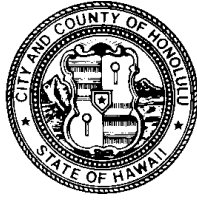


OAHU CIVIL DEFENSE AGENCY
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET HONOLULU, HAWAII 96813



2. Mitigation Planning Process

MITIGATION PLANNING PROCESS

The development of the Pre-Disaster Hazard Mitigation Plan for Honolulu involved a significant broad-based participation of the Mayor, the City Council, Oahu Civil Defense Agency, the City & County Dept. of Planning & Permitting, the Oahu Disaster Mitigation Council (formerly Oahu Project Impact) and its public and private partners, many State agencies, such as State Civil Defense, the Dept. of Land and Natural Resources, the Dept. of Transportation, the State Hazard Mitigation Forum and its affiliated State Multi-Hazard Science Advisory Committee, HECO (electric utility), professional organizations, such as the Hawaii Geographic Information Coordinating Council, the American Institute of Architects, the Structural Engineers Association of Hawaii, the American Meteorology Society, and federal partners such as the FEMA Pacific Area Office, NOAA and USGS.

The primary steering committee for the planning process was the Oahu Project Impact Steering Committee (now known as the Oahu Disaster Mitigation Council) sponsored under the Oahu Civil Defense Agency (OCDA). This committee was the central body for vetting of mitigation planning and development of proposed mitigation projects. The Hazard Mitigation Sub-Committee of the Project Impact Steering Committee provided further detailed review of the mitigation planning process and reviewed electronic drafts of the plan. Both groups included representatives from the public and private sector organizations that are shareholders in disaster mitigation.

Members of the Hazard Mitigation Sub-Committee were predominately chosen for prior experience in hazard mitigation planning. In addition, four of the fifteen members of this sub-committee were concurrently involved in developing the State of Hawaii Pre-Disaster Mitigation Plan. As a result, input required from the City for the State planning document was clearly identified in sub-committee meetings as well as during briefings given to the State Hazard Mitigation Forum. After review and development, Pre-Disaster Mitigation activities and projects were presented and deliberated with the Mayor and selected cabinet officials in March, 2003, with the City Council in June, 2003, and then with chiefs of all City agencies at a July, 2003 All-Hazards Mitigation Plan workshop.

The State Hazard Mitigation Forum vetted all county hazard mitigation plans and reviewed and voted on priorities for Pre-Disaster Mitigation Program planning projects and mitigation projects in August, 2003. Those selected by the Forum were then developed into the fuller detail required for submittal to FEMA by State Civil Defense as the Applicant. In this process, no City & County of Honolulu project was selected for submittal for a FEMA Project Grant from the National Pre-Disaster Mitigation Fund in FY 2003.

The State Hazard Mitigation Forum consists of representatives of each county's planning or emergency management agency, State Civil Defense, State Land and Natural Resource personnel, Department of Education, State Office of Planning, Utilities, and representatives of hazard-specific committees such as the Hawaii State Earthquake

Advisory Committee, and Federal hazard mitigation partners, such as, the National Weather Service, U. S. Army Corps of Engineers, and the FEMA Region IX Pacific Area Office representative.

The University of Hawaii Social Science Research Institute and the Honolulu Dept. of Planning & Permitting (DPP) were also significant contributors to the planning process. A UH SSRI graduate research associate was placed within the DPP during the project, and compiled relevant GIS data themes and produced a number of derivative spatial query-based themes on ArcGIS. DPP hosted the associate and provided a workstation and technical assistance as needed. Weekly project meetings were held at DPP with OCDA to develop and review all GIS derivative products included in this Plan.

Chronology of Formal Coordinating Efforts for the City & County Pre-Disaster Multi-Hazard Mitigation Plan (2002-2003)

May, 2002	GISMAP 2002 conference briefing on Hawaii hurricane probabilities, topographic wind effects, and Hawaii building inventory
June, 6, 2002	State Hazard Mitigation Forum meeting; Pre-Disaster Mitigation Planning state and local county requirements under DMA 2000
July 23, 2002	Briefing on hurricane hazard analysis to the American Meteorological Society
July 23, 2002	Briefing on hurricane hazard and topographic wind effects to the City Dept. of Planning & Permitting
July 24, 2002	Briefing to the Pacific Disaster Center on Hawaii hurricane modeling and topographic wind effects
July 25, 2002	State Hazard Mitigation Forum
July 27, 2002	Briefing to the Insurance Division, Dept. of Commerce and Consumer Affairs, on hurricane risk modeling for Hawaii, topographic effects, and building vulnerability
August 7, 2002	Hawaii Hurricane Advisory Committee Emergency Shelter Shortfall
September 25, 2002	Meeting at State Civil Defense with FEMA (H. Dubois, R. McCord, T. Johnson, L. Stubbs) regarding Pre-Disaster Mitigation Planning, Building Standards, Preliminary FEMA reviews of county draft plans scheduled for end of July, 2003; Hawaii State Earthquake Advisory Committee 5-year plan and its recommended pre-disaster mitigation planning projects
September 25, 2002	Oahu Project Impact Steering Committee meeting – GIS data layers
October 11, 2002	Meeting of the Multi-Hazard Science Advisory Committee regarding natural hazard data analysis and hazard mitigation planning requirements

