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Landslides: review of achievements in the second 5-year period (2009–2013)

Abstract The international journal *Landslides*: *Journal of International Consortium on Landslides* was established in April 2004. The aims of *Landslides* are to promote landslide science, technology, and capacity building, and to strengthen global cooperation for landslide risk reduction within the United Nations International Strategy for Disaster Risk Reduction (ISDR). The achievements of the first 5 years from the beginning of 2004 (Vol. 1, No. 1) to the mid-2009 (Vol. 6, No. 2) were reviewed in 2009 (Landslides 6:275–286, 2009). This article presents the review for the second 5-year period from mid-2009 (Vol. 6, No. 3) to the end of 2013 (Vol. 10, No. 6), focusing on the journal's significance and its impact. We include an analysis of the classifications of articles in *Landslides*.

Keywords Landslides · Impact factor · Citation · Classification

Introduction: landslide disasters and the significance of integrated landslide study

A landslide is a downslope movement of soil, rock, or both (Highland and Bobrowsky 2008), slightly modified from "the movement of a mass of rock, debris or earth down a slope" (Cruden and Varnes 1996). Landslide disasters are caused by the exposure of people to hazardous motions of landslides that threaten vulnerable human settlement in mountains, cities, coasts, and islands. No single landslide disaster can threaten as many people as did the 2011 Tohoku earthquake and tsunami disaster. There are, however, many more landslide disasters occurring in more places over the world. Some of them kill many people or destroy many houses, farms, and other human infrastructure. Many smaller landslide disasters are not recorded. However, large landslide disasters of the world are recorded. Table 1 is a list of major world landslide disasters (from Wikipedia http://en.wikipedia.org/wiki/List_of_landslides) to which we have added the historically largest landslide disaster, the historically largest volcanic disaster, and one of the largest tsunami disasters in Japan as no. 1 (Sassa et al. 2014). It is the 1792 Unzen–Mayuyama landslide in Nagasaki, Japan. A megaslide with a volume of 3.4×10^8 m^3 was triggered on a volcano by a nearby earthquake (M=6.4±0.2), and the landslide mass entered the sea causing a huge tsunami. The landslide directly killed 10,139 people, and the landslide-induced tsunami killed 5014 people on the opposite shore and islands.

In recent years, there have been a few landslide disasters in Japan. Small and shallow long-runout landslides were triggered by a localized heavy rainfall, and 74 people were killed in an urban area of Hiroshima city in 2014. The number of deaths was not as large as those reported in Table 1, but this disaster had a large impact on the society of Japan, one of the most advanced countries for landslide risk mitigation. Therefore, we have added this landslide as no. 24 of Table 1.

Figure 1 shows the disastrous large landslide that occurred in Afghanistan on 2 May 2014 (no. 23 of Table 1). This rapid and long-runout landslide killed 2700 people including many people who sought to rescue others caught in an earlier landslide.

Figure 2 shows the Hiroshima landslide disaster on 20 August 2014 (no. 24). Initial landslides were very small with depths of a few meters, and they changed to debris flows before reaching the area of human settlement. Initial landslide and debris-flow masses were not great, but 52 people were killed by this landslide (Fig. 2). This disaster illustrates one of the dangers associated with urbanization near mountains. To mitigate such risk requires an integrated landslide study, which includes the physical, social, and institutional vulnerability of the people as well as scientific research and technological development of mitigation measures appropriate for the cultural psyche of the local people. It requires reliable hazard and risk assessments, and reliable risk mitigation involving a mix of effective engineering works, enforcement of land-use regulation, reliable landslide prediction, early warning, and evacuation.

Impact of the journal *Landslides*

One of the indices pertinent to the impact of a publication to society is impact factor, which is annually reported by Thomson Reuters (Institute for Scientific Information (ISI)). It is calculated by dividing the number of current year citations to the source items published in that journal during the previous 2 years.

The impact factors for *Landslides* over the 5 years from 2009 to 2013 are listed in Table 2. The value has gradually increased from 1.703 in 2009 to 2.814 in 2013 although it has not been a monotonic increase. This increase shows that the influence on the community of authors to *Landslides* is steadily increasing. In 2014, Thomson Reuters presented the 2013 impact factors of 33 international journals in the category of "Engineering, Geological." Twenty of these journals had an impact factor greater than 1.0 as listed in Table 3. Within this table, ten journals including *Landslides* are bimonthly journals, six are monthly journals, and four are quarterly journals. *Landslides* has maintained an impact factor greater than 2.0 over these 3 years (2011–2013). Only two journals in this category have had impact factors of more than 2.0, which demonstrates that *Landslides* has a high impact in academic society in this field.

