

JpGU-AGU Joint Meeting 2026
U-15: Utilization of diverse disaster information:
Integration and deployment toward disaster mitigation
(Submission No.:C000645, U (Union), Oral Session)

**8) Survey and Practical Use of
Natural Disaster Memorial Monuments in Japan**

Japan Society of Engineering Geology (JSEG)
Disaster Geology Research Committee (the Committee)
(Research Group on Engineering Geology for Disaster Prevention)
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日本応用地質学会

1

Presentation Contents

1. Introduction
2. Current Initiatives
3. Positioning of NDMM by JSEG
4. Status of NDMM Registration
5. Collaboration with Related Organizations and GSI
6. About Survey Forms
7. Creation of NDMM Map Using Web-GIS and Publication of Results
8. Survey Case Studies
9. Future Directions for NDMM Initiatives

2

1. Introduction

- We report on the activity status of NDMM (Natural Disaster Memorial Monument), survey publication, GSI (Geospatial Information Authority of Japan) collaboration, and the NDMM web-GIS map.
- The GSI established the NDMM map symbol in 2019. As of January 2026, 2,413 monuments are published. NDMM is permanent monuments published as geographic information.
- The committee (JSEG) records disaster events even if inscriptions are unclear.
- Future directions include local education, improving web publication, and collaboration with GSI.

3

1. Japan's Disaster Management Framework

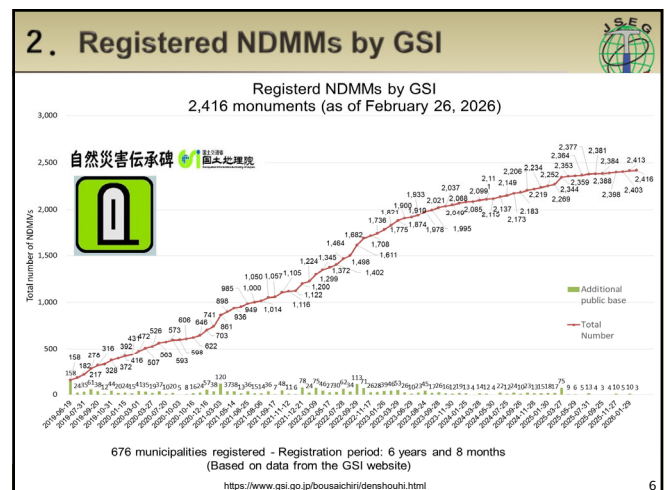
- Japan's disaster management system is led by the Cabinet Office and promotes public preparedness for disasters through the Basic Disaster Management Plan.
- Natural Disaster Memorial Monument (NDMM) is incorporated into this national plan.
- The Basic Disaster Management Plan (July 2025) emphasizes passing down disaster lessons and culture to future generations.
- National and local governments are required to collect, archive, and publish disaster-related information, including maps and other materials.
- It also highlights the importance of appropriately conveying the significance of NDMM.

4

2. Current Initiatives

Initiatives of GSI	Initiatives of JSEG
July 2018: the July 2018 Heavy Rain (Western Japan Heavy Rain) occurred  A flood monument that was erected in a debris-flow affected area during the Heavy Rain of July 2018 (Saka Town, Hiroshima Prefecture) (Year of Erection: 1840) Next to the monument is a debris-flow stone emphasizing the importance of early evacuation. March 2019: Report on the initiation of Natural Disaster Memorial Monuments June 2019: Establishment of a map symbol for Natural Disaster Memorial Monuments June 2019: Publication on GSI Maps July 2020: Number of published monuments exceeds 1,000 November 2021: Started publication on the "Overlay Hazard Map" of the Hazard Map Portal Site September 2023: Number of published monuments exceeds 2,000 February 2026: Published in 676 municipalities, 2,416 monuments Geospatial Information Authority HP: https://www.gsi.go.jp/bousaichiridenshouji_about.html (with an additional note as of March 5, 2026)	July 2018: Identified during surveys of the July 2018 Heavy Rain (Western Japan Heavy Rain)  A flood monument commemorating the disaster of 1907 (Yano-higashi 5-chome, Aikku, Hiroshima City) A flood monument commemorating the disaster of 1920 (Kifune Shrine precincts, Yamada 1-chome, Fuchu Town, Enokigawa River) Masashi Ueno (2019): Examination of disaster monuments in debris-flow disaster areas, Report of the Investigation Team on the July 2018 Heavy Rain (Western Japan Heavy Rain), pp. 275-279 (Japanese) From 2019 onward: Initiation of survey activities → Research on NDMMs focuses on learning regional disasters and supporting disaster prevention and mitigation. → From April 2022: Opinion exchange with GSI, 4th meeting to be held in February 2026 → October 2025: Regarding Natural Disaster Memorial Monuments, survey forms will be publicly released using Web-GIS → January 2026: Number of published monuments: 1,373 (429 survey forms created) → A plan is underway to link the GSI and JSEG websites Japan Society of Engineering Geology Disaster Geology Research Committee page: https://www.jseg.or.jp/committee/disaster/ (Accessed on March 5, 2026)

