



**Twenty-Fourth Meeting of the Intergovernmental Coordination Group  
for the Pacific Tsunami Warning and Mitigation System  
(ICG/PTWS-XXIV) Beijing, China, 24-27 May 2011**



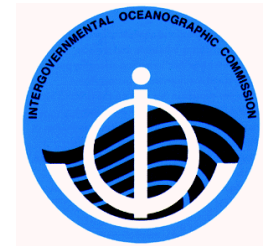
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# **A Proposal for Enhancing PTWC Warning Services**

**Charles S. McCreery**  
Director, Pacific Tsunami Warning Center  
May 25, 2011



# Current PTWS Warning Criteria



Earthquake	Product Type	Description
Magnitude 6.5-7.5 or >6.5 and >100km depth or far inland	Information Bulletin	No Tsunami Threat or only small Local Tsunami Threat
Magnitude 7.6-7.8 and <100 km depth and under sea or near sea	Regional Warning	Warning to 1000km from epicenter
Magnitude >7.8 and <100km depth and under sea or near sea	Expanding Warning	Warning if < 3 hours to impact, Watch if 3-6 hours to impact
Confirmed major tsunami	Pacific-wide Warning	Confirmed tsunami with widespread destructive threat

# Limitations of Current Criteria

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- They were designed based primarily on limited historical data and are very conservative for safety
- They result in significant over-warning
- They contain no information about expected levels of impact
- They are not intended to address smaller earthquakes with only a local tsunami threat

