

GEOMORPHOLOGICAL INVESTIGATIONS ON LANDSLIDE DAMS

Landslide Dams DataBase

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Localization	ID	1	2	3
	Locality	Comineto	Groppallo	Lago Nero
	Municipality	Farini	Farini	Ferriere
	Province	Piacenza	Piacenza	Piacenza
	Region	Emilia Romagna	Emilia Romagna	Emilia Romagna
	UTM E, N crown	549454; 4946810	550187; 4951425	540250; 4934400
	UTM E, N dam	549215; 4947647	550087; 4948738	540025; 4934750
Consequences	L.-damages	Comineto village damaged	destruction of a cottage	
	u-damages			
	d-damages			
	Bibliography	Almagià (1907), Ermini (2000)	Trabucco (1889), Almagià (1907), Ermini (2000)	Trabucco (1891), Almagià (1907), Ermini (2000)
	Note	man-made emptying lake and fluvial works		
Landslide	Movement	slump	flow	fall
	Velocity		moderate	very fast
	v		5.00E-05	5.00E-01
	Material	debris	debris	rock stone
	Lithology	clay, sandstone	clay and altered sandstone, limestone	ophiolite
	Water c.	wet	wet	
	H L.	177	618	275
	α	10.6	10.9	19.4
	β	12.0	11.0	15.9
	L L.tot.	820	3680	1161
	L L.body	540	1700	750
	Wmax	450	725	375
	Wmin	250	250	200
	D _{eff}	22.5	25	
	S L.	550000	1700000	
	V L.	2861325	22241667	
	Trigger	fluvial erosion of foot of the scarp by Lavaiana river	heavy rainfall	
	Prev. activations	prec.1887		
Dam	Date of damming	1980	30/06/1888	Prehistoric
	Date of failure			
	d type	III	II	II
	L d	180	30	250
	W d	450	150	350
	H d	15	10	15
	S d			
	V d	500000	45000	1300000
	Q d	573	622	1465
	d condition	artificially stabilized	toe erosion	slightly cut
	Evolution	formed-unstable	not formed	formed-stable
	Type of Failure			
Stream	Main Basin	Po	Po	Po
	Dammed R.	T. Lavaiana	T. Lavaiana	Rio Grugola
	Wvalley	75	330	150
	Subt. S	17.6	21.3	0.5
	S	3.4	8.5	9.0
Lake	Lake name	no name		Lago Nero
	L lake			200
	W lake			100
	D lake			
	S lake			15000
	V lake			
	Q lake			1540
	h of Lac.dep.			
	Lake life time	months		Centuries
	Lake Condition	disappeared for man-made influence	not formed	Existing

Localization	ID	4	5	6
	Locality	Bettola	Illica	Corniglio
	Municipality	Bettola	Accumoli	Corniglio
	Province	Piacenza	Parma	Parma
	Region	Emilia Romagna	Emilia Romagna	Emilia Romagna
	UTM E, N crown	546125; 4958500	548925; 4936162	585725; 4923687
	UTM E, N dam	547825; 4957325	549114; 4935442	585625; 4926200
Consequences	L.-damages	in 1736 and 1851 distruction of 30 and 20 cottages	destruction of the Mezzane convent; trasferred to Compiano	destruction of the aqueduct, 1 cottage, a bridge over Parma; damaged 2 houses
	u-damages			flooding
	d-damages			
	Bibliography	Trabucco (1891), Almagià (1907), Ermini (2000)	Boccia (1804), Almagià (1907), Ermini (2000)	Boccia(1804), Almagià (1907), Martelli (1916), Ermini (2000)
	Note	not formed lake (slow movement, width of valley)		damming not complete (Martelli, 1914). Upstream was an ancient lake named as big
Landslide	Movement	complex		slump
	Velocity	moderate	moderate	moderate
	v	5.00E-05	1.39E-04	5.00E-04
	Material	debris		debris
	Lithology	marly limestone, altered sandstone with clay	clay, sandstone and limestone	sandstone and mudstones
	Water c.			
	H L.	325	475	465
	α	9.7	13.4	12.9
	β	11.0	21.2	10.0
	L L.tot.	1850	1450	2940
	L L.body			
	Wmax	250	700	1000
	Wmin	125	425	
	D _{ri}	12.5	35	100
	S L.			2750000
	V L.	5781250	18591417	200000000
	Trigger			heavy rainfall
	Prev. activations	1736; 1802; 1851		1612;174
Dam	Date of damming	06/1889	12/11/1725	1770
	Date of failure		20/11/1725	
	d type	I	III	VI
	L d	50	150	250
	W d	425	400	500
	H d	10	40	25
	S d			
	V d	210000	1500000	3125000
	Q d	335	690	585
	d condition	toe erosion	strongly cut	moderatly cut
	Evolution	not formed	formed-unstable	formed-unstable
	Type of Failure		overtopping	
Stream	Main Basin	Po	Po	Po
	Dammed R.	T. Nure	T. Ceno	F. Parma
	Wvalley	375	120	250
	Subt. S	256.4	64.3	76.9
	S	1.0	0.6	1.4
Lake	Lake name		L. di Illica	no name
	L lake		2000	900 ?
	W lake		300	200 ?
	D lake		39	
	S lake			
	V lake			
	Q lake		715	585
	h of Lac.dep.		4.5	
	Lake life time	-	days	days
	Lake Condition	not formed for erosion	disappeared for dam collapse	disappeared

Localization	ID	7	8	9
	Locality	Signatico	Cerredolo	Ciano
	Municipality	Corniglio	Toano	Canossa
	Province	Parma	R.Emilia	R.Emilia
	Region	Emilia Romagna	Em.Rom	Emilia Romagna
	UTM E, N crown	589500; 4932500	627525; 4917375	612500; 4937800
	UTM E, N dam	591192; 4931140	627331; 4918518	611400; 4937675
Consequences	L.-damages	Provincial street n.13 and 15 buildings damaged		
	u-damages	flooding for 2 km	flooding	flooding
	d-damages		breakage of an embankment of the Secchia already damaged from a previous flooding	
	Bibliography	Almagià (1907), Ermini (2000)	Colombetti et al. (1989), Ermini (2000)	Almagià (1907), Boccia (1804), Ermini (2000)
	Note	landslide was breached to drain the water, in spite of this lake survived for few years	gradual overflow through a deep men-made channel. Lake survived some time	
Landslide	Movement	flow	slump	slump
	Velocity	moderate	moderate	
	v	5.00E-04	5.00E-03	5.00E-05
	Material	debris	rock and debris	debris
	Lithology	marl and limestone	marl and limestone	clay
	Water c.	wet		wet
	H L.	363	305	245
	α	11.4	10.2	12.8
	β	9.6	13.6	10.0
	L L.tot.	2427	1400	1640
	L L.body			1050
	Wmax	725	500	750
	Wmin	200	200	300
	D _{ri}	36.25	33.33333333	37.5
	S L.	1750000	600000	
	V L.	63784594	13000000	18545625
	Trigger	orientation of rocks, lithologic features, the rio Venturina keep wet the materials	heavy rainfall	heavy rainfall
	Prev. activations	1836;1879	1939	
Dam	Date of damming	1896, 1947	05/1725	05/1725
	Date of failure			
	d type	III	III	I
	L d	450	250	200
	W d	620	500	300
	H d	30	35	15
	S d	100000	125000	350000
	V d	8370000	4375000	1400000
	Q d	467	330	195
	d condition	artificially cut	artificially cut	toe erosion
	Evolution	formed-unstable	formed-unstable	not formed
	Type of Failure			
Stream	Main Basin	Po	Po	Po
	Dammed R.	F. Parma	F. Secchia	F. Enza
	Wvalley	300	250	660
	Subt. S	151.5	341.0	464.2
	S	0.7	0.4	0.2
Lake	Lake name	L. di Curatico - L.di Vestola	L.di Cerredolo	no name
	L lake	2000	4000	
	W lake	300	300	
	D lake	30	28	15
	S lake	550000	942000	
	V lake	8000000	13188000	
	Q lake	475	324.75	205
	h of Lac.dep.	5		
	Lake life time	years	months	-
	Lake Condition	disappeared for filling and man-made influence	disappeared for man-made influence	not formed

Localization	ID	10	11	12
	Locality	Cervarezza	Fontanaluccia	Boccassuolo
	Municipality	Busana	Frassinoro	Palagano
	Province	R.Emilia	Modena	Modena
	Region	Emilia Romagna	Emilia Romagna	Emilia Romagna
	UTM E, N crown	606450; 4914550	621175; 4902250	629900; 4903675
	UTM E, N dam	607531; 4914126	620104; 4903043	627050; 4904425
Consequences	L-damages	14 buildings destroyed and 24 damaged	a church and bell tower damaged, 7 barns, 1 cottage	
	u-damages			flooding of Cargedolo
	d-damages			
	Bibliography	Almagià (1907), Ermini (2000)	Almagià (1907), Ermini (2000)	Almagià (1907), Ermini (2000)
	Note			
Landslide	Movement	complex	complex	complex
	Velocity	moderate		
	v	5.00E-05	5.00E-05	5.00E-05
	Material			rock and debris
	Lithology	clay, sandstone	clay, sandstone	clay, sandstone and ophirole
	Water c.			
	H L.	760	270	680
	α	27.1	13.9	14.2
	β	13.0	12.3	14.0
	L L.tot.	3300	1500	3000
	L L.body	1500		
	Wmax	1200	500	750
	Wmin	300	350	300
	D _{ri}	78	25	37.5
	S L.	1030000	500000	
	V L.	50544000	9812500	44156250
	Trigger			
	Prev. activations	1472;1560;1697;1715		
Dam	Date of damming	15/02/1832	15/02/1832	1707
	Date of failure			
	d type	I	II	III
	L d	70	75	175
	W d	400	500	700
	H d	12	30	30
	S d		62000	
	V d	170000	1000000	3600000
	Q d	502	760	750
	d condition	partial blockage	partial blockage	slightly cut
	Evolution	not formed	not formed	formed-stable
	Type of Failure			
Stream	Main Basin	Po	Po	Po
	Dammed R.	F. Secchia	T. Dolo	T. Dragone
	Wvalley	440	100	120
	Subt. S	156.7	34.7	60.8
	S	1.3	2.0	1.7
Lake	Lake name			no name
	L lake			1000
	W lake			
	D lake			
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time	-	-	years
	Lake Condition	not formed for deviation	not formed	disappeared for filling and man-made influence

Localization	ID	13	14	15
	Locality	Frassinoro	Tollara	Lama Mocogno
	Municipality	Frassinoro	Montefiorino	Lama Mocogno
	Province	Modena	Modena	Modena
	Region	Emilia Romagna	Emilia Romagna	Emilia Romagna
	UTM E, N crown	625500; 4908450	626875; 4908800	637200; 4907000
	UTM E, N dam	628435; 4906317	628950; 4907375	639050; 4905792
Consequences	L.-damages	districition of Sassatella village, 47 houses; this led many inhabitants to emigrate	destruction of Casa Tollara (1886)	destruction of a stretch of Giardini road and many houses
	u-damages			flooding for 4 km
	d-damages			
	Bibliography	Almagià (1907), Soldati and Tosatti (1993), Ermini (2000)	Almagià (1907), Soldati and Tosatti (1993), Ermini (2000)	Almagià (1907), Ermini (2000)
	Note	lake extension reduced by deposits		
Landslide	Movement	complex	complex	complex
	Velocity			
	v	5.00E-04	5.00E-04	5.00E-04
	Material	debris and earth	earth	
	Lithology	clay, sandstone and ophiolite	clay, sandstone and ophiolite	marl, limestone marly and mudstones
	Water c.		wet	
	H L.	640	505	430
	α	11.0	27.7	8.0
	β	11.0	12.4	10.3
	L L.tot.	3805	2550	2660
	L L.body			
	Wmax	1050	475	1600
	Wmin	200	275	270
	D _{rf}	52.5	23.75	80
	S L.		800000	1500000
	V L.	109769494	15054828	178184533
	Trigger	heavy rainfall		
	Prev. activations		31/12/1886;1944	1400;1574;1575;1689;1835;1864
Dam	Date of damming	05/1598	31/12/1886	06/1879
	Date of failure		31/12/1886	
	d type	III	II	III
	L d	250	200	300
	W d	1000	800	800
	H d	25	25	30
	S d			
	V d	6250000	7000000	8000000
	Q d	675	595	505
	d condition		slightly cut	moderately cut
	Evolution	formed-stable	formed-stable	formed-stable
	Type of Failure			
Stream	Main Basin	Po	Po	Po
	Dammed R.	T. Dragone	T. Dragone	T. Scoltenna
	Wvalley	125	125	125
	Subt. S	75.2	90.8	218.7
	S	1.7	4.0	1.1
Lake	Lake name	L. Casoni	L. di Toggiano	L. di Lama Mocogno
	L lake	1000	600	1375
	W lake	300	250	200
	D lake	20	15	20
	S lake			
	V lake			750000
	Q lake			484
	h of Lac.dep.			
	Lake life time		years	years
	Lake Condition	disappeared for filling	disappeared for filling and man-made influence	disappeared for spillway erosion and partly filled

Localization	ID	16	17	18
	Locality	Caselle	Groppo	S.Anna Pelago
	Municipality	Fanano	Riolunato	Pievepelago
	Province	Modena	Modena	Modena
	Region	Emilia Romagna	Emilia Romagna	Emilia Romagna
	UTM E, N crown	643930; 4894141	629450; 4899875	622501; 4893236
	UTM E, N dam	643473; 4894056	631441; 4898654	624235; 4894599
Consequences	L.-damages	Destruction of 2 buildings and 1 house and a chestnut	47 houses, 1 bridge and Giardini street destroyed	182 buildings, streets, bridges and crops destroyed
	u-damages	flooding for 500 m of Fanano-Ospitale street	flooding of Riolunato village	
	d-damages			
	Bibliography	Pellegrini and Tosatti (1982), Ermini (2000)	Almagià (1907), Ermini (2000)	Almagià (1907), Ermini (2000)
	Note	man-made emptying lake. Mines detonated on lake side to fill the depression	1 fatality; artificial excavation of a channel	
Landslide	Movement	slump	slump	complex
	Velocity		fast	fast
	v	1.39E-04	5.00E-03	5.00E-03
	Material	debris	rock and debris	
	Lithology	sandstone, marl and mudstones	sandstone, marl and mudstones	
	Water c.			
	H L.	200	560	556
	α	30.5	12.2	10.6
	β	25.0	14.5	10.0
	L L.tot.	500	2400	3540
	L L.body	380		2000
	Wmax	500	400	2500
	Wmin	150	200	
	D _{rf}	15	20	60
	S L.	14000	600000	7000000
	V L.	1491500	19200000	157000000
	Trigger	seismic event		
	Prev. activations		1636	1590
Dam	Date of damming	05/03/1952	09/12/1786	21/12/1896
	Date of failure			
	d type	I	III	VI
	L d	110	150	200
	W d	320	875	370
	H d	8	80	40
	S d			
	V d	200000	10500000	1500000
	Q d	628	745	1034
	d condition	breached	artificially cut	slightly cut
	Evolution	formed-unstable	formed-unstable	formed-unstable
	Type of Failure	overtopping		overtopping
Stream	Main Basin	Po	Po	Po
	Dammed R.	T. Ospitale	T. Scoltenna	T. Perticara
	Wvalley	100	75	100
	Subt. S	23.3	147.3	7.9
	S	0.6	1.2	4.3
Lake	Lake name	no name	L. di Groppo	no name
	L lake	500	1400	Lago vastissimo
	W lake	50	250	
	D lake	8	50	
	S lake		230000	
	V lake		5300000	
	Q lake	628	740	
	h of Lac.dep.			
	Lake life time	days	months	days
	Lake Condition	disappeared for dam collapse	disappeared for man-made influence	disappeared

Localization	ID	19	20	21
	Locality	Silvelle	Lotta	Arsicciola
	Municipality	Riolunato	Fanano	Fanano
	Province	Modena	Modena	Modena
	Region	Emilia Romagna	Emilia Romagna	Emilia Romagna
	UTM E, N crown	631125; 4902125	641812; 4898725	640615; 4894350
	UTM E, N dam	632125; 4900100	644597; 4897552	640537; 4894924
Consequences	L.-damages		destruction of Lotta village	15 houses and a church destroyed
	u-damages	flooding	flooding	flooding
	d-damages			
	Bibliography	Almagià (1907), Ermini (2000)	Almagià (1907), Ermini (2000)	Almagià (1907), Ermini (2000)
	Note			3 fatalities (1677)
Landslide	Movement	flow	slump	slump
	Velocity			fast
	v		5.00E-04	5.00E-03
	Material			rock and debris
	Lithology	sandstone, marl and mudstones	sandstone, marl and mudstones	clay
	Water c.			
	H L.	496	510	285
	α	31.7	9.0	28.9
	β	13.0	9.0	0.7
	L L.tot.	2300	3290	1000
	L L.body	1700		
	Wmax	1250	1000	300
	Wmin	200	250	125
	D _{eff}	30	50	15
	S L.		1900000	
	V L.	33362500	86088333	2355000
	Trigger			heavy rainfall
	Prev. activations			20/01/1677
Dam	Date of damming	21/12/1619	12/04/1590	09/12/1728
	Date of failure			10/12/1728
	d type	III	III	II
	L d	175	300	175
	W d	250	1050	250
	H d	20	40	20
	S d			
	V d	500000	12600000	300000
	Q d	640	480	760
	d condition	breached	moderately cut	breached
	Evolution	formed-unstable	formed-stable	formed-unstable
	Type of Failure	overtopping		overtopping
Stream	Main Basin	Po	Po	Po
	Dammed R.	T. Scoltenna	T. Leo	T. Fellicoloro
	Wvalley	75	150	100
	Subt. S	151.6	76.7	17.3
	S	1.3	2.0	3.1
Lake	Lake name	no name	L.di Lotta	no name
	L lake	1000	1000	
	W lake		250	
	D lake		20	
	S lake		20000	
	V lake		2000000	
	Q lake		475	
	h of Lac.dep.			
	Lake life time	days	years	hours
	Lake Condition	disappeared for dam collapse	disappeared for filling	disappeared for dam collapse

Localization	ID	22	23.1	23.2
	Locality	Pozzadello	Bombiana	Pian di Casale
	Municipality	M.S.Pietro	Gaggio Montano	Gaggio Montano
	Province	Bologna	Bologna	Bologna
	Region	Emilia Romagna	Emilia Romagna	Em.Rom
	UTM E, N crown	;	658500; 4898100	661800; 4895800
	UTM E, N dam	;	660625; 4895900	661000; 4896175
Consequences	L.-damages			
	u-damages			
	d-damages			
	Bibliography	Ermini (2000)	Calindri (1781), Ermini (2000)	Ermini (2000)
	Note			
Landslide	Movement		complex	slide
	Velocity		moderate	moderate
	v		5.00E-05	5.00E-05
	Material		debris and earth	
	Lithology		clay	clay
	Water c.		wet	wet
	H L.		495	155
	α		9.0	10.2
	β		9.3	11.0
	L L.tot.		3040	815
	L L.body			
	Wmax		600	375
	Wmin		80	200
	D _{rf}	0	30	18.75
	S L.	35000		
	V L.		12420000	2998945
	Trigger			
	Prev. activations			
Dam	Date of damming	03/1903		
	Date of failure	02/03/1907		
	d type	II	IV	IV
	L d	100	250	50
	W d	250	700	350
	H d	15	25	18.75
	S d	25000		
	V d	370000	4375000	315000
	Q d		310	303.75
	d condition	breached	breached	breached
	Evolution	formed-unstable	formed-unstable	formed-unstable
	Type of Failure	overtopping	overtopping	overtopping
Stream	Main Basin	Reno	Reno	Reno
	Dammed R.	T.Tradi'	F. Reno	F. Reno
	Wvalley	75	90	90
	Subt. S	1.5	260.0	260.0
	S		0.4	0.4
Lake	Lake name	no name	no name	no name
	L lake		1560	1560
	W lake		300	300
	D lake		25	25
	S lake		234000	
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time	hours	months	months
	Lake Condition	disappeared for dam collapse	disappeared for dam collapse	disappeared for dam collapse

Localization	ID	24	25	26
	Locality	Cinghiarello	Gardelletta	Maranina
	Municipality	Gaggio Montano	Marzabotto	Gaggio Montano
	Province	Bologna	Bologna	Bologna
	Region	Emilia Romagna	Emilia Romagna	Emilia Romagna
	UTM E, N crown	658925; 4895875	678125; 4906600	661620; 4898620
	UTM E, N dam	659550; 4894525	678325; 4907475	662280; 4898495
Consequences	L.-damages		4 building and municipal road involved	5 buildings and a stretch of Porrettana road destroyed
	u-damages			
	d-damages			
	Bibliography	Ermini (2000)	Catenacci (1992), Ermini (2000)	Calindri (1781), Ermini (2000), Carboni et al. (2001)
	Note	narrowing of the river without lake formation	formation of a meander in the river path	Carbon-14 dating
Landslide	Movement	slump	complex	slump
	Velocity	moderate	moderate	moderate
	v	5.00E-05	5.00E-05	5.00E-05
	Material			earth
	Lithology	clay	clay	clay
	Water c.			wet
	H L.	255	180	137
	α	10.5	25.7	10.6
	β	10.1	11.0	11.0
	L L.tot.	1500	1000	700
	L L.body			
	Wmax	500	200	100
	Wmin	100	100	
	D _{rf}	25	10	10
	S L.		180000	70000
	V L.	9375000	2000000	700000
	Trigger			
	Prev. activations	1901		1100
Dam	Date of damming	1902	1985	05/02/1996
	Date of failure	777	31138	
	d type	I	I	I
	L d	75	50	25
	W d	550	140	150
	H d	10	12	7
	S d		5800	525
	V d	200000	70000	20000
	Q d	330	197	266
	d condition	partial blockage	partial blockage	artificially stabilized
	Evolution	not formed	not formed	not formed
	Type of Failure			
Stream	Main Basin	Reno	Reno	Reno
	Dammed R.	F. Reno	T. Setta	F. Reno
	Wvalley	235	250	310
	Subt. S	256.0	275.3	281.3
	S	0.3	0.4	0.3
Lake	Lake name	-	-	-
	L lake			
	W lake			
	D lake			
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time	-	-	-
	Lake Condition	not formed for erosion	not formed for erosion	not formed for erosion

Localization	ID	27	28	29
	Locality	Serrazanetti	Castel dell'Alpi	Ca' Lamone
	Municipality	Gaggio montano	S.Benedetto val di Sambro	Brisighella
	Province	Bologna	Bologna	Ravenna
	Region	Emilia Romagna	Emilia Romagna	Emilia Romagna
	UTM E, N crown	658900; 4895800	681150; 4895550	721075; 4899225
	UTM E, N dam	659586; 4894345	681800; 4895525	721087; 4899625
Consequences	L.-damages		32 buildings involved	
	u-damages			
	d-damages			
	Bibliography	Ermini (2000)	Elmi (1988), Elmi (1993), Ermini (2000)	Ermini (2000)
	Note		building of a weir to preserve the dam and decrease erosion	the lake has not formed, just a still existing meander
Landslide	Movement		slump	
	Velocity	moderate	moderate	
	v	5.00E-05	5.00E-03	
	Material	debris		
	Lithology	clay	sandstone, marly limestone and mudstones	
	Water c.	wet		
	H L.	220	245	57
	α	6.9	9.0	9.1
	β	9.0	17.0	7.0
	L L.tot.	1450	820	500
	L L.body			
	Wmax	500	500	100
	Wmin	220	190	75
	D _{ri}	25	25	5
	S L.	430000	240000	50000
	V L.	18125000	5364167	130833
	Trigger	heavy rainfall	heavy rainfall	
	Prev. activations	1925	1895;1909; 1870	
Dam	Date of damming	15/02/1960	1951	1855
	Date of failure			
	d type	I	III	I
	L d	50	200	200
	W d	220	460	75
	H d	10	45	5
	S d		80000	
	V d	110000	4000000	75000
	Q d	290	675	
	d condition	partial blockage	artificially stabilized	partial blockage
	Evolution	not formed	formed-unstable	not formed
	Type of Failure			
Stream	Main Basin	Reno	Reno	Lamone
	Dammed R.	F. Reno	T. Savena	T. Lamone
	Wvalley	100	80	760
	Subt. S	263.3	21.8	375.5
	S	0.3	1.4	0.8
Lake	Lake name		L.di Castel del'Alpi	
	L lake		900	
	W lake		200	
	D lake		40	
	S lake			
	V lake		1500000	
	Q lake		695	
	h of Lac.dep.		25	
	Lake life time		years	
	Lake Condition	not formed for erosion	existing partly filled	not formed

Localization	ID	30	31	32.1
	Locality	Monteforca	Quarto di Savio	S.Piero in Bagno
	Municipality	Tredozio	Sarsina	Bagno di R.
	Province	Forlì	Forlì	Forlì
	Region	Emilia Romagna	Emilia Romagna	Emilia Romagna
	UTM E, N crown	719412; 4882775	746825; 4866075	742600; 4858500
	UTM E, N dam	718600; 4883425	747864; 4864320	739625; 4861500
Consequences	L.-damages	4 farms with cottages destroyed	4 cottages and a church destroyed	Baroncini village and a church destroyed
	u-damages	flooding	flooding of the countrysides	flooding to the outskirts of S.Piero in Bagno
	d-damages			
	Bibliography	Almagià (1907), Veggiani (1981), Ermini (2000)	Bertoni (1843), Gambi (1948), Ermini (2000)	Almagià (1907), Pesendorfer (1987), Ermini (2000)
Landslide	Note	11 fatalities; artificial excavation of a channel in the body of the landslide to prevent its failure	18 fatalities; the dam was lowered in 1828 with mines. Currently there is an artificial reservoir for hydroelectric purposes	
	Movement	slump	slump	slump
	Velocity	very fast	very fast	moderate
	v	5.00E-01	5.00E-01	5.00E-04
	Material	arenaria-pelite		
	Lithology	sandstone, marl, mudstones	sandstone, marl, mudstones	clay, sandstone
	Water c.	wet		
	H L.	150	500	420
	α	12.5	18.1	13.1
	β	12.5	13.0	5.0
	L L.tot.	1150	2259	4500
	L L.body			2900
	Wmax	1000	700	1800
	Wmin	125	675	600
	D _{rf}	30	100	50
	S L.	1000000	2000000	5000000
	V L.	18055000	82754700	136590000
	Trigger	snow melting, heavy rainfall		
	Prev. activations		1400;1584	1400;1584;1827
Dam	Date of damming	28/03/1895	21/03/1812	22/02/1855
	Date of failure			25/02/1855
	d type	III	III	IV
	L d	200	400	280
	W d	1000	600	800
	H d	15	70	15
	S d			
	V d	3000000	16000000	1000000
	Q d	390	315	445
	d condition	artificially cut	artificially cut	breached
	Evolution	formed-unstable	formed-unstable	formed-unstable
	Type of Failure			overtopping
Stream	Main Basin	Lamone	Savio	Savio
	Dammed R.	T. Tramazzo	F. Savio-Para	F. Savio
	Wvalley	60	250	300
	Subt. S	33.6	214.8	81.6
	S	2.0	0.7	1.2
Lake	Lake name	no name	L. di Quarto	no name - just a flood
	L lake	600	1550	500
	W lake	60	500	
	D lake	10	60	
	S lake		900000	
	V lake		24335000	
	Q lake			
	h of Lac.dep.			
	Lake life time	days		days
	Lake Condition	disappeared for man-made influence	Disappeared for man-made influence, partly filled	disappeared for dam collapse