5



6

3. Positioning of NDMMs by the Committee

*Five Research Committees of JSEG: Applied Geomorphology, Groundwater, Environmental Geology, Disaster Geology, and Engineering Geology
Disaster Geology Research Committee (established in 2011), Members: 53 (Headquarters and seven regional branches, as of March 2026)

Purpose	We aim to use applied geoscience methods to understand and reduce the impact of geological disasters, such as earthquakes and slope failures, in our country.
Research Target	(1) Landslide disasters (such as soil slips, slope failures, debris flows, rockfalls, and collapses) (2) Earthquake disasters (such as liquefaction, active faults, and tsunamis) (3) Volcanic disasters (such as eruptions and pyroclastic flows) (4) Flood disasters (such as inundation, overflow, and riverbank erosion)
Normal Operations	- Conduct applied geoscience research on geological disaster factors and promote education. - Facilitate member knowledge exchange through presentations (e.g., every 2 months). - Promote awareness of rare, large-scale disasters. - Collect data on past geological disasters (including memorials). - Contribute to research, education, and events as a group. - Hold an annual field visit to past disaster sites.
Activities	- Activities: publishing "55 Questions on Landslide Disasters," surveying memorials, and participating in field symposiums. - Respond swiftly to collect disaster information and conduct field surveys in coordination with the society headquarters and branches. - Collaborate with other societies or their branches as needed; prepare reports (e.g., on the website) and hold symposiums. - Achievements include disaster investigation teams (formed by society members), producing reports for events such as the 2014 Hiroshima heavy rain, 2016 Kumamoto earthquake, and so forth (e.g., Noto Peninsula earthquake in 2024). The report was issued in January 2025, with a site briefing held in Kanazawa.)

<https://www.jseg.or.jp/committee/disaster/>

7

3. Scope of Survey and Research

Tangible Heritage Related to Natural Disasters

"Natural Disaster Memorial Monuments (NDMMs)" are permanent stone monuments created by past generations to pass down lessons learned from natural disasters (such as floods, landslide disasters, high tides, earthquakes, tsunamis, and volcanic disasters) to future generations.

(Reference: GSI, March 2024, "Guidelines for Survey and Documentation of Natural Disaster Memorial Monuments," 6th Edition)

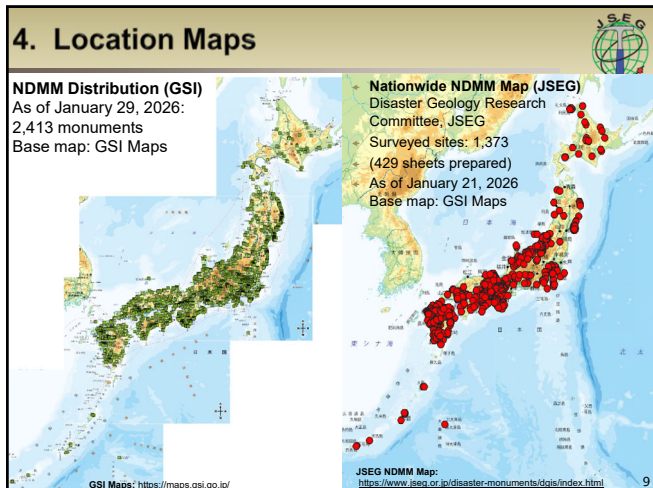
"Intangible elements related to natural disasters"
 Oral traditions, folklore, traditional events (currently under consideration)

"Natural Disaster Memorial Monuments" Stone monuments, memorials, cenotaphs, memorial towers, etc.

