Resilience and Flood Hazard Planning Workshop

Applying CHARM and No Adverse Impact

New Smyrna Beach, Florida
Brannon Center
October 12, 2018

Agenda

9:00	**Introductions, Overview & No Adverse Impact Approach** *Jeff Stone, GISP, CFM – Sr. Research Manager, Association of State Floodplain Managers*
9:30	**Flood Resilience Planning in New Smyrna Beach** *Amye King, AICP – Planning Director, New Smyrna Beach*
9:45	**Regional Resilience Planning** *Tara McCue, AICP - Director of Planning and Community Development, East Central Florida Regional Planning Council*
10:00	**The Law's the Limit: Sea-Level Rise Adaptation and Local Government** *Thomas Ruppert, Esquire – Coastal Planning Specialist, Florida Sea Grant*
10:50	Break
11:10	**Peril of Flood & Post-Disaster Redevelopment Plans** *Jerry Murphy, JD, AICP, CFM – Resilient Communities Initiative, University of Florida*
Noon	**Lunch**
12:45 PM	**Community, Health and Resource Management (CHARM) Overview** *Steven Mikulencak, AICP – Planning Program Leader, Texas Community Watershed Partners, Texas A&M AgriLife Extension*
1:00	**CHARM Scenario Planning** Group breakout exercises & discussion
3:50	Closing Remarks, Additional Resources and Workshop Evaluation
4:00 PM	Adjourn