Localization	ID	32.2	33	34
	Locality	S.Piero in Bagno	Tozzi	Tajolo
	Municipality	Bagno di R.	Bagno di R.	S.Agata F.
	Province	Forli'	Forli'	Pesaro
	Region	Emilia Romagna	Em.Rom	Marche
	UTM E, N crown	738275; 4863700	741925; 4864650	757075; 4866250
	UTM E, N dam	739750; 4861913	742100; 4863350	757310; 4866669
Consequences	L.-damages		11 buildings destroyed	
	u-damages	flooding to the outskirts of S.Piero in Bagno		flooding
	d-damages			
	Bibliography	Almagià (1907), Pesendorfer (1987), Ermini (2000)	Almagià (1907), Ermini (2000)	Almagià (1907), Gambi (1948), Ermini (2000)
	Note			
Landslide	Movement		slump	complex
	Velocity	moderate	fast	fast
	v	5.00E-04	5.00E-04	5.00E-03
	Material			debris
	Lithology	clay, sandstone	sandstone, marl	chalks and clay
	Water c.			wet
	H L.	325	335	175
	α	13.1	22.3	11.6
	β	9.0	16.6	16.7
	L L.tot.	2420	1370	670
	L L.body	2000	900	
	Wmax	300	400	675
	Wmin	200	200	100
	D _{rl}	15	20	33.75
	S L.			220000
	V L.	4710000	3140000	7987866
	Trigger			
	Prev. activations	1400;1584;1827		
Dam	Date of damming	22/02/1856	20/02/1903	1855
	Date of failure	25/02/1855		
	d type	IV	I	III
	L d	50	150	100
	W d	350	325	900
	H d	20	10	20
	S d			
	V d	262500	300000	2500000
	Q d	470	375	320
	d condition	breached	partial blockage	slightly cut
	Evolution	formed-unstable	not formed	formed-stable
	Type of Failure	overtopping		
Stream	Main Basin	Savio	Savio	Savio
	Dammed R.	F. Savio	F. Savio	T. Fanante
	Wvalley	300	225	75
	Subt. S	81.6	110.0	13.2
	S	1.2	0.5	3.5
Lake	Lake name	no name - just a flood	no name	no name
	L lake	500		500
	W lake			70
	D lake			
	S lake			35000
	V lake			
	Q lake			
	h of Lac.dep.			-
	Lake life time	days	hours	years
	Lake Condition	disappeared for dam collapse	not formed-disappeared for dam collapse	disappeared for filling

Localization	ID	35	36	37
	Locality	S.Agata Feltria	Caitasso	Tramarecchia
	Municipality	S.Agata F.	S.Marino	Badia Tedalda
	Province	Pesaro		Arezzo
	Region	Marche	Rep.S.Mar.	Toscana
	UTM E, N crown	759725; 4862000	774800; 4871500	754750; 4845325
	UTM E, N dam	755725; 4861400	774400; 4870550	754534; 4846472
Consequences	L.-damages	64 buildings destroyed	Houses and fields destroyed	
	u-damages	flooding		
	d-damages			
	Bibliography	Ermini (2000)	Ermini (2000)	Gambi (1948), Ermini (2000)
	Note			in March 1948: Depth max 5 m. Surf. 50000 m2
Landslide	Movement	slump		complex
	Velocity	moderate		moderate
	v	5.00E-05		5.00E-04
	Material			bedrock-(debris)
	Lithology	clay		limestone, marl, mudstones
	Water c.			wet-(molto wet)
	H L.	593	195	200
	α	10.7	9.7	19.1
	β	8.2	11.0	9.4
	L L.tot.	4530	1020	1200
	L L.body	3000		
	Wmax	1375	250	250
	Wmin	300	125	50
	D _{eff}	30	15	16.66666667
	S L.		1200000	160000
	V L.	64762500	2001750	2666667
	Trigger			fluvial erosion of foot of the slope, dip slope
	Prev. activations	1462	1855	
	Date of damming	25/03/1561	03/1854	15/12/1945
	Date of failure			
Dam	d type	III	II	III
	L d	200	80	200
	W d	1300	250	450
	H d		10	20
	S d			50000
	V d	2000000	200000	1500000
	Q d		190	590
	d condition	breached	partial blockage	moderately cut
	Evolution	formed-unstable	not formed	formed-stable
	Type of Failure	overtopping		
Stream	Main Basin	Savio	Marecchia	Marecchia
	Dammed R.	T. Marecchiola	T. S.Marino	Marecchia
	Wvalley	75	100	75
	Subt. S	10.8	27.0	40.8
	S	4.4	1.2	2.0
Lake	Lake name	no name		no name
	L lake			1000
	W lake			200
	D lake			10
	S lake			98000
	V lake			580000
	Q lake			570
	h of Lac.dep.			
	Lake life time	days		years
	Lake Condition	disappeared	not formed	disappeared for filling

Localization	ID	38	39	40
	Locality	Lizzano	Campogalli	Gamberara
	Municipality	Lizzano	Pratovecchio	Marradi
	Province	Pistoia	Arezzo	Firenze
	Region	Toscana	Toscana	Toscana
	UTM E, N crown	642737; 4882319	712400; 4858850	701175; 4878950
	UTM E, N dam	641512; 4882419	713375; 4858075	709650; 4879775
Consequences	L-damages	destruction of Lizzano and of a bridge over Lima River		
	u-damages	flooding of Modenese road		flooding
	d-damages			
	Bibliography	Almagià (1907), Ermini (2000)	Mori (1898), Almagià (1907), Ermini (2000)	Veggiani (1981), Ermini (2000)
	Note	in 1815 dam was breached by mines. Currently there is an artificial reservoir for hydroelectric purposes. The landslide is no more visible	a miller realized that something was wrong because water did not reach to his mill despite heavy rain	3 fatalities
Landslide	Movement	slide	slide	slide
	Velocity	fast	fast	fast
	v	5.00E-03	5.00E-02	5.00E-02
	Material	rock	rock	rock
	Lithology	sandstone	sandstone, mudstones	sandstone, marl, mudstones
	Water c.			
	H L	400	369	200
	α	33.4	22.8	
	β	13.0	15.0	21.0
	L L.tot.	1800	1400	540
	L L.body			
	Wmax	750	300	250
	Wmin	500	175	300
	D _{ri}	40	15	15
	S L.			60000
	V L.	28260000	6300000	2025000
	Trigger		heavy rainfall 56 mm. in 13 h	heavy rainfall
	Prev. activations			
Dam	Date of damming	31/01/1814	07-08/05/1898	15/04/1899
	Date of failure			
	d type	II	III	III
	L d	225	150	150
	W d	500	200	312
	H d	15	15	15
	S d	112500	20000	46000
	V d	2000000	400000	930000
	Q d	555	646	465
	d condition	artificially cut	moderately cut	moderately cut
	Evolution	formed-unstable	formed-stable	formed-stable
	Type of Failure			
Stream	Main Basin	Serchio	Arno	Lamone
	Dammed R.	Lima	F. Arno	F. Campigno
	Wvalley	125	100	70
	Subt. S	83.0	15.3	22.1
	S	1.5	3.5	2.2
Lake	Lake name	L. di Lizzano	L. Virginia	L. di Gamberara
	L lake	1125	140	300
	W lake	250	70	100
	D lake	14	12	15
	S lake	140000	6000	25000
	V lake	8400000		
	Q lake	550	665	465
	h of Lac.dep.			
	Lake life time	months	years	years
	Lake Condition	disappeared for man-made influence	disappeared for filling	disappeared for filling

Localization	ID	41	42	43
	Locality	Farfareta	Boesimo	Boesimo2
	Municipality	Marradi	Brisighella	Brisighella
	Province	Firenze	Forlì	Forlì
	Region	Toscana	Emilia Romagna	Emilia Romagna
	UTM E, N crown	707975; 4876625	715575; 4891650	715575; 4891650
	UTM E, N dam	707343; 4876925	714550; 4891400	715375; 4891240
Consequences	L.-damages		4 cottages destroyed	
	u-damages		flooding	
	d-damages			
	Bibliography	Veggiani (1981), Ermini (2000)	Ermini (2000)	Ermini (2000)
	Note	not sure if it formed the lake or a simple waterlogging	10 fatalities; emptied by Ing. Pier Maria Gravina	
Landslide	Movement	slide	slump	slump
	Velocity	fast	fast	fast
	v	5.00E-02	5.00E-03	5.00E-03
	Material	rock	rock	rock
	Lithology	sandstone, marl, mudstones	sandstone, marl, mudstones	sandstone, marl, mudstones
	Water c.			
	H L.	215	165	165
	α	18.0	20.5	11.7
	β	16.0	7.0	7.0
	L L.tot.	800	1500	1500
	L L.body			
	Wmax	300	625	625
	Wmin	160	200	200
	D _{rf}	15	41.66666667	41.66666667
	S L.	165000	450000	450000
	V L.	3600000	20442708	20442708
	Trigger		seismic event of 1688	seismic event of 1688
	Prev. activations			
Dam	Date of damming		11/04/1690	11/04/1690
	Date of failure			
	d type	III	III	III
	L d	70	150	150
	W d	200	250	300
	H d	15	20	40
	S d	14000	106000	17500
	V d	280000	500000	1500000
	Q d	575	230	250
	d condition	moderately cut	artificially cut	strongly cut
	Evolution	formed-stable	formed-unstable	formed-stable
	Type of Failure			
Stream	Main Basin	Lamone	Lamone	Lamone
	Dammed R.	F. Campigno	T. Lamone	Rio Boesimo
	Wvalley	40	312.5	40
	Subt. S	14.8	158.2	4.7
	S	2.7	0.2	3.6
Lake	Lake name	no name	no name	L. di Boesimo
	L lake	450	812	430
	W lake	100	250	150
	D lake		33	
	S lake			
	V lake			
	Q lake	575	235	
	h of Lac.dep.			
	Lake life time	years	months	years
	Lake Condition	disappeared for filling	disappeared for man-made influence	disappeared for filling

Localization	ID	44	45	46
	Locality	Crespino	Sazzi	Sorbano
	Municipality	Marradi	Marradi	Sarsina
	Province	Firenze	Firenze	Forlì
	Region	Toscana	Toscana	Emilia Romagna
	UTM E, N crown	704650; 4880300	711525; 4884675	753500; 4869850
	UTM E, N dam	704120; 4880006	710693; 4885018	754400; 4868550
Consequences	L.-damages			Roman necropolis of Pian di Bezzo flooded
	u-damages			
	d-damages			
	Bibliography	Veggiani (1981), Ermini (2000)	Ermini (2000)	Veggiani (1981), Ermini (2000)
	Note			
Landslide	Movement	slide	slide	slide
	Velocity	fast	fast	fast
	v	5.00E-03	5.00E-03	5.00E-03
	Material	rock	rock	rock
	Lithology	sandstone, marl, mudstones	sandstone, marl, mudstones	sandstone, marl, mudstones
	Water c.			
	H L.		225	231
	α	19.7	14.8	17.0
	β		18.0	9.3
	L L.tot.	630	770	1640
	L L.body			950
	Wmax	265	350	350
	Wmin			75
	D _{rf}	17.66666667	17.5	35
	S L.			360000
	V L.	1543546	2468171	5818750
	Trigger	lying posture of layers of right slope of Lamone:10°-15° dip slope		
	Prev. activations		1854 e prec.	
Dam	Date of damming	Medieval Age	1895	Roman times
	Date of failure			
	d type	II	II	II
	L d	200		250
	W d	350		410
	H d	15		20
	S d			87500
	V d	1000000		2600000
	Q d	517	300	189
	d condition	moderately cut	breached	moderately cut
	Evolution	formed-stable	formed-unstable	formed-stable
	Type of Failure		overtopping	
Stream	Main Basin	Lamone	Lamone	Savio
	Dammed R.	T. Lamone	T. Lamone	Savio
	Wvalley	80		225
	Subt. S	22.0	115.0	309.6
	S	1.0	1.3	1.1
Lake	Lake name	no name	no name	no name
	L lake	900	-	1500
	W lake	150	-	500
	D lake		-	
	S lake		-	
	V lake		-	
	Q lake		-	
	h of Lac.dep.			
	Lake life time	years	hours	years
	Lake Condition	disappeared for filling	disappeared for filling	disappeared for filling and spillway erosion

Localization	ID	47	48	49
	Locality	Montignoso	Cà di Sotto / S.Benedetto V.S.	P.ve S.Stefano
	Municipality	Montignoso	S.Benedetto V.S.	Pieve S.Stefano
	Province	Massa	Bologna	Arezzo
	Region	Toscana	Emilia Romagna	Toscana
	UTM E, N crown	594000; 4876000	679250; 4899750	746389; 4839616
	UTM E, N dam	594214; 4875338	677517; 4899634	745669; 4838974
Consequences	L.-damages			
	u-damages			flooding of P.ve S.Stefano
	d-damages	Capanne village destroyed		
	Bibliography	Sforza (1867), Ermini (2000)	Casagli et al. (1995), Ermini (2000)	Mercanti (1859), Pesendorfer (1987), Cencetti and Viglione (1995), Ermini (2000)
	Note		excavation of a channel to prevent the overtopping	4 fatalities
Landslide	Movement		complex	slump
	Velocity		fast	moderate
	v		5.00E-03	5.00E-04
	Material			rock and debris
	Lithology	micaschists	marl, limestone marly and mudstones	marly limestone
	Water c.		wet	
	H L.		350	450
	α	29.2	9.1	23.2
	β		11.1	14.4
	L L.tot.		1133	1300
	L L.body			
	Wmax		352	700
	Wmin		147	
	D _{rf}	0	25	35
	S L.		407000	
	V L.		5217843	16668167
	Trigger	seismic events and heavy rainfall	heavy rainfall	seismic event and heavy rainfall
	Prev. activations			
Dam	Date of damming	16/05/1771	10/06/1994	16/02/1855
	Date of failure			
	d type	III	III	III
	L d		200	400
	W d		450	450
	H d		25	25
	S d			
	V d		1125000	4500000
	Q d		495	
	d condition	breached	strongly cut	artificially cut
	Evolution	formed-unstable	formed-unstable	formed-unstable
	Type of Failure	overtopping		
Stream	Main Basin	?	Reno	Tevere
	Dammed R.		Sambro	F. Tevere
	Wvalley		80	300
	Subt. S		15.5	106.9
	S	15.2	1.2	0.9
Lake	Lake name	no name	L. di S.Benedetto V.d.S.	no name
	L lake		250	1250
	W lake		40	450
	D lake			
	S lake		10000	441562.5
	V lake		330000	3000000
	Q lake			
	h of Lac.dep.			
	Lake life time	hours	years	months
	Lake Condition	disappeared for dam collapse	existing	disappeared for man-made influence

Localization	ID	50	51	52
	Locality	Castagno d'Andrea	Sturaia di Galiga	Tollara
	Municipality	S.Godenzo	Pontassieve	Bettola
	Province	Firenze	Firenze	Piacenza
	Region	Toscana	Toscana	Emilia Romagna
	UTM E, N crown	716425; 4861650	697000; 4859825	546375; 4955350
	UTM E, N dam	713076; 4865487	696803; 4858063	546568; 4955877
Consequences	L.-damages			some cottages Bettola a Farini road destroyed
	u-damages		flooding of a farm	
	d-damages			
	Bibliography	Ermini (2000)	Almagià (1907), Ermini (2000)	Almagià (1907), Ermini (2000)
	Note			
Landslide	Movement	flow	complex	complex
	Velocity		moderate	
	v		2.30E-05	
	Material	debris	debris	debris
	Lithology	sandstone, mudstones	sandstone, limestone and mudstones	marly limestone, sandstone, mudstones
	Water c.		wet	wet
	H L.	1038	364	186
	α		23.1	11.3
	β	14.4	15.2	11.7
	L L.tot.	4500	1540	1020
	L L.body			
	Wmax	550	250	200
	Wmin	250	100	150
	D _{rf}	27.5	12.5	10
	S L.		450000	
	V L.	68062500	2518542	1067600
	Trigger			
	Prev. activations			
Dam	Date of damming		01/05/1898	05/1895
	Date of failure			
	d type	II	II	II
	L d	340	150	75
	W d	460	160	250
	H d	30	15	15
	S d			
	V d	2000000	360000	180000
	Q d	487	226	366
	d condition		moderately cut	strongly cut
	Evolution		formed-stable	formed-unstable
	Type of Failure			overtopping?
Stream	Main Basin	Arno	Arno	Po
	Dammed R.	Fosso Falterona	T. Argomenna	Rio Camia
	Wvalley	240	75	40
	Subt. S	11.7	8.5	9.8
	S	3.1	2.5	4.7
Lake	Lake name		no name	?
	L lake		300	
	W lake		120	
	D lake		13	
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time		years	hours
	Lake Condition		disappeared for filling	disappeared for dam collapse

Localization	ID	53	54	55
	Locality	Le Mottacce	Serelli	S.Patrignano
	Municipality	Subbiano	Stia	Badia Tedalda
	Province	Arezzo	Arezzo	Arezzo
	Region	Toscana	Toscana	Toscana
	UTM E, N crown	731397; 4829898	714170; 4857180	;
	UTM E, N dam	731665; 4829707	714373; 4856868	756100; 4846450
Consequences	L.-damages		12 houses of Serelli village and Stia-Londa road destroyed	weir damaged
	u-damages			
	d-damages			
	Bibliography	Ermini (2000), Cencetti et al. (2011)	Ermini (2000)	Ermini (2000)
	Note		Seepage under the dam	
Landslide	Movement	slump	complex	slide
	Velocity	moderate	moderate	very fast
	v	5.00E-05	5.00E-04	5.00E-03
	Material	debris	rock stone	rock stone
	Lithology	silt sandy clay	sandstone and silty shale	marly limestone, mudstones
	Water c.		damp	
	H L.	140	150	60
	α	9.9	20.1	20.4
	β	16.0	20.0	15.5
	L L.tot.	420	400	50
	L L.body			
	Wmax	250	500	180
	Wmin			
	D _{rf}	12.5	25	10
	S L.		150000	
	V L.	686875	5000000	90000
	Trigger		heavy rainfall, dip slope layers	fluvial erosion at the base of the slope
	Prev. activations		1966	
Dam	Date of damming	27/11/1987	12/12/1992	1990
	Date of failure		13/12/1992	
	d type	I	II	I
	L d	50	80	
	W d	150	50	
	H d	10	12	
	S d			
	V d	50000	50000	60000
	Q d	260	642	520
	d condition	partial blockage	moderately cut	partial blockage
	Evolution	not formed	formed-unstable	not formed
	Type of Failure		Overtopping and piping	
Stream	Main Basin	Arno	Arno	Marecchia
	Dammed R.	F. Arno	T. Vallucciole	Marecchia
	Wvalley	150	70	155
	Subt. S	738.0	2.8	41.4
	S	0.2	5.0	2.0
Lake	Lake name		no name	
	L lake		40	
	W lake		25	
	D lake		12	
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time	-	hours	-
	Lake Condition	not formed for deviation	disappeared	not formed for deviation

Localization	ID	56	57	58
	Locality	Popiglio (La Lima)	Pian de' Romiti	Fosso Falterona
	Municipality	S. Marcello Pistoiese	Portico e S.Benedetto	S. Godenzo
	Province	Pistoia	Forlì	Firenze
	Region	Toscana	Emilia Romagna	Toscana
	UTM E, N crown	640688; 4879175	712290; 4874100	716771; 4863152
	UTM E, N dam	641575; 4880150	712080; 4874270	716223; 4863118
Consequences	L.-damages			
	u-damages			
	d-damages			
	Bibliography	Ermini (2000)	Ermini (2000)	Ermini (2000)
	Note	excavation of a channel for drainage of water		a debris flow on the dam itself
Landslide	Movement		slide	slump
	Velocity	moderate	fast	
	v	5.00E-04	5.00E-02	5.00E-03
	Material	debris	bedrock	debris
	Lithology	sandstone and limestone marly	sandstone, marl, mudstones	sandstone and siltstones
	Water c.			wet
	H L.	360	25	350
	α	24.9	14.7	16.7
	β	22.0	5.0	30.0
	L L.tot.	325	300	700
	L L.body		160	530
	Wmax	400	120	200
	Wmin	300	50	
	D _{rf}	30	20	10
	S L.	300000		120000
	V L.	3900000	720000	1400000
	Trigger		infiltration of water and lowering of shear strength	fluvial erosion at the base of the slope
	Prev. activations	1579; 1280		1335; 1641; 1827
Dam	Date of damming	15/12/1933		26/02/1960
	Date of failure			
	d type	III	II	II
	L d	200	160	100
	W d	275	150	200
	H d	30	20	20
	S d			
	V d	1800000	600000	400000
	Q d	470	720	1020
	d condition	strongly cut	slightly cut	moderately cut
	Evolution	formed-stable	formed-stable	formed-stable
	Type of Failure			
Stream	Main Basin	Serchio	Montone	Arno
	Dammed R.	Lima	T. Acquacheta	Fosso Falterona
	Wvalley	100	20	25
	Subt. S	107.8	13.2	2.1
	S	1.1	0.5	10.0
Lake	Lake name	no name	no name (Pian de' Romiti)	
	L lake	900	700	
	W lake	125	120	
	D lake	15	10	
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time	months	years	days
	Lake Condition	disappeared for spillway erosion	disappeared for filling	disappeared for dam collapse

Localization	ID	59	60	61
	Locality	Terrarossa	Cavallico	Campiano
	Municipality	Marzabotto	Scarperia	S.Benedetto V.S.
	Province	Bologna	Firenze	Bologna
	Region	Emilia Romagna	Toscana	Emilia Romagna
	UTM E, N crown	671717; 4910736	;	676460; 4900500
	UTM E, N dam	671871; 4911561	688615; 4879265	677723; 4900045
Consequences	L.-damages	crops destroyed		
	u-damages	flooding		
	d-damages			
	Bibliography	Ermini (2000)	Ermini (2000)	Calindri (1781), Elmi (1988), Ermini (2000)
Landslide	Note	landslide caused a river deviation; a channel was excavated to help the flow of water	lake extension are deducted by lacustrine deposits (Ermini, 2000)	
	Movement	flow	complex	complex
	Velocity	moderate		very fast
	v	5.00E-04	5.00E-05	5.00E-03
	Material	earth	debris	debris
	Lithology	clay	clay, sandstone	marl, marly limestone and mudstones
	Water c.	wet	wet	wet
	H L.	136	469	315
	α	8.2	10.4	18.2
	β	9.1	14.0	12.5
	L L.tot.	950	2150	1460
	L L.body			
	Wmax	100	960	1225
	Wmin	40	600	925
	D _{rf}	5	48	61.25
	S L.	100000	2000000	
	V L.	475000	51847680	57328877
	Trigger	heavy rainfall		
	Prev. activations			
Dam	Date of damming	10/04/1996		04/02/1772
	Date of failure			
	d type	III	III	III
	L d	30	150	150
	W d	120	850	750
	H d	15	20	35
	S d			
	V d	120000	2500000	3500000
	Q d	251	471	435
	d condition	partial blockage	strongly cut	strongly cut
	Evolution	not formed	formed-stable	formed-stable
	Type of Failure			
Stream	Main Basin	Reno	Arno	Reno
	Dammed R.	T. Venola	T. Levisone	Sambro
	Wvalley	30	170	80
	Subt. S	17.6	2.7	15.5
	S	1.2	6.4	1.2
Lake	Lake name	no name		L. di Campiano
	L lake		350	1000
	W lake		150	170
	D lake			
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time	months	years	years
	Lake Condition	not formed	disappeared for filling	disappeared for filling

Localization	ID	62	63	64
	Locality	S.Benedetto in Alpe	Roncovetro	Gallare
	Municipality	Portico e S.Benedetto	Ciano D'Enza	Farini
	Province	Forlì	R.Emilia	Piacenza
	Region	Emilia Romagna	Emilia Romagna	Emilia Romagna
	UTM E, N crown	715300; 4873730	610500; 4931100	546000; 4951500
	UTM E, N dam	715220; 4873420	610058; 4928817	545379; 4951699
Consequences	L.-damages			
	u-damages			
	d-damages			
	Bibliography	Ermini (2000)	Ermini (2000)	Ermini (2000)
Landslide	Note	a wire was built over the river upstream of the collapsed section	materials were initially removed, then let them down as fast as possible to avoid overtopping risk	
	Movement	slide	complex	slump
	Velocity	fast	moderate	moderate
	v	5.00E-04		2.30E-05
	Material	bedrock	debris	
	Lithology	sandstone, marl, mudstones	clay, marl	marl, marly limestone and mudstones
	Water c.		wet	wet
	H L.	125	335	90
	α	19.4	13.7	15.4
	β	20.0	7.8	11.5
	L L.tot.	350	2500	590
	L L.body		1500	400
	Wmax	200	280	110
	Wmin	80	60	80
	D _{ri}	15	15	25
	S L.			140000
	V L.	1050000	3297000	575667
	Trigger		heavy rainfall	fluvial erosion at the base of the slope
	Prev. activations		06\02\1899	
Dam	Date of damming	'800		15/01/1996
	Date of failure			
	d type	II	II	I
	L d	100	140	70
	W d	200	180	150
	H d	15	10	20
	S d			
	V d	400000	150000	112500
	Q d	515	325	421
	d condition	strongly cut	artificially stabilized	artificially stabilized
	Evolution	formed-stable	formed-unstable	not formed
	Type of Failure			
Stream	Main Basin	Montone	Po	Po
	Dammed R.	T. Acquacheta	Tassobbio	T. Nure
	Wvalley	50	40	175
	Subt. S	32.4	87.4	109.0
	S	1.6	3.4	0.6
Lake	Lake name	no name	no name	
	L lake		200	
	W lake		35	
	D lake		3	
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time	years	months	
	Lake Condition	disappeared for filling	disappeared for man-made influence	not formed for deviation

Localization	ID	65	66	67
	Locality	Scapriano	Frassineta	Reggello
	Municipality	Teramo	Chiusi della Verna	Reggello
	Province	Teramo	Arezzo	Firenze
	Region	Abruzzo	Toscana	Toscana
	UTM E, N crown	883860; 4735903	733607; 4849805	701455; 4845241
	UTM E, N dam	883075; 4735809	734223; 4849622	;
Consequences	L.-damages			
	u-damages			
	d-damages			
	Bibliography	Provasi (1929)		Ermini (2000)
	Note			
Landslide	Movement	complex	complex	slide
	Velocity		fast	very slow
	v	5.00E-04	5.00E-05	5.00E-10
	Material		debris	
	Lithology	clay	sandstone and siltstones	
	Water c.		wet	
	H L.	135	183	45
	α	12.8	14.3	
	β	10.9	18.0	30.0
	L L.tot.	700	630	170
	L L.body			
	Wmax	200	170	90
	Wmin			
	D _{eff}		12	
	S L.		36000	7000
	V L.	2000000	453600	40000
	Trigger		fluvial erosion, heavy rainfall	
	Prev. activations			
Dam	Date of damming		10/1992	
	Date of failure			
	d type	III	I	I
	L d	120	15	15
	W d	350	150	75
	H d	15	5	5
	S d			
	V d	650000	5625	2813
	Q d	325	667	
	d condition	moderately cut	partial blockage	partial blockage
	Evolution	formed-stable	not formed	not formed
	Type of Failure			
Stream	Main Basin	Tordino	Arno	Arno
	Dammed R.	T. Aprutina	T. Rimaggio	T. Vicano
	Wvalley	105	80	70
	Subt. S	11.2	1.2	25.1
	S	6.8	10.5	5.0
Lake	Lake name	L. Scapriano		
	L lake	700		
	W lake	10		
	D lake	5		
	S lake	5495		
	V lake	27475		
	Q lake	325		
	h of Lac.dep.			
	Lake life time	?		
	Lake Condition	disappeared for spillway erosion	not formed	not formed

Localization	ID	68	69	70
	Locality	Scanno	Corella	Prato Casarile, Cartagenova
	Municipality	Scanno	Dicomano	Genova
	Province	L'Aquila	Firenze	Genova
	Region	Abruzzo	Toscana	Liguria
	UTM E, N crown	904478; 4654578	706003;5; 4868970	500215; 4924309
	UTM E, N dam	901762; 4653192	705636; 4869012	499588; 4924640
Consequences	L.-damages		1 house destroyed	
	u-damages			
	d-damages			bridge and house (1953), street (1970) destroyed
	Bibliography	Nicoletti et al. (1993), Scarascia Mugnozza et al. (2006)	Ermini (2000)	Ermini (2000)
	Note		excavation of a channel to help the flow of water	ephemeral lake
Landslide	Movement	complex	complex	slump
	Velocity	very fast	fast	
	v	5.00E-02	5.00E-03	
	Material	bedrock	debris	debris
	Lithology	limestone	marly sandstone	marl, marly limestone and mudstones
	Water c.			
	H L.	495	85	120
	α	27.6	6.1	18.2
	β	11.7	12.6	40-20
	L L.tot.	3200	389	700
	L L.body	2400		
	Wmax	2000	260	600
	Wmin			
	D _{rl}	50	12.6	
	S L.	2600000	55500	260000
	V L.	82000000	666917	11000000
	Trigger		heavy rainfall	
	Prev. activations			1970; 1992
Dam	Date of damming		10/1992	1953?
	Date of failure			
	d type	III	II	III
	L d	500	50	200
	W d	2000	200	450
	H d	33.1	6	40
	S d			
	V d	17000000	60000	1750000
	Q d	935	426	265
	d condition	not cut	artificially cut	slightly cut/artificially stabilized
	Evolution	formed-stable	formed-stable	formed-stable
	Type of Failure			
Stream	Main Basin	Pescara	Arno	Bisagno
	Dammed R.	T. Tasso	Fosso Corella	T. Molassana
	Wvalley	200	50	200
	Subt. S	95.0	4.8	1.5
	S	0.6	3.5	21.8
Lake	Lake name	L. di Scanno	?	L. di Prato Casarile
	L lake	1600		250
	W lake	690		150
	D lake	21		30
	S lake	866640		
	V lake	26000000		300000
	Q lake	928		260
	h of Lac.dep.			
	Lake life time	millennia		
	Lake Condition	existing	existing	disappeared for filling

