



POST-TSUNAMI SURVEY PLANS: OBSERVER PROGRAMS INFORMATION CLEARINGHOUSES

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Kevin Richards, Hawaii

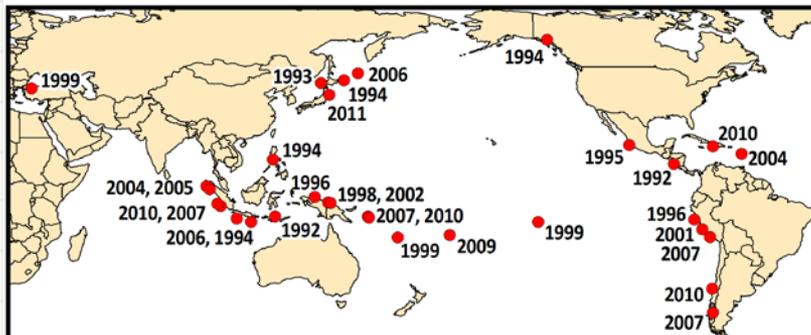
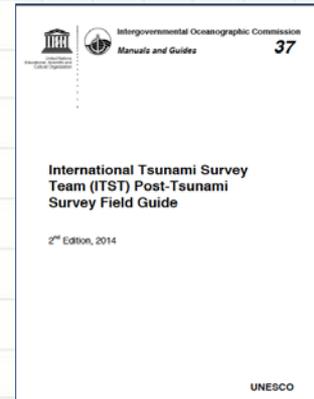
Rick Wilson, CA

International Post-Tsunami Survey Field Surveys

- UNESCO IOC Field Manual (rev 2014)

http://www.ioc-unesco.org/index.php?option=com_oe&task=viewDocumentRecord&docID=13275

- CHECK-IN – Situational Briefing
- BADGING
- FIELD SURVEY – Awareness raising
- CHECK-OUT – Share information



US Protocols

A protocol for coordinating post-tsunami field reconnaissance efforts in the United States

Rick Wilson, Nathan Wood, Laura Kong, Mike Shulters,
Kevin Richards, Paula Dunbar, Gen Tamura, Ed Young
(California, Hawaii, USGS, NOAA, FEMA)

Natural Hazards, February 2015 (accepted Sept 2014)

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ORIGINAL PAPER

A protocol for coordinating post-tsunami field reconnaissance efforts in the USA

Rick Wilson · Nathan Wood · Laura Kong · Mike Shulters ·
Kevin Richards · Paula Dunbar · Gen Tamura · Ed Young

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Abstract In the aftermath of a catastrophic tsunami, much is to be learned about tsunami generation and propagation, landscape and ecological changes, and the response and recovery of those affected by the disaster. Knowledge of the impacted area directly helps response and relief personnel in their efforts to reach and care for survivors and for re-establishing community services. First-hand accounts of tsunami-related impacts and consequences also help researchers, practitioners, and policy makers in other parts of the

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US Protocols - history

- **Hawaii Tsunami Observer Plan**

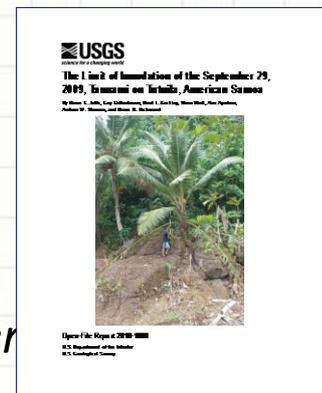
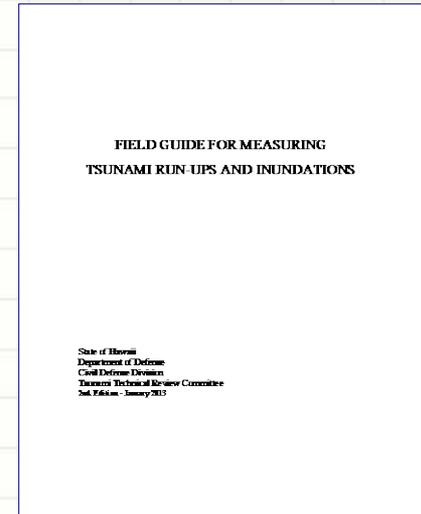
- ✓ late 1990s, rev 2013
- ✓ Who (pre-identified), Where (re-survey past locs), How (techniques, training), Equipment cache