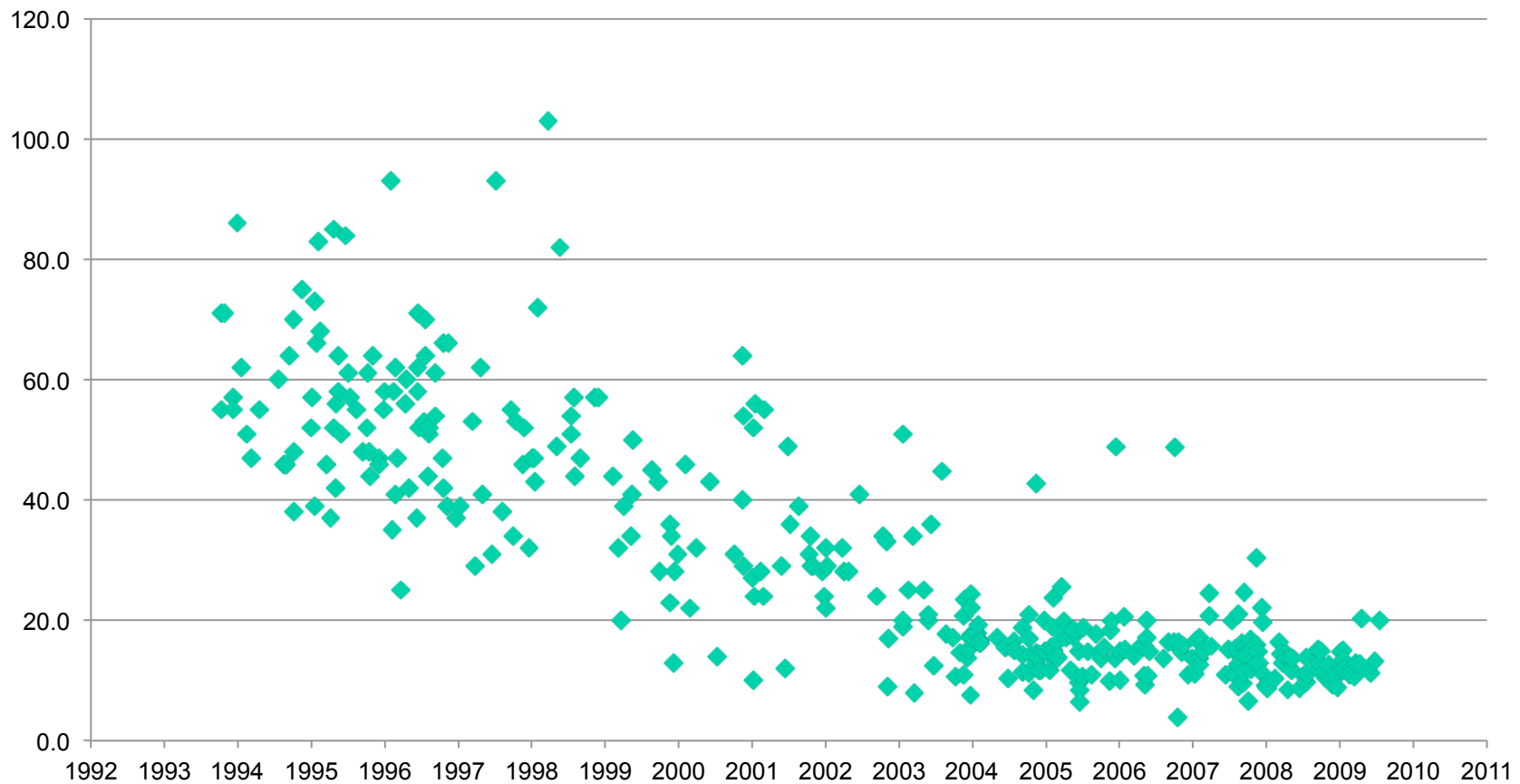
# Proposed Changes to Current Criteria

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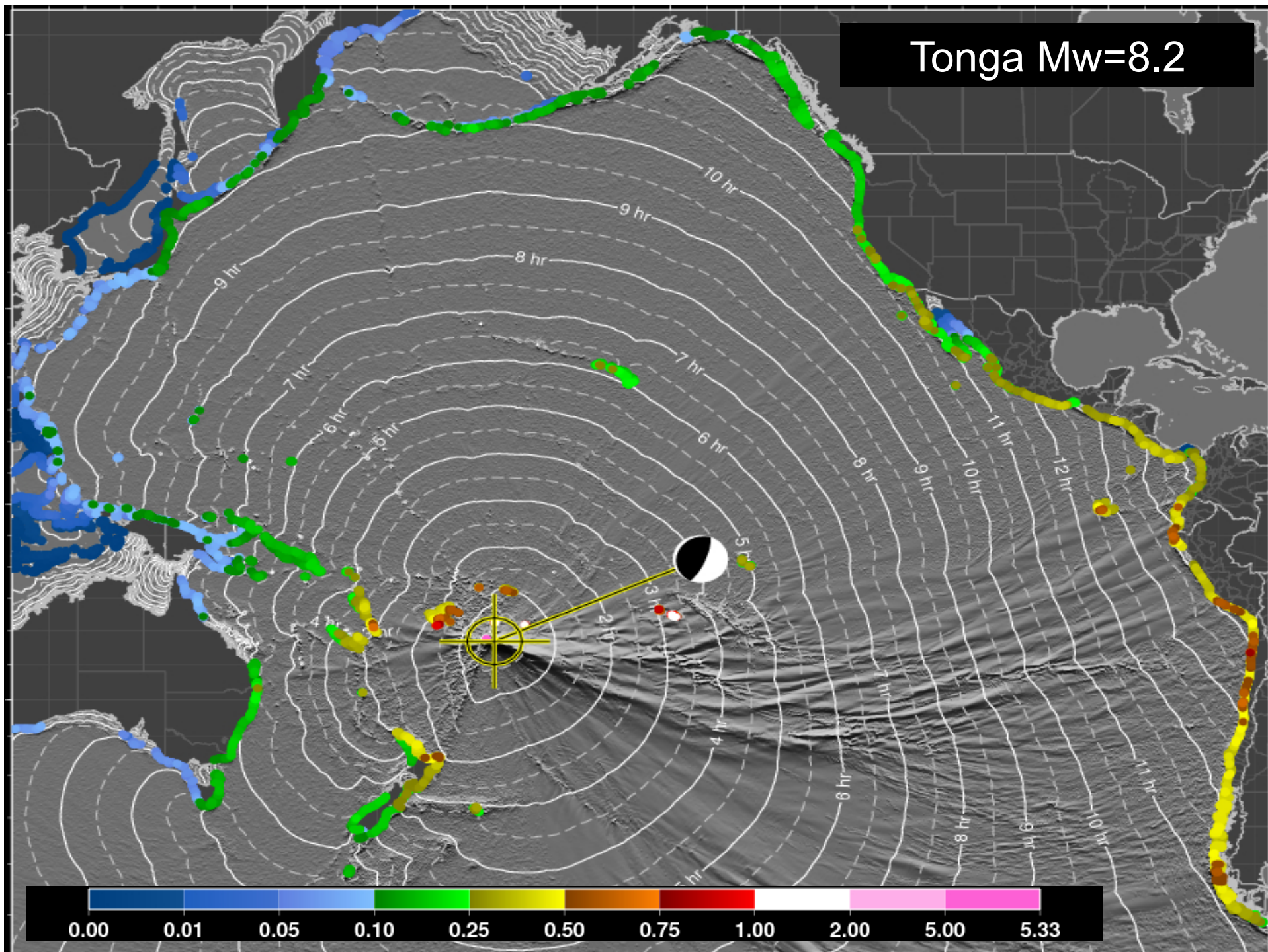
- Lower Mw threshold for local tsunamis
- Follow guidelines being established by IOC TOWS-WG (particularly its Task Team on Tsunami Watch Operations)
- Apply forecast models (RIFT, SIFT, AFTM) constrained by observations
- Provide expected levels of impact
  - No Threat
  - Marine Threat
  - Land Threat (inundation)
  - Major Land Threat (e.g., Japan 2011)