Localization	ID	71	72	73
	Locality	Palagione	Scascoli	Succisa
	Municipality	Volearth	Loiano	Pontremoli
	Province	Pisa	Bologna	Massa
	Region	Toscana	Emilia Romagna	Toscana
	UTM E, N crown	654526; 4805597	683050; 4909448	;
	UTM E, N dam	654504; 4806475	683110; 4909430	570235; 4918105
Consequences	L.-damages		complete obstruction of the main Fondovalle Savena road	Provincial Road n.38 damaged
	u-damages			
	d-damages			
	Bibliography		Bertolini and Pizziolo (2006)	
	Note			
Landslide	Movement	slide	topple	complex
	Velocity		very fast	fast?
	v		5.00E-03	5.00E-04
	Material	earth	bedrock	rock and debris
	Lithology	flysch sandy-marly	marl and marl limestone	sandstone, siltstones and marl
	Water c.			wet
	H L.	115	15	200
	α	11.7	19.8	15.1
	β	7.3	10.6	39.0
	L L.tot.	900	80	320
	L L.body		50	
	Wmax	280	85	160
	Wmin			
	D _{rf}			7
	S L.			
	V L.	2000000	70000	200000
	Trigger		fluvial erosion of foot of the slope, orientation of discontinuities	heavy rainfall, dip slope layers
	Prev. activations		1992	2003
Dam	Date of damming		16/10/2002	07/02/2009
	Date of failure			
	d type	III	II	II
	L d	100	30	75
	W d	270	70	120
	H d	10	5	5
	S d			
	V d	150000	10000	25000
	Q d	248	300	383
	d condition	slightly cut/artificially stabilized	artificially cut	partial blockage
	Evolution	formed-unstable	formed-unstable	formed-unstable
	Type of Failure			
Stream	Main Basin	Arno	Reno	Magra Lugure
	Dammed R.	T. Era Morta	T. Savena	T. Magriola
	Wvalley	80	25	75
	Subt. S	11.0	91.0	19.3
	S	1.2	0.8	1.9
Lake	Lake name	L. del Palagione	no name	
	L lake	650	200	
	W lake	75	50	
	D lake		5	
	S lake	25000	7850	
	V lake		39250	
	Q lake	245		
	h of Lac.dep.			
	Lake life time	years	days	hours
	Lake Condition	existing	disappeared for man-made influence	not formed for deviation

Localization	ID	74	75	76
	Locality	Schiazano	Corniolo	Valderchia
	Municipality	Pellegrino Parmense	Santa Sofia	Gubbio
	Province	Parma	Forlì Cesena	Perugia
	Region	Emilia Romagna	Emilia Romagna	Umbria
	UTM E, N crown	;	;	;
	UTM E, N dam	576524; 4951227	725797; 4864982	788670; 4809475
Consequences	L.-damages		2 houses, 300 m of Provincial Road n.4 destroyed	2 houses destroyed
	u-damages			
	d-damages			
	Bibliography			Cencetti et al. (2006)
	Note			
Landslide	Movement	flow	slide	complex
	Velocity	very fast	fast	fast
	v	5.00E-02	5.00E-04	2.00E-03
	Material	debris and earth	rock	debris
	Lithology	mudstones and sandstone	mudstones and sandstone	marly limestone
	Water c.	wet	wet	
	H L.	75	325	110
	α	12.3	22.2	25.1
	β	51.3	18.0	14.3
	L L.tot.	225	1000	430
	L L.body	60	530	400
	Wmax	70	420	170
	Wmin		200	
	D _{rl}	15	15	15
	S L.			
	V L.	40000	3000000	500000
	Trigger	heavy rainfall	heavy rainfall	snowfall
	Prev. activations			
Dam	Date of damming	19/11/2012	18/03/2010	06/01/1997
	Date of failure			
	d type	III	II	II
	L d	40	180	110
	W d	65	350	160
	H d	15	15	9
	S d			
	V d	20000	500000	100000
	Q d	288	498	605
	d condition	artificially cut	artificially stabilized	artificially cut
	Evolution	formed-unstable	formed-unstable	formed-unstable
	Type of Failure			
Stream	Main Basin	Po	Ronco	Tevere
	Dammed R.	T. Dordia	Fosso Bidente di Corniolo	T. S. Donato
	Wvalley	40	140	90
	Subt. S	5.6	47.8	4.5
	S	1.9	0.9	3.1
Lake	Lake name		L. di Poggio Baldi	-
	L lake	300	1000	90
	W lake	15	100	42
	D lake	2.5	17	2
	S lake	3532.5		2967.3
	V lake	8831.25	400000	5934.6
	Q lake			
	h of Lac.dep.			
	Lake life time	days	years	days
	Lake Condition	disappeared for man-made influence	existing	disappeared for man-made influence

Localization	ID	77	78	79
	Locality	Castello di Serravalle	Pasconi	Boschi di Valoria
	Municipality	Serravalle di Chienti	San Giorgio la Molara	Frassinoro
	Province	Macerata	Benevento	Modena
	Region	Marche	Campania	Emilia Romagna
	UTM E, N crown	;	;	;
	UTM E, N dam	821352; 4775908	994626; 4582015	621507; 4909242
Consequences	L-damages	distruction of a Romans castle		
	u-damages			
	d-damages			
	Bibliography	Valensise and Guidoboni (2000)		Leuratti et al. (2007), Ronchetti et al. (2007)
	Note	500 fatalities		
Landslide	Movement	complex	slide	complex
	Velocity	extremely fast		fast
	v	5.00E+00		1.50E-04
	Material	debris		earth
	Lithology	marly limestone	clay	clay
	Water c.			wet
	H L.	390		810
	α	22.2		10.6
	β	24.9		13.0
	L L.tot.	1030	600	3500
	L L.body	840		2000
	Wmax	280	300	620
	Wmin			
	D _{eff}	10		10
	S L.			1300000
	V L.	1000000	1500000	13000000
	Trigger	seismic event	seismic event	heavy rainfall
	Prev. activations		1805; 1930; 1962	1951; 1956; 1972; 1978; 1981; 1984; 2000; 2001
Dam	Date of damming	30/04/1279	23/11/1980	2001
	Date of failure			
	d type	III	VI	II
	L d	180		190
	W d	230		340
	H d	10		4
	S d			
	V d	200000		150000
	Q d	672	228	530
	d condition	strongly cut	toe erosion	moderatly cut
	Evolution	formed-unstable	not formed	formed-stable
	Type of Failure			overtopping
Stream	Main Basin	Chienti	Volturno	Po
	Dammed R.	F. Chienti di Gelagna	F. Tammaro	T. Dolo
	Wvalley	130	140	250
	Subt. S	54.0	578.0	77.6
	S	2.6	1.0	1.7
Lake	Lake name			
	L lake			
	W lake			
	D lake			
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time	hours		hours
	Lake Condition	disappeared for dam collapse	not formed x deviazione	disappeared for spillway erosion

Localization	ID	80	81	82
	Locality	Rosola	Roccalbegna	Piaggiagrande-Renaio
	Municipality	Zocca	Roccalbegna	Barga
	Province	Modena	Grosseto	Lucca
	Region	Emilia Romagna	Toscana	Toscana
	UTM E, N crown	;	;	;
	UTM E, N dam	654358; 4908857	704576; 4740321	620607; 4882043
Consequences	L.-damages			2 houses destrpyed
	u-damages			
	d-damages			
	Bibliography	Brunamonte (1998)		
	Note			
Landslide	Movement	flow	complex	slump
	Velocity	moderate	moderate	fast
	v	5.00E-06	5.00E-05	5.00E-04
	Material	debris	earth	rock and debris
	Lithology	clay	clay	sandstone and mudstones
	Water c.		wet	wet
	H L.	90	234	83
	α	10.7	9.2	19.7
	β	4.3	10.2	18.7
	L L.tot.	1200	1300	245
	L L.body	620	1300	215
	Wmax	350	400	130
	Wmin	60		
	D _{rf}	12	20	30
	S L.		400000	
	V L.	1000000	8000000	700000
	Trigger		heavy rainfall, lithology, quiescent landslide	
	Prev. activations			2010
	Date of damming		2014	19/02/2014
Dam	Date of failure			
	d type	I	II	II
	L d	150	170	90
	W d	330	110	100
	H d	6	10	15
	S d			
	V d	250000	75000	100000
	Q d	290	545	560
	d condition	moderately cut	artificially cut	not cut
	Evolution	not formed	formed-unstable	formed-stable
	Type of Failure			
Stream	Main Basin	Po	Albegna	Serchio
	Dammed R.	Rio Rivella	T. Armancione	Rio Loppora
	Wvalley	180	80	60
	Subt. S	39.5	9.0	1.3
	S	3.5	10.2	9.5
Lake	Lake name			
	L lake			
	W lake			
	D lake			
	S lake			
	V lake			2000
	Q lake			
	h of Lac.dep.			
	Lake life time	-	-	months
	Lake Condition	not formed for deviation	not formed	existing

Localization	ID	83	84	85.1
	Locality	Salto	Camporella	Ossola
	Municipality	Montese	Ramiseto	Valmozzola
	Province	Modena	R.Emilia	Parma
	Region	Emilia Romagna	Emilia Romagna	Emilia Romagna
	UTM E, N crown	;	;	;
	UTM E, N dam	655542; 4905377	597875; 4919846	573748; 4937059
Consequences	L.-damages			Provincial Road n.42 damaged
	u-damages			
	d-damages			
	Bibliography			
	Note			
Landslide	Movement	complex	complex	complex
	Velocity			
	v			
	Material	rock and debris	debris	debris
	Lithology	limestone and sandstone	marly limestone and sandstone	clay
	Water c.			
	H L.	151	260	170
	α	13.2	11.3	13.7
	β	20.7	13.3	7.7
	L L.tot.	400	1100	1250
	L L.body	300	1000	950
	Wmax	250	300	270
	Wmin		180	75
	D _{eff}	15	50	15
	S L.			
	V L.	1000000	5000000	3000000
	Trigger			
	Prev. activations			
Dam	Date of damming	VI sec. B.C.	1792	1977
	Date of failure			
	d type	II	II	IV
	L d	240	350	180
	W d	200	250	210
	H d	10	20	15
	S d			
	V d	240000	900000	300000
	Q d	695	489	290
	d condition	slightly cut	strongly cut	breached
	Evolution	formed-stable	formed-stable	formed-unstable
	Type of Failure		overtopping	overtopping
Stream	Main Basin	Po	Po	Po
	Dammed R.	Rio Acqua Salata	T. Era	T. Mozzola
	Wvalley	110	320	110
	Subt. S	1.3	79.0	42.0
	S	3.6	1.9	1.1
Lake	Lake name	L. Bracciano		
	L lake		400	
	W lake			
	D lake			
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			-
	Lake life time	millennia	years	days
	Lake Condition	disappeared for filling	disappeared for spillway erosion	disappeared for spillway erosion

Localization	ID	85.2	86	87
	Locality	Ossola	Montelago	Settefrati
	Municipality	Valmozzola	Sassoferrato	Casapalombo
	Province	Parma	Ancona	Macerata
	Region	Emilia Romagna	Marche	Marche
	UTM E, N crown	;	;	;
	UTM E, N dam	573748; 4937059	805689; 4816184	845134; 4775406
Consequences	L.-damages			
	u-damages			
	d-damages			
	Bibliography		Savelli et al. (2013, 2012)	
	Note		Carbon-14 dating	Ephemeral lake
Landslide	Movement	flow	slump	complex
	Velocity			fast
	v			5.00E-04
	Material	debris	rock and debris	rock and debris
	Lithology	clay	marly limestone	marly limestone
	Water c.			
	H L.	255	305	63
	α		24.6	25.9
	β	13.1	31.4	18.8
	L L.tot.	1100		185
	L L.body	140	500	135
	Wmax	130	420	180
	Wmin			
	D _{rf}	15	30	27
	S L.			
	V L.	150000	6000000	343359
	Trigger			
	Prev. activations			
Dam	Date of damming	1977	7-5000 years B.P.	
	Date of failure			
	d type	IV	VI	II
	L d	85	280	75
	W d	115	310	150
	H d	10	15	8
	S d			
	V d	90000	700000	60000
	Q d		739	682
	d condition	breached	slightly cut	not cut
	Evolution	formed-unstable	formed-stable	formed-stable
	Type of Failure	overtopping		
Stream	Main Basin	Po	Esino	Chienti
	Dammed R.	T. Mozzola	Fosso del Lago	Rio del Monte
	Wvalley	111	140	45
	Subt. S	42.0	2.0	2.0
	S	1.1	6.5	17.2
Lake	Lake name		no name	no name
	L lake		200	110
	W lake		85	30
	D lake			
	S lake		13345	2590.5
	V lake			
	Q lake			
	h of Lac.dep.		13	
	Lake life time	days	millennia	years
	Lake Condition	disappeared for spillway erosion	disappeared for filling	existing-ephemeral

Localization	ID	88	89	90
	Locality	Benedello	Tassinaro	Draga
	Municipality	Marano sul Panaro	Gissi	Maierato
	Province	Modena	Chieti	Vibo Valentia
	Region	Emilia Romagna	Abruzzo	Calabria
	UTM E, N crown	651656; 4917859	;	;
	UTM E, N dam	651463; 4916515	958761; 4669141	1124904; 4308370
Consequences	L.-damages			
	u-damages			
	d-damages			
	Bibliography			Freddi (2011)
	Note			
Landslide	Movement	flow	flow	complex
	Velocity	fast		very fast
	v	5.00E-04		5.00E-01
	Material	rock and debris	debris	earth
	Lithology	clay	clay and clay marly	sands, clay and limestone
	Water c.			wet
	H L.	246	74	240
	α	12.1	13.9	12.2
	β	10.0	10.7	9.7
	L L.tot.	1400	390	1400
	L L.body	830	275	1200
	Wmax	480	170	500
	Wmin			
	D _{eff}	20	5	20
	S L.			300000
	V L.	3500000	100000	6500000
	Trigger			heavy rainfall
	Prev. activations			1932
Dam	Date of damming	21/02/1979		15/02/2010
	Date of failure			
	d type	II	I	III
	L d	420	100	550
	W d	340	170	350
	H d	10	4	10
	S d			
	V d	500000	20000	1000000
	Q d	311	197	240
	d condition	toe erosion	partial blockage	artificially cut
	Evolution	formed-stable	not formed	formed-unstable
	Type of Failure	overtopping		
Stream	Main Basin	Panaro	Sinello	Angitola
	Dammed R.	Rio Benedello	Fosso Tassinaro	Fosso Scuotrapiti
	Wvalley	90	130	135
	Subt. S	18.0	4.0	4.0
	S	1.7	2.3	3.8
Lake	Lake name			Maretto (1932)
	L lake	600		250
	W lake			40
	D lake			1
	S lake			7850
	V lake			7850
	Q lake			
	h of Lac.dep.			
	Lake life time	days		months
	Lake Condition	disappeared for spillway erosion	not formed for deviation	disappeared for man-made influence

Localization	ID	91	92	93
	Locality	Acquaviva	Laurenzana	Bardea
	Municipality	Montazzoli	Laurenzana	Palanzano
	Province	Chieti	Potenza	Parma
	Region	Abruzzo	Basilicata	Emilia Romagna
	UTM E, N crown	;	;	601834; 4924202
	UTM E, N dam	950643; 4655811	1092348; 4501796	601651; 4924065
Consequences	L.-damages			
	u-damages			
	d-damages			
	Bibliography			
	Note			
Landslide	Movement		flow	flow
	Velocity		very fast	moderate
	v		5.00E-02	5.00E-06
	Material	debris	debris	debris
	Lithology	sandstone, marly limestone	sandstone limestone	sandstone, mudstone
	Water c.		wet	
	H L.	485	103	49
	α	13.7	14.5	21.5
	β	13.6	9.9	12.0
	L L.tot.	2000	590	230
	L L.body	1100	360	130
	Wmax	350	90	140
	Wmin			
	D _{rf}			10
	S L.			
	V L.	600000	300000	200000
	Trigger		heavy rainfall	
	Prev. activations			
Dam	Date of damming		28/02/2005	
	Date of failure			
	d type	III	III	II
	L d	160	90	100
	W d	180	360	130
	H d	12	8	5
	S d			
	V d	150000	135000	35000
	Q d	671	1225	
	d condition	artificially cut	partial blockage	toe erosion
	Evolution	formed-unstable	not formed	not formed
	Type of Failure			
Stream	Main Basin	Sinello	Basento	Po
	Dammed R.	F. Sinello	Fosso Scarrantone	T. Bardea
	Wvalley	90	90	80
	Subt. S	19.0	4.0	25.0
	S	1.2	6.0	2.4
Lake	Lake name	L. di Acquaviva		
	L lake			
	W lake			
	D lake			
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time	days		
	Lake Condition	disappeared for spillway erosion	not formed	not formed for deviation

Localization	ID	94	95	96
	Locality	Zillona	Voltre	Cà di Rico
	Municipality	Trecchina	Civitella di Romagna	Dovadola
	Province	Potenza	Forlì Cesena	Forlì Cesena
	Region	Basilicata	Emilia Romagna	Emilia Romagna
	UTM E, N crown	567327; 4430053	;	;
	UTM E, N dam	1080228; 4451778	743572; 4879449	733219; 4889230
Consequences	L.-damages			
	u-damages			
	d-damages			
	Bibliography	Dal Sasso (2014)		
	Note			
Landslide	Movement	complex	slide	slide
	Velocity		moderate	fast
	v		5.00E-05	5.00E-04
	Material	rock and debris	debris and earth	earth
	Lithology	limestone, marl and clay	mudstones and sandstone	mudstones and sandstone
	Water c.	wet	wet	
	H L.	145	115	65
	α	13.6	7.1	9.4
	β	12.6	9.1	9.0
	L L.tot.	650	719	410
	L L.body	375	690	380
	Wmax	160	150	170
	Wmin	130	100	
	D _{eff}	10	10	10
	S L.			
	V L.	350000	1000000	500000
	Trigger	heavy rainfall	heavy rainfall	
	Prev. activations			
Dam	Date of damming			12/04/2005
	Date of failure			
	d type	II	I	II
	L d	110	65	95
	W d	130	110	100
	H d	10	4	5
	S d			
	V d	100000	20000	25000
	Q d	198	221	181
	d condition	toe erosion	partial blockage	not cut-artificially stabilized
	Evolution	formed-unstable	not formed	formed-stable
	Type of Failure	overtopping		
Stream	Main Basin	Noce	Ronco	Montone
	Dammed R.	F. Noce	T. Voltre	Rio Pezzolo
	Wvalley	110	260	65
	Subt. S	240.0	25.0	2.8
	S	1.1	0.9	2.7
Lake	Lake name	no name		no name
	L lake			150
	W lake			20
	D lake			
	S lake			2355
	V lake			
	Q lake			
	h of Lac.dep.	-		
	Lake life time	days		years
	Lake Condition	disappeared for dam collapse	not formed	existing

Localization	ID	97	98	99
	Locality	Lago Costantino	Ronchi	Covatta
	Municipality	San Luca	Varsi	Ripalimosani
	Province	R.Calabria	Parma	Campobasso
	Region	Calabria	Emilia Romagna	Molise
	UTM E, N crown	;	;	;
	UTM E, N dam	1114653; 4246003	572345; 4942675	968163; 4625514
Consequences	L.-damages			SS 647 street damaged
	u-damages			
	d-damages			
	Bibliography			
	Note			15 fatalities
Landslide	Movement	flow	slump	complex
	Velocity	very fast	fast	fast
	v	5.00E-02	5.00E-04	5.00E-05
	Material	debris and earth	debris	earth
	Lithology	silt, sandstone, conglomerate and clay	sandy limestone	mudstones (weakly sandy)
	Water c.	wet	wet	wet
	H L.	320	115	280
	α	25.1	9.3	6.6
	β	28.1	14.0	11.1
	L L.tot.	600	460	1430
	L L.body	360	410	700
	Wmax	750	365	500
	Wmin			
	D _{rf}	130	20	10
	S L.			
	V L.	16000000	2000000	2000000
	Trigger	heavy rainfall	heavy rainfall	fluvial erosion at the base of the slope
	Prev. activations			
	Date of damming	31/12/1972		12/04/1996
Dam	Date of failure			
	d type	III	II	III
	L d	220	160	200
	W d	530	190	400
	H d	100	20	5
	S d			
	V d	6000000	300000	200000
	Q d	602		327
	d condition	strongly cut	slightly cut	artificially cut
	Evolution	formed-stable	formed-stable	formed-unstable
	Type of Failure			
Stream	Main Basin	Bonamico	Po	Biferno
	Dammed R.	Fiumara Bonamico	T. Pessola	F. Biferno
	Wvalley	200	110	250
	Subt. S	41.0	24.5	606.0
	S	3.4	1.9	0.3
Lake	Lake name	L. Costantino	no name	no name
	L lake	2400	400	850
	W lake		100	45
	D lake	18	15	
	S lake		31400	
	V lake	7000000	471000	
	Q lake			
	h of Lac.dep.			
	Lake life time	years	months	days
	Lake Condition	existing partly filled	existing	disappeared for man-made influence

Localization	ID	100	101	102
	Locality	Caridi	Pantana	S. Cristina
	Municipality	Soriano	Polistena	Santa Cristina D'Aspromonte
	Province	Vibo Valentia	R.Calabria	R.Calabria
	Region	Calabria	Calabria	Calabria
	UTM E, N crown	;	;	;
	UTM E, N dam	1130074; 4297580	1118863; 4273738	1108958; 4257488
Consequences	L.-damages			
	u-damages			
	d-damages			
	Bibliography	Corbi et al. (1999)		Ruberti (1787)
	Note			
Landslide	Movement	slump	complex	complex
	Velocity	very fast	very fast	very fast
	v	5.00E-02	5.00E-02	5.00E-02
	Material	debris and earth	debris	debris
	Lithology	complex mudstone sandy	sands, sandstone (?)	pelitic sandy complex
	Water c.		dry	dry
	H L.			101
	α	16.9		12.9
	β			7.2
	L L.tot.			800
	L L.body			750
	Wmax			1200
	Wmin			
	D _{eff}			70
	S L.			
	V L.	3000000		25000000
	Trigger	seismic event	seismic event	seismic event
	Prev. activations			
Dam	Date of damming	05/02/1783	05/02/1783	05/02/1783
	Date of failure			
	d type	II	IV-VI?	VI
	L d			450
	W d			850
	H d			50
	S d			
	V d	1000000		10000000
	Q d	245	265	340
	d condition	strongly cut	artificially cut	artificially cut
	Evolution	formed-unstable	formed-unstable	formed-unstable
	Type of Failure	overtopping		
Stream	Main Basin	Mesima	Mesima	Petrace
	Dammed R.	T. Calitri	T. Jerapotamo	T. Calabretto
	Wvalley	150		250
	Subt. S	10.0	12.0	21.0
	S	6.3	4.5	3.0
Lake	Lake name	no name	Pantana	L. di S. Cristina ?
	L lake		600	1270
	W lake		500	450
	D lake			50
	S lake			448627.5
	V lake			22431375
	Q lake			
	h of Lac.dep.			
	Lake life time	months	months	years
	Lake Condition	disappeared for spillway erosion	disappeared for man-made influence	disappeared for filling, man-made influence

Localization	ID	103	104	105
	Locality	Marro	Birbo	De' Preti
	Municipality	Molochio	Oppido Mamertina	Oppido Mamertina
	Province	R.Calabria	R.Calabria	R.Calabria
	Region	Calabria	Calabria	Calabria
	UTM E, N crown	;	;	;
	UTM E, N dam	1114359; 4265480	1111969; 4260305	1108778; 4264906
Consequences	L.-damages			
	u-damages			
	d-damages			
	Bibliography	Ruberti (1787)	Ruberti (1787)	Ruberti (1787)
	Note			
Landslide	Movement	complex	slump	complex
	Velocity	very fast		
	v	5.00E-02		
	Material	debris	debris and earth	debris and earth
	Lithology	sands, sandstone, gravels	sands, sandstone, gravels	sandy gravels
	Water c.	dry	dry	dry
	H L.	58		
	α	8.0	15.7	11.9
	β	4.4		
	L L.tot.	750		
	L L.body	650		
	Wmax	700		
	Wmin			
	D _{rf}	50		
	S L.			
	V L.	15000000	2000000	
	Trigger	seismic event	seismic event	seismic event
	Prev. activations			
	Date of damming	05/02/1783	05/02/1783	05/02/1783
Dam	Date of failure			
	d type	II	II	II
	L d	190	150	
	W d	470	350	
	H d	25	30	
	S d			
	V d	1200000	750000	
	Q d	186	330	125
	d condition	breached	artificially cut	artificially cut
	Evolution	formed-unstable	formed-unstable	formed-unstable
	Type of Failure	overtopping		
Stream	Main Basin	Petrace	Petrace	Petrace
	Dammed R.	T. Marro		T. Porcello
	Wvalley	150	100	310
	Subt. S	38.0	5.0	17.0
	S	1.9	6.6	1.9
Lake	Lake name	L. Marro	L. Birbo	L. De' Preti
	L lake	1000	830	750
	W lake	400	290	140
	D lake	30	30	10
	S lake	314000	188949.5	82425
	V lake	9420000	5668485	824250
	Q lake			
	h of Lac.dep.			
	Lake life time	days	months	months
	Lake Condition	disappeared for spillway erosion	disappeared for man-made influence	disappeared for man-made influence

Localization	ID	106	107	108
	Locality	Cumi	Tricuccio	Cucco
	Municipality	Oppido Mamertina	Oppido Mamertina	Cosoleto
	Province	R.Calabria	R.Calabria	R.Calabria
	Region	Calabria	Calabria	Calabria
	UTM E, N crown	;	;	;
Consequences	UTM E, N dam	1108721; 4262667	1109550; 4262670	1106525; 4260436
	L.-damages			
	u-damages			
	d-damages			
	Bibliography	Ruberti (1787)	Ruberti (1787)	Ruberti (1787)
Landslide	Note			
	Movement	slump	complex	slump
	Velocity			
	v			
	Material	debris and earth	debris and earth	debris and earth
	Lithology	marl and clay sands	pelitic sandy complex	marl and claystones
	Water c.	dry	dry	dry
	H L.	61		19
	α	11.2	16.4	22.9
	β	4.4		2.2
	L L.tot.	800		500
	L L.body	710		360
	Wmax	900		270
	Wmin			
	D _{rf}	60		20
	S L.			
	V L.	20000000		1000000
	Trigger	seismic event	seismic event	seismic event
	Prev. activations			
Dam	Date of damming	05/02/1783	05/02/1783	05/02/1783
	Date of failure			
	d type	VI	II	II
	L d	560		200
	W d	750		270
	H d	40		12
	S d			
	V d	8000000		300000
	Q d	140	205	245
	d condition	artificially cut	moderately cut	artificially cut
	Evolution	formed-unstable	formed-stable	formed-unstable
	Type of Failure			
Stream	Main Basin	Petrace	Petrace	Petrace
	Dammed R.	T. Calabretto	T. Riganti	T. Duverso (tributary)
	Wvalley	210	200	115
	Subt. S	44.0	3.0	7.0
	S	2.0	3.4	7.8
Lake	Lake name	L. Cumi	L. Tricuccio	L. Cucco
	L lake	1300	1100	550
	W lake	700	120	250
	D lake	40	20	17
	S lake	714350	103620	107937.5
	V lake	28574000	2072400	1834937.5
	Q lake			
	h of Lac.dep.			
	Lake life time	years	months	years
	Lake Condition	disappeared for filling, man-made influence	disappeared for filling	disappeared for man-made influence