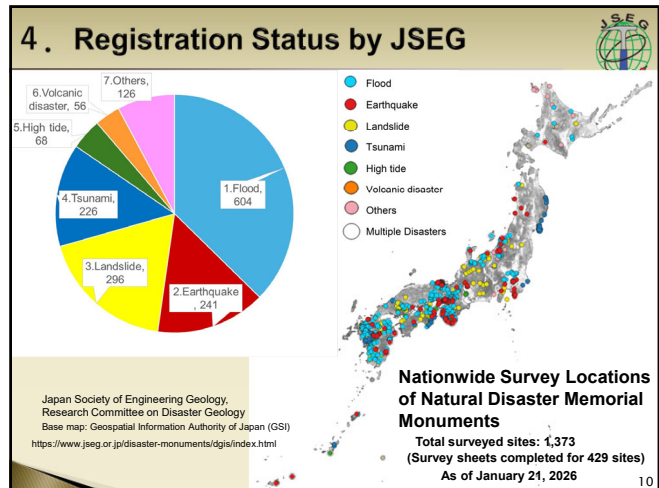
"Tangible objects related to natural disasters, even if their role in transmitting disaster lessons is not clearly defined"
 Examples: Completion monuments, memorials for individuals, museums, Jizo statues, temples and shrines, etc.

Reference: JSEG Hokkaido Branch et al., 2022 (Ver. 1.0)

8



9



10

4. Registration Status by JSEG

Prefecture	Number of monuments	Number of questionnaire sheets collected	Total number of disasters by type	1.Flood	2.Earthquake	3.Landslide	4.Tsunami	5.High tide	6.Volcanic disaster	7.Others	8.GSI Published	9.GSI Not published	Multiple Disasters (2 or more categories)
01 Hokkaido	33	33	6	1	5	0	0	0	0	15	18	4	0
02 Aomori	2	1	1	0	0	0	0	0	0	1	0	0	0
03 Iwate	11	11	2	0	0	1	1	0	0	10	2	0	0
04 Miyagi	66	66	0	0	0	96	0	0	0	49	1	0	0
05 Akita	5	5	0	0	0	0	0	0	0	5	0	0	0
06 Yamagata	0	0	0	0	0	0	0	0	0	0	0	0	0
07 Fukushima	0	0	0	0	0	0	0	0	0	0	0	0	0
08 Ibaraki	0	0	0	0	0	0	0	0	0	0	0	0	0
09 Tochigi	0	0	0	0	0	0	0	0	0	0	0	0	0
10 Gunma	0	0	0	0	0	0	0	0	0	0	0	0	0
11 Saitama	8	8	8	0	0	0	0	0	0	8	0	0	0
12 Chiba	17	17	8	12	0	0	0	0	0	13	4	0	0
13 Tokyo	14	14	2	8	7	0	0	2	0	14	0	0	0
14 Kanagawa	11	11	1	12	0	0	0	0	0	1	0	0	0
15 Nagata	81	81	88	33	22	26	2	0	1	14	64	25	17
16 Gifu	18	18	15	0	3	0	0	0	0	13	7	0	0
17 Shizuoka	8	8	2	1	5	0	0	0	0	7	1	0	0
18 Fukuoka	0	0	0	0	0	0	0	0	0	0	0	0	0
19 Yamaguchi	0	0	0	0	0	0	0	0	0	0	0	0	0
20 Nagano	7	7	1	0	6	0	0	0	0	7	0	0	0
21 Gifu	13	0	13	0	8	5	0	0	0	13	0	0	0
22 Shizuoka	3	1	3	0	0	0	0	0	0	3	0	0	0
23 Aichi	1	0	1	0	0	0	0	0	0	1	0	0	0
24 Mie	0	0	0	0	0	0	0	0	0	0	0	0	0
25 Kyoto	31	0	33	25	3	0	0	0	0	28	2	2	0
26 Osaka	103	6	119	54	31	10	0	0	0	75	14	0	0
27 Osaka	107	0	105	49	13	1	18	0	0	80	27	140	28
28 Hyogo	105	14	136	48	80	25	3	4	0	97	8	37	8
29 Nara	0	0	0	0	0	0	0	0	0	0	0	0	0
30 Wakayama	148	4	166	82	35	23	56	0	0	80	68	48	0
31 Tottori	0	0	0	0	0	0	0	0	0	0	0	0	0
32 Shimane	6	6	6	0	0	0	0	0	0	6	0	0	0
33 Okayama	0	0	0	0	0	0	0	0	0	0	0	0	0
34 Hiroshima	34	34	6	1	26	0	1	0	0	26	9	0	0
35 Yamaguchi	3	1	3	2	0	0	0	0	0	3	0	0	0
36 Tokushima	43	43	43	8	3	9	22	1	0	38	5	0	0
37 Kagawa	14	14	13	4	0	0	0	0	0	13	0	0	0
38 Ehime	0	0	7	3	0	0	0	0	0	7	0	0	0
39 Kochi	6	6	1	1	2	1	0	0	0	6	0	0	0
40 Fukuoka	22	14	26	16	3	7	0	0	0	14	8	4	0
41 Saga	65	17	102	67	1	15	0	0	0	83	17	7	0
42 Nagasaki	27	3	49	10	0	22	13	0	0	35	24	21	0
43 Kumamoto	101	10	118	20	2	28	34	0	0	60	57	17	0
44 Oita	30	8	42	18	3	15	2	0	0	36	22	12	0
45 Kagoshima	44	3	49	22	4	0	0	0	0	31	18	0	0
46 Kagoshima	38	0	38	16	2	0	1	27	0	6	40	10	0
47 Okinawa	0	11	0	0	0	0	0	0	0	0	0	0	0
Total	1,373	429	1,617	904	241	295	225	68	55	125	694	679	239

