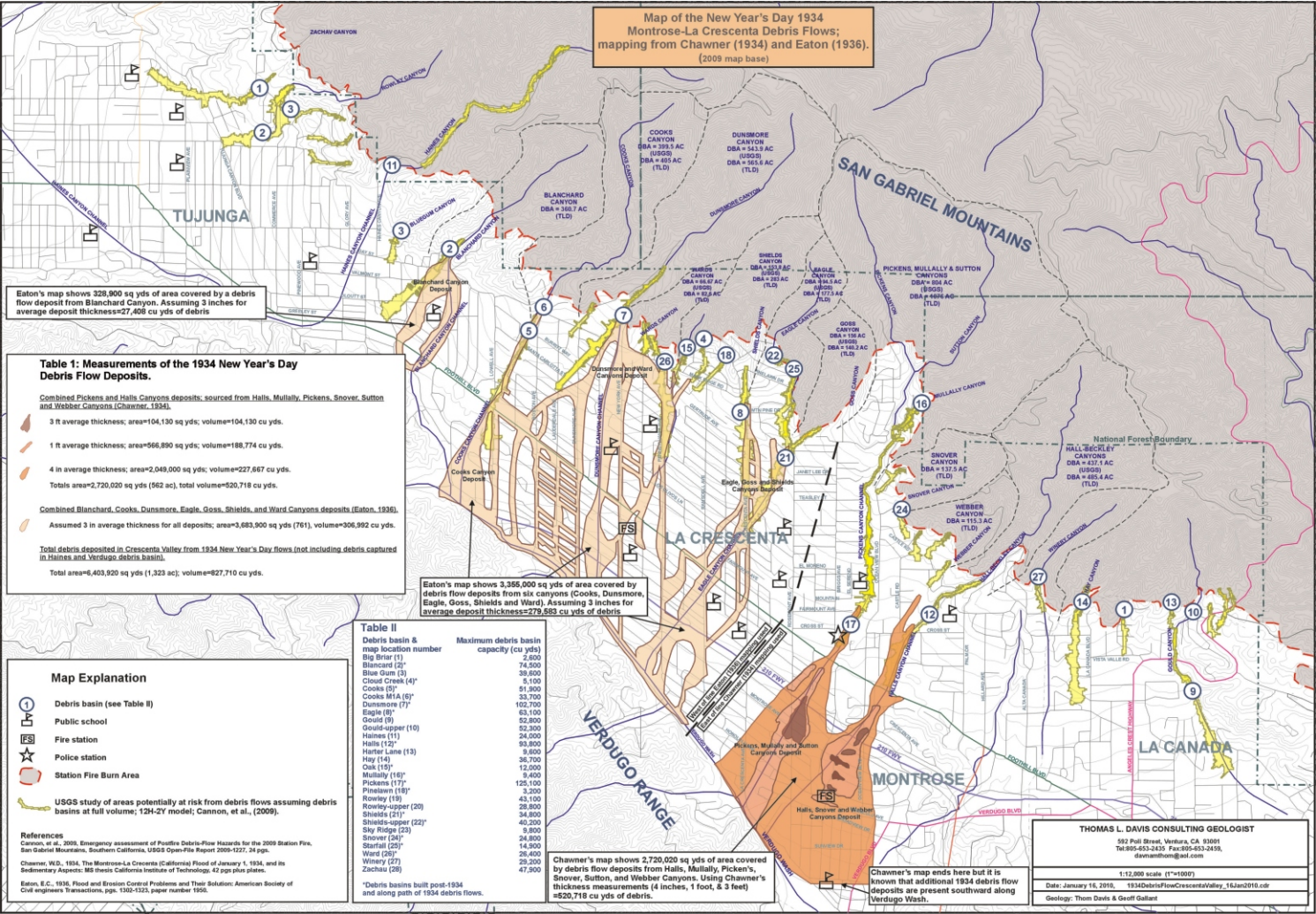
Map of the New Year's Day 1934 Montrose-La Crescenta Debris Flows; mapping from Chawner (1934) and Eaton (1936).

