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# A LOOK AT THE TIME TAKEN BY METEOROLOGICAL INTERNS TO COMPLETE COURSES IN THE INTERN TRAINING PROGRAM

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## 1. INTRODUCTION

This study was undertaken to determine the rate at which Meteorological Interns within the National Weather Service's Eastern Region were completing various courses in the intern training program. The intent was not necessarily to compare the length of time it took an intern to complete a specific training goal be it certification in the surface observation program or completing the in-house radar course, but rather to compare the rate at which an intern progresses from one training course to another.

The reason for not investigating the time it took each intern to complete a specific course was because the station requirements at locations where interns were assigned dictated the order in which the training was completed. For example, most Weather Service Offices where interns are assigned have surface observation responsibilities but do not have upper air, network or local radar responsibilities. In such cases, the trainee's first requirement was to become certified in surface/synoptic observations. Some offices have interns but do not have a surface observation program. Such offices may, however, have a radar program and/or an upper air program. Interns at such locations initially concentrate on becoming certified in the programs for which they can provide much needed shift help.

Subsequent courses for interns are also taken in the order that meet the operational needs of the station. Usually, the Local Supervisor directs the intern through the training program in an order that will make the intern capable of carrying a full operational load in the shortest timespan.

This study provides background on the present Eastern Region intern training program and rationale for suggesting a timeframe during which interns should complete all required courses. A discussion of results and subsequent conclusions, are given to provide a complete picture of the current training program for interns within the Eastern Region.

## 2. BACKGROUND

During the mid-1960s the National Weather Service established the current Weather Service Forecast (WSFO) and Weather Service Office (WSO) field structure. During the immediate-years prior to this reorganization, new hire meteorolgoists were brought into Weather Bureau offices and worked alongside meteorological technicians performing observing, briefing and local forecast functions. Once the WSFO concept was in place, meteorological interns were no longer assigned to WSOs.

In 1974, the National Weather Service developed a general training plan for new hire meteorologists. During the ensuing 11-years, new field meteorologists were brought primarily into the WSFOs. If the WSFO was located at an airport, the new meteorologists received some experience in the surface observation program during the course of the training period. Since many WSFOs do not have observation programs (surface, upper air, radar), the basic training received by interns at WSFOs was not as diversified as those who came before 1974, or those who began with the NWS after 1985.

The formal framework for the training courses required of today's meteorological interns was developed by Eastern Region Headquarters in 1976. This "Meteorological Intern Training Program" provided a blueprint for field interns to follow while developing their new skills. The goals of the 1976 training program were to perpetuate the educational momentum the interns acquired in college and to devlop well-trained meteorologists who could step into operational forecast positions or other key meteorological jobs. Table 1 gives the segments of the 1976 Training Plan and the order in which the training was to be completed. By 1980, the requirement for taking a university/training course had been dropped. In its place, the "Clear Weather Writing" and "NOAA Weather Radio Broadcaster" courses were added.

In 1982 (OML 7-82), the NWS changed its hiring policy slightly so that college trained meteorologists interested in employment with the National Weather Service were encouraged to seek certification on Office of Personnel Managment registers for Weather Service Specialists. Meteorologists hired in this manner funtioned much the same as the meteorological technicians. Their on-the-job training requirements were then no different than newly hired met techs.

The current practice of hiring new meteorologists in lieu of meteorological technicians began in 1985. This was brought about by the National Weather Service's projection of personnel needs required for the modernization and restructuring of the organization in the 1990s. The blueprint for the new Meteorological Intern program was provided in 1986 (OML 1-86).

This OML provides interns with a rough outline as to what is expected in the way of training. It calls for:

1. on-station training which can be divided into the following:

a. Certification in the surface observation program; the upper air program (if assigned to the local office); pilot weather briefing, and radar.

b. Completing the following NWS Correspondence Courses: Hydrology, Clear Weather Writing, NOAA Weather Radio, and Warning, A Call To Action.

c. Completing the following modules (provided by the National Weather Service Training Center (NWSTC) in Kansas City) as pre-requisites to the resident Forecaster Development Course (FDC): Introduction to the NWS, NWS Directives System, Training Guide for AFOS Operations, I, The Skew T, Log P Diagram, Radar Basics for FDC, Aviation Terminal Forecast, TWEB, Beginning Doppler Principles for NEXRAD.

2. the 3-week, formal FDC at the Training Center,

3. post-resident training modules provided by the NWSTC and administered on station.

## 3. DISCUSSION

This study centers on items 1a, 1b, and 2 that were mentioned in Section 2. The first intern hired under the intern training program covered by this report came into the Eastern Region in April 1985. Between that date and June 1989, 60 interns were hired by the Eastern Region.

By a landslide, the first course completed by 46 of the 60 interns was certification in the surface observation program. Other initial courses taken by the remaining 14 interns were divided among the in-house radar course, Pilot Weather Briefing Certification and the NOAA Weather Radio course. Figure 1 shows the distribution of first courses completed by the 60 interns.

Of interest is the length of time it took each intern to complete his/her first course. Most completed their first training assignment during their second month on the job. This timeframe, however, varied from just 1 month to 7 months.