October 15, 2002	Hawaii Hurricane Advisory Committee Presentation on Hawaii hurricane probabilities, topographic wind effects, and building vulnerability assessments
October 16, 2002	Project Impact Hazard Mitigation Subcommittee meeting
October 31, 2002	Meeting with Dr. John Marra – coordination of hazard mitigation with the NOAA Pacific Services Center
November 7, 2002	Hawaii Geographic Information Coordinating Council Data Products Workshop and Geographic Information I-Plan
November 20, 2002	AIA (Hawaii) Convention; Hurricane Probabilities Hazard Analysis, Topographic Wind Effects, Building Vulnerability, and Building Code upgrade to the International Building Code
November 21, 2002	Seminar to the Structural Engineers Association of Hawaii on Hurricane Probabilities Hazard Analysis, Topographic Wind Effects, Building Vulnerability, and Building Code upgrade to the International Building Code
January 2, 2003	Oahu Project Impact Steering Committee meeting; Hazard Mitigation Planning and the Multi-Hazard Science Advisory Committee under State Civil Defense’s Hazard Mitigation Forum
January 7, 2003	Hawaii State Earthquake Advisory Committee Review of recommended hazard mitigation projects
January 21, 2003	State Hazard Mitigation Forum meeting on DMA 2000 and county hazard mitigation, emergency shelter shortage; Multi-hazard Science Advisory Committee briefing on annualized losses by county: Analysis of the Relative Risks of Natural Hazards
January 22, 2003	Oahu Project Impact Steering Committee meeting
January 24, 2003	Presentation to the Hawaii State Earthquake Advisory Committee – Multi-Hazard Average Annualized Losses, Rockfall Mitigation, and Seismic Dam Safety
January 31, 2003	Presentation to AIA Code Committee on Hurricane Hazards, Risk Analysis, Residential Building Vulnerability, and Building Code Update for wind hazard mitigation
February 24-25, 2003	Public Workshop on Non-Structural Seismic Hazards
March 6, 2003	Executive Seminar on Hazard Mitigation Mayor Harris and Dept. Directors (Emergency Services, Facilities Maintenance, Parks & Recreation, Planning & Permitting, Transportation Services, Fire, Police, State Civil Defense), NOAA
March 12, 2003	Panel Presentation on Annualized Average Losses from natural Hazards at the Roundtable of Federal Hazard Mitigation Partners in the Pacific Islands
March 19, 2003	Oahu Project Impact Steering Committee, review of Executive Seminar and Hazard Mitigation Plan Scope
March 28, 2003	Engineers & Architects of Hawaii Association, presentation on Hawaii’s hurricane hazard and risk analysis
March 28, 2003	State Hazard Mitigation Forum Discussion of county hazard mitigation planning projects

April 4, 2003	Hawaii State Earthquake Advisory Committee Planning Subcommittee – Mitigation Projects
April 10, 2003	State Hazard Mitigation Forum: Emergency Shelters, Pre-Disaster Hazard Mitigation planning projects discussion, flood map modernizations, Codes and Standards
April 17, 2003	ASCE meeting on Rockfall Mitigation
April 25, 2003	Hawaii State Earthquake Advisory Committee meeting – Average Annualized Losses
May 16, 2003	Project Impact Hazard Mitigation Subcommittee review of the Draft Plan
May 27, 2003	Teleconference with State Drought Coordinator regarding the State Drought Plan and Drought Analysis for Oahu
June 5, 2003	Meeting with Barbara Schauer, HAZUS Project Manager, National Institute of Building Sciences, on Hawaii Building Inventory Database
June 12, 2003	Hawaii Geographic Information Coordinating Council forum on the Hawaii I-Plan for Spatial Data, Final Draft
June 18, 2003	Presentation and workshop on Hurricane Hazard & Risk Assessment for Hawaii, at the Insurance Division of the State of Hawaii Dept. of Commerce & Consumer Affairs
June 19, 2003	Presentation on the Pre-Disaster Mitigation Plan and Hazard Mitigation Projects to Public meeting of the City Council Public Safety and Intergovernmental Affairs Committee (re-broadcast on Public Television June 24, 25, 26)
June 20, 2003	Meeting with State NFIP Coordinator, the State of Hawaii Dept. of Land and Natural Resources, and City Dept. of Planning & Permitting regarding repetitive loss structures
June 25, 2003	Oahu Project Impact Steering Committee meeting review of plan
June 26, 2003	Dissemination of draft Pre-Disaster Mitigation Plan to 35 Oahu Neighborhood Boards
June 27, 2003	Joint meeting of the Dept. of Planning & Permitting, AIA Building Code Committee, SEAOK Building Code Committee, Honolulu Fire Dept. on proposed adoption of the International Building Code
July 3, 2003	Planning Subcommittee, Hawaii State Earthquake Advisory Committee
July 2-3, 2003	Posting of Oahu Pre-Disaster Mitigation Plan on Oahu Project Impact Steering Committee meeting; MotherNature.com hazard mitigation website
July 11, 2003	Meeting with Hawaii SCD Earthquake Program Manager and FEMA Region IX and Regional Earthquake Specialist to review Hawaii State Earthquake Advisory Committee 5-year plan and mitigation projects
July 11, 2003	Kahuluu Elementary School completion of deployable hurricane protection window screens, and Project Impact Committee meeting
July 22, 2003	All-Hazards Mitigation Plan Workshop for the City & County of Honolulu