ASFPM Mission



Fort Lauderdale, King Tides of October 17-18, 2016. Image Credit: NOAA

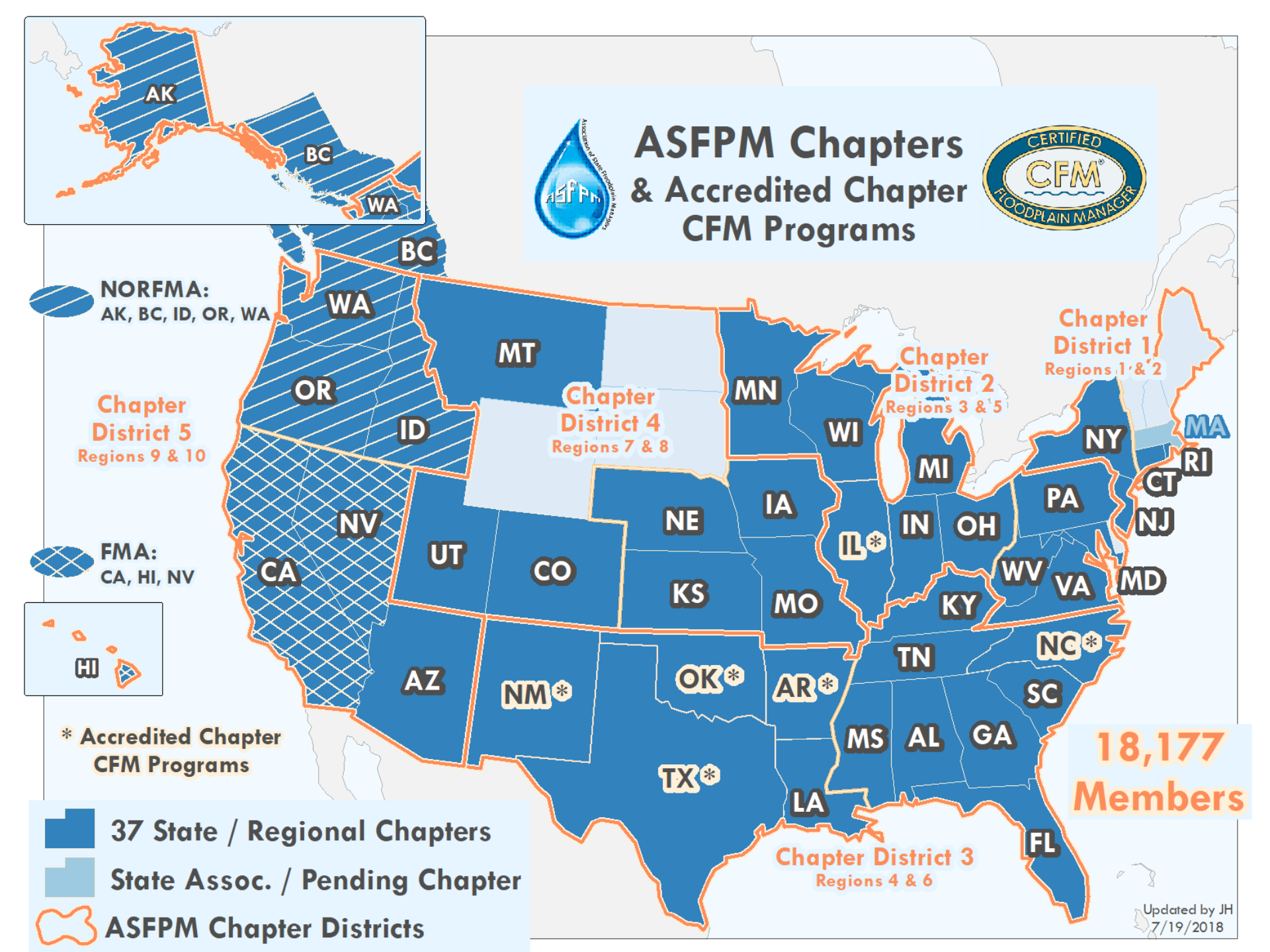


Natural "green barriers" help protect this Florida coastline and infrastructure from severe storms and floods. Credit: NOAA

Reduce the losses, costs, and human suffering caused by flooding

and…

Protect the natural and beneficial functions of floodplains without impacting the property rights of others.


ASFPM Chapters
& Accredited Chapter
CFM Programs
CERTIFIED CFM FLOODPLAIN MANAGER
AK
BC
WA
NORFMA:
AK, BC, ID, OR, WA
FMA:
CA, HI, NV
HI
* Accredited Chapter
CFM Programs
Chapter
District 5
Regions 9 & 10
Chapter
District 4
Regions 7 & 8
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FL
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NC*
VA
PA
NY
MD
NJ
CT
RI
MA
18,177
Members
37 State / Regional Chapters
State Assoc. / Pending Chapter
ASFPM Chapter Districts
Updated by JH
7/19/2018

National, state and local

Digital Coast Partnership

- NOAA, APA, CSO, NACo, NERRA, NSGIC, TNC, ULI

American Planning Association (APA)

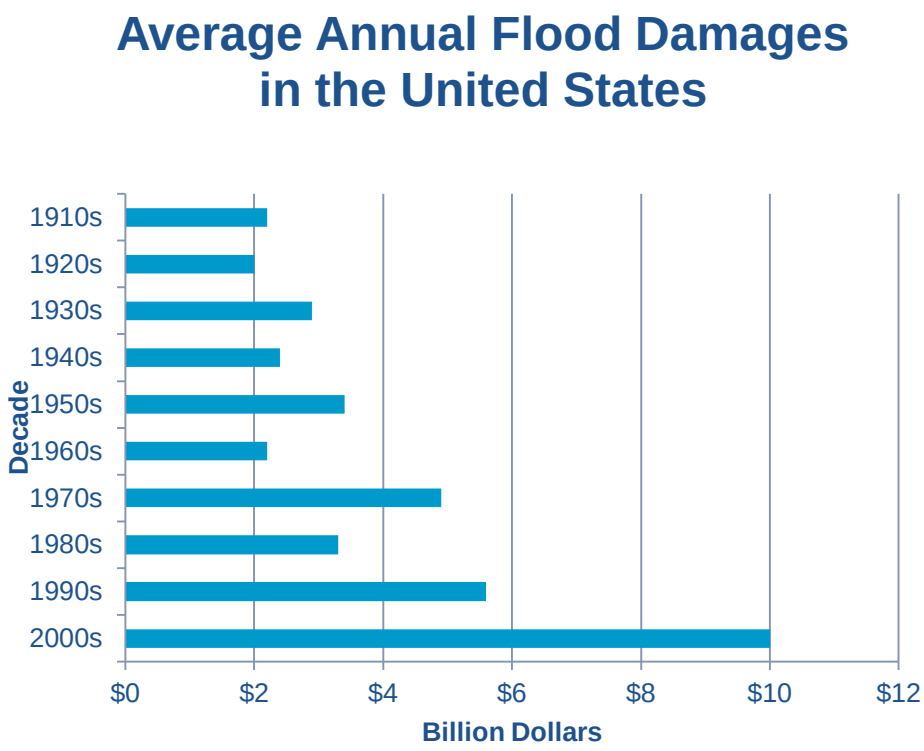
- Planning Information Exchange (PIE) Webinars
- PAS Reports – Subdivision Design, Capital Infrastructure Planning

Florida Floodplain Management Association

- Training, committees & resources



Flooding Costs – Direct Impacts



Source: NOAA NWS, Hydrologic Information Center (www.nws.noaa.gov/hic/).

