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Climatological Study to Determine the Impact of Icing on the Low Level Windshear Alert System

VOLUME II: Statistics

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16. Abstract <p>The climatological study was performed to determine the impact of icing on the performance of the Low Level Windshear Alert System (LLWAS).</p> <p>This report presents the icing statistical profile in the form of data tables and histograms of 106 LLWAS sites. The icing statistical data were derived using freezing rain and freezing drizzle hourly reports obtained from the National Climatic Data Center magnetic tape records. The meteorological data cover a 24-year history of the time period between January 1, 1965 to December 31, 1988. The statistics include: icing reports and duration (actual time of freezing precipitation in hours), glazing duration (an extension of freezing weather following precipitation up to a 48 hour limit), freezing duration (combination of both icing and glazing with and without weighting). Also presented is the ranking of all LLWAS sites based on the above listed parameter combinations including a contour map showing icing intensity of all site locations. Finally, the extent of the freezing effect on windshear sensors is demonstrated by using a graph from field test measurements collected during a period of light freezing rain.</p>					
17. Key Words Low Level Windshear Alert System (LLWAS); Icing; Glazing; Freezing; Anemometer; Icing Severity Ranking; 24-year Icing Statistics; Icing Contour Map; Duration of Freezeup; LLWAS Site Icing and Freezing Statistics; LLWAS Site Ranking.				18. Distribution Statement DOCUMENT IS AVAILABLE TO THE PUBLIC THROUGH THE NATIONAL TECHNICAL INFORMATION SERVICE, SPRINGFIELD, VIRGINIA 22161	
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APPENDIX A

DRAFT PROGRAM PLAN FOR CLIMATOLOGICAL DATA STUDY

JANUARY 1989

A.1 INTRODUCTION

A.1.1 Background

Two types of wind sensors (anemometers) are presently being used by the FAA in the Low Level Windshear Advisory System (LLWAS) program. They are the Belfort (Loral LLWAS), Model N-5-122, 6-bladed propeller/vane analog sensors, internally heated, and the R.M. Young (Climatronics LLWAS) Climatronics, Model 101679, propeller/vane analog sensor, heated with heat lamps. Both sensors suffer from degraded performance under icing conditions and have high maintenance requirements. The proposed future expansion of the LLWAS predicts almost a doubling of the present number of sensors in the field. The FAA is reviewing the LLWAS program for the purpose of selecting an icing-resistant, low maintenance sensor design which can continue to operate effectively under severe icing conditions and can be retrofitted into the existing LLWAS systems with a minimum of impact.

A.1.2 Objective

The objectives of this study are:

1. To use airport hourly climatological data report statistics to provide a statistical profile of icing and freezing precipitation events for the 110 airports in the CONUS which have been or will be equipped with the LLWAS system.
2. To augment statistical data with field reports when available from the LLWAS sites; and
3. To generate a climatological database and develop a criterion for the selection of locations for LLWAS retrofits.

A.1.3 Study Approach

In this study, two meteorological elements are considered of prime importance upon which all other supplemental data are generated - freezing rain and freezing drizzle. Supplemental factors, such as wind speed, temperature, etc., will be recorded only for the prime events and will be added in parallel to form a

complete data file as a minimum requirement. Additional climatological data will be analyzed, such as snow and sleet, if required.

Events of the primary elements will be subdivided by their reported intensity levels. The three intensity levels are: heavy (H), moderate (M), and light (L) and are discussed in the following sections.

Each site will be provided with its characteristic data set consisting of suitable data tables, histograms, etc., covering the total observation time span of 24 years beginning with January 1, 1965 and ending with December 31, 1988. (See Appendix I for details relating to data availability, formatting, and acquisition.)

A map of the geographic distribution of the FAA LLWAS sites is shown in Figure A-1. This map provides some insight on climatological variation when temperature and precipitation data are compared at the various LLWAS site locations. The map will be used in the development of selection and deployment criteria for the anemometer retrofit. Two summary tables, listing all LLWAS sites alphabetically and their distribution by State, are presented in Appendix II.

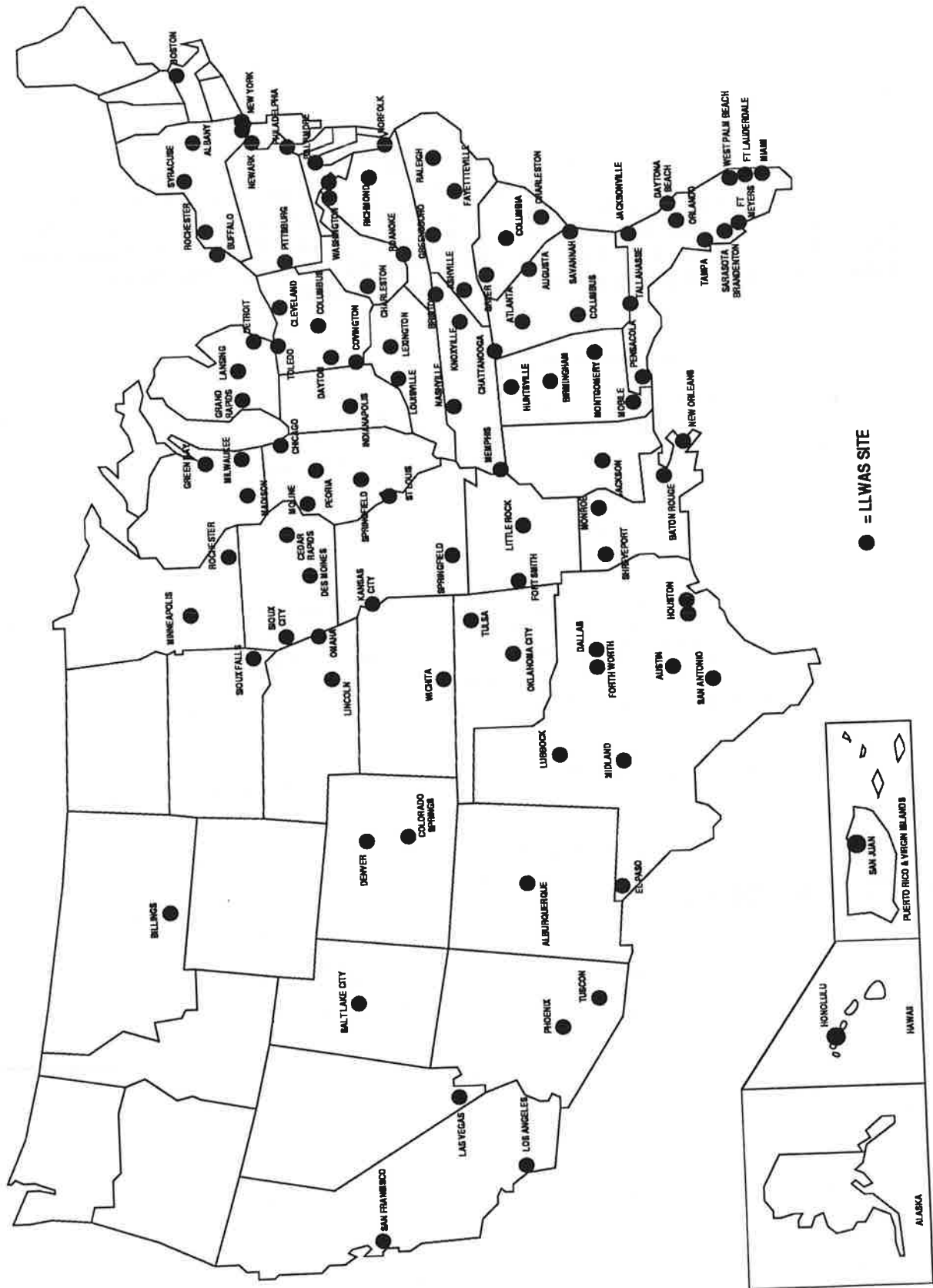


FIGURE A-1. LLWS SITE LOCATIONS

A.2 MAGNETIC TAPE DATA REDUCTION AND PRESENTATION

A.2.1 Data Source

Specific climatological data used in the study is reported in the published document entitled "Surface Airways Hourly," TD-3280, prepared by the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Satellite Data and Information Service, National Climatic Data Center (NCDC), Asheville, North Carolina. The climatological data used for this study are in the NCDC library tapes. Some tapes contain three hour observations prior to 1981 and all other one hour observations beginning with August 1, 1981.

A.2.2 Data Reduction Facilities

All magnetic tapes will be reduced using the TSC Surveillance and Sensors Division's Microvax II, DEC computer and the GCR Cache Tape Drive. Data reduction will be performed at TSC.

A.2.3 Formation of Data File

A.2.3.1 Meteorological Elements - The two critical meteorological elements selected for the data file are freezing rain and freezing drizzle. Climatological data for both elements will be segregated by their intensities as defined in the NCDC document TD-3280, "Surface Airways Hourly" and are shown below in Table A-1.

TABLE A-1. INTENSITY LEVELS FOR FREEZING RAIN AND DRIZZLE

ELEMENT	INTENSITY	TAPE FIELD	CODE
<u>FREEZING RAIN</u>	Heavy - >.31 in./hr.	003	28
	Moderate - .11 to .30 in./hr.		
	Light - trace to .10 in./hr.		
<u>FREEZING DRIZZLE</u>	Heavy ->.02 in./hr.	003	38
	Moderate ->.01 to .02 in./hr.		
	Light - trace to .01 in./hr.		

The supporting meteorological elements which enhance the prime data are: wind speed, temperature and perhaps sleet as recorded under the codes: WD16 (16 Pt WBAN Code without wind direction); TMTD (dry bulb air temperature in whole degrees fahrenheit); and snow and sleet codes 40-48, 50-58, and 60-68, respectively.

A.2.3.2 Critical Element Event Data Reports - Data reports of the prime meteorological events, freezing rain and drizzle, will be extracted by scanning magnetic tape fields as described in Appendix I. Tape field 003 will identify an event and 013 will be its value as reported in positions 036-040. Its observation time will be reported in positions 031-034. There are three types of data to be extracted: single event yearly summaries; joint event yearly summaries; and extended joint event statistics as discussed below.

Single Event (hourly report): A single event is an hourly report of freezing rain or freezing drizzle, of either 8 or 24 observations per day, as applicable. Events are further segregated into three groups based on their intensity levels: heavy, moderate, or light.

Joint Event (icing duration): A joint event disregards first intensity levels and combines freezing rain and freezing drizzle conditions and treats all events together as a single joint event. This means that no distinction is made among intensity levels - heavy, moderate, light, or between elements.

Extended Joint Event (freezing duration): An extended joint event is created by adding glazing duration to a reported joint event, for a period of up to two days (48 hrs.) or a new event begins, as long as the temperature remains at the freezing level, 32°F, or below.

A.2.3.3 Supplemental Element Event Data Reports - For each single or joint event recorded, the supplemental event values (wind speed and temperature) are also recorded in parallel with freezing rain and freezing drizzle reports. In addition, there is an exception for joint events where temperature values are recorded beyond the duration of the joint event or after the event is over. The additional temperature recording will continue as long as freezing conditions persist up to a 48 hour limit. This accumulated event is then defined as an extended joint event or freezing duration.

A.2.4 Climatological Data Presentation

The following sets of summary data will be generated for LLWAS sites:

1. Figure A-2 provides yearly summaries of hourly reports for the prime meteorological elements based on their intensity levels for each site. Table A-2 will provide supplemental element values.
2. Table A-3 provides joint event yearly summaries for each site.
3. Table A-4 provides extended joint event (freezing duration) yearly summaries for each site.
4. Figure A-3 provides histograms for each site in terms of yearly averages, based on the 24 year observation period for each site.
5. Figure A-4 provides histograms in terms of the total number of six prime events over the 23 year period by ranking all the LLWAS stations under study.
6. Figure A-5 provides histograms in terms of average length of joint events per year over the 24 year period by ranking all the LLWAS stations under study.
7. Table A-5 provides airport rankings for all 106 LLWAS sites based on icing severity conditions and developed location selection criterion.

DULLES INTERNATIONAL, DC
 ICING REPORTS 1965-1988

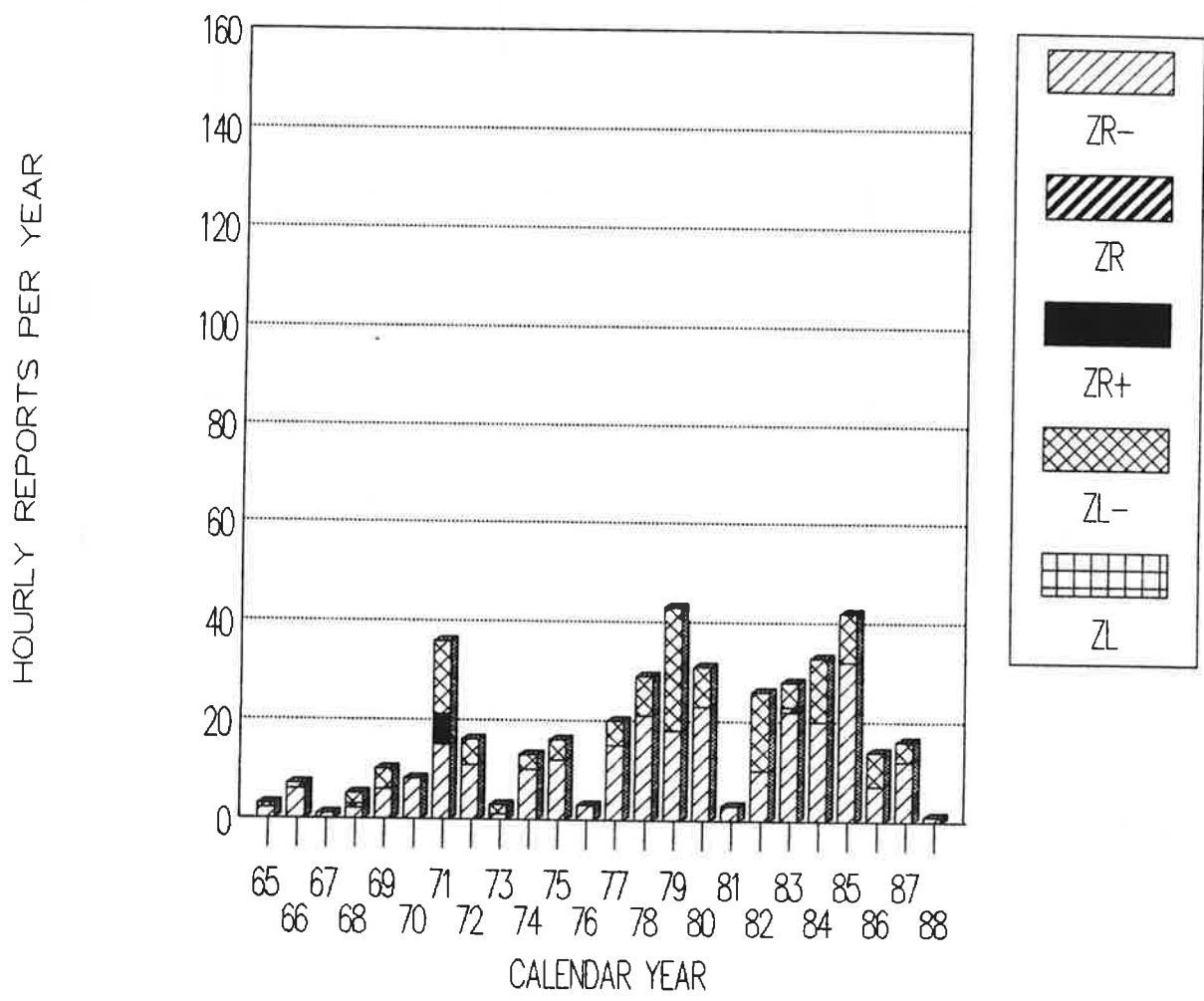


FIGURE A-2. SAMPLE FREEZING RAIN/DRIZZLE YEARLY SUMMARIES

TABLE A-2. SAMPLE FREEZING RAIN/DRIZZLE SINGLE
EVENT YEARLY SUMMARIES

ALBUQUERQUE INTERNATIONAL AIRPORT

YEAR	EVENT NUMBER	EVENT INTENSITY			TEMPERATURE* (°F)	WIND SPEED** (Knots)
		HEAVY	MEDIUM	LIGHT		
1965	1	x			28	3
	2		x		27	7
	3			x	30	0
	4					
	↓	↓	↓	↓	↓	↓
TOTAL	135	15	75	45	27 AVG	6 AVG



1988	1	x			32	0
	2		x		30	3
	3			x	26	8
	4					
	↓	↓	↓	↓	↓	↓
TOTAL	205	45	90	70	28 AVG	7 AVG

*Absolute temperature during event interval.
**Absolute wind speed during event interval.

TABLE A-3. SAMPLE JOINT EVENT YEARLY SUMMARIES

ALBUQUERQUE INTERNATIONAL AIRPORT

YEAR	NUMBER OF JOINT EVENTS	LENGTH OF JOINT EVENTS (Hrs.)	AVERAGE TEMPERATURE (°F)	AVERAGE WIND (Knots)
1965	1	27	31	2
	2	81	16	5
	3	7	23	17
	4	2	28	9
	↓	↓	↓	↓
TOTAL	32	26 AVG.	27 AVG.	6 AVG.

↓

1988	1	72	9	14
	2	3	12	6
	3	7	30	1
	↓	↓	↓	↓
TOTAL	41	30 AVG.	26 AVG.	4 AVG.

TABLE A-4. SAMPLE EXTENDED JOINT EVENT YEARLY SUMMARIES

ALBUQUERQUE INTERNATIONAL AIRPORT

YEAR	NUMBER OF JOINT EVENTS	LENGTH OF JOINT EVENTS (Hrs.)	LENGTH OF EXTENDED JOINT EVENTS (Hrs.)	AVERAGE TEMPERATURE OF EXTENDED JOINT EVENT (°F)
1965	1	27	56	30
	2	81	81	23
	3	7	32	28
	4	2	7	16
	↓	↓	↓	↓
TOTAL	32	26 AVG.	43 AVG.	27 AVG.

↓

1988	1	72	149	7
	2	3	16	16
	3	7	20	23
	↓	↓	↓	↓
TOTAL	41	30 AVG.	52 AVG.	30 AVG.

