

DRAFT HAZARD MITIGATION PLAN TOOLKIT: MASTER TABLE (Suggestions welcome. Contact audrey.massa@dhs.gov)			
Steps	Requirements Addressed	Click to Access	Description of Samples and Aids
General	Plan Development Overview	X	Overview slide presentation on "Getting Started Developing a Hazard Mitigation Plan"
		X	Introductory slide presentation on "Draft Hazard Mitigation Plan Toolkit"
	Regulations	X	Local mitigation plan regulations (44 CFR 201.6)
	Review Process	X	FEMA Region 2 review worksheet for evaluating local plans
	Guidance	X	Local Plans (part 3) multi-hazard mitigation planning guidance under DMA 2000 (FEMA, March 2004). Also available online at www.fema.gov/plan/mitplanning/DMA.shtm
		X	State (tribal) Plans (part 1) Multi-hazard mitigation planning guidance under DMA 2000 (FEMA, March 2004). Also available online at www.fema.gov/plan/mitplanning/DMA.shtm
		L	FEMA Hazard Mitigation Planning web page and State and Local Mitigation Planning How-To Guides (FEMA, 386): Call FEMA publications (800-480-2520) for print and CD copies. See www.fema.gov/plan/mitplanning/planning_resources.shtm for online viewing and downloading.
		L	Mitigation Planning Frequently Asked Questions (FAQs) http://www.fema.gov/plan/mitplanning/faqs.shtm
		L	Approved Hazard Local Mitigation Plan sample - City of Seattle, WA www.cityofseattle.net/emergency_mgt/resources/plans.htm
	Courses and Workshops	L	Mitigation Planning Workshop for local Governments - E293 course manual link www.fema.gov/plan/mitplanning/e293.shtm
		L	Introduction to Mitigation: online FEMA Independent Study course, IS-393 http://training.fema.gov/EMIWeb/IS/is393.asp
		L	Mitigation courses taught at FEMA's Emergency Management Institute: course descriptions, target audience and schedules. Includes HAZUS Multi-Hazard (MH) courses: E313, E170, E172, and E174 http://training.fema.gov/EMIWeb/EMICourses/EMICourse.asp
	Plan Organization	X	Table of Contents - local plan sample
		X	Table of Contents - state (tribal) sample
	Maps	X	Map of NY State's counties
		X	Map of NJ counties

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General (cont)	Maps (cont)	<u>L</u>	NJ county road maps: NJ Department of Transportation's detailed, interactive road maps for the state and each county http://www.state.nj.us/transportation/gis/map.shtm
		<u>X</u>	Location and base map samples: GIS-generated (a) location map for Westchester County region and (b) base map for the municipalities within the County
		<u>X</u>	Location map sample: GIS-generated base map of Suffolk County, NY and its municipalities
		<u>X</u>	Federal lands and indian reservations map: NY. Printable location map includes national parks, forests, wildlife refuges, military reservations, lands administered as indian reservations http://nationalatlas.gov/printable/images/pdf/fedlands/ny.pdf
		<u>X</u>	Federal lands map, NJ: Printable location map includes national parks, forests, wildlife refuges, military reservations http://nationalatlas.gov/printable/images/pdf/fedlands/nj.pdf
		<u>L</u>	Topo maps: USGS topographic maps available online at www.topozone.com
		<u>L</u>	Google satellite photos and maps of communities: Click "Hybrid" for satellite photo overlain by map with road names. Zoom in for detailed street labels. Use screen capture to obtain electronic copy of map. Sample from Ocean Beach, New York shows highly developed community and coastal erosion, especially to the west. www.maps.Google and www.earth.Google
		<u>L</u>	Map-NY: State and county maps at main page. On left panel, click on "Interactive Mapping" or "NYS GIS Clearinghouse" for aerial photos, Congressional Districts, counties, land use, legislative districts, municipalities, roads, soils, streams, zip codes. Interactive mapping and Clearinghouse may be unavailable for security reasons. www.nysegov.com/map-NY.cfm

