

A REPORT ON THE RESULTS OF A TELEVISION WEATHER SURVEY

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ABSTRACT

A survey was developed and distributed to the weather departments of the three network-affiliated television stations in each of the top 40 United States markets. Responses were collected during February and March of 1981. The survey dealt with three general questions: (1) Who is responsible for putting together a television weathercast? (2) What are some of the most widely used descriptive sources of weather information? (3) What are the forecasting techniques employed by television meteorologists/ weathercasters? This paper is aimed at uncovering similarities and differences in television weather departments from the stations sampled. Results indicated an almost equal division between professional meteorologists and weathercasters; the professional meteorologists employed more sophisticated equipment to gather weather information; and professional meteorologists preferred to employ their own experience to modify forecasting guidance. One can conclude that the television weather field is continually changing for the better in terms of personnel, equipment, and forecasting techniques.

1. INTRODUCTION

In the early days of television, the need for weather information dissemination was realized as an important and profitable segment in news programs. At many television stations across the country the coordination of efforts between meteorologists and broadcasters has led to an excellent weather information source for the general public. It must also be noted that the lack of such an alliance may lead to an unprofessional look in weather reporting via the employment of clowns, puppeteers, and other gimmicks.

Weather has an impact on every phase of life. Therefore, the weathercast is an important factor in helping people decide upon many things including their type of dress, their day's activities, their food needs, and their mode of transportation. Who is responsible for putting together a television weathercast? What are some of the most widely used descriptive sources of weather information? What are the forecasting techniques employed by television meteorologists/ weathercasters? To answer these questions a study was undertaken and completed during the Spring of 1981 which was aimed at uncovering both similarities and differences in television weather departments from stations across the country. This survey dealt with personal attributes of the weathercasters, weather-related equipment, and forecasting procedures.

2. PREPARATION AND DISTRIBUTION OF SURVEY

While designing the questionnaire, questions were formulated in such a way as to insure that both meteorologists and broadcasters would be able to respond. The questionnaire consisted of three segments: (1) demographic characteristics of the on-air weathercasters, (2) equipment and technical hardware employed by the weather staff for on and off-air use, (3) methods and techniques of forecasting.

A list of television stations was prepared which included only the three network affiliates (ABC, CBS, NBC) in the top forty United States television markets. Market sizes and addresses were obtained from the Broadcasting Yearbook (1980) (2). It was assumed that each network affiliate station in the top forty markets would have a weather department that was somewhat autonomous from the news anchors and reporters.

An explanatory letter and a stamped return envelope accompanied each of the 120 surveys sent out on February 5, 1981 to the 120 affiliate stations across the nation. Seventy-four surveys were completed and returned soon enough to be useful to this study. This shows a good return rate of 62 percent. After the cut-off date of March 7, 1981 the available results were tabulated and compiled into separate categories and sub-categories.

(Editor's note: Figure 1 indicates a relative lack of representation of the Plains and Midwestern states, due to market size. These areas contain a major source of agricultural concerns. Perhaps a corollary study of these markets would be interesting).

3. ANALYSIS OF FINDINGS

The findings which are listed by segment in this analysis can be found in summary form in Table 1. It was shown from those stations responding that 186 persons work in the field of television weather, of whom 96 (52%) are professional meteorologists and 90 (48%) are broadcast journalists.

The analysis of the tabulated data for Segment One showed several unexpected results. The questions in this segment were developed to delve into the demographic

characteristics of the television station's weather staff. Male meteorologists make up 51 percent of the weather staffers; female meteorologists represent one percent of the total; 37 percent are male broadcasters; and female broadcasters account for the remaining 11 percent. Weathercasters are almost evenly divided between meteorologists and broadcasters and the difference in their average age is insignificant, amounting to only 0.65 years with broadcasters being the elder.