Localization	ID	109	110	111
	Locality	Speziale	Coluce	S. Bruno
	Municipality	Cosoleto	Oppido Mamertina	Sinopoli
	Province	R.Calabria	R.Calabria	R.Calabria
	Region	Calabria	Calabria	Calabria
	UTM E, N crown	;	;	;
	UTM E, N dam	1107304; 4260964	1106004; 4262800	1105566; 4260963
Consequences	L.-damages			
	u-damages			
	d-damages			
	Bibliography	Ruberti (1787)	Ruberti (1787)	Ruberti (1787)
	Note			
Landslide	Movement		complex	complex
	Velocity			
	v			
	Material	debris and earth	debris and earth	debris and earth
	Lithology	marl and claystones	marl and claystones	marl and claystones
	Water c.	dry	dry	dry
	H L.			
	α	8.4		11.5
	β			
	L L.tot.			
	L L.body			850
	Wmax			1100
	Wmin			
	D _{rf}			35
	S L.			
	V L.			20000000
	Trigger	seismic event	seismic event	seismic event
	Prev. activations			
Dam	Date of damming	05/02/1783	05/02/1783	05/02/1783
	Date of failure			
	d type	II	II	IV-VI?
	L d			
	W d			
	H d			
	S d			
	V d			10000000
	Q d	180	130	220
	d condition	artificially cut	artificially cut	artificially cut
	Evolution	formed-unstable	formed-stable	formed-unstable
	Type of Failure			
Stream	Main Basin	Petrace	Petrace	Petrace
	Dammed R.	T. Duverso	T. Duverso	T. Duverso (affluente)
	Wvalley	170	260	400
	Subt. S	41.0	62.0	4.5
	S	3.3	2.3	4.1
Lake	Lake name	L. Speziale		L. di S. Bruno (or Voragine)
	L lake	480	850	1400
	W lake	350	170	730
	D lake	12	27	35
	S lake	131880	113432.5	802270
	V lake	1582560	3062677.5	28079450
	Q lake			
	h of Lac.dep.			
	Lake life time	years	years	years
	Lake Condition	disappeared for man-made influence	disappeared for filling	disappeared for man-made influence

Localization	ID	112	113	114
	Locality	Tofilo	Antrona	Sernio
	Municipality	Seminara	Antrona Schieranco	Sernio
	Province	R.Calabria	Novara	Sondrio
	Region	Calabria	Piemonte	Lombardia
	UTM E, N crown	;	;	;
	UTM E, N dam	1103668; 4268255	430085; 5100679	592475; 5120021
Consequences	L.-damages			
	u-damages			flooding of Lovero and crops
	d-damages			Tirano partly destroyed
	Bibliography	Ruberti (1787)	Montandon (1933), Pirocchi (1991)	Montandon (1933), Eisbacher and Clague (1984), Pirocchi (1991)
	Note		93 fatalities; Partly filled	3 fatalities
Landslide	Movement	slump	fall	complex
	Velocity		very fast	extremely fast
	v		5.00E-02	7.00E+00
	Material		debris and rock	debris
	Lithology	marl and claystones	gneiss and micascist	gneiss, micascists, filladi, gabbri and dioriti
	Water c.	dry	dry	wet
	H L.		1500	570
	α	9.1	35.3	30.0
	β		45.0	31.0
	L L.tot.		2900	
	L L.body		1200	
	Wmax		1700	
	Wmin		200	
	D _{rf}		80	43
	S L.		1970000	
	V L.		28000000	2500000
	Trigger			
	Prev. activations		1965; 1973	
Dam	Date of damming	05/02/1783	27/07/1642	07/12/1807
	Date of failure			16/05/1808
	d type	II / VI	III	III
	L d		900	300
	W d		1800	930
	H d		50	43
	S d		1350000	100000
	V d		20000000	2000000
	Q d		1073	520
	d condition	artificially cut	slightly cut	strongly cut
	Evolution	formed-unstable	formed-stable	formed-unstable
	Type of Failure			overtopping
Stream	Main Basin	Petrace	Po	Po
	Dammed R.	F.so Carrà	T. Troncone	F. Adda
	Wvalley		620	300
	Subt. S	13.0	40.8	891.0
	S	1.6	6.4	0.9
Lake	Lake name	L. Tofilo	Lago di Antrona	
	L lake	630	820	2580
	W lake	330	630	830
	D lake	19	49	40
	S lake	163201.5	300000	1440000
	V lake	3100828.5	6700000	22000000
	Q lake		1074	540
	h of Lac.dep.		1	
	Lake life time	years	centuries	months
	Lake Condition	disappeared for man-made influence	existing	disappeared for spillway erosion

Localization	ID	115	116	117
	Locality	Val Pola	Alleghe	Val Vanoi
	Municipality	Valdisotto	Alleghe	Canal San Bovo
	Province	Sondrio	Belluno	Trento
	Region	Lombardia	Veneto	Trentino
	UTM E, N crown	;	;	;
	UTM E, N dam	604095; 5138265	731503; 5142402	709036; 5116378
Consequences	L.-damages	Santonio Morignone, Morignone, Poz, Tirindè, S.Martino and part of Aquilone destroyed		
	u-damages		flooding up to Caprile	flooding of 36 house in Ponte
	d-damages			Remesori destroyed
	Bibliography	Lunardi (1988), Pirocchi (1991), Govi et al. (2002), Crosta et al. (2004)	Montandon (1933), Eisbacher and Clague (1984), Pirocchi (1991)	Zaniboni (1877), Montandon (1933), Eisbacher and Clague (1984), Pirocchi (1991)
	Note	29 fatalities; 2 by-pass galleries, downstream construction of weirs and overflow channel	49 (1807), 3 (1808) fatalities; high rate of filling	52 fatalities
Landslide	Movement	fall	slump	complex
	Velocity	very fast	very fast	moderate
	v	5.00E-02	5.00E-02	5.00E-05
	Material		debrisbedrock	debris
	Lithology	diorites, gabbros, gneiss and micaschists	limestone and dolomite	gneiss, filladi and quartzites
	Water c.			
	H L.	1340	900	820
	α	19.4		
	β	32.0	30.0	25.0
	L L.tot.	2035	2000	2428
	L L.body	900	750	600
	Wmax	1700	1400	1200
	Wmin			
	D _{ri}	90	70	100
	S L.	3110000	1350000	1330000
	V L.	40000000	20000000	15000000
	Trigger	Fluvial erosion, heavy rainfall		
	Prev. activations	Prehistoric		1793; 1823
Dam	Date of damming		11/01/1771	12/1825
	Date of failure	30/08/1987		1882
	d type	III	III	III
	L d	860	550	500
	W d	1700	1375	1000
	H d	50	16	40
	S d	1710000	550000	490000
	V d	35000000	5500000	10000000
	Q d	1107	966	760
	d condition	artificially cut	moderaty cut	breached
	Evolution	formed-unstable	formed-stable	formed-unstable
	Type of Failure	overtopping		overtopping
Stream	Main Basin	Po	Piave	Brenta
	Dammed R.	F. Adda	F. Cordevole	T. Vanoi
	Wvalley	400	400	300
	Subt. S	540.0	248.0	167.0
	S	1.2	0.8	1.6
Lake	Lake name		Lago di Alleghe	Lago Nuovo
	L lake	3100	4500	2000
	W lake	450	550	950
	D lake	60	50	40
	S lake	920000	1040000	570000
	V lake	20000000	15000000	18200000
	Q lake	1100	967	
	h of Lac.dep.		15	0.5-0.8
	Lake life time	months	centuries	years
	Lake Condition	disappeared for man-made influence	existing	disappeared

Localization	ID	118	119	120
	Locality	Kummersee	Borta	Rovina
	Municipality	Mosso in Passiria	Socchieve	Entracque
	Province	Bolzano	Udine	Cuneo
	Region	Trentino	Friuli	Piemonte
	UTM E, N crown	;	;	;
Consequences	UTM E, N dam	664618; 5190779	791720; 5143547	367787; 4893646
	L.-damages		town of Barga destroyed	
	u-damages			
	d-damages	1419, 1503, 1512, 1721, 1772, 1774 buildings of Merano destroyed		
	Bibliography	Eisbacher and Clague (1984), Pirocchi (1991)	Montandon (1933), Cavallin and Martinis (1974), Pirocchi (1991), Porton and Podda (1995), Podda (2000)	Sacco (1927), Pirocchi (1991)
Landslide	Note	400 fatalities	53 fatalities (166 in a '700 narrative)	Purely filled, currently there is an artificial reservoir for hydroelectric purposes (ENEL)
	Movement	complex	slump	fall
	Velocity			very fast
	v			5.00E-02
	Material	rock and debris	debrisbedrock e debris	debrisbedrock e debris
	Lithology	micaschists, gneiss, quartzites, limestone	limestone and dolomite	gneiss
	Water c.			
	H L.	250	925	150
	α			
	β	30.0	30.0	12.1
	L L.tot.		2200	600
	L L.body		950	700
	Wmax		1150	980
	Wmin		150	
	D _{rf}	100	100	50
	S L.	580000	1090000	
	V L.	7000000	30000000	8000000
	Trigger			
	Prev. activations			
Dam	Date of damming	1401	15/08/1692	Prehistoric
	Date of failure	1419; 1503; 1512; 1572; 1721; 1772; 1774		
	d type	III	III	III
	L d	300	600	400
	W d	600	1150	900
	H d	50	70	15
	S d	170000	600000	
	V d	6000000	23000000	2000000
	Q d	1325	580	1540
	d condition	breached	breached	slightly cut
	Evolution	formed-unstable	formed-unstable	formed-stable
	Type of Failure	overtopping	overtopping	
Stream	Main Basin	Adige	Tagliamento	Po
	Dammed R.	F. Passirio	F. Tagliamento	T. Bucera
	Wvalley	200	250	350
	Subt. S	85.0	190.0	17.2
	S	1.1	0.5	20.9
Lake	Lake name	Kummersee (Lago della Disgrazia-Misfortune Lake)	Lago di Caprizzi	Lago della Rovina
	L lake	1250	7000	600
	W lake	250	300	300
	D lake	50	80	10
	S lake	78125	1820000	140000
	V lake	5750000	91000000	1200000
	Q lake			1535
	h of Lac.dep.		15	?
	Lake life time	centuries	centuries	millennia
	Lake Condition	disappeared for spillway erosion	disappeared for spillway erosion	existing partly filled

Localization	ID	121	122	123
	Locality	Chiotti Sant'Anna	Ussolo	Villar
	Municipality	Castelmagno	Prazzo	Sampeyre
	Province	Cuneo	Cuneo	Cuneo
	Region	Piemonte	Piemonte	Piemonte
	UTM E, N crown	;	;	;
	UTM E, N dam	355237; 4917352	344292; 4926626	351970; 4938143
Consequences	L.-damages	some buildings destroyed		
	u-damages			
	d-damages			
	Bibliography	Merlo (1969), Pirocchi (1991)	Pirocchi (1991)	Govi et al. (1984), Pirocchi (1991)
	Note			
Landslide	Movement	slump	complex	fall
	Velocity			
	v			
	Material	debrisbedrock e debris	rock and debris	rock
	Lithology	calceschists and schists quartzz	calceschists	serpentinites
	Water c.	wet		
	H L.	330\660	500	780
	α			
	β	25.0	19.7	18.7
	L L.tot.	630\1500	1700	2800
	L L.body	450\1200	1400	2300
	Wmax		1300	1500
	Wmin			800
	D _{rf}		100	120
	S L.	500000?		1350000
	V L.	20000000	25000000	150000000
	Trigger	snow melting		
	Prev. activations	Preistorica		
Dam	Date of damming	04/1966	Prehistoric	Prehistoric
	Date of failure			
	d type	IV	III	II
	L d	650	600	400
	W d	850	1250	1200
	H d	20	40	30
	S d			
	V d	5000000	13500000	6480000
	Q d	1580	1090	1100
	d condition	moderatly cut	moderatly cut	moderatly cut
	Evolution	formed-stable	formed-stable	formed-stable
	Type of Failure	overtopping		
Stream	Main Basin	Po	Po	Po
	Dammed R.	T. Grana	T. Maira	T. Varaita
	Wvalley	400	460	330
	Subt. S	14.6	159.5	203.9
	S	9.5	1.3	1.3
Lake	Lake name			
	L lake	850		2000
	W lake	200		370
	D lake			
	S lake	90000	180000	690000
	V lake			
	Q lake	1600		
	h of Lac.dep.			
	Lake life time	?	?	?
	Lake Condition	disappeared for spillway erosion	disappeared for filling	disappeared for filling

Localization	ID	124	125	126
	Locality	Villaretto	Prà	Prali
	Municipality	Pontechianale	Bobbio Pellice	Prali
	Province	Cuneo	Torino	Torino
	Region	Piemonte	Piemonte	Piemonte
	UTM E, N crown	;	;	;
	UTM E, N dam	346313; 4940777	345125; 4959706	346158; 4973193
Consequences	L.-damages			
	u-damages			
	d-damages			
	Bibliography	Govi et al. (1984), Pirocchi (1991)	Pirocchi (1991)	Pirocchi (1991)
	Note			
Landslide	Movement	complex	complex	slump
	Velocity			
	v			
	Material	rock and debris	rock and debris	debris
	Lithology	calceschists	calceschists and serpentinites	calceschists
	Water c.			
	H L.	425	450	270
	α			
	β	28.9	22.2	25.0
	L L.tot.	900	1600	840
	L L.body	770	1100	580
	Wmax	1200	850	800
	Wmin		250	
	D _{eff}	80		
	S L.	462000	467500	
	V L.	60000000		10000000
	Trigger			
	Prev. activations			
Dam	Date of damming		Prehistoric	Prehistoric
	Date of failure			
	d type	II	II	II
	L d	300	550	400
	W d	1300	850	700
	H d	30	20	30
	S d			
	V d	5000000	4000000	7000000
	Q d	1490	1700	1450
	d condition	moderately cut	moderately cut	slightly cut
	Evolution	formed-stable	formed-stable	formed-stable
	Type of Failure			
Stream	Main Basin	Po	Po	Po
	Dammed R.	T. Varaita di Vhianale	T. Pellice	T. Germanasca
	Wvalley	200	200	250
	Subt. S	94.5	17.7	47.7
	S	2.8	1.2	1.2
Lake	Lake name			
	L lake	900	1000	1000
	W lake	200	550	600
	D lake			
	S lake	180000	530000	500000
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time	?	?	?
	Lake Condition	disappeared for filling	disappeared for filling	disappeared for filling

Localization	ID	127	128	129
	Locality	Ghigo	Fenestrelle	Serre la Voute
	Municipality	Prali	Fenestrelle	Salbertrand
	Province	Torino	Torino	Torino
	Region	Piemonte	Piemonte	Piemonte
	UTM E, N crown	;	;	;
	UTM E, N dam	345686; 4972041	343318; 4989940	335145; 4993836
Consequences	L.-damages			
	u-damages			
	d-damages			
	Bibliography	Pirocchi (1991)	Carraro and Forno (1981), Pirocchi (1991)	Govi et al. (1984), Pirocchi (1991)
	Note			
Landslide	Movement	slump	complex	complex
	Velocity			
	v			
	Material	debris	rock and debris	rock and debris
	Lithology	calceschists	calceschists and serpentinites	calceschists
	Water c.			
	H L.	310	300	590
	α			
	β	29.4	14.0	18.1
	L L.tot.	770	1600	1900
	L L.body	550	1200	1800
	Wmax	600	1100	1350
	Wmin		600	500
	D _{rf}		100	140
	S L.		700000	1200000
	V L.	10000000	100000000	150000000
	Trigger			
	Prev. activations			
Dam	Date of damming	Prehistoric	Prehistoric	9500 years B.P.
	Date of failure			
	d type	II	III	III
	L d	700	700	600
	W d	400	1200	1000
	H d	30	40	45
	S d			
	V d	6000000	30000000	20000000
	Q d	1470	1390	1010
	d condition	slightly cut	strongly cut	strongly cut
	Evolution	formed-stable	formed-stable	formed-stable
	Type of Failure			
Stream	Main Basin	Po	Po	Po
	Dammed R.	T. Germanasca	T. Chisone	F. Dora Riparia
	Wvalley	320	500	500
	Subt. S	36.9	124.0	559.4
	S	1.2	1.1	0.9
Lake	Lake name			
	L lake	1000	4200	5000
	W lake	380	500	550
	D lake			
	S lake	350000	2000000	2730000
	V lake			
	Q lake			
	h of Lac.dep.			10
	Lake life time	?	?	years/centuries
	Lake Condition	disappeared for filling	disappeared for filling	disappeared for spillway erosion

Localization	ID	130	131	132
	Locality	Piazzette-Usseglio	Rocca Tavo	Noasca
	Municipality	Usseglio	Balme	Noasca
	Province	Torino	Torino	Torino
	Region	Piemonte	Piemonte	Piemonte
	UTM E, N crown	;	;	;
	UTM E, N dam	362604; 5009361	358285; 5018182	367517; 5034658
Consequences	L.-damages			
	u-damages			
	d-damages	Lemie destroyed		
	Bibliography	Audisio (1975), Pirocchi (1991)	Montandon (1933), Pirocchi (1991)	Pirocchi (1991)
	Note	some (?) fatalities		
Landslide	Movement	complex	fall	fall
	Velocity			
	v			
	Material	rock	rock	rock
	Lithology	calceschists and serpentinites	serpentinites	gneiss
	Water c.			
	H L.	430		240
	α			
	β	15.0		20.3
	L L.tot.	2300		1400
	L L.body	1600		650
	Wmax	1450		700
	Wmin			
	D _{eff}			80
	S L.			250000
	V L.	50000000	30000000	10000000
	Trigger			
	Prev. activations			
Dam	Date of damming	Prehistoric	Prehistoric	Prehistoric
	Date of failure			
	d type	III	II	II
	L d	1000		350
	W d	1100		800
	H d	40		40
	S d			
	V d	18000000		5000000
	Q d	1250	1754	1130
	d condition	strongly cut	moderately cut	moderately cut
	Evolution	formed-stable	formed-stable	formed-stable
	Type of Failure			
Stream	Main Basin	Po	Po	Po
	Dammed R.	F. Stura di Viù	F. Stura d'Ala	T. Orco
	Wvalley	650	440	250
	Subt. S	93.3	31.4	116.8
	S	1.0	2.1	6.8
Lake	Lake name	Lago del Vallone		
	L lake	3000		
	W lake	500		
	D lake			
	S lake	1490000	390000	210000
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time	years/centuries	?	?
	Lake Condition	disappeared for filling	disappeared for filling	disappeared for spillway erosion

Localization	ID	133	134	135
	Locality	Campiglia	Miage	Val Veni
	Municipality	Valprato Soana	Courmayeur	Courmayeur
	Province	Torino	Aosta	Aosta
	Region	Piemonte	Valle d'Aosta	Valle d'Aosta
	UTM E, N crown	;	;	;
	UTM E, N dam	384989; 5044547	334572; 5071392	340110; 5075263
Consequences	L.-damages			
	u-damages			
	d-damages			
	Bibliography	Pirocchi (1991)	Mortara and Scorzana (1987), Pirocchi (1991)	Pirocchi (1991)
	Note			
Landslide	Movement	complex	fall	fall
	Velocity			
	v			
	Material	rock and debris	rock	rock
	Lithology	calceschists and serpentinites	dolomite and chalks	granite
	Water c.			
	H L.	280		
	α			
	β			
	L L.tot.			
	L L.body			
	Wmax			
	Wmin			
	D _{rf}			
	S L.			
	V L.	15000000	300000	4500000
	Trigger			
	Prev. activations			
Dam	Date of damming	Prehistoric	05/1986	14/11/1920
	Date of failure			
	d type	II	III	II
	L d			
	W d			
	H d			
	S d			
	V d			
	Q d	1412	1965	1469
	d condition	strongly cut	strongly cut	strongly cut
	Evolution	formed-stable	formed-stable	formed-stable
	Type of Failure		overtopping	overtopping
Stream	Main Basin	Po	Po	Po
	Dammed R.	T. Soana	F. Dora di Veni	F. Dora di Veni
	Wvalley	250		
	Subt. S	31.0	25.0	73.9
	S	2.9	0.9	1.4
Lake	Lake name		Lago Miage	
	L lake			
	W lake			
	D lake			
	S lake	140000	30000	50000
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time		hours	days
	Lake Condition	disappeared for filling	disappeared for spillway erosion	disappeared for spillway erosion

Localization	ID	136	137	138
	Locality	Val Ferret	Becca de Lusened	Ussin
	Municipality	Courmayeur	Bionaz	Valtournenche
	Province	Aosta	Aosta	Aosta
	Region	Valle d'Aosta	Valle d'Aosta	Valle d'Aosta
	UTM E, N crown	;	;	;
	UTM E, N dam	348135; 5080930	380193; 5082480	391839; 5078728
Consequences	L.-damages			
	u-damages			
	d-damages			
	Bibliography	Orombelli and Porter (1981), Pirocchi (1991)	Stragiotti and Peretti (1953), Dutto and Montara (1992), Pirocchi (1991)	Pirocchi (1991)
	Note	7 fatalities	4 fatalities	
Landslide	Movement	fall	fall	
	Velocity			
	v			
	Material	debris	debris	debris
	Lithology	granite	kinzigite	serpentinities
	Water c.			
	H L.	1250	340	400
	α			
	β		25.9	22.8
	L L.tot.	7000		
	L L.body		700	950
	Wmax	500	400	900
	Wmin			
	D _{rf}	15		30
	S L.			
	V L.	20000000	1000000	
	Trigger			
	Prev. activations			
Dam	Date of damming	12/09/3617	08/06/1952	Prehistoric
	Date of failure			
	d type	III	II	II
	L d		300	550
	W d		300	550
	H d		10	
	S d			
	V d	500000	405000	
	Q d	1750	1650	1300
	d condition	moderately cut	strongly cut	strongly cut
	Evolution	formed-stable	formed-unstable	formed-unstable
	Type of Failure	overtopping	overtopping	overtopping
Stream	Main Basin	Po	Po	Po
	Dammed R.	F. Dora di Ferret	T. Buthier	T. Marmore
	Wvalley	400	150	450
	Subt. S	39.5	84.0	110.3
	S	4.0	16.7	4.1
Lake	Lake name			
	L lake		600	
	W lake		400	
	D lake			
	S lake	30000	40000	33000
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time	days	days	days
	Lake Condition	disappeared for spillway erosion	disappeared for spillway erosion	disappeared for spillway erosion

Localization	ID	139	140	141
	Locality	Monte Avi	Zerbion	S. Giovanni
	Municipality	Montjovet	Ayas	Crevoladossola
	Province	Aosta	Aosta	Verbano-Cusio-Ossola
	Region	Valle d'Aosta	Valle d'Aosta	Piemonte
	UTM E, N crown	;	;	;
	UTM E, N dam	395839; 5065397	398900; 5074235	444783; 5112251
Consequences	L.-damages			
	u-damages			
	d-damages			some houses of S. Giovanni destroyed, interruption of the railway and the highway
	Bibliography	Grasso (1967), Grasso (1968), Pirocchi (1991)	Pirocchi (1991)	Zoppetti (1952), Zoppetti (1959), Eisbacher and Clague (1984), Pirocchi (1991)
	Note			
Landslide	Movement	complex	complex	complex
	Velocity			
	v			
	Material	rock and debris	rock and debris	rock and debris
	Lithology	serpentinites	calceschists and serpentinites	gneiss
	Water c.			wet
	H L.	370		
	α			
	β	18.6		
	L L.tot.	1600		
	L L.body	1100		
	Wmax	900		
	Wmin			
	D _{rf}	70		
	S L.			
	V L.	8000000	200000000	2000000
	Trigger			heavy rainfall
	Prev. activations			17482
Dam	Date of damming	Prehistoric	Prehistoric	19/08/1958
	Date of failure			
	d type	II	II	III+II
	L d	650		150
	W d	700		600
	H d	20		10
	S d			
	V d	4000000		400000
	Q d	440	1523	358
	d condition	strongly cut	strongly cut	breached
	Evolution	formed-stable	formed-stable	formed-unstable
	Type of Failure	overtopping		overtopping
Stream	Main Basin	Po	Po	Po
	Dammed R.	F. Dora Baltea	T. Evancon	Rio di Burra/T. Diveria
	Wvalley	400	350	100
	Subt. S	2435.1	132.5	314.7
	S	0.3	1.7	1.4
Lake	Lake name			
	L lake	4500		
	W lake	650		
	D lake			
	S lake	3010000	560000	15000
	V lake			
	Q lake			
	h of Lac.dep.	?		
	Lake life time	years		days
	Lake Condition	disappeared for spillway erosion-filling	disappeared for spillway erosion-filling	disappeared for spillway erosion

Localization	ID	142	143	144
	Locality	Crodo	Le Casse	Piuro
	Municipality	Crodo	Formazza	Piuro
	Province	Verbano-Cusio-Ossola	Verbano-Cusio-Ossola	Sondrio
	Region	Piemonte	Piemonte	Lombardia
	UTM E, N crown	;	;	;
	UTM E, N dam	445419; 5120626	455668; 5132040	533887; 5130695
Consequences	L.-damages			town of Piuro (Plurs) buried
	u-damages			
	d-damages	46 houses of Crodo destroyed		
	Bibliography	Montandon (1933), Eisbacher and Clague (1984), Govi et al. (1984), Pirocchi (1991)	Pirocchi (1991)	Heim (1932), Pirocchi (1991)
	Note			1200 fatalities
Landslide	Movement	complex	fall	complex
	Velocity		very fast	very fast
	v		5.00E-02	5.00E-02
	Material	rock and debris	rock	debrisbedrock e debris
	Lithology	gneiss	gneiss	gneiss
	Water c.	wet		wet
	H L.			1250
	α			
	β			55.0
	L L.tot.		2000	3000
	L L.body		1400	1000
	Wmax		450	900
	Wmin			
	D _{rf}		140	10
	S L.			700000
	V L.		20000000	6000000
	Trigger	heavy rainfall		mining activities, heavy rainfall
	Prev. activations			
Dam	Date of damming	27/08/3734	Prehistoric	04/09/3518
	Date of failure			
	d type	II	II	II
	L d		480	520
	W d		500	800
	H d		30	7
	S d			
	V d		3000000	1500000
	Q d	1197	1219	425
	d condition	breached	strongly cut	breached
	Evolution	formed-unstable	formed-stable	formed-unstable
	Type of Failure	overtopping		overtopping
Stream	Main Basin	Po	Po	Po
	Dammed R.	T. Alfenza	F. Toce	F.ra
	Wvalley	220	375	450
	Subt. S	3.8	120.3	222.8
	S	16.0	1.2	3.6
Lake	Lake name			
	L lake			
	W lake			
	D lake			
	S lake	5000	1680000	40000
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time	hours	?	days
	Lake Condition	disappeared for dam collapse	existing partly filled	disappeared for spillway erosion

Localization	ID	145	146	147
	Locality	Monte Gruf	Torre di Santa Maria	Gerna
	Municipality	Novate Mezzola	Torre di Santa Maria	Fusine
	Province	Sondrio	Sondrio	Sondrio
	Region	Lombardia	Lombardia	Lombardia
	UTM E, N crown	;	;	;
	UTM E, N dam	540370; 5123411	564927; 5120624	558041; 5107572
Consequences	L.-damages			
	u-damages			
	d-damages		some houses destroyed by a debris flow	
	Bibliography	Montandon (1933), Eisbacher and Clague (1984), Pirocchi (1991)	Ceriani et al. (1991), Pirocchi (1991)	Pirocchi (1991)
	Note			
Landslide	Movement	fall	slump	slump
	Velocity	very fast		
	v	5.00E-02		
	Material	rock and debris	debris	debris
	Lithology	gneiss	gneiss	gneiss
	Water c.		wet	wet
	H L.		600	
	α			
	β		38.7	
	L L.tot.		1450	
	L L.body		750	
	Wmax		200	
	Wmin			
	D _{rl}		27	
	S L.			
	V L.	200000	1500000	1500000
	Trigger		heavy rainfall, foot's undermining	heavy rainfall
	Prev. activations			1911
Dam	Date of damming	15/07/1988	19/07/1987	1987
	Date of failure			
	d type	II	IV	II
	L d		230	
	W d		480	
	H d		5	
	S d			
	V d		200000	
	Q d	1270	1050	994
	d condition	strongly cut	breached	breached
	Evolution	formed-unstable	formed-unstable	formed-unstable
	Type of Failure		overtopping	overtopping
Stream	Main Basin	Po	Po	Po
	Dammed R.	T. Codera	T. Torreggio	T. Madrasco
	Wvalley	110	150	75
	Subt. S	26.2	26.2	23.1
	S	5.7	13.5	8.0
Lake	Lake name			
	L lake			
	W lake			
	D lake			
	S lake	63000	?	?
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time	hours	hours	hours
	Lake Condition	disappeared for dam collapse	disappeared for dam collapse	disappeared for dam collapse