Oahu Civil Defense Briefings to the General Public at the local Neighborhood Boards on the Development of the Pre-Disaster Mitigation Plan were conducted as follows:

<u>Date</u>	<u>Group</u>	<u>Neighborhood Board (NB) #</u>	<u>Approximate Attendance</u>
November 1, 2001	Downtown Neighborhood Board	13	18
December 6, 2001	McCully/Moiliili NB	8	36
January 21, 2002	Races Civil Defense Volunteers		25
January 22, 2002	Ala Moana/Kakaako NB	11	100
January 28, 2002	Wahiawa NB	26	24
February 7, 2002	Kuliouou/Kalaniiki NB	2	22
February 7, 2002	District V Civil Defense Volunteers	28	13
February 28, 2002	District Vi Civil Defense Volunteers	20, 21, 22, 23, 34	10
March 7, 2002	District I Civil Defense Volunteers	1, 2, 3, 4, 5, 6, 7 8, 9, 10, 11, 12, 13 14, 15, 16, 17, 18, 19	12
April 3, 2002	Manoa NB	7	35
April 11, 2002	Diamond Head/St. Louis/Kapahulu NB	5	30
April 18, 2002	District Ii Civil Defense Volunteers	25, 26, 27, 35	15
April 25, 2002	District Iii Civil Defense Volunteers	24, 34	8
May 16, 2002	District Iv Civil Defense Volunteers	29, 30, 31, 32	18
November 15, 2002	Makiki/Lower Punchbowl/Tantalus NB	10	20
	TOTAL		386

In addition, minutes are distributed throughout the neighborhood board jurisdictions.

Hawaii State Multihazard Science Advisory Committee

The Hawaii Multihazard Science Advisory Committee (MSAC) is sponsored by Hawaii State Civil Defense (SCD) to bring together physical science and engineering expertise. This technical group is intended to represent access to a comprehensive base of knowledge on natural hazards. This step was taken so that natural hazard information can be reviewed and interpreted for practical applications to State hazard mitigation planning. The MSAC reported to State Civil Defense at the State Hazard Mitigation Forum.

MSAC Areas of Responsibility:

- Identified and quantified the probabilities of natural hazards in Hawaii, potential losses, and risk.
- Provided technical review of GIS multi-hazard layers for the compiling of the FEMA required - State Hazard Mitigation Plan
- Provided technical assistance to identify useful applications (and possible limitations) of current data and model assumptions.
- Evaluated vulnerability and risk analyses & loss estimates in the State plan
- Evaluated zonation and building codes relative to the current state of knowledge
- Identified possible approximate cost, planning and mitigation benefits, and timeframes of future data collection and model development efforts

- Participated in State Hazard Mitigation Forum multi-hazard mitigation discussions, & provide technical guidance on the significance of current and state-of-the art assessments of hazard, loss, and risk
- Assisted in briefing State and County planners and the State Hazard Mitigation Forum on scientific and engineering topics of particular relevance to disaster plans and mitigation
- Provided technical reviews of Proposed Pre-Disaster Mitigation Projects
- Recommended planning and program improvements to State and County agencies consistent with scientific and engineering knowledge
- Identified post-disaster information collection needs and help plan for a post-disaster data clearinghouse
- Provided a forum for consideration of the activities of the Multihazard Mitigation Council.

Coordination of the City Pre-Disaster Mitigation Plan With Concurrent Implementation of a Hawaii Spatial Data Infrastructure and Its Use in Mitigation Planning

In the State of Hawaii, GIS is recognized and effectively used as an invaluable tool by the government, business, and citizens for understanding and managing our environment. During 2002-2003, a major effort was conducted to compile and coordinate GIS spatial data, including those relating to natural disasters.

The Hawaii Geographic Information Coordinating Council (HIGICC) is an organization providing statewide GIS coordination. It is a “non-profit” body consisting of members of Hawaii GIS community. Its goal is to provide coordination of GIS activities among a wide range of GIS users in order to avoid duplication of effort, promote data sharing, and maintain standards thought the state.” The mission of HIGICC is to “bring together and continue to build the geographic community into a cohesive, recognized coordinating body that facilitates the use, development, sharing, and management of geographic data and communicates the value of geographic information to citizens and decision-makers.”

The I-Team Geospatial Information Initiative (I-Team Initiative) is the next phase of efforts to build a National Spatial Data Infrastructure (NSDI). The Hawaii Geographic Information Coordinating Council (HIGICC) provides the regional component to the national initiative. The Hawaii GICC is a shared mechanism for the diverse community to identify, explore, and solve problems with geospatial information. The Hawaii GIS community has endorsed the I-team concept and process championed by the Office of Management and Budget (OMB I-Team), the Federal Geographic Data Committee (FGDC), and other strategic partners for assessing the status of FDGDC’s seven framework data themes. The I-Plan addresses issues and information needs statewide for Hawaii and reflects the collaboration of federal, state, county, and local agencies, academia, and the private and not-for-profit sector. The attendees at the HIGICC Data Products workshop in November 2002 discussed the priority data themes and the formation of an I-Team for Hawaii.