Citation of each paper and downloading

Impact factors are calculated based on the time of citation of each paper. Google Scholar also presents the number of times each paper is cited. The number of times cited was investigated both from the ISI (Institute for Scientific Information) and Google Scholar, and the results are presented in Table 4. We list 26 papers for *Landslides* which have been cited more than 30 times and the order of times cited noted in Google Scholar, since both trends are similar. The number of times cited in Google Scholar is around two times greater than that in ISI; this is because Google Scholar counts citations from a greater number of publications, while ISI counts citations from a small number of selected journals. Six

Table 1 List of major landslide disasters (source: Wikipedia http://en.wikipedia.org/wiki/List_of_landslides)

Number	Date	Place	Casualties	Number	Date	Place	Casualties
1	21 May 1792	Nagasaki, Japan	15,153[a]	13	18 March 1971	Chungar, Peru	400–600
2	19 May 1919	Kelud, Indonesia	5110	14	13 November 1985	Tolima, Colombia	23,000
3	16 December 1920	Ningxia, China	>100,000	15	30 October 1998	Mt. Casita, Nicaragua	2000
4	25 August 1933	Sichuan, China	~3100	16	16 December 1999	Vargas, Venezuela	30,000
5	5 July 1938	Kwansai, Japan	~1000	17	17 January 2001	El Salvador	500–1700
6	13 December 1941	Ancash, Peru	4000–6000	18	17 February 2006	Leyte, Philippines	1144
7	10 July 1949	Oblast, Tajikistan	800–4000	19	9 August 2009	Kaohsiung, Taiwan	500–600
8	18 July 1953	Wakayama, Japan	1046	20	8 August 2010	Gansu, China	1287
9	26 September 1958	Shizuoka, Japan	1094	21	11 January 2011	Rio de Janeiro, Brazil	>1000
10	10 January 1962	Ranrahirca, Peru	4000–5000	22	16 June 2013	Uttarakhand, India	5700
11	09 October 1963	Longarone, Italy	≈2000	23	2 May 2014	Badakhshan, Afghanistan	2700
12	31 May 1970	Yungay, Peru	>22,000	24	20 August 2014	Hiroshima, Japan	74[b]

[a] Sassa et al. (2014)

[b] Sassa, Fukuoka et al. (2014)

papers including the most cited paper dealt with earthquake-induced landslides. Six papers studied time prediction and early warning of landslides. Five papers were related to susceptibility mapping and analysis. Other papers dealt with satellite technology, climate change, landslide dams, vulnerability, and inventory. The table shows the interest of authors of *Landslides*.

Table 5 presents the number of downloading of papers published in *Landslides* from January to November in 2013. Some papers were published in 2014 but were already cited in 2013. Those papers were downloaded as online publications. Comparing the number of times cited (Table 4) to the number of downloads (Table 5) shows that trends in the two tables are quite

Fig. 1 Badakhshan mudslide of 2 May 2014, Afghanistan. Death toll: 2700. Photos from http://www.dailymail.co.uk