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General (cont)	Maps (cont)	L	NJDEP's i-MapNJ: NJDEP interactive map with zoom in from all NJ to county to community levels and identifying features. Aerial photos, CAFRA boundary, Congressional Districts, counties, land use, legislative districts, municipalities, NJ-owned parks and open space, Pinelands Protection Area boundary, roads, soils, streams, zip codes www.state.nj.us/dep/gis/imapnj/imapnj.htm
		X	NJ Geologic Map http://www.njgeology.org/enviroed/freedwn/psnjmap.pdf
Planning Process	Planning Guidance	L	How-To Guide #1: Getting Started: building support for mitigation planning (FEMA 386-1). See Step 2 for "Building the Planning Team." www.fema.gov/plan/mitplanning/planning_resources.shtm
	Multi-Jurisdictional Planning	X	Multi-Jurisdictional Approaches to Mitigation Planning - excerpts from FEMA 386-8, May 2005 Draft document
		X	Multi-jurisdictional participation table - sample
		X	Proxy resolution for authorizing the plan author to act on behalf of local jurisdiction - sample from FEMA 386-8, May 2005 Draft document
	Narrative Description	X	Work plan and schedule - sample (FEMA 386-1, pp. 2-15 and 16)
		X	Description of planning process - sample (Seven Springs, NC) www.dem.dcc.state.nc.us/mitigation/Library/SevenSprings_PlaningProcess.pdf
		X	Planning meetings sum table - sample (Chesapeake VA Plan, Table 2, Sect III, p2)
		X	Build the planning team members checklist: (FEMA-386-1, p.2-17, Worksheet #1)
	Planning Team	X	Potential planning team and roles table
		X	Public involvement - sample
	Public Involvement	X	Public involvement - sample
		TBD	Public Notice - sample.
	Existing Information	X	Existing plans, studies, reports checklist - sample and blank form (Adapted from Draft FEMA 386-8, p. 17)
X		NJ open space programs: table showing jurisdictions with open space programs, and estimated annual funds available for acquisition and other mitigation projects. Also shows number of NFIP repetitive loss properties (as of 10/12/05)	

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Steps	Requirements Addressed	Click to Access	Description of Samples and Aids
Planning Process	Existing Information: Risk assessment studies (NFIP, HAZUS, SLOSH, etc)	L	Flood Insurance Rate Maps (FIRMs): at www.fema.gov , then on left panel, click on "FEMA Flood Map Store". After registering, click on "Map Search," and give local address, or map panel or community #. Use "Make a Firmette" to print desired section of map with north area, scale, panel #.
		L	Status of NFIP participating communities (updated daily): at www.fema.gov , search Community Status Book, then choose State or www.fema.gov/csbs.htm
		X	NJ - Map Mod projected availability table for Flood Insurance Studies maps and reports
		TBD	NY - Map Mod projected availability table for Flood Insurance Studies maps and reports
		X	Map Mod sample - effective floodplain mapping for Hudson County, NJ (digital version)
	Existing Information: Risk assessment studies (NFIP, HAZUS, SLOSH, etc)	X	Map Mod sample - DFIRM map panel with floodplain boundary and orthoimagery (Arthur Kill)
		X	NFIP data: 2005 information in NJ by municipality - draft
		L	New Jersey Hurricane Evacuation Study (HES) draft county maps of estimated Category 1-4 hurricane inundation areas using the SLOSH model. Includes a vulnerability table showing the number of housing units within inundation zones by municipality. See www.nap.usace.army.mil/HES/nj/index.html
		X	New York Consortium for Earthquake Mitigation (NYCEM) HAZUS MH loss estimation studies for earthquakes and earthquake-induced landslides and sediment liquefaction have been conducted for the greater NYC area (including counties in New York and New Jersey). 50-page summary report for this study can be accessed through the Plan Toolkit or NYCEM's website for (http://nycem.org/default.asp)
		L	NJ Geological Survey HAZUS earthquake loss estimation study for northern NJ. As of December 2005, this website has posted reports for Bergen, Essex, Hudson, Middlesex, Morris, Passaic, and Union counties. www.state.nj.us/dep/njgs/enviroed/hazus.htm
Risk Assessment	Risk Assessment Guidance	L	How-To Guide #2: Understanding Your Risks: identifying hazards and estimating losses (FEMA 386-2) www.fema.gov/plan/mitplanning/planning_resources.shtm
	All hazards: <i>Hazard identification</i> <i>Profiling hazards</i>	X	Identifying and profiling hazards plan review checklist and explanation