- **Sept 29, 2009 – Am Samoa Tsunami**

- ✓ > 40 intl scientists, > 7 teams from Oct 4
- ✓ Characteristics: Independent
 - Arrange locally, e.g., further stretch limited logistics (lodging, transportation). Own funding sources
 - Science/research focus. Difficult coord. Publish 1st.
- ✓ *Did not collect complete primary data ASDHS wanted (inundation, runup)*
 - USGS rtn Nov 5-12 to gap-fill (Jan 2012 report)
 - NSF team findings to GoAS Dec 14 (2.5 months later)

- **PRiMO, 2011 - American Samoa, Working Group (Hui)**

- **2011-2014** – Discuss, Feedback and Vetting, National, Regional, NTHMP
 - ✓ NTHMP Strategic Plan, Performance Measure
 - ✓ 2011 Japan Post-Tsunami Surveys – CA, HI
- **2015** – Peer-reviewed US Protocols paper



U.S. Post-Tsunami Science Survey Protocol Proposal

Laura Kong (NOAA), Michael Shulters (USGS), Rick Wilson (CA GS), Kevin Richards (HI CD),
Gen Tamura (FEMA), Edward Young (NOAA), Adam Stein (NOAA), Chris Chiesa (PDC), Paula Dunbar (NOAA), Jesie Huart (NOAA)

WHY IS A PROTOCOL NEEDED?

Post-tsunami scientific field surveys are critical for improving the understanding of tsunamis and developing tools and programs to mitigate their effects. After a destructive tsunami, international, national, and local tsunami scientists need to gather information, much of which is perishable or degrades significantly with time. An influx of researchers can put stress on State and Local Governments already overwhelmed by humanitarian response to the disaster and by the demands of emergency management and other support agencies

A Protocol that is known about and respected by all stakeholders will ensure that a coordinated and comprehensive damage assessment is conducted in a responsible, respectful, and efficient manner to support emergency response, short-term recovery, long-term planning, and importantly, the fundamental tsunami research still needed to improve risk assessments and implement more effective mitigation measures. Our collective, collaborative efforts will then reach our customers, the affected population, in more meaningful and timely ways.

The US Protocol will follow from the principles and guidance provided by the international UNESCO IOC Post Tsunami Field Survey Guide (2nd edition) to be published in 2012.



Photo: Associated Press

WHAT IS PRiMO?



PRiMO, Pacific Risk Management O'hana, is a network of partners committed to enhancing the resilience of Pacific Islands through risk management. PRiMO recognizes the value of collective action and works through partnerships to improve coordination, build regional capacity in risk management, and strengthen and sustain hazard-resilient communities.

PROTOCOL FOR POST-TSUNAMI FIELD SURVEYS

PROTOCOL COMPONENTS:

1. Contact designated event coordinator for situational awareness
2. Obtain Official survey badge
3. Coordinate with others
4. Include local experts/officials on your team
5. Check-in onsite
6. Heed all safety regulations
7. Be prepared to answer questions by locals
8. Prepare and provide survey/data collection plan to include regular field reports
9. Check-out, and provide out-briefing to response officials
10. Provide final data immediately to support response and recovery (3-12 months)

QUESTIONS FOR PARTICIPANTS

Would you readily share post-disaster, field data with impacted communities?

What would you want to see added/changed to field Protocol (provided above)?

Is an international/national organization needed to oversee field Protocol? Who would you suggest?

Would you like to be involved with developing formal field Protocol? If so, please provide contact info.