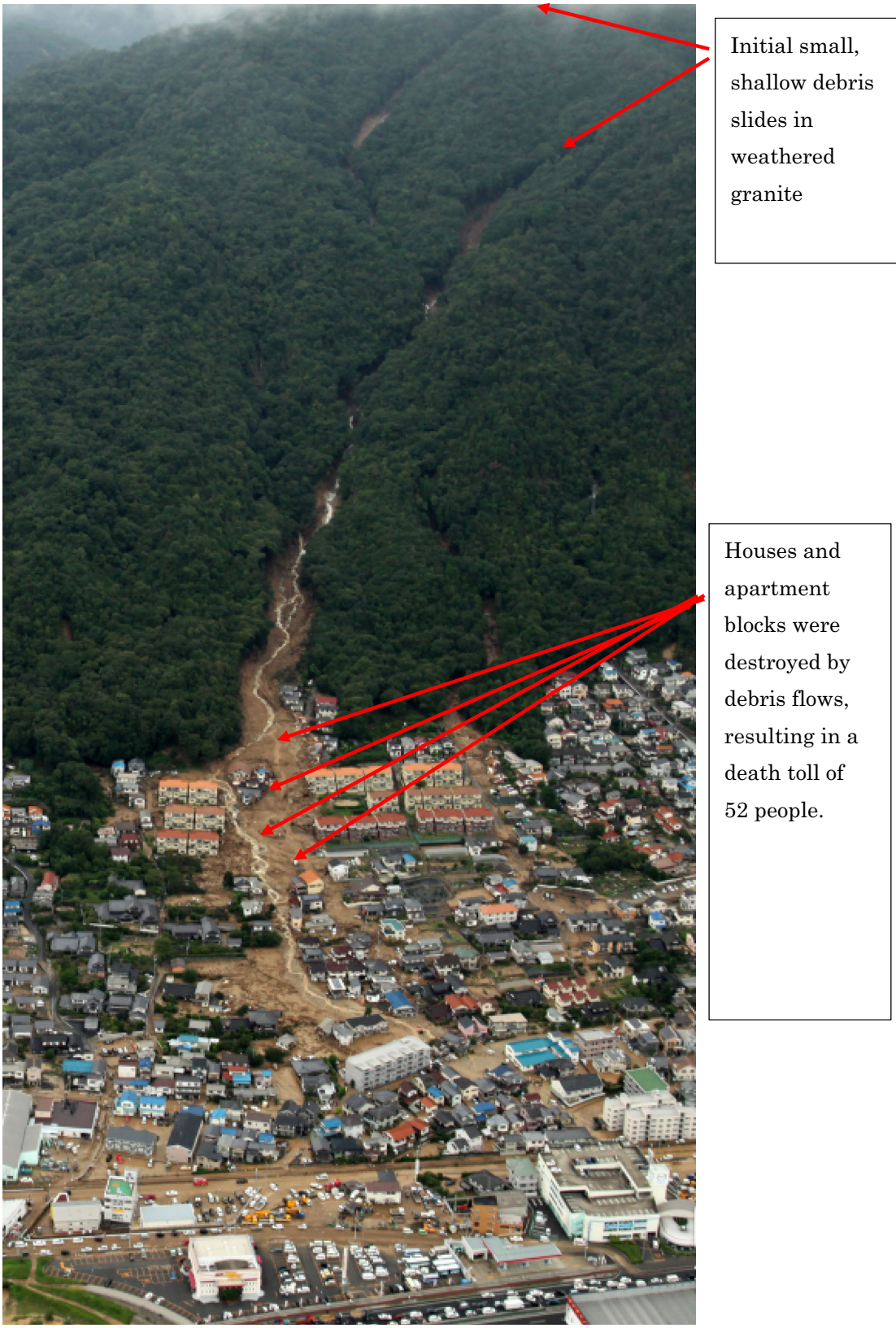

Fig. 2 Overall view of the debris slides–debris flows of 20 August 2014 in an urban area (Yagi), Hiroshima, Japan

different. For example, the paper by Francesca Cigna "How to assess landslide activity and intensity with Persistent Scatterer Interferometry (PSI): the PSI-based matrix approach" is listed as no. 4 in Table 5 but as no. 24 in Table 4. However, other papers

Table 2 Impact factor, total articles, and total cites of *Landslides* in the recent 5 years (2009–2013)

Year	Impact factor	Total articles	Total cites
2013	2.814	59	1067
2012	2.093	41	760
2011	2.216	45	535
2010	1.625	41	461
2009	1.703	33	460

exhibited a different trend. The number of downloads is an index of the numbers of end-users of the information provided by the paper, while the number of citations is an index of the number of researchers who found the paper useful in their research.

The impact on readers/users of *Landslides* and the impact on authors of papers published in various journals and publications will be different. Therefore, the impact factor calculated from the frequency of research citation does not always present the true significance of a journal to its readers who include practitioners and decision makers.

The period of online publication

Table 5 shows that many papers are downloaded soon after they become available as an online publication, before the digital and printed versions of the issue appear. Here, we explain the delay between the first appearance of the online publication (DOI number) to the issue as a digital and printed publication (with volume and issue numbers and page numbers) in *Landslides*. The period of online publication was around 8 months in 2012. *Landslides* moved from a quarterly to a bimonthly journal in 2013; this, however, failed to reduce the backlog of accepted papers waiting for publication. To reduce the accumulating backlog, two options were examined, (1) reduce the rate of acceptance by utilizing tougher reviews (technically not easy) and (2) reduce the maximum page length for each paper from 12 pages to 8–10 pages. However, the range of backgrounds of landslide studies is much greater than for other well-established science and technology fields. It takes more pages to present research content with color photos (common information sources), maps, and drawings of landslides so that it can be easily understood by readers with different backgrounds. Instead, we decided to gradually increase the total number of pages per issue from 100 pages to 200 pages in Vol. 11, No. 4 in 2014. With this effort, the backlog of accumulated

Table 3 Twenty journals with more than 1.0 impact factor in the category of "Engineering, Geological" (Thomson Reuters)

Number	Journal title	Number of issues/year	Publisher	Country	IF 2013
1.	*Landslides*	6	Springer	Germany	2.814
2.	*Geotextiles and Geomembranes*	6	Elsevier	England	2.376
3.	*Earthquake Engineering & Structural Dynamics*	12	Wiley-Blackwell	USA	1.951
4.	*Acta Geotechnica*	4	Springer	Germany	1.860
5.	*Engineering Geology*	12	Elsevier	Netherlands	1.757
6.	*Geotechnique*	6	ICE Publishing	England	1.670
7.	*Computers and Geotechnics*	6	Elsevier	Netherlands	1.647
8.	*Geotechnique Letters*	4	ICE Publishing	England	1.612
9.	*Rock Mechanics and Rock Engineering*	6	Springer	Austria	1.564
10.	*International Journal for Numerical and Analytical Methods in Geomechanics*	Semi 12	Wiley-Blackwell	USA	1.561
11.	*Journal of Geotechnical and Geoenvironmental Engineering*	12	ASCE	USA	1.469
12.	*International Journal of Rock Mechanics and Mining Sciences*	6	Pergamon-Elsevier Science	England	1.424
13.	*Bulletin of Earthquake Engineering*	4	Springer	Netherlands	1.368
14.	*Soil Dynamics and Earthquake Engineering*	12	Elsevier	England	1.302
15.	*Canadian Geotechnical Journal*	12	NRC Research Press	Canada	1.206
16.	*International Journal of Geomechanics*	6	ASCE	USA	1.197
17.	*Geosynthetics International*	6	ICE Publishing	England	1.174
18.	*Earthquakes and Structures*	6	Techno-Press	South Korea	1.138
19.	*Proceedings of the Institution of Civil Engineers-Geotechnical Engineering*	6	ICE Publishing	England	1.056
20.	*Earthquake Spectra*	4	Earthquake Eng Res. Inst	USA	1.000