As of January 21, 2026, <https://www.jseg.or.jp/disaster-monuments/dgis/index.html>

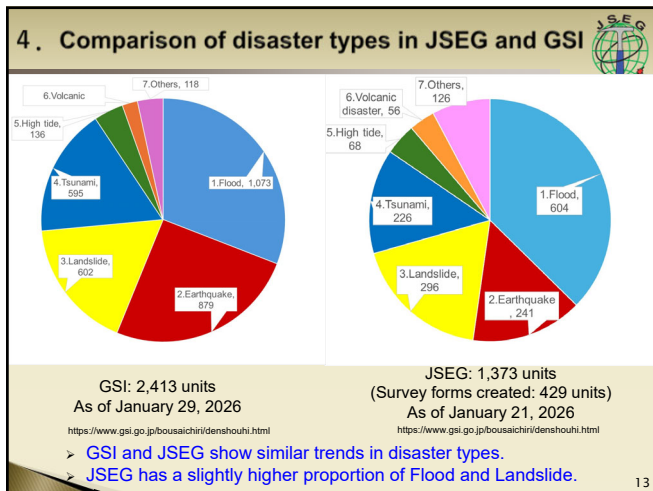
11

4. Registration Status by GSI

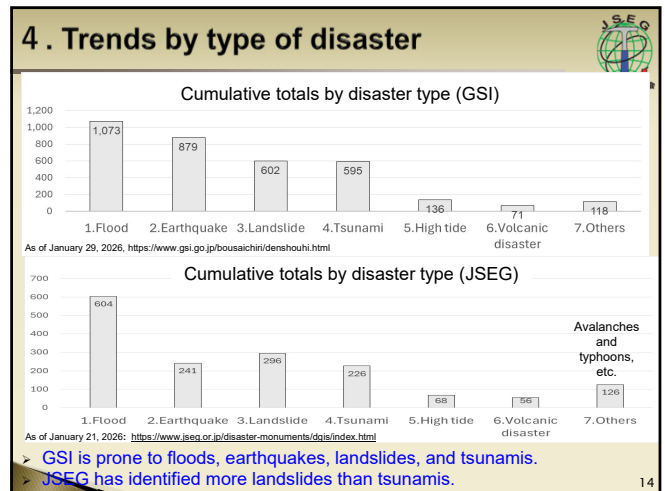
Prefecture	Number of monuments	Total number of disasters by type	1.Flood	2.Earthquake	3.Landslide	4.Tsunami	5.High tide	6.Volcanic disaster	7.Others	Multiple Disasters (2 or more categories)
01 Hokkaido	64	69	21	11	5	12	0	15	2	15
02 Aomori	24	37	9	12	6	9	0	13	2	12
03 Iwate	103	304	98	142	6	162	0	0	1	141
04 Miyagi	89	173	8	80	6	77	0	0	0	84
05 Akita	26	37	11	15	3	8	0	0	0	11
06 Yamagata	11	16	0	2	0	1	0	0	0	5
07 Fukushima	0	0	0	0	0	0	0	0	0	0
08 Ibaraki	43	51	35	6	2	6	0	0	2	31
09 Tochigi	43	50	33	9	4	2	0	0	7	29
10 Gunma	54	63	42	0	27	0	0	12	2	23
11 Saitama	52	67	52	6	4	0	0	3	4	5
12 Chiba	52	81	6	44	4	25	0	6	3	27
13 Tokyo	89	132	0	86	22	4	0	0	9	31
14 Kanagawa	61	75	29	13	20	2	0	0	11	14
15 Nagano	22	25	17	2	6	0	0	0	0	3
16 Gifu	15	21	9	4	4	0	0	0	0	11
17 Shizuoka	28	41	19	2	19	0	0	0	1	12
18 Fukuoka	106	149	73	10	61	0	0	3	2	43
19 Yamaguchi	28	41	19	2	19	0	0	0	1	12
