Catalogue of the National Earthquake Information Center, U.S.Geological Surve

Detailed Description of the Catalogue Format

Positions	Code	Description
1- 5	a5	Source code - "PDE ".
6-10	a5	Year.
12-13	i 2	Month.
14-15	i 2	Day.
16-17	i 2	Hours. (Origin time – UTC - Coordinated Universal Time).
18-1	i 2	Minutes.
20-24	f5.2	Seconds.
25-26	a2	The characters identifying the sourse of the origin time and coordinate parameters.

The symbol(s) following the origin time identify the source of the origin time and coordinate parameters. If a single-letter code is followed by an ampersand (&), it indicates that the parameters of the hypocenter were supplied or determined by a computational procedure not normally used by the National Earthquake Information Center (NEIC USGS).

A – Parameters of the explosion supplied by U.S.Department of Energy (Atomic Energy Commission, AEC).

AK – Parameters of the hypocenter supplied by the Geophysical Institute, University of Alaska; College, AK.

AM – Parameters of the hypocenter supplied by the University of Michigan, Ann Arbor, MI.

AS – Parameters of the hypocenter supplied by the Alaska Seismic Project, Menlo Park, CA.

B – Parameters of hypocenter supplied by University of California, Berkeley, CA.

BT – Parameters of the hypocenter supplied by Montana School of Mines, Butte, MT.

C – Parameters of hypocenter supplied by the Pacific Geoscience Centre, Sidney, British Columbia, Canada.

CL – Hypocenter parameters supplied by John Carroll University, Cleveland, OH.

D – Parameters of hypocenter supplied by Oklahoma Geophysical Observatory, Tulsa, OK.

E – Some or all parameters of explosions (controlled/accidental) supplied by any group or individual other than the U.S.Department of Energy (U.S.Atomic Energy Commission, AEC).

EC – Parameters of the hypocenter supplied by Centro de Investigacion Cientifica y de Educacion Superior de Ensenada, B.C., Mexico (CICESE).

F – Parameters of hypocenter supplied by the State College of Pennsylvania, University Park, PA.

G – Parameters of hypocenter supplied by the U.S.Geological Survey, NEIS, or by USGS, Menlo Park, CA.

GL – Parameters of hypocenter supplied by USGS (located in Golden, CO) other than the NEIC.

H – Parameters of hypocenter supplied by the USG Hawaiian Volcano Observatory.

HY – Hypocenter estimates furnished by Eric Hjortenberg, Geodetic Institute of Denmark.

J – Parameters of hypocenter supplied by St. Louis University, St. Louis, MO.

K – Parameters of hypocenter supplied by the Center for Earthquake Research and Information (CERI), Memphis, TN.

L – Parameters of hypocenter supplied by Lamont-Doherty Geological Observatory, Palisades, NY.

LT – Local Time.

M – Hypocenter based on macroseismic information.

O – Parameters of hypocenter supplied by Seismological Service of Canada, Ottawa.

P – Parameters of hypocenter supplied by California Institute of Technology, Pasadena, CA.

R – Parameters of hypocenter supplied by University of Nevada, Reno, NV.

S – An NEIC solution based on a local crustal model, or calculated with methods not routinely applied by NEIC.

T – Parameters of hypocenter supplied by Weston Observatory, Weston, MA.

U – Parameters of hypocenter supplied by University of Utah, Salt Lake City, UT.

V – Parameters of hypocenter supplied by Virginia Polytechnic Institute and State University, Blacksburg, VA.

W – Parameters of hypocenter supplied by University of Washington, Seattle, WA.

X – Time not reported.

Z – Noninstrumental time and location.

** – Doubtful data in at least one of these areas: date, origin time, or coordinates.

* – Less reliable hypocenter determination by CGS/NOS/ERL/GS using incomplete or less reliable data. Beginning in January 1985, in general, the geometric mean of the semi-major and semi-minor axes of the horizontal 90% confidence ellipse is greater than 8.5 km and less than or equal to 16.0 km.

? – Poor solution - accuracy is considered to be below normal NEIC publication criteria. Beginning in January 1985, in general, the geometric mean of the semi-major and semi-minor axes of the horizontal 90% confidence is greater than 16.0 km. Also used for a poor solution computed using data reported by a single network.

% – A non-furnished hypocenter has been computed using data reported by a single network of stations for which the data and/or origin time cannot be confirmed by seismograms available to an NEIC analysts. All other parameters are considered to be consistent with normal NEIS publication criteria.

27-33 f7.3 Latitude in degrees ("–" - south).

34-41 f8.3 Longitude in degrees ("–" - west).

42-44 i 3 Depth in kilometers.

47 a1 Depth control:

A – assigned;
D – restrained by reported depth phases;
N – restrained to normal depth (33 km);
G – restrained by geophysicist;
S – depth control aided by use of S-phase data;
* – less reliable depth estimate. Accuracy of depth lies between 8.5 km and 16 km based on 90% confidence ellipse;
? – poor depth estimated; depth accuracy is estimated to be greater than 16 km based on 90% confidence ellipse;
Blank – good depth estimate and depth unrestrained in contributed hypocenters. Depth accuracy is estimated to be better than 8.5 km based on 90% confidence ellipse;
% – Questionable value.

48-49 i 2 pP phases.