Higher education is also a dominant feature in Segment One. It was indicated that at least 62 percent of all the people working in weather have completed some college degree requirements or military training. All of the meteorologists hold at least a Bachelor of Science degree in meteorology or atmospheric sciences. Thirty-three stations (18%) noted that broadcasters employed on their weather staffs had taken, among other schooling, some college coursework in meteorology;

TABLE ONE: TELEVISION WEATHER SURVEY, (SAMPLE COPY AND SUMMARY)

SEGMENT 1. GENERAL CHARACTERISTICS OF THE WEATHER STAFF AND STATION:

- (a) How many (96 professional meteorologists, 90 broadcast journalists) does your station use for the weather portions of your newscasts?
- (b) What education have your meteorologists received? 53 BS degrees, 21 MS degrees, 5 PhD degrees, 22 Military training, 15 Other.
- (c) What is the average age of the meteorologists at your station 36.1, or broadcast journalists working on your weather staff 36.75?
- (d) How many 94 male meteorologists, 2 female meteorologists, 69 male broadcasters, 21 female broadcasters do you have working on your weather staff?
- (e) Approximately, how many minutes per newscast are utilized by weather? 3:23.
- (f) Are your meteorologists employed by 64 your television station or 3 a private weather consulting or forecasting firm?
- (g) Do your meteorologists also have radio weather commitments along with their television shows? 34 YES, 35 NO.
- (h) If your station uses broadcast journalists for weathercasts, have they had any college coursework related to meteorology? 33 YES, 18 NO.

SEGMENT 2. WEATHER INFORMATION HARDWARE:

- (a) Which teletype machine(s) does your weather staff use to gain weather information? 60 State Weather Wire, 33 Service "A", 15 Service "C", 27 AP, 28 UPI, 30 Other, (please specify).
- (b) Which facsimile machine(s) does your weather staff use to gain weather information? 56 NAFAX, 4 DIFAX, 4 Other.
- (c) Does your weather staff use satellite pictures during their weathercasts? 72 YES, 2 NO.
- (d) If the answer to 2(c) was YES, how does the weather staff receive their satellite pictures? 12 NAFAX, 1 DIFAX, 66 Other.
- (e) Does your weather staff have access to a meteorological radar scope? 60 YES, 11 NO.
- (f) If the answer to 2(e) was YES, can you please state the brand, color or black & white, and company name? Enterprise, RCA, Kavooras, etc.
- (g) Is your weather staff equipped with a computer? 21 YES, 51 NO.
- (h) If 2(g) was YES state briefly any special programs that the weather staff uses in the presentations: special graphics, maps, etc.
- (i) If 2(g) was YES please state most-often used language, type or brand name, and company: PLAIN, BASIC, GDOS, etc. Apple Computers.

SEGMENT 3. ASPECTS OF FORECASTING:

- (a) When forecasting, does your weather staff use: 48 National Weather Service Zone Forecasts, 53 NWS Prognosis, 49 Barotropic Model, 55 LFM, 32: Spectral, all available, etc. Other?
- (b) What forecasting methods are used most often by your weather staff? 12 Persistence, 14 Modified Continuity, 50 NWS Guidance, 60 experience, 15: combination of techniques Other.
- (c) Does your weather staff use upper air soundings from the nearest NWS (Radio-sonde-launching) Office? 34 YES, 36 NO.
- (d) If 3(c) was YES, are the soundings plotted on any preferred diagrams? 14 Pseudoadiabatic Chart, 2 Tephigram, 17 Skew T-Log P Diagram, 7: Air Force 50mb Chart, etc. Other.

PLEASE NOTE ANY COMMENTS YOU MIGHT HAVE ON THE BACK OF THIS SURVEY.

broadcasters at 18 (10%) other stations had not received any weather-related education.