Natural hazards data sources were incorporated utilizing input from members of the State Hazard Forum's Multi-Hazard Science Advisory Committee: Martin & Chock, Inc., PDC, NOAA, NWS, NOAA International Tsunami Information Center, UH SOEST Ocean & Resources Engineering, UH Joint Institute for Marine and Atmospheric Research, UH SOEST Coastal Erosion Group, USGS HVO, HI Civil Engineering, DLNR Flood Control and Dam Safety Section, and Hawaii Office of State Planning.

The first draft was distributed for comment to the HIGICC and members of HIGICC and the greater Hawaii GIS community on April 18, 2003. Comments and final edits were completed and the Final Draft Hawaii I-Plan distributed on June 9, 2003. **Accordingly, hazard information prescribed in this plan is consistent with the Hawaii I-Plan.**

Coordination with Federal Agencies

Deliberations on natural hazards took place during the "Roundtable of Federal Mitigation Partners in the Pacific Islands" (FMPPI) in Honolulu, Hawaii, on March 11 and 12, 2003. This meeting brought together representatives from Pacific Island agencies, institutions, and organizations involved in hazard mitigation-related projects and activities being conducted at the federal level. The objectives of this meeting were to:

1. Enhance communication, coordination, and collaboration among federal network partners in the Pacific Islands. Specifically:
 - Describe agency, institution, or organization hazard mitigation projects and activities- what they involve, where they are being conducted, by whom, and when;
 - Identify gaps and overlaps, priority needs, and information dissemination challenges and opportunities; and
 - Develop an action plan to support sustained dialogue among Pacific Island partners.
2. Cultivate a sense of community and an appreciation for the unique physical and cultural characteristics of the Pacific Islands.

The March 2003 FMPPI meeting took the form of a series of panel presentations and discussions on the topics of data collection that supports hazard identification; tools and techniques that can be used in risk and vulnerability assessment or to evaluate mitigation options; and mitigation measures or mechanisms being implemented. Each panel was asked to consider gaps and overlaps, priority needs, and information dissemination challenges and opportunities associated with a given topic area. This information was used to support a roundtable discussion focused on the identification of actions that can be taken to support communication, coordination, and collaboration among the federal ohana or family of hazard mitigation partners in the Pacific Islands.

Panel on Data – Inventory: Natural Hazards Events and Trends

<u>Speaker</u>	<u>Topic</u>
Bruce Richmond, USGS/PSC	Atlas of Natural Hazards in the Hawaiian Coastal Zone
Gary Chock, Martin & Chock, Inc.	SCD MSAC and Average Annualized Loss Estimates
Eileen Shea, East-West Center	Update on Pacific Climate Activities
Eddie Bernard, NOM/OAR/PMEL	PMEL, National Tsunami Hazard Mitigation Program
Roger Lukas, UH/SOEST	Hawaii Ocean Regional Observing System
Bernie Kilonsky and Mark Merrifield, UH/SOEST/SLC	Trends of Sea Level Rise
Chip Fletcher, UH/SOEST	Coastal Erosion Hazards
Paul Okubo, USGS/HVO	Seismic and Volcanic Hazards

Coordination and Information From The Oahu Metropolitan Planning Organization

The Oahu Metropolitan Planning Organization (OMPO) is an advisory organization responsible for coordinating transportation planning on Oahu, Hawaii created by the State Legislature in 1975. The decision-making body of OMPO is its Policy Committee, which consists of six state legislators, five Honolulu City Council members, the Director of the State Department of Transportation (DOT) and the Director of the City Department of Transportation Services (DTS). OMPO's function is to coordinate the activities of the "3-C" transportation planning process (comprehensive, continuing, and cooperative planning) on Oahu. The planning itself is done largely by the City and the State planning and transportation departments (City Department of Planning and Permitting, DPP, DTS, State Department of Business, Economic Development, and Tourism DBEDT, and DOT). These "participating agencies" are part of the OMPO planning process.

OMPO is responsible for identifying Oahu's future transportation needs and programming the federal funds for such projects and programs. This is achieved primarily through the development of the following three documents:

- The Oahu Regional Transportation Plan
- The Overall Work Program (OWP)
- The Transportation Improvement Program (TIP)