Localization	ID	148	149	150
	Locality	Baita Caprile	Sulini	Bracca
	Municipality	Fusine	Caiolo	Bracca
	Province	Sondrio	Sondrio	Bergamo
	Region	Lombardia	Lombardia	Lombardia
	UTM E, N crown	;	;	;
	UTM E, N dam	558153; 5106398	564026; 5109664	555925; 5074678
Consequences	L.-damages			Truchel and Bruga hamlets destroyed
	u-damages			
	d-damages			
	Bibliography	Pirocchi (1991)	Pirocchi (1991)	Montandon (1933), Pirocchi (1991)
	Note			
Landslide	Movement	fall	slump	complex
	Velocity	very fast		
	v	5.00E-02		
	Material	debris	debris	debris
	Lithology	gneiss	micaschists	schists and limestone marly
	Water c.	wet		wet
	H L.			
	α			
	β			
	L L.tot.			
	L L.body		250	550
	Wmax		450	480
	Wmin			
	D _{eff}		20	4
	S L.			
	V L.	150000	1000000	3000000
	Trigger	heavy rainfall		
	Prev. activations			
Dam	Date of damming	1947		13/09/1888
	Date of failure	07/1987		01/1989
	d type	II	II	II
	L d			530
	W d			350
	H d			4
	S d			
	V d			400000
	Q d	1173	738	608
	d condition	breached	breached	moderately cut
	Evolution	formed-unstable	formed-unstable	formed-unstable
	Type of Failure	overtopping	overtopping	
Stream	Main Basin	Po	Po	Po
	Dammed R.	T. Madrasco	T. Livrio	T. Ambra
	Wvalley	85	70	230
	Subt. S	21.9	31.1	29.6
	S	6.1	6.3	2.2
Lake	Lake name			
	L lake			400
	W lake			60
	D lake			15
	S lake	11000	7000	20000
	V lake			200000
	Q lake			475
	h of Lac.dep.			
	Lake life time	years	hours	months
	Lake Condition	disappeared for dam collapse	disappeared for dam collapse	disappeared for man-made influence

Localization	ID	151	152	153
	Locality	Cima Dosd�	Bormio	Idro-Cima d'Antegolo
	Municipality	Valdidentro	Valdidentro	Idro
	Province	Sondrio	Sondrio	Brescia
	Region	Lombardia	Lombardia	Lombardia
	UTM E, N crown	;	;	;
	UTM E, N dam	590528; 5141872	603373; 5148766	613197; 5065469
Consequences	L.-damages			
	u-damages			
	d-damages			
	Bibliography	Heim (1932), Pirocchi (1991)	Heim (1932), Pozzi and Sfondrini (1972), Pirocchi (1991)	Pirocchi (1991)
	Note			
Landslide	Movement	complex	complex	slump
	Velocity			
	v			
	Material	rock	rock	debris
	Lithology	gneiss graniteide	dolomite	sandstone
	Water c.			
	H L.			250
	α			
	β			11.8
	L L.tot.			
	L L.body	600	1200	1200
	Wmax	1500	1300	550
	Wmin			
	D _{rl}	40	150	40
	S L.			500000
	V L.	20000000	75000000	6000000
	Trigger			
	Prev. activations			
Dam	Date of damming	Prehistoric	Prehistoric	Prehistoric
	Date of failure			
	d type	II	II	II
	L d	525	1100	450
	W d	1100	1170	510
	H d	30	40	25
	S d			
	V d	7000000	20000000	2500000
	Q d	2285	1262	370
	d condition	slightly cut	strongly cut	moderately cut
	Evolution	formed-stable	formed-stable	formed-stable
	Type of Failure			
Stream	Main Basin	Po	Po	Po
	Dammed R.	F. Viola Bormina	F. Viola Bormina	F. Chiese
	Wvalley	430	650	200
	Subt. S	8.5	136.9	615.2
	S	3.3	1.0	0.1
Lake	Lake name	Lago di Val Viola		Lago di Idro
	L lake	600		9000
	W lake	170		1000
	D lake			120
	S lake	90000	950000	11400000
	V lake			33500000
	Q lake	2267		368
	h of Lac.dep.			
	Lake life time	centuries	?	centuries?
	Lake Condition	existing partly filled	disappeared for filling	existing partly filled

Localization	ID	154	155	156
	Locality	Tenno	Loppio	Laghi
	Municipality	Tenno	Nago-Torbole	Laghi
	Province	Trento	Trento	Vicenza
	Region	Trentino Alto Adige	Trentino Alto Adige	Veneto
	UTM E, N crown	;	;	;
	UTM E, N dam	640892; 5087670	647919; 5081865	676918; 5076797
Consequences	L.-damages			
	u-damages			
	d-damages			
	Bibliography	Venzo (1935), Vaia (1981), Pirocchi (1991)	Venzo (1938), Pirocchi (1991)	De Vecchi et al. (1986), Pirocchi (1991)
	Note			
Landslide	Movement	slump	slump	slump
	Velocity			
	v			
	Material	debris	debris	debris
	Lithology	limestone	limestone	dolomite
	Water c.			
	H L.	130	15	
	α			
	β	6.7	0.7	
	L L.tot.			
	L L.body	1100	1200	800
	Wmax	1400	700	450
	Wmin			
	D _{rf}	80	40	40
	S L.			
	V L.	60000000	10000000	5000000
	Trigger			
Dam	Prev. activations			
	Date of damming	XIII sec.	Prehistoric	Prehistoric
	Date of failure			
	d type	III	III	II
	L d	900	800	620
	W d	650	450	450
	H d	50	40	10
	S d			
	V d	10000000	4000000	1000000
	Q d	490	270	517
	d condition	slightly cut	slightly cut	slightly cut
	Evolution	formed-stable	formed-stable	formed-stable
	Type of Failure			
Stream	Main Basin	Po	Adige	Brenta
	Dammed R.	T. Magnone	Rio Camaras	T. la Zara
	Wvalley	750	450	380
	Subt. S	19.3	14.0	20.6
	S	3.2		1.9
Lake	Lake name	Lago di Tenno	Lago di Loppio	?
	L lake	720		
	W lake	270		
	D lake	50	0	
	S lake	200000	600000	210000
	V lake	5000000		
	Q lake	571	225	
	h of Lac.dep.			
	Lake life time	centuries	centuries?	centuries?
	Lake Condition	existing partly filled	existing, man-made influence	existing partly filled

Localization	ID	157	158	159
	Locality	La Marogna	Cei	Ponte Pia
	Municipality	Pedemonte	Villa Lagarina	Stenico
	Province	Vicenza	Trento	Trento
	Region	Veneto	Trentino Alto Adige	Trentino Alto Adige
	UTM E, N crown	;	;	;
	UTM E, N dam	681647; 5085013	657731; 5091352	641958; 5101725
Consequences	L.-damages			
	u-damages			
	d-damages			
	Bibliography	Pirocchi (1991), Carotta (1997)	Pirocchi (1991)	Pirocchi (1991)
	Note			
Landslide	Movement	complex	slump	fall
	Velocity			very fast
	v			5.00E-02
	Material	rock	debrisbedrock e debris	rock and debris
	Lithology	limestone and dolomite	limestone	limestone
	Water c.			
	H L.	400		90
	α			
	β	18.4		14.4
	L L.tot.	1300		
	L L.body	1200		350
	Wmax	850		500
	Wmin			
	D _{rf}	50		30
	S L.			
	V L.	12000000		2000000
	Trigger	seismic event		
	Prev. activations			
Dam	Date of damming	03/01/1117	XIII sec.	
	Date of failure	1278		
	d type	II	III	II
	L d	550		200
	W d	650		480
	H d	20		20
	S d			
	V d	7000000		850000
	Q d	400	926	480
	d condition	strongly cut	not cut	strongly cut
	Evolution	formed-stable	formed-stable	formed-stable
	Type of Failure	overtopping		overtopping
Stream	Main Basin	Brenta	Adige	Po
	Dammed R.	T. Astico	Rio Arione	F. Sarca
	Wvalley	315	700	160
	Subt. S	91.0	1.6	582.7
	S	0.6		1.0
Lake	Lake name		Lago di Cei (latin derivation, Cellius, Ceius)	Lago di Ponte Pià
	L lake		350	
	W lake		95	
	D lake		13	
	S lake	230000	43000	880000
	V lake		300000	3760000
	Q lake		918	
	h of Lac.dep.			
	Lake life time	centuries	centuries	?
	Lake Condition	disappeared for spillway erosion	existing	disappeared for spillway erosion

Localization	ID	160	161	162
	Locality	Molveno	Tovel	Magrè
	Municipality	San Lorenzo in Banale	Tuenno	Magre' sulla strada del vino
	Province	Trento	Trento	Bolzano
	Region	Trentino Alto Adige	Trentino Alto Adige	Trentino Alto Adige
	UTM E, N crown	;	;	;
	UTM E, N dam	649303; 5106451	650739; 5125421	669341; 5128374
Consequences	L.-damages			
	u-damages			
	d-damages			
	Bibliography	Marchesoni (1954), Marchesoni (1959), Pirocchi (1991)	Biondi et al. (1981), Pirocchi (1991)	Pirocchi (1991)
	Note			
Landslide	Movement	complex	complex	slump
	Velocity			very fast
	v			5.00E-02
	Material	rock	rock	debrisbedrock e debris
	Lithology	limestone	limestone	dolomite
	Water c.			
	H L.	80	150	
	α			
	β	2.7	5.7	
	L L.tot.		2300	290
	L L.body	1700	1500	190
	Wmax	4200	1750	180
	Wmin			
	D _{rf}	80	140	10
	S L.			
	V L.	200000000	200000000	178980
	Trigger			
	Prev. activations			1854
Dam	Date of damming	1000 B.C.	Prehistoric	26/10/1952
	Date of failure			
	d type	III	III / IV	II
	L d	1300	1300	180
	W d	3200	1700	150
	H d	30	45	5
	S d			
	V d	40000000	40000000	75000
	Q d	800	1185	550
	d condition	slightly cut	slightly cut	artificially cut
	Evolution	formed-stable	formed-stable	not formed
	Type of Failure			
Stream	Main Basin	Po	Adige	Adige
	Dammed R.	Rio di Lambin	T. Tresenica	Rio Favogna
	Wvalley	1200	800	100
	Subt. S	73.1	40.4	5.6
	S	3.5	5.7	18.8
Lake	Lake name	Lago di Molveno	Lago di Tovel	
	L lake	3800	930	
	W lake	900	810	
	D lake	110	39	
	S lake	3270000	380000	
	V lake	161000000	7370000	
	Q lake	821	1178	
	h of Lac.dep.			
	Lake life time	millennia	centuries	days
	Lake Condition	existing	existing	not formed for infiltration

Localization	ID	163	164	165
	Locality	Rio Brusago	Ridanna	Novale
	Municipality	Grumes	Racines	Val di Vizze
	Province	Trento	Bolzano	Bolzano
	Region	Trentino Alto Adige	Trentino Alto Adige	Trentino Alto Adige
	UTM E, N crown	;	;	;
	UTM E, N dam	677548; 5121163	676669; 5197828	692020; 5199508
Consequences	L.-damages	1 house destroyed		
	u-damages			
	d-damages			
	Bibliography	Pirocchi (1991)	Pirocchi (1991)	De Vecchi and Baggio (1982), Pirocchi (1991)
	Note	3 fatalities		the lake was very big; currently is an artificial reservoir for hydroelectric purposes partly filled
Landslide	Movement	flow	slump	slump
	Velocity	very fast		
	v	5.00E-02		
	Material	debris	debrisbedrock	debrisbedrock
	Lithology		micaschists	calceschists
	Water c.			
	H L.		170	95
	α			
	β		5.4	4.5
	L L.tot.			
	L L.body	5000	1800	1200
	Wmax	200	2500	1200
	Wmin			750
	D _{ri}	7	120	130
	S L.			
	V L.	5600000	100000000	20000000
	Trigger	heavy rainfall		
	Prev. activations			
Dam	Date of damming	09/1882	Prehistoric	Prehistoric
	Date of failure			
	d type	III	II	II
	L d	270	570	1100
	W d	1500	1400	800
	H d	5	35	60
	S d			
	V d	1000000	10000000	23760000
	Q d	608	1310	1360
	d condition	breached	strongly cut	strongly cut
	Evolution	formed-unstable	formed-stable	formed-stable
	Type of Failure	overtopping		
Stream	Main Basin	Adige	Adige	Adige
	Dammed R.	T. Avisio	Rio Ridanna	T. di Vizze
	Wvalley	220	400	500
	Subt. S	795.9	95.9	113.2
	S	6.9	1.2	0.6
Lake	Lake name			Lago di Novale
	L lake			
	W lake			
	D lake			
	S lake		1700000	2850000
	V lake			
	Q lake			1367
	h of Lac.dep.			
	Lake life time	hours	?	centuries
	Lake Condition	disappeared for spillway erosion	disappeared for spillway erosion	existing partly filled

Localization	ID	166	167	168
	Locality	Stilves	Valdurna	S. Giacomo
	Municipality	Campo di Trens	Sarentino	Valle Aurina
	Province	Bolzano	Bolzano	Bolzano
	Region	Trentino Alto Adige	Trentino Alto Adige	Trentino Alto Adige
	UTM E, N crown	;	;	;
	UTM E, N dam	691126; 5192527	686301; 5179016	728100; 5209772
Consequences	L.-damages			
	u-damages			
	d-damages			9 houses destroyed and many damaged
	Bibliography	Pirocchi (1991)	Pirocchi (1991)	Eisbacher and Clague (1984), Mortara et al. (1986), Pirocchi (1991)
	Note			
Landslide	Movement	slump	slump	flow
	Velocity			
	v			
	Material	debrisbedrock	debrisbedrock	debris
	Lithology	calceschists	filladi	gneiss
	Water c.			wet
	H L.			
	α			
	β			
	L L.tot.			
	L L.body			750
	Wmax			900
	Wmin			
	D _{r,f}			15
	S L.			
	V L.	40000000		5000000
	Trigger			heavy rainfall
	Prev. activations			
Dam	Date of damming	Prehistoric	Prehistoric	10/09/0867
	Date of failure			
	d type	II	II	III
	L d			550
	W d			900
	H d		30	8
	S d			
	V d	3000000		1500000
	Q d	925	1555	1105
	d condition	strongly cut	slightly cut	breached
	Evolution	formed-stable	formed-stable	formed-unstable
	Type of Failure	overtopping		overtopping
Stream	Main Basin	Adige	Adige	Adige
	Dammed R.	F. Isarco	Rio Valdurna	T. Aurino
	Wvalley	1000	150	260
	Subt. S	511.4	24.4	130.2
	S	0.9	4.1	2.1
Lake	Lake name		Lago di Valdurna (Durnholzer Bee)	
	L lake			
	W lake			
	D lake			
	S lake	7600000	90000	270000
	V lake			
	Q lake		1545	
	h of Lac.dep.			
	Lake life time	months	centuries	months
	Lake Condition	disappeared for spillway erosion	existing partly filled	disappeared for spillway erosion

Localization	ID	169	170	171
	Locality	S. Martino	Campo Tures	Chiusa
	Municipality	Valle Aurina	Campo Tures	Chiusa
	Province	Bolzano	Bolzano	Bolzano
	Region	Trentino Alto Adige	Trentino Alto Adige	Trentino Alto Adige
	UTM E, N crown	;	;	;
	UTM E, N dam	722680; 5205775	724506; 5197652	696323; 5168068
Consequences	L.-damages	foundry copper mine destroyed		
	u-damages	flooding up to S. Martino	railway, highway and some houses damaged	flooding of Chiusa village, railway damaged
	d-damages			
	Bibliography	Montandon (1933), Eisbacher and Clague (1984), Mortara et al. (1986), Pirocchi (1991)	Mortara et al. (1986), Pirocchi (1991)	Mortara et al. (1986), Pirocchi (1991)
	Note		1 fatality	4-20 fatalities
Landslide	Movement	flow	flow	flow
	Velocity			
	v			
	Material	debris	debris	debris
	Lithology	gneiss	filladi and micaschists	gneiss, filladi and micaschists
	Water c.	wet	wet	wet
	H L.			
	α			
	β			
	L L.tot.			
	L L.body			
	Wmax			
	Wmin			
	D _{rl}			
	S L.			
	V L.	1000000	9000	1620000
	Trigger	heavy rainfall	heavy rainfall	heavy rainfall
	Prev. activations			
Dam	Date of damming	16-17/08/1878	06-07/08/1931	09/08/1921
	Date of failure			01/1922; 03/1923
	d type	II	I / II	II
	L d			
	W d			
	H d			10
	S d			
	V d			
	Q d	1006	858	518
	d condition	breached	breached	artificially cut
	Evolution	formed-unstable	formed-unstable	formed-unstable
	Type of Failure	overtopping	overtopping	artificiale
Stream	Main Basin	Adige	Adige	Adige
	Dammed R.	T. Aurino	T. Aurino	F. Isarco
	Wvalley	370	400	270
	Subt. S	192.5	521.8	3156.0
	S	0.4	1.1	2.5
Lake	Lake name			
	L lake			
	W lake			
	D lake			
	S lake	300000	700000	470000
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time	days	days	months
	Lake Condition	disappeared for spillway erosion	disappeared for spillway erosion	disappeared for spillway erosion

Localization	ID	172	173	174
	Locality	Rio Orli	Colma di Barbiano	Rasciesa
	Municipality	Villandro	Barbiano	Ortisei
	Province	Bolzano	Bolzano	Bolzano
	Region	Trentino Alto Adige	Trentino Alto Adige	Trentino Alto Adige
	UTM E, N crown	;	;	;
	UTM E, N dam	694370; 5165406	693520; 5162786	702577; 5161442
Consequences	L.-damages		13 houses of Colma village destroyed	
	u-damages	railway damaged		
	d-damages			
	Bibliography	Mortara et al. (1986), Pirocchi (1991)	Mortara et al. (1986), Pirocchi (1991)	Fuganti (1969), Pirocchi (1991)
	Note		39 fatalities; a landslide causes emptying a lake and abnormal flood wave	
Landslide	Movement	flow	flow	complex
	Velocity			
	v			
	Material	debris	debris	rock and debris
	Lithology	filladi and micaschists	filladi and micaschists	volcanics ignimbrite
	Water c.	wet	wet	
	H L.			140
	α			
	β			8.0
	L L.tot.			
	L L.body			1000
	Wmax			550
	Wmin			
	D _{rf}			110
	S L.			
	V L.		1000000	50000000
	Trigger	heavy rainfall	heavy rainfall	
	Prev. activations			
Dam	Date of damming	27/07/1938	17-18/08/1837	Prehistoric
	Date of failure			
	d type	II	II	II
	L d			700
	W d			620
	H d			100
	S d			
	V d			15000000
	Q d	490	458	1135
	d condition	breached	breached	moderately cut
	Evolution	formed-unstable	formed-unstable	formed-stable
	Type of Failure	overtopping	overtopping	overtopping
Stream	Main Basin	Adige	Adige	Adige
	Dammed R.	F. Isarco	F. Isarco	Rio Gardena
	Wvalley	140	220	400
	Subt. S	3386.0	3469.0	156.8
	S	11.0	1.0	2.3
Lake	Lake name			
	L lake			
	W lake			
	D lake			
	S lake	43000	160000	110000
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time	hours	hours	?
	Lake Condition	disappeared for spillway erosion	disappeared for spillway erosion	disappeared for spillway erosion

Localization	ID	175	176	177
	Locality	Val Badia	Ponsin	Campo di Grevena
	Municipality	Badia	Campitello di Fassa	Campitello di Fassa
	Province	Bolzano	Trento	Trento
	Region	Trentino Alto Adige	Trentino Alto Adige	Trentino Alto Adige
	UTM E, N crown	;	;	;
	UTM E, N dam	721322; 5167257	708053; 5152086	705476; 5152405
Consequences	L.-damages			
	u-damages			
	d-damages	some vilagges damaged		
	Bibliography	Eisbacher and Clague (1984), Pirocchi (1991)	Panizza (1973), Pirocchi (1991)	Pirocchi (1991)
	Note	Some (?) fatalities		
Landslide	Movement	slump	complex	complex
	Velocity			
	v			
	Material	debrisbedrock	debrisbedrock	rock
	Lithology	sandstone and limestone	volcanics	breccia di pillows
	Water c.			
	H L.			210
	α			
	β			13.6
	L L.tot.			
	L L.body	2000	900	870
	Wmax	1500	550	740
	Wmin			
	D _{rf}		40	100
	S L.			
	V L.	15000000	10000000	10000000
	Trigger			
	Prev. activations			
Dam	Date of damming	19/06/1821	Prehistoric	Prehistoric
	Date of failure	06/1827		
	d type	II	II	I
	L d		550	160
	W d		500	470
	H d		20	30
	S d			
	V d	3000000	2000000	1000000
	Q d	1250	1840	1930
	d condition	strongly cut	moderately cut	slightly cut
	Evolution	formed-unstable	formed-stable	formed-unstable
	Type of Failure	overtopping		
Stream	Main Basin	Adige	Adige	Adige
	Dammed R.	Rio Gader	Rio di Duron	Rio di Duron
	Wvalley	100	350	230
	Subt. S	129.4	9.6	4.2
	S	3.0	1.7	3.9
Lake	Lake name			
	L lake	1000		
	W lake			
	D lake	35		
	S lake	300000	360000	260000
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time	years	?	days
	Lake Condition	disappeared for spillway erosion	disappeared for spillway erosion	not formed for deviation

Localization	ID	178	179	180
	Locality	Antermoia	S. Martino di Castrozza	Agordo
	Municipality	Mazzin	Siror	La Valle Agordina
	Province	Trento	Trento	Belluno
	Region	Trentino Alto Adige	Trentino Alto Adige	Veneto
	UTM E, N crown	;	;	;
	UTM E, N dam	704354; 5150558	716151; 5125692	734096; 5128239
Consequences	L.-damages			
	u-damages			
	d-damages			
	Bibliography	Pirocchi (1991)	Panizza (1974), Pirocchi (1991)	Decima and Cimpelin (1982), Pirocchi (1991)
	Note		Carbon-14 dating	
Landslide	Movement	fall	complex	
	Velocity	extremely fast		
	v	5.00E+00		
	Material	rock	rock	
	Lithology	dolomite	dolomite	sandstone
	Water c.			
	H L.	30	250	280
	α			
	β	10.0	14.0	4.6
	L L.tot.			
	L L.body	170	1000	3500
	Wmax	190	1400	1800
	Wmin			
	D _{eff}	24	70	60
	S L.			
	V L.	405688	15000000	80000000
	Trigger			
	Prev. activations			
Dam	Date of damming	Prehistoric	Prehistoric	4000 B.C.
	Date of failure			
	d type	III	II	III
	L d	100	260	1200
	W d	190	900	1800
	H d	10	30	20
	S d			
	V d	75000	3500000	18000000
	Q d	2527	1300	550
	d condition	slightly cut	moderately cut	strongly cut
	Evolution	formed-stable	formed-stable	formed-stable
	Type of Failure		overtopping	overtopping
Stream	Main Basin	Adige	Brenta	Piave
	Dammed R.	Rio Val di Udi	T. Cismon	T. Cordevole
	Wvalley	60	200	650
	Subt. S	4.2	7.1	580.0
	S	2.6	6.6	1.5
Lake	Lake name	Lago D'Antermoia		
	L lake			8500
	W lake			
	D lake			
	S lake	41000	450000	1660000
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time	centuries	days	centuries
	Lake Condition	existing partly filled	disappeared for spillway erosion	disappeared for spillway erosion

Localization	ID	181	182	183
	Locality	Vedana	Lago Morto	Fadalto
	Municipality	Sedico	Vittorio Veneto	Farra d'Alpago
	Province	Belluno	Treviso	Treviso
	Region	Veneto	Veneto	Veneto
	UTM E, N crown	;	;	;
	UTM E, N dam	740842; 5117166	756072; 5104620	757988; 5108311
Consequences	L.-damages			
	u-damages			
	d-damages			
	Bibliography	Montandon (1933), Panizza (1974), Eisbacher and Clague (1984), Pirocchi (1991)	Pellegrini and Zambrano (1979), Pirocchi (1991)	Montandon (1933), Panizza (1974), Eisbacher and Clague (1984), Pirocchi (1991)
	Note			
Landslide	Movement	complex	complex	complex
	Velocity			
	v			
	Material	rock and debris	rock and debris	rock and debris
	Lithology	limestone	limestone	limestone
	Water c.			
	H L.			
	α			
	β			
	L L.tot.			
	L L.body		650	1500
	Wmax		2000	2300
	Wmin			
	D _{rl}		80	130
	S L.			
	V L.	100000000	50000000	200000000
	Trigger	seismic event		
	Prev. activations			
Dam	Date of damming	Prehistoric	Prehistoric	Prehistoric
	Date of failure			
	d type	II	III	III
	L d		540	730
	W d		2000	2400
	H d		40	100
	S d			
	V d	2500000	20000000	120000000
	Q d	400	295	490
	d condition	strongly cut	not cut	not cut
	Evolution	formed-stable	formed-stable	formed-stable
	Type of Failure			
Stream	Main Basin	Piave	Livenza	Piave
	Dammed R.	T. Cordevole	F.schio	F. Tesa
	Wvalley	340	410	950
	Subt. S	683.6	17.2	187.3
	S	0.5		1.1
Lake	Lake name		Lago Morto	Lago di Santa Croce
	L lake			
	W lake			
	D lake			
	S lake	?	760000	13490000
	V lake		23690000	
	Q lake		276	
	h of Lac.dep.			
	Lake life time	months	centuries	centuries
	Lake Condition	disappeared for spillway erosion	existing partly filled	existing partly filled

Localization	ID	184	185	186
	Locality	Vajont	Zuel	Antelao
	Municipality	Erto e Casso	Cortina d'Ampezzo	Borca di Cadore
	Province	Pordenone	Belluno	Belluno
	Region	Friuli Venezia Giulia	Veneto	Veneto
	UTM E, N crown	;	;	;
	UTM E, N dam	757250; 5129365	740957; 5155378	746490; 5148360
Consequences	L.-damages			Taolen and Mareana villages destroyed
	u-damages			
	d-damages	Longarone village destroyed		
	Bibliography	Semenza (1966), Panizza (1974), Eisbacher and Clague (1984), Pirocchi (1991)	Panizza (1973), Pirocchi (1991)	Montandon (1933), Panizza (1973), Eisbacher and Clague (1984), Pirocchi (1991)
	Note	1917 fatalities	Carbon-14 dating	250 fatalities
Landslide	Movement	slump	complex	complex
	Velocity			
	v			
	Material	debrisbedrock	rock and debris	rock
	Lithology	limestone	dolomite	dolomite
	Water c.	wet		
	H L.	110		
	α			
	β	4.5		
	L L.tot.			
	L L.body	1400	900	1100
	Wmax	1300	1200	1000
	Wmin			
	D _{rf}	140	50	40
	S L.			
	V L.	250000000	30000000	5000000
	Trigger	changes in reservoir level		
	Prev. activations			
Dam	Date of damming	09/10/1963	5-6000 B.C.	21/04/1814
	Date of failure			
	d type	II	II	II
	L d	1000	750	350
	W d	1200	1000	550
	H d	90	30	7
	S d			
	V d	50000000	10000000	600000
	Q d	825	1155	930
	d condition	not cut	strongly cut	moderately cut
	Evolution	formed-stable	formed-stable	formed-stable
	Type of Failure		overtopping	overtopping
Stream	Main Basin	Piave	Piave	Piave
	Dammed R.	T. Vajont	T. Boite	T. Boite
	Wvalley	750	500	350
	Subt. S	60.3	200.3	294.7
	S		1.4	1.2
Lake	Lake name	Lago di Vajont		
	L lake			
	W lake			
	D lake			
	S lake	2110000	590000	130000
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time	years	years	hours
	Lake Condition	existing partly filled	disappeared for spillway erosion	disappeared for spillway erosion

