

IRIS Earthquake Browser (IEB) User Survey Summary

http://ds.iris.edu/ieb/

Prepared For: IRIS Education and Public Outreach

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Driving Questions

- 1) Who uses IEB?
- 2) How do different groups use IEB and are they successful (from their perspectives)?
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- 4) Did any of the above change as a result of the Mexico 7.2 and if so in what ways?

Results

Who uses IEB?

- The predominant users of the IRIS website are interested citizens (interested public) (59% of survey respondents) followed by undergraduate students (12%), school students (ages 12-17) (7%) and formal educators (school teachers) (6%)
- Other users include emergency responders, consultants, and those researching more about earthquakes
- Educators (N=50) represented 10% of the total reporting group. Non-educators (Interested citizens, research scientists, Graduate students, Undergraduate students, School students, and Others) (N=451) represented 90% of the total

How do different groups use IEB and are they successful (from their perspectives)?

- Interested citizens reported using the website primarily for personal interest reasons (57%)
- School students and undergraduates used the website primarily for school related activities such as class projects and assignments) while graduate students visited the website primarily for personal interest (64%)
- Only research scientists reported using the website for research (26%)
- Both formal educators and college/university instructors used the website for course planning (44% and 47%) which included developing lessons, downloading materials, and getting appropriate content

What are users' perceptions of IEB? Educators perceptions (N=70)

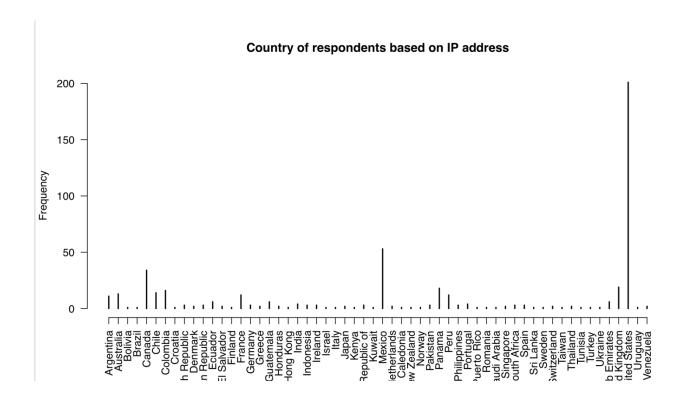
- The majority of educators coming to the site were repeat users (72% at least once with 52% having visited more than 10 times)
- When thinking of themselves as an instructor, educators would describe the best features of the website as those associated with data visualizations including the 3D visualizer and the mapping capabilities. Other highly rated features included the easy interface, customizable data, location zooming, and downloadable files
- When asked to describe the features of the IRIS Earthquake Browser, and what they thought we be most beneficial to their students, the educators wrote about the easy interface, the 3D view, the up-to-date information, and the ability for them to learn on their own. Other valuable features included being able to explore the map, the locations of major earthquakes, and the historical statistical information

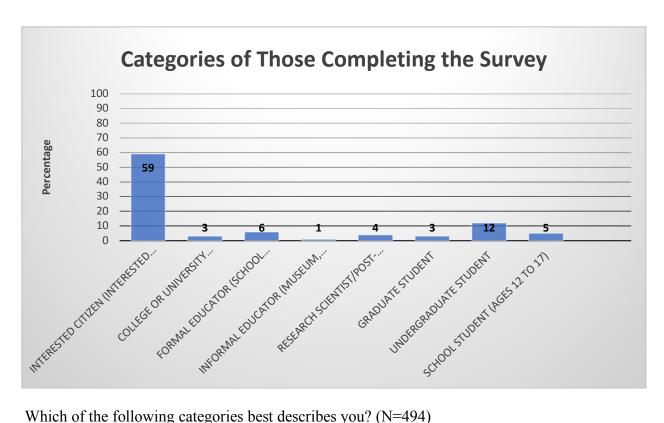
Non Educators' Perceptions (N=400)

- The majority of non-educators coming to the site were also repeat users (82% at least once with 50% having visited more than 10 times)
- For non-educators, the three most beneficial features of the website were the earthquakes, the maps, and the information
- 81% of respondents rated their likelihood of recommending the website at a 8 out of 10 or higher

Did any of the above change as a result of the Mexico 7.2 and if so in what ways?