Appendix 2-A

Oahu Project Impact Steering Committee

Oahu Project Impact Steering Committee

NAME	FIRST NAME	POSITION	AGENCY
ANDERSON	CHERYL	PLANNER	STATE HAZARD MITIGATION FORUM
ATON	DOUG	ADMINISTRATOR	OAHU CIVIL DEFENSE AGENCY
BROWNE	KEVIN	CAPTAIN	HONOLULU FIRE DEPT
CHAMBERS	FAYE	HAZARD MIT PLANNER	STATE CIVIL DEFENSE
CHOCK	GARY	PRESIDENT	MARTIN & CHOCK STRUCTURAL ENGINEERS
CLAIRMONT	TOBY	COORDINATOR	HEALTH CARE ASSN OF HAWAII
CLAWSON	SCOTT	COORDINATOR	PROJECT IMPACT
COLVIN	PETER	ENTERPRISE DVLPMT	PACIFIC DISASTER CENTER
DESCHENE	ANN	EXECUTIVE DIRECTOR	BETTER BUSINESS BUREAU
EPSTEIN	PAUL	CD COORD	HONOLULU POLICE DEPT
FRIEDEL	MIKE	CD COORD	CITY DEPT OF PLANNING & PERMITTING
FUJIOKA	CAROLYN	DIR, PUBLIC AFFAIRS	STATE FARM INSURANCE
GOOSBY	STANLEY	PLANNER	PACIFIC DISASTER CENTER
GRIMMER	JACK	CD COORD	GAS COMPANY
HALLER	LINDA	DIRECTOR, SHELTER OPS	HAWAII HUMANE SOCIETY
HAMNETT	MICHAEL	CHAIR	STATE HAZARD MITIGATION FORUM
HANATANI	DENNIS	PRESIDENT	STRUCTURAL ENGINEERS ASSOC OF HI
HIGA	LAVERNE	PROGRAM COORD	CITY DEPT OF DESIGN AND CONSTRUCTION
HIRAI	PETER	PLANS & OPS OFFICER	CITY CIVIL DEFENSE AGENCY
HIU	TIMOTHY	CHIEF, BLDG DIV	CITY DEPT OF PLANNING & PERMITTING
HODGE	JON	GIS TECHNICIAN	CITY DEPT OF PLANNING & PERMITTING
HONDA	ROGER	FISCAL ACCOUNTANT	CITY DEPT OF BUDGET & FISCAL SVCS
HORNE	DAVID	OWNER	POLYSTEEL HAWAII
ISAWA	RAY	SENIOR GOVT LIAISON	PACIFIC DISASTER CENTER
IWAMOTO	WESLEY	FISCAL OFFICER	CITY DEPT OF BUDGET & FISCAL SVCS
KAJIHARA	KEN	FACILITIES PLANNER	STATE DEPT OF EDUCATION
KANDA	LARRY	HAZARD MIT OFFICER	STATE CIVIL DEFENSE
KAWANO	WAYNE	PRESIDENT	CEMENT & CONCRETE PROD IND. OF HI
LOCKWOOD	GLENN	DIRECTOR	AMER RED CROSS DISASTER SERVICES
LORENZO	JASON	SAFETY SPECIALIST	CITY DEPT OF ENVIRONMENTAL SVCS
LOUIS	JAMES	REFUSE DIVISION	CITY DEPT OF ENVIRONMENTAL SVCS
LUTZ	MARIA	OPERATIONS COORD	AMER RED CROSS DISASTER SERVICES
MATAYOSHI	MARY	EXECUTIVE DIRECTOR	VOLUNTEER RESOURCE CENTER
MIYAUCHI	VAUGHN	VICE PRESIDENT	SC PACIFIC CORPORATION
MOHR	BRIAN	CD COORD	CITY DEPT OF PARKS
MOORE	FRED	VICE PRESIDENT	BUILDING INDUSTRY ASSN OF HAWAII
MURAOKA	SCOTT	CD COORD	BOARD OF WATER SUPPLY
NAKAMURA	KAREN	EXECUTIVE DIRECTOR	BUILDING INDUSTRY ASSN OF HAWAII
NAVADEH	MICHAEL	VICE PRESIDENT	AMERICAN SOC OF SFTY ENGINEERS
NICHOLS	NICK	FACILITIES PLANNER	STATE DEPT OF EDUCATION
OGATA-DEAL	ANN	COORDINATOR	COASTAL ZONE MGMT PGM-DBEDT
PETERS	GERALD	PRESIDENT	HURRICANE PROTECTION SYSTEMS INC
SALVADOR	MICHAEL	GIS TECHNICIAN	CITY DEPT OF PLANNING & PERMITTING
SCHMIDT	KEN	GIS SUPERVISOR	CITY DEPT OF PLANNING & PERMITTING
SCHROEDER	JOHN	PRESIDENT	ACE SECURITY LAMINATES
SHIGETANI	MARILYN	PI COORD	FEMA PAO, REGION IX
TANAHARA	KRIS	SR ACCOUNT EXECUTIVE	STRYKER WEINER & YOKOTA PR, INC
TANIMURA	TOM	PRESIDENT-ELECT	STRUCTURAL ENGINEERS ASSOC OF HI
TOM	DEBRA	COORDINATOR	COASTAL ZONE MGMT PGM-DBEDT
TOWILL	MURRAY	EXECUTIVE DIRECTOR	HAWAII HOTEL ASSOCIATION
VARGO	FRANK	CD COORD	HAWAIIAN ELECTRIC COMPANY
WITECK	JOHN	TRAINING SPECIALIST	CITY DEPT OF ENVIRONMENTAL SVCS
YAMAKI	TINA	EXECUTIVE ASSISTANT	HAWAII HOTEL ASSOCIATION
YAMANE	ROBZ	ACCOUNT MANAGER	COX RADIO, INC
YAMASHITA	ERIC	PLANNER	STATE HAZARD MITIGATION FORUM
YONG	STERLING	STATE NFIP COORDINATOR	STATE DLNR, LAND DIVISION
YUEN	GEORGINA	DEPUTY DIRECTOR	CITY DEPT OF EMERGENCY SERVICES

