

**PRELIMINARY MAP OF SELECTED
MASS MOVEMENT EVENTS
IN ARIZONA**

by

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This report is preliminary and has not been edited
or reviewed for conformity with Arizona Geological Survey standards

PRELIMINARY MAP OF SELECTED MASS MOVEMENT EVENTS IN ARIZONA

<u>Explanation</u>		
	Natural Events	Man-Induced Events
Rock fall	☆	★
Debris slump, earth slump	△	▲
Rock slump	▽	▼
Earth flow, mud flow	◇	◆
Debris flow, debris slide, debris avalanche	□	■
Block slide, rock slide	⊞	⊚
Arizona Department of Transportation (ADOT)		●

General Notes:

The primary source of information for this map was the Arizona Department of Transportation (ADOT) Highways Division Maintenance Activity record for the years 1980-1985.

The two highway maintenance activities that provided data for this map are described below:

1. Activity 164 - Minor Slide Removal
2. Activity 180 - Major Damage and Disaster Maintenance (contains records of slide removals with costs exceeding \$2500.00)

Only those ADOT slides with maintenance costs exceeding \$1000.00 were plotted on the map.

Whenever possible, the symbol for events that involved several miles of roadway was plotted in the approximate midpoint of the damaged interval.

Whenever necessary, parallels and meridians were projected into regions not previously surveyed by the state of Arizona.

<u>EVENT</u>	<u>LOCATION</u>	<u>DATE</u>	<u>TYPE OF SLIDE</u>	<u>COST</u>	<u>MILES OF HWY AFFECTED</u>	<u>REPORTING AGENCY</u>
APACHE COUNTY (AP)						
AP 1	T36N R22E	?	ROCK FALL	?	?	BRANCH OF ROADS, WESTERN NAVAJO AGENCY
AP 2	T18N R24E	1984	ROCK SLIDE	25,000.00	N/A	PETRIFIED FOREST NATIONAL PARK
AP 3	T20N R26E	1984	164	1,047.00	-	AZ DEPT OF TRANS.
AP 4	T22N R29E	1985	164	1,139.00	1	AZ DEPT OF TRANS.
AP 5	T22N R29E	1984	164	1,259.00	-	AZ DEPT OF TRANS.
AP 6	T20N R27E	1985	164	1,034.00	-	AZ DEPT OF TRANS.
AP 7	T21N R28E	1984	164	1,327.00	1	AZ DEPT OF TRANS.
AP 8	T10N R23E- T10N R24E	1984	164	2,187.00	2	AZ DEPT OF TRANS.
AP 9	T22N R31E	1980	164	1,172.00	-	AZ DEPT OF TRANS.
AP 10	T9N R29E	1981	164	1,263.00	-	AZ DEPT OF TRANS.
COCHISE COUNTY (CH)						
CH 1	T23S R20E	1985	BLOCK SLIDE	?	?	CORONADO NAT'L FOREST SIERRA VISTA RANGER DISTRICT
CH 2	T24S R20E	1985	ROCK FALL	?	?	CORONADO NAT'L FOREST SIERRA VISTA RANGER DISTRICT
CH 3	T22S R23E	1984	164	1,297.00	2	AZ DEPT OF TRANS.
CH 4	T22S R23E	1984	164	1,218.00	1	AZ DEPT OF TRANS.
CH 5	T23S R24E	1984	164	1,350.00	-	AZ DEPT OF TRANS.
CH 6	T22S R23E- T20S R31E	1984	164	1,272.00	69	AZ DEPT OF TRANS.

COCHISE COUNTY (CONT)

CH 7	T22S R29E- T23S R29E	1984	164	1,035.00	1	AZ DEPT OF TRANS.
CH 8	T23S R24E	1983	164	1,093.00	8	AZ DEPT OF TRANS.