ALBUQUERQUE INTERNATIONAL AIRPORT

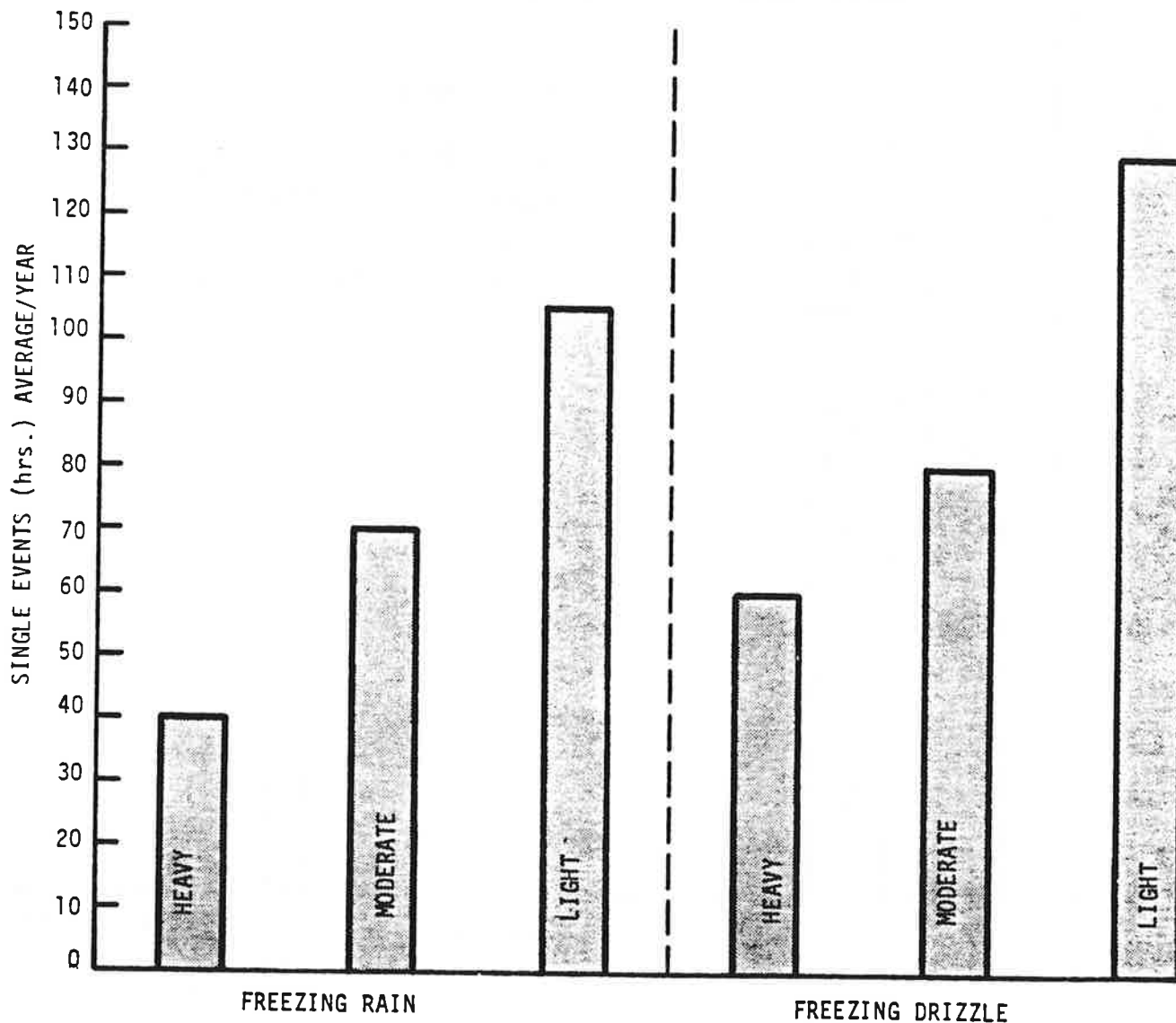


FIGURE A-3. SAMPLE YEARLY AVERAGE OF OPERATIONS OVER A 24 YEAR PERIOD

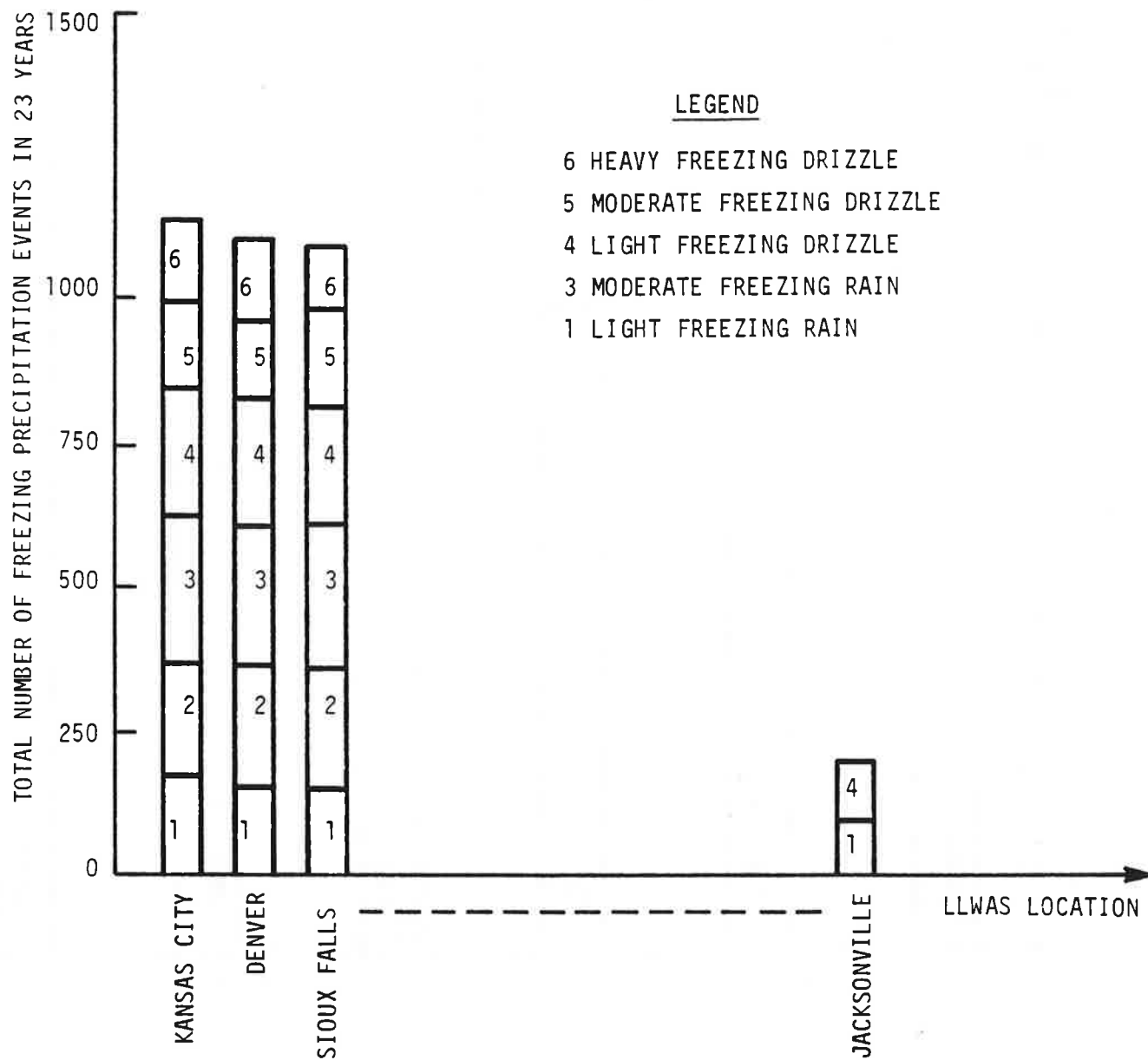


FIGURE A-4. SAMPLE RANKING OF STATIONS BY TOTAL NUMBER OF EVENTS OVER A 24 YEAR PERIOD

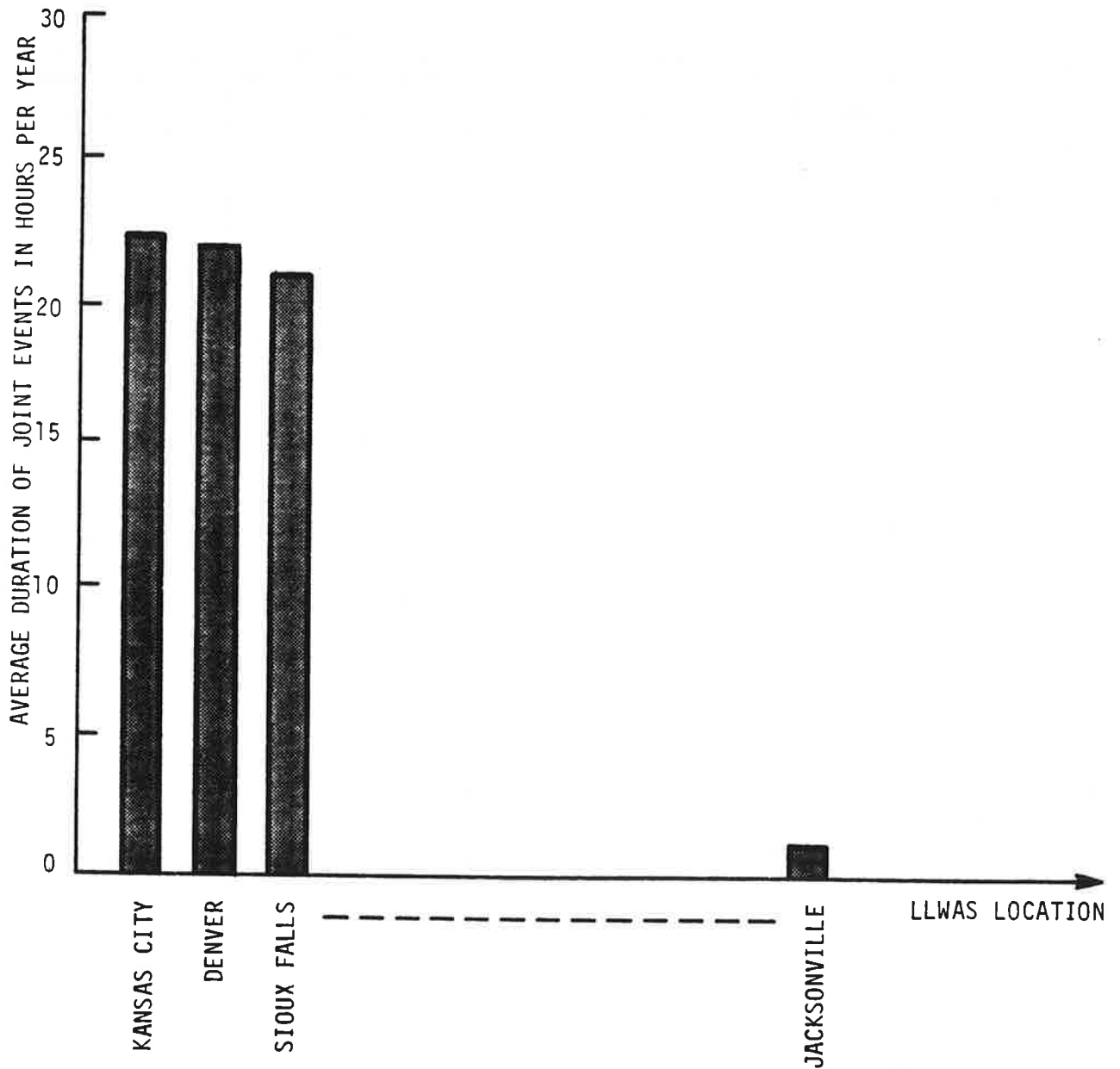


FIGURE A-5. SAMPLE RANKING OF STATIONS BY AVERAGE DURATION OF JOINT EVENTS OVER A 24 YEAR PERIOD

TABLE A-5. SAMPLE ICING SEVERITY SUMMARY

24 YEAR OBSERVATION STUDY

RANKING ORDER	AIRPORT	TOTAL NUMBER OF SINGLE EVENTS (8 or 24 OBS./DAY)	TOTAL AVG. LENGTH OF JOINT EVENTS (in terms of single OBS.)	TOTAL AVG. LENGTH OF EXTENDED JOINT EVENTS (in terms of single OBS.)
<p style="text-align: center;">1</p> <p style="text-align: center;">↓</p> <p style="text-align: center;">110</p>	<p style="text-align: center;">BUFFALO</p> <p style="text-align: center;">↓</p> <p style="text-align: center;">FT. LAUDERDALE</p>	<p style="text-align: center;">980</p> <p style="text-align: center;">↓</p> <p style="text-align: center;">3</p>	<p style="text-align: center;">59</p> <p style="text-align: center;">↓</p> <p style="text-align: center;">3</p>	<p style="text-align: center;">142</p> <p style="text-align: center;">↓</p> <p style="text-align: center;">7</p>

A.3 CLIMATOLOGICAL DATA ANALYSIS

Processed climatological data for each LLWAS site will be compared with any available field reports of the particular LLWAS site and also compared with the NCDC climatological charts available in the form of average annual map presentations. Using all available data on hand, a criterion will be established to identify candidate LLWAS sites for anemometer retrofits.

A.4 CONCLUSIONS

In this section of the plan, a procedure will be presented on how to interpret derived data yearly summaries and statistics, to use climatologic data files, and how to apply developed site evaluation criterion on a cost/effectiveness basis.

APPENDIX I

CLIMATOLOGICAL DATA RESOURCES

I.1 CLIMATIC DATA AVAILABILITY

Weather data have been collected since the earliest days of aviation. Suitable data for the study are available from the NCDC in two forms: some are three hour observations between 1965 and 1981 and all others are one hour observations after 1981. A 24 year span will be used for this study covering the years 1965-1988.

I.2 MAGNETIC TAPE DATA

I.2.1 General

A major airport study was conducted by the FAA in the early 1960's and resulted in the FAA common tape data format called the Tape Data Family-14 (TDF-14). Since January 1, 1984, new processing was added utilizing a new element file structure in the TD-1440 data file. These data are subjected to internal consistency tests, with quality flags appended to each element, and may indicate both observed values and edited values (if present).

I.2.2 Magnetic Tape Data Formats

1. File: NCDC variable length storage structure with ANSI variable length record structure with no more than 12,000 characters per block.
2. Computer Language: FORTRAN 77
3. Record:

Physical Characteristics:

Each logical record contains one station's hourly (one-hour or three-hour reports) data values for each meteorological element over a period of one day. This means that there are either 8 or 24-element values available in the NCDC tape library.

NCDC Library Tape Structure:

Record Length: Variable with a maximum of 1230 characters

Block Length: 12,000 characters maximum

Media: ASCII 9 track

Density: 6250 BPI

Parity: Odd

Label: ANSI standard labeled

File: One file per tape

Format:

The format is of variable record.

The total number of fields is 201.

ID Portion-describe characteristics of all records-ten.

Data Portion-contains information about each element value reported and repeats information up to 24 times a day.

I.2.3 Field Reports from LLWAS Sites

When available, field reports and statistics will be used to check against climatological data statistics derived from the 23 year reports to establish a correlation between both sets. These data will be significant in predicting severe and marginal icing zone boundaries.

I.2.4 Additional Data Sources

Other supporting data of interest may be obtained from the sources indicated below, if required:

1. Worldwide Airfield Summaries-reported up to the year 1976 on 70 microfiches for U.S. Airports. Of specific interest may be the monthly and annual summaries of:
 - a. Absolute max./min. and daily temperature mean, and
 - b. Mean number of days with maximum temperature equal to or less than 32°F.
2. Freeze Data File (TD-9712)-Data available January 1, 1931 to December 31, 1960 and January 1, 1951 to December 31, 1980.
 - a. Last freeze in spring and first freeze in fall.
 - b. Temperature history: 36°F, 32°F, 28°F, 24°F, 20°F, and 16°F with probabilities from 10 to 90 percent.

I.3 CLIMATOLOGICAL DATA ACQUISITION SEQUENCE

Acquisition of the climatological data will take place in the following steps:

- o There are 110 airports where LLWAS systems are currently installed or planned. The locations where few (if any) freezing reports are ever reported will be processed last. These are likely to be located in the warm and dry parts of the country.
- o Tapes for three locations (Boston, Buffalo, Chicago) were initially ordered: they are at TSC and have been used to validate the concept and develop the data reduction/analysis software.

- o The next 22 airports are mostly cold-weather sites. The sites are shown in Figure I-1 and are as follows:
 1. Billings, MT
 2. Salt Lake City, UT
 3. Denver, CO
 4. Sioux Falls, SD
 5. Minneapolis/St. Paul, MN
 6. Milwaukee, WI
 7. St. Louis, MO
 8. Dallas/Fort Worth, TX
 9. Atlanta, GA
 10. Huntsville, AL
 11. Detroit, MI
 12. Cleveland, OH
 13. Pittsburgh, PA
 14. Rochester, NY
 15. Syracuse, NY
 16. Dulles Intl-Washington, DC
 17. Washington National-Washington, DC
 18. Newark, NJ
 19. Indianapolis, IN
 20. Kansas City, MO
 21. Green Bay, WI
 22. Columbus, OH

- o The third selection of 45 additional sites will cover all of the most likely sites for high freezing precipitation occurrence.

- o The final 40 locations will be processed last.

- o Table II-1 lists the 110 LLWAS locations, and indicates the order of selection for the study #1-2-3, and the last (X), respectively.

- o Figure I-1 shows a map of the U.S. with symbols for each LLWAS site indicating the order of selection for the study. Superimposed on the map are dashed lines indicating the mean annual temperature and precipitation, which is a guide in determining the areas of the country where similar temperatures and precipitation intensities could be expected.

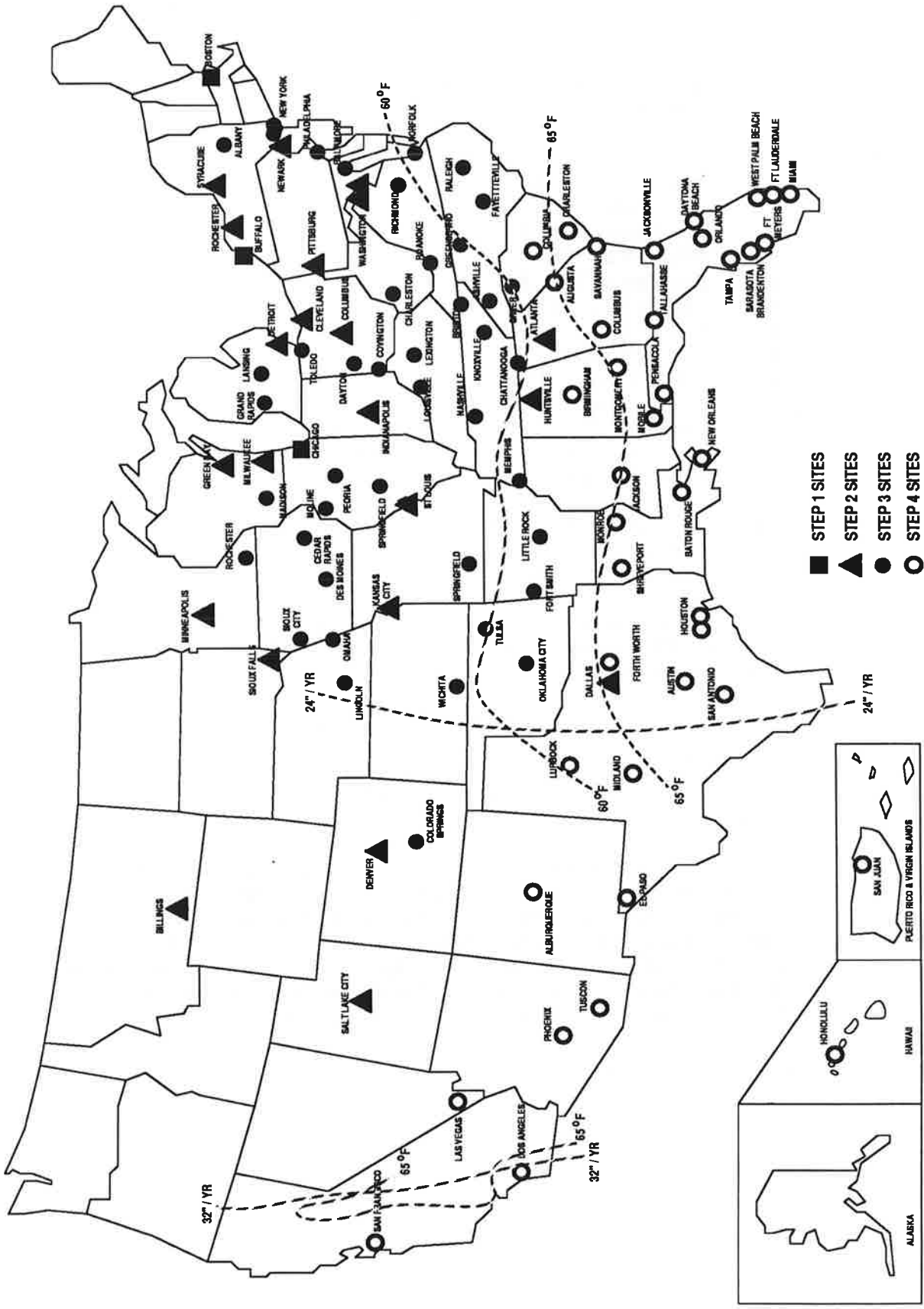


FIGURE I-1. L1WAS SITES WITH IDENTIFIED ACQUISITION SEQUENCE

APPENDIX II

LISTINGS OF LLWAS SITES BY AIRPORT ID'S AND SITE LOCATIONS BY STATE

Tables II-1 and II-2 supplement Figure I-1 as referenced in the text. Table II-1 provides the LLWAS listings in alphabetical order by airport identity (ID) code: followed by airport name; order number indicating the order in which the magnetic tapes were acquired, starting with number 1 - first order and ending with X - last order; city; state; vendor ID for LLWAS systems: CL - Climatronics, FW - Fairchild-Weston (presently Loral); and finally, the region where the LLWAS is located. Table II-2 provides the total number of LLWAS site locations by State. States are also presented in alphabetical order.

TABLE II-1. LLWAS LISTING BY AIRPORT ID

<u>ID</u>	<u>LLWAS AIRPORT NAME</u>	<u>ORDER NO.</u>	<u>CITY</u>	<u>STATE</u>	<u>VENDOR</u>	<u>REGION</u>
ABQ	Albuquerque International	X	Albuquerque	NM	FW	ASW
AGS	Bush Field	X	Augusta	GA	CL	ASO
ALB	Albany County	3	Albany	NY	CL	AEA
ATL	William B Hartsfield International	2	Atlanta	GA	FW	ASO
AUS	Robert Mueller Municipal	X	Austin	TX	CL	ASW
AVL	Asheville Regional	3	Asheville	NC	CL	ASO
BDL	Bradley International	3	Windsor Locks	CT	CL	ANE
BHM	Birmingham Municipal	X	Birmingham	AL	FW	ASO
BIL	Billings Logan	2	Billings	MT	CL	ANM
BNA	Nashville Metropolitan	3	Nashville	TN	FW	ASO
BOS	Gen Edward Logan International	1	Boston	MA	FW	ANE
BTR	Baton Rouge Metropolitan Ryan Field	X	Baton Rouge	LA	CL	ASW
BUF	Greater Buffalo	1	Buffalo	NY	FW	AEA
BWI	Baltimore -- Washington International	3	Baltimore	MD	FW	AEA
CAE	Columbia Metropolitan	X	Columbia	SC	CL	ASO
CHA	Lovell Field	3	Chattanooga	TN	FW	ASO
CHS	Charleston	X	Charleston	SC	CL	ASO
CID	Cedar Rapids Municipal	3	Cedar Rapids	IA	FW	ACE
CLE	Cleveland - Hopkins International	2	Cleveland	OH	FW	AGL
CLT	Charlotte/Douglas International	3	Charlotte	NC	FW	ASO
CMH	Port Columbus International	2	Columbus	OH	FW	AGL
COS	City of Colorado Springs Municipal	3	Colorado Springs	CO	CL	AMN
CRW	Yeager	3	Charleston	WV	CL	AEA
CSG	Columbus Metropolitan	X	Columbus	GA	CL	ASO
CVG	Greater Cincinnati International	3	Covington	KY	FW	ASO
DAB	Daytona Beach	X	Daytona Beach	FL	CL	ASO
DAL	Dallas Love Field	X	Dallas	TX	CL	ASW
DAY	James M. Cox Dayton International	3	Dayton	OH	FW	AGL
DCA	Washington National	2	Washington	DC	FW	AEA
DEN	Stapleton International	2	Denver	CO	FW	ANM
DFW	Dallas/Forth Worth International	2	Dallas/Fort Worth	TX	FW	ASW
DSM	Des Moines International	3	Des Moines	IA	FW	ACE
DTW	Detroit Metropolitan Wayne County	2	Detroit	MI	FW	AGL

TABLE II-1. LLWAS LISTING BY AIRPORT ID (cont.)