Table 4 Times cited per paper in *Landslides* counted by Google Scholar (http://scholar.google.com/) and ISI

Number	Title of article	Category	References	Times cited	
				Google Scholar	ISI
1	The 12 May Wenchuan earthquake-induced landslide lakes: distribution and preliminary risk evaluation	Original Paper	Cui et al. (2009)	151	86
2	Regional landslide susceptibility analysis using back-propagation neural network model at Cameron Highland, Malaysia	Original Paper	Pradhan and Lee (2010)	131	75
3	Early warning of rainfall-induced shallow landslides and debris flows in the USA	Original Paper	Baum and Godt (2010)	97	39
4	A comparison of landslide susceptibility maps produced by logistic regression, multi-criteria decision, and likelihood ratio methods: a case study at Izmir, Turkey	Original Paper	Akgun (2012)	64	30
5	Monitoring, prediction, and early warning using ground-based radar interferometry	Original Paper	Casagli et al. (2010)	63	38
6	Landslides triggered by slipping-fault-generated earthquake on a plateau: an example of the 14 April 2010, Ms 7.1, Yushu, China earthquake	Original Paper	Xu et al. (2013)	45	23
7	Distribution and characteristics of landslides induced by the Iwate–Miyagi Nairiku Earthquake in 2008 in Tohoku District, Northeast Japan	Recent Landslides	Yagi et al. (2009)	38	23
8	Rock avalanches and other landslides in the central Southern Alps of New Zealand: a regional study considering possible climate change impacts	Original Paper	Allen et al. (2011)	38	24
9	Landslide susceptibility zonation of the Chamoli region, Garhwal Himalayas, using logistic regression model	Original Paper	Chauhan et al. (2010)	37	23
10	Analysis with C- and X-band satellite SAR data of the Portalet landslide area	Original Paper	Herrera et al. (2011)	37	24
11	Improvement of statistical landslide susceptibility mapping by using spatial and global regression methods in the case of More and Romsdal (Norway)	Original Paper	Erener et al. (2010)	36	16
12	Catastrophic debris flows triggered by a 14 August 2010 rainfall at the epicenter of the Wenchuan earthquake	Recent Landslides	Tang et al. (2011)	35	22
13	Breaching parameters of landslide dams	Original Paper	Peng and Zhang (2012)	35	24
14	Relations between hydrology and velocity of a continuously moving landslide—evidence of pore-pressure feedback regulating landslide motion?	Original Paper	Schulz et al. (2009)	34	25
15	Application of the MoniFLaIR early warning system for rainfall-induced landslides in Piedmont region (Italy)	Original Paper	Capparelli and Tiranti (2010)	34	15
16	Strong ground motions from the 2011 off-the Pacific-Coast-of-Tohoku, Japan (Mw=9.0) earthquake obtained from a dense nationwide seismic network	Recent Landslides	Furumura et al. (2011)	34	20
17	Comparing predictive capability of statistical and deterministic methods for landslide susceptibility mapping: a case study in the northern Apennines (Reggio Emilia Province, Italy)	Original Paper	Cervi et al. (2010)	33	17
18	Quality assessment of the Italian Landslide Inventory using GIS processing	Original Paper	Trigila et al. (2010)	33	15
19	Rock falls in the Mont Blanc Massif in 2007 and 2008	Recent Landslides	Ravanel et al. (2010)	33	21
20	Quantitative vulnerability estimation for scenario-based landslide hazards	Original Paper	Li et al. (2010)	31	17
21	FLaIR and SUSHI: two mathematical models for early warning of landslides induced by rainfall	Original Paper	Capparelli and Versace (2011)	31	11
22	Expected damage from displacement of slow-moving slides	Technical Note	Mansour et al. (2011)	31	13
23		Original Paper	Chang et al. (2011)	31	18

Table 4 (continued)

Number	Title of article	Category	References	Times cited	
				Google Scholar	ISI
	Field testing of erodibility of two landslide dams triggered by the 12 May Wenchuan earthquake				
24	How to assess landslide activity and intensity with Persistent Scatterer Interferometry (PSI): the PSI-based matrix approach	Original Paper	Cignav et al. (2013)	31	12
25	A simple numerical procedure for timely prediction of precipitation-induced landslides in unsaturated pyroclastic soils	Original Paper	Pagano et al. (2010)	30	15
26	Real-time monitoring and early warning of landslides at relocated Wushan Town, the Three Gorges Reservoir, China	Original Paper	Yin et al. (2010)	30	16

papers has been reduced significantly. Currently, the waiting time is around 4 months, a half of the peak waiting time in 2012.

Categories of articles

Landslides has four major categories of articles from its establishment period.

