Supplement of: Effect of the Slope Angle and Its Classification on Landslide

Researcher	int.	Slope Angels Ranges
Reyes-Chaves, 2014	4	0-2°, 2-4°, 4-8°, 8-16°
Acharya and Pathak, 2017	7	<15°, 15-25°, 25-35°, 35-45°, 45-55°, 55-65°, >65°
Achouret et al., 2017	5	0-5 °, 5-10 °, 10-15 °, 15-25 °, > 25
Afungang et al., 2017	8	<5°, 5.1-10°, 10.1-15°, 15.1-20°, 20.1-25°, 25.1-30°, 30.1-35°, > 35°
Aghdam et al., 2016	10	0-5°, 5-10°, 10-15°, 15-20°, 20-25°, 25-30°, 30-35°, 35-40°, > 45°
Akbari et al., 2014	4	0-8°, 8-14°, 14-25°, >25°
Akıncı et al., 2010	6	0-5°, 5-10°, 10-15°, 15-20°, 20-25°, 25°>
Akıncı et al., 2015	6	0-10°, 10-20°, 20-30°, 30-40°, 40-50°, >50°
Akıncı et al., 2014	10	0-5°, 5-10°, 10-15°, 15-20°, 20-25°, 25-30°, 30-35°, 35-40°, 40-45°, >45°
Alexakis et al., 2014	7	0-5°, 5-10°, 10-20°, 20-30°, 30-40°, 40-50°, >50°
Anbalagan, 1992	5	0-15 °, 16-25 °, 26-35 °, 36-45 °, > 46
Ataol and Yeşilyurt, 2014	5	0-5°, 5-10°, 10-15°, 15-20°, >20°
Avcı, 2015	5	0-2°, 2-15°, 15-25°, 25-45°, 45°>
Avcı, 2016a	5	0-2°, 2-15°, 15-25°, 25-45°, 45°>
Avcı, 2016b	6	0-5°, 5-15°, 15-25°, 25-35°, 35-45°, 45°>
Avcı, 2016c	6	0-5°, 5-15°, 15-25°, 25-35°, 35-45°, 45°>
Balamurugan et al., 2016	5	9°, 9-18°, 18-27°, 27-37°, >37°
Bui et al., 2011	5	0-10°, 10-20°, 20-30°, 30-40°, 40-50°, >50°
Chauhan et al., 2010a	5	0 ° -15 °, 16 ° -25 °, 26 ° -35 °, 36 ° -45 °, > 45
Chauhan et al., 2010b	5	0-10°, 10 - 20°, 20 - 30°, 30-40°, >40°
Che et al., 2012	8	0-5°, 5-10°, 10-15°, 15-20°, 20-25°, 25-30°, 30-35°, >35°
Chen et al., 2015a	10	0-10°, 10-20°, 20- 30°, 30-40°, 40-50°, > 50 °
Chen et al., 2016b	4	0-10°, 10-25°, 25-36°, 36-78.41°
Chen et al., 2015b	4	<15°, 15-30°, 30-45°, >45°
Chen et al., 2016a	5	0°, 0 -7°, 7-14°, 14-21°, 21-28°, 28-38 °
Chen et al., 2017	8	0-8 °, 8-16 °, 16-24 °, 24-32 °, 32-40 °, 40-48 °, 48-56, 56-67 °
Chiessi et al., 2016	7	0-5°, 5-10°, 10-20°, 20-30°, 30-40°, 40-50°, 50-75°
Çellek et al., 2015	12	0-5°, 5-10°, 10-15°, 15-20°, 20-25°, 25-30°, 30-35°, 35-40°, 40-45°, 45-50°, 50-55°, 55-60°
Çörekçioğlu, 2004	6	0-5°, 5-10°, 10-15°, 15-20°, 20-30°, >30°
Dağ ve Bulut, 2012	5	0-10°, 10-20°, 20-30°, 30-40°, 40°>
