



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Telecommunications and**  
**Information Administration**  
Washington, D.C. 20230

DOCKET FILE COPY ORIGINAL

September 4, 1998

Ms. Magalie Roman Salas  
Secretary  
Federal Communications Commission  
1919 M Street, N.W.  
Room 222  
Washington, D.C. 20554

**RECEIVED**

SEP - 4 1998

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

Re: Definition of an Over-the-Air Signal of Grade B Intensity for Purposes of the Satellite Home Viewer Act, RM No. 98-9335

Dear Ms. Salas:

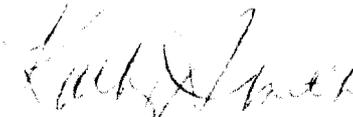
Enclosed please find two copies of the letter from Larry Irving, Assistant Secretary for Communications and Information, U.S. Department of Commerce, to Chairman William Kennard in the above-referenced proceeding. I certify that a copy of this letter was sent via first class U.S. mail, postage prepaid, to the following:

Steven T. Berman, Esq.  
National Rural Telecommunications  
Cooperative  
2201 Cooperative Way  
Suite 400  
Herndon, VA 20171

Jack Richards, Esq.  
Paula Deza, Esq.  
Nicole Donath, Esq.  
Keller and Heckman  
1001 G Street, N.W., Ste. 500 West  
Washington, D.C. 20001

Please direct any questions you may have regarding this filing to the undersigned. Thank you for your cooperation.

Respectfully submitted,

  
Kathy Smith  
Acting Chief Counsel

Enclosures

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**UNITED STATES DEPARTMENT OF COMMERCE**  
**The Assistant Secretary for Communications**  
**and Information**  
Washington, D.C. 20230

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

The Honorable William Kennard  
Chairman  
Federal Communications Commission  
1919 M Street, N.W.  
Washington, D.C. 20554

RE: Definition of an Over-the-Air Signal of Grade B Intensity for Purposes of the  
Satellite Home Viewer Act, RM No. 98-9335

Dear Chairman Kennard:

I am writing today to express support for expedited review by the Commission of the impact of a federal court's decision to issue a preliminary injunction that will result in the nationwide termination of the satellite delivery of network programming to millions of consumers.<sup>1</sup> At issue is the meaning of the phrase "over-the-air signal of grade B intensity" in the Satellite Home Viewer Act,<sup>2</sup> which determines whether a consumer is eligible to receive network programming via satellite. It is my understanding that the court construed the statute without the benefit of guidance from the Commission and the effect may prove to be detrimental to competition and consumer choice.

The statutory language of the Satellite Home Viewer Act makes it clear that the Commission's Rules are to give meaning to this key phrase. The Act permits direct broadcast satellite (DBS) service providers and other satellite carriers to deliver network programming only to those consumers residing in an "unserved household." With regard to a particular network, the Act defines "unserved household" to mean a household that "cannot receive, through use of a conventional outdoor rooftop receiving antenna, an over-the-air signal of grade B intensity (*as defined by the Federal Communications Commission*)" of a local network affiliate, and in the 90 days prior to subscribing to the satellite service, has not subscribed to a cable service that carries the local network affiliate.<sup>3</sup> The legislative history reemphasizes the Commission's paramount role in defining this key phrase by referring specifically to the Commission's field strength contour regulations, which currently only define Grade A and Grade B contours for purposes of tower siting and the multiple ownership rules, but does not provide assurance of

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<sup>1</sup> See *CBS Inc., et al. v. PrimeTime 24 Joint Venture*, Case No. 96-3650-CIV-NESBITT (S.D. Fla. July 10, 1998).

<sup>2</sup> Satellite Home Viewer Act of 1994, Pub. L. No. 103-369, 108 Stat. 3477 (1994) (codified at 17 U.S.C. § 119).

<sup>3</sup> 17 U.S.C. § 119(d)(10)(emphasis added).

actual signal quality to the viewer.<sup>4</sup>

On the other hand, the federal court, upon the recommendations of a magistrate judge, has selected a different methodology in ordering the termination of satellite delivery of network programming. The court's order relies on the use of Longley-Rice propagation maps, which among other things, provide for signal strength variations on the basis of irregular terrain.<sup>5</sup> This methodology, if implemented, would in many cases appear to afford a local network affiliate with copyright protection in locations beyond which the Commission would actually protect their signal from interference.<sup>6</sup>

The National Rural Telecommunications Cooperative (NRTC) in its Emergency Petition for Rulemaking has pointed out the many flaws of either of these approaches to defining "an over-the-air signal of grade B intensity."<sup>7</sup> In the alternative, it suggests that the Commission adopt a new definition for purposes of the Act that would require "a geographic area in which 100 percent of the population, using readily available and affordable equipment, receives over-the-air coverage by network affiliates 100 percent of the time."<sup>8</sup>

While the National Telecommunications and Information Administration (NTIA) takes no position at this time on the specific definition that the Commission should adopt, it rapidly becomes clear that the definition is key to whether many consumers will have real choice of programming providers. NTIA's Institute for Telecommunications Sciences (ITS) has provided sample data on the number of households that could be affected by adoption of either the Commission's current Grade B contour rules (47 C.F.R. § 73.683) or the court-ordered Longley-Rice method.<sup>9</sup> In addition, ITS also provided data on the number of affected households if the

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<sup>4</sup> See H.R. Rep. No. 100-887 (Part I), 100th Cong., 2d Sess. 26, 7 U.S.C.C.A.N. 5611, 5629 (1988)(citing 47 C.F.R. § 73.683(a)).

<sup>5</sup> See Order Affirming in Part and Reversing in Part Magistrate Judge Johnson's Report and Recommendation, *CBS, Inc. et al. v. PrimeTime 24 Joint Venture*, Case No. 96-3650-CIV-NESBITT, at 26 (S.D. Fla. May 13, 1998)(citing 47 C.F.R. § 73.686); see also Supplemental Order Granting Plaintiff's Motion for Preliminary Injunction, *CBS, Inc. et al. v. PrimeTime 24 Joint Venture*, Case No. 96-3650-CIV-NESBITT (S.D. Fla. July 10, 1998).

<sup>6</sup> See *supra* discussion of preliminary study by NTIA's Institute of Telecommunications Sciences.

<sup>7</sup> See NRTC Emergency Petition at ¶¶ 7-10, 18, 19.

<sup>8</sup> See *id.* at ¶¶ 23-25.

<sup>9</sup> See enclosed table entitled "Network Affiliate Sample from the Top 100 DMAs". ITS took a sample of one network affiliate station from each of the top 100 Nielsen Media Research

Commission's Grade B contour was superimposed upon the Longley-Rice maps.<sup>10</sup> This "hybrid" methodology takes into consideration irregular terrain, which could prevent consumers from actual receipt of an over-the-air signal of sufficient strength, without extending copyright protection beyond current interference protection under Commission rules.

The results of the ITS sample study of network affiliates in the top 100 DMAs are astounding.<sup>11</sup> Depending upon which method ITS employed to determine affected households in the sample, there are as many as **9 million households** (almost 10 percent of American television households) that would be rendered ineligible to receive satellite-delivered network programming.<sup>12</sup> Although other methodologies could render differing numbers, the wide variations in results derived from the three accepted methods used by ITS confirm the conclusion that the definition of "an over-the-air signal of grade B intensity" can have an impact on competition and consumer choice.

This Administration has strongly supported the development of robust competition in the multichannel video programming marketplace as the way to bring greater viewing choices, lower prices and better services to consumers. As the Commission has recognized, DBS is the most widely available alternative to cable television, but that impediments to carriage of local broadcast signals reduce the ability of DBS to compete effectively with cable.<sup>13</sup> While copyright law changes are required to permit a DBS provider to provide network programming to all consumers, the definition of "an over-the-air signal of grade B intensity" can also have a marked

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Designated Market Areas (DMAs) ranked by number of households. This sample reflects significant geographic diversity, communities of various sizes, UHF and VHF stations, varying channel numbers, and equal numbers of affiliates of each of the four networks.

<sup>10</sup> This methodology is also similar to the hybrid model adopted by the Commission so that digital television allotments would, to the maximum extent possible, replicate existing NTSC service areas. See *Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service, Sixth Report and Order*, MM Dkt. No. 87-268, 12 F.C.C. Rcd.14588, ¶¶ 12-33 (1997).

<sup>11</sup> The ITS sample study is intended for illustrative purposes only.