<u>ID</u>	<u>LLWAS AIRPORT NAME</u>	<u>ORDER NO.</u>	<u>CITY</u>	<u>STATE</u>	<u>VENDOR</u>	<u>REGION</u>
ELP	El Paso International	X	El Paso	TX	CL	ASW
ENR	Newark International	2	Newark	NJ	FW	AEA
FAY	Fayetteville Municipal	3	Fayetteville	NC	CL	ASO
FLL	Ft Lauderdale/Hollywood International	X	Ft Lauderdale	FL	FW	ASO
FSD	Joe Foss Field	2	Sioux Falls	SD	CL	AGL
FSM	Fort Smith Municipal	3	Fort Smith	AR	CL	ASW
GRB	Austin Struabel Field	2	Green Bay	WI	CL	AGL
GRR	Kent County International	3	Grand Rapids	MI	CL	AGL
GSO	Piedmont Traid International	3	Greensboro	NC	CL	ASO
GSP	Greenville-Spartanburg	3	Greer	SC	CL	ASO
HNL	Honolulu International	X	Honolulu	HI	CL	AWP
HOU	William P. Hobby	X	Houston	TX	FW	ASW
HSV	Huntsville International Carl T. Jones Field	2	Huntsville	AL	CL	ASO
IAD	Dulles International	2	Washington	DC	FW	AEA
IAM	Houston Intercontinental	X	Houston	TX	FW	ASW
ICT	Wichita Mid-Continent	3	Wichita	KS	FW	ACE
IND	Indianapolis International	2	Indianapolis	IN	FW	AGL
JAN	Allen C. Thompson Field	X	Jackson	MS	FW	ASO
JAX	Jacksonville International	X	Jacksonville	FL	FW	ASO
JFK	John F. Kennedy International	3	New York	NY	FW	AEA
LAN	Capital City	3	Lansing	MI	CL	AGL
LAS	McCarran International	X	Las Vegas	NV	FW	AWP
LAX	Los Angeles International	X	Los Angeles	CA	FW	AWP
LBB	Lubbock International	X	Lubbock	TX	CL	ASW
LEX	Blue Grass Field	3	Lexington	KY	CL	ASO
LGA	LaGuardia	3	New York	NY	FW	AEA
LIT	Adams Field	3	Little Rock	AR	FW	ASW
LNK	Lincoln Municipal	3	Lincoln	NE	CL	ACE
MAF	Midland International	X	Midland	TX	CL	ASW
MCI	Kansas City International	2	Kansas City	MO	FW	ACE
MCO	Orlando International	X	Orlando	FL	FW	ASO
MEM	Memphis International	3	Memphis	TN	FW	ASO
MGM	Dannelly Field	X	Montgomery	AL	CL	ASO
MIA	Miami International	X	Miami	FL	FW	ASO
MKE	General Mitchell International	2	Milwaukee	WI	FW	AGL
MIL	Quad-City	3	Moline	IL	CL	AGL

TABLE II-1. LLWAS LISTING BY AIRPORT ID (cont.)

<u>ID</u>	<u>LLWAS AIRPORT NAME</u>	<u>ORDER NO.</u>	<u>CITY</u>	<u>STATE</u>	<u>VENDOR</u>	<u>REGION</u>
MUL	Monroe Regional	X	Monroe	LA	CL	ASW
MOB	Bates Field	X	Mobile	AL	FW	ASO
MSN	Dane County Regional Truax Field	3	Madison	WI	CL	AGL
MSP	Minneapolis-St. Paul International	2	Minneapolis	MN	FW	AGL
MSY	New Orleans International	X	New Orleans	LA	FW	ASW
OKC	Will Rogers World	3	Oklahoma City	OK	FW	ASW
OMA	Eppley Airfield	3	Omaha	NE	FW	ACE
ORD	Chicago O'Hare International	1	Chicago	IL	FW	AGL
ORF	Norfolk International	3	Norfolk	VA	FW	AEA
PBI	Palm Beach International	X	West Palm Beach	FL	FW	ASO
PHL	Philadelphia International	3	Philadelphia	PA	FW	AEA
PHX	Phoenix Sky Harbor International	X	Phoenix	AZ	FW	AWP
PIA	Greater Peoria	3	Peoria	IL	CL	AGL
PIT	Greater Pittsburg International	2	Pittsburg	PA	FW	AEA
PNS	Pensacola Regional	X	Pensacola	FL	CL	ASO
RDU	Raleigh/Durham	3	Raleigh/Durham	NC	FW	ASO
RIC	Richmond International	3	Richmond	VA	CL	AEA
ROA	Roanoke Regional	3	Roanoke	VA	FW	AEA
ROC	Rochester-Monroe County	2	Rochester	NY	FW	AEA
RST	Rochester Municipal	3	Rochester	MN	CL	AGL
RSW	Southwest Regional	X	Ft. Myers	FL	CL	ASO
SAT	San Antonio International	X	San Antonio	TX	FW	ASW
SAV	Savannah International	X	Savannah	GA	CL	ASO
SDF	Standiford Field	3	Louisville	KY	FW	ASO
SFO	San Francisco International	X	San Francisco	CA	CL	AWP
SGF	Springfield Regional	3	Springfield	MO	FW	ACE
SHV	Shreveport Regional	X	Shreveport	LA	CL	ASW
SJU	Luis Munos Maria International	X	San Juan	PR	CL	ASO
SLC	Salt Lake City International	2	Salt Lake City	UT	FW	ANM
SPI	Capital	3	Springfield	IL	CL	AGL
SRQ	Sarasota/Bradenton	X	Sarasota/ Bradenton	FL	FW	ASO
STL	Lambert/St. Louis International	2	St. Louis	MO	FW	ACE
SUX	Sioux Gateway	3	Sioux City	IA	CL	ACE
SYR	Syracuse Hancock International	2	Syracuse	NY	CL	AEA

TABLE II-1. LLWAS LISTING BY AIRPORT ID (cont.)

<u>ID</u>	<u>LLWAS AIRPORT NAME</u>	<u>ORDER NO.</u>	<u>CITY</u>	<u>STATE</u>	<u>VENDOR</u>	<u>REGION</u>
TLH	Tallahassee Municipal	X	Tallahassee	FL	CL	ASO
TOL	Toledo Express	3	Toledo	OH	CL	AGL
TPA	Tampa International	X	Tampa	FL	FW	ASO
TRI	Tri-City Regional	3	Bristol	TN	CL	ASO
TUL	Tulsa International	3	Tulsa	OK	FW	ASW
TUS	Tucson International	X	Tucson	AZ	CL	AWP
TYS	McGhee Tyson	3	Knoxville	TN	FW	ASO

TABLE II-2. LLWAS SITES BY STATES SUMMARY

<u>STATE</u>	<u>NO. OF SITES</u>	<u>STATE</u>	<u>NO. OF SITES</u>
Alabama	4	Nebraska	2
Arizona	2	Nevada	1
Arkansas	2	New Mexico	1
California	2	New Jersey	1
Colorado	2	New York	6
Connecticut	1	North Carolina	5
District of Columbia	2	Ohio	4
Florida	11	Oklahoma	2
Georgia	4	Pennsylvania	2
Hawaii	1	Puerto Rico	1
Illinois	4	South Carolina	3
Indiana	1	South Dakota	1
Iowa	3	Texas	9
Kansas	1	Tennessee	5
Kentucky	3	Utah	1
Louisiana	4	Virginia	3
Maryland	1	Washington	1
Massachusetts	1	West Virginia	1
Michigan	3	Wisconsin	3
Minnesota	2		
Mississippi	1		
Missouri	3		
Montana	1		

APPENDIX B. LLWAS SITE ICING STATISTICS

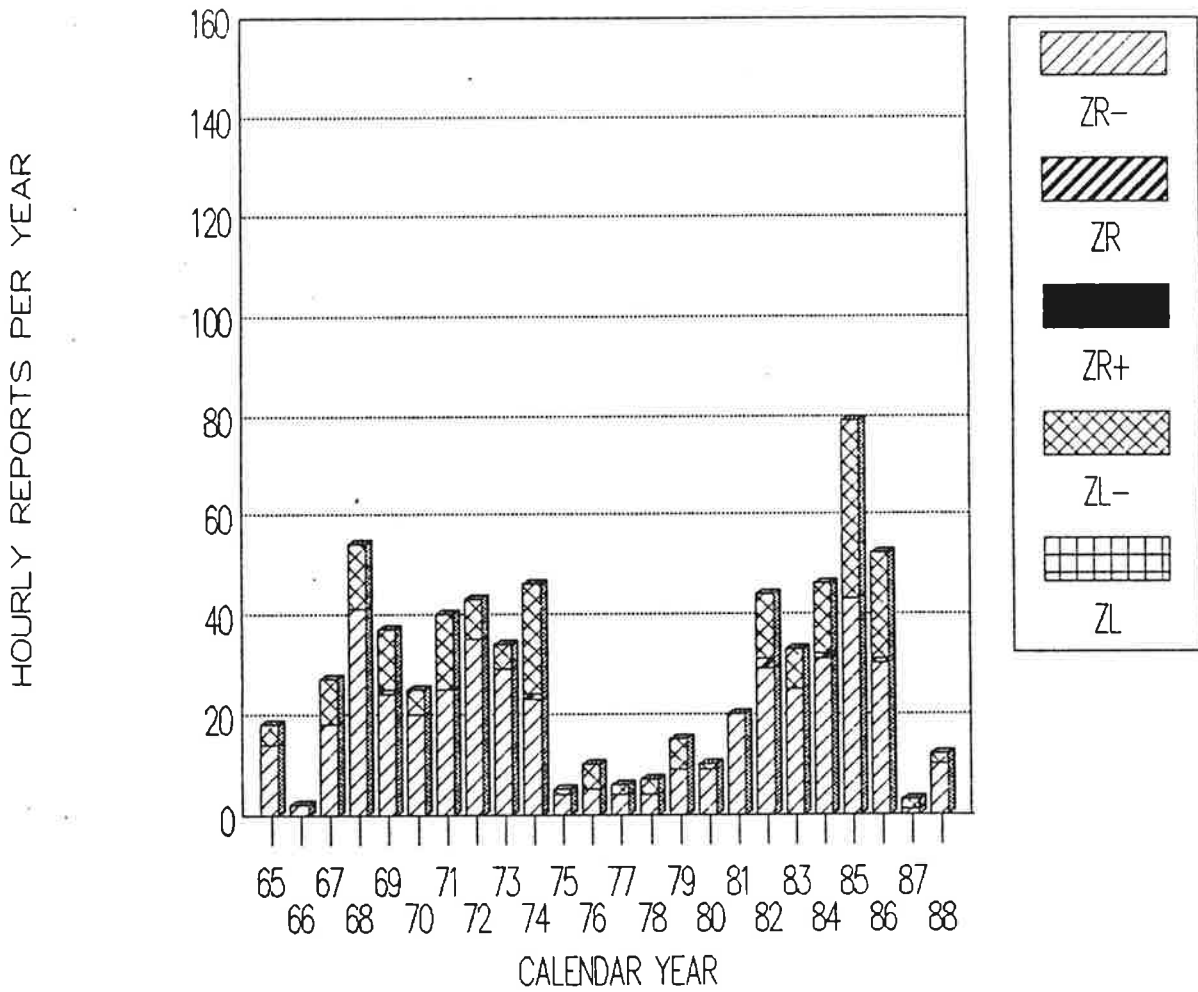
B-1. HISTOGRAMS OF ICING REPORTS

B-2. HISTOGRAMS OF FREEZING DURATIONS

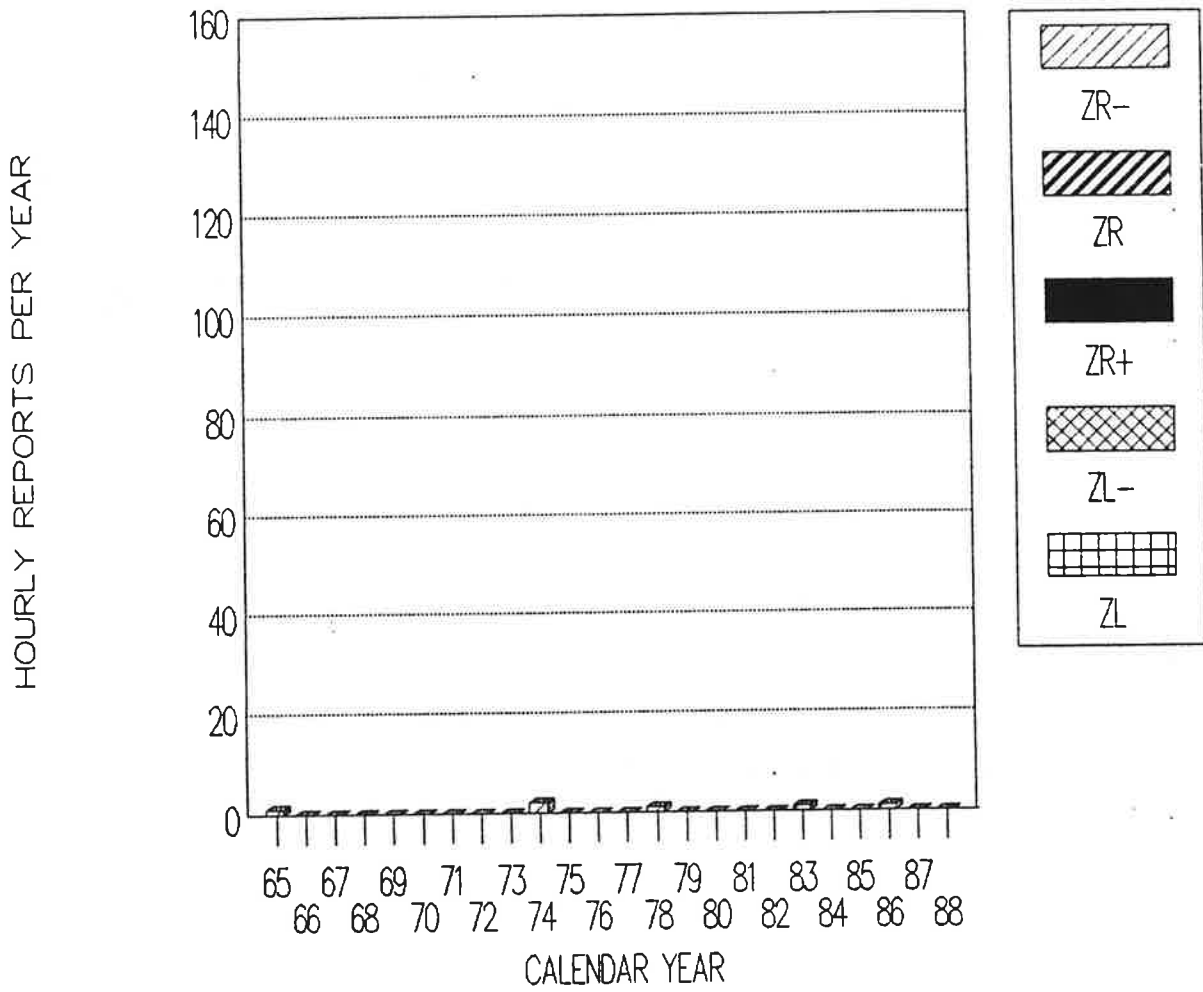
B-3. DATA TABLES OF ICING AND FREEZING REPORTS

B-1. HISTOGRAMS OF ICING REPORTS

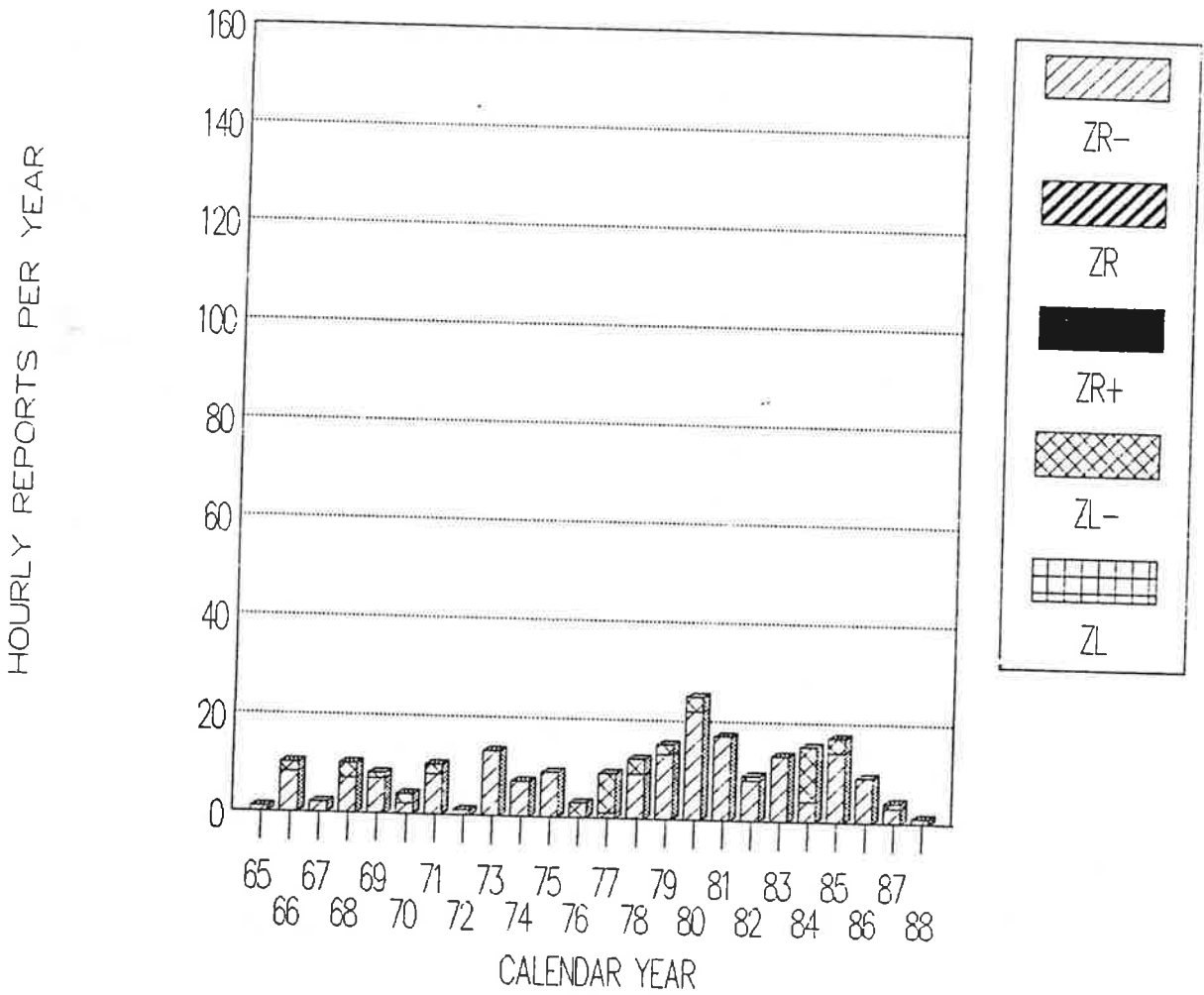
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ICING REPORTS 1965-1988