Dahal, 2014	10	<5°, 5-10°, 10-15°, 15-20°, 20-25°, 25-30°, 30-35°, 35-40°, 40-45°, >45°
Demir, 2011	6	0-10°, 10-20°, 20-30°, 30-40°, 40-50°, 50°>
Demir, 2016	9	0-5°, 5-10°, 10-15°, 15-20°, 20-25°, 25-30°, 30-35°, 35-40°, >40°
Deniz, 2005	6	0-5°, 5.01-10°, 10.01-20°, 20.01-30°, 30.01-80.49°
Duo et al., 2017	4	0°-15°, 15°-30°, 30°-45°, > 45°
Eker et al., 2012	6	0-5°, 5-10°, 10-15°, 15-20°, 20-25°, >25°
Ercanoglu, 2005	6	0-10°, 10-20°, 20-30°, 30-40°, 40-50°, 50°>
Ercanoğlu et al., 2004	5	<6°, 6-16°, 16-25°, 25-33°, > 33°
Erener and Kaynia, 2007	6	0-5°, 5-10°, 10-15°, 15-20°, 20-25°, 25°>
Erener and Lacasse, 2007	6	0-5°, 5-10°, 10-15°, 15-20°, 20-25°, 25°>
Fenghuan et al., 2010	7	<5°, 5°-15°, 15°-25°, 25°-35°, 35°-45°, 45°-55°, >55°
Gandhi, 2016	6	0-5°, 5-10°, 10-15°, 15-20°, 20-25°, > 25°
Guo et al., 2015	5	0-10°, 10-20°, 20-30°, 30-40°, >40°
Akıncı and Kılıçoğlu, 2015	10	0-5°, 5-10°, 10-15°, 15-20°, 20-25°, 25-30°, 30-35°, 35-40°, 40-45°, >45°
Hadji et al., 2016	5	≤3°, 3°-5°, 5-15°, 15°-25°, > 25°
Hasekiogullari, 2011	6	0-10°, 10-20°, 20-30°, 30-40°, 40-50°, 50-60°
Hinal et al., 2014	3	0-10°, 10-20°, 20-60°
Kanwal, 2016	5	0-5°, 5-15°, 15-30°, 30-45°, 45-87°
Karakaya, 2003	5	0-3°, 3-7°, 7-15°, 15-30°, >30°
Kavazoglu et al., 2010	8	0-5°, 5-12°, 12-17°, 17-22°, 22-27°, 27-32°, 32-38°, 38-86°

Kavzoglu et al., 2014	8	0–5°, 5–10°, 10–15°, 15–20°, 20–25°, 25–30°, 30–35°, 35–86°
Kavzoglu et al., 2015	8	0-8.6°, 8.6-14.2°, 14.2-19.3°, 19.3-24.2°, 24.2-28.8°, 28.8-33.7°, 33.7-40.1°, 40.1-62.0°
Kayastha, 2015	5	<15°, 15–25°, 25–35°, 35–45°, >45°
Khanlari et al., 2014	5	<5°, 5-15°, 15-25°, 25-35°, >35°
Kouli et al., 2014	5	0–5°, 5–15°, 15-30°, 30°-45°, >45°
Kumtepe et al., 2009.	5	0-3°, 3-7°, 7-15°, 15-30°, >30°
Laldintluanga et al., 2016	6	0-10°, 10-20°, 20-30°, 30-40°, 40-50°, >50°
Lee and Min, 2001	5	0–5°, 5–15°, 15–30°, 30–50°, >50°
Leonardi et al., 2017	4	<8°, 9-15°, 16-25°, >26°
Liu and Wu, 2016	6	0°-8°, 8°-16°, 16°-24°, 24°-32°, 32°-40°, >40°
Mandal and Mandal, 2017	5	0-13.37°, 13.37-21.69°, 21.69-29.84°, 29.84-38.43°, 38.43-60.63°
Matebie et al., 2014	7	0-5°, 5-10°, 10-15°, 15-20°, 20-30°, 30-40°, 40-67°