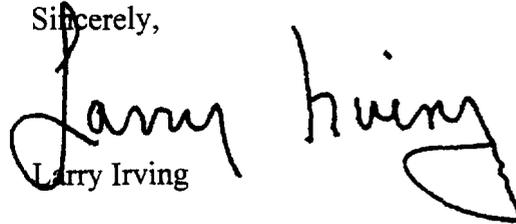
<sup>12</sup> See enclosed table entitled "Network Affiliate Sample from the Top 100 DMAs." ITS maps plotting the results of this sample graphically reveal the widely varying results. See enclosed representing a selection of the FCC contour, Longley-Rice contour, and "hybrid" contour of a single network affiliate from the top 10, middle 10 and bottom 10 of the top 100 DMAs. Maps for all of the sampled stations plus some additional network affiliates in the top 100 DMAs are available electronically at [http://flattop.its.bldrdoc.gov/gifs\\_ntia/gifindex.htm](http://flattop.its.bldrdoc.gov/gifs_ntia/gifindex.htm).

<sup>13</sup> See *Fourth Annual Report, Annual Assessment of the Status of Competition in Markets for the Delivery of Video Programming*, 13 F.C.C. Rcd. 1034, ¶¶ 11, 58 (1998).

effect on the ability of DBS service to compete for a significant number of households.

For these reasons, NTIA urges the Commission to review the court's decision and to undertake a rulemaking to define "over-the-air signal of grade B intensity" for purposes of the Satellite Home Viewer Act that will best promote competition and consumer choice. Thank you for your consideration of these views.

Sincerely,

A handwritten signature in black ink that reads "Larry Irving". The signature is written in a cursive style with a large, looped initial "L".

Larry Irving

Enclosures

cc: The Honorable Susan Ness  
The Honorable Harold Furchtgott-Roth  
The Honorable Michael Powell  
The Honorable Gloria Tristani

## NETWORK AFFILIATE SAMPLE FROM THE TOP 100 DMAS

Rank	DMA	Station/Channel/Network	Model: Households (Grade B or Greater)		
			FCC	Longley-Rice	Hybrid
1	New York	WABC/7/ABC	6486000.	6391000.	6287000.
2	Los Angeles	KCBS/2/CBS	4698000.	4922000.	4651000.
3	Chicago	WFLD/32/FOX	2915000.	3084000.	2912000.
4	Philadelphia	WCAU/10/NBC	2906000.	2928000.	2690000.
5	San Francisco-Oakland-San Jose	KGO/7/ABC	2421000.	2149000.	2105000.
6	Boston	WBZ/4/CBS	2338000.	2314000.	2260000.
7	Washington, D.C.	WTTG/5/FOX	2346000.	2307000.	2247000.
8	Dallas-Ft. Worth	KXAS/5/NBC	1548000.	1609000.	1545000.
9	Detroit	WXYZ/7/ABC	1978000.	2022000.	1956000.
10	Atlanta	WGNX/46/CBS	1003000.	1035000.	984000.
11	Houston	KTRK/13/ABC	1317000.	1327000.	1315000.
12	Seattle-Tacoma	KSTW/11/CBS	1119000.	1092000.	1088000.
13	Cleveland	WJW/8/FOX	1406000.	1372000.	1328000.
14	Minneapolis-St. Paul	KARE/11/NBC	1013000.	1010000.	992000.

Rank	DMA	Station/Channel/Network	Model: Households (Grade B or Greater)		
			FCC	Longley-Rice	Hybrid
15	Tampa-St. Petersburg-Sarasota	WFTS/28/ABC	1157000.	1319000.	1156000.
16	Miami-Ft. Lauderdale	WFOR/4/CBS	1457000.	1477000.	1455000.
17	Phoenix	KSAZ/10/FOX	818000.	815000.	811000.
18	Denver	KUSA/9/NBC	912000.	830000.	824000.
19	Pittsburgh	WTAE/4/ABC	1251000.	1152000.	1086000.
20	Sacramento-Stockton-Modesto	KOVR/13/CBS	3005000.	1401000.	1368000.
21	St. Louis	KTVI/2/FOX	976000.	997000.	969000.
22	Orlando-Daytona Beach-Melbourne	WESH/2/NBC	970000.	1027000.	967000.
23	Baltimore	WMAR/2/ABC	2686000.	2685000.	2560000.
24	Portland	KOIN/6/CBS	778000.	716000.	710000.
25	Indianapolis	WXIN/59/FOX	675000.	782000.	667000.
26	San Diego	KNSD/39/NBC	851000.	1026000.	809000.
27	Hartford-New Haven	WTNH/8/ABC	2232000.	3405000.	1927000.
28	Charlotte	WBTV/3/CBS	1132000.	1111000.	1015000.

Rank	DMA	Station/Channel/Network	Model: Households (Grade B or Greater)		
			FCC	Longley-Rice	Hybrid
29	Raleigh-Durham	WLFL/22/ FOX	636000.	838000.	634000.
30	Cincinnati	WLWT/5/NBC	1093000.	1121000.	1050000.
31	Kansas City	KMBC/9/ABC	705000.	715000.	691000.
32	Milwaukee	WDJT/58/CBS	820000.	969000.	802000.
33	Nashville	WZTV/17/FOX	427000.	452000.	417000.
34	Columbus, OH	WCMH/4/NBC	908000.	870000.	804000.
35	Greenville-Spartanburg-Asheville -Anderson	WLOS/13/ABC	827000.	791000.	547000.
36	Salt Lake City	KUTV/2/CBS	448000.	445000.	440000.
37	Grand Rapids-Kalamazoo -Battle Creek	WXMI/17/FOX	452000.	674000.	451000.
38	San Antonio	KMOL/4/NBC	574000.	636000.	553000.
39	Norfolk-Portsmouth-Newport News	WVEC/13/ABC	545000.	595000.	545000.
40	Buffalo	WIVB/4/CBS	875000.	752000.	740000.
41	New Orleans	WVUE /8/ FOX	567000.	615000.	565000.
42	Memphis	WMC/5/NBC	489000.	531000.	476000.

