

Participatory GIS: Waipi`o Valley, Hawai`i, Case Study

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Coastal Services Center**

GeoTools 2009



PRiMO

PACIFIC RISK MANAGEMENT 'OHANA



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Background

Who?

- NOAA Pacific Services Center
- PRiMO (Pacific Risk Management `Ohana)
- Natural Resources Conservation Service (NRCS)
- University of Hawaii Department of Urban and Regional Planning
- Waipi`o Valley Community Stream Management Council



Where?

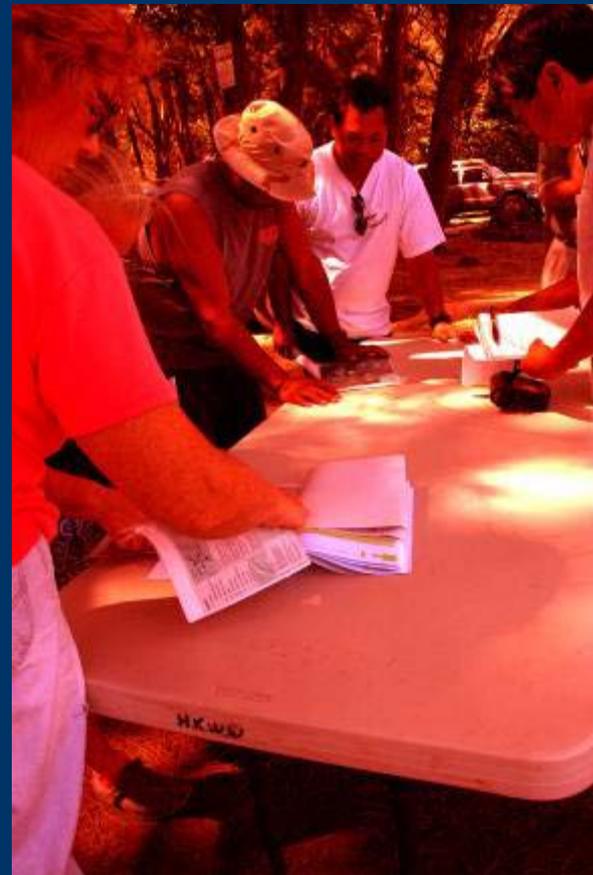
- Big Island, Hawaii
- Special Management Area (SMA) and floodplain
- Culturally important
- Important for traditional wetland farming



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Project Goals

- Help community agree on hazard mitigation methods and develop a work plan
- Spatially communicate community plans to regulatory agencies
- Improve collective memory and risk knowledge
- Teach youth about traditional water management system
- Engage youth in planning process



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Methods and Tools

Methods

- Combination of hand and geographic information system (GIS) mapping
- Multi-generational oral history mapping
- Integration into participatory planning process



Tools

- GPS (Thales MobileMapper CE)
- ArcMap (version 9.2)
- Hazard data sets
- Historic maps, documents, and timelines
- Photographs



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Findings

- Mapping increases risk knowledge
- Multi-generational mapping is an opportunity for teaching youth and newcomers about community risk
- Spatially representing high-risk areas and management challenges helps prioritize work plans
- Mapping helps communicate plans and solidify community decisions