When citing similarities in Segment One, the most noticeable congruence can be seen in the relationship between the number of meteorologists and broadcasters working in television weather. Meteorologists outnumber broadcasters by a scant four percent of the total, which may be a reversal from previous years. In a study completed almost two decades ago Booker (3) pointed to the many amateurs who presented weathercasts. As a result of their lack of professionalism, a great deal of emphasis was placed on entertainment rather than informational value. A 1970 report by Beebe (4) showed a steady increase in the number of professional meteorologists employed by television stations around the country. Since the top forty markets are all relatively large metropolitan areas, it may be safe to assume that this survey is indicating a continuing shift to the more scientific and professional approach to weather. This point may be supported by the relatively larger number of highly educated persons working in weather.

Findings from Segment Two of the survey reveal many of the same preferences with respect to what informational equipment a station's weather staff has and how the staff uses weather information for on-air presentations (5). Many stations have more than one teletype machine. By far, the most popular line, noted by 32 percent of the stations, is the state weather wire in each of their respective states. Also, affirmative responses were indicated by 42 percent of the stations acknowledging the use of Service "A", Service "C", National Weather Service 604 line, and/or a hook-up to a private consulting firm. Maps, charts, and other weather information may be gained through the use of the National Facsimile Circuit (NAFAX). The NAFAX circuit is used by 76 percent of the responding stations while the DIFAX circuit is employed by only three percent. The increasing use of AFOS, color graphics, computer data bases, colorized satellite imagery and colorized radar will alter these results considerably.

For example, satellite pictures are very popular and useful items for presentation purposes during weathercasts. Ninety-seven percent of the stations indicated that they use satellite photographs during weathercasts. The satellite images are obtained through various means including the NAFAX and DIFAX circuits plus the UPI Unifax II photo-receiver.

Recognized as one of the major tools of the meteorologist, the weather radar is widely used across the country. As of

early 1981, of 60 (32%) stations indicating access to a meteorological radar scope, 27 (15%) use a colorized Enterprise radar and 12 (6%) have the colorized National Weather Service SR-57 drop system.

The computer and its related graphics capabilities are well entrenched in the television weather field. Sixty-two percent of the 21 stations having computer capability have terminals linking them with private consulting firms. The remaining 38 percent have their own in-house systems. Of those with in-house computer systems, the Apple Computer seems to be the favorite. PLAIN and BASIC languages were noted as the most widely used.

Data tabulation in Segment Three shows a mixture of different forecasting techniques plus an almost even blend of information used in forecasting. From indications provided by the results of this segment, one can safely assume that broadcasters prefer to use and depend upon the National Weather Service Zone Forecasts while the meteorologists develop forecasts from a variety of sources. Booker (3) points out this fact by stating that the non-meteorologists obtain their nontechnical weather information through heavy reliance on some means of news service (teletype), whereas professional meteorologists draw upon the latest observational data and National Weather Service guidance to prepare their forecasts.

Meteorologists indicate through the findings of this survey that forecasting experience is used as much as or more than any other type of forecasting technique, followed closely by National Weather Service Guidance. These two techniques alone comprise 71 percent of the total response. The other 29 percent is splintered between many other techniques such as persistence and modified continuity. These results show a striking similarity among meteorologists in that they usually rely heavily upon experience and computerized forecasting techniques.

4. CONCLUSIONS

There are significant major trends, similarities, and differences that have appeared through tabulation of the results provided in this survey. Booker (3) found, through higher ratings, that the general public's attitude on weather favored professional meteorologists over broadcasters. Beebe's (4) study reported similar results via the ratings system. He also noted that the increase in spending for the respective weather departments in past years could be attributed to a larger push for the professional and technical look advocated by station managers, owners, and advertisers who want to get

TABLE TWO: TOP FORTY TELEVISION MARKETS IN THE UNITED STATES

The following list shows the top 40 United States television markets in order as of December, 1980. The market listings in this table correspond to the cities on the map in Figure One. The symbols placed next to the various cities in this table refer to the affiliates who returned their surveys for use in this study within the given time limit.