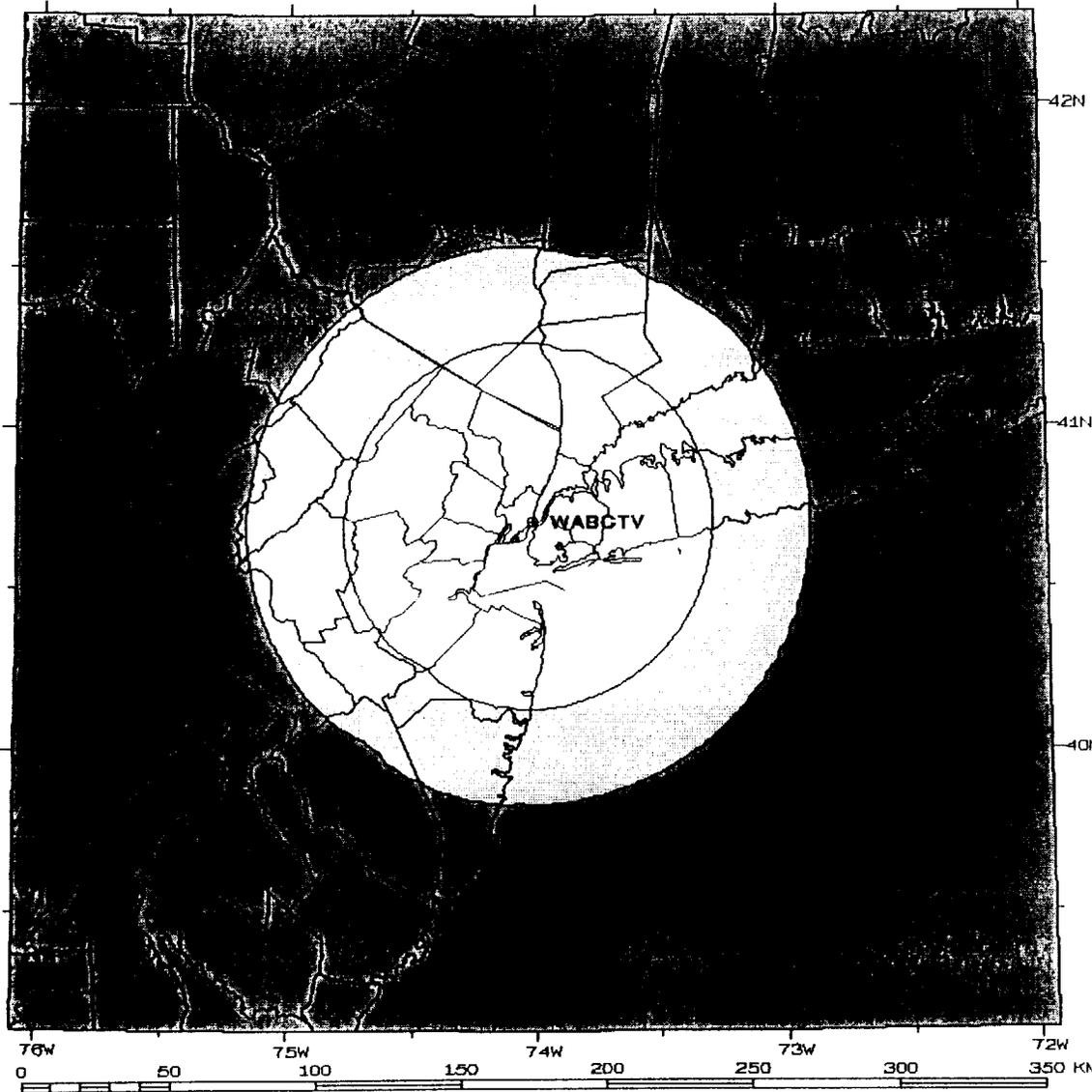
Rank	DMA	Station/Channel/Network	Model: Households (Grade B or Greater)		
			FCC	Longley-Rice	Hybrid
43	West Palm Beach-Ft. Pierce	WPEC/12/CBS	1380000.	1491000.	1387000.
44	Oklahoma City	KOCO/5/ABC	468000.	486000.	464000.
45	Harrisburg-Lancaster-Lebanon-York	WPMT/43/FOX	1317000.	1038000.	893000.
46	Greensboro-High Point-Winston Salem	WGHP/8/FOX	833000.	824000.	749000.
47	Wilkes Barre-Scranton	WBRE /28/NBC	749000.	537000.	465000.
48	Albuquerque-Santa Fe	KOAT/7/ABC	272000.	265000.	260000.
49	Providence-New Bedford	WPRI/12/CBS	2170000.	2022000.	1986000.
50	Louisville	WDRB/41/FOX	512000.	578000.	494000.
51	Birmingham	WVTM/13/NBC	529000.	485000.	474000.
52	Albany-Schenectady-Troy	WTEN/10/ABC	490000.	431000.	394000.
53	Dayton	WHIO/ 7/CBS	1142000.	1102000.	1087000.
54	Jacksonville-Brunswick	WAWS/30/FOX	326000.	368000.	326000.
55	Fresno-Visalia	KSEE/24/ NBC	348000.	411000.	335000.
56	Little Rock-Pine Bluff	KARK/4/NBC	336000.	342000.	323000.

Rank	DMA	Station/Channel/Network	Model: Households (Grade B or Greater)		
			FCC	Longley-Rice	Hybrid
57	Charleston-Huntington	WCHS/8/ABC	347000.	276000.	262000.
58	Tulsa	KOTV/ 6/CBS	469000.	479000.	444000.
59	Richmond-Petersburg	WRLH/35/FOX	363000.	471000.	360000.
60	Austin	KXAN/36/NBC	397000.	440000.	380000.
61	Las Vegas	KTNV/13/ABC	285000.	257000.	257000.
62	Mobile-Pensacola	WKRG/5/CBS	417000.	434000.	413000.
63	Flint-Saginaw-Bay City	WEYI/25/FOX	812000.	913000.	698000.
64	Knoxville	WTNZ/43/NBC	286000.	267000.	254000.
65	Wichita-Hutchinson Plus	KAKE/10/ABC	246000.	251000.	245000.
66	Toledo	WTOL/11/CBS	1552000.	1901000.	1536000.
67	Lexington	WDKY/56/FOX	1847000.	1802000.	1693000.
68	Roanoke-Lynchburg	WSLS/10/NBC	467000.	571000.	336000.
69	Des Moines-Ames	WOI/5/ABC	356000.	358000.	338000.
70	Green Bay-Appleton	WFRV/5/CBS	352000.	378000.	351000.

Rank	DMA	Station/Channel/Network	Model: Households (Grade B or Greater)		
			FCC	Longley-Rice	Hybrid
71	Honolulu	KHON/2/FOX	249000.	250000.	246000.
72	Syracuse	WSTM/3/NBC	557000.	707000.	479000.
73	Spokane	KXLY/4/ABC	213000.	205000.	201000.
74	Omaha	KMTV/3/CBS	419000.	433000.	412000.
75	Rochester	WUHF/31/FOX	347000.	377000.	338000.
76	Shreveport	KTAL/6/NBC	342000.	368000.	338000.
77	Springfield, MO	KOLR/10/ABC	262000.	251000.	231000.
78	Tucson (Nogales)	KOLD/13/CBS	296000.	395000.	265000.
79	Paducah-Cape Girardeau-Harrisburg -Mount Vernon	KBSI/23/FOX	178000.	260000.	175000.
80	Portland-Auburn	WCSH/6/NBC	506000.	485000.	401000.
81	Champaign-Springfield-Decatur	WAND/17/ABC	292000.	406000.	292000.
82	Huntsville-Decatur-Florence	WHNT/19/CBS	281000.	318000.	253000.
83	Ft. Myers-Naples	WFTX/36/FOX	325000.	492000.	327000.
84	Madison	WMTV/15/NBC	277000.	379000.	272000.

Rank	DMA	Station/Channel/Network	Model: Households (Grade B or Greater)		
			FCC	Longley-Rice	Hybrid
85	South Bend-Elkhart	WSBT/22/CBS	428000.	898000.	427000.
86	Chattanooga	WTVC/9/ABC	369000.	307000.	285000.
87	Cedar Rapids-Waterloo-Dubuque	KFXA/28/FOX	224000.	277000.	224000.
88	Columbia, SC	WIS/10/NBC	479000.	518000.	446000.
89	Davenport-Rock Island-Moline	WQAD/8/ABC	350000.	370000.	311000.
90	Jackson, MS	WJTV/12/CBS	253000.	259000.	242000.
91	Burlington-Plattsburgh	WFFF/44/FOX	176000.	118000.	116000.
92	Johnstown-Altoona	WJAC/6/NBC	1113000.	952000.	883000.
93	Tri-Cities, TN-VA	WKPT/19/ABC	282000.	192000.	171000.
94	Colorado Springs-Pueblo	KKTV/11/CBS	732000.	509000.	449000.
95	Evansville	WTVW/7/FOX	281000.	289000.	270000.
96	Waco-Temple-Bryan	KCEN/6/NBC	509000.	506000.	441000.
97	Youngstown	WYTV/33/ABC	406000.	479000.	367000.
98	Baton Rouge	WAFB/9/CBS	609000.	784000.	608000.

