

City of San Rafael

Local Hazard Mitigation Planning Project

Four Phases of Emergency Management



Four Phases of Emergency Management

Preparedness

- Increases a community's ability to respond when a disaster occurs
- **NIMS:** “a continuous cycle of planning, organizing, training, equipping, exercising, evaluating, and taking corrective action in an effort to ensure effective coordination during incident response.”

Response

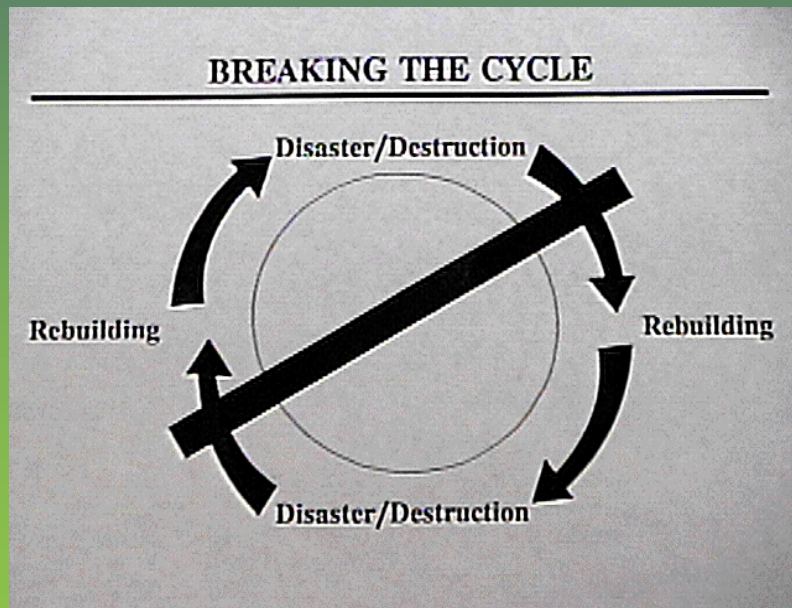
- Response actions carried out immediately before, during, and after a hazard impact are aimed at saving lives, reducing economic losses, alleviating suffering, and limiting unfavorable outcomes

Recovery

- Actions taken to return a community's systems and activities to normal
- Restoration of services/repair of physical, social and economic damages

Hazard Mitigation

Mitigation defined: Any **SUSTAINED** action taken to reduce or eliminate long-term risk to human life and property from hazards



Effective mitigation efforts can break the cycle of disaster damage, reconstruction, and repeated damage

Hazard Mitigation

- Measures that reduce the chance of an emergency happening, or reduce the damaging effects of unavoidable emergencies
- Reduces loss of life, property damage, and economic hardship
- Increases communication and cooperation within the community through the planning process
- Allows communities to minimize post-disaster disruptions and recover more rapidly
- Long-term fix



Why Hazard Mitigation?

- More hazards
- More people living in hazard-prone areas
- More disaster declarations
- Increasing costs of disaster response and recovery is unmanageable



Hazard Mitigation Planning

Disaster Mitigation Act of 2000

- Continued eligibility for mitigation funds, pre- and post- disaster
- Guide mitigation activities in a coordinated & economic manner
- Incorporate into other existing planning mechanisms
- Future Development: plan and build wisely
- Reduce losses
- Make community more disaster resistant



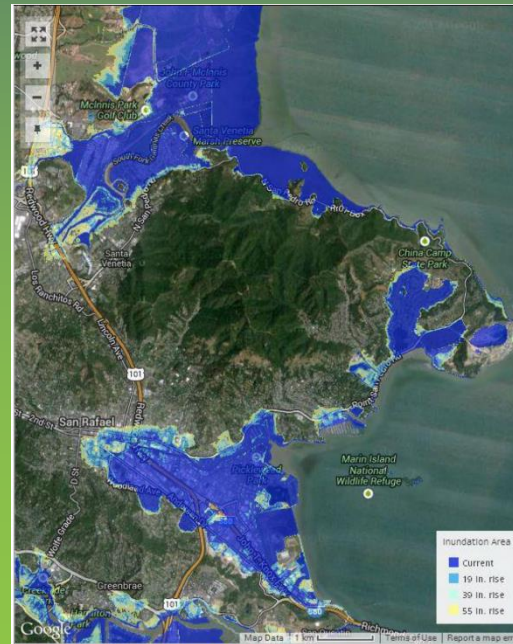
Hazard Mitigation Planning

Local Hazard Mitigation Plan

- a single or multi-jurisdictional planning document that identifies and profiles specific hazard risks & vulnerabilities and then addresses & prioritizes potential mitigation projects that can reduce those specific risks and vulnerabilities.