- Greater percentage of people coming to the site to check on a specific event the Mexico quake in this case
- The earthquake seems to have brought more "interested citizens" to the website who wrote specifically about coming to the site to get more information about the quake
- No significant changes in other areas resulting from the earthquake





Which of the following categories best describes you? (N=494)

	N	%
Interested Citizen (Interested public)	290	59%
College or university instructor	15	3%
Formal educator (school teacher)	29	6%
Informal educator (museum, science center, nature center, etc.)	6	1%
Research Scientist/Post-doctoral Researcher	22	4%
Graduate student	14	3%
Undergraduate student	58	12%
School student (ages 12 to 17)	33	7%
Other (please specify)	27	5%

Other Responses

- Gods army, scientist
- Uncensored private research
- Chemist
- Working towards an engineer degree
- Retired homemaker
- Soldier in the army of Jesus Christ
- Ham radio operator
- **Tourist**
- Ret
- Building engineer
- EMS Rescue Team Member

- Emergency management program coordinator
- Chinese medical doctor
- Big picture observer
- Pastor
- Consultant in the area of Environmental Security
- Faculty
- Surfer who love Gaia
- Hobbyist Researcher
- Information
- Ear ringing seems to match Earthquakes
- Security special building and evacuation

In the space below, briefly describe the reason why you visited the IRIS Earthquake Browser today?

today:	Interested Citizens	Research Scientist	School Student	Under- graduates	Graduate Student	College University Instructor	Formal Educator
Personal Interest	57%	52%	10%	18%	64%	33%	41%
Recent Events*	13%	22%	7%	5%	18%	20%	16%
Mexico Earthquake	16%	0	0	0	0	0	0
Regular Visitor	4%	0	0	0	0	0	0
Patterns	3%	0	0	0	0	0	0
From another site	4%	0	0	0	0	0	0
Research	0	26%	0	0	0	0	0
For school^	3%	0	83%	77%	18%	0	0
Course planning**	0	0	0	0	0	47%	44%

^{*}Includes "Recent, latest, Panama, Ecuador, new earthquake, Taiwan, the news, friend/family live"

In the last 12 months, how often have you visited the IRIS Earthquake Browser? (N=398)

	All	Pre	Post	Educators	Non-
	AII	Mexico	Mexico		Educators
	%	%	%	%	%
Never. This is my first visit.	28%	30%	22%	31%	28%
Once	5%	4%	6%	5%	5%
2 to 5 times	9%	8%	13%	6%	9%

[^]Includes "teacher/class/project/assignment"

^{**}Includes "Content, materials, lessons, downloads, planning, student work"

6 to 10 times	8%	8%	10%	8%	8%
>10 times	50%	50%	49%	50%	50%

In the last 12 months, which of the following ways have you used IEB instructionally? (Check all that apply) (N=45)

	N	%
As a demonstration with students	16	36%
Assigned students to visit IEB as part of a lab or in class assignment	10	22%
Assigned students to visit IEB as an out of class/homework assignment	7	16%
My own personal learning/exploration	0	0
I've never used it instructionally	9	20%
Other (please describe)	0	0

Thinking of yourself <u>as an instructor</u>, describe one feature of the IRIS Earthquake Browser you find beneficial? (Items in **GREEN** were ranked highest in importance, those in **BLUE** second highest, and **BLACK** third highest)