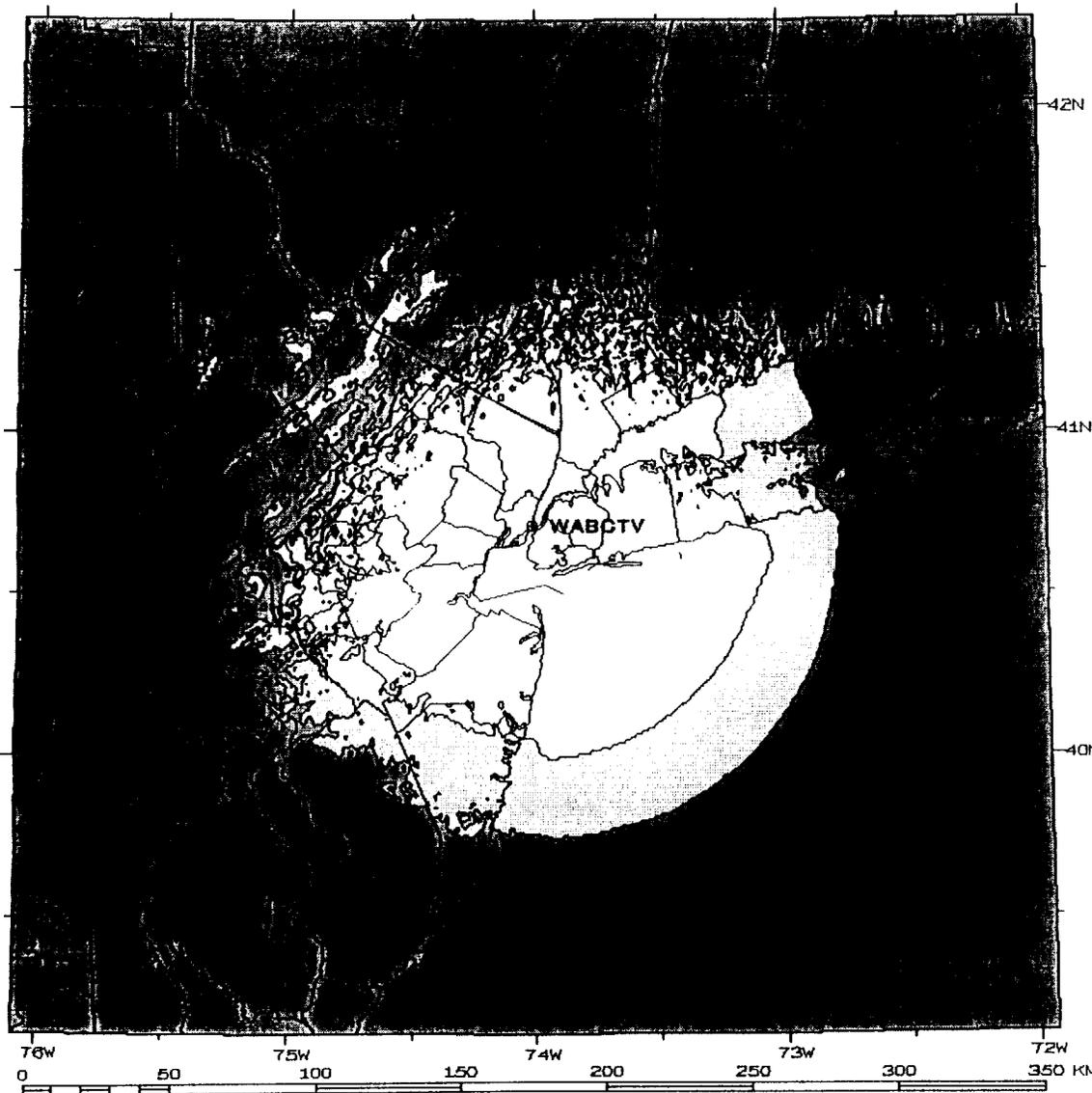
Rank	DMA	Station/Channel/Network	Model: Households (Grade B or Greater)		
			FCC	Longley-Rice	Hybrid
99	El Paso	KFOX/14/FOX	203000.	217000.	203000.
100	Savannah	WSAV/3/NBC	234000.	247000.	233000.
<b>TOTALS:</b>			<b>92020000.</b>	<b>93735000.</b>	<b>84509000.</b>



Market 1  
New York  
WABC/Channel 7  
Network: ABC  
FCC Contour Model (Grade B - 50/50)

SHVA Study

□	Grade A
	Area: 12400. sq km
	Population: 15413000.
	Households: 5521000.
	Grade B
	Area: 16570. sq km
	Population: 3271000.
	Households: 965000.
■	Less than grade B
	Area: 93210. sq km
	Population: 11542000.
	Households: 3884000.



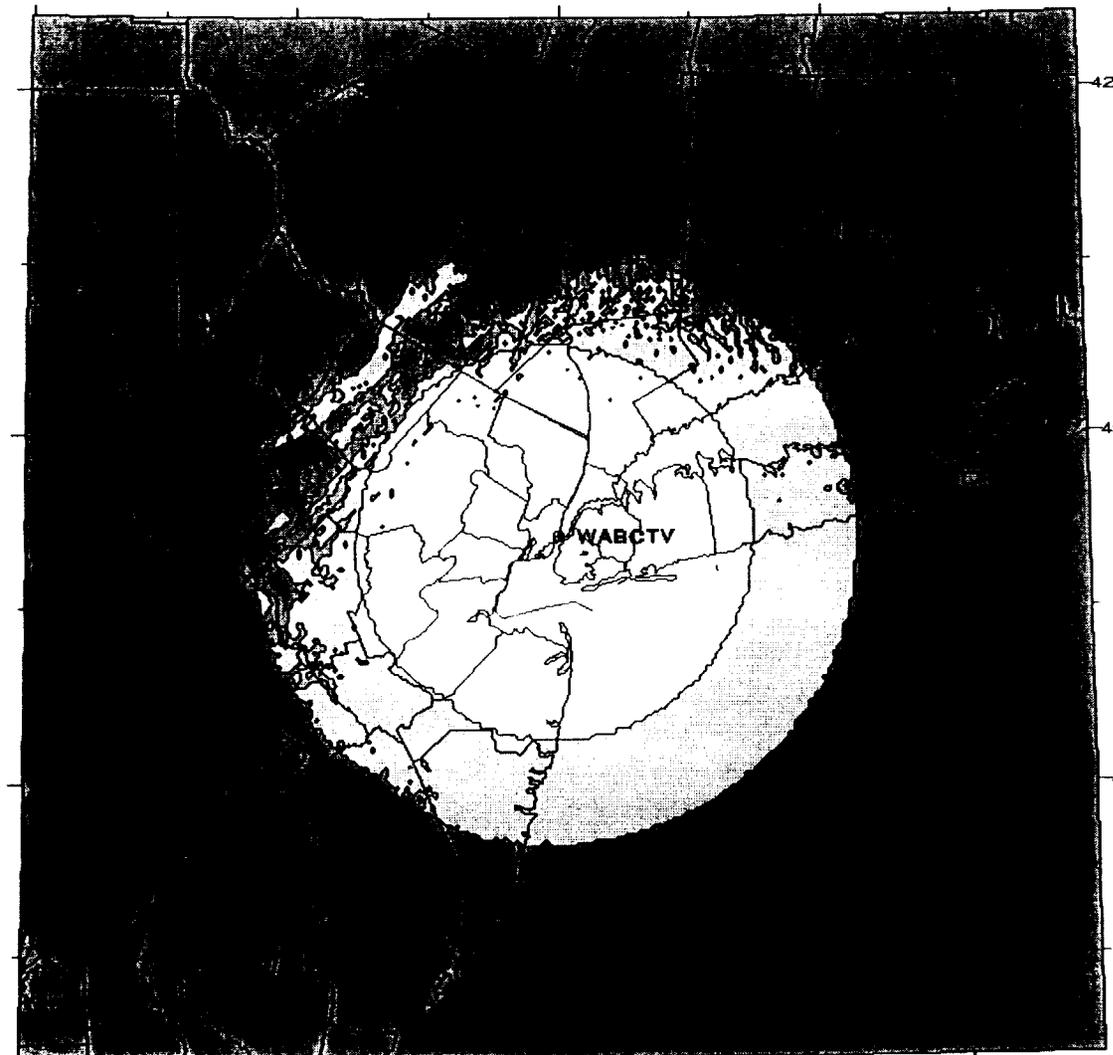
Market 1  
New York  
WABC/Channel 7  
Network: ABC  
Longley-Rice Irregular Terrain Model

SHVA Study

□ Grade A  
Area: 15620. sq km  
Population: 15942000.  
Households: 5876000.

▨ Grade B  
Area: 12550. sq km  
Population: 2388000.  
Households: 715000.

▩ Less than grade B  
Area: 94000. sq km  
Population: 11896000.  
Households: 3979000.

