Monthly Full Color Journal

Landslides: Journal of International Consortium on Landslides

Dear ICL Colleagues,

Thanks to your cooperation, ***Landslides*** has increased its impact factor and reached 2016 Impact factor=3.657. ***Landslides*** will be a monthly journal from January 2018 due to the success and the increase of page number (2,100 pages in 2017).

ICL plans to monthly publish News and Reports of ICL/IPL activities within ICL members, IPL members and ISDR-ICL Sendai Partnerships 2015-2025 members.

The 2017 Ljubljana Declaration following the high-level panel discussion in WLF4 has proposed the **Kyoto 2020 Commitment** for Global Promotion of Understanding and Reducing Landslide Disaster Risk to create a wider and long-term global alliance for landslide risk reduction within global landslide community. The category of News and Reports of ICL/IPL activities is one of the core of this alliance. (Sassa 2017. Preface: The 2017 Ljubljana Declaration. Landslides Vol.14(4):289-1296.)

I wish to invite all ICL members to contribute their activities and news of IPL projects, WCoEs and your member organization in the category of ICL/IPL Activities (less than 6 pages) and News (less than 2 pages) in this new monthly journal. We also welcome the proposal of thematic issue from you.

The following figure and table are from Matjaz Mikos 2017 (Landslides, Vol.14, No.5 :1827–1838).

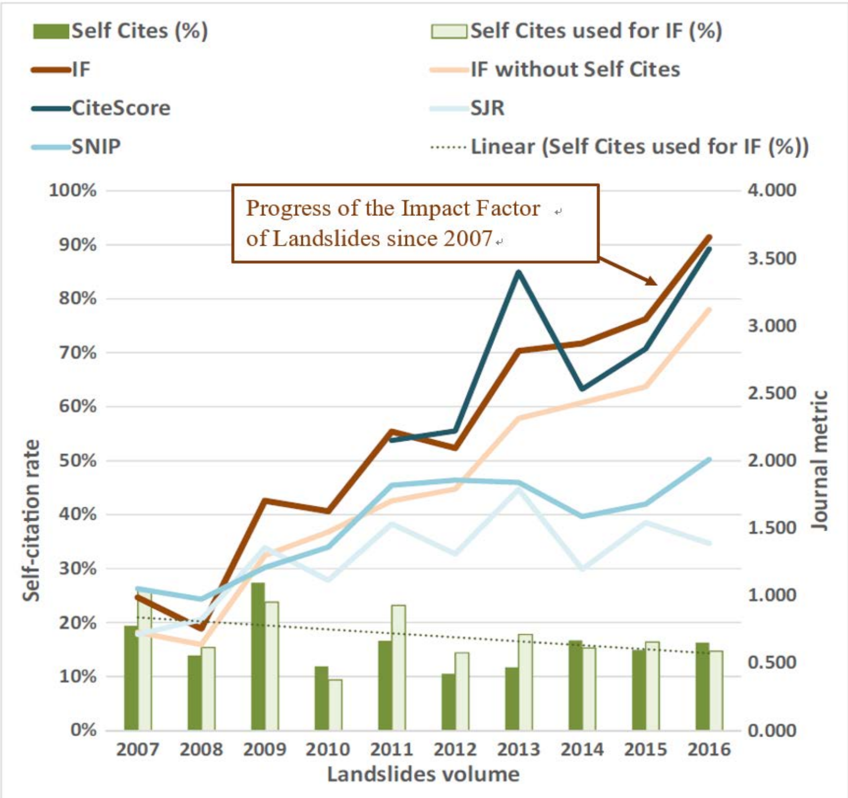

Table 2 Comparison between the top 20 journals in 2016 from the SCI-Expanded category of "*Engineering, Geological*" (Clarivate Analytics, 2017) and their ranking in CiteScore metrics (Elsevier, 2017) in the category "*Geotechnical Engineering and Engineering Geology*" (top five ranks for each metric are given in bold and in grey color).