City of San Rafael, CA



Local Hazard Mitigation Planning Process



FEMA's 4-Phase-10 Step DMA/CRS Planning Process

Phase I: Organize Resources

- 1) Get organized
- 2) Plan for public involvement
- 3) Coordinate with other departments and agencies

Phase II: Risk Assessment

- 4) Identify the hazard(s)
- 5) Assess the risks

Phase III: Mitigation Strategy

- 6) Set planning goals
- 7) Review mitigation alternatives
- 8) Draft and action plan

Phase IV: Adoption and Implementation

- 9) Adopt the plan
- 10) Implement the plan, evaluate its worth, and revise as needed

Phase I: Organize Resources

- 1) Get organized
- 2) Plan for public involvement
- 3) Coordinate with other department and agencies



1) Get Organized – To Prepare the Plan

- Obtain communities' commitment to mitigation
- Determine and assign staff
- Establish your mitigation planning team
 - City Departments
 - Other stakeholders: local, state, and federal agencies, public, neighboring jurisdictions
- City Departments
 - Planning and Building
 - Public Works
 - GIS Mapping
 - Parks and Recreation
 - Fire
 - Economic and Community Development
 - Floodplain Management
 - Emergency Services
 - Facilities
 - Engineering
 - Police

2) Plan for Public Involvement – Options

- Include on planning team
- Post data on websites
- Develop press releases
- Host public input meetings
- Hold “neighborhood” meetings
 - On their “turf”
 - Facilitates public involvement
 - Review ideas, get feedback
- Use surveys/questionnaires

Public Meeting



Take our survey online now!

MITIGATION ACTIVITIES FREQUENTLY
TAKEN BY THE PUBLIC



Raised furnace or
water heater
48%



Bought flood
insurance
23%

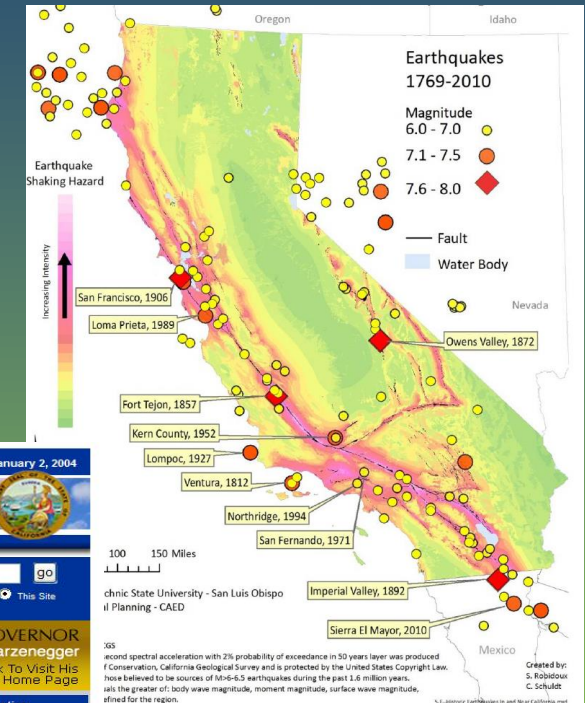


Sealed basement
walls
26%

3) Coordinate with Other Departments & Agencies

- Cal OES State Hazard Mitigation Officer
- FEMA Region IX
- State Flood Insurance Coordinator
- US Army Corps of Engineers
- US Geological Survey
- Caltrans
- Cal Fire
- DWR
- National Weather Service
- Red Cross
- Neighboring Jurisdictions

The screenshot shows the homepage of the California GIS Council. At the top, it says "California Home" and "Friday, January 2, 2004". Below that is a "Welcome to California" banner with a collage of images including the Golden Gate Bridge, a sunset, and a field of flowers. The main content area is divided into several sections: "GIS Council Home" with links to "Council Members", "Meetings & Events", "Documents", and "Regional GIS Councils"; "Related Links" with links to "California Spatial Information Library", "CERES", "USGS", "FGDC", and "Environmental Information Catalog"; "Information" with contact details for the California GIS Council (800 N St., Sacramento, Ca. 95814, (916) 633-1368); "Sponsors" listing CGIA, NSDI, FEMA, Flex Your Power, and W3C HTML 4.0; and a "GOVERNOR Schwarzenegger" banner with a "Click to Visit His Home Page" button.