Appendix 2-B

City Hazard Mitigation Sub-Committee

Hazard Mitigation Sub-Committee

LAST NAME	FIRST NAME	POSITION	AGENCY
AIU	DAWN	HAZ MIT ANALYST	PACIFIC DISASTER CENTER
ANDERSON	CHERYL	PLANNER	STATE HAZARD MITIGATION FORUM
CHOCK	GARY	PRESIDENT	MARTIN & CHOCK STRUCTURAL ENGINEERS
COLVIN	PETER	ENTERPRISE DVLPMT	PACIFIC DISASTER CENTER
GOOSBY	STANLEY	PLANNER	PACIFIC DISASTER CENTER
HAMNETT	MICHAEL	CHAIR	STATE HAZARD MITIGATION FORUM
HANATANI	DENNIS	PRESIDENT	STRUCTURAL ENGINEERS ASSOC OF HI
HORNE	DAVID	OWNER	POLYSTEEL HAWAII
KANDA	LARRY	HAZARD MIT OFFICER	STATE CIVIL DEFENSE
MIYAUCHI	VAUGHN	PRESIDENT	ROLL-A-WAY SHUTTERS OF THE PACIFIC
PETERS	GERALD	PRESIDENT	HURRICANE PROTECTION SYSTEMS INC
SHIGETANI	MARILYN	PI COORD	FEMA PAO, REGION IX
TANIMURA	TOM	PRESIDENT-ELECT	STRUCTURAL ENGINEERS ASSOC OF HI
YAMASHITA	ERIC	PLANNER	STATE HAZARD MITIGATION FORUM
YUEN	GEORGINA	DEPUTY DIRECTOR	CITY DEPT OF EMERGENCY SERVICES

Appendix 2-C

State Hazard Mitigation Forum Members

Hazard Mitigation Forum Members

LAST NAME	FIRST NAME	POSITION	AGENCY
BAC	JAMES	ENERGY ANALYST	ENERGY, RESOURCES & TECH DIV, DBEDT
BOTEILHO	WAYNE	DEPUTY PLANNING DIR	DEPT. OF PLANNING, COUNTY OF MAUI
CHUNG	CHRISTOPHER	POLICY/PLAN ANALYST	CZM PROGRAM, OFFICE OF PLANNING, DBEDT
FUJII	NEAL	DROUGHT COORD.	COMMISSION-WATER RESOURCE MGMT, DLNR
HAIGH	DOUGLAS	BUILDING SUPER.	DEPT. OF PUBLIC WORKS, COUNTY OF KAUAI
DR. HAMNETT	MICHAEL	SSRI, DIRECTOR FORUM CHAIRMAN	UNIVERSITY OF HAWAII AT MANOA
HATADA	WENDELL	SPEC. ASST TO MAYOR	COUNTY OF HAWAII
HEFFNER	THOMAS	METEOROLOGIST	NAT'L WEATHER SERVICE FORECAST OFFICE
HENDRIX	JOEL	CHIEF- EM, HONOLULU	U.S. ARMY CORPS OF ENGINEERS
KENNARD	DAVID	MIT. SPECIALIST	FEMA PAO, REGION IX
LEE	EUGENE	PROGRAM COORD. FORUM VICE-CHAIR	DEPT. OF DESIGN & CONST, C & C HONOLULU
MIYASATO	GLENN	STRUCTURAL ENGR	MIYASATO-KUNIYOSHI
SEO	MELVIN	AUXILIARY SERVICES SPECIALIST III	SAFETY & SECURITY SERVICES III. DOE
SHIGETANI	MARILYN	AGENCY LIAISON AND PROJECT IMPACT COORD.	FEMA PAO, REGION IX
THOMAS	DONALD	STUDY OF ACTIVE VOLCANOES DIR.	UNIVERSITY OF HAWAII AT HILO
YONG	STERLING	FLOOD CONTROL & SAFETY HEAD	LAND DIVISION, DLNR
YOUNG	ROBERT	SYSTEM OPERATION DEPT. MANAGER	HAWAIIAN ELECTRIC COMPANY
KANDA	LARRY	HAZARD MIT OFFICER FORUM EXE. ASST	STATE CIVIL DEFENSE

Appendix 2-D

Hawaii State Multi-Hazard Science Advisory Committee

2002-2003 MSAC Membership

GARY CHOCK, S.E., MSAC Chairman, Structural Engineering and Loss Estimation, President, Martin and Chock, Inc., Honolulu, HI [Member Hawaii State Earthquake Advisory Committee (HSEAC) and Multihazard Mitigation Council]

DR. KWOK FAI CHEUNG, Storm-Induced Coastal Flooding, Department of Ocean & Resources Engineering, University of Hawaii, Honolulu, HI

DR. CHARLES H. "Chip" FLETCHER III, Coastal Erosion and Storm Surge, Coastal Geologist, Department of Geology & Geophysics, University of Hawaii, Honolulu, HI

STAN GOOSBY, Scientific Modeling and Simulation, Chief Scientist, Applications Development Division, Pacific Disaster Center, Kihei, HI [Member HSEAC]

THOMAS HEFFNER, Meteorology, Central Pacific Hurricane Center, National Weather Service, Honolulu, HI

Kevin Kodama (alternate), Meteorology and Hydrology, National Weather Service, Honolulu, HI