First Feature • EASY INTERFACE • The ease of data visualization • That students observe seismicity worldwide and know the website of a reliable site • 3D viewer on line is really great • Morldwide add earthquakes • Ability to use data to visualize tectonic processes • Downloading file/lists of earthquakes • Multiple ways to use it Alert other formats - data download human intervention • 3D distribution • The ability to look anywhere in the world for data relating to plate tectonics or even just understanding about where earthquakes displayed • Catalog of earthquakes • Ability to open information into Excel file within seconds • Ability to toggle plates • Ability to use data to visualize tectonic processes • Downloading file/lists of earthquakes • Downloading file/lists of earthquakes • Downloading file/lists of earthquake earthquake • Multiple ways to use it Alert • Other formats - data download • 3D distribution • The ability to look anywhere in the world for data relating to plate tectonics or even just understanding about where earthquakes occur • 3D View • Catalog of earthquakes • Ability to use data to visualize tectonic processes • Downloading file/lists of earthquakes • Multiple ways to use it Alert • Alert • Other formats - data download • 3D earthquake browser at subduction zones • I can know the magnitude of seismic event • Development	highest, and BLACK third highest)						
 The ease of data visualization That students observe seismicity worldwide and know the website of a reliable site 3D viewer on line is really great Ability to customize data The 3D view is great for showing subduction planes Understanding of how this activities act on with clime, planetary and human intervention 3D distribution The ability to look anywhere in the world for data relating to plate tectonics or even just understanding about where earthquakes The about the catalog of earthquakes Catalog of earthquakes In data selection tools Depth of earthquakes Ability to use data to visualize tectonic processes Downloading file/lists of earthquake It may be helpful to warn an eminent earthquake Where is the newest earthquake Where is the newest earthquake Multiple ways to use it Alert Other formats - data download 3D earthquake browser at subduction zones I can know the magnitude of seismic event Development Development Development World mapping Wave forms p, s, and seismograms that show them 	First Feature	Second Feature	Third Feature				
	 EASY INTERFACE The ease of data visualization That students observe seismicity worldwide and know the website of a reliable site 3D viewer on line is really great Ability to customize data The 3D view is great for showing subduction planes Understanding of how this activities act on with clime, planetary and human intervention 3D distribution The ability to look anywhere in the world for data relating to plate tectonics or even just understanding about where earthquakes occur 3D View Catalog of earthquakes 	 Ability to open information into Excel file The data selection tools Depth of earthquakes Ability to use data to visualize tectonic processes Downloading file/lists of earthquakes It may be helpful to warn an eminent earthquake Where is the newest earthquake Multiple ways to use it Alert Other formats - data download 3D earthquake browser at subduction zones I can know the magnitude of seismic event Development 3D generator 	 Worldwide data available within seconds Ability to toggle plates Students can consult reliable information at any time Zooming on location Very engaging and effective tool Limiting # of earthquakes shown To know when it happens so that one maybe of as siren to those that maybe in need after an earthquake When did earthquake happen Lessons designed for you Evacuate fast Latest # of earthquakes in any area Wave forms p, s, and seismograms that show 				

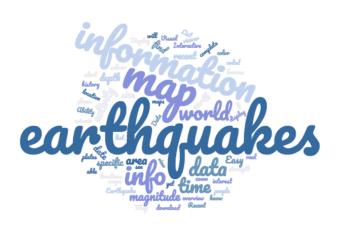
• In a visit is possible saw the earthquake in all the world	•	I can know the distance at the origin of the earthquake
		1
• Information	•	Information
• Histories of specific areas	•	Total globe views
• Plate information	•	Topography

Thinking about the students you teach, describe one feature of the IRIS Earthquake Browser that is beneficial for them? (Items in GREEN were ranked highest in importance, those in BLUE second highest, and BLACK third highest)