(2009 map base)



Eaton's map shows 328,900 sq yds of area covered by a debris flow deposit from Blanchard Canyon. Assuming 3 inches for average deposit thickness=27,408 cu yds of debris

Table 1: Measurements of the 1934 New Year's Day Debris Flow Deposits.

Combined Pickens and Halls Canyons deposits; sourced from Halls, Mullally, Pickens, Snover, Sutton and Webber Canyons (Chawner, 1934).

3 ft average thickness; area=104,130 sq yds; volume=104,130 cu yds.

1 ft average thickness; area=566,890 sq yds; volume=188,774 cu yds.

4 in average thickness; area=2,049,000 sq yds; volume=227,667 cu yds.

Totals area=2,720,020 sq yds (562 ac), total volume=520,718 cu yds.

Combined Blanchard, Cooks, Dunsmore, Eagle, Goss, Shields, and Ward Canyons deposits (Eaton, 1936).

Assumed 3 in average thickness for all deposits; area=3,683,900 sq yds (761), volume=306,992 cu yds.

Total debris deposited in Crescenta Valley from 1934 New Year's Day flows (not including debris captured in Haines and Verdugo debris basin).

Total area=6,403,920 sq yds (1,323 ac); volume=827,710 cu yds.

Eaton's map shows 3,355,000 sq yds of area covered by debris flow deposits from six canyons (Cooks, Dunsmore, Eagle, Goss, Shields and Ward). Assuming 3 inches for average deposit thickness=279,583 cu yds of debris

Table II

Debris basin & map location number	Maximum debris basin capacity (cu yds)
Big Briar (1)	2,600
Blancard (2)*	74,500
Blue Gum (3)	39,600
Cloud Creek (4)*	5,100
Cooks (5)*	51,900
Cooks M1A (6)*	33,700
Dunsmore (7)*	102,700
Eagle (8)*	63,100
Gould (9)	52,800
Gould-upper (10)	52,300
Haines (11)	24,000
Halls (12)*	93,800
Harter Lane (13)	9,800
Hay (14)	36,700
Oak (15)*	12,000
Mullally (16)*	9,400
Pickens (17)*	125,100
Pinelawn (19)*	3,200
Rowley (19)	43,100
Rowley-upper (20)	28,800
Shields (21)*	34,800
Shields-upper (22)*	40,200
Sky Ridge (23)	9,800
Snover (24)*	24,800
Starfall (25)*	14,900
Ward (26)*	26,400
Winery (27)	29,200
Zachau (28)	47,900

*Debris basins built post-1934 and along path of 1934 debris flows.

Map Explanation

1. Debris basin (see Table II)
- Public school
- FS Fire station
- Police station
- Station Fire Burn Area
- USGS study of areas potentially at risk from debris flows assuming debris basins at full volume; 12H-2Y model; Cannon, et al., (2009).

References

Cannon, et al., 2009, Emergency assessment of Postfire Debris-Flow Hazards for the 2009 Station Fire, San Gabriel Mountains, Southern California, USGS Open-File Report 2009-1227, 34 pgs.

Chawner, W.D., 1934, The Montrose-La Crecenta (California) Flood of January 1, 1934, and its Sedimentary Aspects: MS thesis California Institute of Technology, 42 pgs plus plates.

Eaton, E.C., 1936, Flood and Erosion Control Problems and Their Solution: American Society of Civil engineers Transactions, pgs. 1302-1323, paper number 1950.

Chawner's map shows 2,720,020 sq yds of area covered by debris flow deposits from Halls, Mullally, Picken's, Snover, Sutton, and Webber Canyons. Using Chawner's thickness measurements (4 inches, 1 foot, & 3 feet) =520,718 cu yds of debris.

Chawner's map ends here but it is known that additional 1934 debris flow deposits are present southward along Verdugo Wash.

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1:12,000 scale (1"=1000')

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