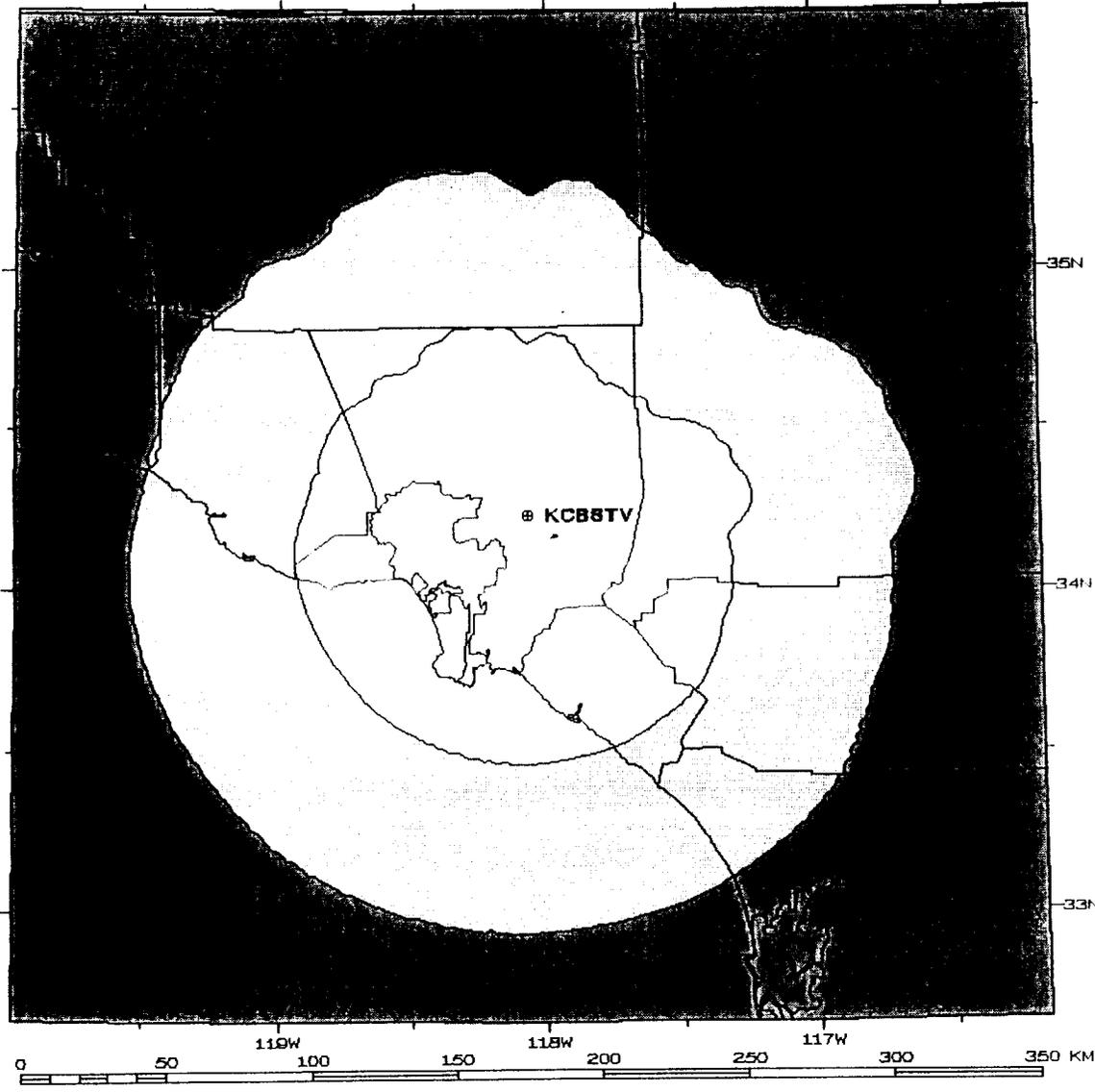


Market: 1  
New York  
WABC/Channel: 7  
Network: ABC  
Model: FCC Masking Longley-Rice

SHVA\_Study

- Grade A (FCC masking LR)  
Area: 12330. sq km  
Population: 15400000.  
Households: 5517000
- Grade B (FCC masking LR)  
Area: 12170. sq km  
Population: 2584000.  
Households: 770000.
- Less than Grade B (FCC masking LR)  
Area: 87660. sq km  
Population: 11815000.  
Households: 3950000.

Market 2  
Los Angeles  
KCBS/Channel 2  
Network: CBS  
FCC Contour Model (Grade B - 50/50)



SHVA Study

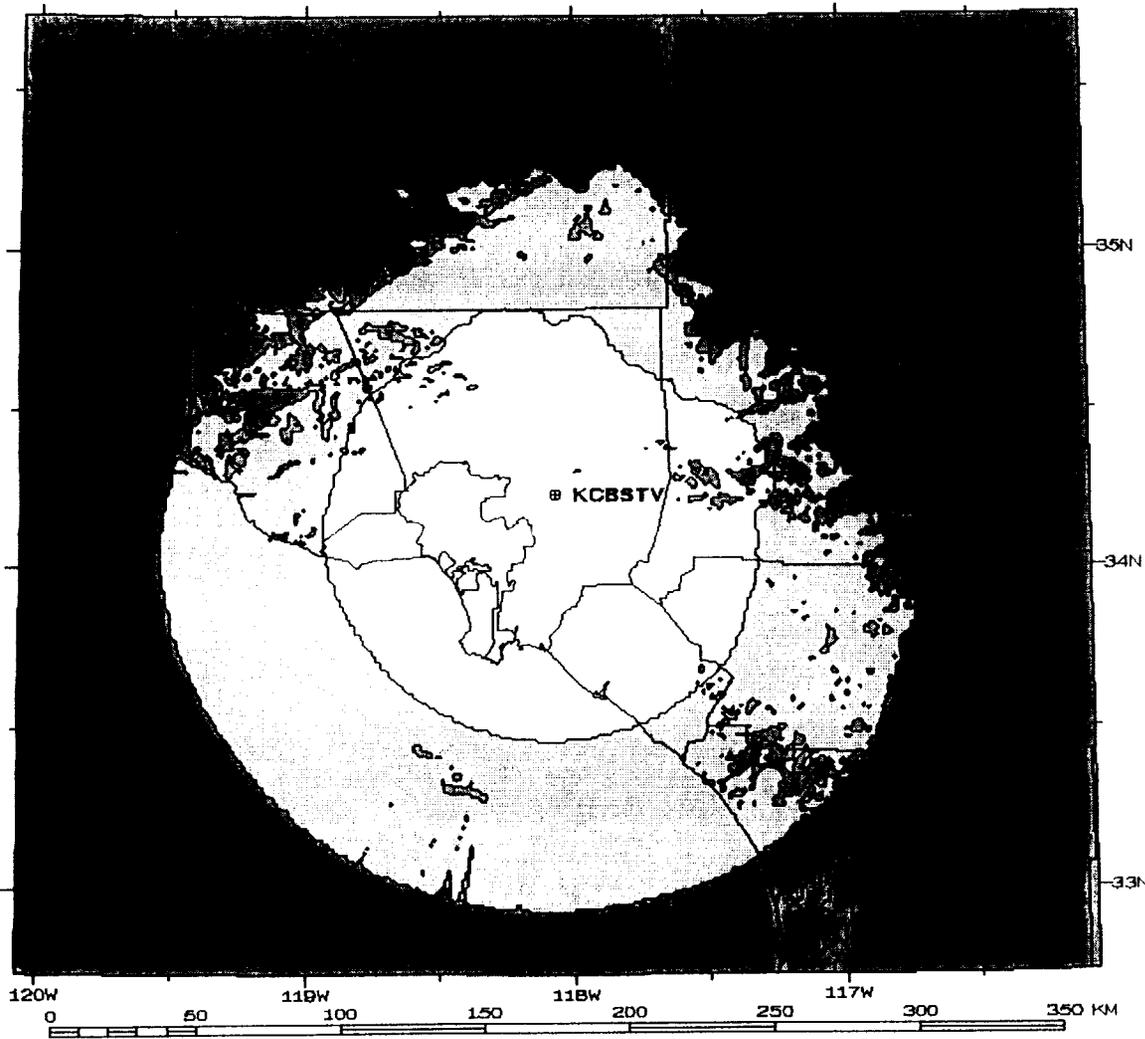
□	Grade A
	Area: 17470. sq km
	Population: 13349000.
	Households: 4104000.
	Grade B
	Area: 36310. sq km
	Population: 2214000.
	Households: 594000.
■	Less than grade B
	Area: 68220. sq km
	Population: 3194000.
	Households: 889000.



Market 2  
Los Angeles  
KCBS/Channel 2  
Network: CBS  
Longley-Rice Irregular Terrain Model

