



DSA
DIVISION OF THE STATE ARCHITECT

DEPARTMENT OF GENERAL SERVICES

ATC/USGS Seismic Hazard User-Needs Workshop September 21, 2015

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Authority of DSA

- DSAs have authority for plan review and supervision of construction for:
 - K-12, Community Colleges, State-owned Essential Service Facilities



Seismic Hazard Maps

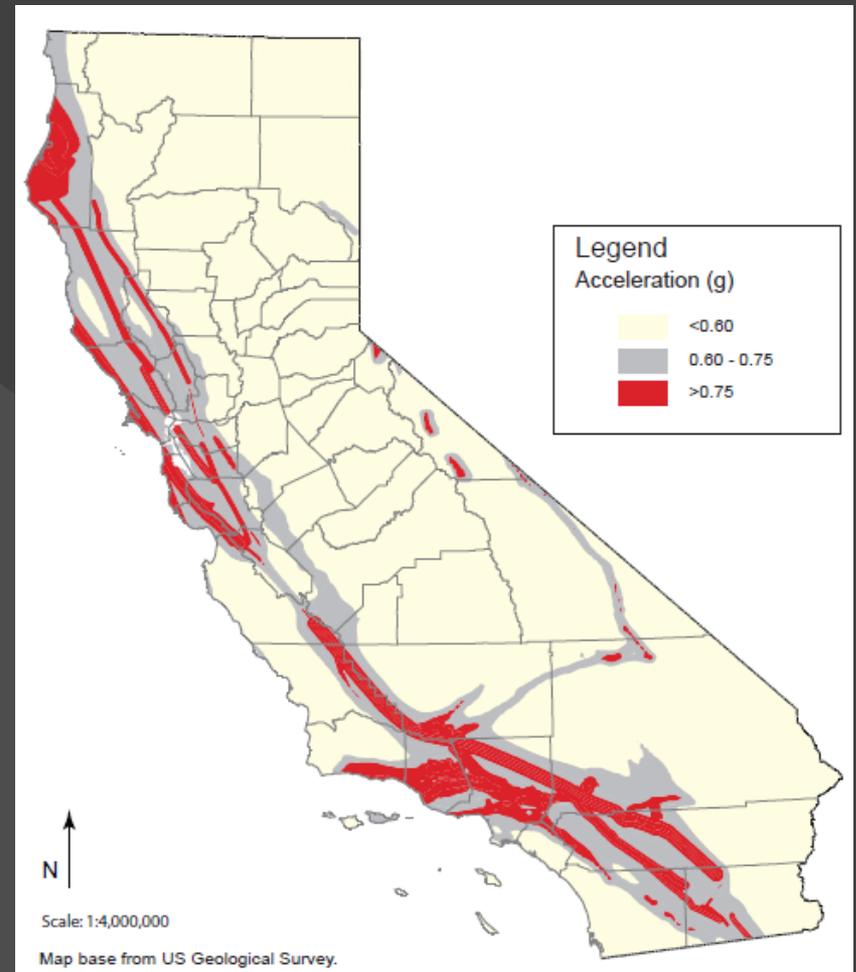
Use by DSA

- DSA uses the Seismic Design Maps, which are a derivative of the Seismic Hazard Maps for the following:
 - > Design review of buildings, structures, and nonstructural components (ASCE 7, ASCE 41)
 - > Design review of geohazards (faulting, slope stability, liquefaction, differential settlement)
- California Geological Survey (CGS) reviews all geohazard reports and site-specific ground motion hazard analysis (GMHA) for DSA.