- # 1 natural hazard in U.S.
- $7.96 billion annual average in last 30 years
  - And then there was Sandy, Harvey, Irma, Maria, Florence, Michael
- More than 50% of properties in high-risk areas do not have flood insurance
- 25% of flood claims outside SFHA
- *"Over 90% of urban flooding damage claims from 2007 to 2014 were outside the mapped floodplain…"* (ILDNR, 2015)

Flooding Costs – Indirect Impacts

- Decreased revenue – loss of income, sales, property taxes
- Loss of jobs, business closure
- Debris cleanup and repair of public infrastructure
- Risk of disease, public health due to contaminated water
- Mental health and family impacts

Roughly **40 to 60 percent of small businesses never reopen** their doors following a disaster and another **25% fail** within one year (FEMA).

Similar statistics from the Small Business Administration indicate that over **90 percent of businesses fail within two years** after being struck by a disaster.

Map the Nation

ASFPM estimate for adequate flood mapping for the nation

- **$4.5 billion to $7.5 billion**

Annual maintenance

- **$116 million to $275 million**

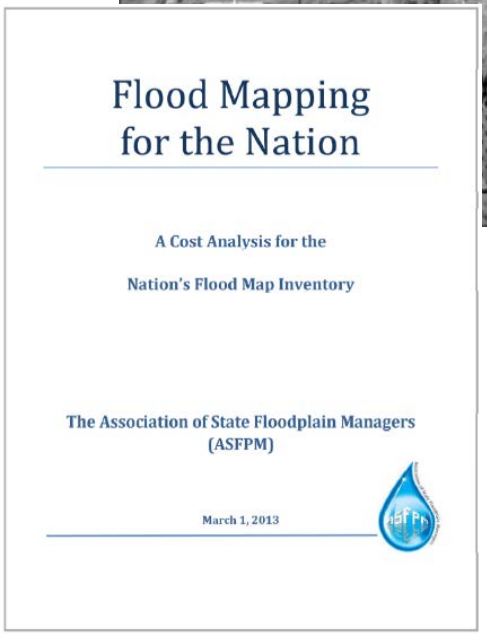
Nation has invested

- **$4.3 billion**

Taxpayer benefit

- **$2 for every $1 invested in flood mapping** (FEMA, 1997)




Flood Mapping for the Nation

A Cost Analysis for the Nation's Flood Map Inventory

The Association of State Floodplain Managers (ASFPM)

March 1, 2013

Prevention Saves

Natural Hazard Mitigation Saves: 2017 Interim Report (NIBS, 2017)

Federal Grants Provide $6 Benefit for Each $1 Invested

National Benefit-Cost Ratio Per Peril *BCR numbers in this study have been rounded	Federally Funded	Beyond Code Requirements
Overall Hazard Benefit-Cost Ratio	6:1	4:1
Riverine Flood	7:1	5:1
Hurricane Surge	Too few grants	7:1
Wind	5:1	5:1
Earthquake	3:1	4:1
Wildland-Urban Interface Fire	3:1	4:1

Benefit: $82 billion

65% – Property: $53.0

12% – Additional living expenses & sheltering: $10.0

11% – Insurance: $9.0

6% – Casualties & PTSD: $5.0

6% – Indirect business interruption: $5.0

billions 2016 USD

Cost: $11.5 billion

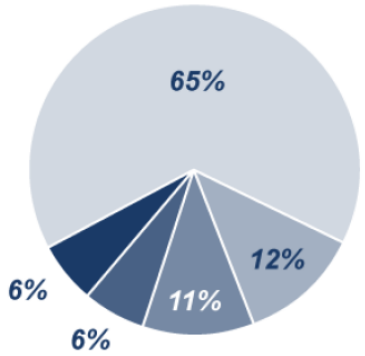


Figure 1. Contribution to benefit from federally funded riverine flood grants.