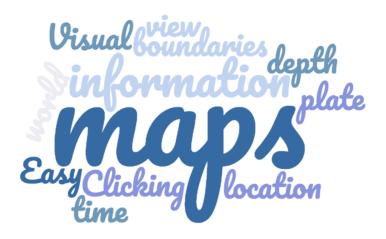
First Feature	Second Feature	Third Feature
 Easy interface Visualization 3D view To learn why and how these earthquakes happened Ability to learn on their own 3D view Up-to-date information is readily available They can see which plates are involved Knowledge 3D feature Expands knowledge beyond their sphere of influence 	 Quick visual tool for data Exploring the map Magnitude range They learn how to read the maps and graphics Exploration Colored depth of quakes Geographical information (8th graders still learning the world) Where is occurring the major earthquake Information Selection of specific area and histories Provides historical statistical information 	 Nice Help section Ability to work with data from anywhere, not just classroom Max quakes They may persuade a carrier in this subject Latest earthquakes in a region 3D browser provides an extra representation as a handle to think about subduction Where is occurring the major frequency of earthquake Protection Ability to look at any area on the globe Broadens the imagination

Please describe one feature of the IRIS Earthquake Browser that you find beneficial.

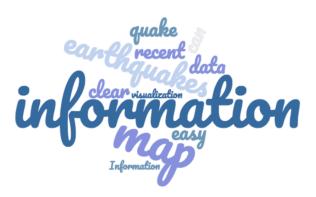
First Feature



Second Feature



Third Feature



How likely is it that you would recommend the IRIS Earthquake Browser to a friend or colleague?

- Mean response 8.7/10
- 81% of respondents rated their likelihood of recommending the website at a 8 out of 10 or higher

Previously you indicated that your reason for visiting the IRIS Earthquake Browser today was to "{{Q2}}". Based on this, please indicate your level of agreement with each of the following statements.

	SA	A	N	D	SD
Overall, I was successful in using the IRIS Earthquake Browser to "{{Q2}}" . (N=290)	54%	31%	9%	1%	5%
Overall, I am satisfied with the ease of using the IRIS Earthquake Browser to "{{Q2}}". (N=283)	52%	33%	9%	1%	3%
Overall, I am satisfied with the amount of time it took me to " $\{\{Q2\}\}$ ". (N=282)	52%	31%	9%	2%	4%
Overall, I am satisfied with the support information (online help, messages, documentation) provided by the IRIS Earthquake Browser. (N=276)	40%	33%	18%	1%	3%

Is there anything else you would like us to know about your experiences with IEB? Educator Suggestions

- This is a superb public resource that I have accessed over many years.
- Great tool, using CSV to import into ArcGIS. Thanks!
- *Great informative site!*
- So far I had a good experience with your web side...I had been visiting it for years now, at the moment I can't think of a ways to add or improve what you already have... All I can say is congratulations and thanks for sharing this with us...
- Enable scroll wheel instead of plus minus buttons for zoom
- It's a great tool, and it does all we need (and much, much more) in 8th grade Earth Science.
- A little more description of the event

Non-Educator Suggestions (Complete listing of responses available at the end of this report)

- Can you provide a 5 year comparison of the regions as to the increase or decrease in activity?
- Yes, I would like to find major reference points in the images, such as names of cities or other geographical points
- Please put circles where the offshore earthquakes occur you can make them blue
- Make the map refresh itself when on a mobile and make map zoomable on mobile and link to a larger variety of news stories and videos where available

- Keep maintaining this site available to everyone. It is a great source of understandings and information very easy to approach for all. If possible, add a link to a site to see solar activity and/or a weather point to see the northern lights. Thanks, Lo from France
- I would like to find events in chronological order, for more than 50 years, ordered by continent or tectonic plate
- Info on oscillatory and or trepidatory and duration
- Would be nice to have the moment tensor solutions
- Would love to see it linked more closely with other available sources, for those seeking more information on special events. USGS perhaps? Not too familiar with what is available. I use reddit.com/r/earthquakes mostly automated, pooling information from various social medias/USGS/EMSC/GDACS/local sources (especially user TheEarthquakeGuy, seismologist that lives in NZ) for more in-depth information and professional opinion on potential aftershocks or other consequences along a fault-line/system, etc.
- If we could toggle between current maps used and Google Earth Images that would be GREAT
- Maybe a correction for local 'Mountain' Time
- I would like to be able to select a region of various shapes, for example tracking a line. IEB has been one of the first sites I have visited the first evening in which I surfed on the net, 20 years ago
- A little info-link could be good, with info on the range of the underlying catalogue, update speed for new events etc.
- Add the plate names I spent 30 extra minutes looking that up
- There is some problems with the program. Such as the Denali fault earthquake in 2002 being labeled a 7.0 instead of a 7.9 and the color scheme for depth throws me off because the shallow earthquakes are red in other programs. Also, being able to play a sequence of earthquakes in a video like arrangement would be useful.
- Report the earth quakes in Africa
- A quake alert featuring a region or above a certain magnitude would be great.