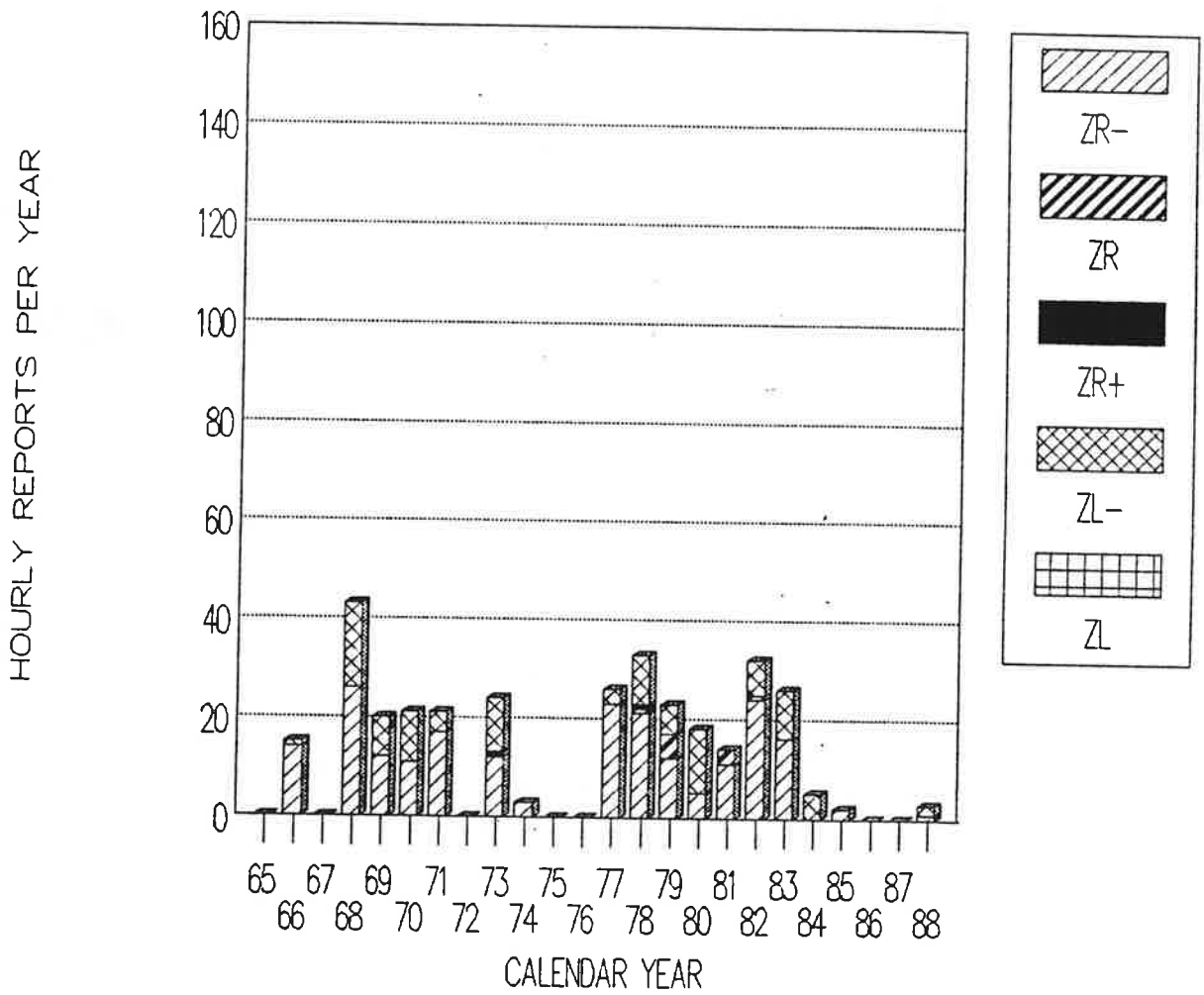
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ICING REPORTS 1965-1988



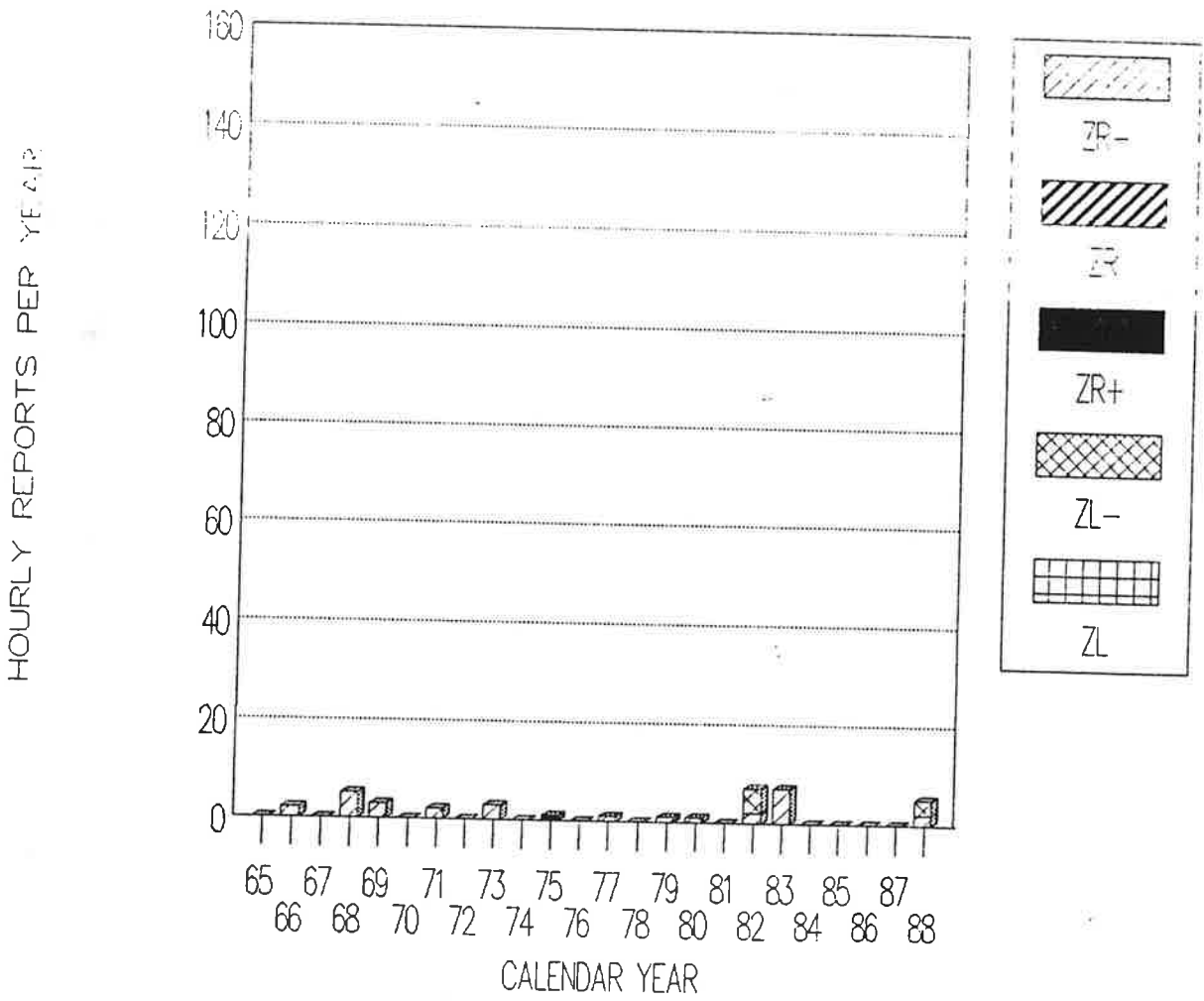
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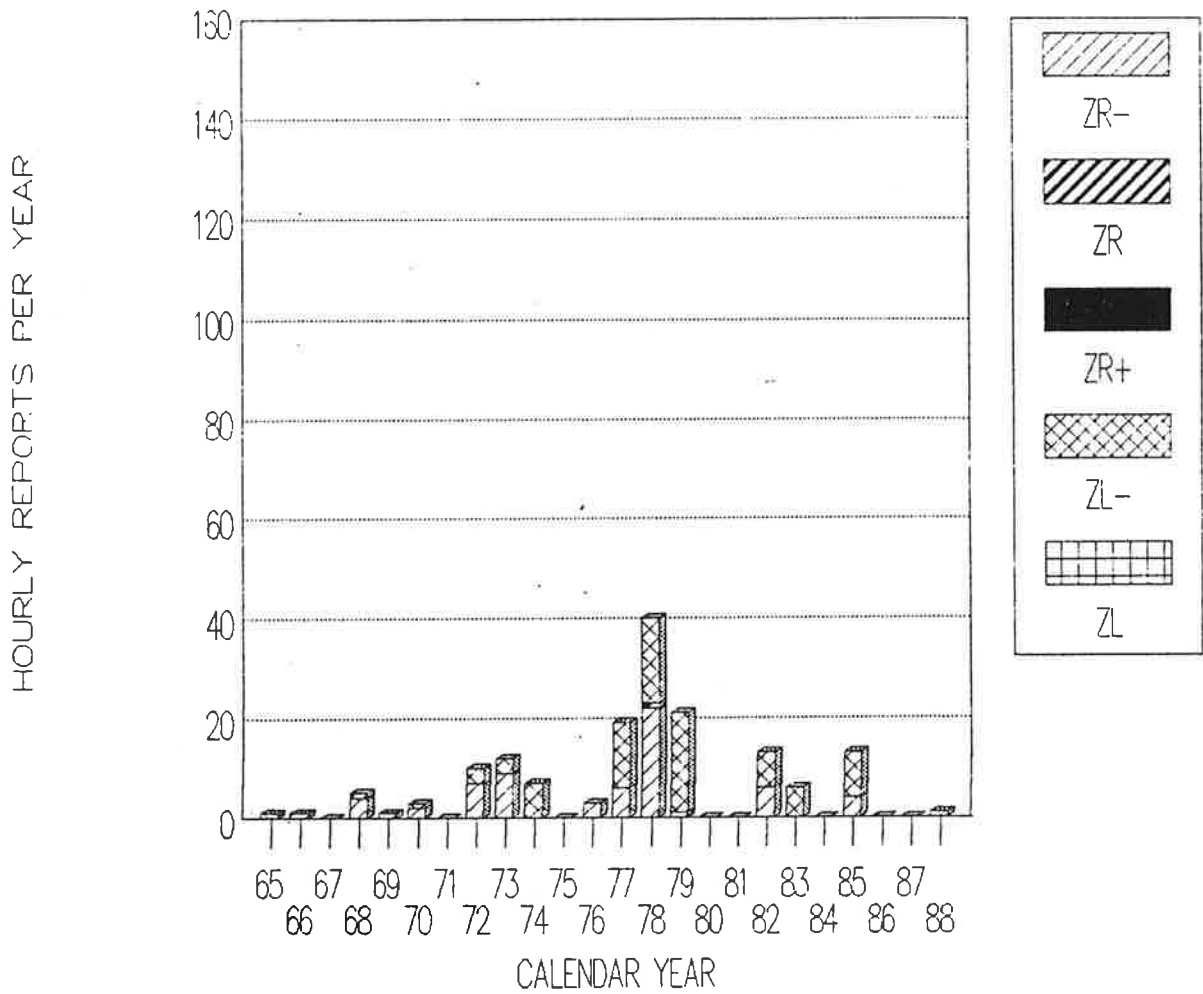
ATLANTA-HARTSFIELD INTERNATIONAL, GA
 ICING REPORTS 1965-1988



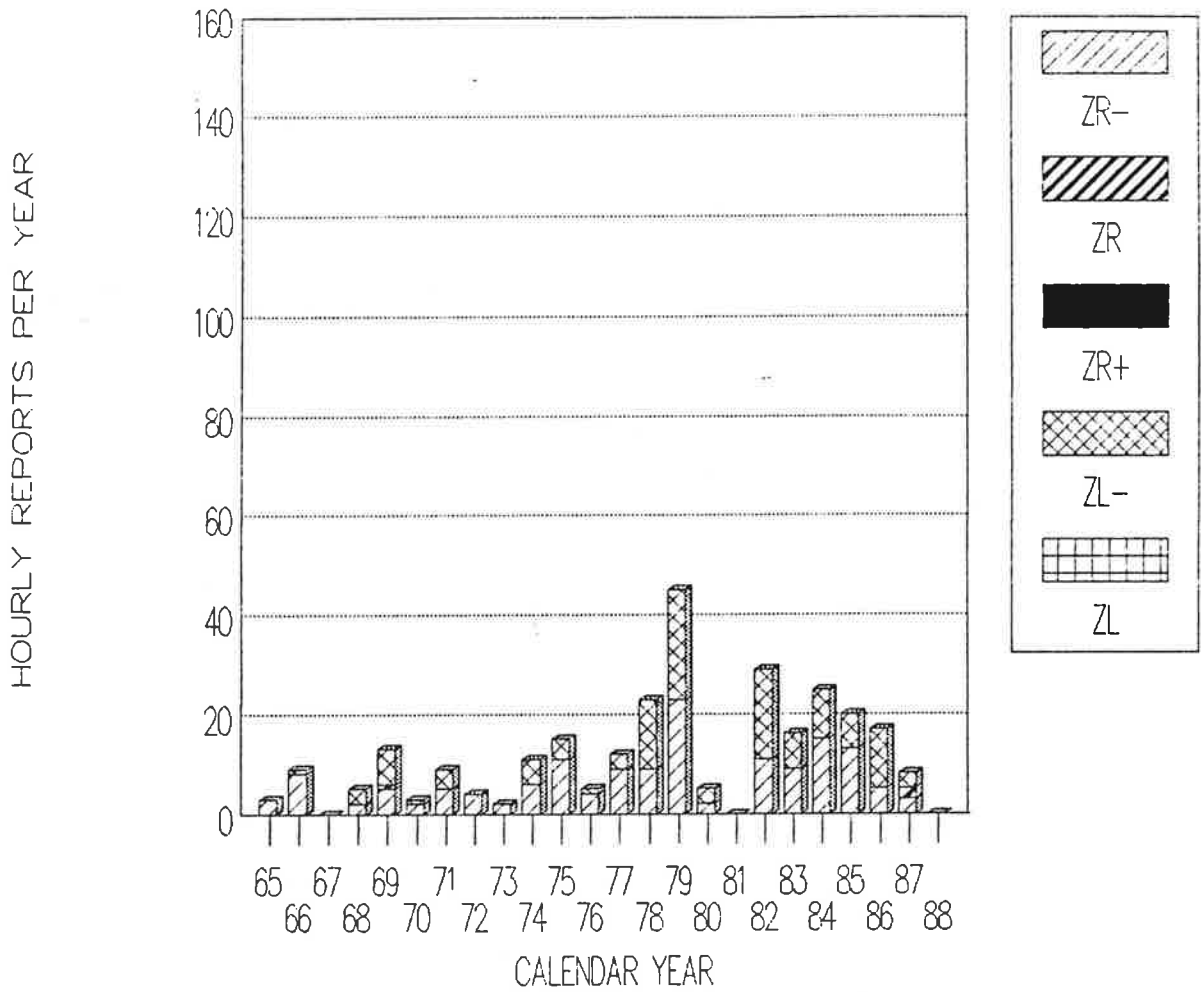
AUGUSTA, GA
 ICING REPORTS 1965-1988



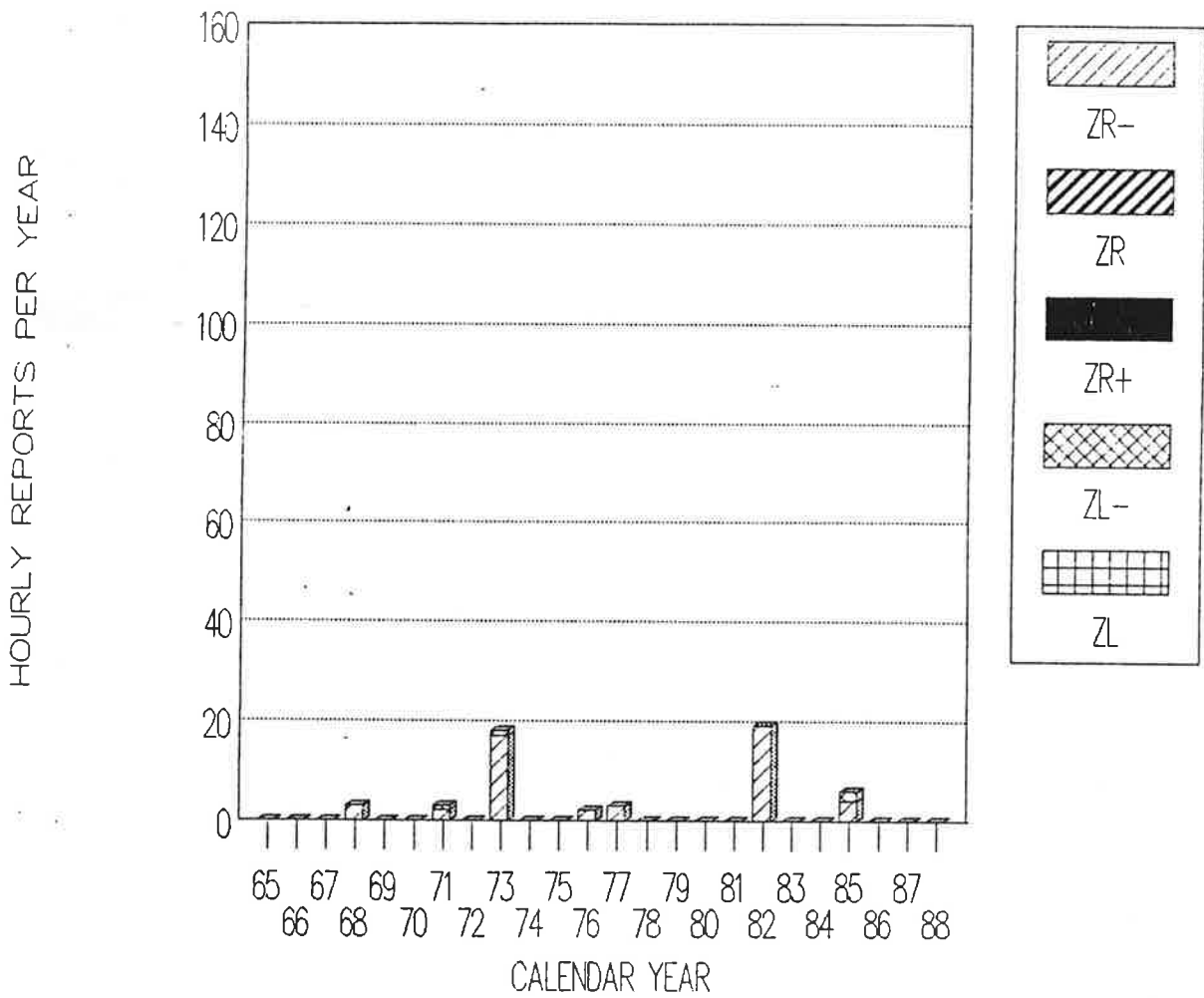
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 ICING REPORTS 1965-1988