For Hurricane Surge, Designing to Exceed 2015 Codes Provides $7 Benefit for Each $1 Invested

State	First Floor Height above BFE up to IEMax	BCR
Texas	+2 to 8	20.2 to 9.1
Louisiana	+2 to 10	11.3 to 4.8
Mississippi	+2 to 10	27.6 to 10.1
Alabama	+2 to 10	31.1 to 11.7
Florida	+2 to 10	21.1 to 8.4
Georgia	+2 to 6	6.7 to 3.8
South Carolina	+2 to 10	11.8 to 5.0
North Carolina	+2 to 10	12.6 to 5.2
Virginia	+2 to 6	6.7 to 3.8
Delaware	+2 to 6	6.7 to 3.8
Maryland	+2 to 6	6.7 to 3.8
New Jersey	+2 to 6	6.7 to 3.8
New York	+2 to 6	6.7 to 3.8
Connecticut	+2 to 6	6.7 to 3.8
Rhode Island	+2 to 6	6.7 to 3.8
Massachusetts	+2 to 6	6.9 to 3.9
Total		16.9 to 7

Table 2. BCRs for various heights above BFE for new coastal V-zone buildings up to the point where the incremental benefit remains cost-effective.

No Adverse Impact

No Adverse Impact (NAI) is an approach that ensures that the action of any community or property owner, public or private, does not adversely impact the property and rights of others.





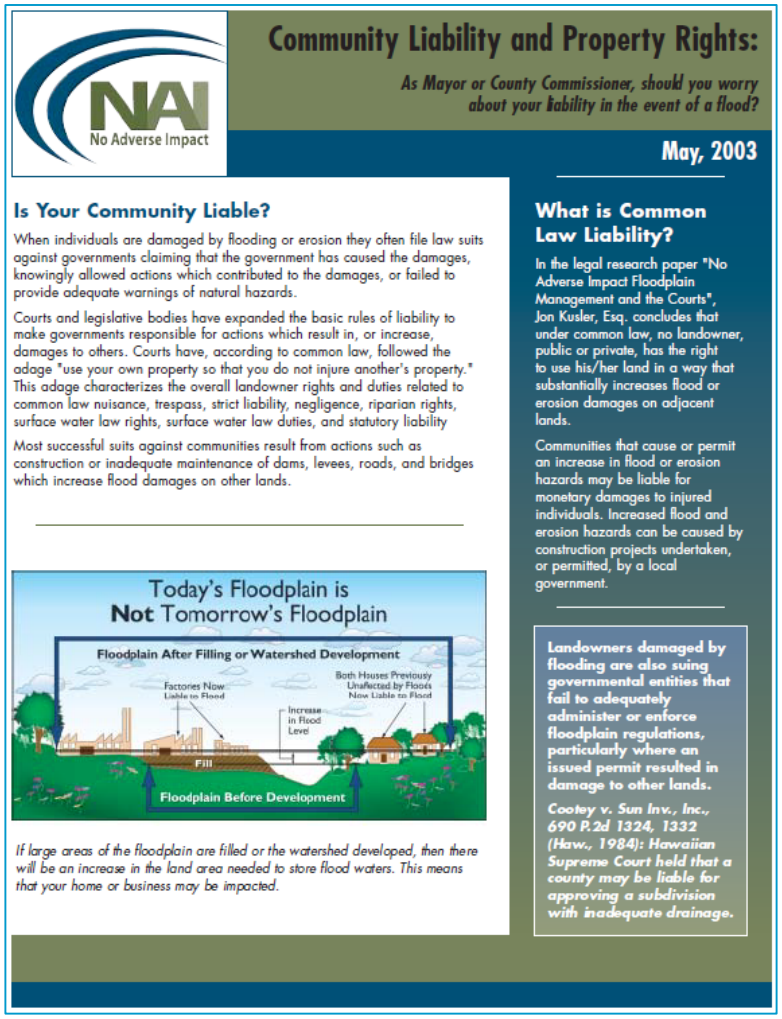
No Adverse Impact

The true strength of the No Adverse Impact approach is that it encourages local decision making to ensure that future development impacts will be identified, considered on a watershed-wide basis and mitigated.



It is a truly comprehensive strategy for reducing flood losses and costs.

NAI Approach Leads to a Process



NAI
No Adverse Impact

Community Liability and Property Rights:

As Mayor or County Commissioner, should you worry about your liability in the event of a flood?

May, 2003

Is Your Community Liable?