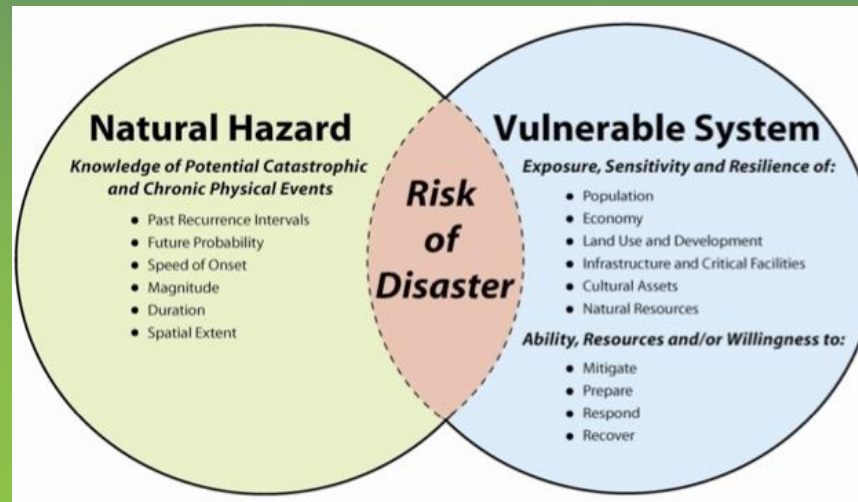
Phase II: Risk Assessment

Three Components

4) Hazard Identification (what can happen here?)

5) Vulnerability Assessment (what will be affected?)

Capability Assessment (how prepared are we?)



4) Hazard Identification & Profiles – What Can Happen Here?

- Hazard / Problem description
- Hazard extent (maps)
- Past occurrences
- Seasonal patterns
- Speed of onset / duration
- Magnitude / secondary effects
- Significance
- Frequency / likelihood of future occurrences



5) Vulnerability Assessment – What will be affected?

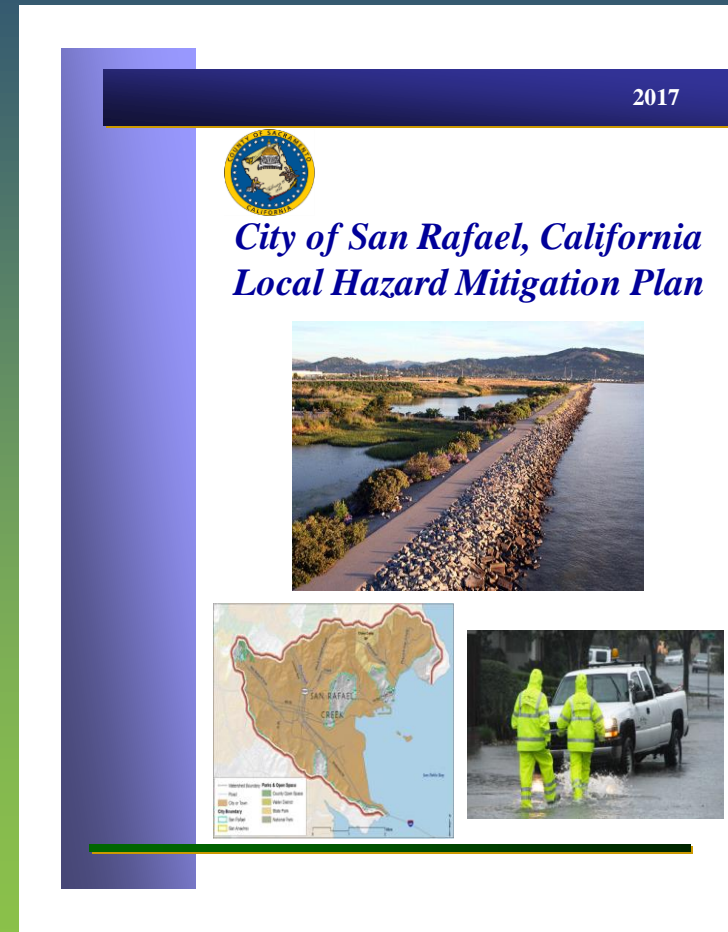
- Inventory residential and commercial structures
- Inventory critical facilities
- Determine value of structures
- Determine the number of people in the area
- Identify vulnerable infrastructure
- Identify development trends / constraints
- Identify historic, cultural, and natural resource areas
- Estimate losses

Capability Assessment

- Conduct an inventory of communities existing and proposed policies, programs, and ordinances that may affect its vulnerability to hazards.
- Evaluate the effectiveness of each for mitigation purposes. Note any gaps, shortfalls or conflicts associated with their design, enforcement of implementation. Identify any special opportunities.
- Determine the communities' technical and fiscal abilities to implement mitigation initiatives. Include ability to attract and leverage funding.