Localization	ID	187	188	189
	Locality	Perarolo	Forni di Sotto	Val Visdende
	Municipality	Perarolo di Cadore	Forni di Sotto	San Pietro di Cadore
	Province	Belluno	Udine	Belluno
	Region	Veneto	Friuli Venezia Giulia	Veneto
	UTM E, N crown	;	;	;
	UTM E, N dam	757132; 5143956	780721; 5143401	777970; 5166990
Consequences	L.-damages			
	u-damages			
	d-damages	Pererolo village partly destroyed		
	Bibliography	Montandon (1933), Eisbacher and Clague (1984), Pirocchi (1991)	Gortani (1907), Martinis (1985), Pirocchi (1991)	Colantoni and Cremonini (1971), Pirocchi (1991)
	Note		Carbon-14 dating	
Landslide	Movement		slump	complex
	Velocity			
	v			
	Material		debrisbedrock	rock
	Lithology	chalks	limestone	dolomite and limestone
	Water c.			
	H L.			
	α			
	β			
	L L.tot.			
	L L.body		800	500
	Wmax		2500	650
	Wmin		600	
	D _{rl}		150	40
	S L.			
	V L.	500000	50000000	30000000
	Trigger		snow melting (ice) (seismic event?)	
	Prev. activations			
Dam	Date of damming	10/1820	8000 B.C.	Prehistoric
	Date of failure			
	d type	II	II	II
	L d		1100	350
	W d		1000	550
	H d		80	30
	S d			
	V d		20000000	2500000
	Q d	560	725	1240
	d condition	breached	strongly cut	strongly cut
	Evolution	formed-unstable	formed-unstable	formed-stable
	Type of Failure	overtopping	overtopping	overtopping
Stream	Main Basin	Piave	Tagliamento	Piave
	Dammed R.	T. Boite	F. Tagliamento	T. Cordevole
	Wvalley	90	450	250
	Subt. S	389.5	131.8	67.8
	S	1.5	0.8	1.0
Lake	Lake name			
	L lake		6500	
	W lake		1500	
	D lake		40	
	S lake	44000	4500000	1370000
	V lake		250000000	
	Q lake			
	h of Lac.dep.			
	Lake life time	hours	centuries	?
	Lake Condition	disappeared for spillway erosion	disappeared for spillway erosion	disappeared for spillway erosion

Localization	ID	190	191	192
	Locality	Moscardo	Sutrio	Val Alba
	Municipality	Paluzza	Sutrio	Moggio Udinese
	Province	Udine	Udine	Udine
	Region	Friuli Venezia Giulia	Friuli Venezia Giulia	Friuli Venezia Giulia
	UTM E, N crown	;	;	;
	UTM E, N dam	807071; 5164554	807103; 5156096	823806; 5147405
Consequences	L.-damages			
	u-damages			
	d-damages			
	Bibliography	Tosolini (1974), Pirocchi (1991)	Gortani (1896), Martinis (1979), Pirocchi (1991)	Pirocchi (1991)
	Note		Carbon-14 dating	
Landslide	Movement	flow	complex	slump
	Velocity			
	v			
	Material	debris	rock and debris	debris
	Lithology	claystones and argilloschists	dolomite	dolomite and limestone
	Water c.	wet		
	H L.		190	
	α			
	β		8.3	
	L L.tot.			
	L L.body	1000	1300	
	Wmax	1200	2000	
	Wmin		250	
	D _{eff}	10	120	
	S L.			
	V L.	5000000	100000000	2500000
	Trigger			
	Prev. activations	?		
Dam	Date of damming	1829	Prehistoric	20/10/1896
	Date of failure			1905
	d type	III	III	II
	L d	620	1050	
	W d	950	1800	
	H d	5	50	
	S d			
	V d	2500000	40000000	
	Q d	815	480	328
	d condition	strongly cut	strongly cut	strongly cut
	Evolution	formed-unstable	formed-stable	formed-stable
	Type of Failure	overtopping		overtopping
Stream	Main Basin	Tagliamento	Tagliamento	Tagliamento
	Dammed R.	T. Burt	T. Burt	Rio Alba
	Wvalley	515	750	70
	Subt. S	57.7	149.0	20.3
	S	0.2	1.0	3.4
Lake	Lake name			
	L lake			200
	W lake			
	D lake		100	
	S lake	?	6000000	30000
	V lake			
	Q lake			
	h of Lac.dep.		100+	
	Lake life time	years	millennia	years
	Lake Condition	disappeared for spillway erosion	disappeared for filling	disappeared for spillway erosion

Localization	ID	193	194	195
	Locality	Pertusio	Camorone	Algua
	Municipality	Ala di Stura	Brembilla	Algua
	Province	Torino	Bergamo	Bergamo
	Region	Piemonte	Lombardia	Lombardia
	UTM E, N crown	;	;	;
	UTM E, N dam	367480; 5018982	547605; 5072573	556215; 5075126
Consequences	L.-damages		10 houses destroyed	10 houses of Algua destroyed
	u-damages			
	d-damages	Pertusio destroyed		
	Bibliography	Porporato (1962)		
	Note	some (?) fatalities		
Landslide	Movement	complex	slump	slump
	Velocity		fast	
	v		5.00E-04	
	Material	debris	debrisbedrock	debris
	Lithology	anfiboliti	claystones	schists and limestone marly
	Water c.	wet	wet	
	H L.			
	α			
	β			
	L L.tot.		700	
	L L.body		640	
	Wmax		200	
	Wmin		60	
	D _{rf}			
	S L.			
	V L.	2000000	2000000	
	Trigger	heavy rainfall	heavy rainfall	
	Prev. activations		'60s; 11/2000	
	Date of damming	17/09/1665	27/10/2002	24/10/1896
	Date of failure			
Dam	d type	II	II	II
	L d	400	110	
	W d	600	230	
	H d	10	20	
	S d			
	V d	1000000	500000	
	Q d	1020	377	476
	d condition	breached	breached	slightly cut
	Evolution	formed-unstable	formed-unstable	formed-stable
	Type of Failure			
Stream	Main Basin	Po	Po	Tagliamento
	Dammed R.	F. Stura d'Ala	T. Brembilla	Rio Alba
	Wvalley	255	80	180
	Subt. S	97.0	32.0	20.0
	S	3.1	1.5	3.4
Lake	Lake name			Laghetto di Algua
	L lake		250	500
	W lake		20	100
	D lake			15
	S lake		400	40000
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time	hours	days	years
	Lake Condition	disappeared for spillway erosion	disappeared for dam collapse	existing partly filled

Localization	ID	196	197	198
	Locality	Torre	Anterselva	Trelli
	Municipality	Lusevera	Rasun Anterselva	Paularo
	Province	Udine	Bolzano	Udine
	Region	Friuli Venezia Giulia	Trentino Alto Adige	Friuli Venezia Giulia
	UTM E, N crown	;	;	;
	UTM E, N dam	828806; 5136898	740369; 5197106	814993; 5156968
Consequences	L.-damages			
	u-damages			
	d-damages			
	Bibliography	Garofalo and Pugliese (1990)		Venturini (2002)
	Note	Carbon-14 dating		
Landslide	Movement	complex	flow	complex
	Velocity	very fast		
	v	5.00E-02		
	Material	rock	rock and debris	rock
	Lithology	dolomite and limestone	filladi and micaschists	sandstone and schists
	Water c.			
	H L.	80		
	α			
	β	5.3		
	L L.tot.			
	L L.body	860	1100	
	Wmax	360	2000	
	Wmin			
	D _{eff}	30	150	
	S L.			
	V L.	8000000	80000000	
	Trigger	seismic event, strati franapoggio		
	Prev. activations			
	Date of damming	2000 B.C.		10.000 B.C.
Dam	Date of failure			
	d type	II	IV	II
	L d	90	960	
	W d	320	1000	
	H d	40	45	
	S d			
	V d	1500000	7000000	
	Q d	515	1645	555
	d condition	strongly cut	not cut	strongly cut
	Evolution	formed-stable	formed-stable	formed-stable
	Type of Failure	overtopping		
Stream	Main Basin	Isonzo	Adige	Tagliamento
	Dammed R.	T. Mea	Rio di Anterselva	T. Chiarso
	Wvalley	45	700	150
	Subt. S	26.0	19.5	92.0
	S	4.5	6.0	1.6
Lake	Lake name		Lago di Anterselva (Antholzer See)	
	L lake	1400	950	5000
	W lake	400	650	350
	D lake		37	130
	S lake	500000	410000	1500000
	V lake		2700000	16000000
	Q lake		1642	
	h of Lac.dep.			11
	Lake life time	years		millennia
	Lake Condition	disappeared for spillway erosion	existing partly filled	disappeared for filling

Localization	ID	199	200	201
	Locality	Cimego	Braies	Nibbio
	Municipality	Cimego	Braies	Mergozzo
	Province	Trento	Bolzano	Verbania
	Region	Trentino Alto Adige	Trentino Alto Adige	Piemonte
	UTM E, N crown	;	;	;
	UTM E, N dam	624900; 5084658	735888; 5176581	453311; 5095276
Consequences	L.-damages			
	u-damages			
	d-damages			
	Bibliography		Irmier et al. (2006)	
	Note		Carbon-14 dating	
Landslide	Movement	slump	complex	topple
	Velocity		very fast	extremely fast
	v		5.00E-02	5.00E+00
	Material	debrisbedrock	rock and debris	
	Lithology	limestone and dolomite	limestone marly and dolomite	gneiss, dioriti
	Water c.			
	H L.	345	270	320
	α			32.5
	β	13.8	12.7	69.4
	L L.tot.			450
	L L.body	1400	1200	120
	Wmax	1100	1100	350
	Wmin			
	D _{rf}	110	75	
	S L.			
	V L.	25000000	51810000	500000
	Trigger			
	Prev. activations			
	Date of damming			19/04/2005
	Date of failure			
Dam	d type	II	II	III
	L d	470	540	100
	W d	450	900	350
	H d	60	20	10
	S d			
	V d	4000000	8000000	400000
	Q d	460	1500	700
	d condition	strongly cut	not cut	not cut
	Evolution	formed-stable	formed-stable	not formed
	Type of Failure			
Stream	Main Basin	Po	Adige	Po
	Dammed R.	F. Chiese	Rio Fosco	Rio Nibbio
	Wvalley	450	370	50
	Subt. S	255.0	29.0	2.0
	S	0.8	4.0	24.9
Lake	Lake name		Lago di Breies	
	L lake		1150	
	W lake		360	
	D lake		17	
	S lake		324990	
	V lake		5524830	
	Q lake		1491	
	h of Lac.dep.	6+	12	
	Lake life time	months	millennia	
	Lake Condition	disappeared for spillway erosion	existing partly filled	not formed for infiltration

Localization	ID	202	203	204
	Locality	Contr. Terra di Bove	Contr. La Rocca	Contr. Cugno Giovanni
	Municipality	Vizzini	Vizzini	Vizzini
	Province	Catania	Catania	Catania
	Region	Sicilia	Sicilia	Sicilia
	UTM E, N crown	1018859; 4126182	1019817; 4130879	1017123; 4131752
	UTM E, N dam	1019397; 4126020	1019980; 4130701	1016760; 4131930
Consequences	L.-damages	State Highway n.124 and some rural settlements damaged/destroyed	State Highway n.124 and some rural settlements damaged/destroyed	
	u-damages			
	d-damages			
	Bibliography	Nicoletti et al. (2000), Pacino (2002)	Nicoletti et al. (2000), Pacino (2002)	Nicoletti et al. (2000), Pacino (2002)
	Note			
Landslide	Movement	slide	slide	slide
	Velocity			fast
	v			5.00E-04
	Material	rock	rock	rock
	Lithology	marl with limestone-marly layers	volcanoclastites and lava flows	volcanoclastites and lava flows
	Water c.	dry	dry	dry
	H L.	240	150	145
	α			
	β	10.1	18.4	19.9
	L L.tot.	1350	450	400
	L L.body	1100		230
	Wmax	900		275
	Wmin			
	D _{rf}	50		40
	S L.			
	V L.	25905000		1324033
	Trigger	seismic event	seismic event	seismic event
	Prev. activations			
Dam	Date of damming			
	Date of failure			
	d type	I	I	I
	L d	50	100	75
	W d	200	125	225
	H d	9	35	20
	S d			
	V d	44919	216408	168750
	Q d	670		414
	d condition	partial blockage	partial blockage	partial blockage
	Evolution	not formed	not formed	not formed
	Type of Failure			
Stream	Main Basin	San Leonardo	San Leonardo	San Leonardo
	Dammed R.	T. Sughereta	T. La Rocca	tributary without name of T. Risicone
	Wvalley	140		130
	Subt. S	6.4	16.0	5.9
	S	2.9		3.2
Lake	Lake name			
	L lake			
	W lake			
	D lake			
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time			
	Lake Condition	not formed for deviation	not formed for deviation	not formed for deviation

Localization	ID	205	206	207
	Locality	Contr. Canseria	Contr. Boschitello	Contr. San Giovanni
	Municipality	Vizzini	Vizzini - Licodia Eubea	Licodia Eubea
	Province	Catania	Catania	Catania
	Region	Sicilia	Sicilia	Sicilia
	UTM E, N crown	1014626; 4131492	1008207; 4127315	1004609; 4128167
	UTM E, N dam	1014379; 4131829	1009599; 4125971	1005130; 4128276
Consequences	L.-damages		some rural settlements damaged/destroyed	some rural settlements damaged/destroyed
	u-damages			
	d-damages			
	Bibliography	Nicoletti et al. (2000), Pacino (2002)	Nicoletti et al. (2000), Pacino (2002)	Nicoletti et al. (2000), Pacino (2002)
	Note			
Landslide	Movement	slide	complex	slide
	Velocity			
	v			
	Material	rock	rock	rock
	Lithology	volcanoclastites and lava flows	calclutites, breccias, limestone and calcirudites	marl with layers limestone-marly
	Water c.	dry	dry	dry
	H L.	115	310	130
	α			
	β	17.3	8.8	9.5
	L L.tot.	370	2000	780
	L L.body	230		700
	Wmax	320		870
	Wmin			
	D _{rf}	40		44
	S L.			
	V L.	1540693		14023240
	Trigger	seismic event	seismic event	seismic event
	Prev. activations			
	Date of damming			
Dam	Date of failure			
	d type	I	I	II
	L d	75	25	95
	W d	200	775	140
	H d	24	4	16
	S d			
	V d	180687	37843	106278
	Q d	525	381	404
	d condition	partial blockage	partial blockage	partial blockage
	Evolution	not formed	not formed	not formed
	Type of Failure			
Stream	Main Basin	San Leonardo	Acate o Dirillo	Acate o Dirillo
	Dammed R.	T. te Risicone	F. Vizzini	Vallone Mangalavite
	Wvalley	160		130
	Subt. S	46.0	57.4	18.0
	S	3.5	1.8	2.5
Lake	Lake name			
	L lake			
	W lake			
	D lake			
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time			
	Lake Condition	not formed for deviation	not formed for deviation	not formed for deviation

Localization	ID	208	209	210
	Locality	Contr. Casaletto	Poggio Vascello	Rocca
	Municipality	Licodia Eubea	Licodia Eubea	Vizzini
	Province	Catania	Catania	Catania
	Region	Sicilia	Sicilia	Sicilia
	UTM E, N crown	1009395; 4122842	1008297; 4124305	1018141; 4129579
	UTM E, N dam	1009103; 4122698	1008546; 4123944	1018438; 4129246
Consequences	L.-damages	some rural settlements damaged/destroyed	some rural settlements damaged/destroyed	some rural settlements damaged/destroyed
	u-damages			
	d-damages			
	Bibliography	Nicoletti et al. (2000), Pacino (2002)	Nicoletti et al. (2000), Pacino (2002)	Nicoletti et al. (2000), Pacino (2002)
	Note			
Landslide	Movement	complex	slide	slide
	Velocity			
	v			
	Material	rock	rock	rock
	Lithology	succession of biolimestone and limestone and sometime calcirudites	limestone and sub. marly limestone and calcilutites	volcanoclastites and lavas
	Water c.	dry	dry	dry
	H L.	210	205	225
	α	15.1	21.8	
	β	13.1	14.4	18.4
	L L.tot.	900	800	675
	L L.body	600		
	Wmax	1100		
	Wmin			
	D _{rf}	58		
	S L.			
	V L.	36000000		
	Trigger	seismic event	seismic event	seismic event
	Prev. activations			
	Date of damming			
Dam	Date of failure			
	d type	II-VI	I	I
	L d	50	25	50
	W d	375	125	100
	H d	12	6.5	17
	S d			
	V d	111404	10235	43282
	Q d	410	365	466
	d condition	partial blockage	partial blockage	partial blockage
	Evolution	not formed	not formed	not formed
	Type of Failure			
Stream	Main Basin	Acate o Dirillo	Acate o Dirillo	San Leonardo
	Dammed R.	F. Amerillo	F. Vizzini e Dirillo	T. Sughereta
	Wvalley			
	Subt. S	44.7	60.6	
	S	1.1	0.3	3.8
Lake	Lake name			
	L lake			
	W lake			
	D lake			
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time			
	Lake Condition	not formed for deviation	not formed for deviation	not formed for deviation

Localization	ID	211	212	213
	Locality	M.Piano del Pozzo I	M.Piano del Pozzo II	M.Piano del Pozzo III
	Municipality	Vizzini	Vizzini	Vizzini
	Province	Catania	Catania	Catania
	Region	Sicilia	Sicilia	Sicilia
	UTM E, N crown	1018308; 4130118	1018999; 4130312	1019078; 4130644
	UTM E, N dam	1018790; 4129646	1019193; 4130023	1019592; 4130476
Consequences	L.-damages	some rural settlements damaged/destroyed		
	u-damages			
	d-damages			
	Bibliography	Nicoletti et al. (2000), Pacino (2002)	Nicoletti et al. (2000), Pacino (2002)	Nicoletti et al. (2000), Pacino (2002)
	Note			
Landslide	Movement	slump	slide	slump
	Velocity		fast	
	v		5.00E-04	
	Material	rock	rock	rock
	Lithology	volcanoclastites and lavas	volcanoclastites and lavas	volcanoclastites and lavas
	Water c.	dry	dry	dry
	H L.	215	265	205
	α			
	β	16.5	19.5	18.9
	L L.tot.	725	750	600
	L L.body		550	
	Wmax			
	Wmin			
	D _{rf}		50	
	S L.			
	V L.		8270000	1300000
	Trigger	seismic event	seismic event	seismic event
	Prev. activations			
Dam	Date of damming			
	Date of failure			
	d type	I	I	I
	L d	50	50	100
	W d	250	175	300
	H d	15	18	35
	S d			
	V d	95488	80677	533420
	Q d	437	421	394
	d condition	partial blockage	partial blockage	partial blockage
	Evolution	not formed	not formed	not formed
	Type of Failure			
Stream	Main Basin	San Leonardo	San Leonardo	San Leonardo
	Dammed R.	T. La Rocca	T. La Rocca	T. La Rocca
	Wvalley			190
	Subt. S	13.8	14.6	17.1
	S	3.5	2.8	2.4
Lake	Lake name			
	L lake			
	W lake			
	D lake			
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time			
	Lake Condition	not formed for deviation	not formed for deviation	not formed for deviation

Localization	ID	214	215	216
	Locality	Contr. Franca	Contr. S. Nicola	Contr. Nocito
	Municipality	Mineo	Caltagirone	Caltagirone
	Province	Catania	Catania	Catania
	Region	Sicilia	Sicilia	Sicilia
	UTM E, N crown	1009082; 4139634	987922; 4130199	985476; 4127581
	UTM E, N dam	1009290; 4139924	988177; 4130139	985803; 4127577
Consequences	L-damages	some rural settlements damaged/destroyed	some rural settlements damaged/destroyed	some rural settlements damaged/destroyed
	u-damages			
	d-damages			
	Bibliography	Nicoletti et al. (2000), Pacino (2002)	Nicoletti et al. (2000), Pacino (2002)	Nicoletti et al. (2000), Pacino (2002)
	Note			
Landslide	Movement	slide	slump	slide
	Velocity			
	v			
	Material	rock	rock	rock
	Lithology	volcanoclastites and lavas	limestone, calcirudites and sands; lacustrine deposits	limestone, calcirudites and sands; lacustrine deposits
	Water c.	dry	dry	dry
	H L.	175	100	130
	α			
	β	10.8	18.4	6.9
	L L.tot.	920	300	1080
	L L.body			966
	Wmax			
	Wmin			
	D _{rf}			50
	S L.			
	V L.			27800000
	Trigger	seismic event	seismic event	seismic event
	Prev. activations			
Dam	Date of damming			
	Date of failure			
	d type	I	I	I
	L d	63	?	50
	W d	150	?	500
	H d	12		6
	S d			
	V d	57316		75597
	Q d	321	344	288
	d condition	partial blockage	partial blockage	partial blockage
	Evolution	not formed	not formed	not formed
	Type of Failure			
Stream	Main Basin		Acate o Dirillo	Acate o Dirillo
	Dammed R.	T. Caltafaro	Fosso del Naufro	Fosso del Naufro
	Wvalley			
	Subt. S	11.2	2.8	5.4
	S		2.0	2.3
Lake	Lake name			
	L lake			
	W lake			
	D lake			
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time			
	Lake Condition	not formed for deviation	not formed for deviation	not formed for deviation

Localization	ID	217	218	219
	Locality	Contr. Saracena	Croce del Vicario	Contr. Rocca Fisauli
	Municipality	Caltagirone	Caltagirone	Randazzo
	Province	Catania	Catania	Catania
	Region	Sicilia	Sicilia	Sicilia
	UTM E, N crown	990516; 4129710	991353; 4132753	1009199; 4193598
	UTM E, N dam	990995; 4129288	991582; 4132868	1009932; 4193520
Consequences	L.-damages	some rural settlements damaged/destroyed	some rural settlements damaged/destroyed	some rural settlements damaged/destroyed
	u-damages			
	d-damages			
	Bibliography	Nicoletti et al. (2000), Pacino (2002)	Nicoletti et al. (2000), Pacino (2002)	Guzzetti et al. (1994), Pacino (2002)
	Note			
Landslide	Movement	slide	slump	flow
	Velocity			moderate
	v			5.00E-06
	Material	rock	rock	debris e earth
	Lithology	limestone, calcirudites and sands; lacustrine deposits	limestone, calcirudites and sands; lacustrine deposits	clay
	Water c.	dry	dry	wet?
	H L.	90	75	230
	α			
	β	10.2	15.0	17.0
	L L.tot.	500	280	750
	L L.body			670
	Wmax			370
	Wmin			
	D _{rl}			
	S L.			350000
	V L.	750000		7000000
	Trigger	seismic event	seismic event	heavy rainfall
	Prev. activations			
Dam	Date of damming			28/01/1954
	Date of failure			
	d type	I	I	I
	L d	25	25	125
	W d	75	175	500
	H d	4.5	7	40
	S d			
	V d	4265	15009	1236938
	Q d	295	405	419
	d condition	partial blockage	partial blockage	partial blockage
	Evolution	not formed	not formed	not formed
	Type of Failure			
Stream	Main Basin	Acate o Dirillo	Acate o Dirillo	Simeto
	Dammed R.	Vallone Saracena	Vallone Saracena	F. Simeto
	Wvalley	170		550
	Subt. S	14.5	1.9	131.6
	S	1.3	2.8	0.7
Lake	Lake name			
	L lake			
	W lake			
	D lake			
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time			
	Lake Condition	not formed for deviation	not formed for deviation	not formed for deviation

Localization	ID	220	221	222
	Locality	Mineo - SudOvest	Randazzo - Nord	Contr. Ficuzza
	Municipality	Mineo	Randazzo	Caltagirone
	Province	Catania	Catania	Catania
	Region	Sicilia	Sicilia	Sicilia
	UTM E, N crown	1004591; 4139525	1023285; 4209410	989155; 4117891
	UTM E, N dam	1003639; 4139087	1023282; 4209460	988953; 4118305
Consequences	L.-damages	some rural settlements damaged/destroyed	some rural settlements damaged/destroyed	some rural settlements damaged/destroyed
	u-damages			
	d-damages			
	Bibliography	Guzzetti et al. (1994), Pacino (2002)	Guzzetti et al. (1994), Ferrara and Pappalardo (2000), Pacino (2002)	Guzzetti et al. (1994), Nicoletti et al. (1998), Nicoletti et al. (2000), Pacino (2002)
	Note			
Landslide	Movement	slide	fall	slide
	Velocity		fast	
	v		5.00E-04	
	Material	rock	debrisbedrock e debris	earth
	Lithology	silty-marly clay with interbedded sandy-siltose;marl and marly limestone	lavas and clay	limestone, calcirudites and sands; lacustrine deposits and silty-marly clay
	Water c.		wet	dry
	H L.	172	25	140
	α			
	β	17.4	0.7	6.4
	L L.tot.	550	2200	1250
	L L.body	260	2200	
	Wmax	250	800	3200
	Wmin			
	D _{rf}	5- 10	20	35
	S L.	130000		
	V L.	170000	18421333	80000000
	Trigger	heavy rainfall	heavy rainfall	seismic event
	Prev. activations			
Dam	Date of damming	1969	1979	
	Date of failure			
	d type	I	I	II
	L d	50	40	70
	W d	125	125	2500
	H d	16	10	8
	S d			
	V d	50521	25000	688883
	Q d	234	733	123
	d condition	partial blockage	partial blockage	partial blockage
	Evolution	not formed	not formed	not formed
	Type of Failure			
Stream	Main Basin	Simeto	Alcantara	Acate o Dirillo
	Dammed R.	F. Caldo	F. Alcantara	T. Ficuzza
	Wvalley	80	190	
	Subt. S	12.0	182.6	114.5
	S	2.5	2.1	0.5
Lake	Lake name			
	L lake			
	W lake			
	D lake			
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time			
	Lake Condition	not formed for deviation	not formed for deviation	not formed for deviation

Localization	ID	223	224	225
	Locality	Monte San Marco	Contr. Torazza	Nicosia - NordEst
	Municipality	Randazzo	Radazzo	Nicosia
	Province	Catania	Catania	Enna
	Region	Sicilia	Sicilia	Sicilia
	UTM E, N crown	1023314; 4210141	1024146; 4212432	;
	UTM E, N dam	1023671; 4209661	1025596; 4210992	;
Consequences	L.-damages	some rural settlements damaged/destroyed	some rural settlements damaged/destroyed	some rural settlements damaged/destroyed
	u-damages			
	d-damages			
	Bibliography	Guzzetti et al. (1994), Pacino (2002)	Basile et al (1996), Guzzetti et al. (1994), Pacino (2002)	Guzzetti et al. (1994), Pacino (2002)
	Note			2 fatalities
Landslide	Movement	complex	complex	slide
	Velocity		moderate-fast	moderate
	v		5.00E-05	5.00E-06
	Material	debris, earth	earth and debris	debrisbedrock e earth
	Lithology	flysch	sandy-clay terrains and detrital coverages	claystones and flysch material
	Water c.	wet	wet- molto wet	wet
	H L.	175	400	60
	α			
	β	14.0	10.3	9.1
	L L.tot.	700	2200	375
	L L.body			
	Wmax	110	800	130
	Wmin	70	200	
	D _{rl}		?	
	S L.	80000	1350000	50000
	V L.		20000000	
	Trigger	heavy rainfall	heavy rainfall, seismic event	heavy rainfall
	Prev. activations		1880; 1914-20-21-28-33-34-51-52-72-73-73-81	
Dam	Date of damming	1986	29/03/1996	01/01/1973
	Date of failure		1997	
	d type	I	II	I
	L d	75	250	
	W d	225	100	
	H d	20	17.5	
	S d			
	V d	161584	218750	
	Q d		653	
	d condition	partial blockage	artificially stabilized	partial blockage
	Evolution	not formed	formed-unstable	not formed
	Type of Failure			
Stream	Main Basin	Alcantara	Alcantara	Salso or Imera Meridionale
	Dammed R.	F. Alcantara	F. Alcantara	Fosso Sant'Onofrio
	Wvalley		270	
	Subt. S	183.8	207.5	
	S		4.0	
Lake	Lake name			
	L lake			
	W lake			
	D lake			
	S lake			
	V lake		375000	
	Q lake			
	h of Lac.dep.			
	Lake life time		months	
	Lake Condition	not formed for deviation	existing	not formed for deviation