COCONINO COUNTY (CN)

CN 1	T21N R7E	1970	ROCK SLUMP	-	-	U.S. GEOLOGICAL SURVEY - FLAGSTAFF
CN 2	T20N R8E	1980	DEBRIS SLUMP	-	-	USGS FLAGSTAFF
CN 3	T17N R6E	1978	DEBRIS SLUMP	5,000.00	-	COCONINO NAT'L FOREST
CN 4	T17N R6E	1978	DEBRIS SLUMP	5,000.00	-	COCONINO NAT'L FOREST
CN 5	T17N R6E	1983	EARTH FLOW	100,000.00	-	COCONINO NAT'L FOREST
CN 6	T18N R6E	1979	DEBRIS SLUMP	5,000.00	-	COCONINO NAT'L FOREST
CN 7	T20N R8E	1985	DEBRIS SLUMP	-	-	COCONINO NAT'L FOREST
CN 8	T20N R8E	1985	DEBRIS SLUMP	-	-	COCONINO NAT'L FOREST
CN 9	T20N R8E	1985	DEBRIS SLUMP	-	-	COCONINO NAT'L FOREST
CN 10	T21N R8E	1985	ROCK FALL	568.00	-	WALNUT CANYON NAT'L MON.
CN 11	T41N R8E	1984	ROCK FALL	0.00	-	BUREAU OF RECLAMATION
CN 12	T21N R1E	1984	164	1,080.00	3	AZ DEPT OF TRANS.
CN 13	T29N R7E	1985	164	1,127.00	1	AZ DEPT OF TRANS.
CN 14	T18N R6E- T19N R6E	1984	164	1,044.00	3	AZ DEPT OF TRANS.
CN 15	T18N R6E	1984	164	1,021.00	3	AZ DEPT OF TRANS.
CN 16	T18N R6E	1984	164	1,282.00	5	AZ DEPT OF TRANS.
CN 17	T18N R6E	1984	164	1,255.00	-	AZ DEPT OF TRANS.
CN 18	T18N R6E- T19N R6E	1984	164	1,044.00	12	AZ DEPT OF TRANS.
CN 19	T40N R1E	1981	164	3,489.00	-	AZ DEPT OF TRANS.
CN 20	T40N R1E	1981	164	2,267.00	-	AZ DEPT OF TRANS.
CN 21	T19N R6E	1981	164	1,061.00	5	AZ DEPT OF TRANS.

COCONINO COUNTY (CONT)

CN 22	T37N R7E- T38N R7E	1983	164	1,139.00	3	AZ DEPT OF TRANS.
CN 23	T38N R7E	1984	164	1,006.00	1	AZ DEPT OF TRANS.

GILA COUNTY (GL)

GL 1	T3S R18E	1985	ROCK SLIDE	?	N/A	BUREAU OF RECLAMATION
GL 2	T1N R15E	1984	164	1,350.00	4	AZ DEPT OF TRANS.
GL 3	T1N R15E	1984	164	1,194.00	2	AZ DEPT OF TRANS.
GL 4	T4N R15E	1985	164	1,074.00	-	AZ DEPT OF TRANS.
GL 5	T4N R17E- T4.5N R17E	1985	164	1,001.00	1	AZ DEPT OF TRANS.
GL 6	T4.5N R18E- T5N R17E	1985	164	1,088.00	2	AZ DEPT OF TRANS.
GL 7	T5N R17E	1984	164	1,005.00	-	AZ DEPT OF TRANS.
GL 8	T1S R18E	1984	164	1,386.00	-	AZ DEPT OF TRANS.
GL 9	T8N R10E	1984	164	1,408.00	-	AZ DEPT OF TRANS.
GL 10	T1N R14E	1985	164	1,169.00	-	AZ DEPT OF TRANS.
GL 11	T5N R19E	1985	164	1,218.00	-	AZ DEPT OF TRANS.
GL 12	T2S R15E	1980	164	1,039.00	3	AZ DEPT OF TRANS.
GL 13	T4S R16E- T3S R15E	1980	164	1,022.00	10	AZ DEPT OF TRANS.
GL 14	T5S R16E- T4S R16E	1980	164	1,073.00	3	AZ DEPT OF TRANS.
GL 15	T4S R16E	1980	164	1,342.00	1	AZ DEPT OF TRANS.
GL 16	T5S R16E- T4S R16E	1981	164	1,022.00	5	AZ DEPT OF TRANS.
GL 17	T3N R17E	1981	164	1,480.00	-	AZ DEPT OF TRANS.
GL 18	T7N R19E- T7N R20E	1981	164	1,374.00	4	AZ DEPT OF TRANS.
GL 19	T5N R18E- T6N R19E	1981	164	1,182.00	8	AZ DEPT OF TRANS.