When individuals are damaged by flooding or erosion they often file law suits against governments claiming that the government has caused the damages, knowingly allowed actions which contributed to the damages, or failed to provide adequate warnings of natural hazards.

Courts and legislative bodies have expanded the basic rules of liability to make governments responsible for actions which result in, or increase, damages to others. Courts have, according to common law, followed the adage "use your own property so that you do not injure another's property." This adage characterizes the overall landowner rights and duties related to common law nuisance, trespass, strict liability, negligence, riparian rights, surface water law rights, surface water law duties, and statutory liability

Most successful suits against communities result from actions such as construction or inadequate maintenance of dams, levees, roads, and bridges which increase flood damages on other lands.

If large areas of the floodplain are filled or the watershed developed, then there will be an increase in the land area needed to store flood waters. This means that your home or business may be impacted.

What is Common Law Liability?

In the legal research paper "No Adverse Impact Floodplain Management and the Courts", Jon Kusler, Esq. concludes that under common law, no landowner, public or private, has the right to use his/her land in a way that substantially increases flood or erosion damages on adjacent lands.

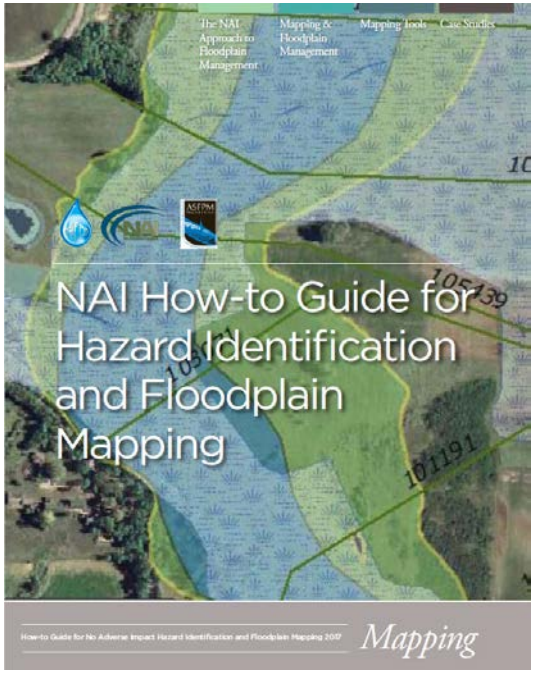
Communities that cause or permit an increase in flood or erosion hazards may be liable for monetary damages to injured individuals. Increased flood and erosion hazards can be caused by construction projects undertaken, or permitted, by a local government.

Landowners damaged by flooding are also suing governmental entities that fail to adequately administer or enforce floodplain regulations, particularly where an issued permit resulted in damage to other lands.

Cootey v. Sun Inv., Inc., 690 P.2d 1324, 1332 (Haw., 1984): Hawaiian Supreme Court held that a county may be liable for approving a subdivision with inadequate drainage.

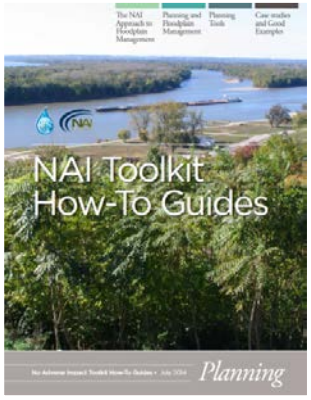
- Legal foundation
- Understandable
- Palatable to Community as a Whole
- Working around the Nation
- Non-Adversarial
  - Not Pro Development
  - Not Anti Development