Milewski et al., 2009	3	0-10°, 10-30°, >30°
Moradi and Rezaei, 2014	5	<6°, 6-16°, 16-25°, 25-33°, >33°
Özdemir, 2007	5	0-2°, 2-15°, 15-25°, 25-45°, 45-68°
Özşahin ve Kaymaz, 2013	5	0-3°, 3-10°, 10-20°, 20-30°, >30°
Özşahin, 2014	5	0-15°, 15-25°, 25-35°, 35-45°, 45°>
Özşahin, 2015	5	0-15°, 15-25°, 25-35°, 35-45°, 45°>
Padrones et al., 2017	5	0-6.5°, 6.5-12.5°, 12.5-22.5°, 22.5-45°, >45°
Pawley et al., 2017	6	0-5°, 5-15°, 15-25°, 25-35°, 35-55°, >55°
Pham et al., 2015	6	0-8°, 8-15°, 15-25°, 25-35°, 35-45°, >45°
Pham et al., 2017a	6	0–8°, 8–15°, 15–25°, 25–35°, 35–45°, >45°
Pham et al., 2017b	6	0–10°, 10–20°, 20–30°, 30–40°, 40–50°, 50–60°, >60°
Pradhan and Kim, 2014	5	0–15°, 15–25°, 25–35°, 35–45°, >45°
Pradhan and Kim, 2017	6	0–11.12°, 11.12°-19.20°, 19.20°–26.6°, 26.62°–33.69°, 33.69°–40.76°, 40.76°-49.18°, >86.24°
Raja et al., 2017	5	<10°, 10–20°, 20–30°, 30–40°, >40°
Ramakrishnan et al., 2005, 2013	8	<14°, 14–25°, 25–30°, 30–34°, 34–39°, 39–45°, 45–60°, >60°
Ramesh and Anbazhagan, 2015	5	<13°, 13–22°, 22-32°, 32-45°, >45°
Rozos et al., 2011, 2010	5	0–5°, 6–15°, 16–30°, 31–45°, >45°
Saadatkah et al., 2014a	6	0-10°, 10-20°, 20-30°, 20-40°, 40-50°, 50-90°
Saadatkah et al., 2014b	5	0-10°, 10-20°, 20-30°, 30-50°, >50°
Sadr et al., 2014a	3	<15°, 15-35°, >35°
Sadr et al., 2014b	5	0-10°, 10-20°, 20-30°, 30-40°, >40°
Sakkas et al., 2016	6	<5°, 5-15°, 15-30°, 30-45°, 45-50°, 50°>
Saponaro et al., 2015	4	0–6.6°, 6.6–16.6°, 16.6–27.5°, >27.5°
Saputra et al., 2017	6	0-2°, 2-7°, 7-15°, 15-30°, 30-70°, >70°
Saro et al., 2016	9	0-5°, 6-10°, 11-15°, 16-20°, 21-25°, 26-30°, 31-35°, 36-40°, 41-90°
Shit et al., 2016	5	<10°, 10-20°, 20-30°, 30-40°, >40°
Simon et al., 2017	4	<15°, 15-25°, 26-35°, >35°
Sujatha and Rajamanickam, 2011	5	0–15°, 15–25°, 25–35°, 35–45°, >45°
Tazik et al., 2014	6	0-5°, 5-15°, 15-30°, 30-50°, 50-70°, 70°<
Timilsina et al., 2014	6	10°, 10°–20°, 20°–30°, 30°–40°, 40°–50°, >50°
Vestena and Kobiyama, 2014	6	0-3°, 3-8°, 8-20°, 20-45°, 45-75°, >75°
Walde et al., 2017	6	0-5°, 5-10°, 10-15°, 15-20°, 20-30°, >30°
Wu and Ke, 2016	5	0–7°, 8–14°, 15–21°, 22–28°, 29–38°.
