

EQFAULT Version 3.xx (for Windows)

A COMPUTER PROGRAM FOR THE DETERMINISTIC ESTIMATION OF PEAK ACCELERATION USING THREE-DIMENSIONAL CALIFORNIA FAULTS AS EARTHQUAKE SOURCES

EQFAULT, a computer program for the deterministic estimation of peak acceleration using three-dimensional faults as earthquake sources, is now available for Windows 95/98/NT/2000/XP. The program uses the familiar Windows environment to perform deterministic analyses and generate graphical output. The Windows interface for EQFAULT was written and compiled in Visual Basic 6.0. This latest version of EQFAULT now utilizes three-dimensional faults as earthquake sources (like FRISKSP does). The Windows interface accesses a file that contains data for up to 250 faults to perform the deterministic analyses. The program is provided with a sample file of 222 California faults that was developed from data compiled by the California Geological Survey (CGS). CGS requires that EQFAULT users sign a license agreement before using that data file. In recognition of the potential for differing professional opinions regarding which faults to consider and what parameters should be assigned to each, instructions are given so that the user can generate his own fault-data file. The documentation provided with the program includes a map of the digitized fault points.

EQFAULT uses three-dimensional articulated planar elements to model seismogenic sources. EQFAULT is

capable of using many different attenuation-relation formats. The robust nature of the planar elements allows the user to model complex fault geometries (e.g., listric and intercalation faults) or the planes can be used to model areal sources. The Windows interface creates graphical output including return magnitude vs. distance plots as well as simple maps of fault sources. A User's Manual is provided with the EQFAULT program to explain the operation and options of the program.

Besides its ability to use the familiar Windows interface, Version 3.xx offers improvements over previous versions. For example, graphic capabilities are now part of the program, so plots and maps can be generated directly by the program. In addition, the user is given the option of sorting output by distance. Median and median-plus-or-minus any number of standard deviations ground motions can be computed. Ken Campbell's updates and addenda to his Campbell (1997) attenuation relation and the new Bozorgnia, Campbell, and Niazi (1999) attenuation relation are also included.

To use EQFAULT, you should have a Pentium computer with at least 128 MB of memory running Windows 95/98/NT/2000/XP. The program uses Windows compatible printers to generate program output. If you want to license the program, please use the order form at the bottom of this page. Remember to fill out and sign the CGS license agreement (even if your company has previously done so). If you have any questions, please contact us. (Web site address: <http://thomasfblake.com/>)

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SAMPLE INPUT SCREEN

EQFAULT _ □ ×

Job Name (15 Character Max)

Job Number (15 Character Max)

Site Latitude (deg)	Site Longitude (deg)	Search Radius (mi)	Interrupt Radius (mi)	
<input type="text" value="34.4708"/>	<input type="text" value="119.6917"/>	<input type="text" value="100"/>	<input type="text" value="-1"/>	<input type="button" value="About"/>

Soil Condition (Used for Some Attenuation Relations)	EQFAULT Calculation Name (45 Character Max)
<input checked="" type="radio"/> Deep Soil <input type="radio"/> Shallow Soil (Bedrock)	<input type="text" value="Test Run Analysis"/>

Fault Data File Name (.DAT)	<input type="button" value="Print Fault Data"/>	Sorting of Output Listing
<input type="button" value="New"/> <input type="text" value="CDMGFLTE.DAT"/>		<input checked="" type="radio"/> Sort Output by Distance <input type="radio"/> Sort Output by Names <input type="radio"/> Do Not Sort Output
Output File Name		
<input type="text" value="TEST.OUT"/>		<input type="button" value="View/Print Output File"/>
Attenuation Relation File Name		Median or Sigma Acceleration
<input type="button" value="New"/> <input type="text" value="EQFWIN1.ATN"/>		<input checked="" type="radio"/> Median <input type="radio"/> Sigma <input type="text" value="0"/> (Number)
Attenuation Relation Name		WINDOWS Notepad Editor
<input type="button" value="New"/> <input type="text" value="5) Boore et al. (1997) Horiz. - SOIL (310)"/>		RHGA Factor <input checked="" type="radio"/> PGA <input type="radio"/> RHGA RHGA Factor [0.65]: <input type="text" value="0.65"/> RHGA Distance (mi) [20]: <input type="text" value="20"/>

Plotted Output Options	
<input type="button" value="View Attenuation Curves"/>	
<input type="button" value="View Simple Fault Map"/>	<input type="button" value="View Maximum Earthquake Plots"/>

OUTPUT EXAMPLES

MAXIMUM EARTHQUAKES

