

EventFinder

EventFinder is a matlab function that provides a Graphical User Interface into a FISSURES Server to select events and return their parameters in a list and a map. It requires one input argument, myEvent, which is an object from MatEvent class, and generates three outputs. The first one contains the retrieved events. The second is a structure array of user input parameters. The third is an index vector pointing to selected events. EventFinder has four functions (Figure 1):

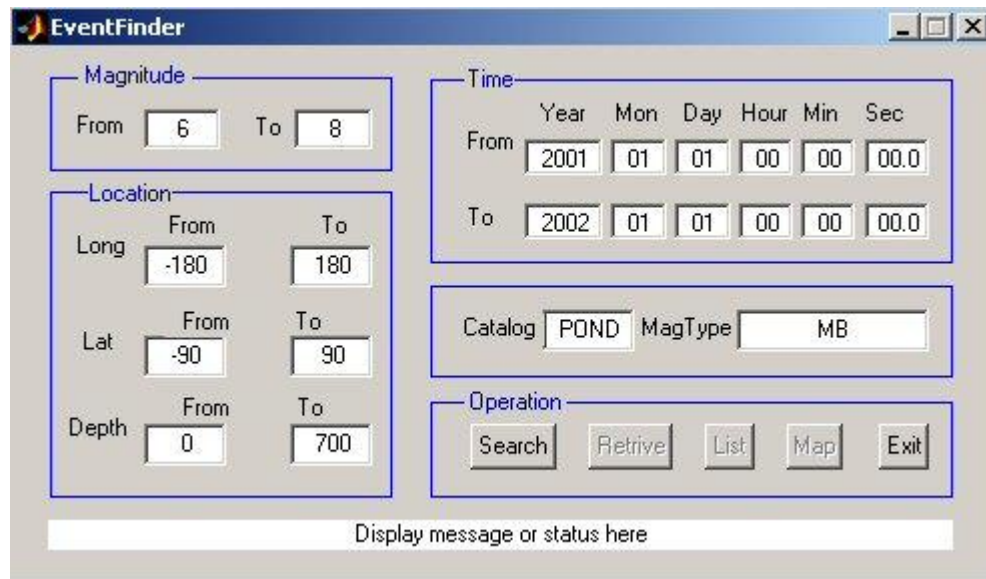


Figure 1. myEvent GUI: EventFinder

- | “**Search**” searches all available events on Servers by the given parameters. It returns only the number of events found.
- | “**Retrieve**” retrieves all available information for each of the searched events.
- | “**List**” pops up another window (Figure 2), which lists information for all “retrieved” events. The first line in the window is a checklist of all possible fields. The user can select the desired fields to display information for all retrieved events and selected fields. The “Return” button will return user to main EventFinder window.
- | “**Map**” draws a map of retrieved events (Figure 3) using a matlab toolbox called m_map, matlab code written and freely distributed by Richard Pawlowicz (<http://www.eos.ubc.ca/~rich>).
- | “**Exit**” exits EventFinder and closes its window.

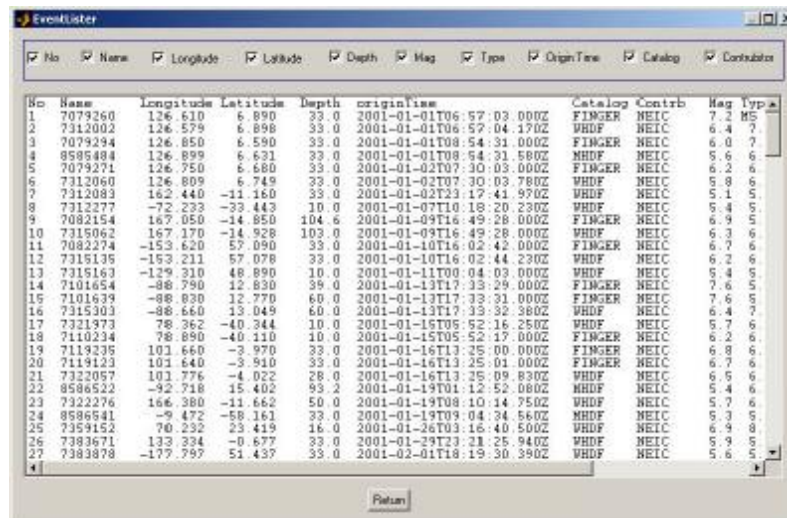
Events are searched based on ranges of values specifying the earthquake’s:

Location: Longitude (-180 to 180 deg), Latitude (-90 to 90 deg) and depth (km)

Origin Time: given by Year, Month, Day, Hour Minute Second (GMT)

Magnitude Range and Magnitude Types: For each event consider all contributed magnitudes that match the requested types (more than one type can be requested, e.g. MW, MB separated by white space, case if ignored). If any of these contributed magnitudes fall within the Magnitude Range then keep that event.

Catalog: The current event server provides earthquake information for many different earthquake catalogs, including ISC, NIEC/HDF, FARM, SPYDER. The user may ask to see locations provided by any of these catalogs. Alternatively, the user may ask for the PREF (preferred) catalog. In this case the user retrieves all events. If more than one catalog contains information for a given event, the location from the preferred agency is provided. The current hierarchy is ISC, NEIF/HDF, etc. A request for POND searches through all SPYDER and FARM events.