SHVA Study

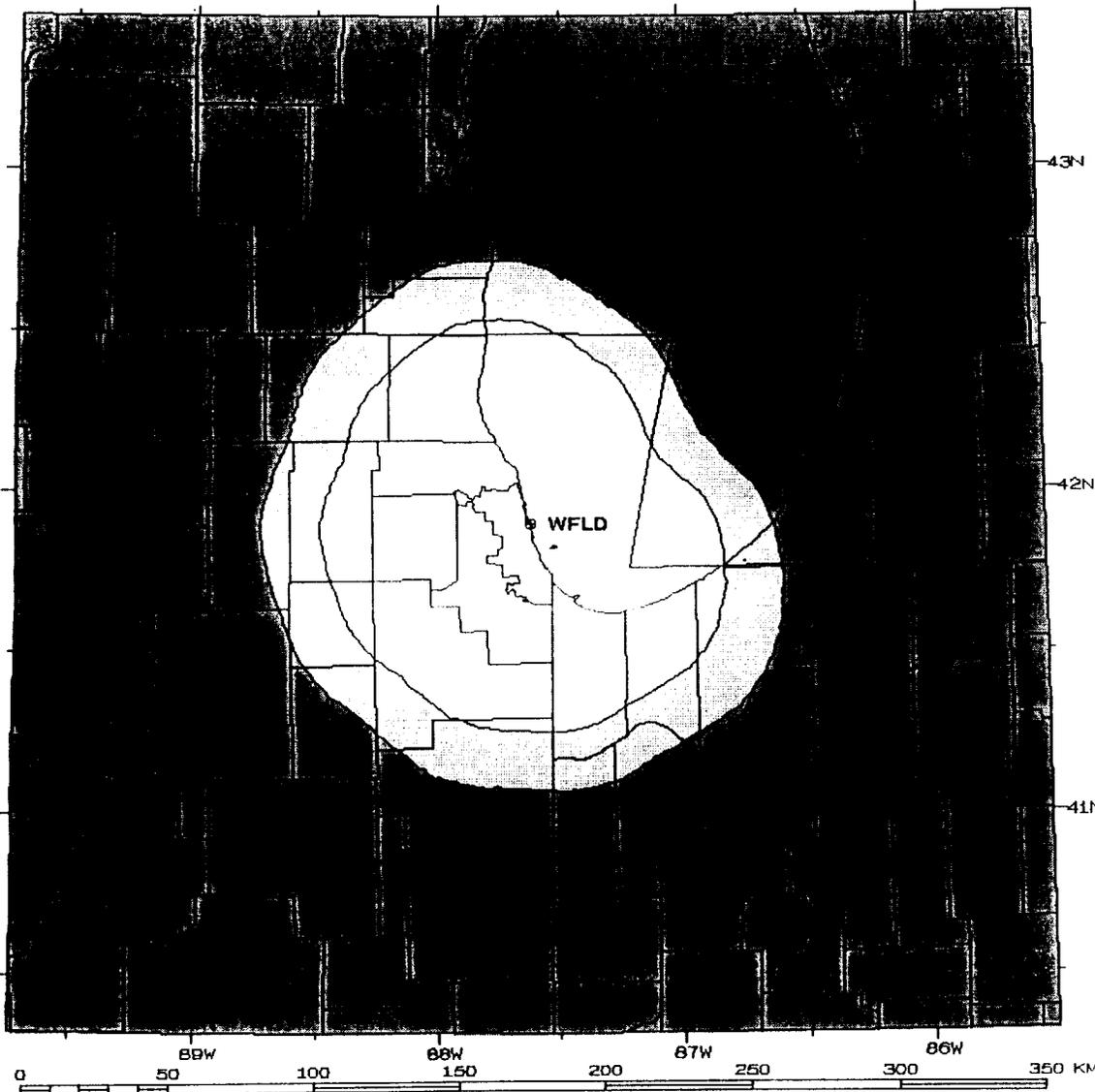
- Grade A  
Area: 34420. sq km  
Population: 13805000.  
Households: 4180000.
- ▒ Grade B  
Area: 29480. sq km  
Population: 2565000.  
Households: 742000.
- Less than grade B  
Area: 58280. sq km  
Population: 2587000.  
Households: 766000.



Market: 2  
Los Angeles  
KCBS/Channel 2  
Network: CBS  
Model: FCC Masking Longley-Rice

SHVA Study

□	Grade A (FCC masking LR)
	Area: 17200 sq km
	Population: 13319000
	Households: 4096000
	Grade B (FCC masking LR)
	Area: 27480 sq km
	Population: 2058000
	Households: 556000
■	Less than Grade B (FCC masking LR)
	Area: 77380 sq km
	Population: 2952000
	Households: 916000



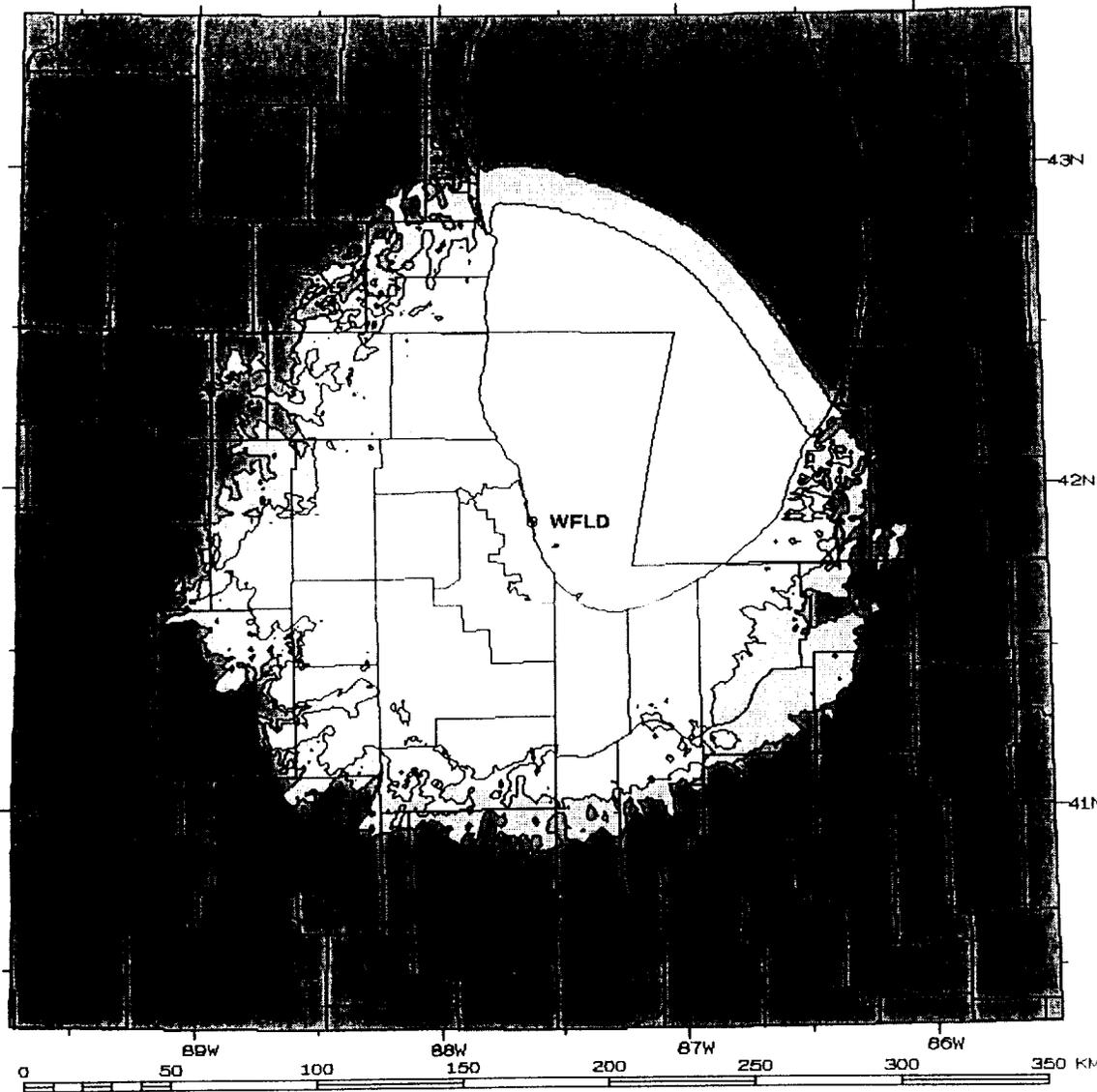
Market 3  
Chicago  
WFLD/Channel 32  
Network: FOX  
FCC Contour Model (Grade B - 50/50)

SHVA Study

Grade A  
Area: 14430. sq km  
Population: 8087000.  
Households: 2730000.

Grade B  
Area: 9680. sq km  
Population: 635000.  
Households: 185000.