GILA COUNTY (CONT)

GL 20	T5N R17E	1982	164	1,479.00	-	AZ DEPT OF TRANS.
GL 21	T7N R9E	1980	164	1,188.00	1	AZ DEPT OF TRANS.
GL 22	T7N R9E	1982	164	1,157.00	-	AZ DEPT OF TRANS.
GL 23	T7N R9E	1980	180	20,792.00	-	AZ DEPT OF TRANS.
GL 24	T5S R16E- T4S R16E	1983	164	1,147.00	4	AZ DEPT OF TRANS.
GL 25	T3S R15E- T2S R15E	1983	164	1,147.00	3	AZ DEPT OF TRANS.
GL 26	T7N R9E	1983	164	1,095.00	-	AZ DEPT OF TRANS.
GL 27	T7N R9E	1983	164	1,447.00	-	AZ DEPT OF TRANS.
GL 28	T7N R9E	1983	164	1,250.00	-	AZ DEPT OF TRANS.
GL 29	T11N R13E	1983	180	45,668.00	-	AZ DEPT OF TRANS.
GL 30	T2N R15E- T1N R15E	1983	164	1,060.00	2	AZ DEPT OF TRANS.
GL 31	T1N R15E	1983	164	1,060.00	1	AZ DEPT OF TRANS.
GL 32	T5N R18E	1983	164	1,172.00	1	AZ DEPT OF TRANS.
GL 33	T5N R18E- T8N R20E	1983	164	1,228.00	18	AZ DEPT OF TRANS.
GL 34	T3N R16E	1983	164	1,126.00	-	AZ DEPT OF TRANS.
GL 35	T4S R16E	1983	164	1,083.00	-	AZ DEPT OF TRANS.
GL 36	T1N R15.5E- T3N R17E	1983	164	1,056.00	14	AZ DEPT OF TRANS.
GL 37	T3S R15E	1983	164	1,083.00	5	AZ DEPT OF TRANS.
GL 38	T3S R15E- T4S R16E	1983	164	1,128.00	9	AZ DEPT OF TRANS.
GL 39	T4S R16E	1983	164	1,031.00	5	AZ DEPT OF TRANS.
GL 40	T5N R18E- T7N R19E	1983	164	1,014.00	17	AZ DEPT OF TRANS.
GL 41	T5S R15E- T4S R16E	1983	164	1,005.00	7	AZ DEPT OF TRANS.
GL 42	T7N R9E	1983	164	1,227.00	1	AZ DEPT OF TRANS.

GILA COUNTY (CONT)

GL 43	T7N R9E	1983	164	1,049.00	1	AZ DEPT OF TRANS.
GL 44	T7N R9E	1983	164	1,186.00	1	AZ DEPT OF TRANS.
GL 45	T7N R9E	1983	164	1,576.00	3	AZ DEPT OF TRANS.
GL 46	T7N R9E	1983	164	1,191.00	1	AZ DEPT OF TRANS.
GL 47	T7N R9E	1983	164	1,527.00	1	AZ DEPT OF TRANS.
GL 48	T7N R9E	1983	164	1,143.00	-	AZ DEPT OF TRANS.
GL 49	T7N R9E	1983	164	1,497.00	1	AZ DEPT OF TRANS.
GL 50	T7N R9E	1983	164	1,271.00	1	AZ DEPT OF TRANS.
GL 51	T11N R13E	1983	180	167,422.00	-	AZ DEPT OF TRANS.
GL 52	T5N R11E	1983	180	15,174.00	-	AZ DEPT OF TRANS.