# PTWC Response Time Performance

## ■ Elapsed Time to PTWC Initial Bulletin

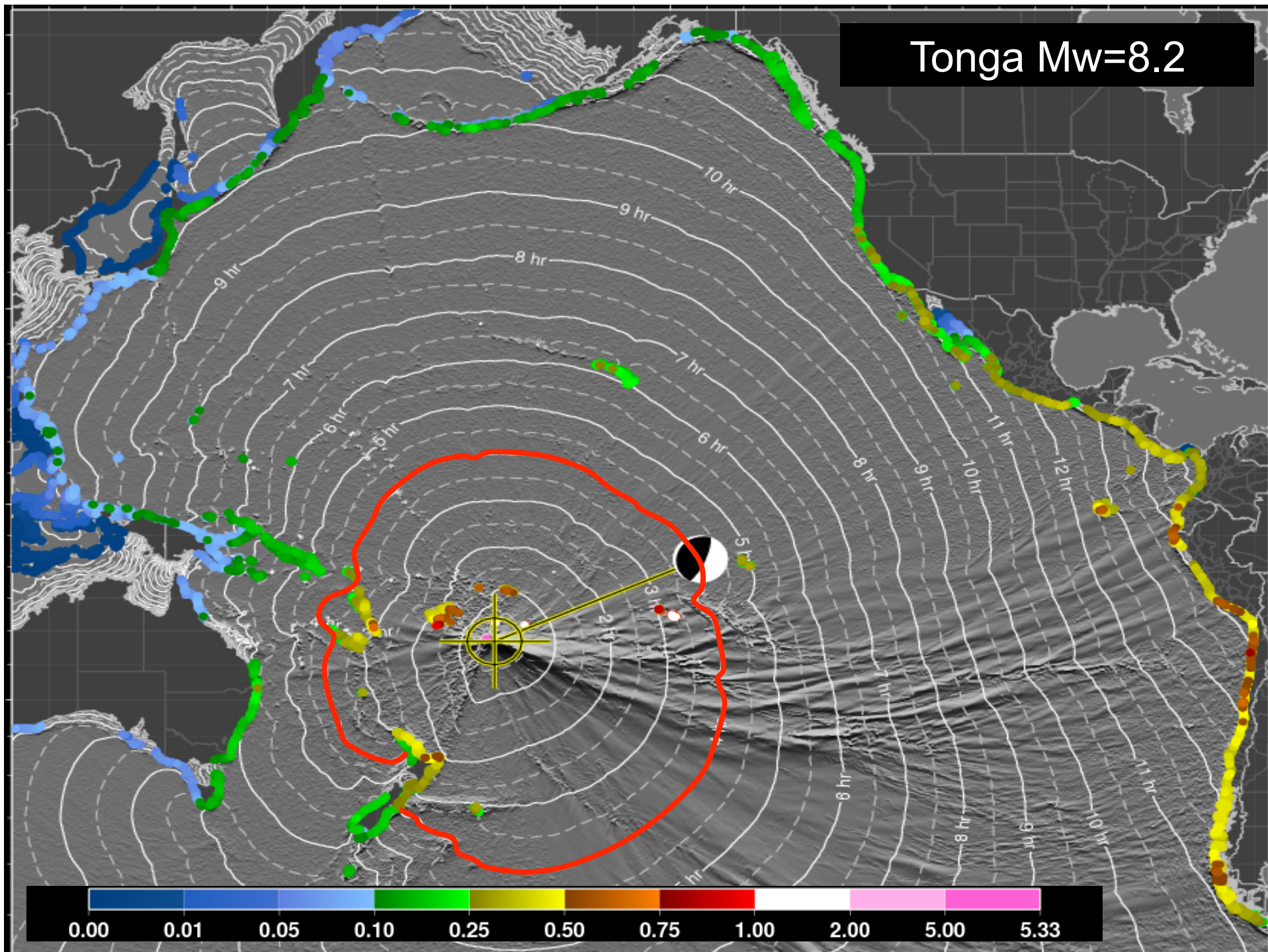


Tonga Mw=8.2