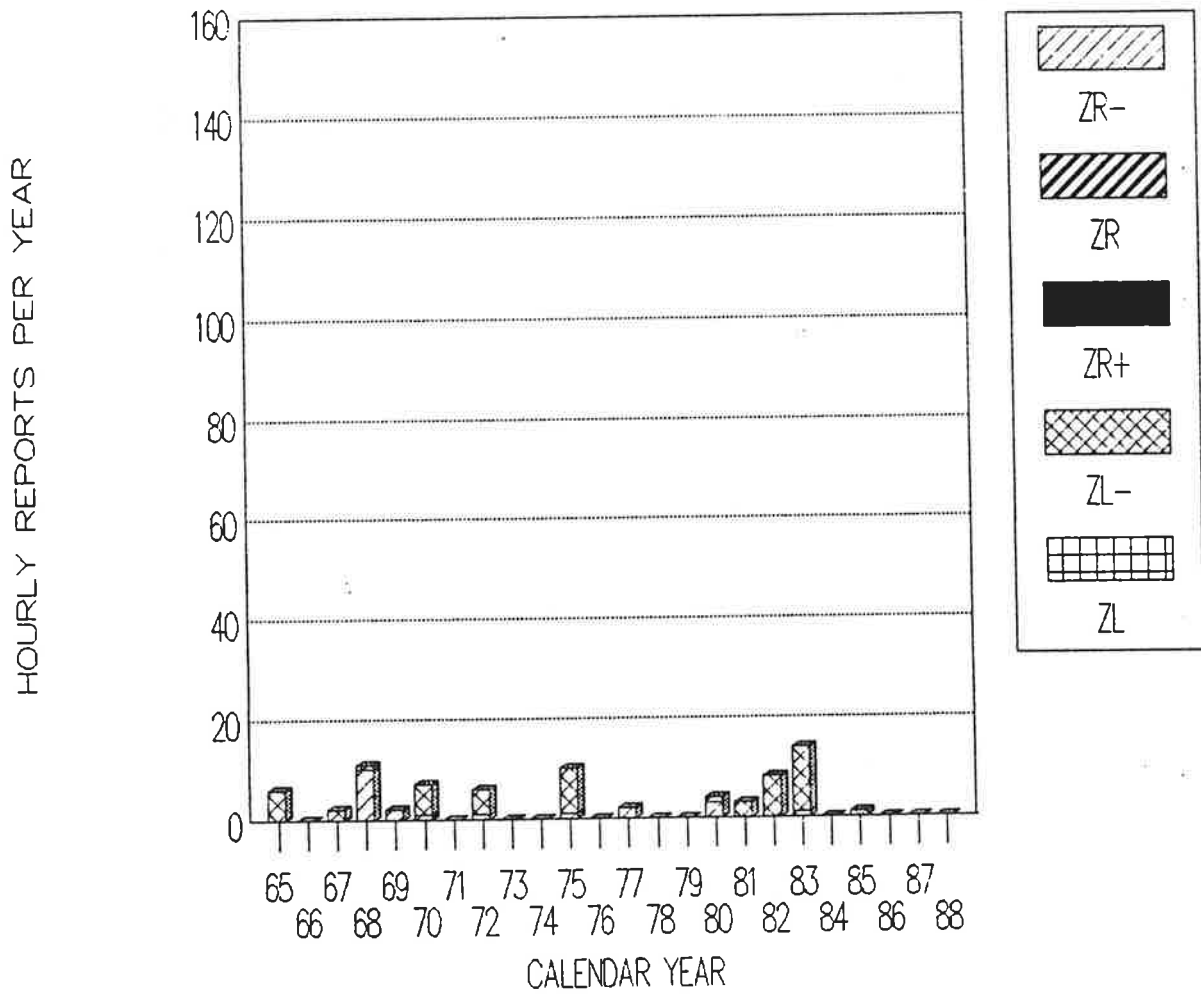
BALTIMORE, MD
 ICING REPORTS 1965-1988



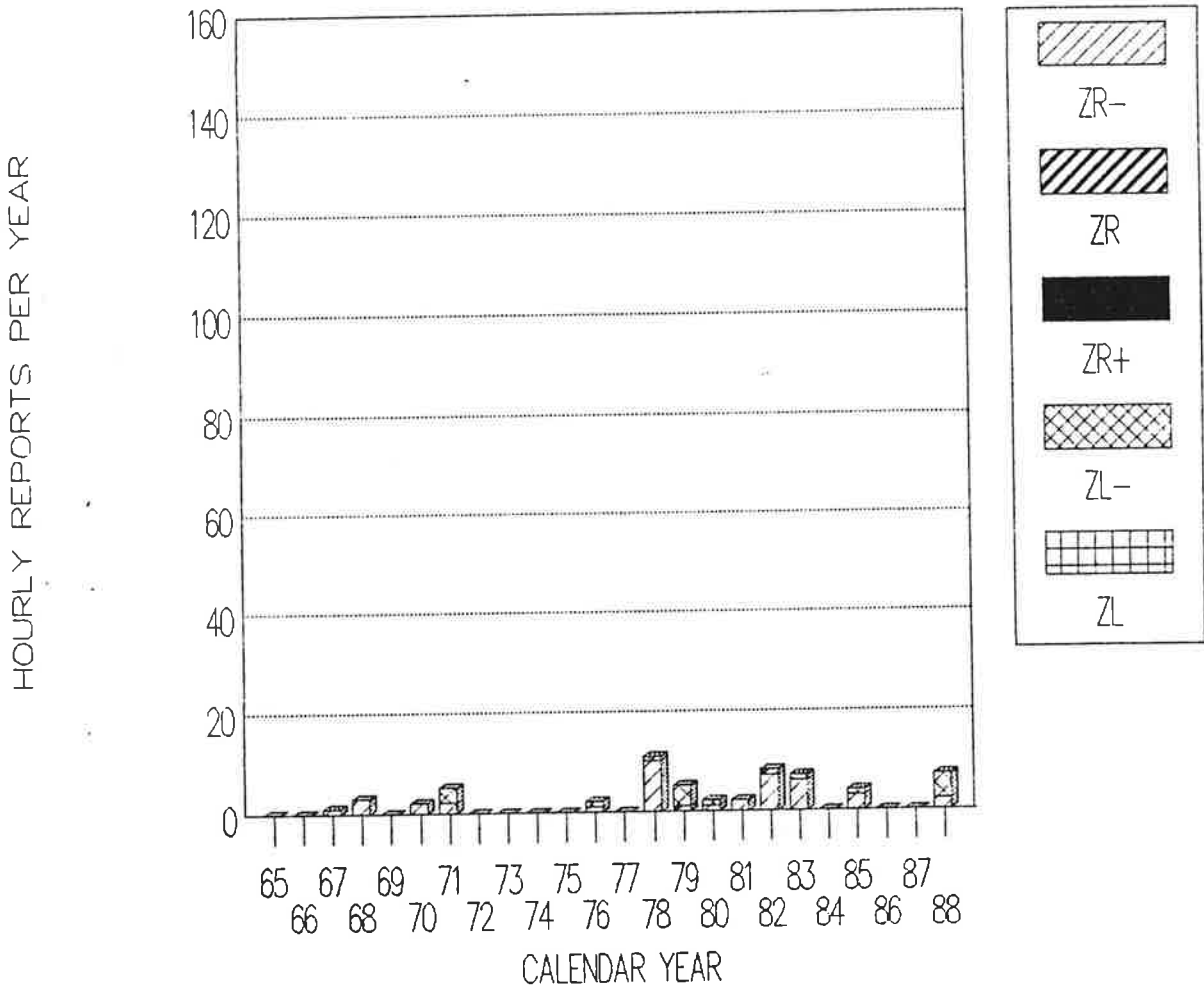
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 ICING REPORTS 1965-1988



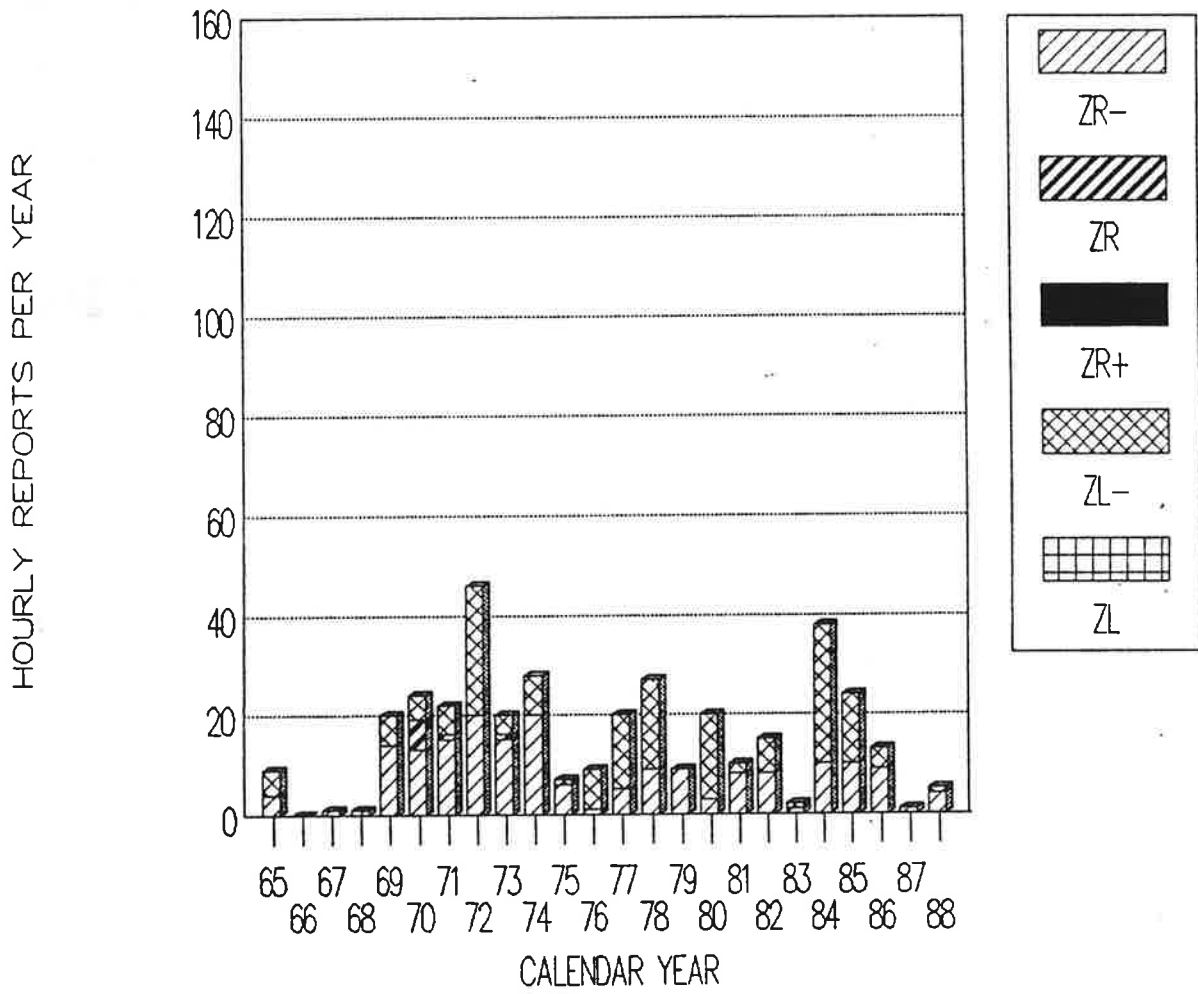
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 ICING REPORTS 1965-1988



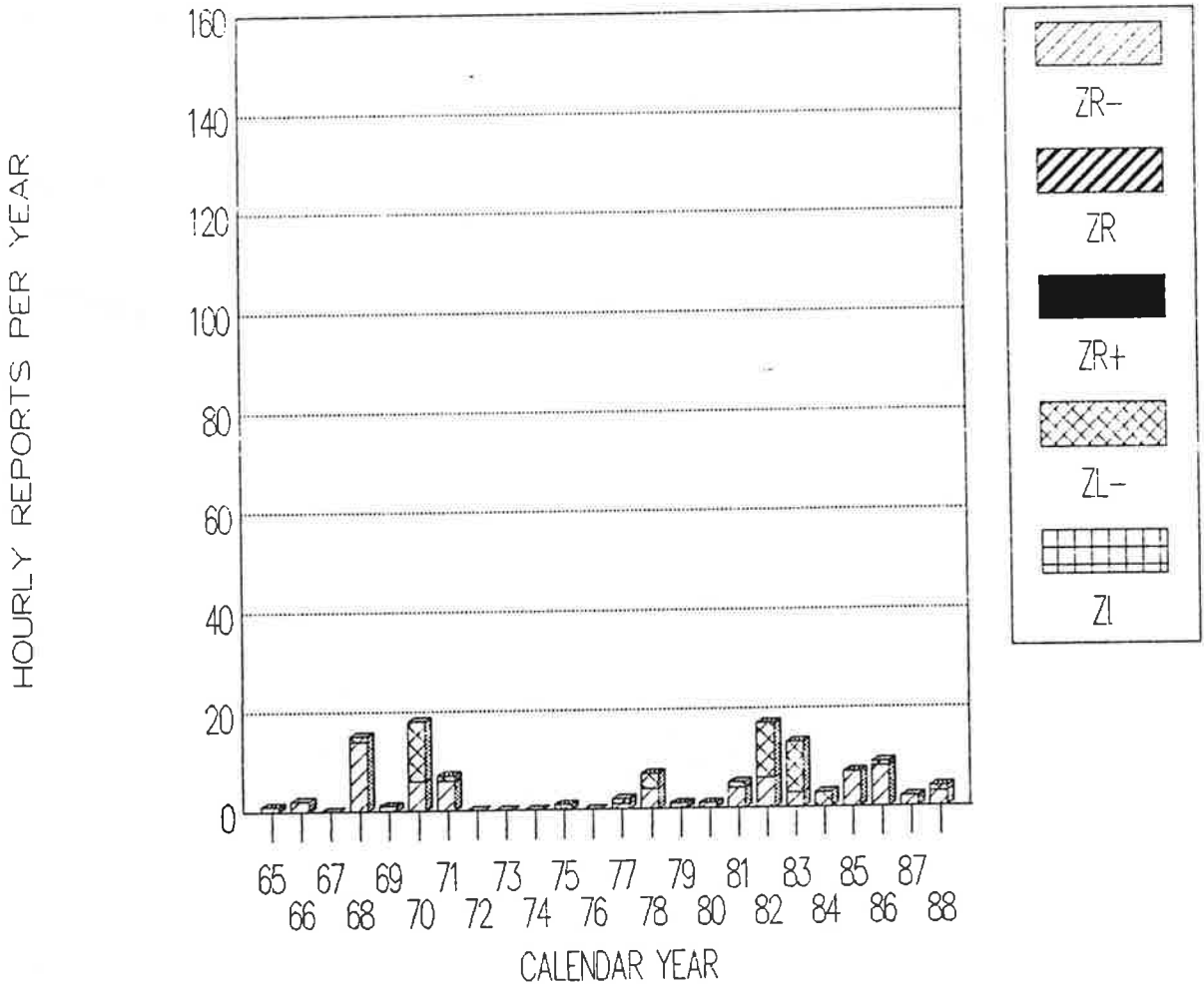
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 ICING REPORTS 1965-1988



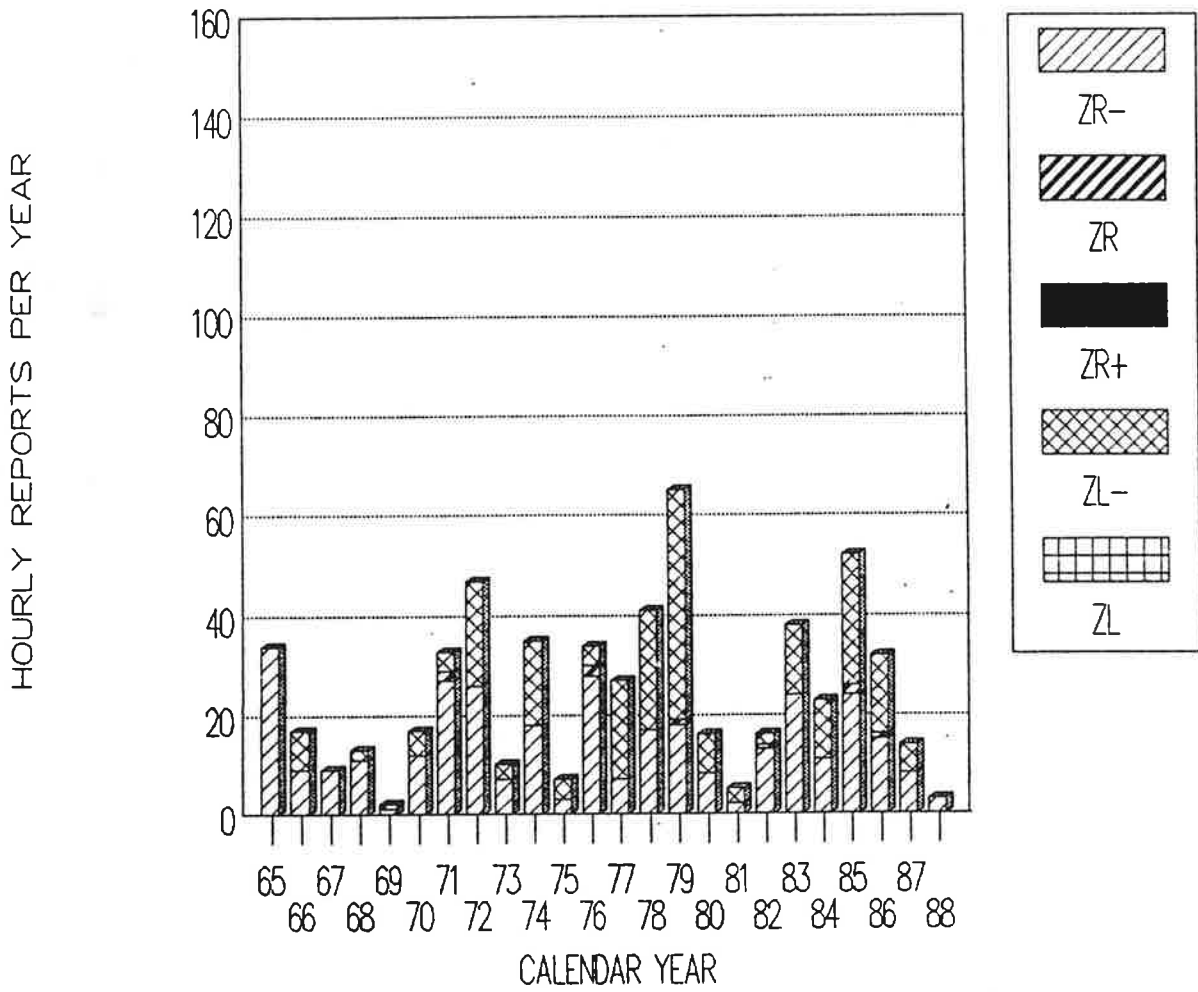
BOSTON-LOGAN INTERNATIONAL, MA
 ICING REPORTS 1965-1988



BRISTOL, TN
 ICING REPORTS 1965-1988

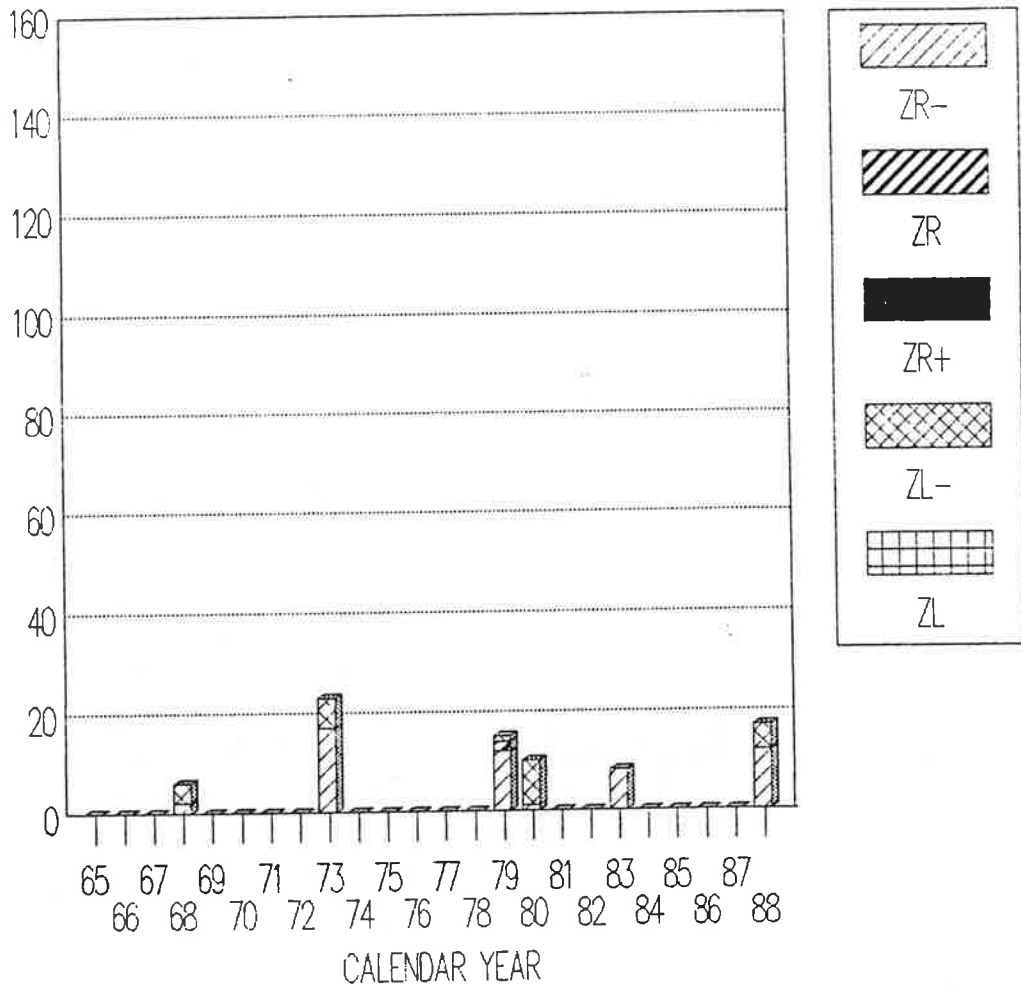


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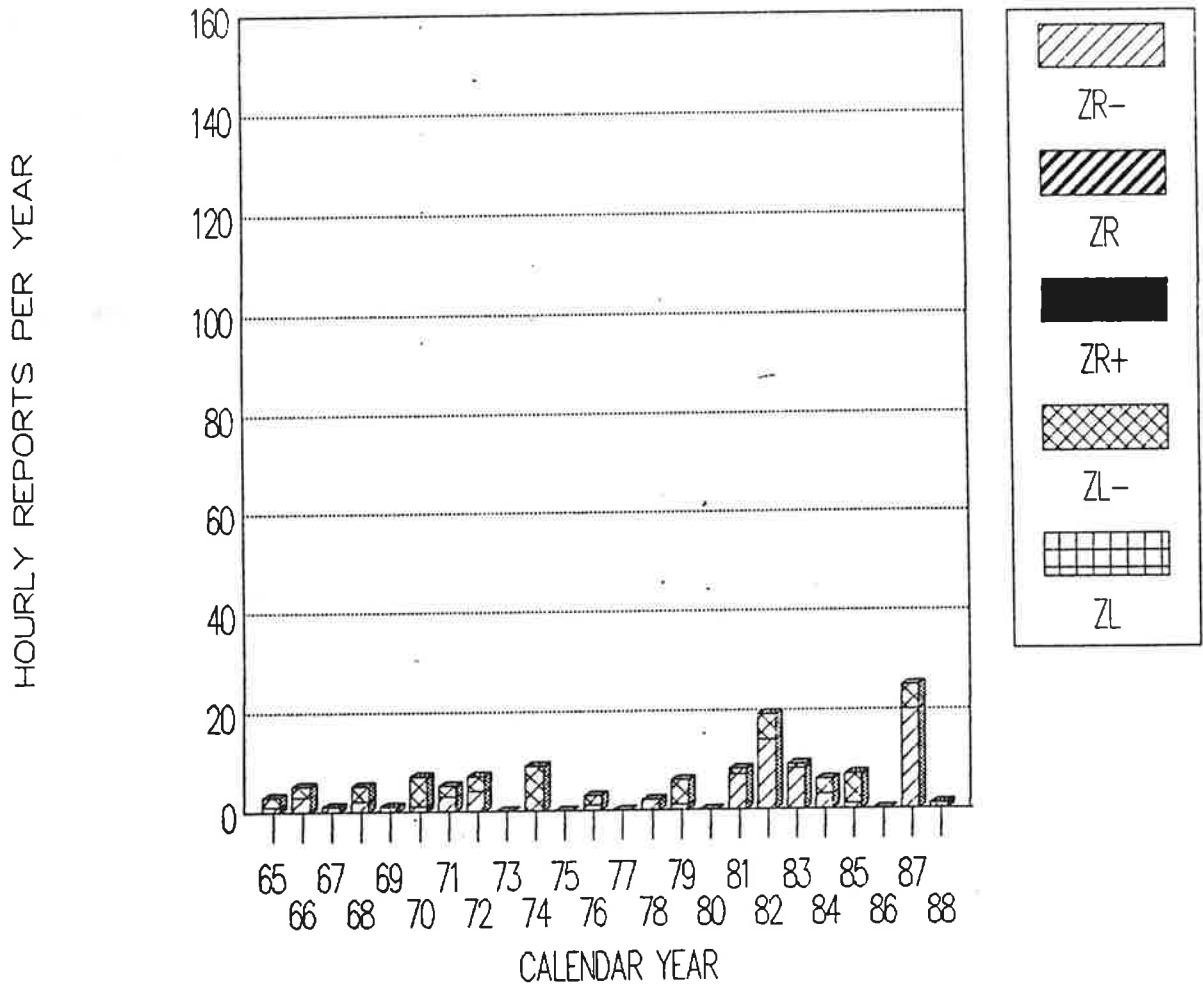