EG Rank.	Journal Title (starting year)	Issues per year	Publisher	IF 2016	Highly Cited	Cited Half-Life	CiteScore (rank/167)	SNIP (rank/167)	SJR (rank/167)	WoS h-index	Scopus h-index	Google Scholar h5-index	Google Scholar h5-median	WoS Cites/paper
1.	Landslides (2004)	6	Springer Nature	**3.657**	**10**	5.7	**3.57 (#1)**	2.009	1.387	44	50	32	**49**	12.14
2.	Earthquake Spectra (1984)	4	Earthquake Eng Res.	**2.981**	**15**	9.0	2.71 (#15)	2.045	1.878	50	69	32	**49**	12.66
3.	Rock Mechanics and Rock Engineering (1969)	6	Springer Nature	**2.905**	1	5.3	**3.32 (#5)**	2.189	**2.059 (#7)**	48	52	35	**54**	9.10
4.	Geotextiles and Geomembranes (1984)	6	Elsevier	**2.870**	0	7.7	**3.41 (#3)**	**2.552 (#3)**	**2.517 (#3)**	48	58	28	39	12.30
5.	Acta Geotechnica (2006)	6	Springer Nature	**2.801**	0	3.3	3.08 (#10)	2.201	1.836	24	27	24	32	6.72
6.	Geosynthetics International (1994)	6	ICE Publishing	2.603	0	8.2	2.38 (#22)	1.467	1.806	32	40	20	23	8.99
7.	Engineering Geology (1965)	16	Elsevier	2.569	**7**	8.7	**3.35 (#4)**	**2.353 (#7)**	1.913	**86**	**94**	**40**	**50**	**15.17**
8.	Journal of Geotechnical and Geoenvironmental Engineering (1983/1974/1956)	12	ASCE	2.464	3	**> 10.0**	2.36 (#24)	**2.452 (#4)**	**2.695 (#2)**	81	**109**	**39**	48	13.15
9.	Geotechnique (1949)	12	ICE Publishing	2.395	3	**> 10.0**	**3.22 (#6)**	**2.927 (#2)**	**3.489 (#1)**	**122**	**98**	**36**	45	**25.04**
10.	Computers and Geotechnics (1985)	10	Elsevier	2.358	**5**	6.0	3.11 (#9)	**2.371 (#6)**	2.012 (#8)	55	67	34	46	11.11
11.	International Journal for Numerical and Analytical Methods in Geomechanics (1977)	18	Wiley-Blackwell	2.342	0	9.6	2.64 (#17)	1.839 (#19)	1.643 (#17)	74	66	30	43	14.49
12.	International Journal of Rock Mechanics and Mining Sciences (1964)	10	Pergamon-Elsevier Science	2.268	0	**> 10.0**	3.19 (#7)	2.158 (#12)	1.920 (#11)	**97**	**104**	**39**	46	**19.30**
13.	Canadian Geotechnical Journal (1963)	12	NRC Research press	2.138	**4**	**> 10.0**	2.20 (#27)	1.927	1.977 (#9)	**94**	86	29	35	**14.68**
14.	International Journal of Geomechanics (2001)	6	ASCE	2.136	1	5.2	1.87	1.976 (#6)[§]	1.413	21	39	24	29	3.50
15.	Earthquake Engineering & Structural Dynamics (1972)	15	Wiley-Blackwell	1.974	0	**> 10.0**	2.91 (#13)	2.265 (#9)	**2.293 (#6)**	**93**	**92**	**38**	**49**	**19.84**
16.	Bulletin of Engineering Geology and the Environment (1970)	4	Springer Nature	1.901	3	7.3	1.64 (#40)	1.263 (#37)	0.715 (#50)	28	40	20	25	5.67
17.	Bulletin Of Earthquake Engineering (2003)	12	Springer Nature	1.899	0	4.6	2.12 (#30)	1.330	1.345	35	38	32	41	7.51
18.	Soil Dynamics and Earthquake Engineering (1982)	12	Elsevier	1.545	0	7.4	2.03 (#31)	1.798 (#20)	1.485 (#19)	53	65	30	37	10.61
19.	Geotechnique Letters (2011)	4	ICE Publishing	1.286	0	3.1	1.77 (#36)	1.300	1.150	13	15	17	23	3.67
20.	Marine Georesources & Geotechnology (1993)	8	Taylor & Francis	1.159	0	6.2	1.00 (#61)	0.904	0.488	18	20	10	22	3.42

Cited Half-Life (years) - Median age of the articles that were cited in the JCR year. Half of a journal's cited articles were published more recently than the cited half-life.

[§] Part of subject area Agricultural and Biological Sciences, category Soil Science (ASJC = 1100) with 103 journals.