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Risk Assessment: Identifying and Profiling Hazards	All hazards: <i>Hazard identification Profiling hazards</i>	X	Under development DRAFT summary evaluation table of national and state risk assessment information for NJ. Includes minimum PDM-c rankings for probability ("frequency") and vulnerability ("severity") of hazards by county. See hyperlinks under "Notes" column for documentation supporting the rankings.
	All hazards: <i>Past occurrences Vulnerability - impact</i>	X	Past FEMA disaster declarations in NJ, including disaster number, hazard type, date, and declared counties when information is available (adapted from www.fema.gov 11/05) Note that newscippings and other historical sources should be used to describe disasters in more detail.
		X	Past FEMA disaster declarations in NY, including disaster number, hazard type, date, and declared counties. Worksheet #1: all counties. Worksheets #2, 3, and 4: print friendly versions for counties A-Monr, Mont-U, and W-Z. (Adapted from FEMA web pages and NYS mitigation plan)
	Earthquakes: <i>Hazard identification Location, Extent Probability of future occurrences</i>	X	Map of NY state showing USGS peak ground acceleration (pga) with a 10% chance of being exceeded over 50 years. Earthquakes should be identified as a hazard if pga>2 (From NYS Mitigation Plan, Fig. 3-30, p. 3-113). Includes map of NEHRP soil classification which indicates reduction or amplification of ground motion due to soils.
	Earthquakes: <i>Past occurrences</i>	X	Map and table of past significant earthquakes in NY and northern NJ (from NYS Plan, p. 3-114 and 116.)
	Floods: <i>Hazard identification Location, Extent Probability of future occurrences</i>	L	Flood Insurance Rate Maps (FIRMs): at www.fema.gov , then on left panel, click on "FEMA Flood Map Store". After registering, click on "Map Search," and give local address, or map panel or community #. Use "Make a Firmette" to print desired section of map with north area, scale, panel #.
		X	Map Mod projected availability table for Flood Insurance Studies maps and reports - NJ
		X	Effective floodplain mapping for Hudson County, NJ (digital version)
		X	Effective floodplain mapping for Orange County, NY(digital version)
	Floods: <i>Location, Extent</i>	X	Flood Insurance Study (FIS) web link with instructions to access and explanation for obtaining FIS flood profiling information - under development
Floods: <i>Past occurrences</i>	L	USGS Water Resources web link and stream-gage information http://water.usgs.gov/	

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Risk Assessment: Identifying and Profiling Hazards (cont)	<i>Floods: Past occurrences Vulnerability</i>	X	NFIP data (policies, claims, repetitive loss properties, etc): 2004 data and analysis in NYS Plan by county
		X	NFIP data - sample: DRAFT 2003 spreadsheet for NFIP communities in Suffolk Co
		X	GIS map of NFIP data - sample: DRAFT 2003 map of # Repetitive Loss properties by community in Suffolk Co
		X	NFIP data: 2005 information in NJ by municipality - draft
		X	NFIP data: 2005 information in NY by municipality
	<i>Floods: Location Past Occurrences</i>	TBD	Map and description of flood-prone areas.
	<i>Coastal Flooding: Hazard identification</i>	X	Coastal zone area map for NY state showing czm boundary line in blue. Czm areas located in or along Long Island, NYC, Hudson River, Great Lakes.
		X	Coastal zone area map for Orange County, NY. Includes areas along Hudson River
		L	Coastal Barrier Resources System areas (and Otherwise Protected Areas) for NY with listings under county, community, FIRM Panel # formerly at www.fema.gov/nfip/cny.shtm . As of 5/11/06, some information at www.fema.gov/plan/prevent/fhm/fmc_cbars.shtm . For mapped locations, see FIRMs at FEMA's Flood Map Store.
		L	Coastal Barrier Resources System areas (and Otherwise Protected Areas) for NJ with listings under county, community, FIRM Panel # formerly at www.fema.gov/nfip/cnj.shtm . As of 5/11/06, some information at www.fema.gov/plan/prevent/fhm/fmc_cbars.shtm . For mapped locations, see FIRMs at FEMA's Flood Map Store.
		X	Note on NJ protected coastal areas
		X	Map of inland boundary of areas regulated under NJ's Coastal Areas Facility Resources Act.
	<i>Coastal Flooding (storm surge): Probability of Future Events Vulnerability</i>	L	New Jersey Hurricane Evacuation Study (HES) draft county maps of estimated Category 1-4 hurricane inundation areas using the SLOSH model. Includes a vulnerability table showing the number of housing units within inundation zones by municipality. See http://www.nap.usace.army.mil/HES/nj/index.html