This field specifies the number of pP's identified by contributors or by the hypocenter-determination program associated with an event whose depth estimation was restrained by a subset of these phases.

50-53 f4.2 Standard deviation. Standard deviation of arrival-time residuals for the computed solution.

54-56 f3.1 mb magnitude. Average NEIC body-wave magnitude value.

57-58 i 2 Number of amplitudes used in the mb magnitude calculation.

59-61 f3.1 Ms magnitude. Average NEIC surface-wave magnitude.

62 a1 Z/H component:

"Z" – calculated from the vertical component;
"H" – calculated from the vertical component.

63-64 i 2 Number of amplitudes used in the Ms magnitude computation.

65-68 f4.2 Contributed magnitude.

Organizatons that operate a station network may contribute magnitude values to the NEIS. The value may have been calculated from any one station or it may be an average magnitude value from a number of stations in the network. Two such magnitude values are allowed in the data base. The second value is coded on a line immediately beneath the first value. The magnitude field consists of ll characters: positions 1-4 = magnitude value; positions 5-6 = magnitude scale; and positions 7-11 = organization source; if blank, the catalog listed under catalog source is the source organization. A number of magnitude scales are defined by the source agencies or institutions.

The list of magnitude scales include:

UK – unknown magnitude scale;
Ms – surface-wave magnitude (Bath, 1966);
mb – body-wave magnitude (Gutenberg and Richter, 1956);
ML – local magnitude (Richter, 1958);
Mn – Nuttli magnitude (Nuttli, 1973);
MD – coda-length magnitude;
FA – felt area magnitude; approximately equivalent to an mb value;
mB – broad-band, body-wave magnitude (Abe 1981, 1982, 1984; Abe and Kanamori, 1979; Abe and Noguchi, 1983a, 1983b);
MW – moment magnitude (Hanks and Kanamori, 1979);
Mz – magnitude based on the Sg amplitude at approximately 3Hz;
MI – magnitude computed from the epicentral intensity value;
K – energy class magnitude value (Kondorskaya and Shebalin, 1982).

69-70 a2 Magnitude scale.

71-75 a5 Donor.

76-79 f4.2 Contributed magnitude.

80-81 a2 Magnitude scale.

82-86 a5 Donor.

87-89 i 3 Flinn-Engdahl region number (Flinn et al., 1974).

90-92 i 3 Number of P and/or PKP arrivals used in the solution.

93 i 1 Maximum intensity on the Modified Mercalli Intensity Scale of 1931 (Wood and Neumann, 1931).
Possible intensity values: 1 - 9, X=10, E=11, T=12.

94 a1 Cultural effects :
- C – casualties;
- D – damage;
- F – felt;
- H – heard.

95 a1 Isoseismal map. Coded to reflect the general publication source:
- U – United States Earthquakes;
- E – Earthquake Notes;
- P – NEIS Preliminary Determinations of Epicenters (PDE), Monthly Listing;
- W – Wellington, (New Zealand Seismology Reports, Wellington, N.Z.);
- N – Nature Magazine;
- S – Bulletin of the Seismological Society of America.

96 a1 Fault plane solution:
- F – indicated the availability of a solution in the "USGS Preliminary Determinations of Epicenters (PDE), Monthly Listing".

97 a1 Moment tensor solution:
- G – availability of a solution in the "USGS Preliminary Determinations of Epicenters (PDE), Monthly Listing" (Sipkin, 1982; Dziewonski et al., 1980).

98 a1 Code not applicable.

99 a1 International Data Exchange (IDE) event:
- X – the event as an "IDE" earthquake.

100 a1 Preferred solution:
- P – the "favored solution". These solutions are generally associated with catalogs which have undergone critical review by the compilers. These solutions, when available, should be preferred over other duplicate records with similar source parameters.

101 a1 Code not applicable.

102 a1 Diastrophism code:
- F – faulting;
- U – uplift;
- S – subsidence;
- 3 – uplift and subsidence;
- 4 – uplift and faulting;
- 5 – faulting and subsidence;
- 6 – faulting with uplift and subsidence;
- 7 – uplift or subsidence;
- 8 – faulting and uplift or subsidence.

103 a1 Tsunami code:
- T – tsunami generated;
- Q – questionable tsunami.

104 a1 Seiche code:
- T – seiche;
- Q – questionable seiche.

105 a1 Volcanism code:
- V – earthquake associated with volcanism.

106 a1 Non-tectonic code:
- E – explosion;
- I – collapse;
- C – coal bump or rockburst;
- R – rockburst;
- M – meteorite;
- N – either known or likely to be of non-tectonic origin;
- ? – classified as an earthquake, but a non-tectonic origin cannot be ruled out;
- V – reservoir induced earthquake.

107 a1 Guided waves in atmosphere and/or ocean code:
- T – T-wave;
- A – acoustic wave;
- G – gravity wave;
- B – both A and G;

M – T-wave plus and A or G.

108 a1 Ground, soil, water table response and atmospheric phenomena code:

L – liquefaction;

G – geyser;

S – landslides and/or avalanches;

B – sand blows;

C – ground cracks not known to be an expression of faulting;

V – lights or other visual phenomena seen;

O – unusual odors noted;

M – more than one response.

109-115 7x Blanks.