1st Example of Landslide News
(Landslide News, No.14/15, Feb. 2003: 43-45)

Rain-induced Landslides and Debris Flows on Madeira Island, Portugal

D. RODRIGUES
F.J. AYALA-CARCEDO

Introduction and Geological Setting

Madeira Island is located in the North Atlantic, 900 km southwest of Lisbon, the capital of Portugal (Fig. 1). The island of Madeira has an area of approximately 728 km^2 and a population of about 263,000. Having formed in Miocene, the island is located in a fully oceanic domain. It is of volcanic origin, and is generally interpreted as being on a volcanic hotspot. The island is made up predominantly of eruptive rocks: basalts hawaiites, mugearites, trachytes and pyroclastic rocks (ashes and tuffs). Minor sedimentary rocks consist mainly of fluvial and marine gravels and residual colluvial deposits.

Orography and Climate

The geographic location of the island together with its high relief provide a climate with very specific characteristics. The orography is characterized by strong surface relief with elevations that surpass 1,800 m and an average elevation of 700 m. The orography and orientation of the hills favor rainfall. The average annual rainfall ranges from 600 mm along the southern coast to 3,000 mm in areas of high elevation, reaching 500 mm/day during extreme events. The

Fig. 1 Index map of the landslides in Madeira Island, Portugal, offshore Northwest Africa.

Fig. 2 Oblique airphoto of the debris flow in Rosario area.

Fig. 3 Debris flow deposits in Rosario area.

Fig. 5 A house destroyed by the earthflow.

Fig. 4 An earthflow in Sao Vicente valley.

climate is mild with average annual values between 16° and 21° Celsius.

Natural Hazards in Madeira

Throughout the history of Madeira, natural disasters have claimed hundreds of victims and caused extensive material damage. The natural hazards are: flash floods, landslides (from the most rapid rock falls (Photo 1) and debris flows to creep movements in talus deposits), storms, and tsunamis caused by coastal rock slides (Rodrigues and Ayala-Carcedo, 2000).

The Events of 5-6 March 2001

On 5-6 March 2001, heavy rainfall occurred throughout the island causing damaging earth flows, debris flows, slides, and flash floods. The most heavily affected areas were in the valleys of Sao Vicente and Curral where rainfall reached 400 mm/day.

In the Sao Vicente valley, rainfall-triggered debris flows and earth flows were widespread. In the Rosario, area two debris flows (Figs. 2 and 3) converged on a road damaging several houses and sweeping away a car containing four tourists, who subsequently died. Several significant earth flows in soils (Figs. 4 and 5) occurred: roads were cut off and a secondary school on a slope nearby was damaged (Fig. 7). The earth flow in the Sao Vicente area affected mostly agricultural fields, many of which were already abandoned due to the poorly maintained irrigation system and the conditions favoring the occurrence of landslides due to water and debris accumulation. The debris flows occurred mainly in streams, initially caused by soil slides, which were transformed into debris slides with the accumulation of vegetation, gravel, and boulders.

In the city of Curral, one significant slide (Fig 6) and a debris flow (Fig. 7) occurred. The slide took place in consolidated talus deposits at the right hand riverbank; it was caused by river erosion of the channel margin and by water pore pressures. Several houses were evacuated and the immediate area is now considered too hazardous for resettlement. The debris flow occurred in a stream, resulting in deposits of gravel and boulders that buried several houses (Fig. 8).

The intense rainfall, the abandoned state of the agricultural fields, and construction within the river channel resulted in this tragedy. The fact that these events occurred during daylight allowed many people to be alerted and evacuated from the most dangerous areas, thus preventing an even more serious tragedy.

The results of these events were five fatalities and approximately USD 50 million in damages.

Acknowledgement

We are grateful to "Diario de Noticias da Madeira".

References

Rodrigues, D.M.M. and Ayala-Carcedo, F.J. 2000. Natural Disasters in Madeira Island.2a Assembleia uso Espanhola de Geodesia e Geofisica.

Fig. 6 Slide in the city of Curral.

Fig. 7 A debris flow in the city of Curral.

Fig. 8 Houses buried by the debris.

A Large Rock Fall along a Coastal Highway, in Japan

H. YOSHIMATSU

A coastal rock cliff suddenly collapsed onto a rock shed protecting traffic of National Highway Route 305 in Echizen-cho, Fukui Prefecture, Japan, at about 15.20 hrs on 10 July 1989. The collapsed mass was about 30 m high, 30 m wide, and 1,400 m^3 in volume; its weight was much greater than the bearing capacity of the rock shed. The rock shed was destroyed for a length of approximately 15 m. Although the retaining wall facing the cliff at the rock shed remained, its crest was displaced approximately 50 cm toward the shore of the Sea of Japan. Unfortunately a micro-bus that happened to be passing this point was crushed, and all 15 passengers were killed (Fig. 1).