Wu et al., 2016 a, b	6	0–8°, 8–16°, 16–24°, 24–32°, 32–40°, >40°
Yalçın, 2007	6	0-10°, 10-20°, 20-30°, 30-40°, 40-50°, >50°
Zeng et al., 2017	4	0°-15°, 15°-35°, 35°-50°-50°-90°
Zhang et al., 2016a	6	0–10°, 10–20°, 20–30°, 30–40°, 40–50°, 50–65°
Zhang et al., 2016b	7	0–8°, 8–16°, 16–24°, 24–32°, 32–40°, 40–48°, >48°
Zhuang et al., 2015	20	0°–5°, 5°-10°, ..., 70°–75°, >75°

Researcher (s)	Class	Researcher (s)	Class
Chena et al., 2017	40–50°	Ercanoğlu et al., 2004	26°-30°
Ahmed et al, 2014	30 - 45°	Ercanoğlu et al., 2008	10°-30°
Akgün, 2011	0-20°	Erener et al., 2016	5–10°
Akgün et al., 2008	20-30°	Erener and Kaynia, 2007	10-15°
Akgün and Türk, 2010	0-10°	Erener, 2009	15-25°
Akıncı et al., 2015	10-20°	Erener and Lacasse, 2007	5-15°
Akıncı et al., 2010	5-15°	Falaschi, 2009	10°-24°
Akıncı et al., 2011	5-10°	Feizizadeh et al., 2014	20.1-30°
Akıncı et al., 2014	15-20°	Gandhi, 2016	0-5 °
Akıncı and Kılıçoğlu, 2015	5-10°	Gheshlaghi and Feizizadeh, 2017	25-35°
Altural, 2012	0-5°	Görüm, 2006	5-25 ⁰
Avci 2016b	5-25°	Gritzner et al., 2001	25°-40°
Avci, 2015	25-45 ⁰	Guo et al., 2015	20-40°
Avci, 2016a	>45°	Guri et al., 2015	>30 °
Avci, 2017	5-15°	Guzzetti et al., 2008	5°-20°
Ayalew and Yamagishi, 2005	4-30°	Hadji, et al., 2016	15-40°
Ayalew et al., 2004	2.5-15°	Hadji, et. al., 2017	10-15°
Ayalew et al., 2005	13°-17°	Hasekiogulları and Ercanoglu, 2012	20°-30°
Bagheri et al., 2017	5–15°	Hasekiogulları, 2011	10-20°
Balachandran et al., 1996	30 °	Havenith et al., 2006	8°-16°
Balamurugan et al., 2016	37-68°	He et al., 2012	<20 °
Bednarik et al., 2010	20–31°	Hong et al., 2016a	15–30°
Bourenane et al., 2015	20-30°	Hong et al., 2016b	5–15°
Budimir et al., 2015	≥70°	Hong et al., 2017	16-30°
Bui et al., 2011	20-30°	Jaafari et al., 2014	30–50°
Bui et al., 2012	30–40°	Jager and Wiczorek, 1994	6°-25°
Çan, 2014	20-40°	Jakob, 2000	30°-40°
Canioni et al., 2008	6°-12°	Jarvis et al., 2008	>15°
Ceryan and Ceryan, 2008	<35°	Kavazoglu et al., 2010	22-32°
Çevik and Topal, 2003	0–10°	Kayastha et al., 2010	26-45 °
Chang and Kim, 2004	40~50°	Kayastha, 2015	25-45°
Chau and Chan, 2005	10-30°	Khezri, 2011	<30°
Chen et al., 2017c	<10	Klose et al., 2014	21-49 °
Chen et al., 2015	10–20°	Koukis and Ziourkas, 1991	<30 ⁰
Chen et al., 2013	3–35°	Lee, 2007	26°-30°
Chen et al., 2014	10–20°	Lee and Choi, 2004	>31°
Chen et al., 2016d	14–21°	Lee and Dani, 2005	16°-25°
Chen et al., 2016a	10–20°	Lee and Sambath, 2006	21°-25°
Chen et al., 2016b	32–40°	Lee and Talib, 2005	16°-25°
Chen et al., 2016c	14-21°	Lee et al., 2003	18°-23°
Chen et al., 2017	10–25°	Lee et al., 2004	18°-23°
Choubey et al., 1991	>45°	Lee et al., 2006	21°-35°