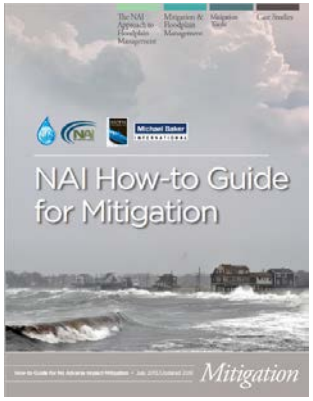
NAI How-To Guides

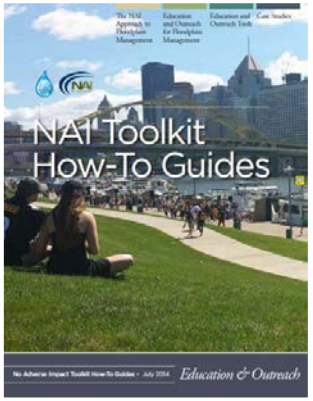


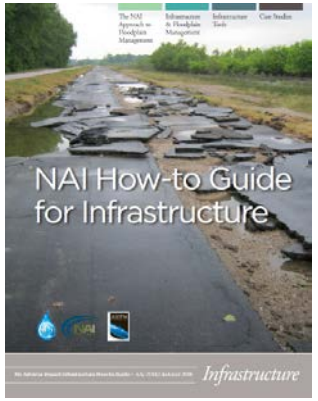
NAI Building Blocks

1. Hazard ID & Mapping……. Published
2. Education and Outreach…. Published
3. Planning…….. Published
4. Mitigation…….. Published
5. Infrastructure…….. Published
6. Regulations…….. Published
7. Emergency Services…… Underway





