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Weather Notes

SEVERE THUNDERSTORM, CLEVELAND, OHIO, MAY 12, 1956

A very severe thunderstorm struck the center of Rocky River, Lakewood, and the western portions of Cleveland at 8:45 p. m. EST on May 12, 1956. The storm moved in off Lake Erie from the west-northwest over Rocky River and Lakewood until the center of the storm was about 2½ miles inland from the lake, and then moved generally eastward across western portions of Cleveland to the Cuyahoga River Valley. (See fig. 1.) East of the Cuyahoga River, the storm moved in a more northeasterly direction but very little wind damage occurred.

In the path of the storm damage very little rain occurred, but the eastern portions of the city received a torrential downpour and hail up to 1 inch in diameter. Downtown Cleveland reported ½-inch hail. The heavy rainfall, particularly in Shaker Heights and Cleveland Heights, caused serious flooding of underpasses and low spots, and hundreds of basements. The Weather Bureau recording rain gage located at East 140th Street and the lakefront, recorded about 2 inches of precipitation in 30 minutes. Evidence indicates heavier amounts about 3 miles southeast of the Weather Bureau gage.

At the airport, 2¼ miles southwest of the southern edge of the path of damage, the maximum wind was 45 m. p. h. from the northwest, the fastest mile 57 m. p. h. from the northwest, and on the direct-reading indicators gusts to 71 m. p. h. were observed. On a privately owned anemometer located on Beach Road ("G" in fig. 1), gusts to 100 m. p. h. were observed on the indicator before the mast of the anemometer bent over, and the instrument ceased to function.

A pressure jump occurred at the airport at 8:45 p. m., EST amounting to 0.16 inch Hg in 3 minutes. The pressure fall in the 45 minutes preceding 8:45 p. m. amounted to 0.18 inch. On a privately owned Friez 4-day barograph located at 230 Buckingham Road, Rocky River, Ohio (just north of "C" in fig. 1), a fall of 0.32 inch Hg was recorded in the 45 minutes prior to the low point, and then a pressure jump of 0.22 inch Hg.

Seven people were killed and about 70 injured during the storm. Three of the deaths occurred when a tavern collapsed (point "M," fig. 1); one was killed by a tree toppling across an automobile, and two were electrocuted by fallen wires. One person died 8 days later from injuries received during the storm.

The damage throughout the path of the storm, while extensive, was not major as far as structural wind damage was concerned. A large share of the structural damage was caused by large trees falling on buildings and houses. About 3,000 trees were uprooted or broken off, bringing down power and telephone lines generally throughout the area. Toppling of huge trees, tall and with wide-spreading top branches, was aided by the super-saturated soil. Precipitation in thunderstorms late on May 11 and in the early hours of May 12, amounted to 1.76 inches at the airport. This heavy rainfall on ground already wet from an excess of precipitation this spring, produced a condition favorable for uprooting of trees. The City Forester stated, "At least 50 percent less trees would have toppled if the soil had not been so saturated. The trees that toppled had survived heavier winds in past storms."

A ground survey on May 13 and an aerial survey on May 14 indicated little or no scattering of debris. All of the trees were alined roughly parallel to each other and fell toward the southeast along the first 2 to 2½ miles of the path, and then generally easterly along the last 6 miles.

The damage varied considerably within the storm path. Figure 1 shows the path of damage and particular locations where damage was unusually severe. Damage estimates made by the three cities of Rocky River, Lakewood, and Cleveland, total approximately \$8 million.—II. N. Burke, AIC, W.B.A.S., Cleveland, Ohio.