20 Nagano	52	64	32	17	13	0	0	0	2	12
21 Gifu	75	118	35	32	26	18	0	0	0	43
22 Shizuoka	76	89	12	28	4	1	29	0	5	12
23 Aichi	42	55	24	8	0	0	0	0	15	11
24 Mie	31	33	25	1	6	0	0	0	1	2
25 Kyoto	33	55	24	8	0	0	0	0	0	15
26 Osaka	107	107	40	17	3	3	2	0	13	10
27 Osaka	109	109	45	35	17	0	0	0	0	14
28 Hyogo	148	148	49	35	11	56	0	0	0	42
29 Nara	31	45	25	0	0	0	0	0	0	7
30 Wakayama	100	140	45	35	11	56	0	0	0	42
31 Tottori	16	38	27	1	6	0	0	0	0	7
32 Shimane	31	38	27	1	6	0	0	0	0	7
33 Okayama	31	38	27	1	6	0	0	0	0	7
34 Hiroshima	109	153	67	3	76	0	3	0	4	53
35 Yamaguchi	31	38	27	1	6	0	0	0	0	7
36 Tokushima	71	121	10	51	8	49	2	0	1	49
37 Kagawa	21	32	13	2	6	0	0	0	3	12
38 Ehime	21	32	13	2	6	0	0	0	3	12
39 Kochi	102	173	40	20	1	40	0	0	0	57
40 Fukuoka	22	26	16	3	7	0	0	0	0	4
41 Saga	51	56	32	1	24	0	0	0	2	29
42 Nagasaki	29	50	10	0	22	13	0	3	2	21
43 Kumamoto	13	32	1	23	31	11	11	0	0	13
44 Oita	26	27	19	2	10	1	2	0	3	11
45 Kagoshima	13	17	0	3	1	2	0	0	0	3
46 Kagoshima	38	50	16	2	8	1	6	17	0	11
47 Okinawa	0	12	0	3	0	6	4	1	1	4
Total	2,413	3,474	1,073	879	602	595	136	71	115	1,023