1. Original Papers (6–12 pages): original research and investigation results
2. Recent Landslides (generally less than 6 pages): reports of recent landslides including location (latitude/longitude), plan, section, geology, volume, movement, mechanism, and disasters within available extent
3. Technical Note (less than 6 pages): research notes, review notes, case studies, progress of technology, and best practices in monitoring, testing, investigation, and mitigation measures.
4. International Consortium on Landslides (ICL)/International Programme on Landslides (IPL) Activities (length depending

Table 5 Number of downloads of each paper published in *Landslides* (downloaded from January to November 2013)

Title	Category	Author	Vol.	No.	Year	Downloading times
The rainfall intensity-duration control of shallow landslides and debris flows: an update	Original Paper	Fausto Guzzetti et al.	5	1	2008	866
Landslide hazards triggered by the 2008 Wenchuan Earthquake, Sichuan, China	Recent Landslides	Yueping Yin et al.	6	2	2009	658
Rainfall thresholds for the forecasting of landslide occurrence at regional scale	Original Paper	G. Martelloni et al.	9	4	2012	621
How to assess landslide activity and intensity with Persistent Scatterer Interferometry (PSI): the PSI-based matrix approach	Original Paper	Francesca Cigna et al.	10	3	2013	592
Rainfall-triggered large landslides on 15 December 2005 in Van Canh District, Binh Dinh Province, Vietnam	Recent Landslides	Do Duc et al.	10	2	2013	534
Formation, failure, and consequences of the Xiaolin landslide dam, triggered by extreme rainfall from typhoon Morakot, Taiwan	Original Paper	Chun-Hung Wu et al.	11	3	2014	494
Terrestrial laser scanning for rockfall stability analysis in the cultural heritage site of Pitigliano (Italy)	Original Paper	Riccardo Fanti et al.	10	4	2013	487
Terrestrial laser scanner and geomechanical surveys for the rapid evaluation of rock fall susceptibility scenarios	Original Paper	Giovanni Gigli et al.	11	1	2014	480
GIS-based assessment of landslide susceptibility on the base of the weights-of-evidence model	Original Paper	Bettina Neuhäuser et al.	9	4	2012	440
Three (nearly) complete inventories of landslides triggered by the May 12, 2008 Wenchuan Mw 7.9 earthquake of China and their spatial distribution statistical analysis	Original Paper	Chong Xu et al.	11	3	2014	427

on the content): progress of IPL projects and ICL Committee activities.

The concept of "Original Papers" is the same as in other journals.

The category of "Recent Landslides" is unique to *Landslides* that carries on the tradition begun by *Landslide News* 1987–2003. The Japan Landslide Society published an international newsletter, *Landslide News*, annually from 1987 to 2003. It was printed in three colors (red, blue, and black), with some issues in full color. Of the 5000 copies printed, 2000 copies were distributed to worldwide landslide researchers and organizations free of charge (copies are currently accessible at the website of the Japan Landslide Society, http://www.landslide-soc.org/publications/l-news/index.html) (Sassa et al 2009).

The category of Technical Notes is the same as in other technical journals. But there is an emphasis on case studies from developing countries from where very few papers/reports are published in other journals. Recent Landslides also gives priority to landslides in developing countries from where very few papers and reports are published in other journals.

The ICL aims to contribute to the United Nations International Strategy for Disaster Reduction through developing landslide sciences, technology, and capacity building, and strengthening global cooperation for landslide risk reduction within developed and developing countries. The ICL established the International Programme on Landslides (IPL) together with ICL supporting organizations (UNESCO, UNISDR, WMO, FAO, UNU, ICSU, WFEO, and IUGS). These activities are reported in ICL/IPL Activities. Table 6 presents the number of times articles in each category were cited based on the information available from Google Scholar and ISI.

Published number of articles and average times cited by Google Scholar and ISI for each category have a similar trend. After removal of the not-yet-cited articles (right side of the table), the trend appears to be similar. Specifically, original papers are the most frequently cited followed by Recent Landslides, Technical Notes, and ICL/IPL Activities. Citations and downloading of Recent Landslides are relatively high. Technical Notes are less cited and downloaded than Recent Landslides. ICL/IPL Activities include Announcements and Reports of World Landslide Forum and other meetings as well as reports of IPL projects. It is natural that these are not cited in scientific papers; consequently, the number of times cited for this category is not high. Although this category does not contribute to the impact factor of *Landslides*, publication

Table 7 Classification of articles in *Landslides*

Classification of articles
10: Background Science
010: Geology
020: Geomorphology
030: Geotechnology
040: Geophysics
050: Hydrology & Meteorology
20: Methodology
010: Field investigation and ground exploration
020: Monitoring
030: Material testing
040: Physical modeling
050: Numerical simulation
060: GIS
070: Remote sensing
080: Planning and design
30: Application
010 Hazard and risk mapping
020: Early warning
030: Risk assessment
040: Remedial measures & prevention works
050: Risk reduction strategy
060: Database
070: Capacity development
40 Types of landslides
010: Debris flows
020: Rock falls
030: Earthquake-induced landslides
040: Rain-induced landslides
050: Landslides in cultural/natural heritage sites
060: Anthropogenic landslides
070: Landslides in urban areas

Table 6 Times cited in each category of *Landslides*

Category	All			Removing articles with no citation			
	Published number	Average times cited		Published number		Average times cited	
		Google	ISI	Google	ISI	Google	ISI
Original Paper	131	15.6	8.0	126	118	16.2	8.9
Recent Landslides	37	10.4	5.5	32	28	12.0	7.3
Technical Note	29	9.7	4.7	27	23	10.4	6.0
ICL/IPL	23	2.6	0.6	12	4	4.9	1.2

of such news and reports is important to further the aim and the expected role of *Landslides*.