Next Steps



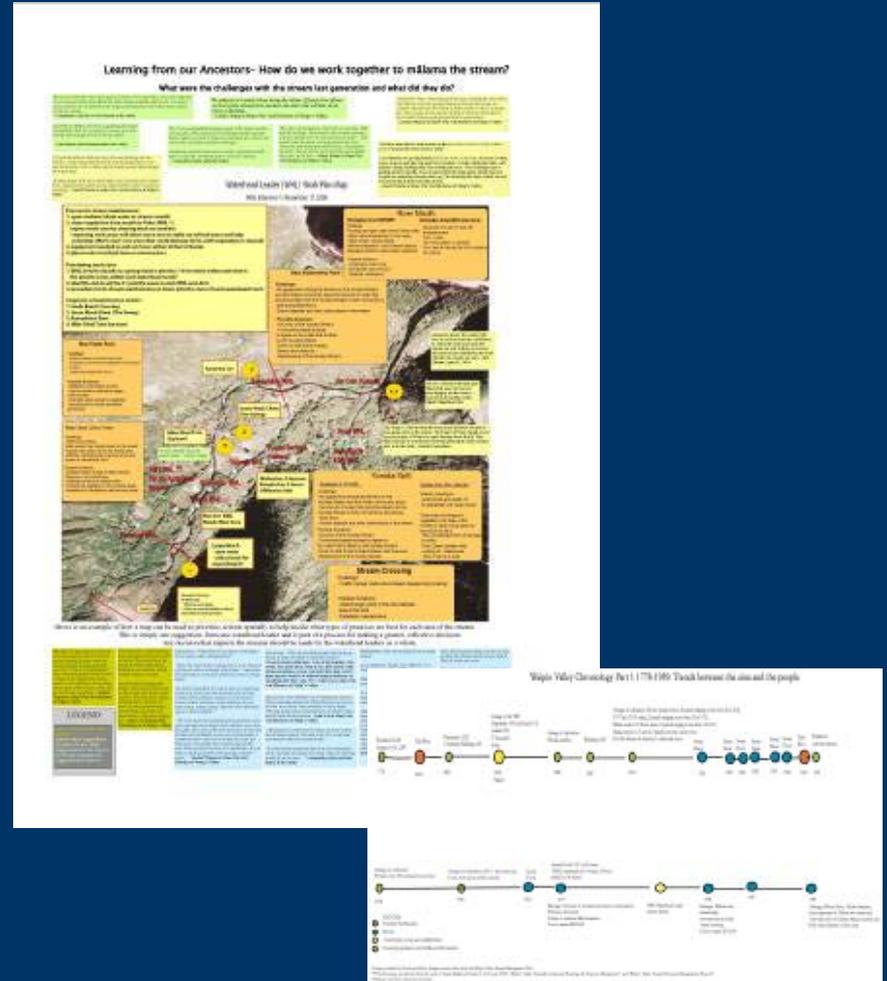
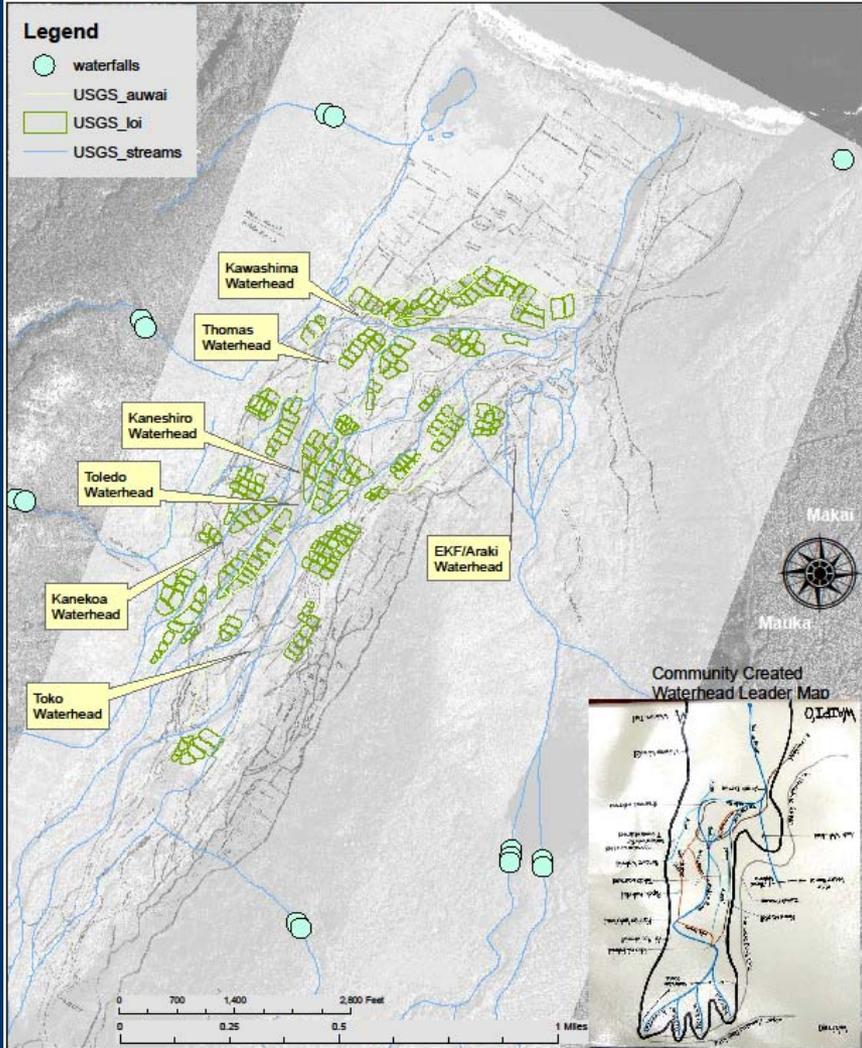
- Communicate plans to obtain permits and grants
- Integrate GPS/GIS oral history mapping project more formally into educational curriculum