DR. LAURA KONG, Seismology and Tsunamis, Director, International Tsunami Information Center, Honolulu, HI [HSEAC Chair and Member, Tsunami Technical Review Committee]

DR. PAUL OKUBO, Seismology, Seismology Chief, Hawaiian Volcano Observatory, U.S. Geological Survey, Hawaii National Park, HI [Member HSEAC]

DR. IAN ROBERTSON, S.E., Structural Engineering and Building and Bridge Instrumentation, Associate Professor, Department of Civil Engineering, University of Hawaii, Honolulu, HI [Member HSEAC]

DR. THOMAS SCHROEDER, MSAC Co-chairman, Meteorology, University of Hawaii Joint Institute for Marine & Atmospheric Research, Honolulu, HI [Member Hawaii State Hurricane Advisory Committee]

DR. DONALD SWANSON, Volcanology, Scientist-in-Charge, U.S. Geological Survey, Hawaiian Volcano Observatory Hawaii National Park, HI [Member HSEAC]

Dr. Christina Heliker (alternate), Volcanology and Lava Inundation Hazards, U.S. Geological Survey, Hawaiian Volcano Observatory, Hawaii National Park, HI

CRAIG TASAKA, Office of State Planning, Department of Business Economic Development & Tourism, Honolulu, HI

STERLING YONG, Chief, Flood Control & Dam Safety Section, State of Hawaii, Department of Land and Natural Resources

Carol Tyau (alternate), Assistant Flood Engineer, State of Hawaii, Department of Land and Natural Resources

Ex-Officio:

Larry Kanda, SCD State Hazard Mitigation Officer

Dr. Michael Hamnett, State Hazard Mitigation Forum Chairman, Social Science Research Institute, University of Hawaii

David Kennard, FEMA Pacific Area Office

Brian Yanagi, SCD Earthquake, Tsunami, and Lava Hazard Program Manager

Thomas Diggs, SCD Hurricane Program Manager

John Mara, NOAA Pacific Service Center

Dr. Ray Isawa, Pacific Disaster Center

Eric Yamashita, Department of Urban & Regional Planning, University of Hawaii

Appendix 2-E

Hawaii Geographic Information Coordinating Council Membership

Hawaii Geographic Information Coordinating Council (HIGICC) Membership Listing

LAST NAME	FIRST NAME	MEMBER TYPE
AKERS	LINDA	U.S. CENSUS
ALNWICK	STEPHEN	U.S. CENSUS
AMUNDSON	SHERRY	MARTECH
ANDERSON	CHRIS	OTHER
AUGER	DAINA	ASSOCIATE
BERMAN	DAN	AUTODESK
BIGGS	ALEXA	CARTER BURGESS
CABUCO	ROBERT	OTHER
CANNARELLA	RON	ST. DLNR, DEPT. OF FOREST WILDLIFE
CHEN	GUOMENG	TAK
CHOCK	GARY	MARTIN & CHOCK, INC.
CLOUET	CRAIG	KAMEHAMEHA SCHOOLS
DASHIELL	EUGENE	LAVANET
ESPOSO	JOAN	ST. OFFICE OF PLANNING GIS
FOSSUM	BARBARA	USDA
GIBSON	BARBARA	UNIVERSITY OF HAWAII AT HILO
GIGUERE	THOMAS	INTERGRAPH
HI ARMY RESERVE NATL GUARD		STATE (ORG REP)
HOLDT	DOUG	CARTER BURGESS
INFANTE	STATE	AKINAKA & ASSOCIATES
IRWIN	ANDREW	MAUI COUNTY
JONES	ROYCE	ESRI
KELLY	SHARON	CARTER BURGESS
KLASNER	FRTIZ	USGS
KUNIMURA	INGRID	ASSOCIATE
LANDENBERGER	WALLE	MAUI COUNTY
LANE-KAMAHELE	MELIA	NATIONAL PARK SERVICE
LEE	DIANE	ALU LIKE
LIERMAN	MARK	CITY & COUNTY OF HONOLULU
LOUIS	RENEE	PACIFIC DATA DIGITIZING
LOW	ROD	ESRI
MCMONAGLE	TIMOTHY	U.S. CENSUS
MCNULTY-HUFFMAN	DANIEL	NATIONAL PARK SERVICE
MEDEIROS	BILL	MAUI COUNTY GIS
MEYER	DARBY	CARTER BURGESS
MOR	SANTIAGO	U.S. ARMY CORPS OF ENGINEERS
OHTOMO	NAMI	PBWORLD
OSTERGREN	CAROL	USGS
PARKE	MICHAEL	NOAA
PENNINGTON	HARLEY	OTHER
PICO	CLAUDETTE	MAUI COUNTY
POLLOCK	REBECCA	STATE DBEDT
RARALIO	MICHELE	CARTER BURGESS
ROSENBROCK	DAVID	OTHER
RUOTOLA	CHRISTINE	GROUP 70
SAKAMOTO	STEVEN	KAISER PERMANENTE
SCHMIDT	KENNETH	CITY & COUNTY OF HONOLU GIS
SMITH	WILLIAM	STUDENT
SPLAN	SCOTT	MAUI HIGH PERFORMANCE COMPUTING CTR
STEIN	BRAD	CARTER BURGESS
STONE	RICHARD	ESRI
SULIJOADIKUSUMO	CORO	STATE DOT
TASAKA	CRAIG	STATE OFFICE OF PLANNING
THOMAS	KAREN	URS CORPORATION
UYENO	DEAN	ASSOCIATE
WALKER	TIM	HAWAII CANE & SUGAR
WINGER	KRISTA	OTHER
WONG	ERIC	PACIFIC DISASTER CENTER
WONG	LISA	COUNTY OF HAWAII GIS