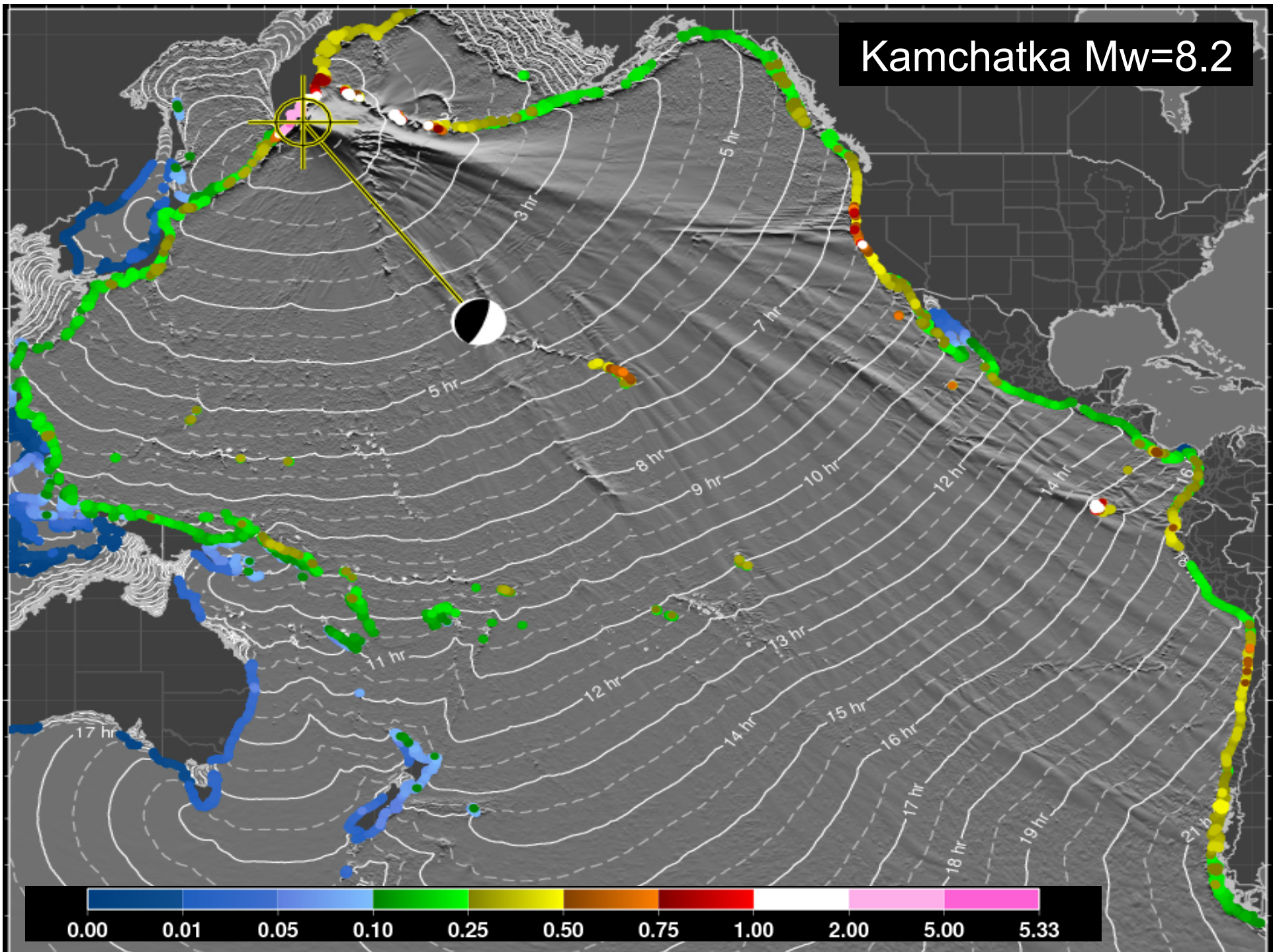


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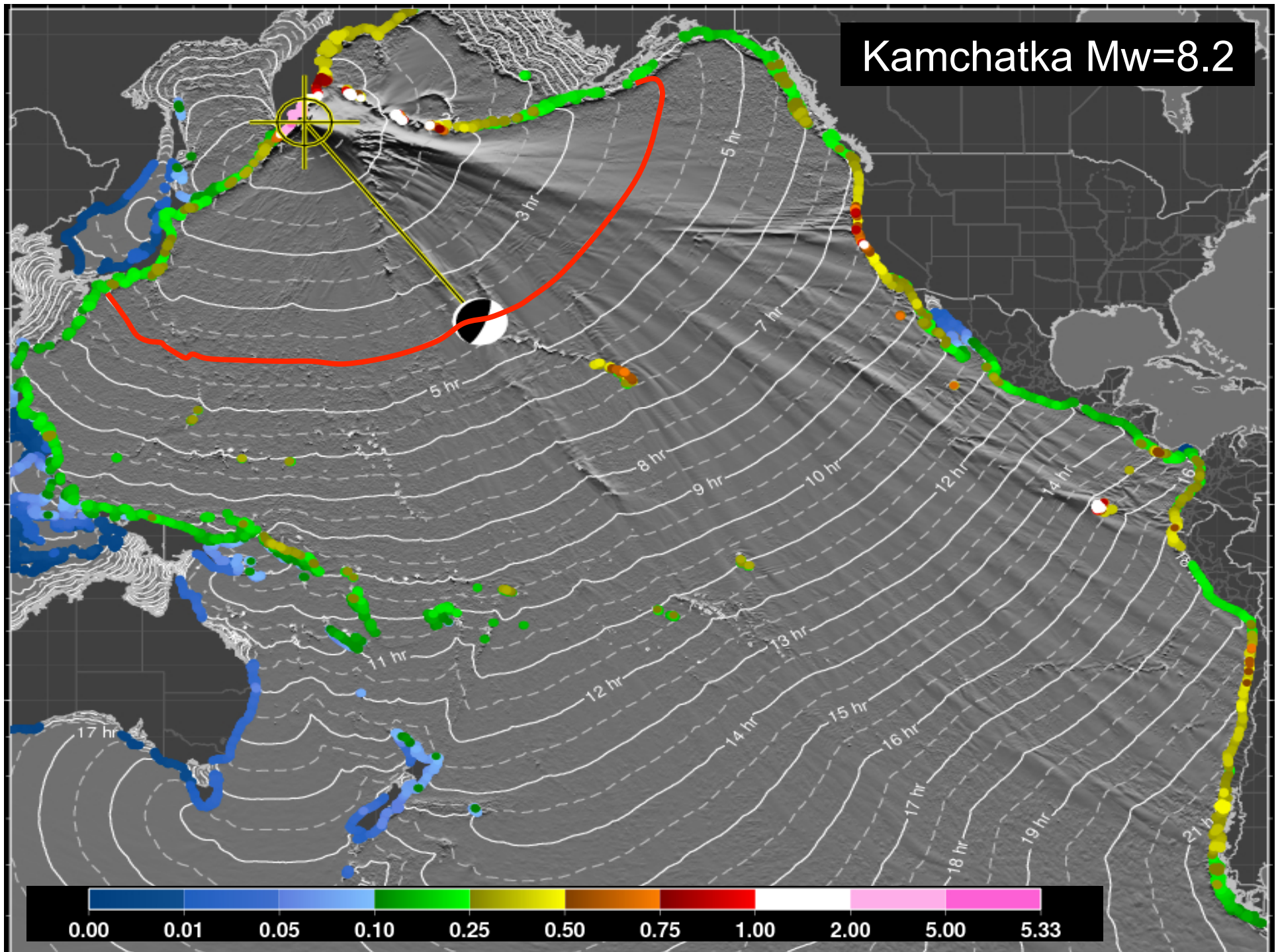