KEY: ABC=*, CBS=□, NBC=Δ

1. New York, New York:	Δ	20. Hartford/New Haven, Connecticut:	-
2. Los Angeles, California:	□	21. Denver, Colorado:	*
3. Chicago, Illinois:	□, Δ	22. Indianapolis, Indiana:	-
4. Philadelphia, Pennsylvania:	*, □, Δ	23. Sacramento, California:	□, Δ
5. San Francisco, California:	*, □	24. Portland, Oregon:	*, □, Δ
6. Boston, Massachusetts:	□, Δ	25. San Diego, California:	□
7. Detroit, Michigan:	*, □, Δ	26. Milwaukee, Wisconsin:	□, Δ
8. Washington, D. C.:	*, Δ	27. Kansas City, Missouri:	*, Δ
9. Cleveland, Ohio:	*	28. Cincinnati, Ohio:	□
10. Dallas/Fort Worth, Texas:	□, Δ	29. Buffalo, New York:	*, □, Δ
11. Pittsburgh, Pennsylvania:	Δ	30. Nashville, Tennessee:	*
12. Houston, Texas:	*	31. Phoenix, Arizona:	*, Δ
13. Minneapolis/Saint Paul, Minnesota:	□, Δ	32. Charlotte, North Carolina:	-
14. Saint Louis, Missouri:	*, □, Δ	33. Memphis, Tennessee:	*, □, Δ
15. Miami, Florida:	*, □, Δ	34. New Orleans, Louisiana:	*
16. Atlanta, Georgia:	□, Δ	35. Columbus, Ohio:	□, Δ
17. Seattle, Washington:	*, □, Δ	36. Greenville, South Carolina:	□
18. Tampa, Florida:	*, □, Δ	37. Grand Rapids, Michigan:	*, Δ
19. Baltimore, Maryland:	*, □, Δ	38. Providence, Rhode Island:	□, Δ
		39. Oklahoma City, Oklahoma:	*, Δ
		40. Orlando, Florida:	*, □, Δ