Classification of articles in *Landslides*

When articles are submitted to the WEB editorial system of the Editorial Manager (EM) of *Landslides*, authors are asked to classify their article by selecting from a list of classifications. Around 100 editors and 400 reviewers of *Landslides* register to the EM, identifying classifications pertinent to their research area. Editors and reviewers are searched by classification matching. Hence, the classification of articles is an important aid to finding suitable editors and reviewers for each submitted article.

Starting from Vol. 6, No. 3 in 2008, the current classification (Table 7) has four major classes: Background Science (Geology, Geomorphology, Geotechnology, Geophysics, Hydrology & Meteorology); Methodology (Field investigation and ground exploration, Monitoring, Material testing, Physical modeling, Numerical simulation, GIS, Remote sensing, Planning and design); Application (Hazard and Risk mapping, Early Warning, Risk Assessment, Remedial measures & prevention works, Risk reduction strategy, Database, Capacity development); and Types of landslides (Debris flows, Rock falls, Earthquake-induced landslides, Rain-induced landslides, Landslides in cultural/natural heritage sites, Anthropogenic landslides, Landslides in urban areas). This classification has functioned well so far. The classifications of Methodology and Types of Landslides were used to decide sessions and books for the Third World Landslide Forum.

Figure 3a shows the classification of background sciences from Vol. 6, No. 3 to Vol. 10, No. 6. The proportion of published papers based on Geotechnology and Geomorphology are 34 and 33 %, respectively. These two sciences account for two thirds of the total. Published papers on Geophysics and Geology are 15 and 14 % of the total, respectively. Hydrology & Meteorology are important as triggering factors, but constitute as little as 4 % of the background science.

Figure 3b shows the classification of Methodology. Papers on Field investigation and Ground exploration have the greatest portion of 33 %; papers on Monitoring and Numerical Simulation have the same portion of 16 %. Then, GIS and Remote sensing papers occupy 11 and 10 %, respectively. Papers on Material testing and Physical modeling are the same, at 6 %. Planning and design is the least at 2 %. The total of Field Investigation and Ground exploration and Monitoring account for half of all papers. This analysis reveals that the most important methods of landslide studies to understand landslide phenomena are "Field investigation" and "Field monitoring."

Figure 4a shows the application area. Forty percent of published papers are on landslide risk assessment. Twenty-five percent of papers are applied to Hazard mapping, and Early Warning (19 %) will follow them. These three applications are 84 % of the

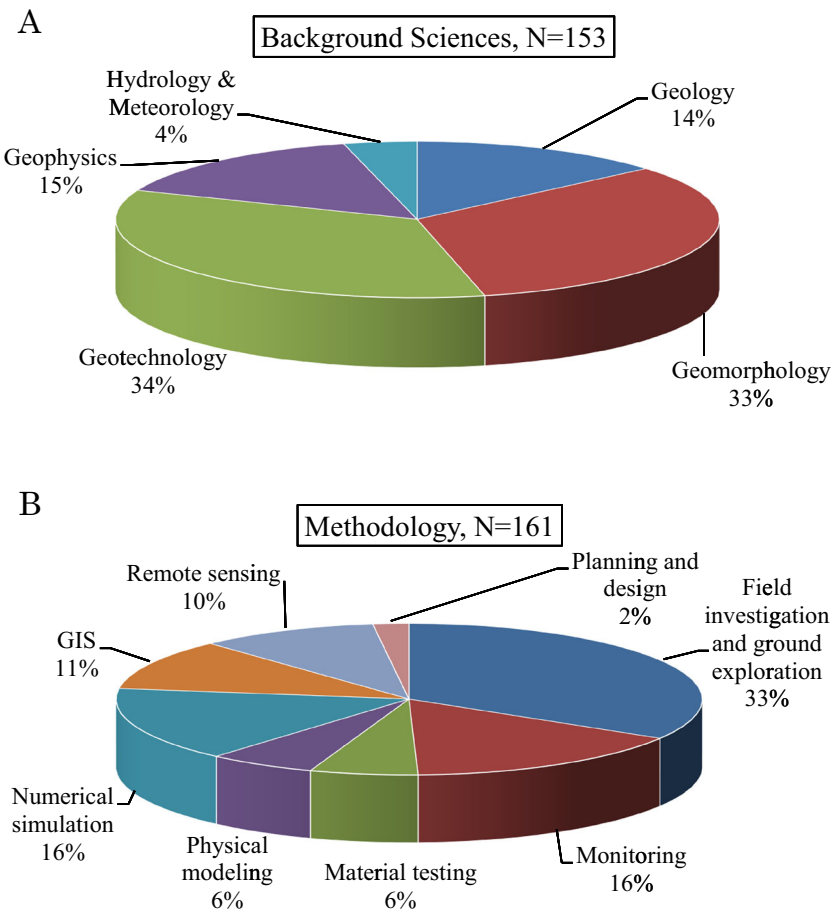

Fig. 3 Articles classified by Background Sciences (**a**) and Methodology (**b**)