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Risk Assessment: Identifying and Profiling Hazards	Dam Failure: <i>Location</i>	L	National Inventory of Dams (NID) information, including county, dam name, NID ID #, river, city, owner name, dam height and storage, drainage area. http://crunch.tec.army.mil/nid/webpages/nid.cfm See "USFWS's ECOS" for mapping of NID and FERC dams at http://ecos.fws.gov/
	Hurricane flooding and winds: <i>Probability of future occurrences</i>	X	Hurricane/tropical storm probability of occurrence (www.aoml.noaa.gov/hrd/tcfaq/tcfaqG.html#G12)
	Hurricane flooding and winds: <i>Past occurrences</i>	X	Map of historic hurricane tracks through NY 1888 - 1989 (NY State Plan, Fig. 3-17)
	Landslides: <i>Past occurrences</i>	X	Landslide susceptibility and incidence map: NJ (NJ State plan, Fig. 4-1, p. 184)
	<i>Probability of future occurrences</i>	X	Landslide susceptibility and incidence maps: NY (Excerpts from NY State plan, pp. 3-128ff)
	Meteorological Hazards (Extreme Heat/Cold, Snowstorm) <i>Past occurrences</i>	L	NJ State Climatologist Internet link provides extreme long-term averages for daily temperatures, precipitation totals, and snowfall totals at 40 stations in New Jersey (http://climate.rutgers.edu/stateclim/).
	<i>Probability of future occurrences</i>	L	
	Severe Winter Storm: <i>Past occurrences</i>	L	NOAA's National Climatic Data Center (NCDC) storm event information. Note this data should be summarized and analyzed, not just listed. http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms
	Severe Winter Storm (Snowstorm): <i>Past occurrences</i>	X	Average annual snowfall map - NY From NYS Mitigation Plan, Fig. 3-19, p. 3-71
	<i>Location, Extent</i>	X	
<i>Probability of future occurrences</i>	X		
Subsidence: <i>Hazard identification</i>	X	NJ map of (a) areas prone to sinkhole development and (b) sites of known sinkholes (from NJ State plan, Fig. 5-4, p. 203)	
<i>Location</i>	X		
<i>Probability of future occurrences</i>	X		
<i>Past occurrences</i>	X		
Tornadoes and Windstorms: <i>Hazard identification</i>	X	Wind zones and tornado tracks maps (NY State Plan, Fig. 3-16, p.3-55 and http://www.fema.gov/mit/bpat/bpn_tsfs.htm).	
<i>Location, Extent</i>	X		
<i>Probability of future occurrences</i>	X		
<i>Past occurrences</i>	X		

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Risk Assessment Profiling Hazards and Assessing Vulnerability	Wildfires: <i>Hazard identification Location, Extent Probability of future occurrences Past occurrences</i>	X	NJ wildfire risk assessment by county, including (a) a fire risk map that addresses location and probability; (b) tabulations of wildfire incidents and acres burned per year, as well as a brief description of significant wildfires that address past occurrences (Excerpt from NJ State Plan, Appendix B, pages 330-340).	
	Overview and Impact	TBD	Vulnerability summary table sample	
	Existing Structures		X	Population density map and table samples: Westchester County, NY
			TBD	Critical facility map and table samples
	Earthquakes: <i>Vulnerability Overview and Impact, Potential \$ Loss</i>		TBD	Structures by construction type (wood, etc) - sample
			X	New York Consortium for Earthquake Mitigation (NYCEM) HAZUS MH loss estimation studies for earthquakes and earthquake-induced landslides and sediment liquefaction have been conducted for the greater NYC area (including counties in New York and New Jersey). 50-page summary report for this study can be accessed through the Plan Toolkit or NYCEM's website for (http://nycem.org/default.asp)
		L	NJ Geological Survey HAZUS earthquake loss estimation study for northern NJ. As of December 2005, this website has posted reports for Bergen, Essex, Hudson, Middlesex, Morris, Passaic, and Union counties. www.state.nj.us/dep/njgs/enviroed/hazus.htm	
	Earthquakes: <i>Vulnerability Overview and Impact, Potential \$ Loss</i>		X	HAZUS NYCEM study explained in NJ Geological Survey's Information Circular, Predicting Earthquake Damage in New Jersey. 2-page explanation for this study with sample data from the Orange Quadrangle in NJ can be accessed through the Plan Toolkit or www.state.nj.us/dep/njgs/enviroed/infocirc/eqdamage.pdf
			X	HAZUS study has annualized earthquake loss estimation table: HAZUS MH dollar estimates by county. (Adapted from NYS Mitigation Plan, Table 3-52, p. 3-127.)

