

Do Now: CSV Files

The USGS collects and provides data about observed earthquakes around the world. Their data is available in many formats. We will use a straightforward one, CSV format, that can be read into spreadsheet programs like Microsoft Excel. Here is a sample file from USGS:

	A	B	C	D	E	F	G	H	I	J	K	L	M	
1	time	latitude	longitude	depth	mag	magType	nst	gap	dmin	rms	net	id	updated	
2	2013-04-11T	20.7915	122.226	8.29	4.6	mb		46	115	2.28	1.21	us	usb000g50m	2013-04-11T
3	2013-04-11T	-17.3579	175.0663	9.88	5.3	mb			50	7.802	1.44	us	usb000g4z6	2013-04-11T
4	2013-04-11T	-17.4508	-178.7735	535.92	4.9	mb	21	128	8.56	0.71	us	usb000g4xf	2013-04-11T	
5	2013-04-11T	-16.9546	-179.1921	528.46	4.5	mb	45	75	9.06	0.84	us	usb000g4ug	2013-04-11T	
6	2013-04-11T	-10.6708	166.0755	167.21	4.7	mb	42	102	6.16	0.8	us	usb000g4su	2013-04-11T	
7	2013-04-11T	2.8643	125.4971	64.96	4.6	mb		72	2.794	0.78	us	usb000g4rg	2013-04-11T	
8	2013-04-11T	20.9199	122.1061	12.94	4.5	mb	32	130	2.12	0.69	us	usb000g4qu	2013-04-11T	
9	2013-04-11T	-2.7939	148.1628	9.39	4.6	mb	23	147	1.09	1.12	us	usb000g4q9	2013-04-11T	
10	2013-04-11T	19.2629	95.6948	10.07	5.2	Mwp	75	43	2.14	0.98	us	usb000g4nw	2013-04-11T	
11	2013-04-11T	41.6165	141.9924	55.27	4.6	mb	43	123	0.96	1.09	us	usb000g4ni	2013-04-11T	
12	2013-04-11T	28.5074	51.6758	10.07	4.8	mb		64	10.83	1.19	us	usb000g4mt	2013-04-11T	
13	2013-04-10T	18.854	97.5096	8.27	4.7	mb	29	75	0.63	0.6	us	usb000g4is	2013-04-11T	
14	2013-04-10T	20.8187	122.1203	4.2	5.8	Mww	115	31	2.21	1.28	us	usb000g4ca	2013-04-10T	
15	2013-04-10T	2.6017	127.2174	66.02	5	mb	60	105	1.82	1.03	us	usb000g4br	2013-04-10T	
16	2013-04-10T	15.5366	-87.228	10	5.5	mb		37	1.471	0.85	us	usb000g4a2	2013-04-11T	
17	2013-04-10T	-10.7302	-75.2622	99.62	5.2	mb		72	1.99	0.77	us	usb000g43v	2013-04-10T	
18	2013-04-10T	-17.7569	167.7868	10	4.6	mb	20	160	3.71171	0.87	us	us2013nvap	2013-04-10T	
19	2013-04-10T	28.5135	51.5523	9.93	4.6			94	10.877	0.97	us	usb000g3y3	2013-04-10T	
20	2013-04-10T	28.438	51.738	9.87	5.2	mb	76	58	10.87	1.03	us	usb000g3ts	2013-04-10T	
21	2013-04-10T	28.309	51.7514	10.06	4.8	mb		75	10.974	0.95	us	usb000g3t2	2013-04-10T	
22	2013-04-10T	37.4728	142.0723	27.79	4.6	mb	40	132	3.23	1.17	us	usb000g3qe	2013-04-10T	
23	2013-04-10T	28.45	51.6075	10.02	5.6	mb	76	25	10.91	1.14	us	usb000g3p7	2013-04-10T	
24	2013-04-10T	-2.9729	139.0662	55.19	4.8	mb	33	61	6.81	1.6	us	usb000g3ns	2013-04-10T	
25	2013-04-10T	28.4814	51.604	10	4.9	mb		139	10.883	0.83	us	usb000g3nn	2013-04-10T	
26	2013-04-10T	-2.0824	-79.5666	103.34	4.5	mb	35	113	2.56	0.5	us	usb000g3ng	2013-04-11T	
27	2013-04-09T	-22.7541	69.1376	10.2	4.6	mb	17	110	11.11	0.55	us	usb000g3ls	2013-04-09T	
28	2013-04-09T	28.2759	51.6754	9.88	4.8	mb		86	11.034	0.68	us	usb000g3ft	2013-04-09T	
29	2013-04-09T	5.6129	93.3101	31.21	4.7	mb		139	3.641	0.61	us	usb000g3fe	2013-04-09T	
30	2013-04-09T	28.4201	51.6408	19.93	4.6	mb	94	94	10.92	0.72	us	usb000g3dn	2013-04-09T	