Localization	ID	226	227	228
	Locality	Piazza Armerina - Nord	Contr. Schiavone	Contr. Vettrana
	Municipality	Piazza Armerina	Troina	San Fratello
	Province	Enna	Enna	Messina
	Region	Sicilia	Sicilia	Sicilia
	UTM E, N crown	975067; 4151412	990549; 4204584	991668; 4223049
	UTM E, N dam	975039; 4151460	992476; 4204822	988029; 4224145
Consequences	L.-damages	some rural settlements damaged/destroyed	some rural settlements damaged/destroyed	some rural settlements and houses destroyed
	u-damages			
	d-damages			
	Bibliography	Guzzetti et al. (1994), Pacino (2002)	Guzzetti et al. (1994), Pacino (2002)	Crinò (1921), Ogniben (1960), Catenacci, (1992), Pacino (2002)
	Note	4 fatalities		10 fatalities
Landslide	Movement	complex	flow	complex
	Velocity	extremely fast	moderate	very fast
	v	5.00E+00	5.00E-06	5.00E-03
	Material	rock and earth	debrisbedrock e earth	rock and earth
	Lithology	quartzysands and quartzysandstones	claystones	dolomite and filladi
	Water c.	wet	wet	wet
	H L.	150	209	415
	α			
	β	51.3	7.4	7.9
	L L.tot.	120	1600	3000
	L L.body	20	1700	2350
	Wmax		620	720
	Wmin		200	400
	D _{ri}	5		12
	S L.		420000	1980000
	V L.	15700	6000000	6210920
	Trigger	heavy rainfall	fluvial erosion, heavy rainfall, water fluctuation	snowfall, heavy rainfall
	Prev. activations			1745; 1905
Dam	Date of damming	02/01/1973	08/02/1955	07/01/1922
	Date of failure			
	d type	I	I	I
	L d	10	75	100
	W d	75	275	900
	H d	5	10	10
	S d			
	V d	1875	101609	450000
	Q d	644	996	72
	d condition	partial blockage	partial blockage	partial blockage
	Evolution	not formed	not formed	not formed
	Type of Failure			
Stream	Main Basin	di Gela	Simeto	T. Furiano
	Dammed R.	left tributary without name of T. Nocciara	T. S. Elia	T. Furiano
	Wvalley	40	385	180
	Subt. S	2.8	14.0	140.3
	S	2.1	0.9	1.6
Lake	Lake name			
	L lake			
	W lake			
	D lake			
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time			
	Lake Condition	not formed for deviation	not formed for deviation	not formed for deviation

Localization	ID	229	230	231
	Locality	Chiesa delle Grazie	Roccella Valdemone	Roccella Valdemone-Ovest
	Municipality	San Fratello	Roccella Valdemone	Roccella Valdemone
	Province	Messina	Messina	Messina
	Region	Sicilia	Sicilia	Sicilia
	UTM E, N crown	991489; 4223490	1026056; 4216326	1028278; 4215791
	UTM E, N dam	993280; 4224937	1027238; 4217106	1027904; 4215741
Consequences	L.-damages			some rural settlements damaged/destroyed
	u-damages			
	d-damages			
	Bibliography	Pacino (2002)	Pacino (2002)	Guzzetti et al. (1994), Bottari et al. (1998), Pacino (2002)
	Note			
Landslide	Movement	complex	flow	complex
	Velocity	very fast		slow
	v	5.00E-03		5.00E-08
	Material	rock and earth	earth	rock and earth
	Lithology	limestone and clay	claystones and marl-clay interbedded with limestoneo-marly and sandstone layers	limestone and quartz sandstones, debris and schists clay
	Water c.			wet
	H L.	450	300	130
	α			
	β	11.8	11.3	17.2
	L L.tot.	2150	1500	420
	L L.body			410
	Wmax	600	500	260
	Wmin	100	450	80
	D _{rf}			9
	S L.			110000
	V L.	180000	150000	479700
	Trigger	fluvial erosion at the base of the slope	heavy rainfall	heavy rainfall
	Prev. activations			1880; 1901-02-05
Dam	Date of damming	07/01/1922	03/1928	30/01/1988
	Date of failure			
	d type	I	I	I
	L d	50	25	25
	W d	200	500	200
	H d	10.5	5	9
	S d			
	V d	53103	31673	22500
	Q d	144	761	778
	d condition	partial blockage	partial blockage	partial blockage
	Evolution	not formed	not formed	not formed
	Type of Failure			
Stream	Main Basin	T. Inganno	Alcantara	T. Camaro
	Dammed R.	T. Inganno	T. Roccella	T. te Roccella
	Wvalley	230	180	115
	Subt. S	54.3	17.0	42.8
	S	2.8	10.4	3.6
Lake	Lake name			
	L lake			
	W lake			
	D lake			
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time		-	-
	Lake Condition	not formed for deviation	not formed for deviation	not formed for deviation

Localization	ID	232	233	234
	Locality	Camaro	Cozzo della Difesa	Casa Firrionello
	Municipality	Messina	Tusa	Scillato
	Province	Messina	Messina	Palermo
	Region	Sicilia	Sicilia	Sicilia
	UTM E, N crown	1071361; 4247074	1009163; 4219859	933188; 4201390
	UTM E, N dam	1071323; 4247272	959587; 4218412	932476; 4200365
Consequences	L.-damages	some houses destroyed		some rural settlements damaged/destroyed
	u-damages			
	d-damages			
	Bibliography	Catenacci (1992), Pacino (2002)	Catenacci (1992), Pacino (2002)	Pacino (2002)
	Note			
Landslide	Movement			slump
	Velocity			
	v			
	Material			earth
	Lithology	limestone,sands,marl clay		clay sandy clay marly limestone blocks and marl clay
	Water c.			wet
	H L.	80	398	47
	α			
	β	28.1	11.3	10.6
	L L.tot.	150	2000	250
	L L.body	140		
	Wmax	175	625	120
	Wmin		175	
	D _{rf}	30	5	
	S L.		1000000	190000
	V L.	412125	3270833	30000
	Trigger			fluvial erosion at the base of the slope
	Prev. activations			
Dam	Date of damming	1985	03/1987	22-23/3/1969
	Date of failure			
	d type	I	I	I
	L d	10	25	125
	W d	100	200	175
	H d	6	5	24
	S d			
	V d	2952	12604	260103
	Q d	153	352	239
	d condition	partial blockage	partial blockage	partial blockage
	Evolution	not formed	not formed	not formed
	Type of Failure			
Stream	Main Basin	Vallone Nacchio	Imera Settentrionale	Imera Settentrionale
	Dammed R.	T. Camaro	Vallone Nacchio	F. Imera Sett.
	Wvalley	180	320	160
	Subt. S	5.2	2.2	91.6
	S	5.8	6.9	1.8
Lake	Lake name			
	L lake			
	W lake			
	D lake			
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time	-	-	-
	Lake Condition	not formed for deviation	not formed for deviation	not formed for deviation

Localization	ID	235	236	237
	Locality	Vallone della Ginestra	Vallone San Nicola	Portella Colla I
	Municipality	Palermo	Palermo	Polizzi Generosa
	Province	Palermo	Palermo	Palermo
	Region	Sicilia	Sicilia	Sicilia
	UTM E, N crown	936498; 4197561	937376; 4198993	942560; 4202069
	UTM E, N dam	937158; 4198231	936982; 4198621	938689; 4197852
Consequences	L.-damages			some rural settlements and cottages damaged/destroyed
	u-damages			
	d-damages			
	Bibliography	Pacino (2002)	Pacino (2002)	Crinò (1921), Ogniben (1960), Pacino (2002)
	Note			
Landslide	Movement	flow	complex	complex
	Velocity			
	v			
	Material	earth	debris and earth	debris-earth-rock
	Lithology	clay, sandy clay		limestone dolomite blocks, claystonesche debris rocks
	Water c.		?	wet
	H L.	286	176	1290
	α			
	β	16.0	12.4	11.7
	L L.tot.	1000	800	6250
	L L.body		610	4500
	Wmax	375	270	3000
	Wmin			2000
	D _{rf}		20	40
	S L.			
	V L.		2260800	282600000
	Trigger	Fluvial erosion at the base of the slope		heavy rainfall
	Prev. activations			Pliocene
Dam	Date of damming	04/1969	1959	21-23/02/1931
	Date of failure	after few days		
	d type	II	I	I
	L d	100	50	125
	W d	125	250	725
	H d	30	11	26
	S d			
	V d	183789	69881	1185951
	Q d		384	491
	d condition	breached	partial blockage	partial blockage
	Evolution	formed-unstable	not formed	not formed
	Type of Failure			
Stream	Main Basin	Imera Settentrionale	Imera Settentrionale	Acate
	Dammed R.	F. Imera Sett.	F. Imera Sett.	Rio Secco
	Wvalley		230	
	Subt. S	22.7	23.3	18.9
	S		1.5	7.0
Lake	Lake name			
	L lake			
	W lake			
	D lake			
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time	days		
	Lake Condition	disappeared for spillway erosion	not formed for deviation	not formed for deviation

Localization	ID	238	239	240
	Locality	Portella Colla II	Portella del Lupo I	Portella del Lupo II
	Municipality	Polizzi Generosa	Alia	Alia
	Province	Palermo	Palermo	Palermo
	Region	Sicilia	Sicilia	Sicilia
	UTM E, N crown	942560; 4202069	915948; 4192322	915662; 4191701
	UTM E, N dam	936945; 4198418	914730; 4192921	914669; 4191135
Consequences	L.-damages	some rural settlements damaged/destroyed	some rural settlements damaged/destroyed	some rural settlements damaged/destroyed
	u-damages			
	d-damages			
	Bibliography	Crinò (1921), Ogniben (1960), Pacino (2002)	Guzzetti et al. (1994), Pacino (2002)	Guzzetti et al. (1994), Pacino (2002)
	Note			
Landslide	Movement	complex	flow	complex
	Velocity			
	v			
	Material	debris-earth-rock	earth	debrisbedrock debris
	Lithology	limestone dolomite blocks, claystonesche debris rocks	quartzzy sandstone and sandy marl clay	quartzzy sandstone and sandy marl clay
	Water c.	wet		
	H L.	1290	250	273
	α			
	β	11.7	10.3	13.6
	L L.tot.	6250	1375	1125
	L L.body	4500	460	875
	Wmax	3000	250	
	Wmin	2000		
	D _{rf}	40		
	S L.	14500000		700000
	V L.	282600000	600000	
	Trigger	heavy rainfall	infiltration into the head	infiltration into the head and fluvial erosion
	Prev. activations	Pliocene		
Dam	Date of damming	21-23/02/1931	1963	1963
	Date of failure	after few days		
	d type	II	I	I
	L d	150	50	25
	W d	320	50	100
	H d	20	9	6
	S d			
	V d	480000	11491	7736
	Q d	383	530	
	d condition	breached	partial blockage	partial blockage
	Evolution	formed-unstable	not formed	not formed
	Type of Failure			
Stream	Main Basin	Acate	Acate	Irminio
	Dammed R.	F. Imera Sett.	Vallone Rociura	Vallone Zappalanotte
	Wvalley	850	210	
	Subt. S	23.3	4.1	4.9
	S	3.5	4.4	
Lake	Lake name			
	L lake			
	W lake			
	D lake			
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time	days		
	Lake Condition	disappeared for spillway erosion	not formed for deviation	not formed for deviation

Localization	ID	241	242	243
	Locality	Cimitero di Ragusa I	Cimitero di Ragusa II	Contr. Monte
	Municipality	Ragusa	Ragusa	Ragusa
	Province	Ragusa	Ragusa	Ragusa
	Region	Sicilia	Sicilia	Sicilia
	UTM E, N crown	1009927; 4102922	1010625; 4102615	1013310; 4100472
	UTM E, N dam	1009909; 4103198	1010845; 4102704	1012448; 4100795
Consequences	L.-damages	Some rural settlements damaged/destroyed	Some rural settlements damaged/destroyed	Some rural settlements damaged/destroyed
	u-damages			
	d-damages			
	Bibliography	Nicoletti et al. (1999b), Pacino (2002)	Nicoletti et al. (1999b), Pacino (2002)	Guzzetti et al. (1994), Nicoletti and Parise (2002), Nicoletti and Terranova (1998), Nicoletti et al. (1999b), Pacino (2002)
	Note			
Landslide	Movement	slump	slump	complex
	Velocity			extremely fast
	v			5.00E+00
	Material	debrisbedrock	debrisbedrock	debrisbedrock-debris
	Lithology	succession of calcilutites and marl	succession of calcilutites and marl	limestone and calcirudites; succession of calcilutites and marl
	Water c.	dry	dry	dry
	H L.	190	170	210
	α	27.7	20.5	20.2
	β	23.8	23.0	13.9
	L L.tot.	430	400	850
	L L.body	340		550
	Wmax			
	Wmin			
	D _{rf}	80		60
	S L.			
	V L.	9960000	120000	12000000
	Trigger	seismic event	seismic event	seismic event
	Prev. activations			
Dam	Date of damming			6500 years B.P.
	Date of failure			
	d type	II	I	II
	L d	75	25	375
	W d	575	125	960
	H d	35.5	11.3	60
	S d			
	V d	1725000	17679	10800000
	Q d		482	278
	d condition	strongly cut	partial blockage	moderately cut
	Evolution	formed-stable	not formed	formed-stable
	Type of Failure			
Stream	Main Basin	Cassibile	Cassibile	Cassibile
	Dammed R.	F. San Leonardo	F. San Leonardo	F. Irminio
	Wvalley		120	240
	Subt. S	17.3	19.4	6.0
	S	5.3	3.3	0.4
Lake	Lake name			
	L lake			1000
	W lake			
	D lake			
	S lake			
	V lake			2200000
	Q lake			
	h of Lac.dep.			60
	Lake life time			millennia
	Lake Condition	disappeared for filling	not formed for deviation	disappeared for filling

Localization	ID	244	245	246
	Locality	Contr. Ufra	Contr. Steppenosa	Cozzo Pirato Grande
	Municipality	Modica	Scicli	Modica
	Province	Ragusa	Ragusa	Ragusa
	Region	Sicilia	Sicilia	Sicilia
	UTM E, N crown	1014406; 4094862	1009640; 4092727	1011612; 4091343
	UTM E, N dam	1013931; 4095056	1009479; 4092490	1011061; 4091711
Consequences	L.-damages	some rural settlements damaged/destroyed	some rural settlements damaged/destroyed	some rural settlements damaged/destroyed
	u-damages			
	d-damages			
	Bibliography	Nicoletti et al. (1999b), Pacino (2002)	Nicoletti et al. (1999b), Pacino (2002)	Nicoletti et al. (1999b), Pacino (2002)
	Note			
Landslide	Movement	slide	slide	slide
	Velocity			
	v			
	Material	rock	rock	rock
	Lithology	limestones with succession of limestoneo-marly layers; limestone and calcirudites ;alternation of calcilutites and marl	limestone with succession of limestoneo-marly layers	limestone with succession of limestoneo-marly layers; limestone and calcirudites
	Water c.	dry	dry	dry
	H L.	130	70	190
	α	15.7	11.9	21.3
	β	10.5	22.4	12.2
	L L.tot.	700	170	880
	L L.body	640	253	733
	Wmax	1000		
	Wmin			
	D _{rf}	87	60	120
	S L.			
	V L.	40000000	459000	26000000
	Trigger	seismic event	seismic event	seismic event
	Prev. activations			
Dam	Date of damming			
	Date of failure			
	d type	II	I	II
	L d	125	25	175
	W d	325	275	325
	H d	28	11	57
	S d			
	V d	568750	37532	1620938
	Q d	333	351	228
	d condition	moderately cut	partial blockage	strongly cut
	Evolution	formed-stable	not formed	formed-stable
	Type of Failure			
Stream	Main Basin	Cassibile	Cassibile	T. Pisciareello
	Dammed R.	T. Passo Gatta	Cava Manca	Fiumara di Modica
	Wvalley	295	145	255
	Subt. S	18.2	0.2	44.0
	S	1.1	2.0	1.4
Lake	Lake name			
	L lake			
	W lake			
	D lake			
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time			
	Lake Condition	disappeared for filling	not formed for deviation	disappeared for filling

Localization	ID	247	248	249
	Locality	Fondo Barone	Contr. Billona	Contr. Utra I
	Municipality	Vittoria	Vittoria	Monterosso Almo
	Province	Ragusa	Ragusa	Ragusa
	Region	Sicilia	Sicilia	Sicilia
	UTM E, N crown	990340; 4100731	994543; 4104790	1011129; 4120464
	UTM E, N dam	990050; 4100160	995187; 4104756	1011524; 4121369
Consequences	L.-damages		some rural settlements damaged/destroyed	
	u-damages			
	d-damages			
	Bibliography	Nicoletti et al. (1999b), Pacino (2002)	Nicoletti et al. (1999b), Pacino (2002)	Nicoletti et al. (1999a), Nicoletti and Parise (2002), Pacino (2002)
	Note			
Landslide	Movement	flow	slide	slump
	Velocity	fast		
	v	5.00E-04		
	Material	earth	rock	rock
	Lithology	limestones; marl limestone and marly limestone	marly limestones, silts and travertes; limestone	limestones and calcirudites; succession of calcsiltstones, marl and marly limestone
	Water c.	dry	dry	dry
	H L.	40	25	250
	α	10.1	11.6	18.0
	β	3.1	5.1	9.8
	L L.tot.	750	280	1450
	L L.body	600	253	1250
	Wmax	300		
	Wmin			
	D _{rf}	18	26	83
	S L.			
	V L.	1695600	1940000	84000000
	Trigger	seismic event	seismic event	seismic event
	Prev. activations			
Dam	Date of damming			11/01/1693
	Date of failure			
	d type	I	II	I
	L d	50	225	175
	W d	125	450	275
	H d	3	26	83
	S d			
	V d	8341	1316250	2000000
	Q d	70	156	460
	d condition	partial blockage	strongly cut	partial blockage
	Evolution	not formed	formed-stable	not formed
	Type of Failure			
Stream	Main Basin	T. Pisciareello	Asinaro	Asinaro
	Dammed R.	right tributary without name of F. Ippari	right tributary without name of F. Ippari	Rio Amerillo
	Wvalley	290	90	
	Subt. S	3.1	53.0	31.2
	S	2.4	0.3	2.6
Lake	Lake name			
	L lake			
	W lake			
	D lake			
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time			
	Lake Condition	not formed for deviation	disappeared for filling	not formed for deviation

Localization	ID	250	251	252
	Locality	Contr. Utra II	Piano degli Angeli I	Piano degli Angeli II
	Municipality	Monterosso Almo	Monterosso Almo	Monterosso Almo
	Province	Ragusa	Ragusa	Ragusa
	Region	Sicilia	Sicilia	Sicilia
	UTM E, N crown	1010717; 4119433	1010536; 4116732	1010610; 4115958
	UTM E, N dam	1011850; 4119404	1011052; 4116916	1010764; 4117099
Consequences	L.-damages			
	u-damages			
	d-damages			
	Bibliography	Nicoletti et al. (1998), Nicoletti et al. (2000), Nicoletti and Parise (2002), Pacino (2002)	Nicoletti et al. (1998), Nicoletti et al. (2000), Pacino (2002)	Nicoletti et al. (2000), Pacino (2002)
	Note			
Landslide	Movement	slide	complex	slide
	Velocity			
	v			
	Material	rock	rock	rock
	Lithology	limestones and calcirudites; succession of calcsiltstones, marl and marly limestone	limestones and calcirudites; succession of calcsiltstones, marl and marly limestone	limestone and calcirudites; succession of calcsiltstones, marl and marly limestone
	Water c.	dry	dry	
	H L.	230	160	110
	α	25.6	33.5	33.5
	β	10.9	7.9	8.9
	L L.tot.	1200	1150	700
	L L.body	1000	800	500
	Wmax			
	Wmin			
	D _{rf}	75	80	
	S L.			
	V L.	50000000	50000000	
	Trigger	seismic event	seismic event	seismic event
	Prev. activations			
Dam	Date of damming	5000 years B.P.		
	Date of failure			
	d type	II	VI	I
	L d	150	225	20
	W d	450	675	250
	H d	75	80	3.5
	S d			
	V d	2531250	6075000	7922
	Q d	520	621	608
	d condition	strongly cut	not cut	partial blockage
	Evolution	formed-stable	formed-stable	not formed
	Type of Failure			
Stream	Main Basin	Asinaro	Asinaro	Asinaro
	Dammed R.	Rio Amerillo	Rio Amerillo	Rio Amerillo
	Wvalley			
	Subt. S	12.1	9.2	6.3
	S	1.0	2.8	2.8
Lake	Lake name			
	L lake	1400		
	W lake	150		
	D lake	30		
	S lake	164850		
	V lake	2472750		
	Q lake			
	h of Lac.dep.	40		
	Lake life time	millennia		
	Lake Condition	disappeared for filling	disappeared for filling	not formed for deviation

Localization	ID	253	254	255
	Locality	Contr. Barone	Contr. Bregoliti	Cugni Fassio I
	Municipality	Giarratana	Ragusa	Avola
	Province	Ragusa	Ragusa	Siracusa
	Region	Sicilia	Sicilia	Sicilia
	UTM E, N crown	1016232; 4118852	1010176; 4110502	1047380; 4108079
	UTM E, N dam	1016395; 4118662	1010214; 4110706	1047905; 4108539
Consequences	L.-damages			
	u-damages			
	d-damages			
	Bibliography	Nicoletti et al. (2000), Pacino (2002)	Nicoletti et al. (2000), Pacino (2002)	Nicoletti et al. (2000), Pacino (2002)
	Note			
Landslide	Movement	slump	slide	slump
	Velocity			
	v			
	Material	rock	rock	rock
	Lithology	marl and clay	limestone and calcirudites	limestone and marly limestone
	Water c.	dry	dry	dry
	H L.	110	70	360
	α	22.1	13.5	
	β	14.3	19.3	27.2
	L L.tot.	430	200	700
	L L.body		130	540
	Wmax		320	
	Wmin			
	D _{rf}		40	100
	S L.			
	V L.		1339733	42000000
	Trigger	seismic event	seismic event	seismic event
	Prev. activations			
	Date of damming			
Dam	Date of failure			
	d type	I	II	I
	L d	50	65	50
	W d	175	180	700
	H d	13	20	28
	S d			
	V d	57213	117000	494374
	Q d	602	730	86
	d condition	partial blockage		partial blockage
	Evolution	not formed		not formed
	Type of Failure			
Stream	Main Basin	Asinaro	Asinaro	Asinaro
	Dammed R.	F. Irminio	right tributary without name of Cava Canseria	F. Cassibile
	Wvalley		140	
	Subt. S	6.3	4.2	82.3
	S	4.1	4.9	0.9
Lake	Lake name			
	L lake			
	W lake			
	D lake			
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time			
	Lake Condition	not formed for deviation		not formed for deviation

Localization	ID	256	257	258
	Locality	Giserotta	Contr. Salmicella	Cugni di Cassero
	Municipality	Noto	Noto	Cassibile
	Province	Siracusa	Siracusa	Siracusa
	Region	Sicilia	Sicilia	Sicilia
	UTM E, N crown	1046359; 4109120	1044916; 4109280	1049143; 4109422
	UTM E, N dam	1046605; 4109211	1044943; 4108855	1049069; 4109216
Consequences	L.-damages			
	u-damages			
	d-damages			
	Bibliography	Nicoletti et al. (2000), Pacino (2002)	Nicoletti et al. (2000), Pacino (2002)	Nicoletti et al. (2000), Pacino (2002)
	Note			
Landslide	Movement	slump	slump	slump
	Velocity	very fast	fast	very fast
	v	5.00E-03	5.00E-04	5.00E-02
	Material	rock	rock	rock
	Lithology	calcirudites and limestones	limestone and marly limestone	calcirudites and limestone
	Water c.	dry	dry	
	H L.	150	240	140
	α			
	β	31.0	28.1	29.2
	L L.tot.	250	450	250
	L L.body		185	
	Wmax		280	
	Wmin			
	D _{eff}		20	
	S L.			
	V L.	50000	542173	
	Trigger	seismic event	seismic event	seismic event
	Prev. activations			
	Date of damming			
	Date of failure			
Dam	d type	I	I	I
	L d	25	25	
	W d	150	175	
	H d	17	15	
	S d			
	V d	32069	32288	
	Q d		166	174
	d condition	partial blockage	partial blockage	partial blockage
	Evolution	not formed	not formed	not formed
	Type of Failure			
Stream	Main Basin	Tellaro	Tellaro	Tellaro
	Dammed R.	Cava Passetti	F. Cassibile	Cava Fontanelle
	Wvalley	95	180	
	Subt. S	1.2	89.6	1.9
	S	2.0	2.0	5.4
Lake	Lake name			
	L lake			
	W lake			
	D lake			
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time			
	Lake Condition	not formed for deviation	not formed for deviation	not formed for deviation

Localization	ID	259	260	261
	Locality	Cugni Fassio II	Contr. Bellicci I	Contr. Bellicci II
	Municipality	Avola	Avola	Avola
	Province	Siracusa	Siracusa	Siracusa
	Region	Sicilia	Sicilia	Sicilia
	UTM E, N crown	1047536; 4107611	1042815; 4105527	1043529; 4105371
	UTM E, N dam	1047583; 4107262	1042743; 4105875	1043360; 4105260
Consequences	L.-damages			
	u-damages			
	d-damages			
	Bibliography	Nicoletti et al. (2000), Pacino (2002)	Campisi (1961), Guzzetti et al. (1994), Nicoletti et al. (1999b), Nicoletti and Terranova (1998), Pacino (2002)	Nicoletti et al. (1999a), Pacino (2002)
	Note			
Landslide	Movement	slump	slide	slide
	Velocity	very fast	very fast	
	v	5.00E-03	5.00E-02	
	Material	rock	rock	rock
	Lithology	limestone, marly limestone and limestone	thick limestone; succession of limestone and marly limestone	thick limestone; succession of limestone and marly limestone
	Water c.	dry	dry	dry
	H L.	130	180	50
	α			
	β	27.5	27.2	15.5
	L L.tot.	250	350	180
	L L.body	220	350	90
	Wmax			230
	Wmin			
	D _{ri}	20	75	15
	S L.			
	V L.	1030000	3000000	324990
	Trigger	seismic event	seismic event	seismic event
	Prev. activations			
Dam	Date of damming		11/01/1693	
	Date of failure			
	d type	I	II	I
	L d	25	175	25
	W d	25	370	220
	H d	14	75	7
	S d			
	V d	4473	2428125	19604
	Q d	232	292	215
	d condition	partial blockage	moderately cut	partial blockage
	Evolution	not formed	formed-stable	not formed
	Type of Failure			
Stream	Main Basin	Anapo	Anapo	Fiumara Grande
	Dammed R.	Cava Tangi	T. Pisciareello	T. Pisciareello
	Wvalley	110	70	
	Subt. S	0.2	6.3	5.6
	S	11.1	3.3	11.1
Lake	Lake name			
	L lake		500	
	W lake		80	
	D lake		22.5	
	S lake			
	V lake		180000	
	Q lake			
	h of Lac.dep.		20- 25	
	Lake life time			
	Lake Condition	not formed for deviation	disappeared for filling	not formed for deviation

