Responding to Media Inquiries About Remote Triggering Interactions

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In the aftermath of a significant earthquake, seismologists are frequently asked questions by the media and public regarding possible interactions with recent prior events, including events at great distances away, along with prospects of larger events yet to come, both locally or remotely. For regions with substantial earthquake catalogs that provide information on the regional Gutenberg-Richter magnitude-frequency relationship, Omori temporal aftershock statistical behavior, and aftershock productivity parameters, probabilistic responses can be provided for likelihood of nearby future events of larger magnitude (as well as expected behavior of the overall aftershock sequence). However, such procedures do not provide answers to inquiries about long-range interactions, either retrospectively for interaction with prior remote large events or prospectively for interaction with future remote large events. Dynamic triggering that may be involved in such long-range interactions occurs, often with significant temporal delay, but is not well-understood, making it difficult to respond to related inquiries. One approach to addressing such inquiries is to provide retrospective or prospective occurrence histories for large earthquakes based on global catalogs; while not providing quantitative understanding of any physical interaction, experience-based guidance on the (typically very low) chances of causal interactions can inform public understanding of likelihood of specific scenarios they are commonly very interested in.