As of January 29, 2026, <https://www.gsi.go.jp/bousaichiri/denshouhi.html>

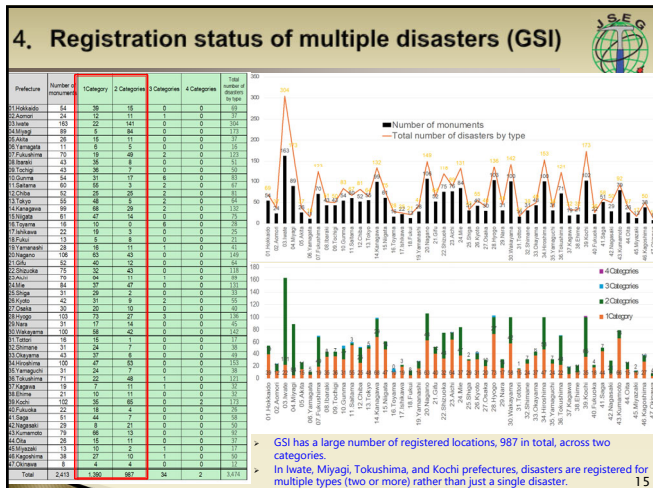
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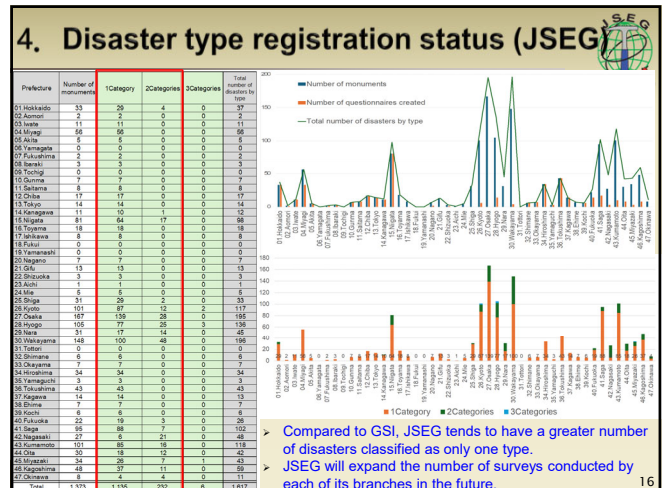
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14



15



16

5. Collaboration with Related Organizations

➢ We have held regular meetings with GSI since 2022.
➢ Presentation by GSI at the JSEG Technical Research Conference.

Year	Special Session	GSI-related Presentations
2022 (Osaka)	Applied Geology and Outreach of Regional Disasters through Natural Disaster Memorial Monuments	• Possibilities of Organizing and Utilizing Map Information on Natural Disaster Memorial Monuments Yuki Kurisu, Taeka Miyashita (GSI) • 1 presentation from a society member
2024 (Takamatsu)	Unraveling Regional Disasters through Natural Disaster Memorial Monuments	• [Invited Lecture] Expectations for the Second Stage of the Natural Disaster Memorial Monument Project Shigenobu Kawasaki (Former GSI Director, National Institute for Land and Infrastructure Management) • 3 presentations from society members
2025 (Sapporo)	Regional Disasters and Outreach Activities through Natural Disaster Memorial Monuments	• [Invited Lecture] Efforts on Natural Disaster Memorial Monuments Makoto Tanaka (GSI Hokkaido Regional Survey Department) • 5 presentations from society members

<https://www.jseg.or.jp/committee/disaster/>

- Information exchange with organizations involved in NDMM activities (e.g., technical collaboration with the Japan Stone Materials Industry Association)
- Facilitating discussions with stakeholders through symposiums and related events

17

6. Disaster Monument Survey Form

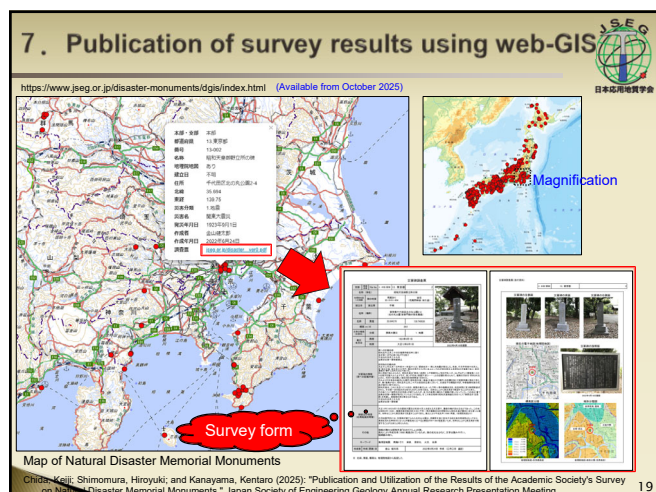
Example of a Disaster Monument Survey Form