Conforti et al., 2014	25–30 °	Lee, 2004b	11°-15°
Conoscenti et al., 2008	11°-19°	Lee et al., 2015	34.46–37.19°
Dağ and Bulut, 2012	10°-30°	Li et al., 2017	>15°
Dağdelenler, 2013	0-37°	Maharaj, 1993	<45°
Dai and Lee, 2001	32-40°	Matebie et al., 2014	30 - 40 °
Dai et al., 2001	30°-40°	Mazman, 2005	15-25°
Dai and Lee, 2002	35-40°	Mehrotra et al., 1992	35
Delikanlı, 2010	15-25 ⁰	Meinhardt et al., 2015	30–40°
Demir, 2011	10- 15°	Mohammady et al., 2012	13–20°
Demoulin and Chung, 2007	4°-10°	Moosavi and Niazi, 2016	>65°
Deniz, 2005	<20	Moreiras, 2005	>31°
Deoja et al., 1991	25-45°	Moreras, 2014	5-45 °

Devkota ve ark. (2013) 'de	<45	Nagarajan ve diğ. (2000)	<35°
Dölek ve Avcı, 2016	5-30°	Nefeslioğlu et al. (2008b)	7°-21°
Duman et al. (2005)	5°-15°	Nefeslioğlu; (2003)	29°
Eker ve Aydın 2014	30-45°	Neuhäuser and Terhorst (2007)	11°-26°
Ercanoğlu (2005) ve	10°-30°	Nourani, et, al, 2014	45-60°
Ercanoğlu and Gökçeoğlu (2002),	26°-30°	okalp, 2013.	5-10 °
Opiso, et. al., 2016	>35	Rozos, et al, 2011	6- 30°
Ozdemir and Altural, 2013.	35-40	Rozos, et. Al., 2010	6-30°
Özşahin 2015	45°>	Ruff and Czurda (2008)	20°-40°
Özşahin ve Kaymaz, 2013	>30°	Saadatkah, et al, 2014.	40-50°
ÖZŞAHİN, 2014.	15-20°	Sarkar and Kanungo, 2004	>45°
Özşahin, E., 2015.	>15°	Schernthanner (2005)	10°-30°
Panikkar ve Subramanyan, 1996	18-45 °	Sezer et. all., 2017.	13.05-28.76°
Park, et al, 2013.	>64°	Shahabi, et. al, 2015	30-40°
Perotto Baldiviezo ve arkadaşları, 2004	6-45°	Sidle ve Ochiai, 2006	30-40 °
Pham B. et al. 2015	35-45°	Simon, et al. (2017)	5°-35°
Pham, et., All., 2017b	15-45°	Sujatha, et al, 2014	25-35°
Pourghasemi, and Rossi (2017)	>50°	Tangestani (2009)	>45°
Pradhan and Kim, 2014.	>45°	Tangestani, 2004.	> 45
Pradhan ve Kim (2017)	>25°	Tanoli, et., All., 2017	20 °-50 °
Romer, and Ferentinou (2016)	12°-18°	Tasoglu, et. al, 2016	12- 30°
Roodposhti, et al, 2014.	25- 35°	Temesgen vd. (2001)	<20°
Wang, et. al, 2016d	50-60°	tombuş, 2005	10°-30°
Well, 1988; Tağıl, 2009	>30°	Umar, et al, 2014	7.64-10.42°
Wu, et al, 2014.	6.38-16.78°	Uromeihy ve MahdaviFar (2000)	<25°
Wu, et. al, 2016b	32-40°	Wang and Li, 2017.	20-30°
Wu, et. al. 2016	24-32°	Wang, et. al, 2016b	0-8°
Yalçın (2008)	<40°	Youssef, 2015.	>45°
Yalçın and Bulut (2007)	10°-40°	Youssef, et, al, 2015b	35.65-39.24°
Yalçın vd 2011	10-20°	Yüksel (2007	10°-30°
Yalçın, 2007.	10° -40°	Zare, et al, 2013	<60°
Yalçın, 2008	<40 °	Zeng vd., 2017	15 ° -35 °
Yeşiloğlu, (2006),	23°	Zhang ve ark. (2016)	10-20 °
Yılmaz (2007)	<42°	Zhang, et. al, 2016	0-8°
Yılmaz (2009a)	5°-20°	Zhao, et. al, 2015	32-40°
Yılmaz (2009b)	14°-28°	Zhou et al (2002),	25 ° -35 °