Seismic Hazard Maps

Ground Motion Hazard Analysis

- DSAs require all buildings located in Seismic Design Category E & F to have a site-specific GMHA performed.
- CGS uses USGS data to create custom maps for DSA



Seismic Hazard Maps

Ground Motion Hazard Analysis

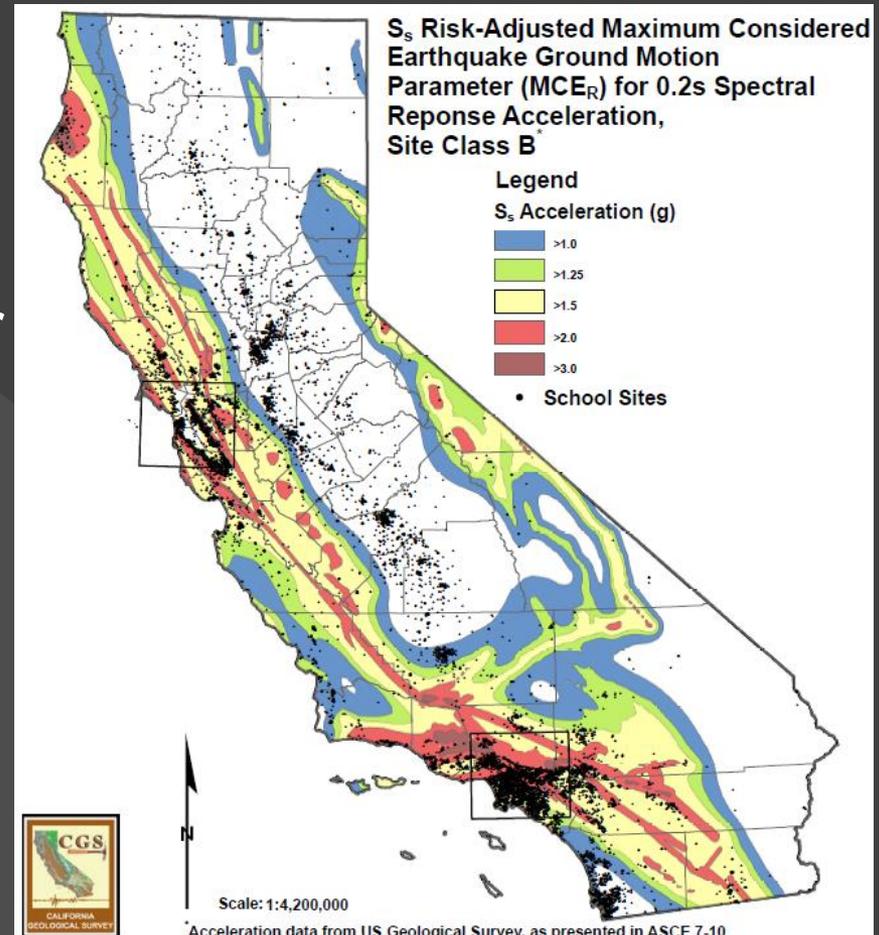
- ◎ Geotechnical Engineers have lots of room for interpretation when performing a GMHA.
 - > If the derivation of the seismic hazard maps (and design maps) becomes overly complex, it may result in greater discrepancy in the engineers' results. Need consistency and well defined methodology.
 - > If the mapping is so refined, why do a site-specific GMHA?

Buildings & Equipment Designed with Broad Site Application

- ◎ DSA approves pre-checked design of modular buildings, shade structures, solar carports, etc.
 - > These buildings are designed for multiple seismic options (e.g. moderate, high) so they can be placed anywhere in the State.
- ◎ DSA requires seismic certification of equipment on some projects
 - > The equipment is certified for different levels of seismicity.

Buildings & Equipment Designed with Broad Site Application

- CGS creates maps for DSA stakeholders
 - > Selection of seismic design parameters for broad application
 - > School site data included
- Problems:
 - > Not detailed enough



Buildings & Equipment Designed with Broad Site Application

- ◎ Future updates to maps
 - > If new maps become too complex or too many maps needed to define hazards, then cannot be easily used for broad-based application.
 - > Need a web-based tool to view custom interactive maps with project or building specific parameters.
 - > Scale of maps results in too coarse of contours in some areas
 - > Seismic parameters should be mapped and reported to nearest tenth (0.1), except for lower seismicity areas to nearest hundredth (0.01).



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Thank You!

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