- What to record on an EC as the elevation source  
- Finding LOMRs & finding benchmarks

***LUNCH 12:00 - 1:00 pm***

**CFS Exam**  
Proctor: Gary Thompson, NCGS  
Joint Forces Headquarters/NCEM Situation Room  
NC National Guard Military Complex  
1636 Gold Star Drive  
Raleigh, NC 27607  
**8:30 am – 12:30 pm**

Sponsored by:  
- National Society of Professional Surveyors (NSPS)  
- NC Floodplain Mapping Program (NCFMP)  
- NC Society of Surveyors (NCSS)
NC CFS Program Training Course

- NFIP Goals
  - Reduce loss of life and property
  - Reduce rising disaster relief costs
  - Increase importance of hazard mitigation (flood resistant construction, guide future development, and prohibit development in floodplains)
  - Protect natural resources and functions of floodplains
  - Decrease taxpayer-funded disaster costs
  - Make Federally backed insurance coverage available to property owners
NC CFS Program Training Course

- **Flood Insurance Study (FIS)**
  - Appraises a community’s flood problems/risk
  - Estimates flood flow frequency
  - Establishes flood elevation
  - Plots floodplain boundaries
  - Provides data to delineate floodways and non-encroachment areas
  - Establishes insurance risk zones

---

**NC CFS Program Training Course**

- **Flood Insurance Study (FIS)**
  - Appraises a community’s flood problems/risk
  - Estimates flood flow frequency
  - Establishes flood elevation
  - Plots floodplain boundaries
  - Provides data to delineate floodways and non-encroachment areas
  - Establishes insurance risk zones
NC CFS Program Training Course

- **Flood Insurance Study (FIS) Components**
  - FIS Report – written text, flooding information, figures, and tables
  - Digital Flood Insurance Data – Digital representation and spatial distribution of flood hazard areas, flood insurance risk zone, BFEs, floodways, and other flood related data
NFIP Regulations

- Communities must adopt and enforce ordinances that meet or exceed NFIP criteria
- NFIP criteria are designed to ensure that new buildings will be protected from flood elevation levels shown on Flood Insurance Rate Map (FIRM)
- Over time, stock of pre-FIRM buildings should be replaced with post-FIRM buildings and exposure to flooding reduced
NC CFS Program Training Course

- Elevation Certificate (EC)
  - It is to be used to provide elevation information necessary to ensure compliance with community floodplain management ordinances, to determine the proper insurance premium rate, and to support a request for a Letter of Map Amendment (LOMA) or Letter of Map Revision based on fill (LOMR-F).
NC CFS Program Training Course

- Elevation Certificate (EC)
**Option 1**
Do Nothing

Your discounted rate will increase by up to 18 percent each year.

**Option 2**
Get an Elevation Certificate

There’s no way to know exactly when having an Elevation Certificate will be beneficial, but www.FEMA.gov/cost-of-flood provides some guidance. If you get an Elevation Certificate, you can continue to pay the discounted rate if it’s lower.

How to Get an Elevation Certificate
An Elevation Certificate verifies the elevation of your building. Ask if your local floodplain manager if there is one on file. If not, you can hire a licensed surveyor to provide one.

See Your Agent for Your Rate.

Knowing this, you’ll know you’re getting the best protection at the rate which fits your risk.
NC CFS Program Training Course

- **Letter of Map Change (LOMC)**
  - Document issued by FEMA that officially amends or revises the digital FIRM and/or FIS report

- **Why Use LOMC Process?**
  - Less costly and faster than republishing FIRM data
Types of Cases Eligible Under CFS Process
Types of Cases Eligible Under CFS Process

- **LOMA/LOMR-F** for:
  - Existing single or multiple structures, properties, and metes and bounds constructed on fill or natural ground

![Diagram showing houses correctly and incorrectly shown in floodplain.](image-url)
Types of Cases Eligible Under CFS Process

- LOMA/LOMR-F for:
  - Existing structures, properties, and metes & bounds in riverine, lacustrine, and stillwater coastal flooding areas
    - Zone AE only; VE Zones are not eligible
    - Process and submit to FEMA’s Production and Technical Services (PTS) Contractor for expedited review and issuance
Types of Cases Eligible Under CFS Process

- LOMA/LOMR-F for:
  - Existing structures, properties, and metes & bounds in Zone AE flooding areas only if a Base Flood Elevation (BFE) is available from a State or Federal governmental agency or other accepted source.
Types of Cases Eligible Under CFS Process

- **LOMA/LOMR-F** for:
  - Existing structures, properties, and metes & bounds are not located in the mapped flood prone zone/Special Flood Hazard Area. This means the subject of the LOMA/LOMR-F is Out as Shown (OAS)
Types of Cases Eligible Under CFS Process

- All submittals received by FEMA that do not meet these criteria will be processed using standard procedures and may take up to 60 days after all required data is received to complete processing.
North Carolina Certified Floodplain Surveyor (CFS) Pilot Program

- Summary:
  - Course available to Professional Surveyors
  - Must attend 2 ½ day class and pass exam
  - A CFS can submit LOMC and get a determination within 5 business days
  - The CFS Program supports the digital FIRM updates as part of the State’s map maintenance efforts
North Carolina Certified Floodplain Surveyor (CFS) Pilot Program

Questions?

Dan Brubaker, PE, CFM
NFIP Coordinator
NC Department of Public Safety
(919) 825-2300
Dan.Brubaker@ncdps.gov