What is your age? (N=301)

	N	%
55 or older	134	45%
45-54 years old	55	18%
35-44 years old	50	17%
25-34 years old	26	9%
18-24 years old	19	7%
Under 18	17	6%

What is the highest degree or level of school you have completed? (If you're currently enrolled in school, please indicate the highest degree you have received.) (N=290)

	N	%
No high school diploma	27	9%
High school degree or equivalent (e.g. GED)	73	25%
Associate degree (e.g. AA, AS)	29	10%

Bachelor's degree (e.g. BA, BS)	56	19%
Master's degree (e.g. MA, MS, MEd)	52	17%
Professional degree (e.g. MD, DDS, DVM)	32	11%
Doctorate (e.g. PhD, EdD)	21	7%

Non-Educator Responses (All responses)

- Can you provide a 5 year comparison of the regions as to the increase or decrease in activity?
- Make it a user friendly interface
- Include tsunami warning info
- I think it is a very cool browser, which I visit every day, just like the weather and the news. Thank you for an amazing site.
- Thank you for making this resource available to the general public.
- Yes, I would like to find major reference points in the images, such as names of cities or other geographical points
- What do you think will happen with the Earth in 10 years? and in 20?
- Please put circles where the offshore earthquakes occur you can make them blue
- I think it is a very informative website & very well run especially for (what could be) a complicated subject.
- Thank you for providing this service
- I also like the map of the US seismometer response to specific earthquakes
- It was almost impossible to answer question 7 as each element is essential and interrelated. It is a great resource that opens as one of my 3 home pages when I log on (every day).
- Thanks this is a very good service and I appreciate it
- Make the map refresh itself when on a mobile and make map zoomable on mobile and link to a larger variety of news stories and videos where available
- *Happy with what you show*
- I use many other systems as well to back up the reported data
- It's very important and educational at the same time to me. Keep up the great work and Thanks!
- Well done
- I'm happy to use site.
- This is my first visit and you put this survey up within 3 minutes of use. Too soon to give you much feedback!
- I am using your site since 2004, thank you for keeping in online all those years. Keep up the good work!
- I've been a fan for years. Thanks for doing this.
- *How can I get updates?*
- Keep maintaining this site available to everyone. It is a great source of understandings and information very easy to approach for all. If possible, add a link to a site to see solar activity and / or a weather point to see the northern lights. Thanks, Lo from France
- Love it thanks very much for the great work please keep it going