Phase III: Develop a Mitigation Plan

- 6) Set planning goals
- 7) Review mitigation alternatives
- 8) Draft an action plan



6) Set Planning Goals – Using the risk assessment

- Areas of extreme vulnerability
 - At-risk existing facilities
 - At-risk critical facilities
 - At-risk cultural and natural resources
 - At-risk areas slated for future development
- Goals from other existing plans
- Other opportunities
 - Repetitive losses
 - Public education
 - Increased insurance coverage

7) Review Mitigation Action Alternatives

- Prevention
- Property protection
- Natural resource protection
- Emergency services
- Structural projects
- Public information
- Multi-hazard measures and considerations
- No action



Hazard Mitigation Strategies

Three Ways to Promote Change

- Reduce the hazard – take an action to affect the hazard itself
- Reduce the impact (physical or economic) – take an action to mitigate structural loss or financial loss
- Change behavior/people



City of San Rafael, CA



Local Hazard Mitigation Planning Process



Hazard Mitigation: Flood

Reduce the hazard

- Divert or detain floodwaters (dams, levees, detention ponds, diversion structures)

Reduce the impact (physical or economic)

- Floodproof / Elevate structures; Elevate utilities

Change behavior/people

- Designate high risk properties as open space
- Develop, adopt, and enforce floodplain regulations
- Train people to respond to flood watches and warnings
- Flood Insurance

Hazard Mitigation: Wildfire

Reduce the hazard

- Create fuel breaks
- Vegetation management

Reduce the impact (physical or economic)

- Build using fire resistant materials
- Create defensible space

Change behavior/people

- Use zoning restrictions to prevent building in highest risk or limited access areas
- Conduct evacuation planning activities
- Homeowner's insurance

Hazard Mitigation: Earthquake

Reduce the hazard -?????

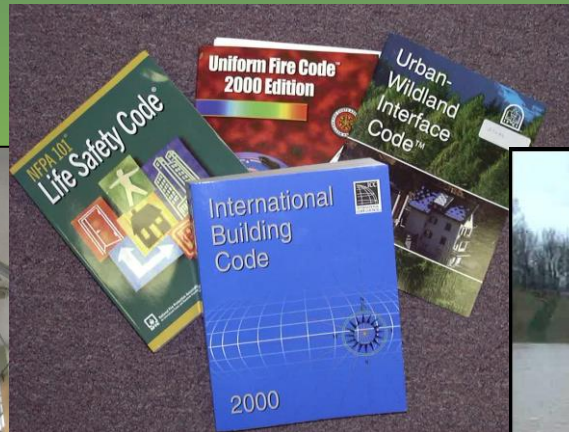
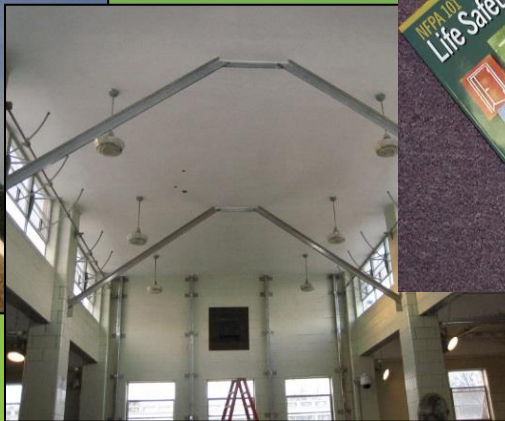
Reduce the impact (physical or economic)

- Conduct seismic retrofitting for critical facilities and infrastructure
- Strengthen and retrofit non-reinforced masonry buildings
- Retrofit building veneers to prevent failure
- Build a safe room to provide protection
- Install window film to prevent injuries from shattered glass
- Anchor rooftop-mounted equipment

Change behavior/people

- Increase public awareness about earthquake risk and safety measures
- Train builders, architects, engineers to enhance code use and enforcement
- Insurance

Hazard Mitigation Strategies



City of San Rafael, CA

Local Hazard Mitigation Planning Process

Review of Mitigation Alternatives – Criteria for selecting mitigation measures

- Will it work?
- Is it cost-beneficial?
- Is it affordable?
- Is it legal?
- Is it fair?
- Do people want it?
- Is funding available?
- Are there administrative burdens?
- Is it politically acceptable to community leaders?
- Is it environmentally sound?