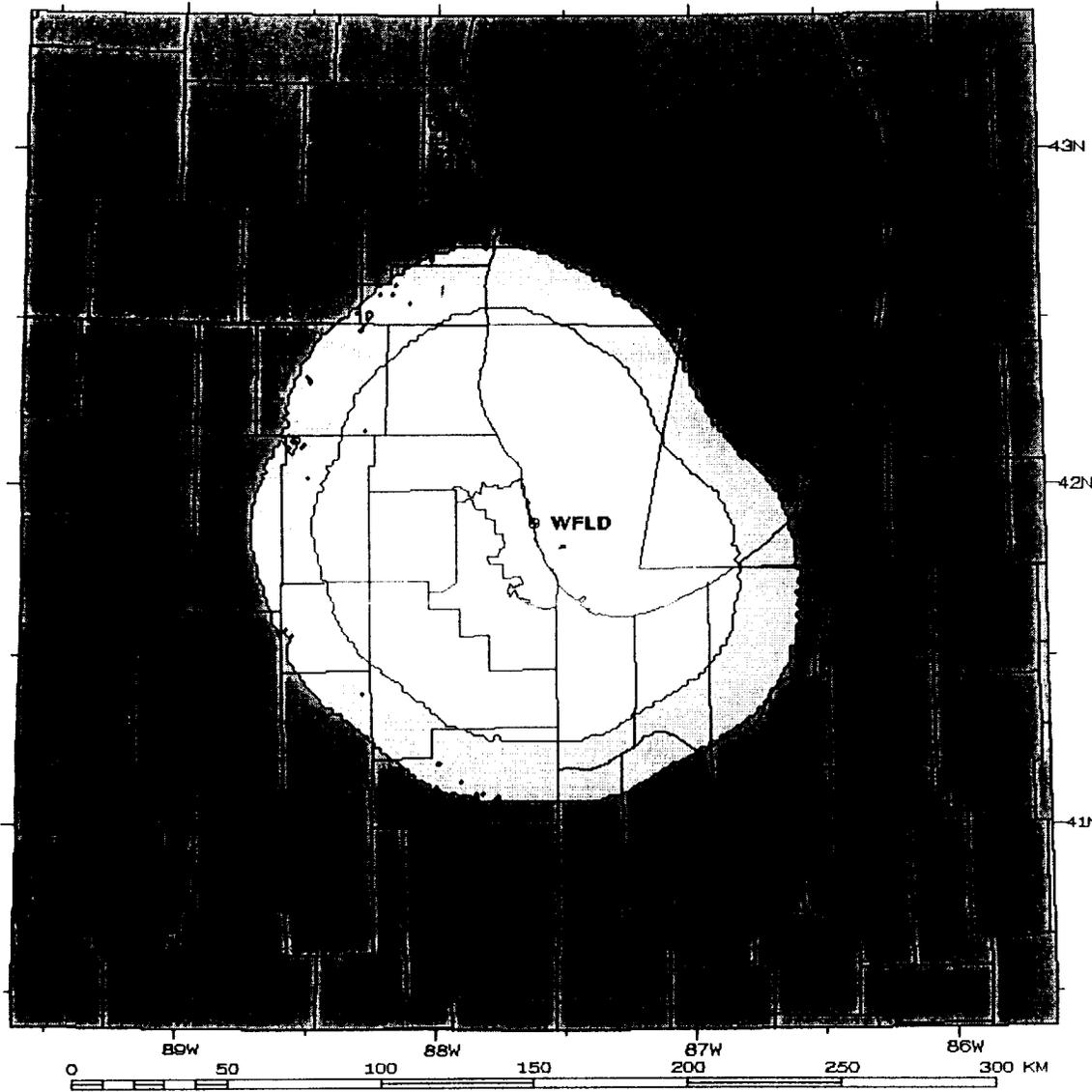
Less than grade B  
Area: 99080. sq km  
Population: 6331000.  
Households: 2086000.



Market 3  
Chicago  
WFLD/Channel 32  
Network: FOX  
Longley-Rice Irregular Terrain Model

SHVA Study

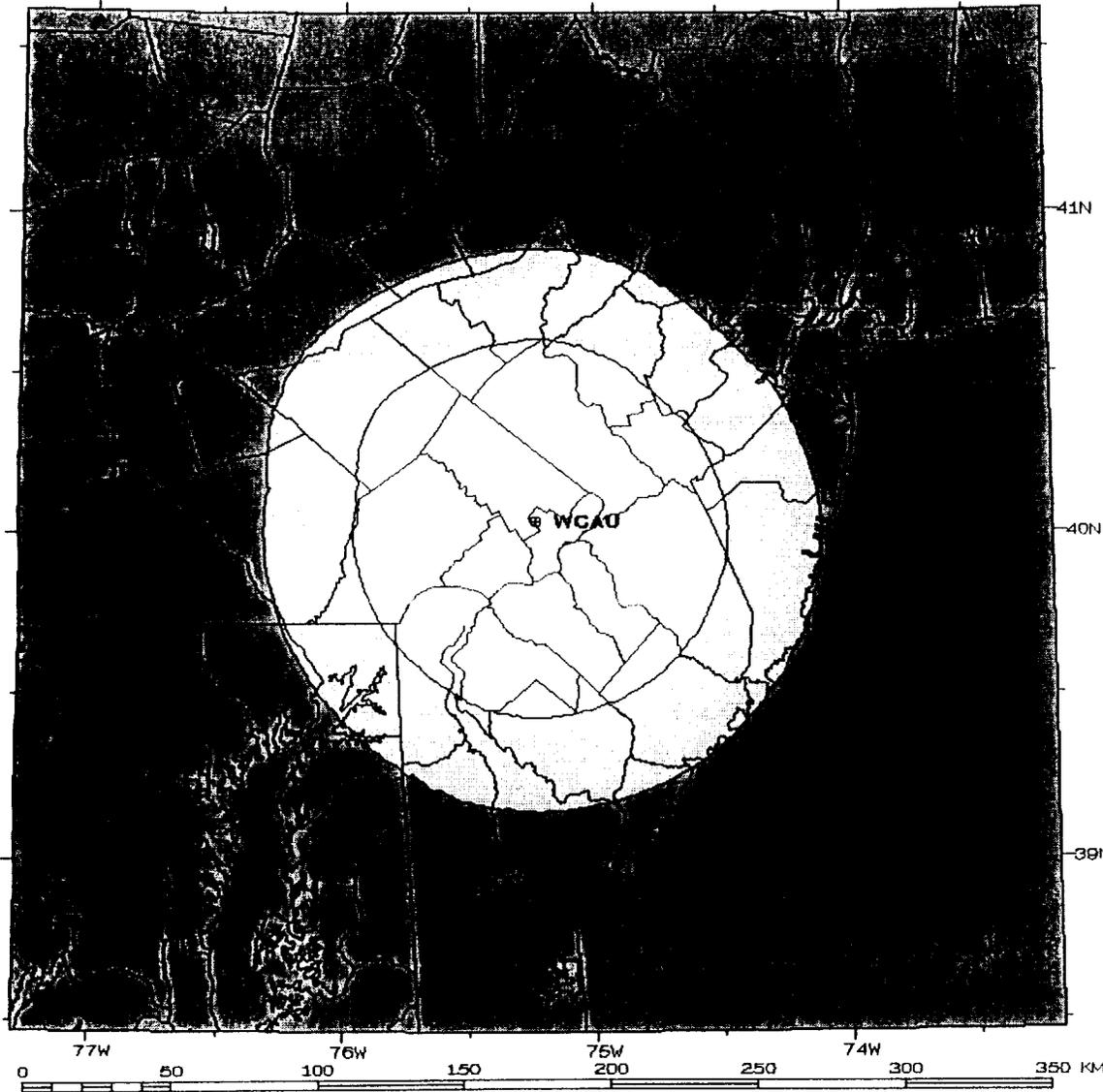
- Grade A  
Area: 28980. sq km  
Population: 8744000.  
Households: 2929000.
- ▨ Grade B  
Area: 9920. sq km  
Population: 484000.  
Households: 155000
- ▩ Less than grade B  
Area: 83690. sq km  
Population: 5795000.  
Households: 1896000.



Market 3  
Chicago  
WFLD/Channel 32  
Network: FOX  
Model: FCC Masking Longley-Rice

SHVA Study

- Grade A (FCC masking LR)  
Area: 14460. sq km  
Population: 8071000.  
Households: 2731000.
- ▨ Grade B (FCC masking LR)  
Area: 9570. sq km  
Population: 620000.  
Households: 181000.
- ▩ Less than Grade B (FCC masking LR)  
Area: 87030. sq km  
Population: 5628000.  
Households: 1841000.