# Kamchatka Mw=8.2



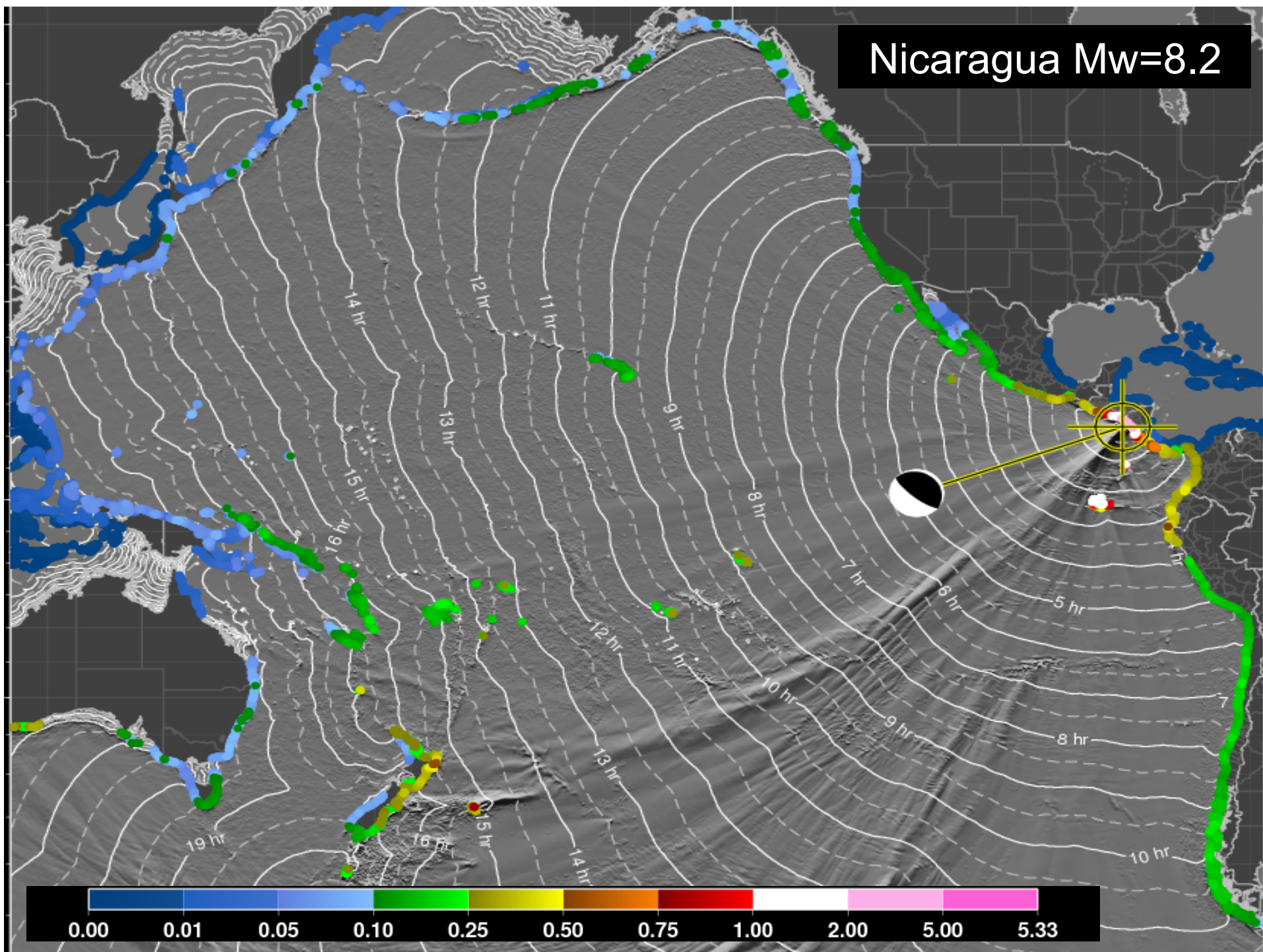


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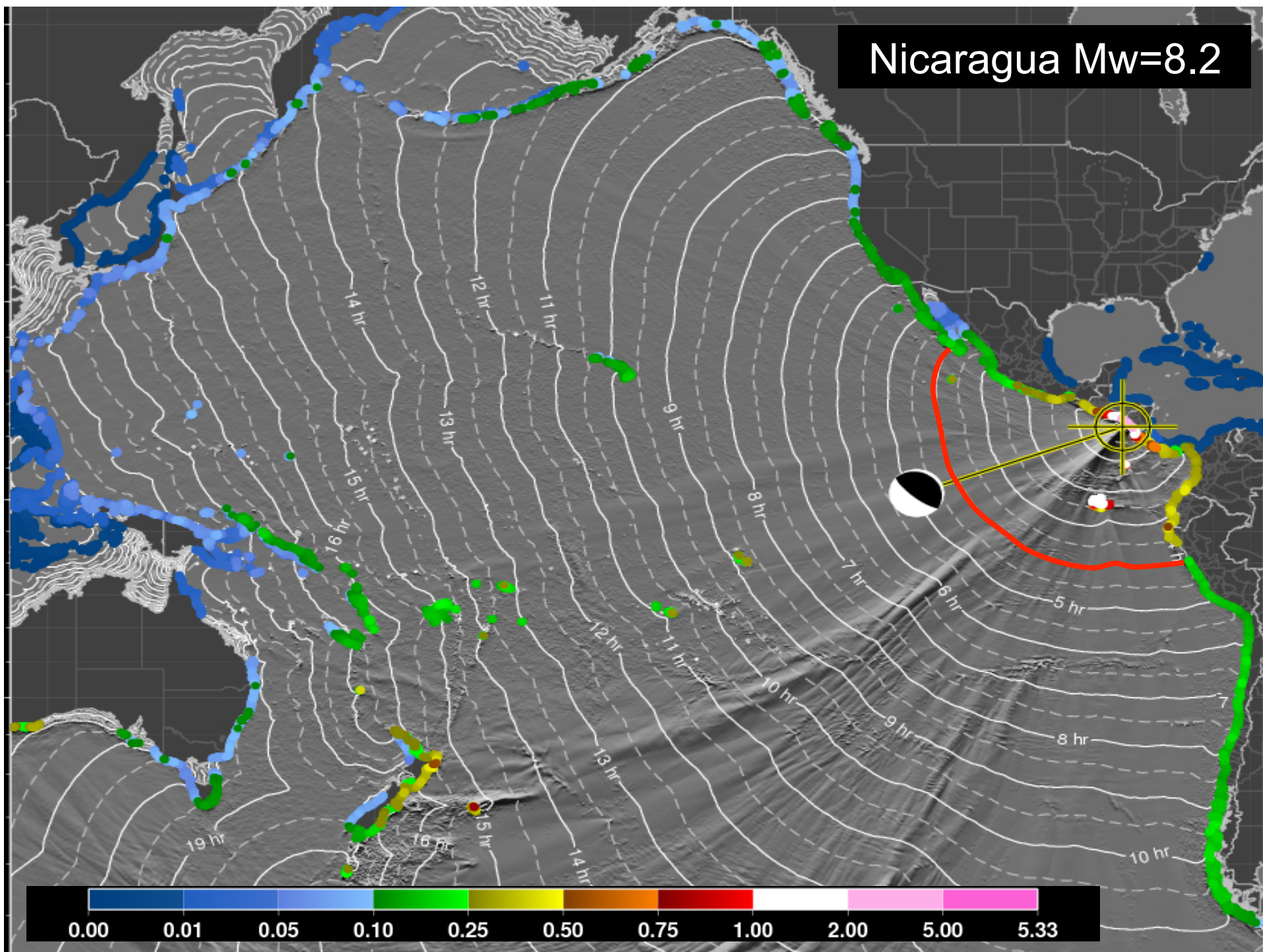