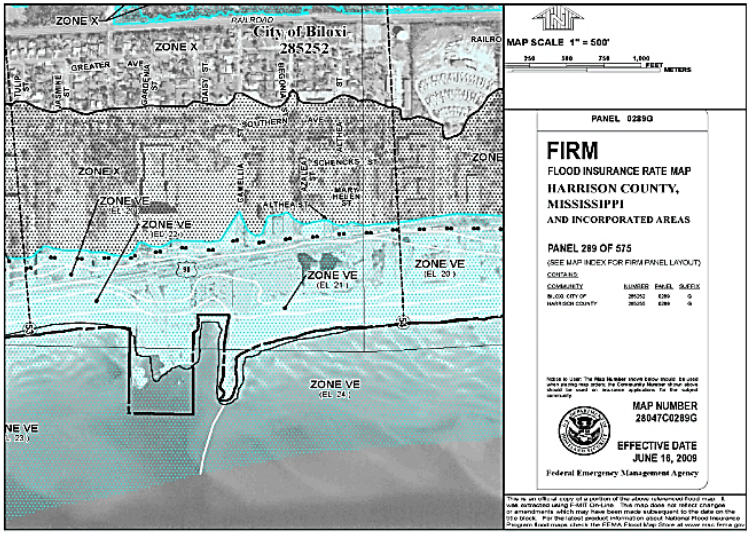




Hazard Identification

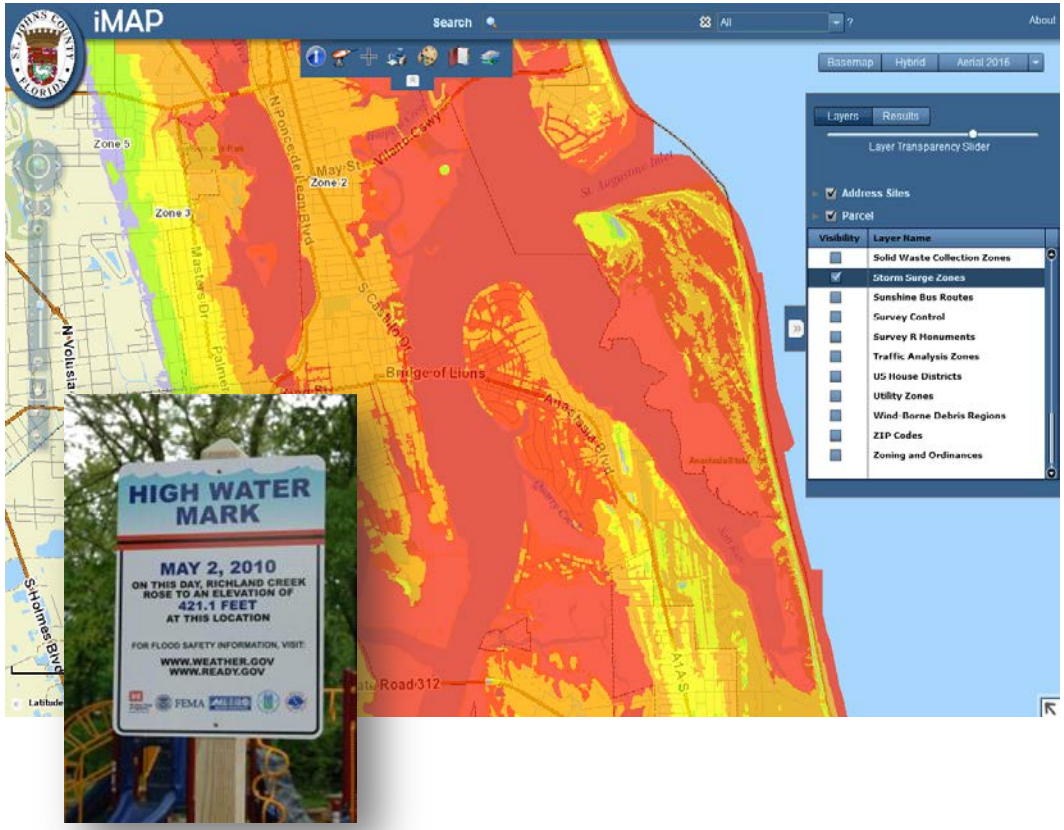
Basic

Flood Insurance Rate Map



Better

Fill in the Gaps

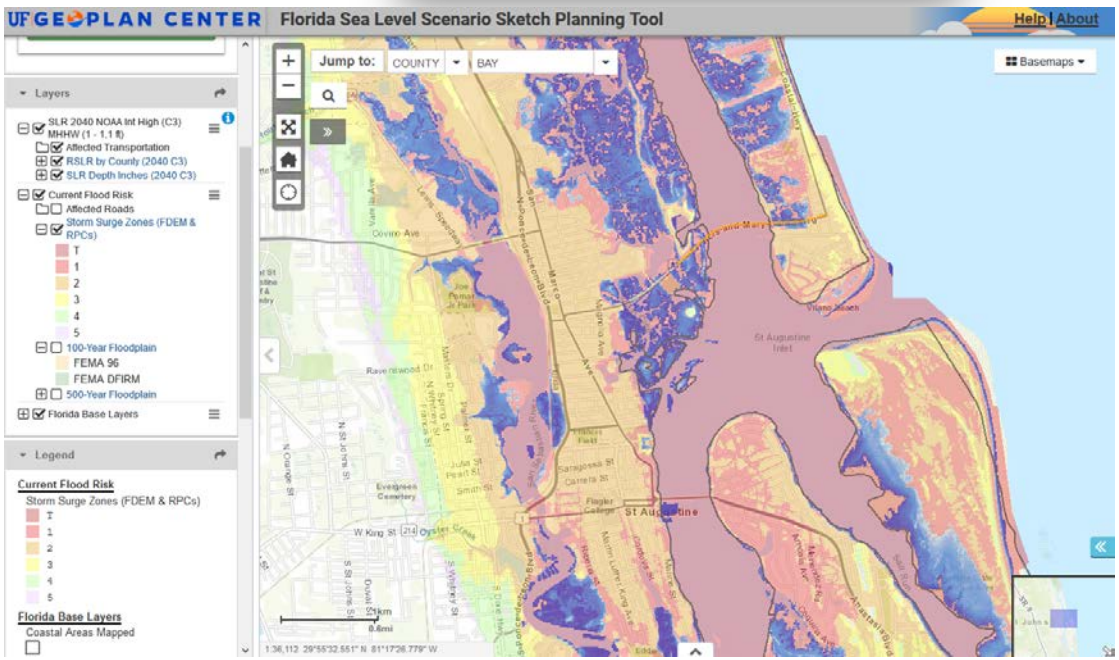


Hazard Identification (continued)

NAI

- *Higher Mapping Standards*
- *Natural & Beneficial Functions*
  - *Identify Sensitive Resources*
- *Future Conditions*
- *Information Sharing*