GRAHAM COUNTY (GM)

GM 1	T9S R25E	1985	164	1,324.00	4	AZ DEPT OF TRANS.
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GREENLEE COUNTY (GR)

GR 1	T8S R30E	1984	164	1,027.00	-	AZ DEPT OF TRANS.
GR 2	T4S R32E	1984	164	1,072.00	-	AZ DEPT OF TRANS.
GR 3	T4S R32E	1984	164	1,343.00	-	AZ DEPT OF TRANS.
GR 4	T4S R32E	1984	164	1,293.00	-	AZ DEPT OF TRANS.
GR 5	T3S R29E- T2S R29E	1985	164	1,086.00	5	AZ DEPT OF TRANS.
GR 6	T2S R29E	1985	164	1,055.00	-	AZ DEPT OF TRANS.
GR 7	T2S R29E	1985	164	1,095.00	-	AZ DEPT OF TRANS.
GR 8	T2S R29E	1985	164	1,057.00	-	AZ DEPT OF TRANS.
GR 9	T4S R32E	1981	164	1,018.00	-	AZ DEPT OF TRANS.
GR 10	T4S R32E	1982	164	1,351.00	-	AZ DEPT OF TRANS.
GR 11	T4S R32E	1984	164	1,023.00	1	AZ DEPT OF TRANS.

GREENLE COUNTY (CONT)

GR 12	T4S R32E	1983	164	1,097.00	-	AZ DEPT OF TRANS.
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MARICOPA COUNTY (MR)

MR 1	T6N R9E	1984	164	1,016.00	2	AZ DEPT OF TRANS.
MR 2	T1N R5E	1984	164	1,226.00	-	AZ DEPT OF TRANS.
MR 3	T7N R4W	1985	164	1,281.00	-	AZ DEPT OF TRANS.
MR 4	T7N R4W- T6N R4W	1985	164	1,323.00	4	AZ DEPT OF TRANS.
MR 5	T7N R6W- T7N R4W	1982	164	1,073.00	8	AZ DEPT OF TRANS.
MR 6	T7N R4W	1982	164	1,122.00	-	AZ DEPT OF TRANS.
MR 7	T6N R4W	1983	164	1,202.00	-	AZ DEPT OF TRANS.
MR 8	T7N R4W- T6N R4W	1983	164	1,113.00	6	AZ DEPT OF TRANS.
MR 9	T7N R9E	1983	164	1,016.00	2	AZ DEPT OF TRANS.

MOHAVE COUNTY (MH)

MH 1	T30N R18W	1984	DEBRIS CREEP	?	N/A	U.S. BUREAU OF RECLAM.
MH 2	T21N R11W	1984	164	1,235.00	-	AZ DEPT OF TRANS.
MH 3	T21N R11W	1984	164	1,329.00	-	AZ DEPT OF TRANS.
MH 4	T21N R12W- T21N R11W	1982	164	1,076.00	2	AZ DEPT OF TRANS.
MH 5	T21N R12W- T21N R11W	1982	164	1,065.00	2	AZ DEPT OF TRANS.

NAVAJO COUNTY (NV)

NV 1	T38N R17E	1979- 1982	ROCK SLIDE	?	N/A	NAVAJO NAT'L MON.
NV 2	T39N R17E	1978	ROCK FALL	?	N/A	NAVAJO NAT'L MON.
NV 3	T28N R18E	1984	164	1,435.00	-	AZ DEPT OF TRANS.

