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ESC European Seismological Commission
Working Group "Harmonizing Internet Macroseismology in Europe"

Fostering Exchange, Respecting Expertise

ISTITUTO NAZIONALE DI GEOFISICA E VULCANOLOGIA

ROYAL OBSERVATORY OF BELGIUM SEISMOLOGY GRAVIMETRY

2019 Survey Report on the Internet Macroseismic Practice in Europe

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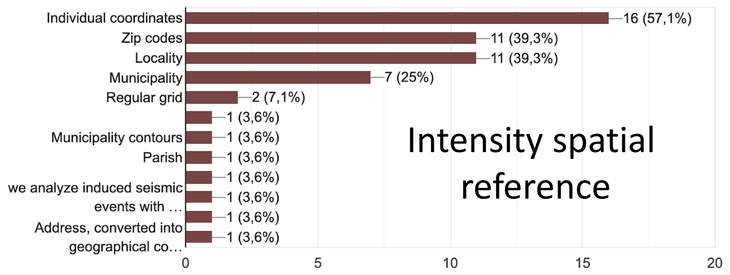
Despite the high level in collecting and analysing internet macroseismic data in many European countries, the methods we all use are still quite different and usually tailored to the needs of local customs and seismicity. An **Intensity Data Survey** was launched to understand how each institute gathers its macroseismic data and which intensity procedures are used. Results provide important information how macroseismic data can be shared in the future between institutes, i.e. the ultimate goal of this ESC Working Group in Internet Macroseismology.

What ?

- 29 questions on the European macroseismic practice
- Questions on Intensity scales / willingness to share data / questionnaire used / language / algorithm used / cross-border collaboration / data sharing

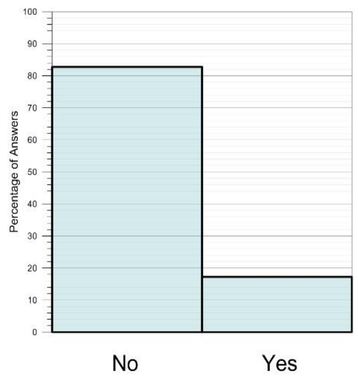
Nr of questionnaires / Macroseismic Data Points
e.g. 300k / 4.1k

Intensity scales
EMS98 MSK
MMI MCS



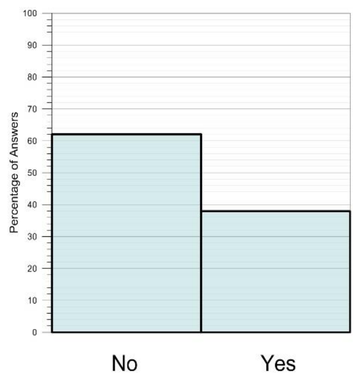
Intensity spatial reference

Data in XML ?



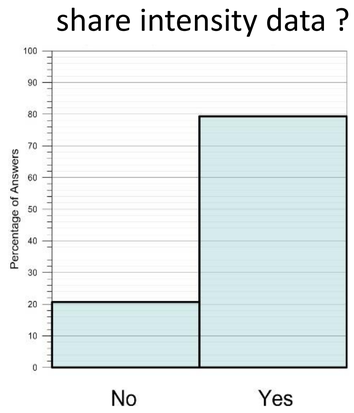
Data available in csv, xls, json, acces, GIS, ASCII, eml, json, html, txt,…

Data online ?



Much "hidden" data

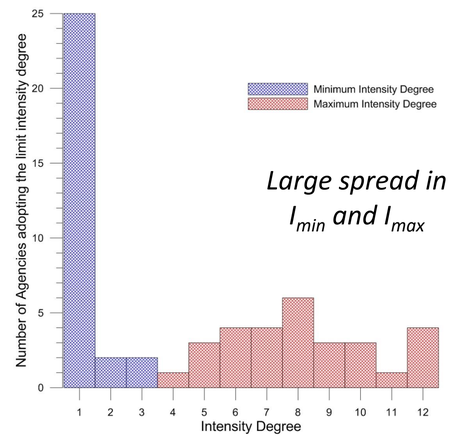
Willingness to openly share intensity data ?