CHARLESTON, SC
 ICING REPORTS 1965-1988

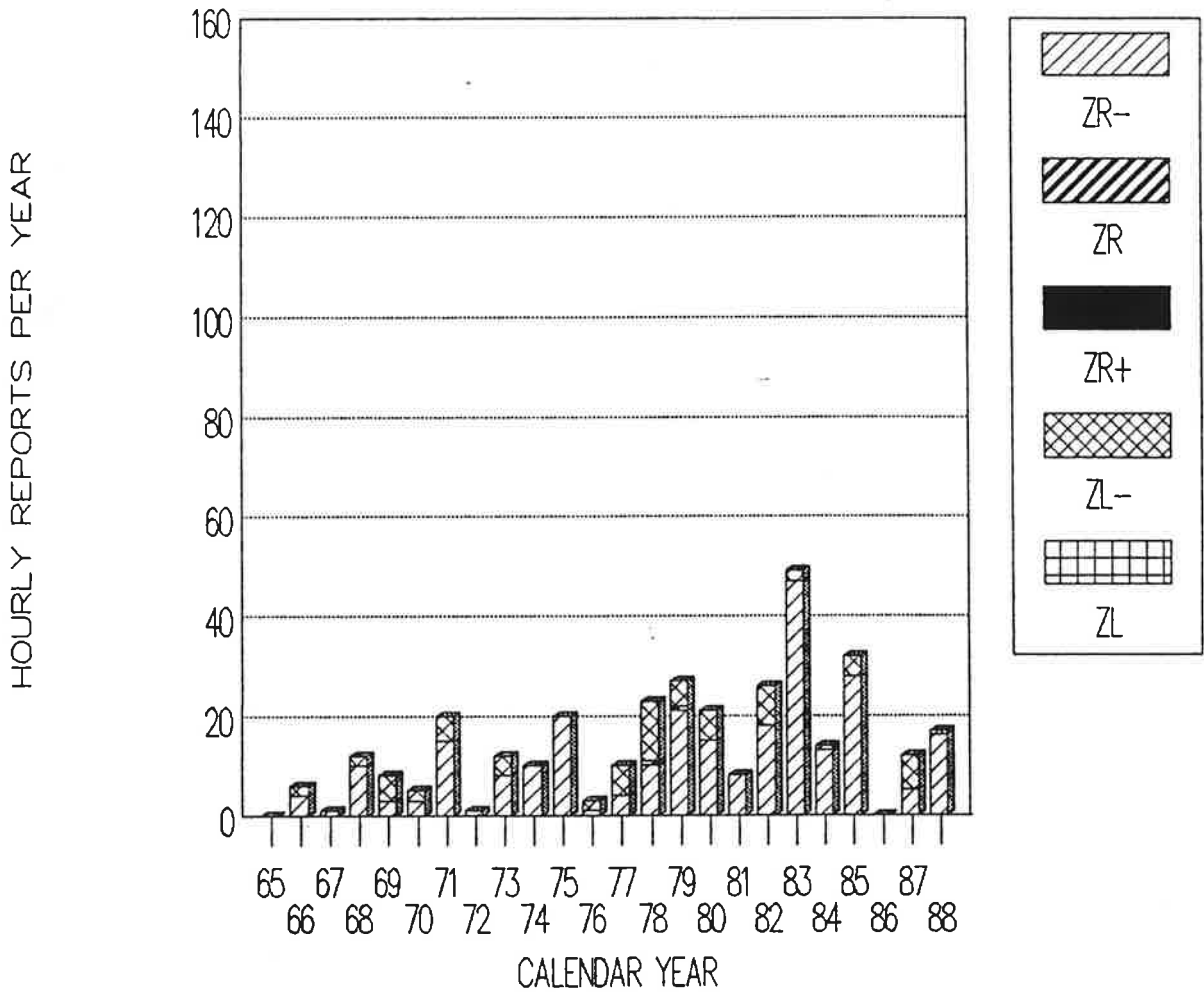
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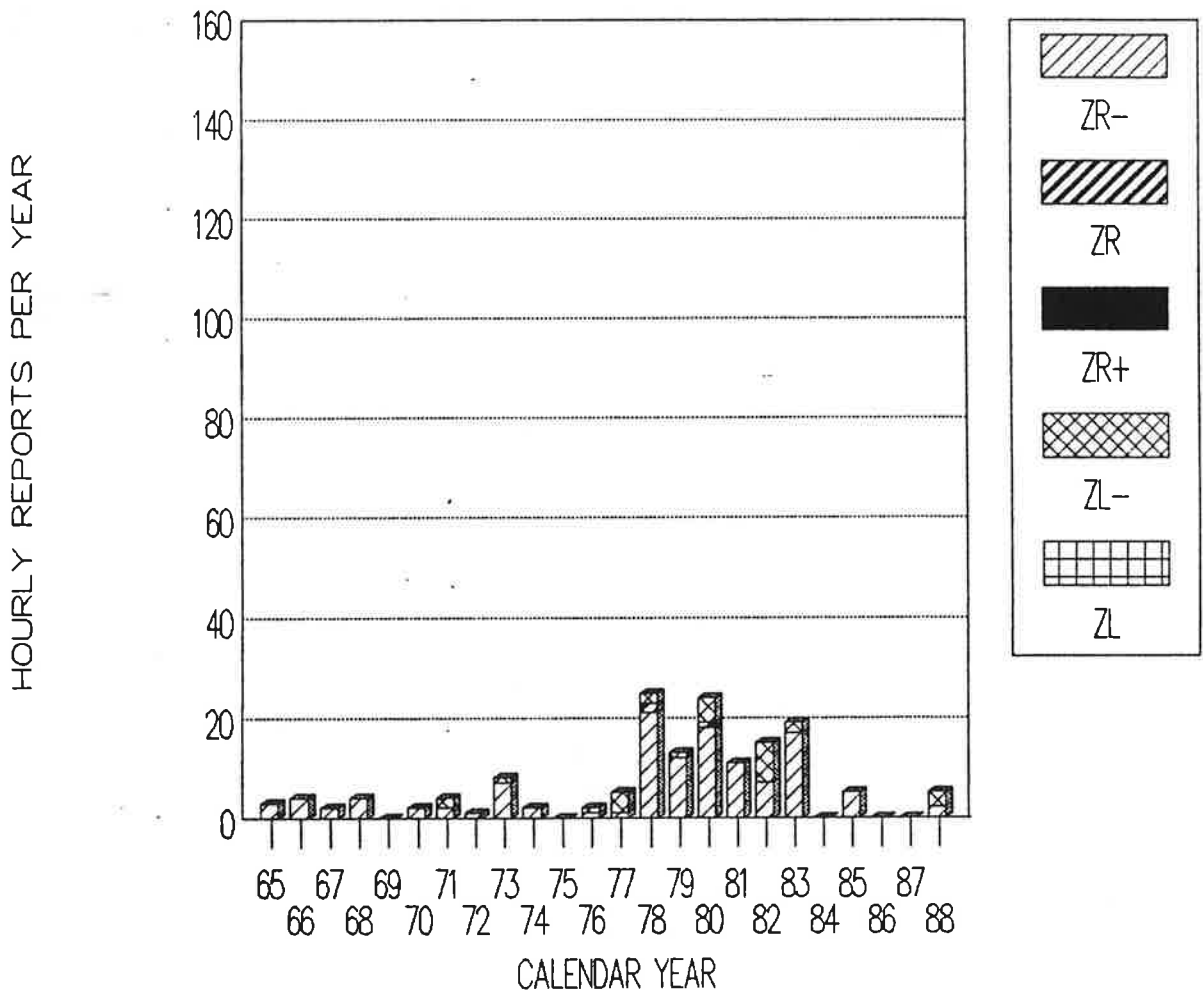
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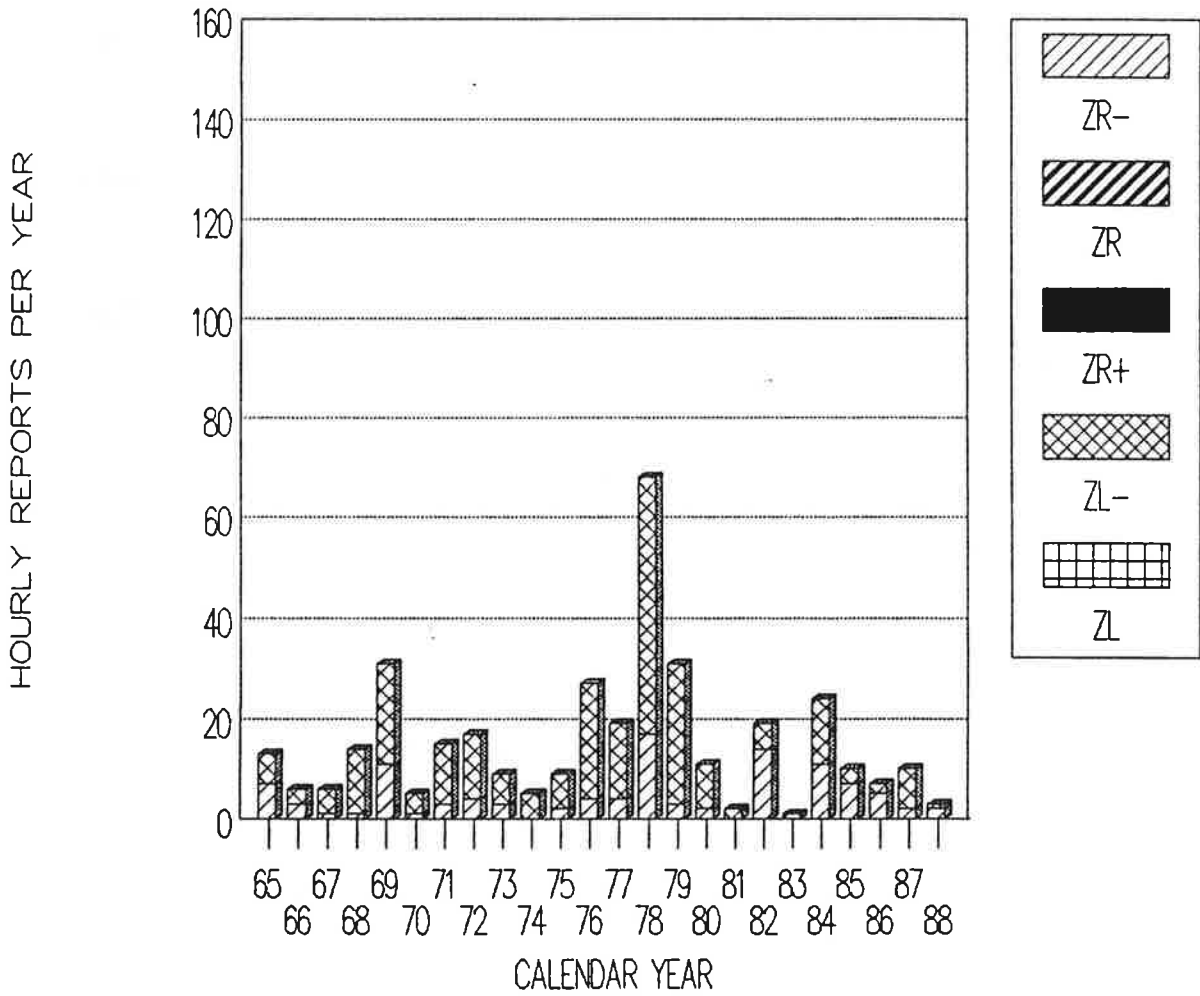
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CHATANOOGA, TN
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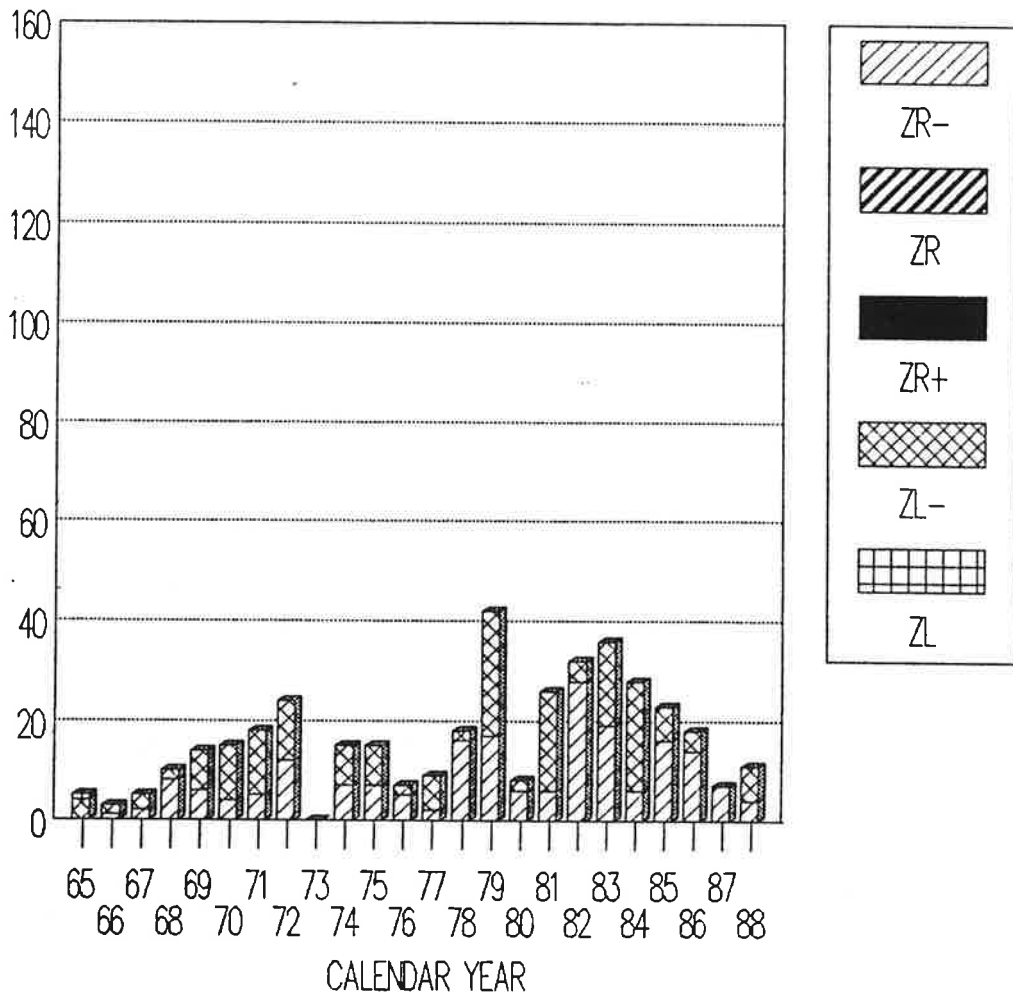


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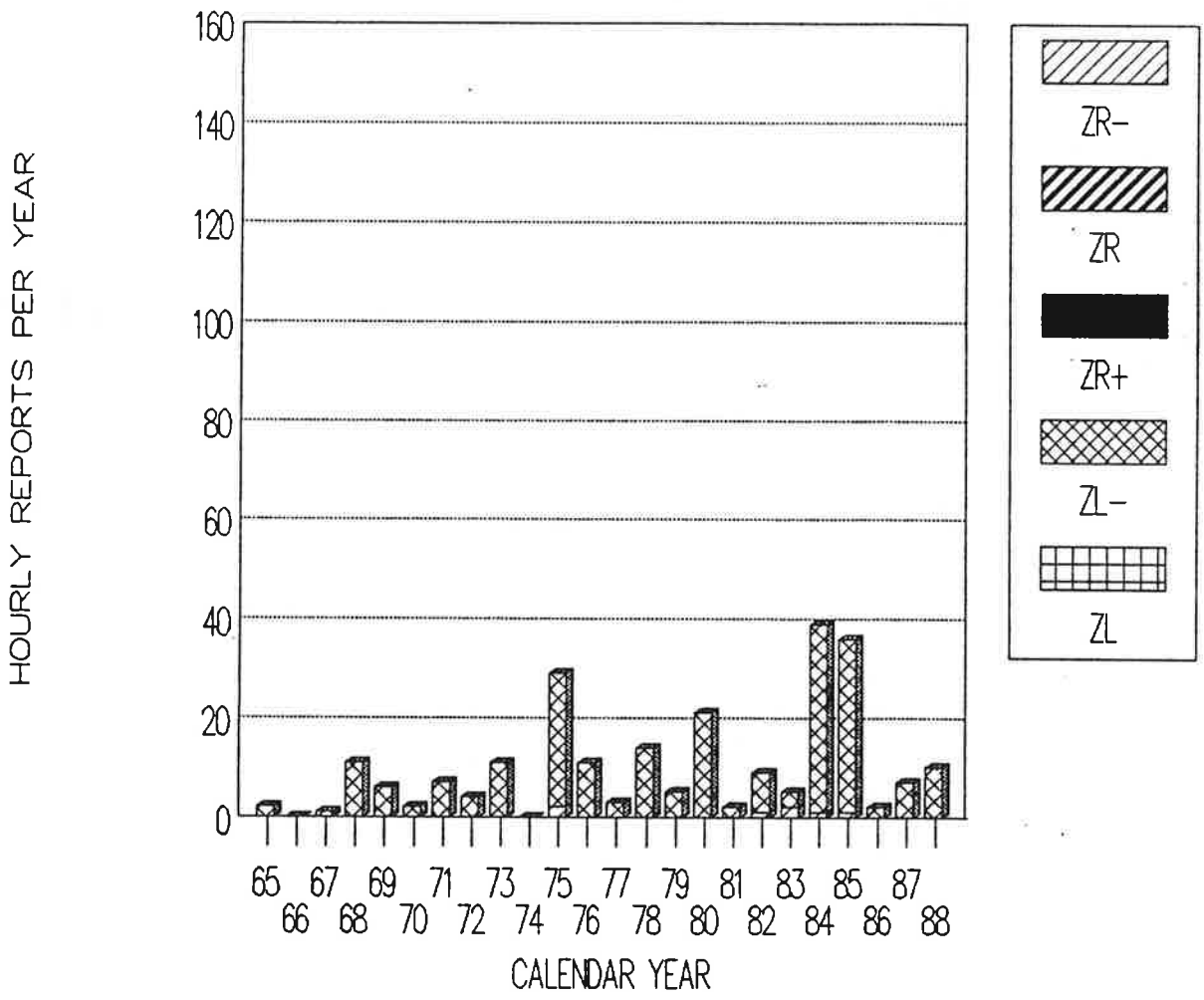