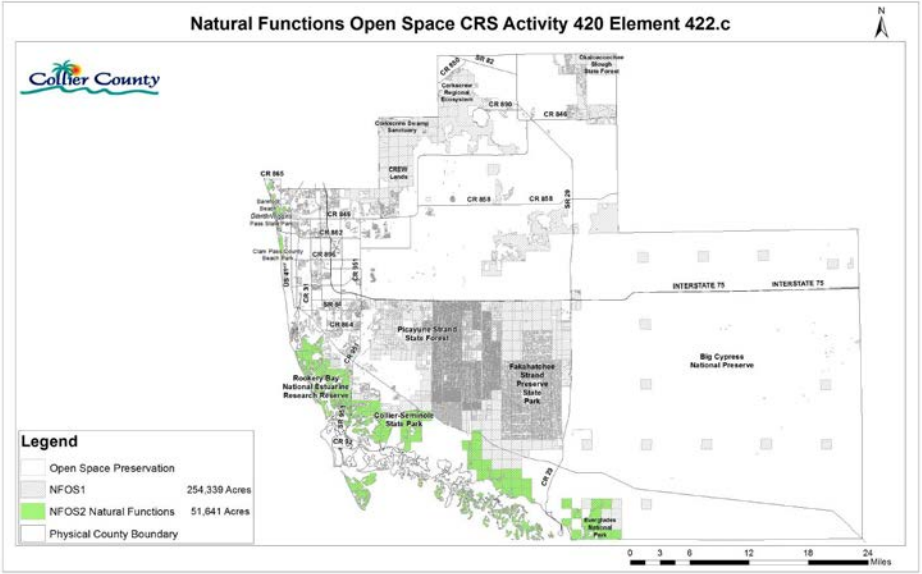
NAI / CRS Success Story

Collier County Builds from Existing State Policy to Protect Open Space

422.c. Natural Functions Open Space (NFOS) & 512.c. Natural Floodplain Functions Plan (NFP)

In 2002, County citizens approved by referendum a green space acquisition program called ***Conservation Collier***

- Allowed the county to tax residents $2.5 million dollars over 10 years to purchase conservation lands and green space.
- Approved a $75 million limited tax general obligation bond to buy lands. Nearly 60% of the voters supported the initiative.
- In 2006, nearly 82% of the voters approved another referendum for additional taxes to support the program



The Conservation Collier program accrued more than 4,084 acres in 19 locations

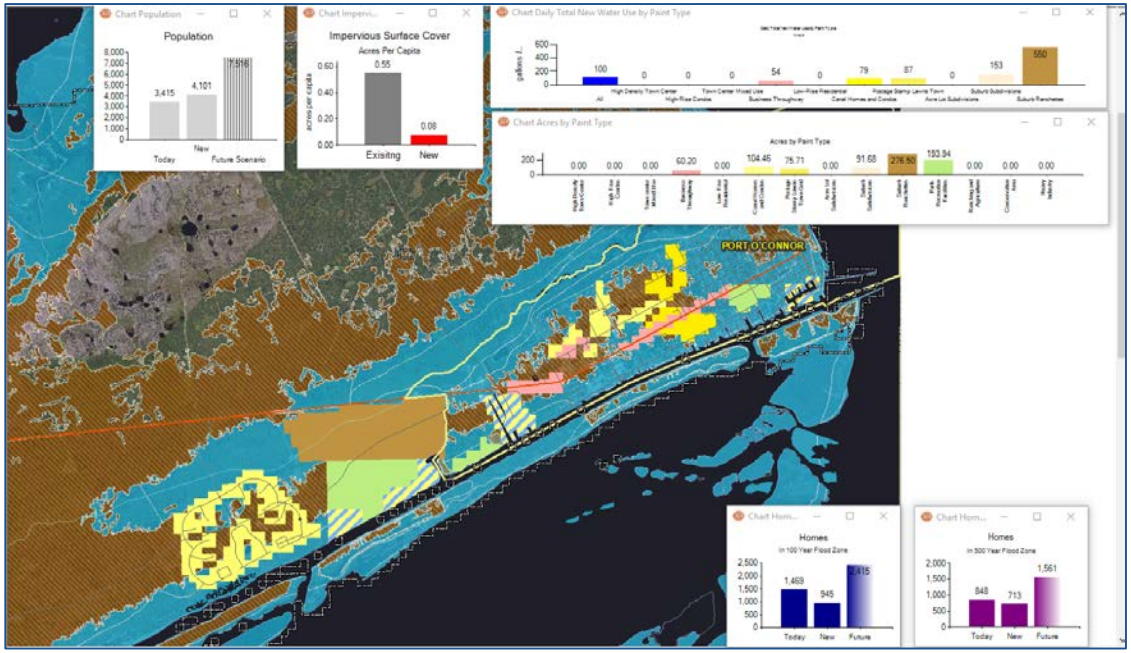
www.floodsciencecenter.org/products/crs-community-resilience/success-stories/

Bringing it all together

Integrating NAI and CHARM



- *Legal foundation*
- *Complete hazard identification*
- *Natural & Beneficial Functions*
- *Future Conditions*
- *Information Sharing*
- *Collaboration*



Thank you

Please, complete an evaluation

All materials will be posted on our website

(Link will be emailed)

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Association of State Floodplain Managers
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