- Want to learn as much as I can
- Please continue to maintain this application. Thank you!
- I would like to find events in chronological order, for more than 50 years, ordered by continent or tectonic plate
- Fine work folks, keep it up please. Thank you for your work.
- Info on oscillatory and or trepidatory and duration
- Would be nice to have the moment tensor solutions
- Thanks for providing a great resource
- Would love to see it linked more closely with other available sources, for those seeking more information on special events. USGS perhaps? Not too familiar with what is available. I use reddit.com/r/earthquakes mostly automated, pooling information from various social medias/USGS/EMSC/GDACS/local sources (especially user TheEarthquakeGuy, seismologist that lives in NZ) for more in-depth information and professional opinion on potential aftershocks or other consequences along a fault-line/system, etc.
- Not up now...Thank you!
- Very Nice
- Excellent experience, powerful tool
- Please keep up the good work, thank you.
- Thanks for your efforts and keep the faith
- If we could toggle between current maps used and Google Earth Images that would be GREAT
- Maybe a correction for local 'Mountain' Time
- Thank you for your services:)
- I would like to be able to select a region of various shapes, for example tracking a line. IEB has been one of the first sites I have visited the first evening in which I surfed on the net, 20 years ago
- A little info-link could be good, with info on the range of the underlying catalogue, update speed for new events etc.
- Add the plate names I spent 30 extra minutes looking that up
- Please continue the work you do, this is such beneficial information to show the science behind plate tectonics.
- There is some problems with the program. Such as the Denali fault earthquake in 2002 being labeled a 7.0 instead of a 7.9 and the color scheme for depth throws me off because the shallow earthquakes are red in other programs. Also, being able to play a sequence of earthquakes in a video like arrangement would be useful.
- Up to date info is great. And to see how recent anything is.
- Thank you! Great resource
- How can you safe more people? Maybe more or faster response time
- No need to fix what isn't broken.
- Happy
- For me personally, it will take a bit of time to get used to because I have been using the other for so many years and quite like that one.
- Thank you for making it available to anyone and everyone
- Why do we have the square Loading remaining?

- *It's my favorite website*
- Excellent job and so far very accurate. If the seismograph data can be included than is perfect tool for anyone interested in this field...
- Great Web Site!
- I think, an application of IRIS for mobile is a good idea
- I believe in the free flow of information but cannot help to wonder and hope you track who accesses this information. There are too many ways to destroy the planet not to wonder about some nut case nuking the right fault line intersection during a period of high plate activity. If a simple old fart like myself can think of this then I don't see why they would not think of it also. I liked the site but was just wondering.
- Your site is friggin awesome.
- Tanks, god bless you
- *Keep up the good work :)*
- It was a simplistic over look of the magnitudes and upper scales.
- *Improve the 3D view*
- *IEB* is an extremely useful tool for me in my studies! Thank you!
- Apply some proper UI styling to that basic HTML. I'm interested in helping out if needed.
- I think I got hooked one winter morning when I looked at the website and saw the 2004 Indonesian earth had just hit. So I usually check every day, and now it's to the point where I get a feeling about when big ones are due. It's not being psychic. It's knowing that magnitude 7 quake happen a few times a year, so if it's been ages since the last one, I know one or more is on the way. Seems like sevens come in clusters. Maybe not.
- Keep the good work!
- Yes, I can see that the earthquakes increasing every year
- Report the earth quakes in Africa
- A quake alert featuring a region or above a certain magnitude would be great.
- Thank you for making this info available
- Thank you for a helpful resource. Would like to see information for citing this source somewhere to save time
- It forever changed and will shape me in the future into a productive and critically thinking human being.
- Leave it alone...Add Tsunami info
- I liked your page for all information around of the world
- If there's a quake in Santa Cruz islands, is probably a quake in Peru, if there's a quake in Chile it will go up and then you will have one in Peru and then in Ecuador and they all come from south to north
- Help to see boundaries of earthquake prone island countries such as New Zealand, Japan and other pacific regions because they are all covered with red/orange/purple dots.
- Thank you for sharing this information publicly! I'm very grateful to learn from it and review it for free!
- keep in touch with Panama and surrounds countries
- Want rapid report...ie feel tremor, want to know how strong and how close
- Yes, wait at least a day before activating the questionnaire to give the user a chance to use the browser before asking for feedback.
- Going to use this browser daily to stay up to date with quake news around the world.

- Keep going, somehow we can help at least the planet just in case we disappear
- Excelente
- *Not yet, still exploring the other features*
- Survey showed up before I even tried the site ... I have not even played with it yet
- I would like to receive notifications on my cellphone, it would be great if you have an app that can push notifications.
- There is always room to improve software, But with that said, IRIS IEB sure beats using a pendulum in the sand.
- *Keep up the good work*