Phase IV: Adopt and Implement the Plan

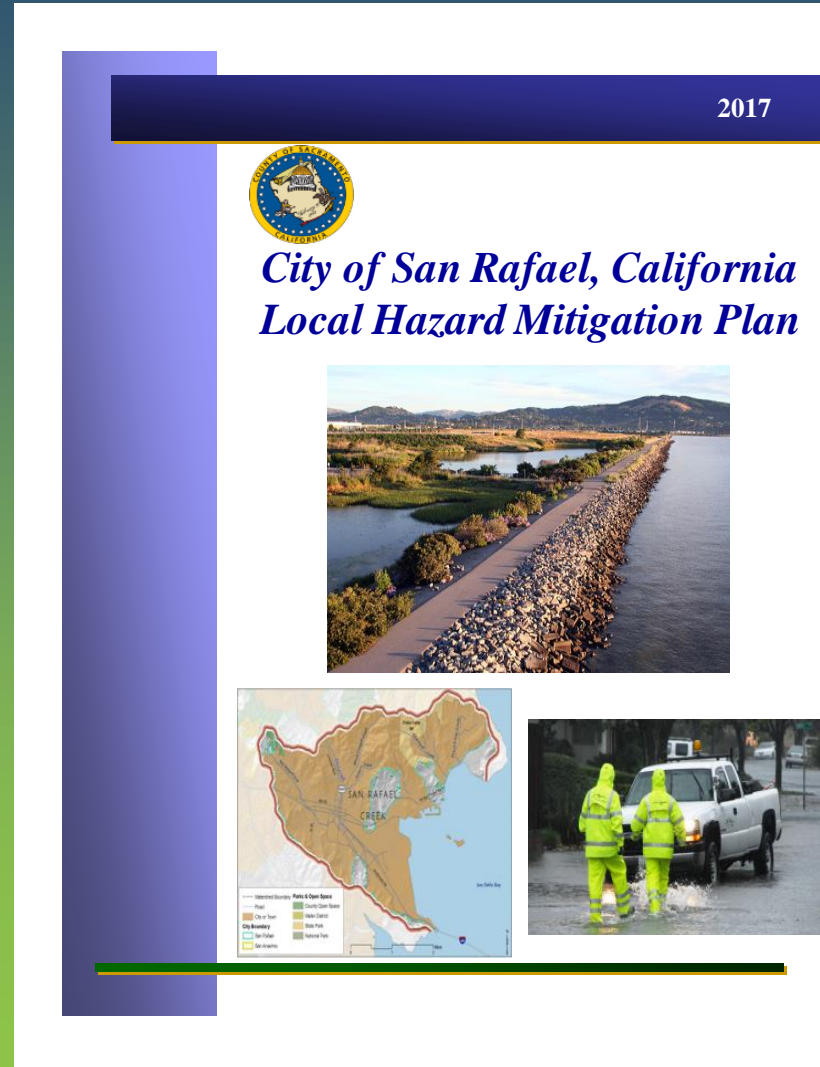
9) Adopt the Plan

- Official Adoption by Council or Board
- Public input before adoption

10) Implement the Plan

- Assign an overall project manager
- Integrate actions into staff work plans
- Monitor changes in vulnerability
- Report on progress, publicize successes
- Revise the plan as necessary (every 5 years for DMA)

The City of San Rafael LHMP, 2017



The Role of the Hazard Mitigation Planning Committee/Steering Committee

Why you are here!

- Attend meetings and participate in the planning process
- Provide requested data
- Review drafts and provide comments
- Identify projects to be eligible for funding
- Coordinate and participate in the public input process
- Coordinate the formal adoption

Strategies for Maximizing the Effectiveness of your Work

- Follow a prescribed planning process
- Coordinate with ALL other community goals and plans
- Seek diversified participation and public input
- Multi-objective management
- Establish partnerships for implementation

The Hazards

- Climate Change
- Coastal Flooding and Sea Level Rise
- Dam Failure
- Drought and Water Shortage
- Earthquake
- Flood 100/500 year
- Flood: Localized Flooding
- Landslides, Mudslides, Hillside Erosion, & Debris Flows
- Levee Failure
- Severe Weather: Extreme Heat
- Severe Weather: Heavy Rains and Storms
- Tsunami
- Wildfire

Project Schedule

September 2016 – Project Kickoff

October 2016 – Kickoff Meetings (HMPC and Public)

January 2016 – Risk Assessment/Mitigation Strategy Meetings and Community Workshop

February 2017 – HMPC Review Draft

March 2017 – Public Review Draft

April 2017 – Plan Submittal to Cal OES/FEMA

??? – FEMA APA Letter

??? – Jurisdictional Adoptions

??? – Final FEMA Approval – 2017 LHMP Update

Thank you!

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