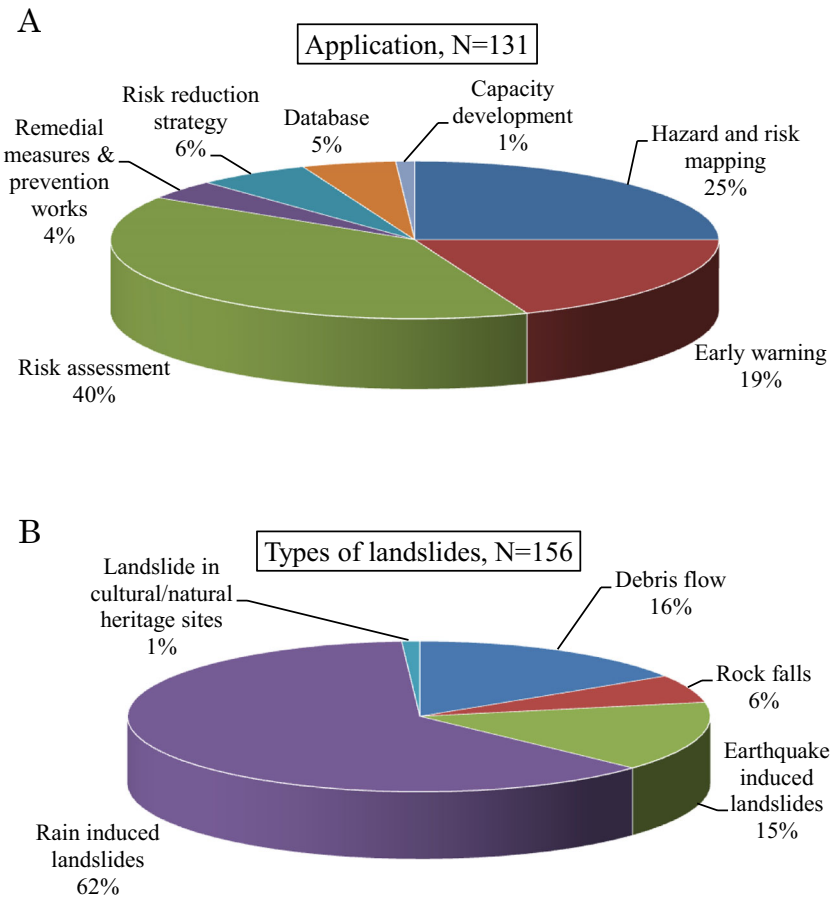

Fig. 4 Articles classified by Application (**a**) and Types of Landslides (**b**)

total contributed papers. On the other hand, papers on high-cost Remedial measures & prevention works are only 4 %. Most studies focus on non-structural and economical measures for landslide disaster risk reduction, namely risk assessment, hazard/risk mapping, and early warning. Structural measures for landslide risk reduction have not much been included in published papers but are still important to protect cultural heritage sites, densely populated areas, and other sites of high societal value.

Figure 4b presents the type of landslides published in *Landslides*. Papers on "Rain-induced landslides" are dominant at 62 %. Debris flow and earthquake-induced landslides follow with 16 and 15 %, respectively. Rock-fall-related papers are at 6 %. Landslide threats to cultural and natural heritage sites such as Machu Picchu are socially very important, but the number of papers in this category is only 1 % in these 5 years.

Figure 5 shows the ratio of published articles in different categories; 60 % are original papers.