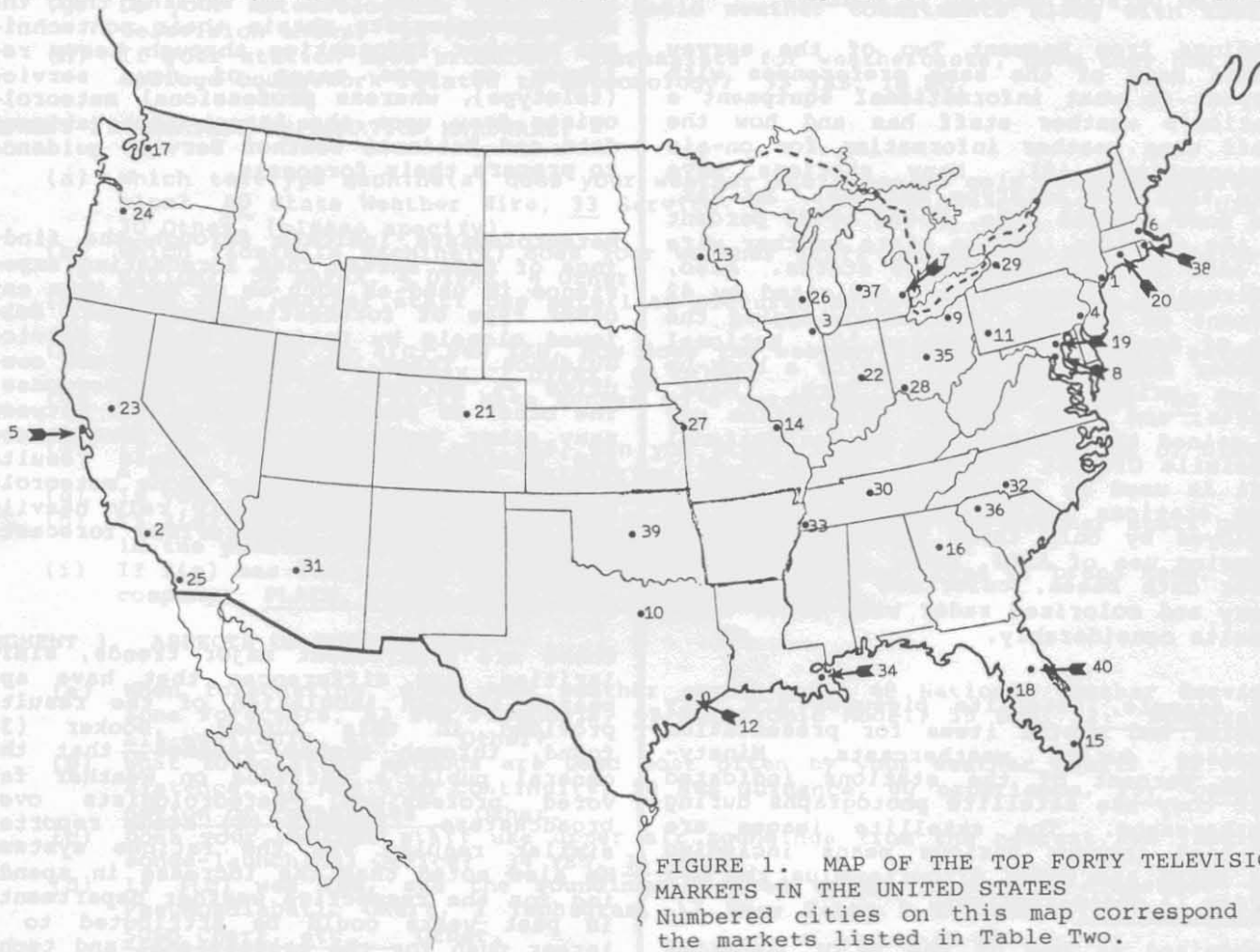


FIGURE 1. MAP OF THE TOP FORTY TELEVISION MARKETS IN THE UNITED STATES
Numbered cities on this map correspond to the markets listed in Table Two.

the most for their money. This study indicates that this tendency has continued through the 1970's. One major trend shown in this study is the noticeable continuing upswing of well-educated meteorologists engaged in television presentations. For the most part, these new faces are bringing a serious, professional, and dedicated look to weather. Furthermore, the results indicate that through various means, these meteorologists are receiving and putting to use more information than was previously available to television stations. This trend may be expected to continue in the next several years as computers become less expensive.

A good knowledge of meteorology is essential for all professional meteorologists working in television weather. However, other persons involved in television may feel that the most important attribute of a meteorologist is his or her on-air presentation ability.

This same idea was brought up by a meteorologist (survey returned unsigned) at KBTB in Denver, CO. The individual noted in a comment, "On television weather, communication is as important as the forecast. I strongly suggest that all television weathermen, whether they are professional (meteorologists) or broadcast journalists, understand how to best communicate the forecast to the viewing audience. It's my opinion that one of the greatest shortcomings of professional meteorologists is they do not present the forecast in an effective method."

In summation, whether there is a broadcaster or meteorologist presenting a weathercast, it should be given at a very

basic level but with a serious and professional demeanor. Hopefully, the weathercast and the forecast will be presented in such a manner that the audience remains well informed of the present and future weather situations.

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REFERENCES AND FOOTNOTES

1. Jeffrey Alan Lazalier obtained his B.S. in meteorology at the University of Oklahoma in December, 1981. This survey and the associated report was part of the requirements for an independent study course entitled "Special Problems in Meteorology." The author's main interests in weather lie in the field of television weathercasting.
2. Taishoff, S., 1980: Broadcasting Yearbook, 1980. Broadcasting Publications, Inc., B-87--B-139.
3. Booker, D. R., 1962: A Comparison of Program Ratings of Professional and Non-professional Weathercasters. Bull. Amer. Meteor. Soc., 43, 223-228.
4. Beebe, R. G., 1970: TV Weathercaster Ratings--Professional vs. Nonprofessional. Bull. Amer. Meteor. Soc., 51, 399-401.

Television and media broadcasters interested in obtaining certification from the NWA should contact:

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