The site of the rockfall was a scenic location facing the Echizen coast with a continuous view of unusual rock formations and sights. On the other side, this stretch of highway is often subject to rockfall. Therefore, this area is designated as a district for traffic restriction where traffic is stopped when continuous total precipitation reaches 140 mm. The site had been noted as a dangerous place for rockfall by the general slope checks of national highways, that were conducted in 1980.

The width of the highway is 7.0 m, and average traffic volume is 3,590 vehicles/12 hrs. Because the possibility of rockfall was noted in the 1980 survey, 75 m of rockshed and 39 m of rockfall retention structure were worked on for 2 years from 1985 to 1986. In addition, the rockshed was designed to prevent traffic road damage even if rocks 60 cm in size were to fall from a height of 40 m, according to the handbook for rockfalls.

Fig. 1 Location map.

At the time of the rockfall, weather conditions were such that an alarm for heavy rainfall and flood was issued at 21.15 hrs on 15 July, a day before the occurrence of the disaster, and the alarm was canceled at 11.20 hrs on 16 July, the day when the disaster occurred. In this area, the maximum hourly precipitation was 28 mm and the continuous total precipitation was 73 mm during that time. Thus, the precipitation was much lower than that for traffic restriction.

The cliff where the rockfall occurred is composed of Miocene volcanic rocks, rising 100 m above the shore of the Sea of Japan. The inclination of the cliff is about 70–80°. The structure of these rock layers is diverse, and the strata are discontinuous. From the form of the rockfall, as rocks which dropped from higher points were dispersed close to the seaside, the rockfall is assumed to be a rock topple.

Because, disasters of this sort are significant problems in our country, detailed studies have been continued to clarify the cause of the present rockslide. Also, national checks of road slopes that are in danger from landsliding are being considered so as to avoid a recurrence of similar rockfalls, and rock slides and the resultant disasters.

H. YOSHIMATSU
Public Works Research Institute
Ministry of Construction
Tsukuba, JAPAN

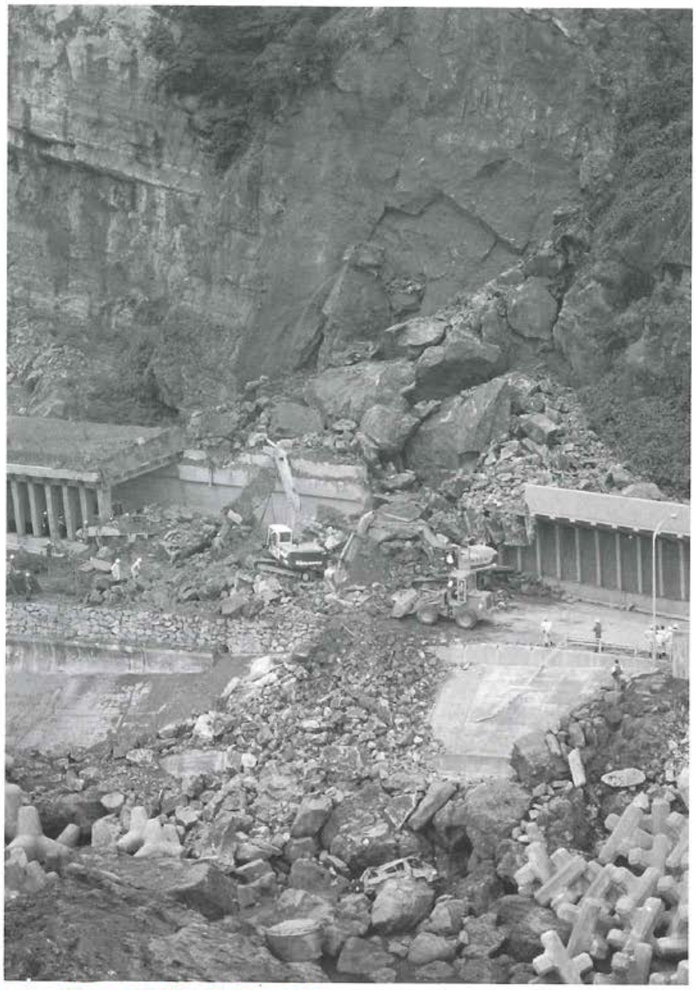
Fig. 2 The rockfall in Echizen-cho (by courtesy of the Yomiuri Shinbun).