Appendix 2-F

**Hawaii Geographic Data Products Workshop
November 7, 2002**



**Hawaii Geographic Data Products
Workshop - November 7, 2002**

Name	Organization
Nate Adams	USGS
Momi Aiu	STI
Yoshiko Akashi	
Kaliko Amona	NW Hawaiian Islands Coral Reef Reserve
Sherry Amundsen	MapTech
Miles Anderson	ALH, LLC
Daina Auger	AMEC E & E
Warren Beecher	Oceanit
Ed Britos	JICPAC
Lawrence Brower	Edward K. Noda Assoc
Robert Bryant	OAE (JICPAC)
Pat Caldwell	NOAA
Rick Camp	RCUH/USGS
Ron Cannarella	DLNF/DOFAW
Daniel Carlisle	NIMA/JICPAC
Ed Carlson	National Geodetic Survey
Guoeng "Gordon" Chen	TAIC
Benton Ching	US Army Corps of Engineers
Gary Chock	Martin & Chock, Inc.
Craig Clouet	Kamehameha Schools
Andy Collins	
Barbara Cooper	HELCO
Blair Craig	Hawaii Synergy
Robert Davidson	JICPAC
Dan Dorfman	
Donna Downey	RCUH-NPS
Joan Esposito	OP



**Hawaii Geographic Data Products
Workshop - November 7, 2002**

Name		Organization
Tom	Fee	Helber Haster & Fee
Chip	Fletcher	UH SOEST
Jason	Flores	City & County of Honolulu, BFS
Dave	Foley	UH -
Barb	Fossum	USDA NRCS
Barbara	Gibson	UHH
Tom	Giguere	Intergraph
Marcos	Gorresen	USGS BRD
Anne	Guy	Infomart
Michael	Hamnett	UH/SSRI
Charlie	Hawkins	STI Services
Glenn	Hirata	
Dennis	Hirota	Sam Hirota Inc
Jon	Hodge	City & County of Honolulu, DPP
Stephani	Holzwarth	
Leo	Ikehara	Board of Water Supply
State	Infante	Akinaka & Associates
Royce	Jones	ESRI
Wayne	Kawamura	OHA
Sharon	Kelly	Carter Burgess
Kristian	Kerr	DLNR/DAR
Etsuyo	Kila	PBR Hawaii
Darcee	Killpack	NOAA Pacific Services Center
Fritz	Klasner	NPS
Ingrid	Kuminura	DLNR/CWRM
Ed	Kuniyoshi	
Jonathan	Levy	



**Hawaii Geographic Data Products
Workshop - November 7, 2002**

Name	Organization
Mark Lierman	City & County Honolulu
Rod Low	ESRI
Jim Maragos	USFWS
Mark A Mararugan	OHA
John Marra	NOAA PCS
AJ Marx	JICPAC
Gregg Masaki	C&C of Honolulu Environmental Services
Nathan Matsuoka	HPD
Shannon McElvaney	ESRI
Mike McMahan	
Timothy McMonagle	U.S. Census
Daniel McNulty-Huffman	Haleakala National Park
Dale Mikami	USGS
Santiago Mor	CFPOH
Adam Myers	Marine Corps
Joel Myhre	C & B
Randy Nagel	NPS
Roger Nulph	JICPAC
Gregg Onuma	Belt Collins Hawaii
Michael Parke	NOAA
Harley Pennington	
Vanessa Pepi	US Navy
Ivy Pescador	C&C of Honolulu, Environmental Services
Cynthia Phillips	RCUH/UHH
Rebecca Pollock	CZM Hawaii
Dave Raney	Sierra Club
Rhett Rebold	Pacific Disaster Center



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Name		Organization
Julie	Rivers	US Navy - PACDIV
Steven	Sakamoto	Kaiser Permanente
Ryan	Salvador	County of Hawaii Planning
Ron	Salz	U.S. Fish & Wildlife Service
Pat	Shade	NRCS
Selima	Siddiqui	Geo Insight
Josh	Stanbro	Trust for Public Land
Goro	Sulijoadikusumo	DOT/ HWY
Roy	Takemoto	County of Hawaii
David	Takeyama	Oceanit
Craig	Tasaka	OP
Jon	Tokuuke	MapTech Inc.
David	Tomita	Geo Insight
Nannette	Tong	
Dennis	Tsuruda	C&C of Honolulu, Environmental Services
Renee	Vargo	
Scott	Vogt	Navy
Tim	Walker	HC & S
Robert	Whittier	UH - WRRC
Henry	Wolter	USGS/ NMD
Lisa	Wong	County of Hawaii
Denise	Wong	City & County of Honolulu
Eric	Wong	PDC/USGS
Eric	Yamashita	UH / SSRI
Kenji	Yoshida	UH - WRRC