# Nicaragua Mw=8.2



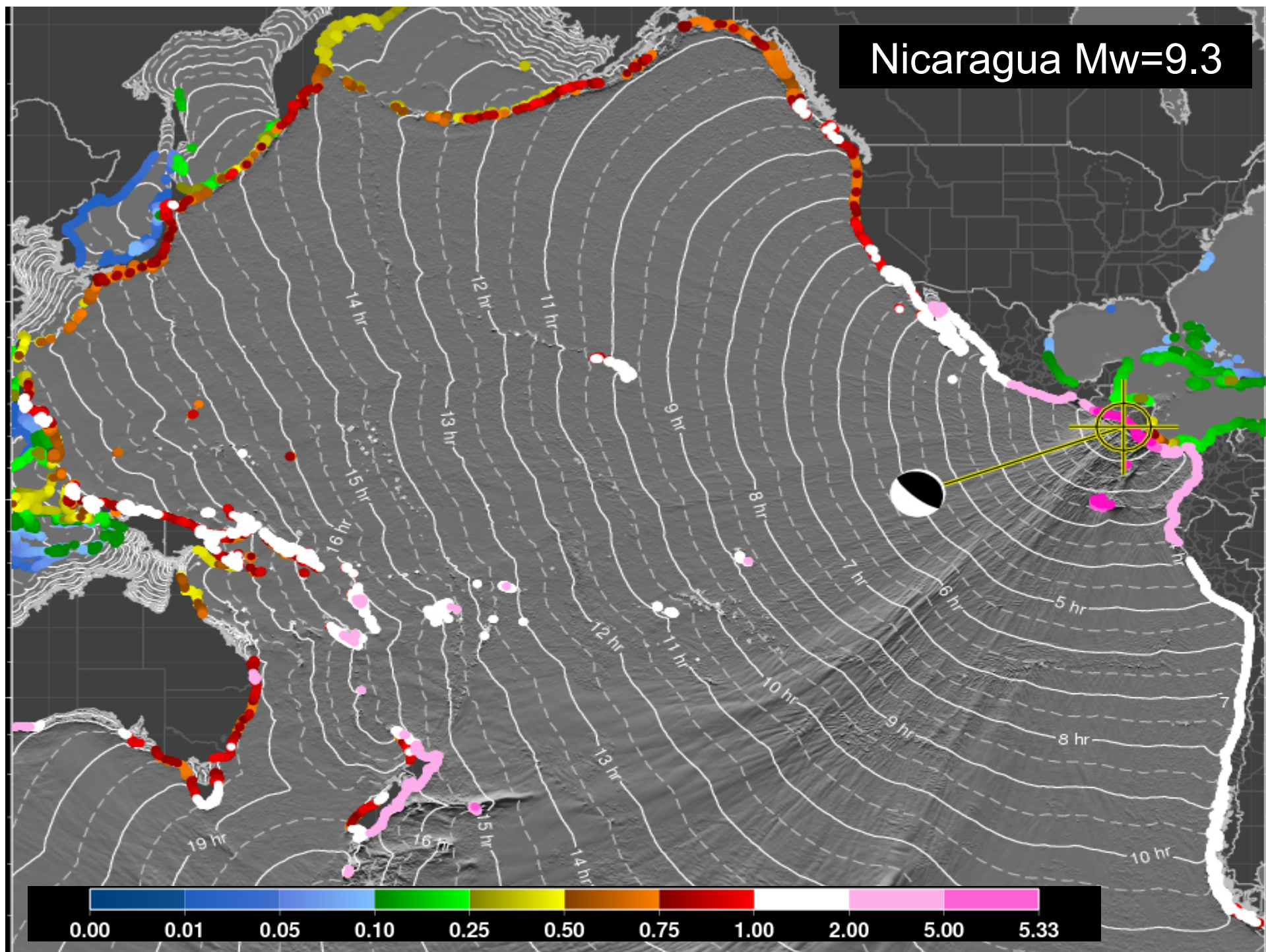


Nicaragua Mw=8.2



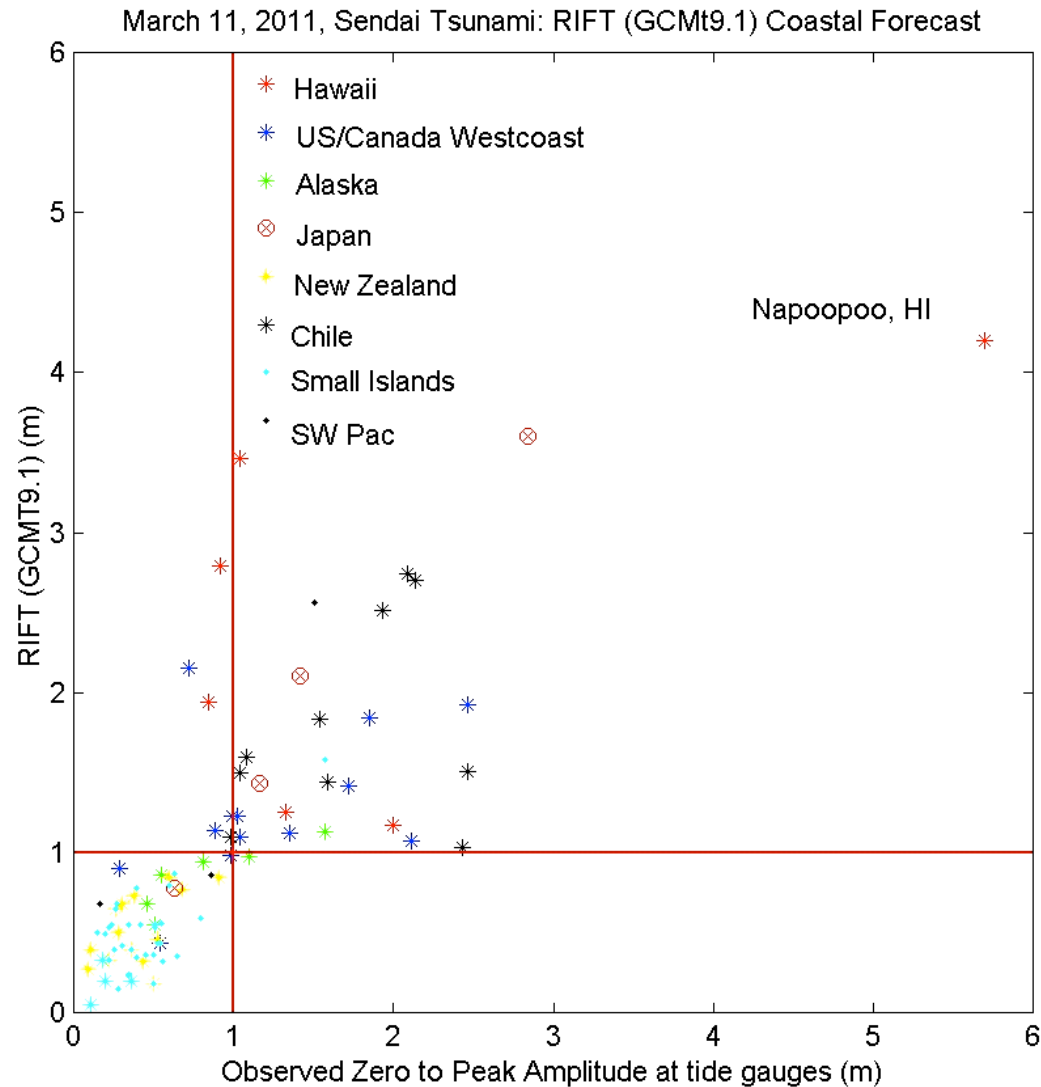


Nicaragua Mw=9.3





# RIFT Performance for Tohoku Tsunami



# The Way Forward

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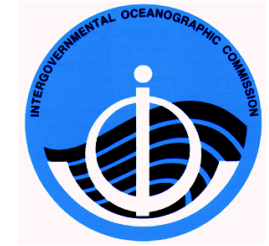
Request continuation of the intersessional Task Team under WG2 on Enhancing Products to guide and provide feedback to PTWC on the:

- **development of new procedures, criteria and products based on model forecasts**
- **testing and staging their implementation**
- **taking into account the strengths and limitations of forecasting**
- **taking into account the needs of the Member States**
- **and taking into account the TOWS-WG recommendations**

# The Way Forward

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- Target introduction of new procedures and products by the PacWave11 Exercise in an experimental test mode, keeping current procedures in place.
- Continue in a background experimental mode after the exercise.
- Implement after a reasonable testing and education period
- Evaluate and if ready then approve at ICG/PTWS-XXV



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THANK YOU