Each row in the file is an observation that includes the time it occurred, the latitude, longitude, depth, magnitude, and other attributes.

- Color the latitude, longitude, and magnitude for the first earthquake **blue** & copy it below:

latitude:_____ longitude:_____ magnitude:_____

- Color the latitude and longitude for the second earthquake **red** & copy it below:

latitude:_____ longitude:_____ magnitude:_____

- Color the latitude and longitude for the second earthquake **green** & copy it below:

latitude:_____ longitude:_____ magnitude:_____

The actual file looks like:

```
1. time,latitude,longitude,depth,mag,magType,nst,gap,dmin,rms,net,
   id,updated,place,type,horizontalError,depthError,magError,magNs
   t,status,locationSource,magSource
2. 2017-01-17T11:48:48.530Z,5.4319,94.6079,54.55,5.6,mb,,67,2.338,
   1,us,us10007tps,2017-01-17T12:14:46.732Z,"80km W of Banda Aceh,
   Indonesia",earthquake,7.4,5.8,0.045,173,reviewed,us,us
3. 2017-01-17T10:41:14.950Z,29.6,51.497,10,4.8,mb,,122,6.247,0.97,
   us,us10007tpm,2017-01-17T11:35:39.040Z,"15km W of Kazerun,
   Iran",earthquake,9.4,1.9,0.07,63,reviewed,us,us
4. 2017-01-17T09:22:02.520Z,-56.8549,-26.0493,91.68,5.1,mb,,219,17
   .254,0.75,us,us10007tmm,2017-01-17T09:40:37.040Z,"72km ESE of
   Visokoi Island, South Georgia and the South Sandwich
   Islands",earthquake,20.9,12.9,0.108,28,reviewed,us,us
5. 2017-01-17T09:08:02.020Z,19.8621,-76.5937,11.03,5.4,mb,,28,1.39
   6,1.22,us,us10007tmh,2017-01-17T10:25:47.038Z,"43km S of Guisa,
   Cuba",earthquake,6.9,4.2,0.023,661,reviewed,us,us
6. 2017-01-17T07:46:20.450Z,22.0455,143.7031,121.76,4.7,mb,,102,5.
   214,0.69,us,us10007tm6,2017-01-17T08:04:43.040Z,"207km NW of
   Farallon de Pajaros, Northern Mariana
   Islands",earthquake,11.2,7,0.061,82,reviewed,us,us
7. 2017-01-17T01:17:48.200Z,-13.5404,166.5384,44.83,5.1,mb,,88,7.2
   96,1.21,us,us10007tl5,2017-01-17T03:06:36.040Z,"115km WNW of
   Sola, Vanuatu",earthquake,8.3,5.9,0.086,44,reviewed,us,us
8. 2017-01-16T20:47:38.290Z,-13.4817,166.4962,10,5.9,mwb,,61,7.289
   ,1.18,us,us10007tjy,2017-01-16T22:53:28.114Z,"122km WNW of
   Sola, Vanuatu",earthquake,8.9,1.8,0.048,41,reviewed,us,us
9. 2017-01-16T19:07:20.890Z,55.5225,160.077,198.42,5,mb,,97,2.64,0
   .84,us,us10007tjn,2017-01-16T19:23:18.040Z,"97km ESE of Esso,
   Russia",earthquake,10.2,8.4,0.062,83,reviewed,us,us
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In each line,

- Color the latitude **blue**,
- Color the longitude **green**, and
- Color the magnitude **red**.