Table 2 gives details on the courses that have been completed by the 60 interns covered by this study. Pilot Weather Briefing was the second course taken by the majority of interns. This follows along the lines of responsibility assigned to most WSOs (i.e., surface observations and local pilot weather briefing). While stations with radar network or local use radar placed high importance on becoming certified to take radar observations via the in-house radar course, interns at other offices delayed taking this course. If we eliminate the network and local radar stations, we quickly see the radar course as being the least popular course. It is speculated that interns delayed taking this

course because fellow staff members (including supervisors) told them it was a difficult course. One reason for this course's unpopularity is its strong emphasis on radar theory.

Of the 60 interns included in this study, 12 have completed all courses. The median time in months that it took these interns to complete the required training was 20 months. This is very close to being in line with the 2-year timeframe anticipated by the National Weather Service Training Center. However, if we go back 20 months from June 1989 and take a look at the number of interns who potentially could have completed this list of courses we see a different picture. Forty interns entered Eastern Region assignments prior to November 1987. Of this number, only 11 had completed all seven courses discussed here as of November 1989.

With the inception of the 1985 version of the Intern Training Program, it was hoped new interns would be able to attend the Forecaster Development course during their first year in the NWS. Short staffing at WSOs prevented this from becoming a reality. Of the 60 interns included in this study, 38 had completed the Forecaster Development Course in Kansas City. The median month after becoming an intern in which these interns took the FDC was 16. The range was from 5 months to 32 months.

Prior to attending the FDC, each intern had to complete several Remote Training Modules. These RTMs included: The Skew T, Log P Diagram; Radar Basics for FDC; Aviation Terminal Forecast; TWEB; and Beginning Doppler Principles for NEXRAD.

## 4. SUMMARY

Anyway that you look at it, Meteorological Interns who have entered the National Weather Service since April 1985 have been very busy employees. Not only have they had to complete many training requirements, but they have also been expected to stand shift alone often as soon as 1 month after entering the NWS.

A lot is expected of this new generation of meteorologists, but there have been few disappointments. This study does, however, indicate supervisors could do a better job monitoring the training progress of interns. In turn, interns should be more attentive in completing the assigned training. Every 3 months, interns are expected to provide the Eastern Region Director with summary updates on their training and "professional" progress. This is an excellent time for all supervisors to review each intern's training progress and to map out a strategy for the ensuing 3 months.

Additional intern training guidance will soon be available to interns and supervisors within the Eastern Region. A Regional Operations Manual Letter has been prepared and will become available early in 1990.