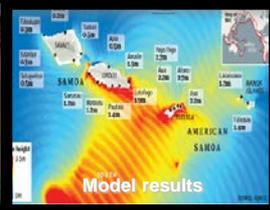
KEY PARTNERS

PHYSICAL SCIENTISTS/ENGINEERS: need quick access to collect ephemeral data
SOCIAL SCIENTISTS: interviews with public and officials essential to assessing lessons
EFFECTED COMMUNITIES/POPULATION: relying on help to assure a quick recovery
EMERGENCY RESPONDERS: need immediate info to assist in response /recovery

Field data collection



Interviews



Photos: Rick Wilson (top left and bottom left), Vasily Pirov (top right), PMEL (bottom right)

PARTNER/COMMUNITY BENEFITS

EFFICIENT LOGISTICS: a speedy, coordinated response
BETTER QUALITY DATA: helping each other
SAFETY: protecting the community and the responders
RESPECT: understanding everyone's role and responsibility
COORDINATION: maximizing resources
COMMUNICATION: staying in touch with all of the partners
SITUATIONAL AWARENESS: what, when, where?
ACCOUNTABILITY: everyone is responsible for their actions
RECOVERY: recognition of and assistance with specific needs of community
RESILIENCY: preparing communities to reduce impact from future disasters

NTHMP POST-TSUNAMI INVOLVEMENT

The National Tsunami Hazard Mitigation Programs (NTHMP) is a partnership sponsored by the National Oceanic and Atmospheric Administration (NOAA) involving relevant Federal agencies and coastal States/Territories. The NTHMP develops and coordinates effective tsunami hazard reduction efforts in the United States over the long term.

The NTHMP will appoint a representative to carry out their post-event response plan, which could incorporate support for this Protocol. Activities of the NTHMP and its representative will include:

1. Provide support for the International Tsunami Information Center (ITIC) and the impacted states/territories to help facilitate coordinated and efficient response activities.
2. Provide support to impacted states to ensure their needs are met by the field response teams, specifically sharing data that are acquired. This field data may include collection of physical evidence of the tsunami, impacts to structures, information about response effectiveness, and sociological observations about public response. Other data collected, such as post-event modeling, will also be collected by the NTHMP representative and provided to the impacted state(s) and NTHMP member.
3. Work closely with the ITIC, PRiMO, FEMA, field response teams, and other participating organizations (National Science Foundation, Earthquake Engineering Research Institute, etc.) to address NTHMP needs, evaluate gaps in data collection exist, and help advise how to fill these gaps.



US Protocols

A protocol for coordinating post-tsunami field reconnaissance efforts in the United States (Wilson et al., Nat Haz, Feb 2015)



Protocol components to guide post-tsunami science surveys

Pre-field planning

- 1) Contact event coordinator
- 2) Prepare and share field plan
- 3) Obtain official survey badge
- 4) Include local experts on your team
- 5) Coordinate and communicate with others

Field procedures

- 6) Follow check in procedures
- 7) Heed all safety regulations
- 8) Be prepared to answer questions of response personnel, officials, and survivors

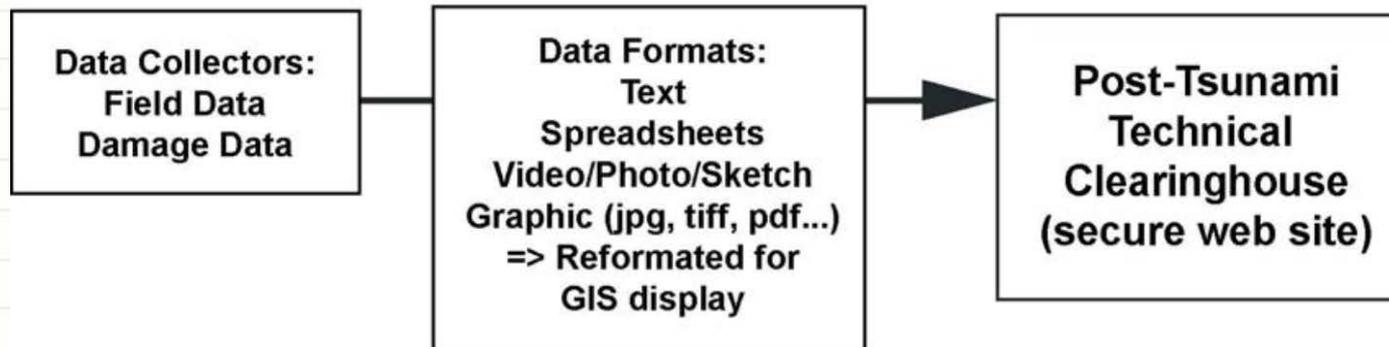
Exiting the field

- 9) Follow check-out procedures and provide out-briefings
- 10) Provide final data to the appropriate users in a timely fashion