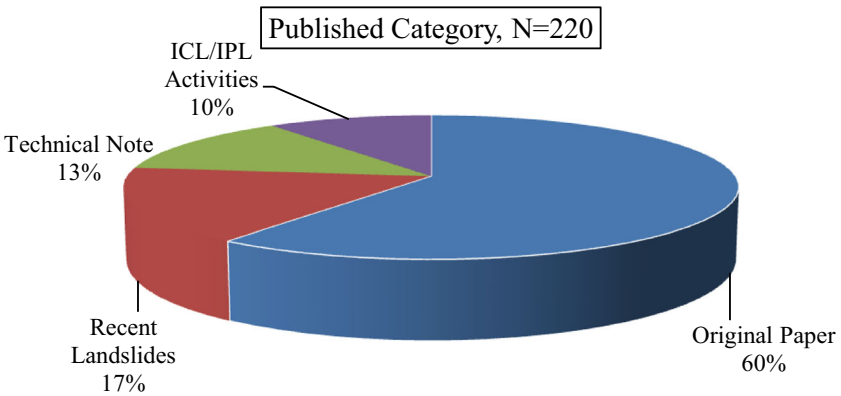

Fig. 5 Published articles in *Landslides* under four different categories

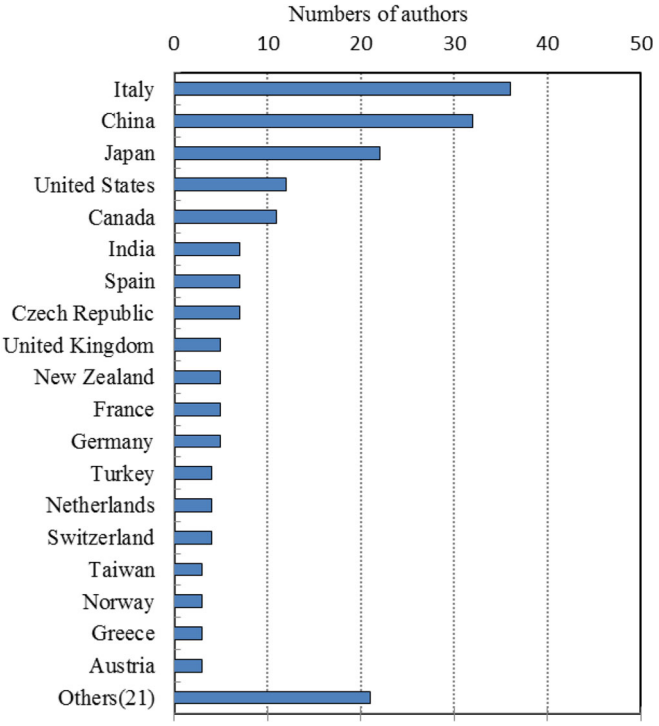

Fig. 6 Country-wise distribution of the number of individual authors. Each author is counted only once, even if they published multiple papers

Most authors wish to publish their papers as original papers. The editorial board or editors often suggest that some papers are more suitable as Technical Notes including Case Studies or Recent Landslides. The sum of the papers for the "Recent landslides" and "Technical Notes" categories is 30 %. The ICL/IPL Activities cover a total of 10 %. Catastrophic landslide disasters are reported from various parts of the world. Those reports provide very important information for landslide risk reduction. The editorial board would like to see the proportion of articles in "Recent Landslides" increase over the next 5 years.

Finally, the number of authors of published papers from each country is presented in Fig. 6. Some authors have published multiple papers in these 5 years, but they are only counted once in this figure. Each coauthor other than the first author or the corresponding author is counted as one. The largest number of authors is from Italy, followed by China, Japan, the USA, Canada, India, Spain, and Czech Republic. Others (21 first authors) include those from developing countries of Nigeria, South Africa, Saudi Arabia, Iran, Mali, Chile, and Vietnam.

Acknowledgement and call for cooperation for landslides

The editorial committee of *Landslides* of ICL deeply appreciate all editors and reviewers for their voluntary contributions to editing and reviewing. In the last 5 years, the number of papers published in *Landslides* has increased by three times from 100 pages/issue and 4 issues/year to 200 pages/issue and 6 issues/year. This has increased the working load on editors and reviewers of *Landslides*. To reduce the working load for each editor and reviewer, ICL has invited more editors and reviewers in these years. Furthermore, ICL introduced "Rejection without in-depth review" by adopting a rapid screening process by a small group of executive editors to avoid assigning editors with papers very unlikely to be accepted. It has been effective in reducing the load on the majority of editors/reviewers and to the authors as well due to the quick review result.

Thematic issues

Landslides has created a new editorial system for thematic issues. The proposal for thematic issues is invited. The concept of the-matic issues is different from special issues.

Special issues are decided to publish in the stage of planning. The priority is its publication.

Thematic issues in *Landslides* keep exactly the same editorial flow and the review level as with the regular issues. It is not predetermined how many papers will pass the review process and go to publication, namely publication in a thematic issue is not guaranteed. However, anyone can propose it. The process is as follows:

1. Anyone can propose a thematic issue with its aim and the list of potential authors and papers.
2. If the proposal is accepted, the thematic issue title will appear in the Editorial Manager. Authors will contribute their papers by selecting an intended thematic issue.
3. Each paper will be reviewed through the usual editorial flow.
4. Accepted papers will be published online one by one with DOI number.
5. If the number of online published papers under the planned theme reaches around 200 pages, they will be compiled as a full thematic issue. If they only reach half of one issue (around 100 pages), they will be compiled as a partial thematic issue. In cases where the number of accepted papers is much fewer than 100 pages, those papers will be published in a regular issue.

The quality of papers published in thematic issues in *Landslides* will be the same as in the regular issues and will pass through the same review process. Thematic issues will be useful to promote research in a theme of research and provide a good tool for landslide risk reduction efforts.

Landslides invites competent researchers to cooperate as editors and reviewers, and propose thematic issues. Please contact the editorial office of *Landslides*, which is the following:

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