CLEVELAND-HOPKINS INTERNATIONAL, OH
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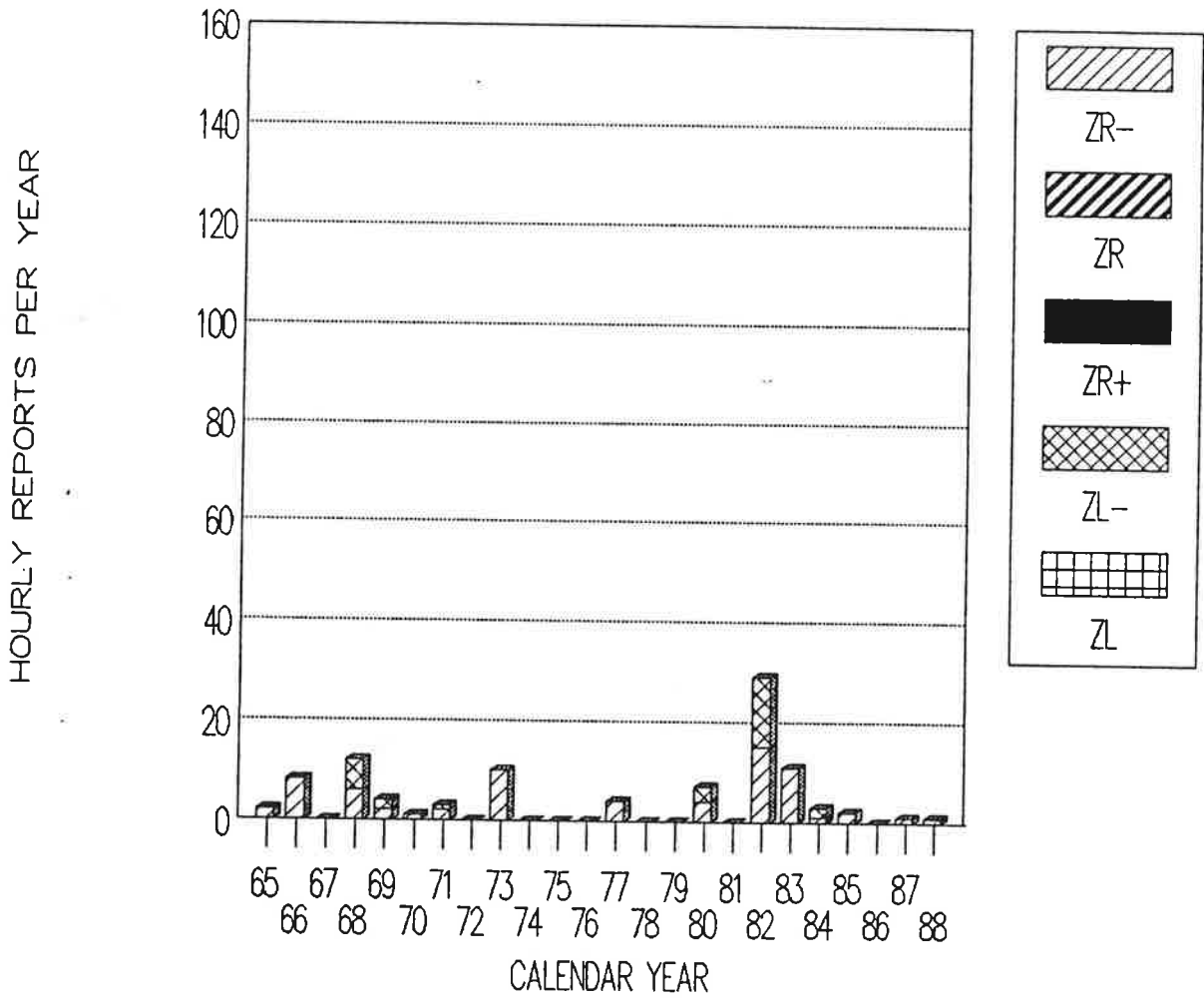
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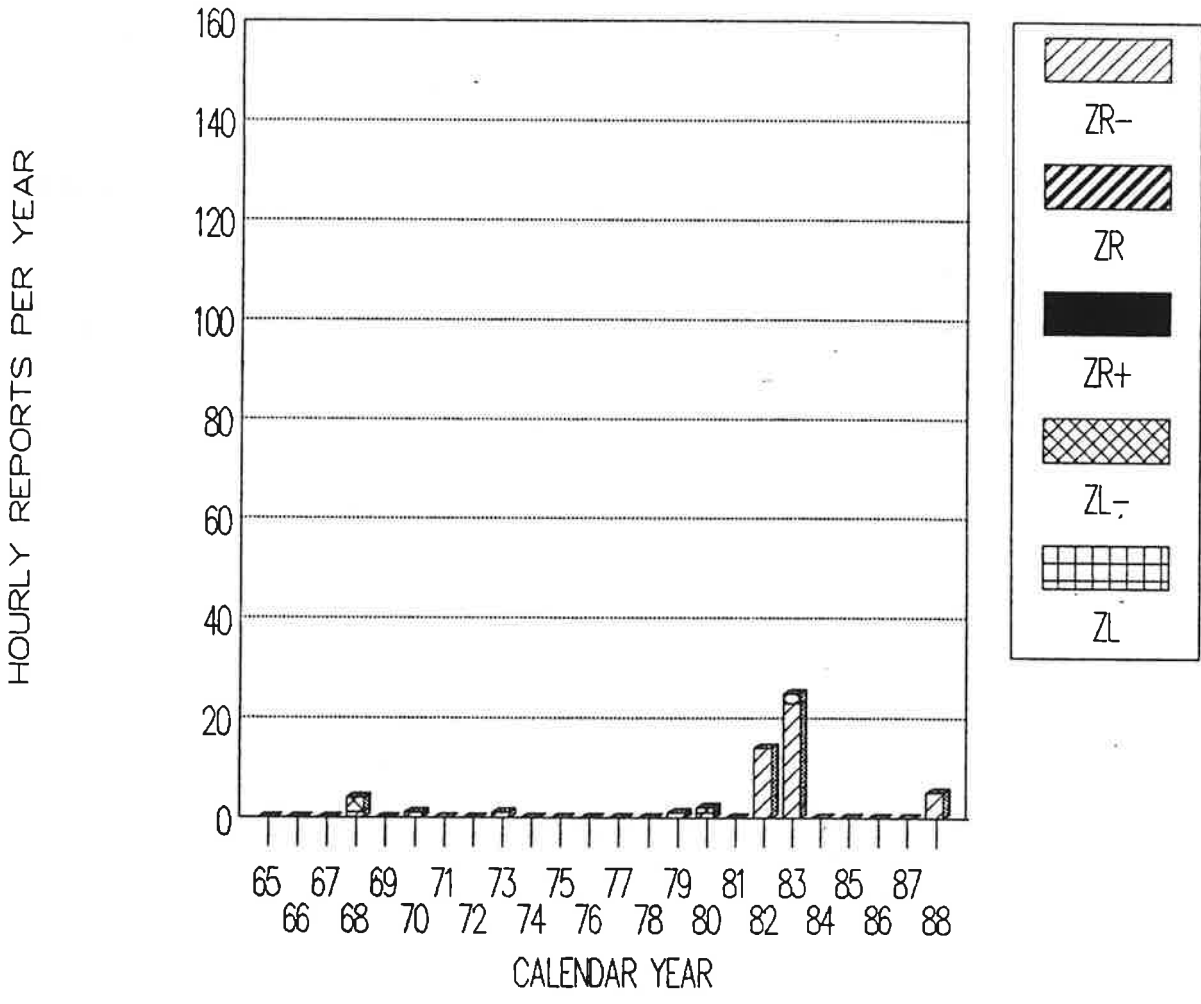
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 ICING REPORTS 1965-1988



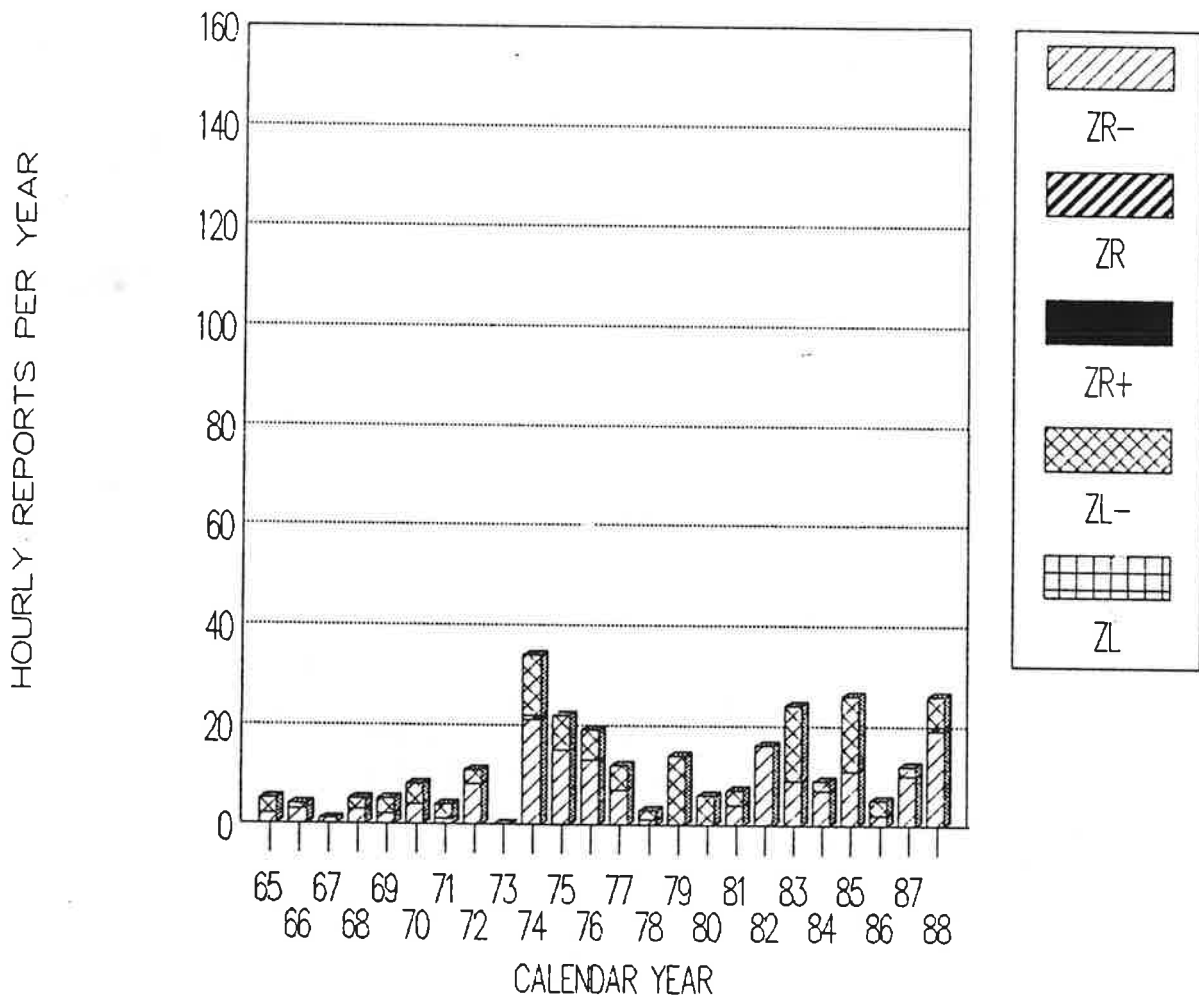
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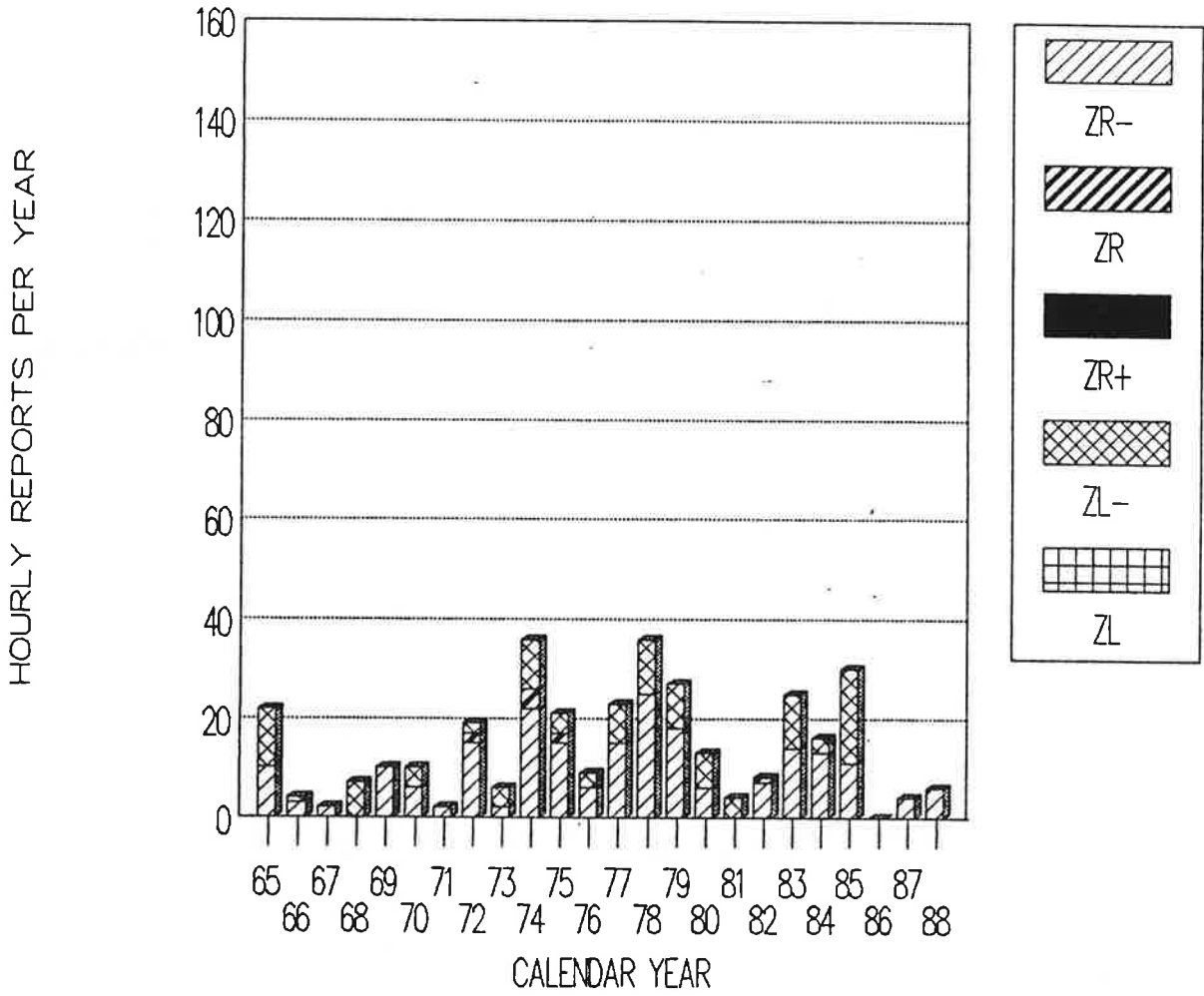
COLUMBUS, GA
 ICING REPORTS 1965-1988