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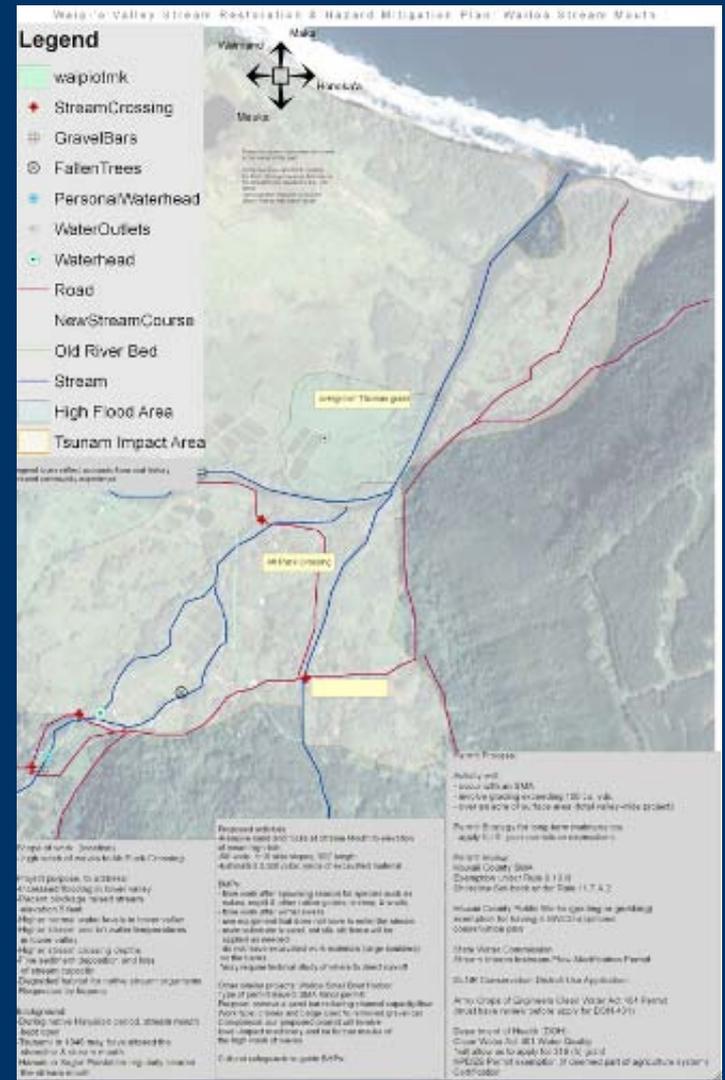
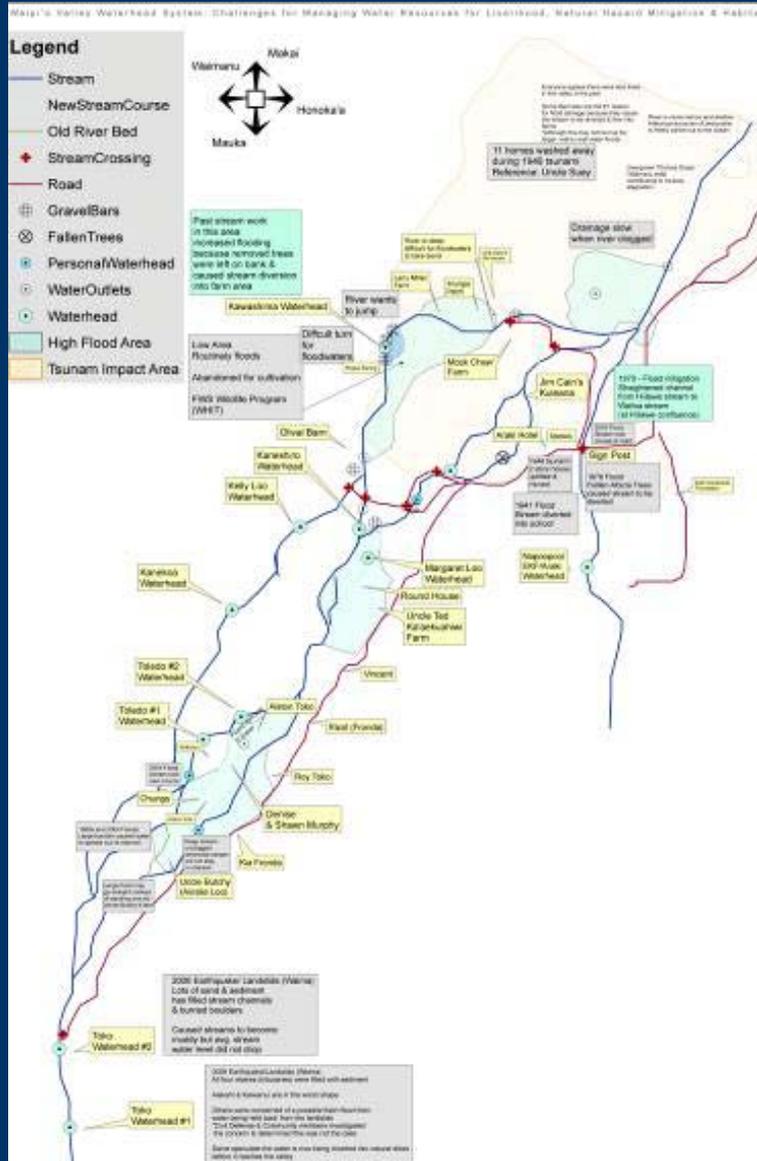
Mapping History

1914 Bishop Map & Modern Kalo Irrigation System



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Mapping Risk and Management Challenges





For More Information

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