Large willingness to share data (as MDP's) !

Min. & Max. Contemplated Intensity degrees

I_{min} to I_{max}



Large spread in I_{min} and I_{max}

29 Survey Participants - 21 Countries - 26 European institutes + EMSC + USGS + GeoNet

Global
EMSC
LastQuake
EMS98
I to XX
300k

Global
USGS
Did You Feel It?
MMI
II to IX
4500k

Sweden
Nat. Seismic Network
Other Int. scale
I to VIII
7.5k

Finland
ISUH
EMS98
I to V
unknown

Ireland
Irish National Seismic Network
No felt EQ yet
I to V
none

Denmark
GEUS
EMS98
I to VI
unknown

France Séisme
BCSF-RENASS
EMS98
I to VI
88k / 50k

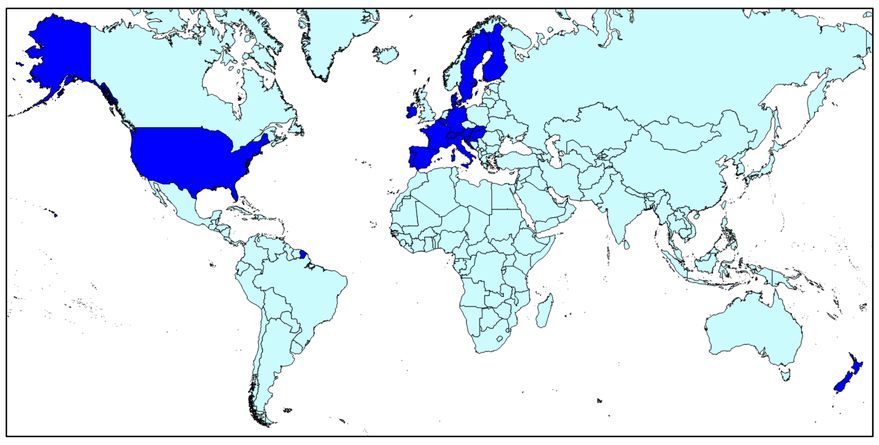
Belgium – Germany
Royal Obs. of Belgium
Bensberg Seismic St.
MMI
I to IX
30.9k / 6k

Andorra
CENMA
Other
No range
5 resp.

Spain / Catalonia
ICGC
EMS98
I to XII
25k

Portugal
IPMA
EMS98
I to IX
20k

Spain
Uni. of Granada
EMS98
I to VIII
24 resp.



"Earthquakes don't stop at political/language borders"

Malta
Seismic Mon. & Res. Group
EMS98
MCS
I to IV
1.5k / 50

Italy
INGV
HSIT
EMS98
MCS
I to VIII
1000k / 300k

New Zealand
GeoNet
Felt Detailed
MMI
I to XI
9500k / 60k

Austria
ZAMG
EMS98
I to VI
56k

Slovenia
Slovenian Env. Agency
EMS98
I to XII
27k / 15.7k

Slovakia
Slovak Academy of Sciences
EMS98
III to VIII
5.4k / 4.1k

Hungary
GGI
EMS98
I to XII
2k

Switzerland
SSS – ETH
EMS98
I to V
60k / 17k

Germany

DE – Rhineland - Palatinate
Seismological Survey
EMS98 *I to VII* *3k / 3*

DE - Nordrhein Westfalen
NRW
EMS98 *I to VIII* *4k / 3.2k*

DE - Hesse
Hessian Earthquake Service
EMS98 *I to XII* *1k / 1k*

DE - Baden-Württemberg
Landeserdbebendienst
EMS98 *I to VIII* *unknown / 8.6k*

DE - LBEG
Central Seismological Observatory
EMS98 *I to VII* *1.5k / 20*

DE – Lower Saxony
NED - Seismological Survey
EMS98 *I to VII* *1k*

DE – Bavaria
LMU Munich
EMS98 *II to VII* *3k / 300*

Romania
NIEP
MSK
I to XII
10k / 1.5k

Croatia
Seismological service
EMS98 MSK
III to VI
4.3k