No	Name	Longitude	Latitude	Depth	originTime	Catalog	Contrib	Mag	Type
1	7079260	126.610	6.890	33.0	2001-01-01T06:57:03.000Z	FINGER	NEIC	7.2	MS
2	7312002	126.579	6.898	33.0	2001-01-01T06:57:04.170Z	VRDF	NEIC	6.4	?
3	7079294	126.850	6.590	33.0	2001-01-01T08:54:31.000Z	FINGER	NEIC	6.0	?
4	8585484	126.899	6.631	33.0	2001-01-01T08:54:31.580Z	MHDF	NEIC	5.6	6
5	7079271	126.750	6.680	33.0	2001-01-02T07:30:03.000Z	FINGER	NEIC	6.2	6
6	7312060	126.809	6.749	33.0	2001-01-02T07:30:03.780Z	VRDF	NEIC	5.8	6
7	7312083	162.440	-11.160	33.0	2001-01-02T23:17:41.970Z	VRDF	NEIC	5.1	5
8	7312277	-72.233	-33.443	10.0	2001-01-07T10:18:20.230Z	VRDF	NEIC	5.4	5
9	7082154	167.050	-14.850	104.6	2001-01-09T16:49:28.000Z	FINGER	NEIC	6.9	5
10	7315062	167.170	-14.928	103.0	2001-01-09T16:49:28.000Z	VRDF	NEIC	6.3	6
11	7082274	-153.620	57.090	33.0	2001-01-10T16:02:42.000Z	FINGER	NEIC	6.7	6
12	7315135	-153.211	57.078	33.0	2001-01-10T16:02:44.230Z	VRDF	NEIC	6.2	6
13	7315163	-129.310	48.890	10.0	2001-01-11T00:04:03.000Z	VRDF	NEIC	5.4	5
14	7101654	-88.790	12.830	39.0	2001-01-13T17:33:29.000Z	FINGER	NEIC	7.6	5
15	7101639	-88.830	12.770	60.0	2001-01-13T17:33:31.000Z	FINGER	NEIC	7.6	5
16	7315303	-88.660	13.049	60.0	2001-01-13T17:33:32.380Z	VRDF	NEIC	6.4	7
17	7321973	78.362	-40.344	10.0	2001-01-16T05:52:16.250Z	VRDF	NEIC	5.7	6
18	7110234	78.890	-40.110	10.0	2001-01-15T05:52:17.000Z	FINGER	NEIC	6.2	6
19	7119235	101.660	-3.970	33.0	2001-01-16T13:25:00.000Z	FINGER	NEIC	6.8	6
20	7119123	101.640	-3.910	33.0	2001-01-16T13:25:01.000Z	FINGER	NEIC	6.7	6
21	7322057	101.776	-4.022	28.0	2001-01-16T13:25:09.830Z	VRDF	NEIC	6.5	6
22	8586522	-92.718	15.402	93.2	2001-01-19T01:12:52.080Z	MHDF	NEIC	5.4	6
23	7322276	166.380	-11.662	50.0	2001-01-19T08:10:14.750Z	VRDF	NEIC	5.7	6
24	8586541	-9.472	-58.161	33.0	2001-01-19T09:04:34.560Z	MHDF	NEIC	5.3	5
25	7359152	70.232	23.419	16.0	2001-01-26T03:16:40.500Z	VRDF	NEIC	6.9	8
26	7383671	133.334	-0.677	33.0	2001-01-29T23:21:25.940Z	VRDF	NEIC	5.9	5
27	7383878	-177.797	51.437	33.0	2001-02-01T18:19:30.390Z	VRDF	NEIC	5.6	5

Figure 2 Event List window

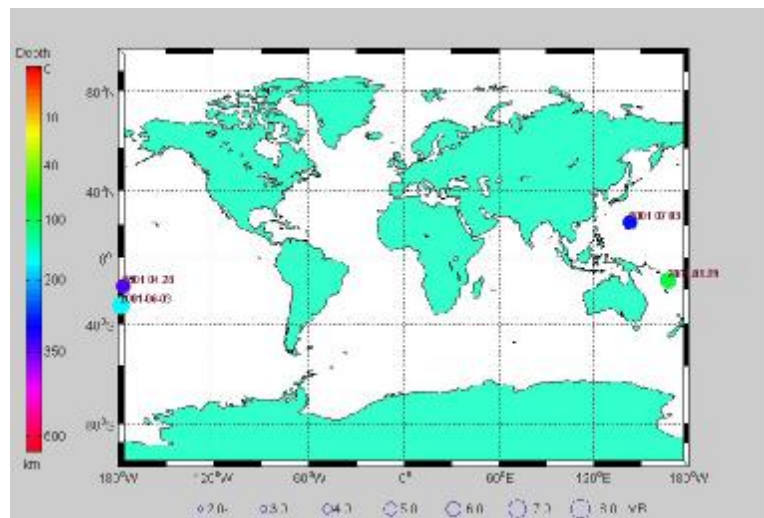


Figure 3 Plot selected events on map