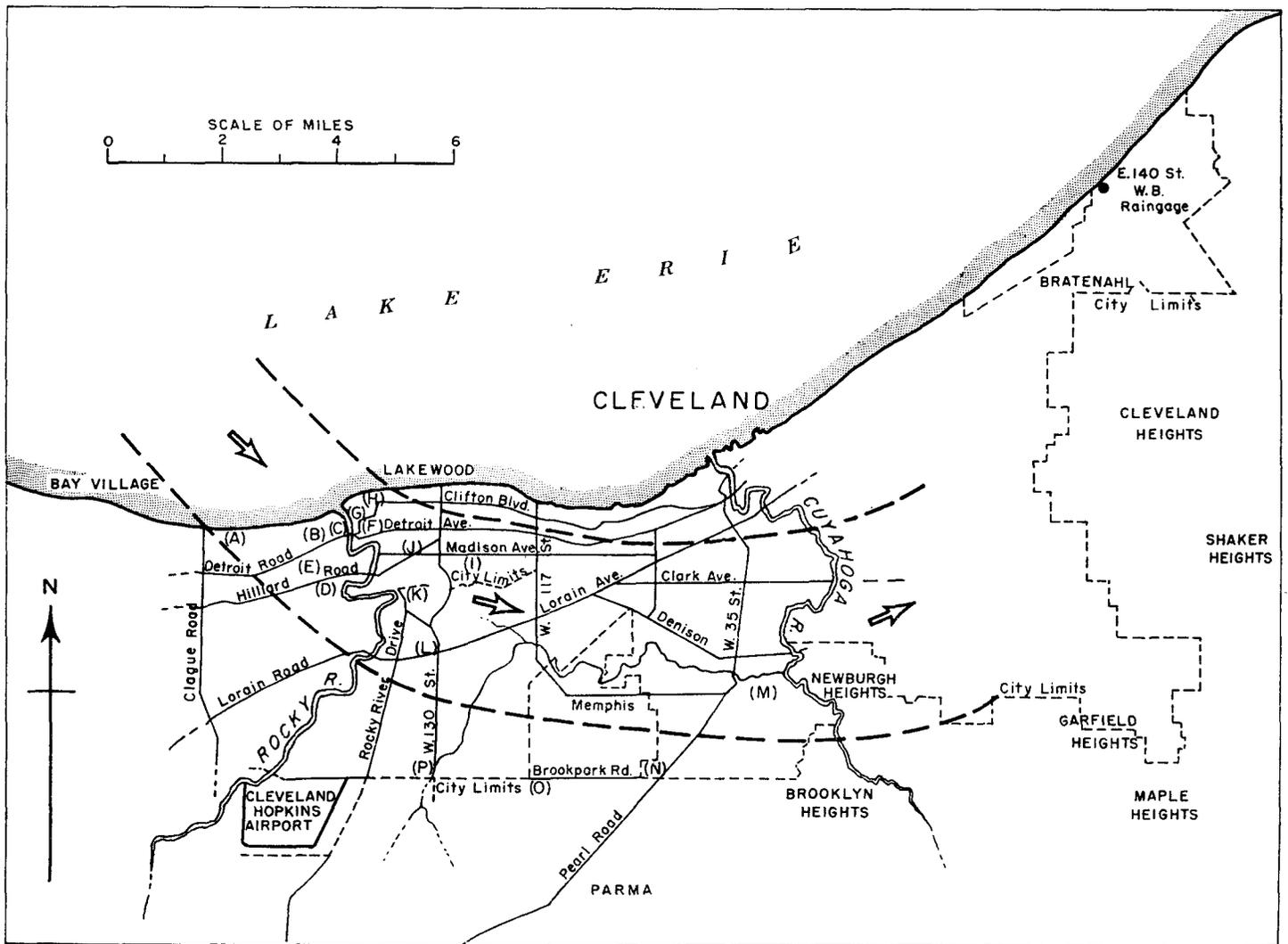


FIGURE 1.—Sketch of Cleveland, Ohio, and immediate vicinity showing path of damage from thunderstorm, May 12, 1956. Lettered points sustained damage as follows:

- (A) Breezedale Cove, northwestern edge of Rocky River—Trees down, and garage down.
Clague Intake Cove:
—Bad damage to trees, house trailer overturned.
—Clock tower, Rocky River, overturned.
- (B) Wagar and Lake—Trees fell from northwest to southeast.
- (C) Rocky River business district:
—Westlake Hotel roof signs ruined; many windows out. Portion of roof blown off on northwest corner.
—Westlake Cab radio tower blown over.
—Bad damage to Rocky River business district plate glass windows; trees down all over, all lying toward southeast to east-southeast.
- (D) Westmoor, Hilliard—Garage unroofed, large chimney of greenhouse blown over lying toward southeast with little or no scattering of bricks.
- (E) Wagar and Erie—Many trees uprooted, house chimney blown off, garage down at Stratford and Wagar.
- (F) Sloan and Lake Aves.—Bad damage to house caused principally by uprooted trees.
- (G) Yacht Club Basin at Clifton Park—Many uprooted trees, car smashed, driver killed by falling trees; approximately 15 boats on winter props damaged at Cleveland Yacht Club.
- (H) Clifton Park and Northwestern Lakewood—Numerous trees uprooted. Corner of Hall and Lake Avenue, utility pole broken off.
This point appears to be the eastern edge of the damage path along the immediate lake front. West and southwest of this point, the damage increases to a maximum on each side of the Rocky River valley.
- (I) Bunts Rd., between Detroit and Lakewood Heights Blvd.—Trees down toward more easterly direction. Bunts and Madison, no apparent damage. West on Madison, increasing damage, particularly uprooted trees.
- (J) Madison and Hilliard Rd.—Only minor damage, but gets worse as you move westward toward Riverside.
- (K) Riverside from Hilliard to Kamms' Corners—Many large trees down, considerable structural damage to residences due to falling trees, some roofs partially torn off.
- (L) West 137 and Lorain—Many plateglass windows smashed, numerous trees uprooted.
- (M) 4103 Pearl Rd. SW.—Tavern roof blown off and walls collapsed; 3 people killed. Tavern was in an especially vulnerable position, the first block off bridge across Big Creek valley. The west-northwest winds had full sweep of valley prior to striking tavern.
Meyers Ave.-Fulton Rd. area—Considerable damage to houses due to fallen trees. Denison Ave., numerous trees uprooted.
- (N) Brookpark-Pearl Rd.—Serious fire damage to department store hit by lightning.
- (O) Brookpark-Tiedeman Rd.—Only minor damage, small limbs broken off.
- (P) Brookpark-West 130th St.—No damage.