Monument name: 災害記念碑
Branch / Prefecture / File No.: 北海道 札幌市 100000001

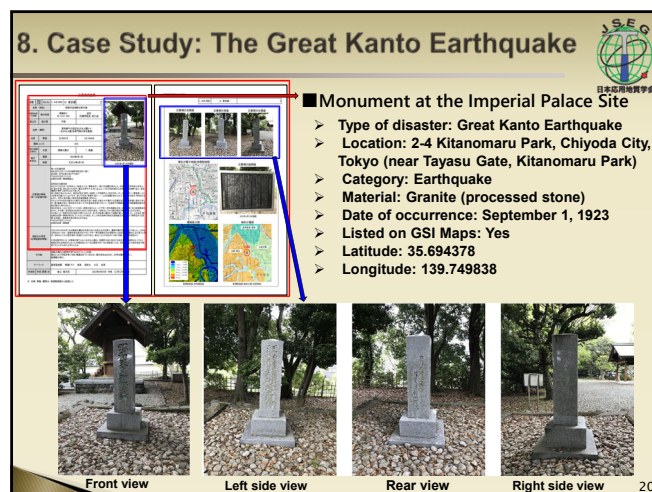
Listed on GSI Maps (yes/no): あり
Date of establishment, etc.: 1991
Location: 北海道 札幌市 中央区南一条西五丁目
Longitude, latitude, and elevation: 43.061177, 141.350000
Date of occurrence of the disaster: 1993年11月30日
Features of the monument (inscriptions): 1993年11月30日 札幌市中央区南一条西五丁目 札幌市地震発生 犠牲者追悼 災害防止のシンボルとして設置された
Background of the monument (engineering geological interpretation): 1993年11月30日 札幌市中央区南一条西五丁目 札幌市地震発生 犠牲者追悼 災害防止のシンボルとして設置された
Remarks: other relevant information: 北海道 札幌市 中央区南一条西五丁目 札幌市地震発生 犠牲者追悼 災害防止のシンボルとして設置された
Keywords: 災害記念碑 札幌市 中央区南一条西五丁目 札幌市地震発生 犠牲者追悼 災害防止のシンボルとして設置された

Examples of attached materials

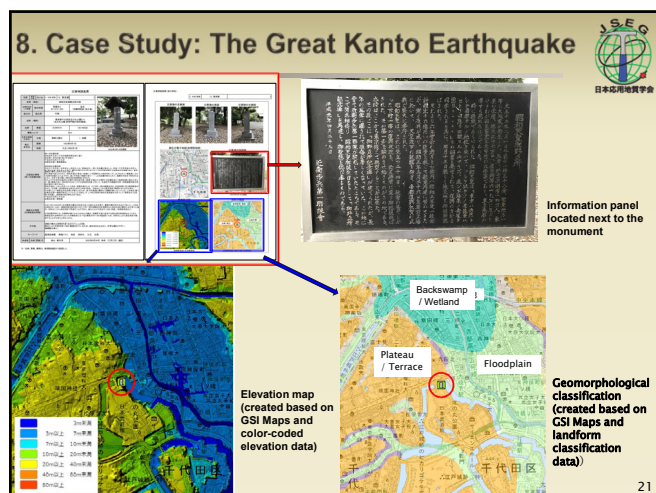
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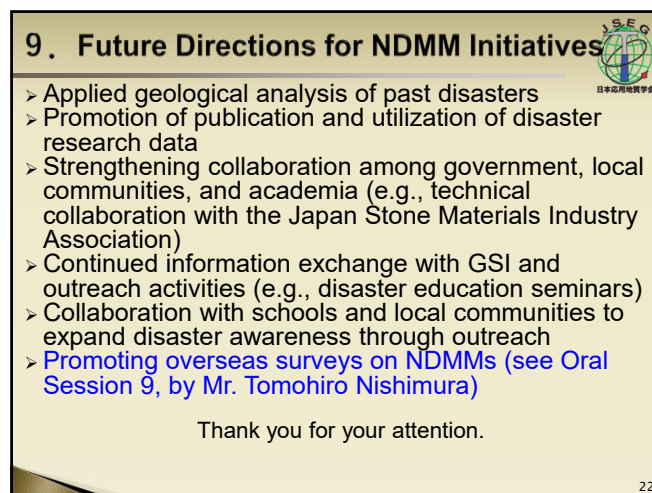
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20



21



22