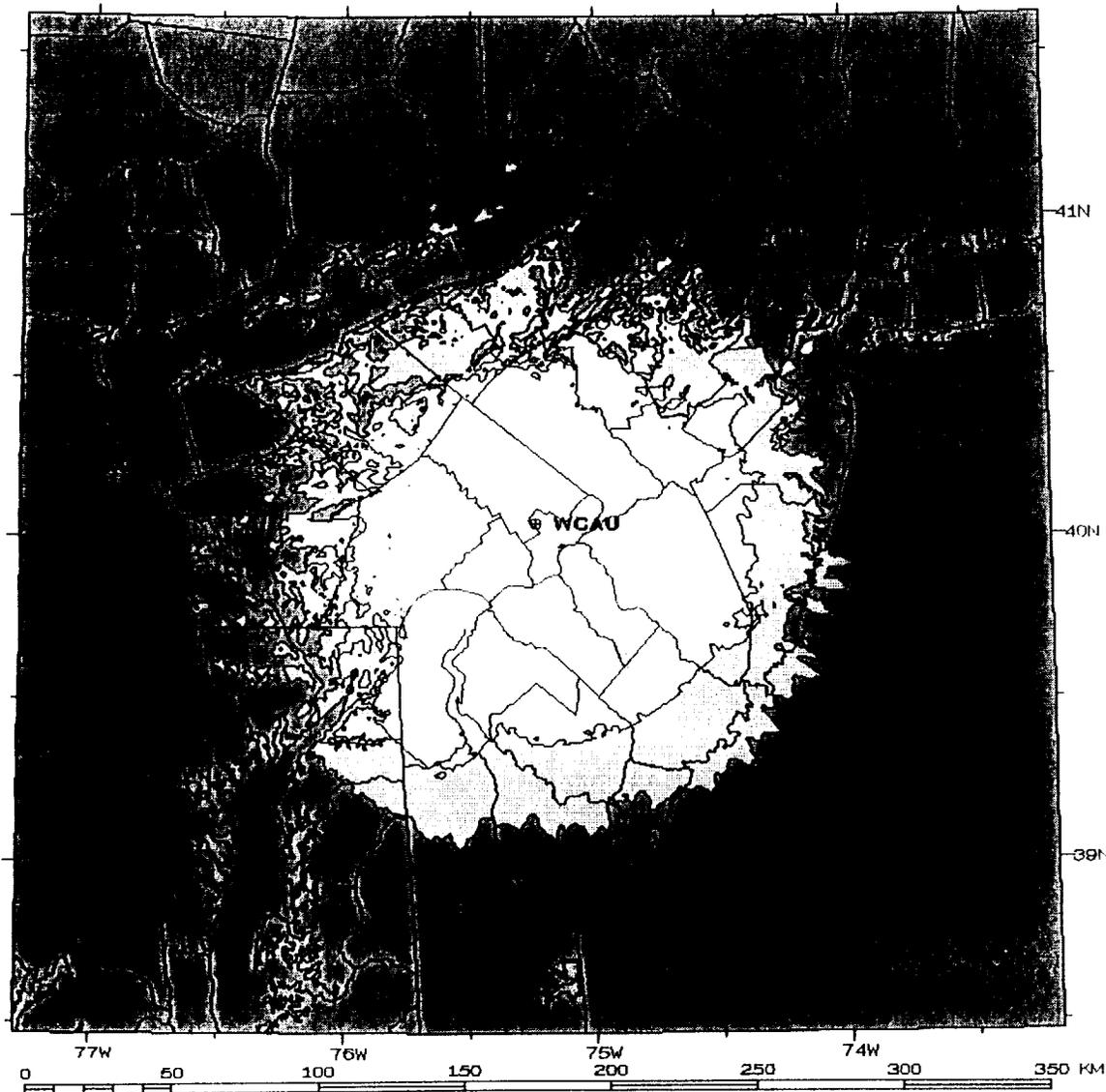
Market 4  
Philadelphia  
WCAU/Channel 10  
Network: NBC  
FCC Contour Model (Grade B - 50/50)

SHVA Study

□ Grade A  
Area: 12900 sq km  
Population: 6002000.  
Households: 2039000.

□ Grade B  
Area: 15790 sq km  
Population: 2674000.  
Households: 867000.

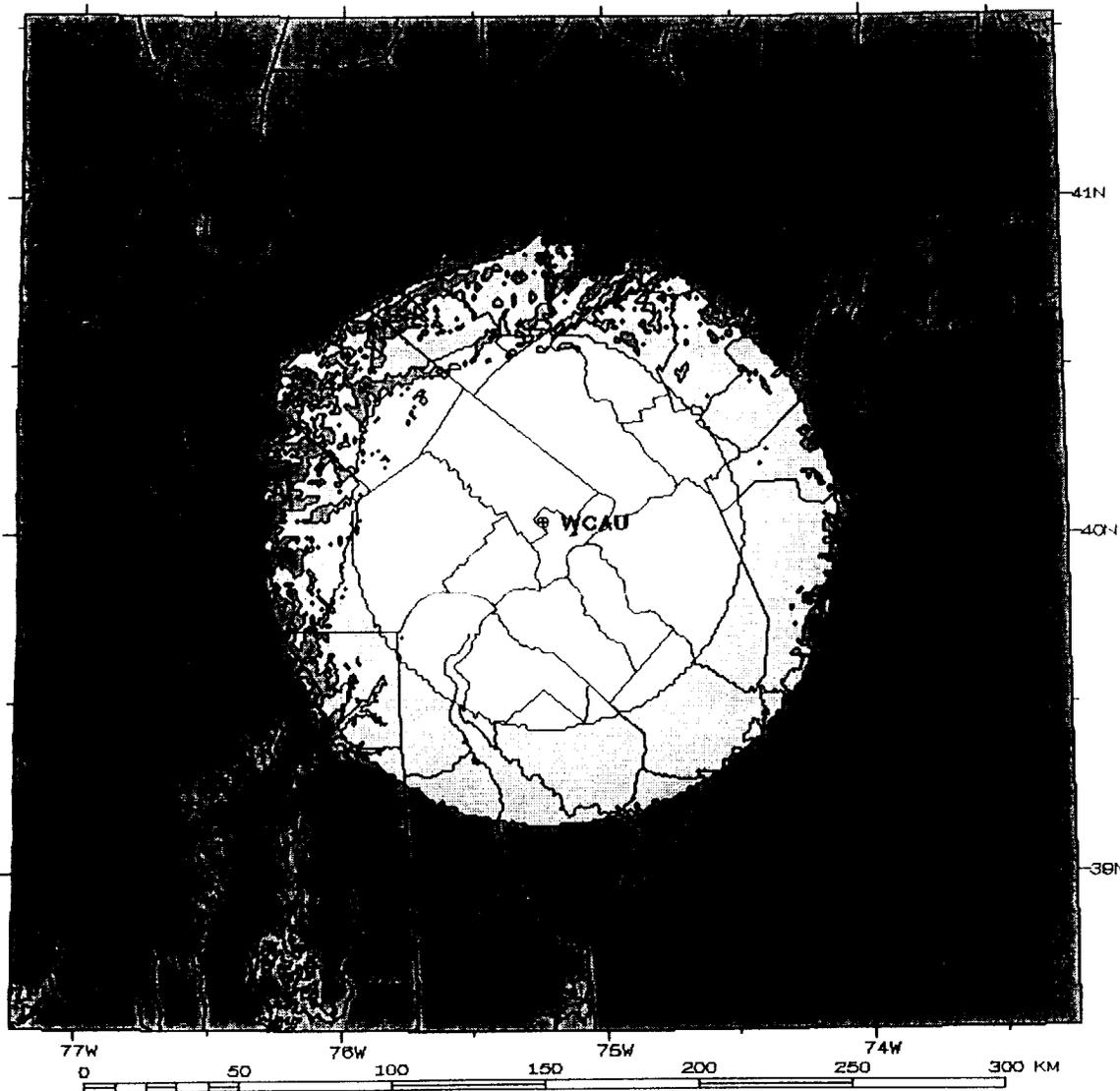
■ Less than grade B  
Area: 93500 sq km  
Population: 25018000.  
Households: 8684000.



Market 4  
Philadelphia  
WCAU/Channel 10  
Network: NBC  
Longley-Rice Irregular Terrain Model

SHVA Study

□	Grade A
	Area: 15780. sq km
	Population: 6235000.
	Households: 2103000.
■	Grade B
	Area: 12770. sq km
	Population: 2692000.
	Households: 825000.
■	Less than grade B
	Area: 83690. sq km
	Population: 24967000.
	Households: 8661000.



Market 4  
Philadelphia  
WCAU/Channel 10  
Network: NBC  
Model: FCC Masking Longley-Rice

SHVA Study

□ Grade A (FCC masking LR)  
Area: 12840. sq km  
Population: 5959000.  
Households: 2023000.

□ Grade B (FCC masking LR)  
Area: 12450. sq km  
Population: 2215000.  
Households: 667000.

▨ Less than Grade B (FCC masking LR)  
Area: 88000. sq km  
Population: 24860000.  
Households: 8652000.