Localization	ID	262	263	264
	Locality	Timpa Sole	Contr. Lenzevacche	Cozzo del Ferraro I
	Municipality	Noto	Noto	Noto
	Province	Siracusa	Siracusa	Siracusa
	Region	Sicilia	Sicilia	Sicilia
	UTM E, N crown	1037971; 4103009	1039068; 4103958	1039194; 4101955
	UTM E, N dam	1037782; 4102821	1039263; 4104046	1039294; 4101961
Consequences	L.-damages	some rural settlements damaged/destroyed		some rural settlements damaged/destroyed
	u-damages			
	d-damages			
	Bibliography	Nicoletti et al. (1999a), Pacino (2002)	Guzzetti et al. (1994), Nicoletti et al. (1999a), Pacino (2002)	Nicoletti et al. (1999a), Pacino (2002)
	Note			
Landslide	Movement	slump	slump	slide
	Velocity			
	v			
	Material	rock	rock	rock
	Lithology	limestone, marly limestone and limestone	limestone, marly limestone and limestone	marl with limestoneeci-marly layers
	Water c.	dry	dry	dry
	H L.	190	150	180
	α		17.2	
	β	15.2	34.3	24.2
	L L.tot.	700	220	400
	L L.body		220	400
	Wmax			
	Wmin			
	D _{rf}		55	40
	S L.			
	V L.	65000	2000000	3180000
	Trigger	seismic event	seismic event	seismic event
	Prev. activations			
	Date of damming			
Dam	Date of failure			
	d type	I	II	I
	L d	50	150	25
	W d	125	350	225
	H d	14	55	12
	S d			
	V d	43484	1443750	33965
	Q d	230	257	
	d condition	partial blockage	strongly cut	partial blockage
	Evolution	not formed	formed-stable	not formed
	Type of Failure			
	Main Basin	Fiumara Grande	Fiumara Grande	Cava San Cusimano
Stream	Dammed R.	Cava Ferraro	Cava Santa Chiara	Cava Tortorone
	Wvalley	110	75	180
	Subt. S	14.5	13.8	13.2
	S	1.8	0.8	2.2
Lake	Lake name			
	L lake		1000	
	W lake		70	
	D lake		55	
	S lake			
	V lake		1283333.333	
	Q lake			
	h of Lac.dep.			
	Lake life time			
	Lake Condition	not formed for deviation	disappeared for filling	not formed for deviation

Localization	ID	265	266	267.1
	Locality	Cozzo del Ferraro II	Contr. Oliva	Cava S. Giuseppe Nord
	Municipality	Noto	Noto	Noto
	Province	Siracusa	Siracusa	Siracusa
	Region	Sicilia	Sicilia	Sicilia
	UTM E, N crown	1039175; 4102658	1035830; 4104282	1035841; 4103879
	UTM E, N dam	1039526; 4102680	1035962; 4104404	1035843; 4103627
Consequences	L.-damages	some rural settlements damaged/destroyed		
	u-damages			
	d-damages			
	Bibliography	Nicoletti et al. (1999a), Pacino (2002)	Guzzetti et al. (1994), Nicoletti et al. (1999a), Nicoletti et al. (1998), Pacino (2002)	Guzzetti et al. (1994), Nicoletti et al. (1999a), Nicoletti et al. (1998), Nicoletti and Parise (2002), Pacino (2002)
	Note			
Landslide	Movement	slide	slide	slide
	Velocity			
	v			
	Material	rock	rock	rock
	Lithology	marl with limestoneci-marly layers	limestone, marly limestone and limestone	limestone, marly limestone and limestone
	Water c.	dry	dry	dry
	H L.	160	160	120
	α		22.6	14.8
	β	21.8	19.6	20.0
	L L.tot.	400	450	330
	L L.body	220	260	300
	Wmax	280		400
	Wmin			
	D _{ri}	12		30
	S L.			
	V L.	386848	3000000	1000000
	Trigger	seismic event	seismic event	seismic event
	Prev. activations			
Dam	Date of damming			
	Date of failure			
	d type	I	II	IV
	L d	37	150	100
	W d	250	575	375
	H d	15.5	40	30
	S d			
	V d	72350	1725000	562500
	Q d		273	279
	d condition	partial blockage	strongly cut	strongly cut
	Evolution	not formed	formed-stable	formed-stable
	Type of Failure			
Stream	Main Basin	Anapo	Tellaro	Tellaro
	Dammed R.	Cava Tortorone	Cava San Calogero- Cava Carosello e F. s. n.	Cava San Giuseppe e tributario s. n.
	Wvalley	200	90	
	Subt. S	13.5	5.0	2.8
	S	2.7	3.5	5.0
Lake	Lake name			
	L lake		300- 400	200
	W lake		40- 50	50
	D lake		40	30
	S lake			
	V lake		160000-260000	100000
	Q lake			
	h of Lac.dep.			
	Lake life time			
	Lake Condition	not formed for deviation	disappeared for filling	disappeared for filling

Localization	ID	267.2	268	269
	Locality	Cava S. Giuseppe Sud	Noto Antica	Contr. Renna Alta
	Municipality	Noto	Noto	Noto
	Province	Siracusa	Siracusa	Siracusa
	Region	Sicilia	Sicilia	Sicilia
	UTM E, N crown	1036043; 4103421	1036961; 4104680	1031993; 4100545
	UTM E, N dam	1035843; 4103627	1037182; 4104367	1032417; 4100195
Consequences	L.-damages			some rural settlements damaged/destroyed
	u-damages			
	d-damages			
	Bibliography	Nicoletti et al. (1999a), Nicoletti et al. (1998), Nicoletti and Parise (2002), Pacino (2002)	Bottone (1718), Nicoletti et al. (1999a), Nicoletti et al. (1998), Nicoletti and Parise (2002), Pacino (2002)	Nicoletti et al. (1999a), Pacino (2002)
	Note			
Landslide	Movement	slide	slump	slump
	Velocity			
	v			
	Material	rock	rock	rock
	Lithology	limestone, marly limestone and limestone	limestone, marly limestone and limestone	marly limestone and marl and succession of limestone-marl
	Water c.	dry	dry	dry
	H L.	120	180	70
	α	17.7	30.0	
	β	21.8	23.2	15.6
	L L.tot.	300	420	250
	L L.body	260		220
	Wmax	500		260
	Wmin			
	D _{rf}	30		15
	S L.			
	V L.	1800000	2000000	449020
	Trigger	seismic event	seismic event	seismic event
	Prev. activations			
	Date of damming			
Dam	Date of failure			
	d type	IV	II	I
	L d	100	125	50
	W d	550	475	425
	H d	30	60	14.5
	S d			
	V d	825000	1781250	152763
	Q d		280	225
	d condition	strongly cut	not cut	partial blockage
	Evolution	formed-stable	formed-stable	not formed
	Type of Failure			
Stream	Main Basin	Anapo	Anapo	San Leonardo
	Dammed R.	Cava San Giuseppe e tributario s. n.	Vallone Pisciaturo	Valle Battali
	Wvalley		65	240
	Subt. S	0.6	0.7	3.2
	S		4.3	5.4
Lake	Lake name			
	L lake	300		
	W lake	50		
	D lake	20		
	S lake			
	V lake	100000		
	Q lake			
	h of Lac.dep.			
	Lake life time			
	Lake Condition	disappeared for filling	disappeared for filling	not formed for deviation

Localization	ID	270	271	272
	Locality	Contr. La Sarculla	Contr. Mezzo Gregorio	Costa San Nicola
	Municipality	Noto	Noto	Cassaro
	Province	Siracusa	Siracusa	Siracusa
	Region	Sicilia	Sicilia	Sicilia
	UTM E, N crown	1030943; 4105632	1030474; 4106683	1030146; 4123781
	UTM E, N dam	1031035; 4105361	1030820; 4106378	1030236; 4123560
Consequences	L.-damages			
	u-damages			
	d-damages			
	Bibliography	Nicoletti et al. (1999a), Pacino (2002)	Nicoletti et al. (1999a), Pacino (2002)	Nicoletti and Catalano (2000), Nicoletti and Parise (2002), Pacino (2002)
	Note			
Landslide	Movement	slump	slump	fall
	Velocity	very fast	fast	very fast
	v	5.00E-03	5.00E-04	5.00E-02
	Material	rock	rock	rock
	Lithology	marly limestone and marl and succession of limestone-marl	marly limestone and marl and succession of limestone-marl	limestone
	Water c.	dry	dry	dry
	H L.	200	180	140
	α			
	β	27.8	25.9	25.0
	L L.tot.	380	370	300
	L L.body	220	440	
	Wmax	800		
	Wmin			
	D _{rf}	15	50	
	S L.			
	V L.	1000000	58000000	
	Trigger	seismic event	seismic event	seismic event
	Prev. activations			
Dam	Date of damming			11/01/1693
	Date of failure			
	d type	I	I	II
	L d	25	25	125
	W d	800	225	125
	H d	14.5	13	50
	S d			
	V d	145245	37000	390625
	Q d	355	473	357
	d condition	partial blockage	partial blockage	breached
	Evolution	not formed	not formed	formed-unstable
	Type of Failure			
Stream	Main Basin	San Leonardo	San Leonardo	
	Dammed R.	Cava dell'Urva	Cava d'Angelo	F. Anapo
	Wvalley	230		
	Subt. S	1.3	2.0	89.9
	S	8.9	6.6	1.2
Lake	Lake name			
	L lake			
	W lake			
	D lake			
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time			years
	Lake Condition	not formed for deviation	not formed for deviation	disappeared for spillway erosion

Localization	ID	273	274	275
	Locality	Contr. Scala Vecchia	Contr. Malfitano	Contr. Civanna
	Municipality	Cassaro	Melilli	Melilli
	Province	Siracusa	Siracusa	Siracusa
	Region	Sicilia	Sicilia	Sicilia
	UTM E, N crown	1029193; 4122162	1037916; 4134832	1037036; 4135229
	UTM E, N dam	1029026; 4122026	1038484; 4134994	1037539; 4135236
Consequences	L.-damages			
	u-damages			
	d-damages			
	Bibliography	Nicoletti et al. (2000), Pacino (2002)	Nicoletti and Catalano (2000), Pacino (2002)	Nicoletti and Catalano (2000), Pacino (2002)
	Note			
Landslide	Movement	fall	slump	slump
	Velocity	extremely fast		
	v	5.00E+00		
	Material	rock	rock	rock
	Lithology	sequences of limestones and marly limestone subordinatedd	volcanoclastites and lava flows slightly altered	volcanoclastites and lava flows slightly altered
	Water c.	dry	dry	dry
	H L.	150	80	100
	α			
	β	31.0	9.5	9.5
	L L.tot.	250	480	600
	L L.body	230	314	500
	Wmax	400		
	Wmin			
	D _{rf}	30	35	28
	S L.			
	V L.	800000	11000000	12500000
	Trigger	seismic event	seismic event	seismic event
	Prev. activations			
Dam	Date of damming			
	Date of failure			
	d type	I	I	I
	L d	25	50	100
	W d	75	200	225
	H d	17	8.5	17
	S d			
	V d	16034	42057	189256
	Q d	381		304
	d condition	partial blockage	partial blockage	partial blockage
	Evolution	not formed	not formed	not formed
	Type of Failure			
Stream	Main Basin			
	Dammed R.	F. Anapo	right tributary without name of Fiumara Grande	right tributary without name of Fiumara Grande
	Wvalley	210	370	600
	Subt. S	63.5	7.8	7.9
	S	0.4	1.7	1.9
Lake	Lake name			
	L lake			
	W lake			
	D lake			
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time			
	Lake Condition	not formed for deviation	not formed for deviation	not formed for deviation

Localization	ID	276	277	278
	Locality	Case Santuccio	Contr. Parisa	Madredonne
	Municipality	Melilli	Augusta	Palazzolo Acreide
	Province	Siracusa	Siracusa	Siracusa
	Region	Sicilia	Sicilia	Sicilia
	UTM E, N crown	1041636; 4136426	1045427; 4134542	1036794; 4123599
	UTM E, N dam	1041480; 4136517	1045301; 4134547	1036903; 4123857
Consequences	L.-damages		some rural settlements damaged/destroyed	
	u-damages			
	d-damages			
	Bibliography	Nicoletti and Catalano (2000), Pacino (2002)	Nicoletti and Catalano (2000), Pacino (2002)	Nicoletti and Catalano (2000), Pacino (2002)
	Note			
Landslide	Movement	slide	slump	slide
	Velocity			
	v			
	Material	rock	rock	rock
	Lithology	calclutites, limestone, calcirudites	carbonates sequences with limestone and subordinated marly limestone	limestone and calcirudites
	Water c.	dry	dry	dry
	H L.	35	20	90
	α			
	β	14.0	6.3	10.4
	L L.tot.	140	180	490
	L L.body	100	140	
	Wmax		270	
	Wmin			
	D _{rl}	14	12	
	S L.			
	V L.	510000	237384	
	Trigger	seismic event	seismic event	seismic event
	Prev. activations			
Dam	Date of damming			
	Date of failure			
	d type	I	I	I
	L d	25	45	75
	W d	75	180	275
	H d	6.5	5	14
	S d			
	V d	6000	20334	145000
	Q d	150	77	436
	d condition	partial blockage	partial blockage	partial blockage
	Evolution	not formed	not formed	not formed
	Type of Failure			
Stream	Main Basin			
	Dammed R.	right tributary without name of Cava Belluzza	Cava S. Cusimano	Cava Monasterello
	Wvalley	200	160	
	Subt. S	4.4	5.6	3.2
	S	3.5	1.3	2.2
Lake	Lake name			
	L lake			
	W lake			
	D lake			
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time			
	Lake Condition	not formed for deviation	not formed for deviation	not formed for deviation

Localization	ID	279	280	281
	Locality	Contr. Banco I	Contr. Banco II	Contr. Calanca
	Municipality	Palazzolo Acreide	Palazzolo Acreide	Ferla
	Province	Siracusa	Siracusa	Siracusa
	Region	Sicilia	Sicilia	Sicilia
	UTM E, N crown	1019303; 4116006	1022099; 4115906	1027006; 4126120
	UTM E, N dam	1019329; 4115982	1022395; 4115598	1027072; 4125873
Consequences	L.-damages		some rural settlements damaged/destroyed	some rural settlements damaged/destroyed
	u-damages			
	d-damages			
	Bibliography	Nicoletti et al. (2000), Pacino (2002)	Nicoletti et al. (2000), Pacino (2002)	Nicoletti et al. (2000), Pacino (2002)
	Note			
Landslide	Movement	slump	slump	slide
	Velocity			
	v			
	Material	rock	rock	rock
	Lithology	marl with layers limestone-marl	marl with layers limestone-marl	carbonates sequences with limestone and subordinated marly limestone
	Water c.	dry	dry	dry
	H L.	130	110	90
	α			
	β	8.2	12.4	12.7
	L L.tot.	900	500	400
	L L.body			260
	Wmax			320
	Wmin			
	D _{rf}			45
	S L.			
	V L.			1959360
	Trigger	seismic event	seismic event	seismic event
	Prev. activations			
Dam	Date of damming			
	Date of failure			
	d type	I	I	I
	L d			50
	W d			175
	H d			11.5
	S d			
	V d			50066
	Q d	538	426	577
	d condition	partial blockage	partial blockage	partial blockage
	Evolution	not formed	not formed	not formed
	Type of Failure			
Stream	Main Basin			
	Dammed R.	Fosso Mastica	Fosso Mastica	Cava Calcinaro
	Wvalley			120
	Subt. S	1.1	5.5	3.5
	S	3.9	2.9	4.0
Lake	Lake name			
	L lake			
	W lake			
	D lake			
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time			
	Lake Condition	not formed for deviation	not formed for deviation	not formed for deviation

Localization	ID	282	283	284
	Locality	Ceusa	Contr. Madonna delle Grazie	Contr. S. Maria
	Municipality	Carlentini	Buccheri	Buccheri
	Province	Siracusa	Siracusa	Siracusa
	Region	Sicilia	Sicilia	Sicilia
	UTM E, N crown	1027023; 4130219	1019150; 4124767	1018134; 4124137
	UTM E, N dam	1026733; 4130426	1018762; 4124944	1018353; 4124642
Consequences	L.-damages		some rural settlements damaged/destroyed	
	u-damages			
	d-damages			
	Bibliography	Nicoletti et al. (2000), Pacino (2002)	Nicoletti et al. (2000), Pacino (2002)	Nicoletti et al. (2000), Pacino (2002)
	Note			
Landslide	Movement	slide	slump	slump
	Velocity			
	v			
	Material	rock	rock	rock
	Lithology	volcanoclastites and lava flows	volcanoclastites and lava flows	volcanoclastites and lava flows
	Water c.	dry	dry	dry
	H L.	70	180	150
	α	16.1		
	β	11.0	14.4	14.5
	L L.tot.	360	700	580
	L L.body	250		340
	Wmax	380		550
	Wmin			
	D _{rf}	25		30
	S L.			
	V L.	1242917	800000	2402100
	Trigger	seismic event	seismic event	seismic event
	Prev. activations			
	Date of damming			
Dam	Date of failure			
	d type	I	I	I
	L d	50	50	90
	W d	200	175	200
	H d	10	13	15
	S d			
	V d	49233	57523	150000
	Q d	596	734	815
	d condition	partial blockage	partial blockage	partial blockage
	Evolution	not formed	not formed	not formed
	Type of Failure			
	Main Basin			
Stream	Dammed R.	T. Gelso	T. Sughereta	T. Sughereta
	Wvalley		160	200
	Subt. S	1.9	2.1	4.8
	S	3.4	5.7	6.1
Lake	Lake name			
	L lake			
	W lake			
	D lake			
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time			
	Lake Condition	not formed for deviation	not formed for deviation	not formed for deviation

Localization	ID	285	286	287
	Locality	Contr. Bosco Pisano	Cavallerizzo	Testi
	Municipality	Buccheri	Cerzeto	San Casciano in Val di Pesa
	Province	Siracusa	Cosenza	Firenze
	Region	Sicilia	Calabria	Toscana
	UTM E, N crown	1019952; 4130348	1111605; 4398045	;
	UTM E, N dam	1019606; 4130653	1112141; 4398036	683603; 4830333
Consequences	L-damages	some rural settlements damaged/destroyed	10 houses and 400 m of the road	
	u-damages			
	d-damages			
	Bibliography	Nicoletti et al. (2000), Pacino (2002)		
	Note			
Landslide	Movement	slump	complex	slump
	Velocity	fast		
	v	5.00E-04		
	Material	rock	rock and debris	debris
	Lithology	volcanoclastites and lava flows	schists and argilel marly	marls
	Water c.	dry	wet	wet
	H L.	185	143	48
	α		11.6	10.8
	β	23.8	9.0	9.4
	L L.tot.	420	1100	340
	L L.body		900	290
	Wmax		200	400
	Wmin		50	
	D _{rf}		40	20
	S L.		350000	
	V L.		5000000	1214133
	Trigger	seismic event	heavy rainfall and tettonic	heavy rainfall and materials properties
	Prev. activations			
	Date of damming		07/03/2005	
	Date of failure			
Dam	d type	I	III	II
	L d	50	70	90
	W d	275	600	260
	H d	23	9	12.5
	S d			
	V d	158125	192184	149654
	Q d	383	337	281
	d condition	partial blockage	breached	artificially cut
	Evolution	not formed	formed-unstable	formed-unstable
	Type of Failure			
Stream	Main Basin		Crati	Arno
	Dammed R.	T. La Rocca		Fosso di Storno
	Wvalley		65	60
	Subt. S	15.4	3.0	0.7
	S	2.3	8.4	9.8
Lake	Lake name			
	L lake			
	W lake			
	D lake			
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time		days	
	Lake Condition	not formed for deviation	disappeared for spillway erosion	disappeared for man-made influence

Localization	ID	288	289	290
	Locality	Daglio	Budrialto	Calitri
	Municipality	Carrega Ligure	Marradi	Calitri
	Province	Alessandria	Firenze	Avellino
	Region	Piemonte	Toscana	Campania
	UTM E, N crown	511853; 4943814	717810; 4888706	;
	UTM E, N dam	510661; 4944764	718821; 4888501	1042374; 4546415
Consequences	L.-damages			roads and some civil and industrial buildings damaged
	u-damages			
	d-damages			
	Bibliography		Valensise and Guidoboni (2000)	Esposito et al. (1998), Parise and Wasowski (1998)
	Note			
Landslide	Movement	complex		complex
	Velocity	very fast		
	v	5.00E-02		
	Material	debris		
	Lithology	marly limestones		sands and conglomerates
	Water c.	wet		
	H L.	346	220	172
	α	24.3		
	β	13.9	20.1	15.0
	L L.tot.	1700	1100	850
	L L.body	1400	600	500
	Wmax	200	600	600
	Wmin			400
	D _{rl}		30	15
	S L.			300000
	V L.	10000000	5652000	2300000
	Trigger	heavy rainfall	seismic event	seismic event
	Prev. activations			1456?
Dam	Date of damming	12/10/1872	04/1688	23/11/1980
	Date of failure	29/10/1889		
	d type	II	II	I/II
	L d		389	
	W d		600	
	H d		20	
	S d			
	V d	2000000	2334000	
	Q d	583	303	
	d condition	breached	slightly cut	artificially cut
	Evolution	formed-unstable	formed-stable	formed-unstable
	Type of Failure			
Stream	Main Basin	Po	Lamone	Ofanto
	Dammed R.	T. Agnelloasca	T. Acerrata	F. Ofanto
	Wvalley	85	140	650
	Subt. S	52.8	40.0	
	S	1.4	0.8	
Lake	Lake name	L. di Daglio		
	L lake			
	W lake			
	D lake			
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time	years	centuries	
	Lake Condition	disappeared for dam collapse	disappeared for filling	not formed

Localization	ID	291	292	293
	Locality	Chianiello	Castelfranci	Serre delle Forche
	Municipality	Castelfranci	Castelfranci	Paduli
	Province	Avellino	Avellino	Benevento
	Region	Campania	Campania	Campania
	UTM E, N crown	;	;	;
	UTM E, N dam	1008661; 4549502	1008417; 4548177	993980; 4578391
Consequences	L.-damages			
	u-damages			
	d-damages			
	Bibliography	Esposito et al. (1998), Coico at al. (2013)	Esposito et al. (1998), Coico at al. (2013)	Grelle et al. (2011), Coico at al. (2013)
	Note			
Landslide	Movement	flow	flow	complex
	Velocity	moderate	slow	slow
	v	5.00E-05	5.00E-08	5.00E-08
	Material	debris	debris and earth	debris and earth
	Lithology	sandston, conglomerate	sandston, conglomerate	limestone and sandstone
	Water c.	wet	wet	wet
	H L.	212	144	288
	α	16.7	10.4	
	β	12.4	6.1	6.6
	L L.tot.	965	1350	2500
	L L.body	675	1000	1300
	Wmax	210	260	550
	Wmin	55		
	D _{rf}			
	S L.			
	V L.			
	Trigger	seismic event/heavy rainfall	seismic event/heavy rainfall	seismic event
	Prev. activations			
Dam	Date of damming	1980	1980	23/11/1980
	Date of failure			
	d type	II	II	III
	L d	95	200	450
	W d	160	260	500
	H d	5	6	20
	S d			
	V d	39773	163280	2355000
	Q d			
	d condition	toe erosion	toe erosion	strongly cut
	Evolution	not formed	not formed	formed-stable
	Type of Failure			
Stream	Main Basin	Volturno	Volturno	Volturno
	Dammed R.	F. Calore	F. Calore	F. Tammaro
	Wvalley	240	210	520
	Subt. S			715.0
	S	1.4	0.8	0.2
Lake	Lake name			
	L lake			
	W lake			
	D lake			
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time			?
	Lake Condition	not formed for deviation	not formed for deviation	disappeared for spillway erosion

Localization	ID	294	295	296
	Locality	Pisciotta	Colle Pizzuto	Gorfigliano
	Municipality	Pisciotta	San Gemini	Minucciano
	Province	Salerno	Terni	Lucca
	Region	Campania	Umbria	Toscana
	UTM E, N crown	;	;	;
	UTM E, N dam	1027895; 4460116	789353; 4724290	601079; 4887902
Consequences	L.-damages			
	u-damages			
	d-damages			
	Bibliography	Coico at al. (2013)	Cencetti et al. (2006)	
	Note			
Landslide	Movement	slump	complex	slump
	Velocity	slow	moderate	
	v	5.00E-08	5.00E-06	
	Material	rock	debris and earth	rock
	Lithology	limestone and sandstone	clays and sandy clays	limestones and marls
	Water c.	dry	wet	wet
	H L.	166	70	221
	α			
	β	18.4	6.7	27.8
	L L.tot.	500	600	420
	L L.body	480	450	170
	Wmax	380	350	185
	Wmin			
	D _{ri}		10	
	S L.			
	V L.		824250	
	Trigger		heavy rainfall	heavy rainfall
	Prev. activations		1960	
	Date of damming		1981-86	14/03/1995
Dam	Date of failure			
	d type	VI	II	III
	L d	20		80
	W d			185
	H d			
	S d			
	V d			
	Q d			
	d condition			slightly cut
	Evolution	not formed	formed-stable	formed-stable
	Type of Failure			
Stream	Main Basin	Fiumicello	Tevere	Serchio
	Dammed R.	T. Fiumicello	T. Cerreta	Fosso Vitellino
	Wvalley	45		70
	Subt. S	15.4	0.9	1.4
	S	1.8	2.7	13.4
Lake	Lake name			
	L lake			
	W lake			
	D lake			
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time		months/years	years
	Lake Condition	not formed for infiltration	disappeared for spillway erosion/filling	disappeared for filling

Localization	ID	297	298	299
	Locality	Barattano	Sterpaiolo	Poggio Zampiroli
	Municipality	Gualdo Cattaneo	Gubbio	Brisighella
	Province	Perugia	Perugia	Ravenna
	Region	Umbria	Umbria	Emilia Romagna
	UTM E, N crown	;	;	;
	UTM E, N dam	786194; 4751979	787794; 4794679	712298; 4896121
Consequences	L.-damages			1 house destroyed
	u-damages			
	d-damages			
	Bibliography	Cencetti and Conversini (2003)	Cencetti et al. (2015)	
	Note			
Landslide	Movement	complex	complex	complex
	Velocity	fast	very fast	extremely fast
	v	5.00E-04	5.00E-02	5.00E+00
	Material	earth		rock and debris
	Lithology	silts, silt-clays and sands	mudstones and sandstone	marls and clays
	Water c.	wet	wet	wet
	H L.	27	131	
	α			16.0
	β	6.4	12.3	10.9
	L L.tot.	240	600	385
	L L.body	200	510	190
	Wmax	50	380	100
	Wmin			
	D _{eff}	14		20
	S L.	30000	100000	
	V L.	73267		198867
	Trigger			heavy rainfall
	Prev. activations		1958	
	Date of damming	1970?	21/02/1963	05/04/2014
Dam	Date of failure			
	d type	II	III	III
	L d		150	110
	W d		350	140
	H d		20	15
	S d			
	V d		549500	120890
	Q d			
	d condition		slightly cut	not cut
	Evolution	formed-stable	formed-stable	not formed
	Type of Failure			
Stream	Main Basin	Tevere	Tevere	Reno
	Dammed R.	T. Puglia	T. Ventia	T. Sintria
	Wvalley	95	75	70
	Subt. S	0.9	4.7	0.5
	S	3.6	2.0	11.7
Lake	Lake name			
	L lake		185	
	W lake		65	
	D lake			
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time	?	years	
	Lake Condition	disappeared for spillway erosion/filling	existing partly filled	not formed for infiltration

Localization	ID	300		
	Locality	Casola Val Senio		
	Municipality	Casola Val Senio		
	Province	Ravenna		
	Region	Emilia Romagna		
	UTM E, N crown	;		
	UTM E, N dam	709367; 4899062		
Consequences	L.-damages			
	u-damages			
	d-damages			
	Bibliography			
	Note			
Landslide	Movement	topple		
	Velocity	extremely fast		
	v	5.00E+00		
	Material	rock		
	Lithology	marls and clays		
	Water c.	wet		
	H L.			
	α			
	β	12.2		
	L L.tot.	130		
	L L.body	120		
	Wmax	260		
	Wmin			
	D _{ri}	25		
	S L.			
	V L.	450000		
	Trigger	heavy rainfall		
	Prev. activations			
Dam	Date of damming	25/02/2015		
	Date of failure			
	d type	II		
	L d	70		
	W d	150		
	H d	10		
	S d			
	V d	54950		
	Q d			
	d condition	strongly cut		
	Evolution	formed-unstable		
	Type of Failure			
Stream	Main Basin	Reno		
	Dammed R.	T. Senio		
	Wvalley	60		
	Subt. S	126.8		
	S	0.6		
Lake	Lake name			
	L lake			
	W lake			
	D lake			
	S lake			
	V lake			
	Q lake			
	h of Lac.dep.			
	Lake life time	hours		
	Lake Condition	disappeared for spillway erosion		

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