Additional details on similar elements from an international and field-researcher perspective are noted in UNESCO (2014)

Current State Efforts

- Hawaii Plan
- California Plan



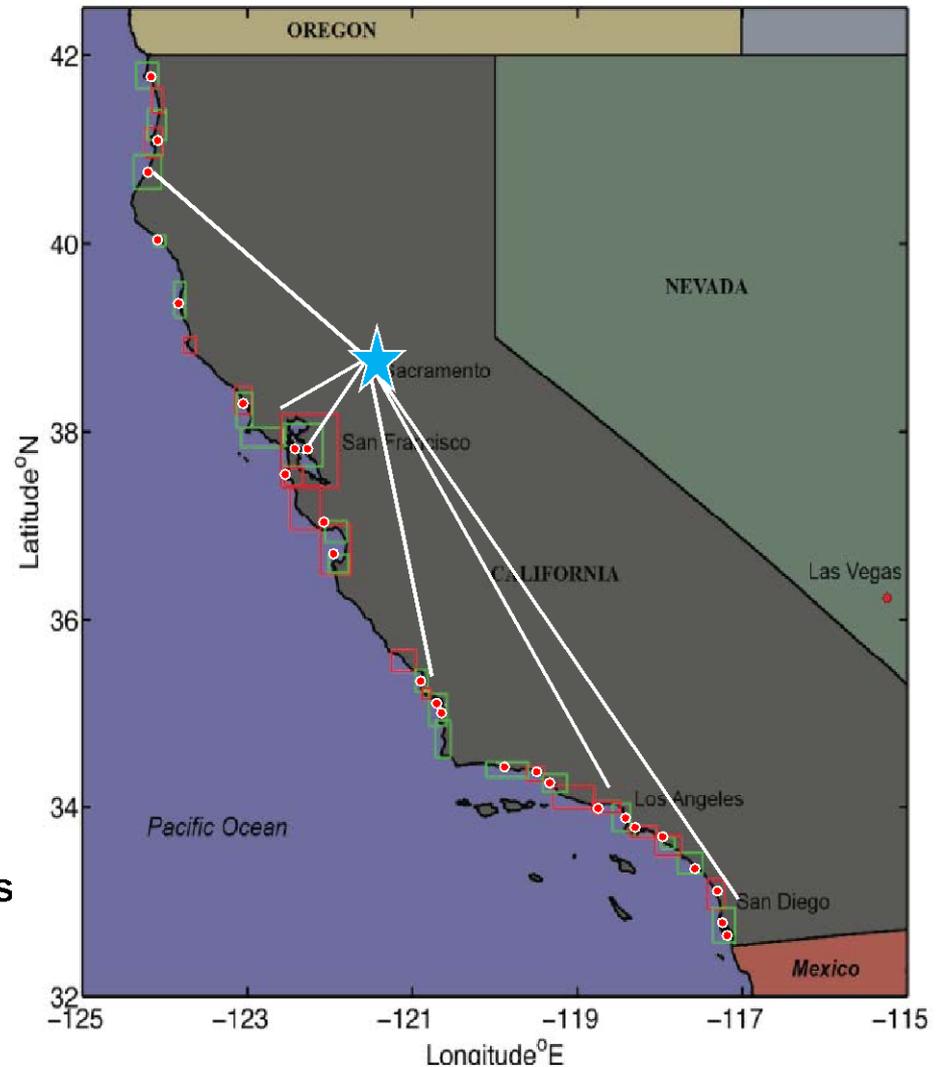
Pre- and Post-Tsunami Field Team and Information Clearinghouse

▶ During tsunami

- Developed tsunami observer program
- Real-time field data collection and clearinghouse
- Real-time instrument network
- Real-time video camera network

▶ After tsunami

- Collect perishable post-tsunami data
- Establish post-event information clearinghouse
- Provide observations of hazardous conditions and damage to CalOES, others



THE NATIONAL TSUNAMI
HAZARD MITIGATION
PROGRAM (U.S.)

SHARING AND DISCUSSION

NEXT STEPS

SUMMER MES MTG ACTIONS ITEMS

1. ID STATES COORDINATOR (& STAKEHOLDERS)

2. AT MES, DISCUSS PLAN TEMPLATE

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