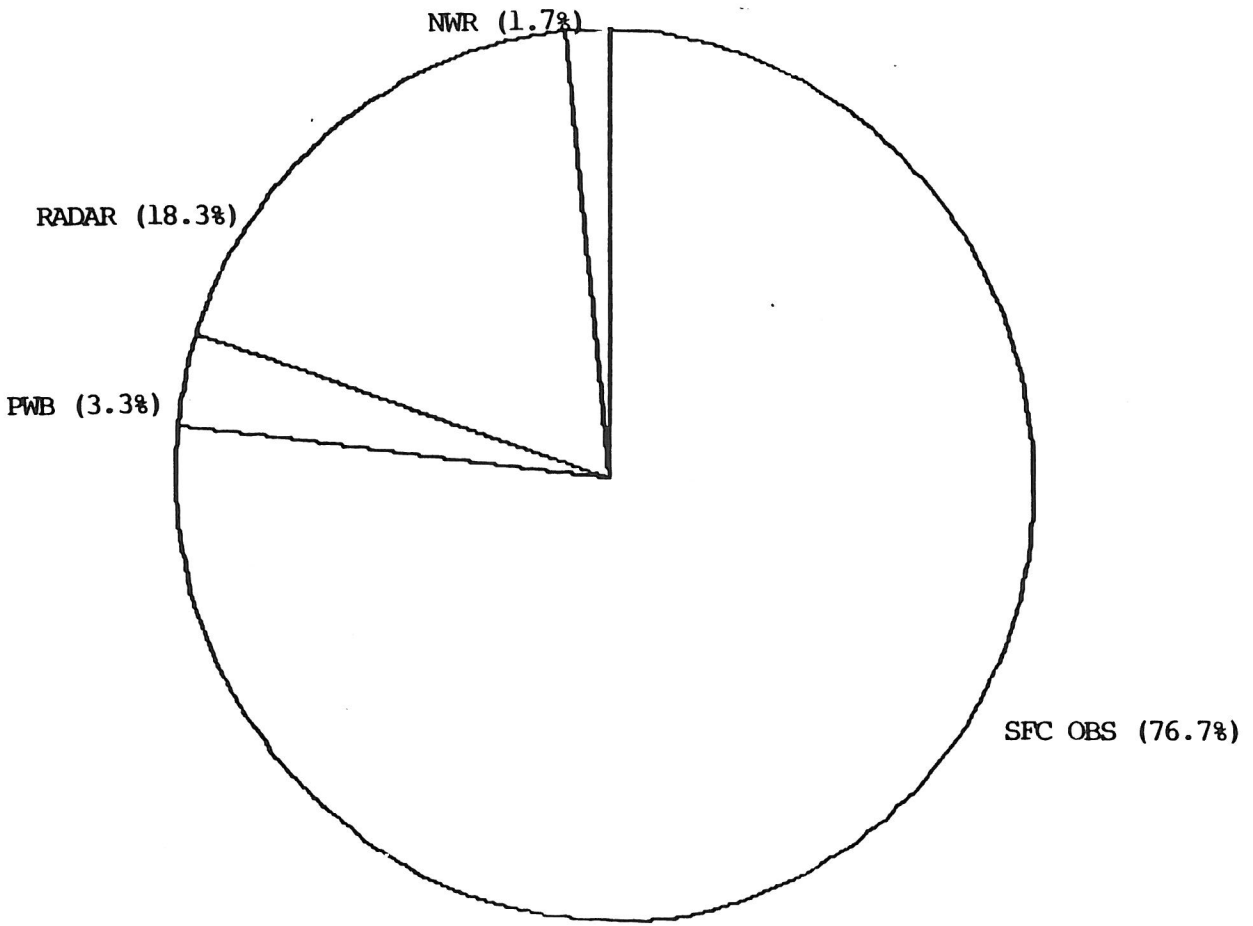
## 5. REFERENCES

National Weather Service, 1976: Meteorological Intern Training Plan. NWS Eastern Region. National Oceanic and Atmospheric Administration, U.S. Department of Commerce, 18pp.

National Weather Service, 1982: Placement and Career Progression of Meteorologists at WSO's. NWS Operational Manual Letter 7-82, National Oceanic and Atmospheric Administration, U. S. Department of Commerce, 3pp.

National Weather Service, 1986: Forecaster Development Plan. NWS Operational Manual Letter 1-86, National Oceanic and Atmospheric Administration, U. S. Department of Commerce, 12 pp.

FIGURE 1 FIRST TRAINING COURSE COMPLETED BY METEOROLOGICAL INTERNS




No. Interns 60
Median(months) 2
Range(months) 1-7

TABLE 1. CHRONOLOGY OF ASSIGNMENTS CONTAINED IN THE 1976 EASTERN REGION METEOROLOGICAL INTERN TRAINING PROGRAM

| | | |
|---|---|---|
| 1. | Orientation | 1st Week |
| 2. | Communications | 1st-3rd Weeks |
| 3. | Surface Observer Training | 1st-6th Weeks |
| 4. | Aviation Weather Observer Exam | 6th Week |
| 5. | Synoptic Weather Observer Exam | 6th Week |
| 6. | WSS Shifts with close supervision | 2nd-12th Weeks |
| 7. | Pilot Weather Briefer Course | 2nd-3rd Months |
| 8. | Pilot Weather Briefer Exam | 13th Week |
| 9. | Early Progress Report | 4th Month |
| 10. | WSS Shifts (50% decreasing to 10%) | 4th-24th Months |
| 11. | Forecaster Understudy Shifts (desired goal - 30% increasing to 90%) | 6th-24th Months |
| 12. | Met Intern Forecaster Training | 6th-24th Months |
| 13. | Familiarization Flights | 6th-24th Months |
| 14. | In-House Radar Course | 7th-9th Months |
| 15. | In-House Radar Exam | 10th Month |
| 16. | Intermediate Progress Report | 9th Month |
| 17. | In-House Hydrologic Service Course | 12th-15th Months |
| 18. | Part-time University/Correspondence Course | 13th-24th Months |
| 19. | Warning - A Call to Action | 15th-18th Months |
| 20. | Intermediate Progress Report | 16th Month |
| 21. | Details to Other Stations | 7th-24th Months |
| 22. | Final Progress Report | 24th Month |
| 23. | Graduation - Presentation of Training Certificates | 24th Month |

TABLE 2. DISTRIBUTION OF COURSES COMPLETED BY EASTERN REGION INTERNS BETWEEN APRIL 1985 AND JUNE 1989

| COURSE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | TOTAL |
|---|---|---|---|---|---|---|---|---|
| Surface Obs | 46 | 4 | 1 | 1 | | 1 | | 53 |
| Pilot Wx Briefing | 2 | 28 | 7 | 1 | | 4 | 1 | 43 |
| Radar | 11 | 11 | 5 | 1 | 4 | 1 | 1 | 34 |
| Hydrology | | 3 | 6 | 5 | 5 | 9 | 6 | 34 |
| NOAA Wx Radio | 1 | 1 | 10 | 15 | 8 | 2 | 2 | 39 |
| Clear Wx Writing | | 4 | 10 | 10 | 11 | 5 | 1 | 41 |
| Warning, A Call To Action | | 1 | 8 | 9 | 10 | 7 | 1 | 36 |
| TOTAL | 60 | 52 | 47 | 42 | 38 | 29 | 12 | |
| Median (Months) | 2 | 6 | 12 | 15 | 17 | 19 | 20 | |
| Range (Months) | 1-7 | 2-19 | 4-26 | 4-27 | 6-35 | 9-39 | 15-41 | |