Zhuang, et al, 2015	25 ° -40 °	Zhuang ve diğ. al, 2016	20 - 35°

Table 2. Researchers and slope angle intervals to the selected studies

Researcher	Class	Researcher	Class	Researcher	Class
Afungang et al., 2017	0-70°	Ercanoğlu et al., 2004	0-89°	Dağdelenler, 2013	0-65°
Aghdam et al., 2016	0-68°	Erener, 2009	0-65°	Demir, 2016	0-30°
Akinci et al., 2014	0-82°	Erener and Lacasse, 2007	0-55°	Deniz, 2005	0-80°
Akinci and Kılıçoğlu, 2015	0-89°	Guo et al., 2014	0-76°	Dölek and Avcı, 2016	0-64.78°
Alkeveli, 2015	0-80°	Guri et al., 2015	0-82°	Tombuş, 2005	5-50°
Alkeveli, 2009	0-71°	Hadji et al., 2016	0-74°	Yeşiloğlu, 2006	0-63°
Alkeveli, 2015	0-80°	Hasekioğulları, 2010	0-58.64°	Yılmaz, 2007	0-63
Altural, 2012	0-50°	He et al., 2012	0-70°	Yüksel, 2007	0-55°
Avcı, 2016a	0-56°	Hinal et al., 2014	0-60°	Chiessi et al., 2016	0-75°
Avcı, 2016b	0-68°	Kavazoğlu et al., 2012	0-86°	Özdemir, 2007	0-68°
Bulkhi and Al-Katheeri, 2014	0-84°	Klose et al., 2014	0-49°	Pradhan and Kim, 2017	0-86,24°
Çan, 2014	0-45°	Kouli et al., 2014	0-84°	Sidle and Ochiai, 2006	0-45°
Çellek, 2013	0-60°	Nefeslioğlu, 2003	0-68°	Tangestani, 2004	0-70°
Champati et al., 2007	0-86°	Saro et al., 2016	0-90°	Tanoli et al., 2017	0-80°

Chauhan et al., 2010	0-90°	Pradhan and Kim, 2014	0-70°	Chena et al., 2017	0-80,84°
Che et al., 2012	0-43°	Rajakumar et al., 2007	25-90°	Saponaro et al., 2015	0-88°
Chen et al., 2017	0-46°	Şahin, 2012	0-86°	Çellek et al., 2015	0-60°

Table 2. Slope angles with non-landslides or rarely landslides

Researcher(s)	Class
Özşahin and Kaymaz, 2013; Hadji et al., 2016; Devkota et al., 2013	0°-3°
Erener and Kaynia, 2007	<5°
Pham et al., 2015; Selby, 1993; Derruau, 1983; Pham et al., 2017b	<8°
Bourenane et al., 2015	5°-10°
Dai et al., 2001; Zhang et al., 2016; Bui et al., 2011	0°-10°
Tasoglu et al., 2016	<12°
Klose et al., 2014	<14°
Ahmed et al., 2014	<15°
Erener and Lacasse, 2007	>15°
Gandhi, 2016; Erener and Kaynia, 2007; Jager and Wiczorek, 1994	>25°
Çevik ve Topal, 2003; Akgün, 2011	30°-40°
Dai and Lee, 2002	>40°
Devkota et al., 2013; Ercanoğlu and Gökçeoğlu, 2002; Avcı, 2016a; Jakob, 2000	>45°
Dai et al., 2001*	40°-50°
Zhang et al., 2016	50°-65 °
Dai et al., 2001; Kanungo et al., 2011; Wang et al., 2015; Wang and Li, 2017; Chena et al., 2017; .Jaafari et al., 2014; .Nefeslioğlu, 2003; Bui et al., 2011	>50°

Otomatic	3	5	8	10	15	18	20
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Otomatic	3	5	8	10	15	18	20
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Otomatic	3	5	8	10	15	18	20
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Figure 6. Distribution of landslide areas by slope classes