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Risk Assessment: Assessing Vulnerability	Earthquakes, Riverine Floods, and Hurricanes: <i>Hazard Profiling, Vulnerability Overview and Impact, Potential \$ Loss</i>	L	HAZUS Multi-Hazards (MH): If a Geographic Information System (GIS) is available, communities are encouraged to use this free FEMA computer software that models earthquakes, hurricanes winds, and riverine flooding. Developed by relevant experts and extensively documented, it contains information on (a) the probability of future events, (b) past occurrences, (c) baseline inventory data (such as building type and number, infrastructure, and critical facilities), and (d) potential annualized dollar loss estimations. Information developed from national data sets of agencies (US Geological Survey, NOAA's National Weather Service, US Census, etc). Additional, more detailed, location-specific data (such as developed by local communities or the State) can be incorporated into its database. www.fema.gov/plan/prevent/hazus/
	Land Use	X	Land-use map - sample: Allegany County, NY
Mitigation Strategy	Mitigation Strategy Guidance	L	How-To Guides: #3: Developing the Mitigation Plan: identifying mitigation actions and implementing strategies (FEMA 386-3) #4: Bringing the Plan to Life: implementing the hazard mitigation plan (FEMA 386-4) www.fema.gov/plan/mitplanning/planning_resources.shtm
	Mitigation Goals and Actions	X	Goals, objectives and actions sample for local plan
		X	Chart of alternative mitigation actions by hazard and category
		TBD	Action description sample
		TBD	Multi-jurisdictional action participation table sample
		X	STAPLEE mitigation evaluation chart sample (FEMA 386-3, p. 2-21, Worksheet #4)
	Implementing Actions	X	Implementation strategy table sample
	Potential Funding Sources	L	FEMA Mitigation Grant Programs: see Pre-Disaster Mitigation (PDM), Hazard Mitigation Grant Program (HMGP), and Flood Mitigation Assistance (FMA) http://www.fema.gov/government/grant/index.shtm
X		NJ open space programs: table showing jurisdictions with open space programs, and estimated annual funds available for acquisition and other mitigation projects. Also shows number of NFIP repetitive loss properties (as of 10/12/05)	

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Mitigation Strategy	Potential Funding Sources	<u>L</u>	NJ Dept of Environmental Protection (DEP) Green Acres Program: Land acquisition and development program website at www.nj.gov/dep/greenacres/ This web page "Links to some Partners" for other organizations with potential for non-state funding at www.nj.gov/dep/greenacres/link.htm
		<u>X</u>	NJ Upper Delaware Watershed conservation funding resources booklet
		<u>L</u>	NJ grant and loan program web links http://www.nj.gov/dep/grantandloanprograms/
		<u>X</u>	FAQ on FEMA funding of hazard mitigation plan updates through HMGP and PDM-C
	Existing Mechanisms	<u>X</u>	Capability assessment table sample.
Plan Maintenance	Monitoring Evaluating Updating	<u>X</u>	Worksheets: #1-Progress Report, #2-Evaluate the Planning Team, #3-Evaluate Your Project Results, and #4-Revisit Your Risk Assessment, Appendix C, FEMA 386-4.
	Continued Public Involvement	TBD	Aid or sample
Adoption	Adoption Resolution	<u>X</u>	Adoption resolution - sample