NAVAJO COUNTY (CONT)

NV 4	T28N R19E	1984	164	1,330.00	-	AZ DEPT OF TRANS.
NV 5	T8N R20E	1985	164	1,045.00	-	AZ DEPT OF TRANS.
NV 6	T18N R19E	1980	164	1,193.00	-	AZ DEPT OF TRANS.
NV 7	T28N R20E	1981	164	1,118.00	-	AZ DEPT OF TRANS.
NV 8	T28N R17E	1981	164	1,263.00	-	AZ DEPT OF TRANS.
NV 9	T7N R19E	1980	164	1,236.00	-	AZ DEPT OF TRANS.
NV 10	T7N R19E	1980	164	1,271.00	-	AZ DEPT OF TRANS.
NV 11	T10N R22E- T11N R22E	1981	164	1,151.00	3	AZ DEPT OF TRANS.
NV 12	T7N R20E- T8N R20E	1984	164	1,546.00	2	AZ DEPT OF TRANS.
NV 13	T7N R20E	1984	164	1,546.00	2	AZ DEPT OF TRANS.

PIMA COUNTY (PM)

PM 1	T13S R13E	1985	164	1,086.00	-	AZ DEPT OF TRANS.
PM 2	T18S R13E	1980	164	1,343.00	-	AZ DEPT OF TRANS.

PINAL COUNTY (PN)

PN 1	T7S R2E	1980	164	1,097.00	-	AZ DEPT OF TRANS.
PN 2	T5S R15E	1981	164	1,480.00	-	AZ DEPT OF TRANS.
PN 3	T1S R13E- T1S R14E	1983	164	1,021.00	9	AZ DEPT OF TRANS.
PN 4	T4S R14E	1982	180	17,308.00	1	AZ DEPT OF TRANS.
PN 5	T3S R13E	1983	180	12,293.00	1	AZ DEPT OF TRANS.
PN 6	T4S R14E	1983	180	9,997.00	-	AZ DEPT OF TRANS.
PN 7	T4S R14E	1983	180	8,200.00	-	AZ DEPT OF TRANS.
PN 8	T3S R13E	1983	164	4,881.00	-	AZ DEPT OF TRANS.

YAVAPAI COUNTY (YP)

YP 1	T12.5	R1W	1978- 1983	EARTH SLUMP	20,000.00	?	PRESCOTT NAT'L FOREST
YP 2	T14N	R3W	1979	ROCK SLIDE	?	?	PRESCOTT NAT'L FOREST
YP 3	T15N	R3W	1983	DEBRIS FLOW	?	?	PRESCOTT NAT'L FOREST
YP 4	T13N	R5E	1980	EARTH SLUMP	100,000.00	?	SOIL CONSERV. SERVICE
YP 5	T13N	R6E	1978	ROCK FALL	150,000.00	?	COCONINO NAT'L FOREST
YP 6	T13N	R6E	1984	EARTH SLUMP	100,000.00	?	COCONINO NAT'L FOREST
YP 7	T14N	R1E	1985	164	1,197.00	-	AZ DEPT OF TRANS.
YP 8	T10N T11N	R5W- R4W	1985	164	1,063.00	7	AZ DEPT OF TRANS.
YP 9	T10N T12N	R5W- R4W	1985	164	1,213.00	8	AZ DEPT OF TRANS.
YP 10	T12N T16N	R4W- R2W	1984	164	1,082.00	34	AZ DEPT OF TRANS.
YP 11	T10N	R5W	1984	164	1,198.00	4	AZ DEPT OF TRANS.
YP 12	T10N	R5W	1985	164	1,394.00	3	AZ DEPT OF TRANS.
YP 13	T17N T16N	R4E- R4E	1984	164	1,097.00	5	AZ DEPT OF TRANS.
YP 14	T9N	R2E	1981	164	1,057.00	-	AZ DEPT OF TRANS.
YP 15	T9N	R2E	1983	164	1,164.00	-	AZ DEPT OF TRANS.
YP 16	T9N	R2E	1983	164	1,055.00	-	AZ DEPT OF TRANS.
YP 17	T10N	R5W	1983	164	1,226.00	1	AZ DEPT OF TRANS.