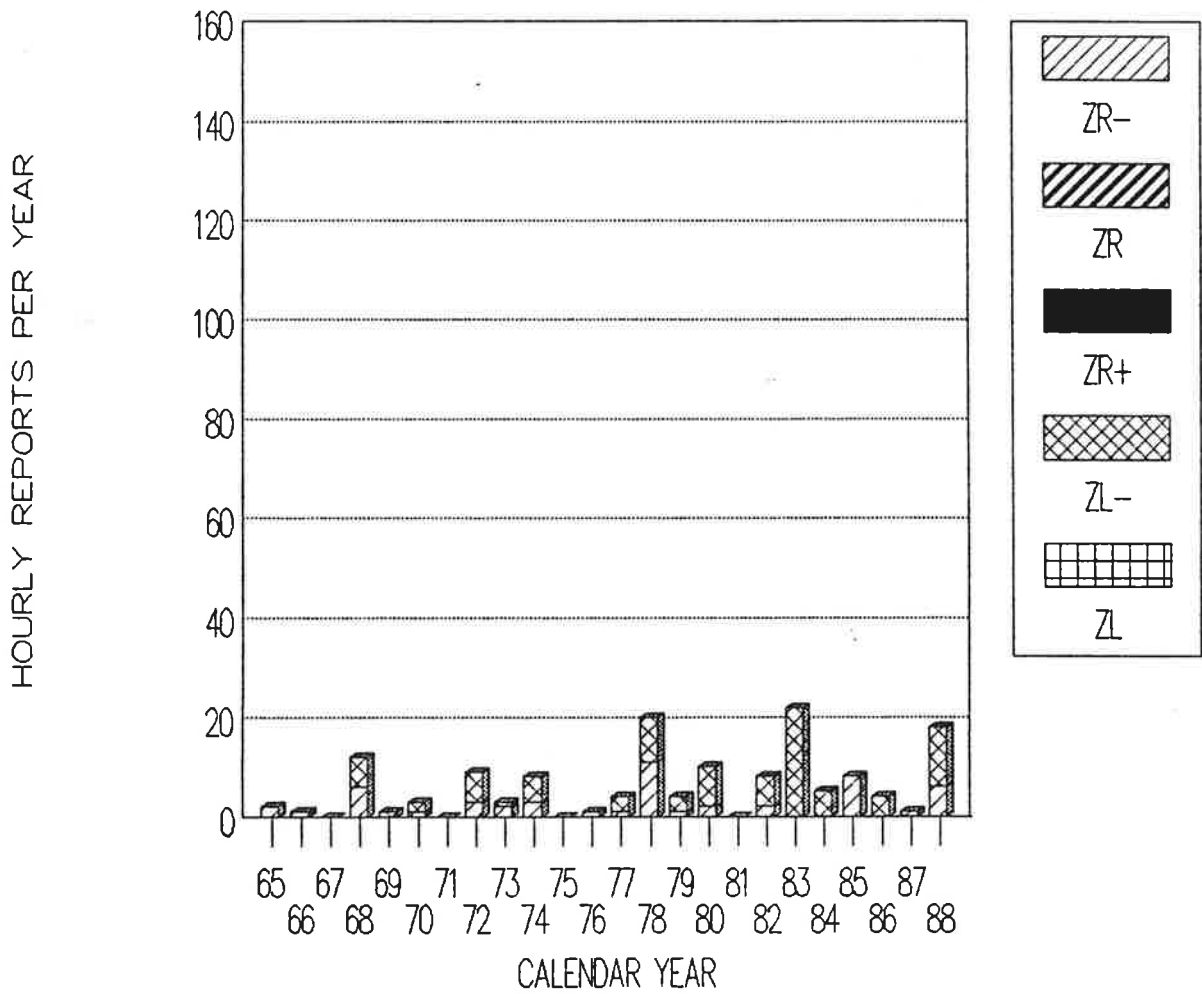
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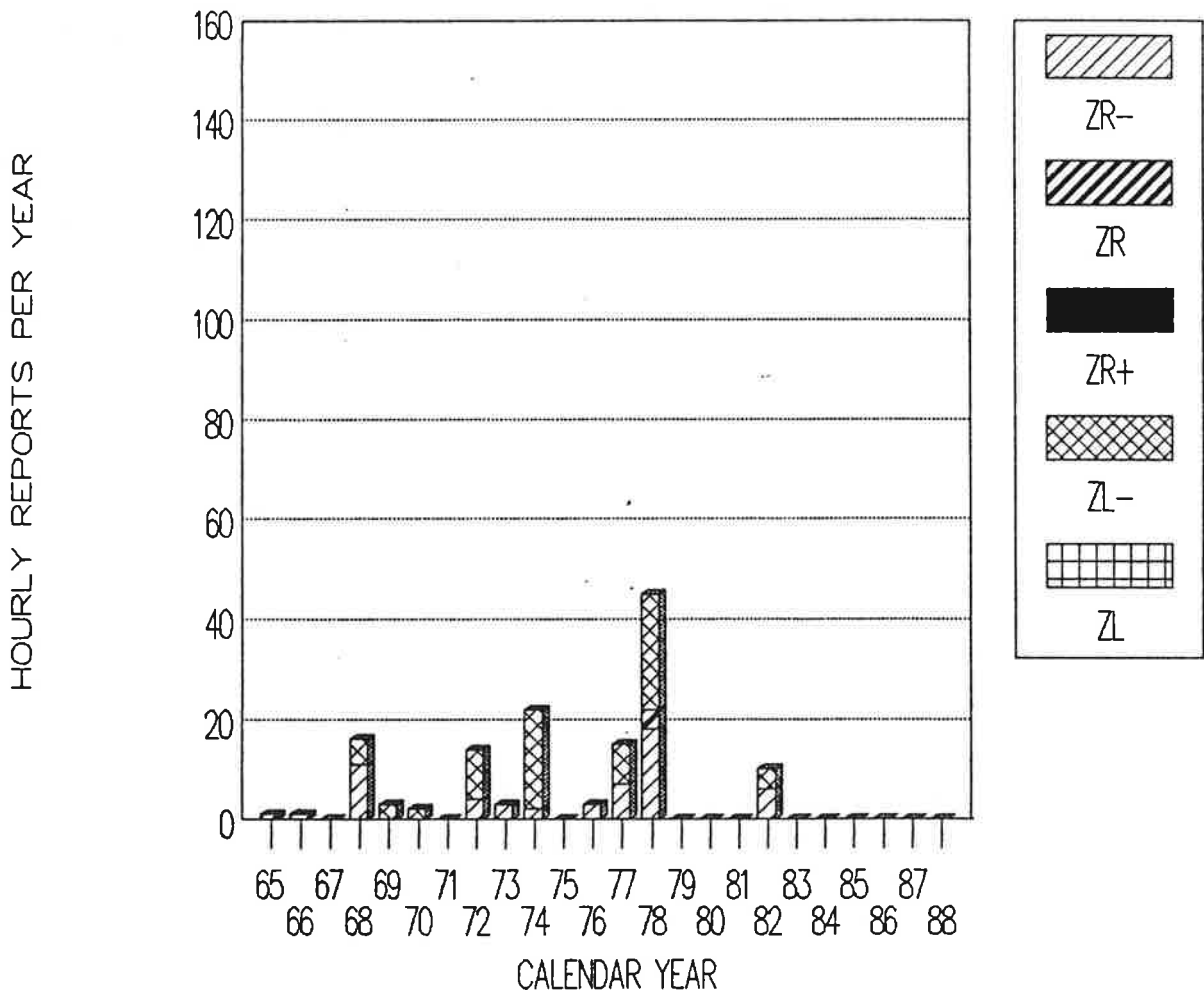
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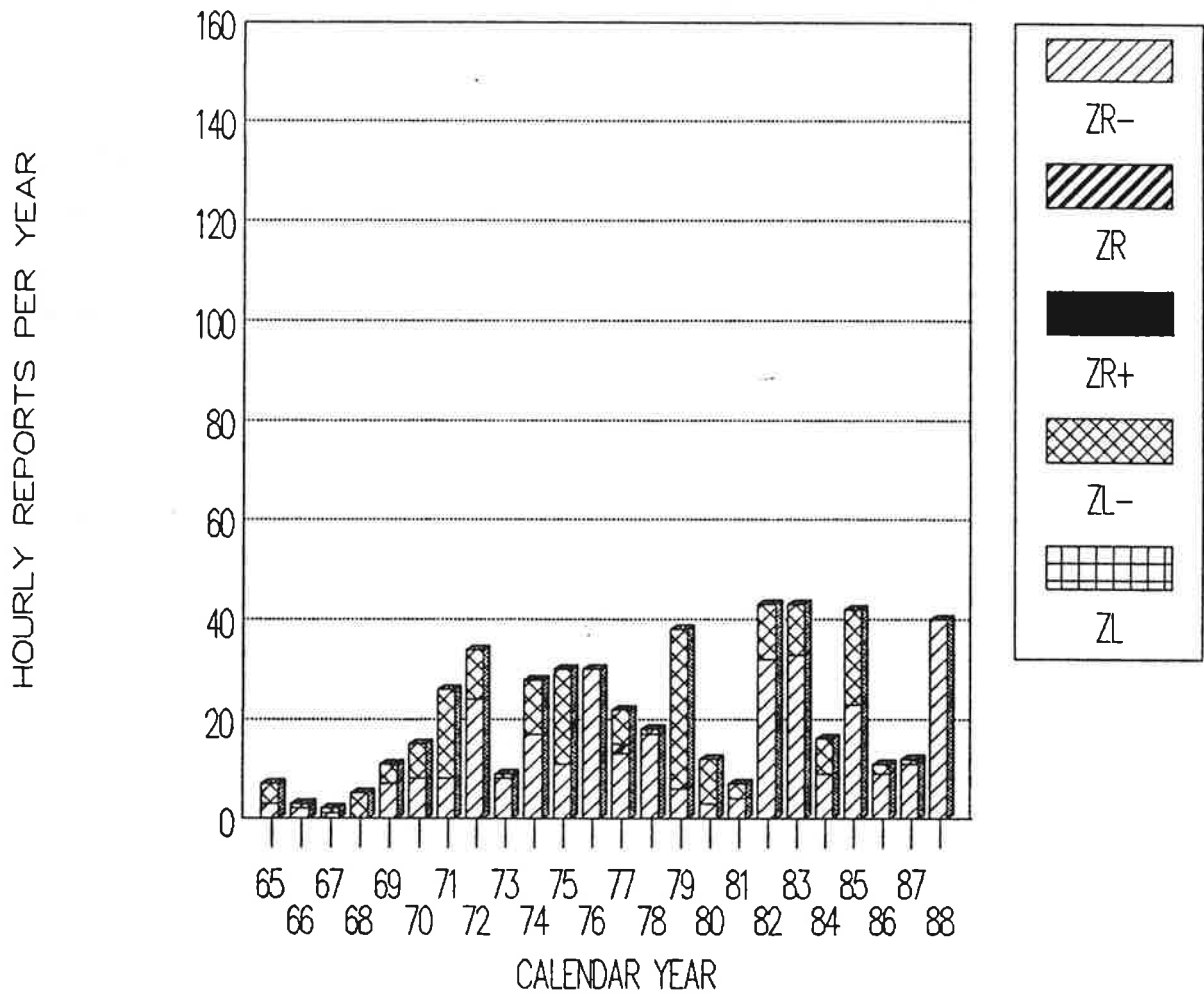
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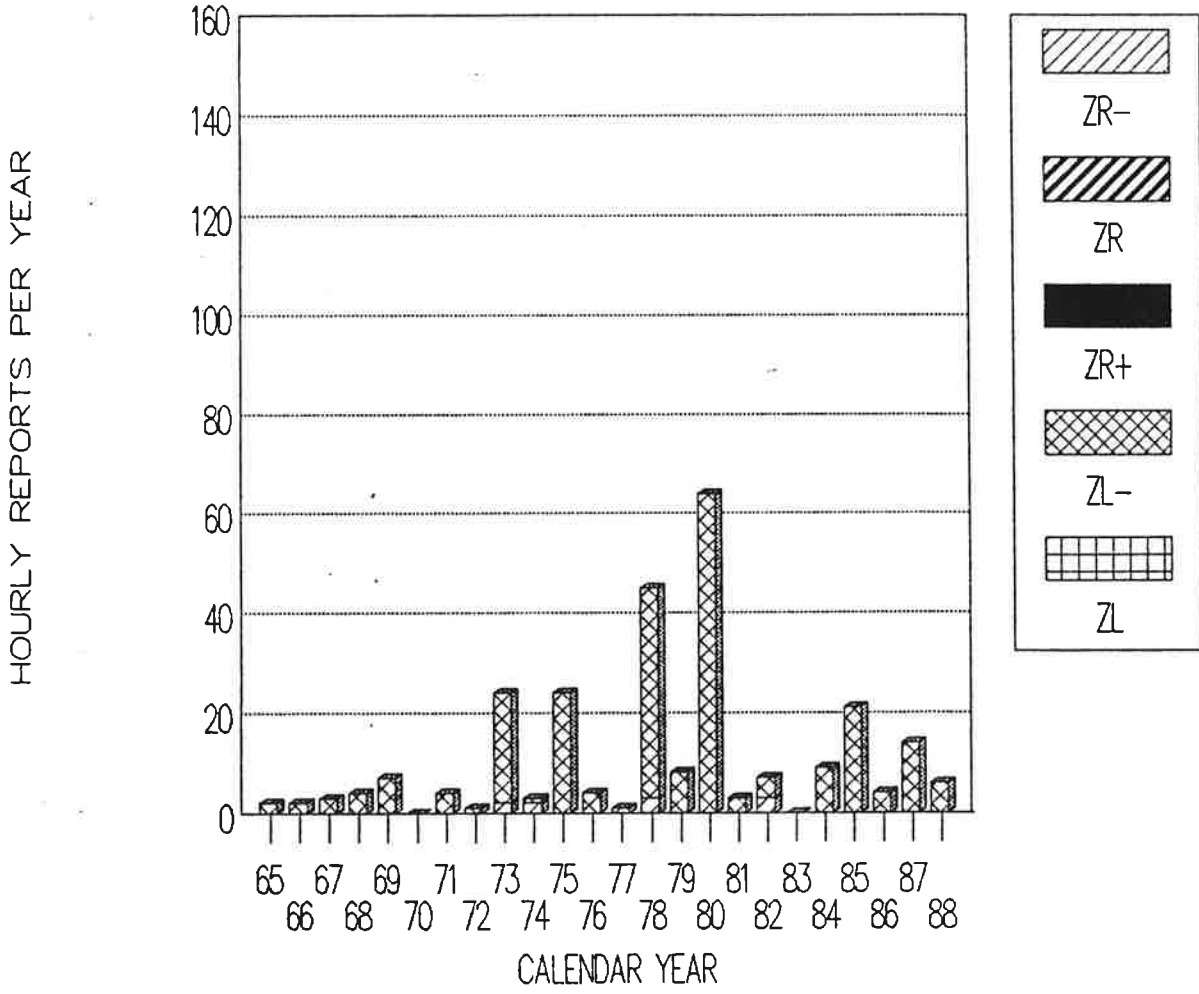
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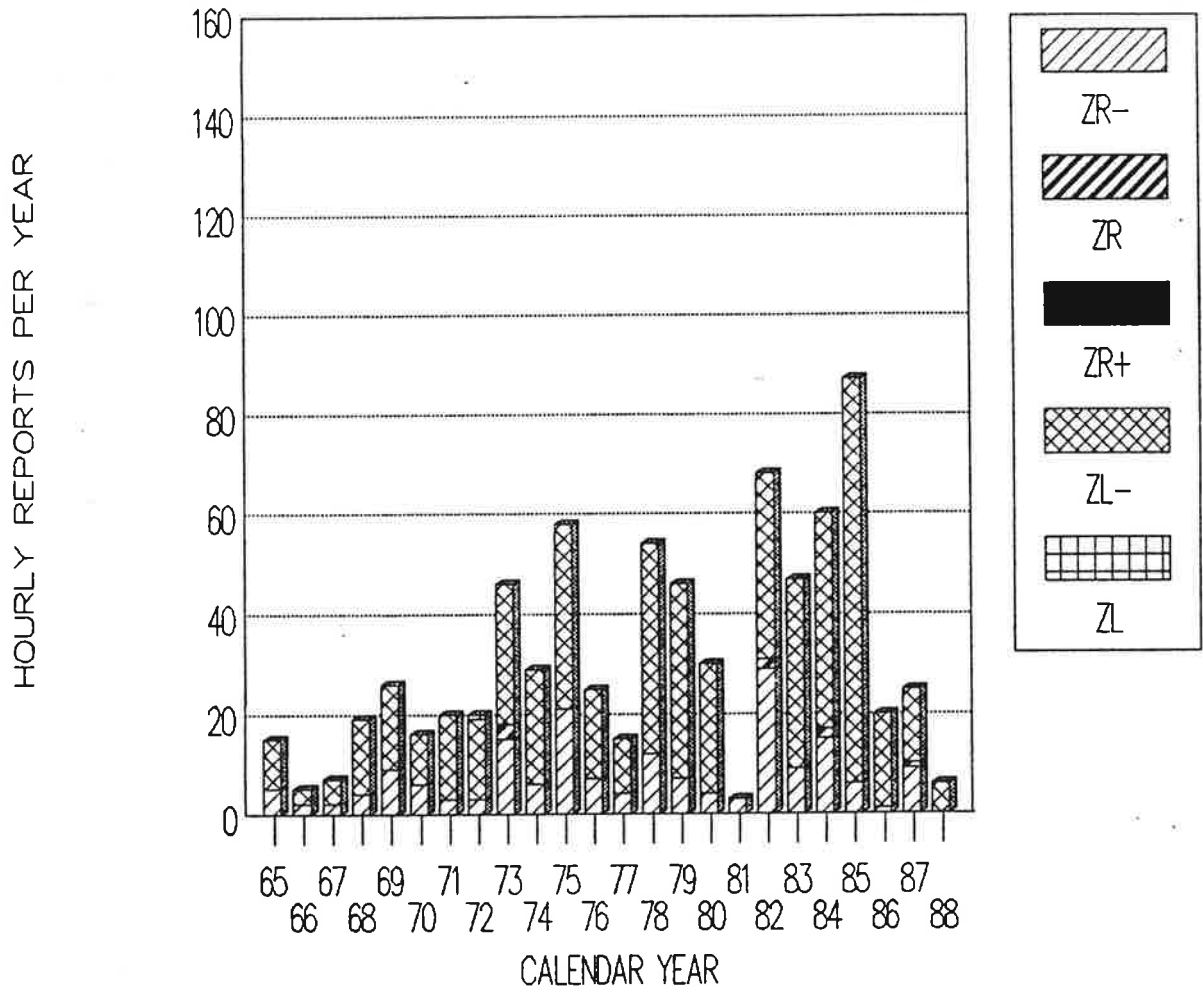
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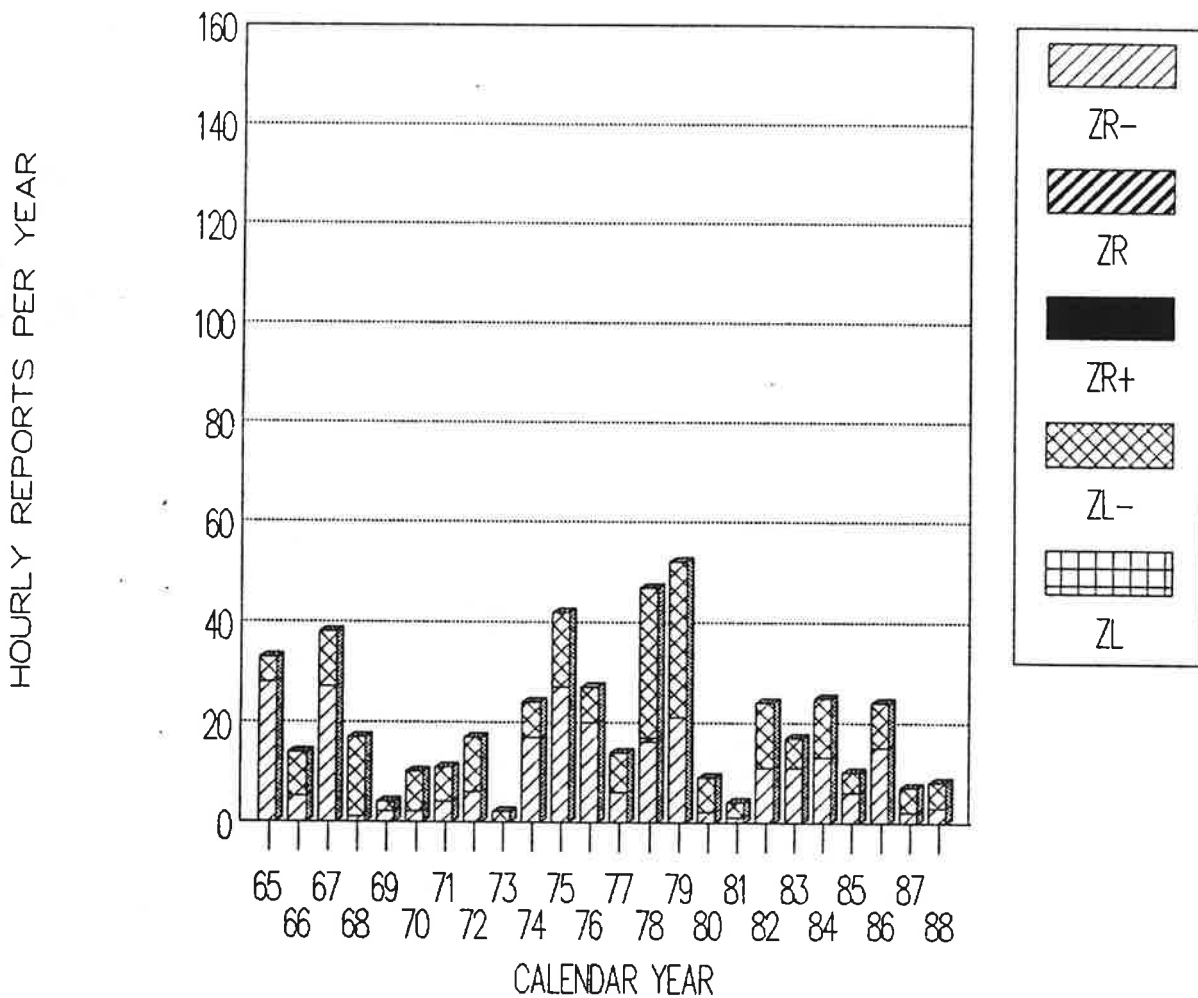
DENVER-STAPLETON INTERNATIONAL, CO
 ICING REPORTS 1965-1988



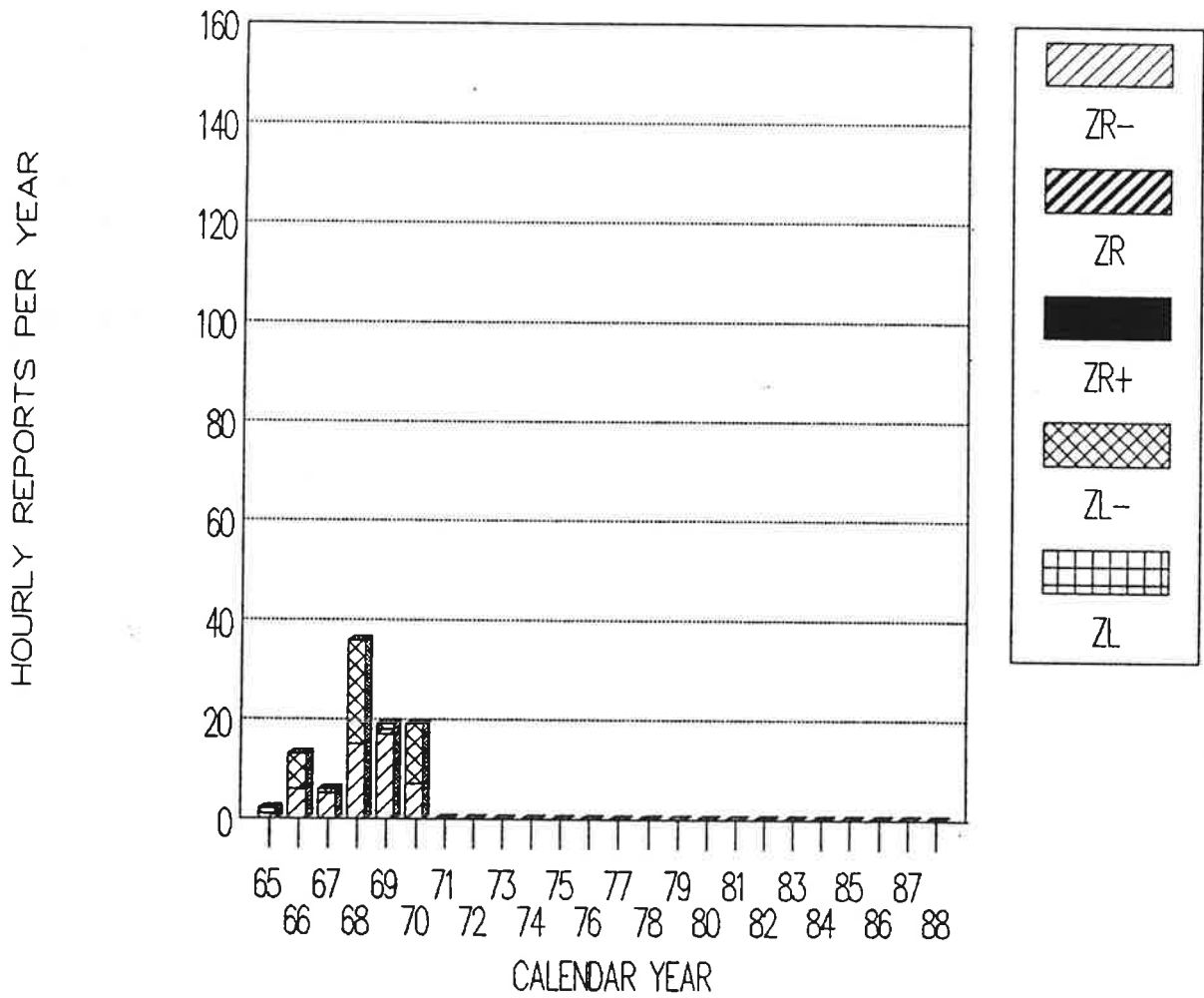
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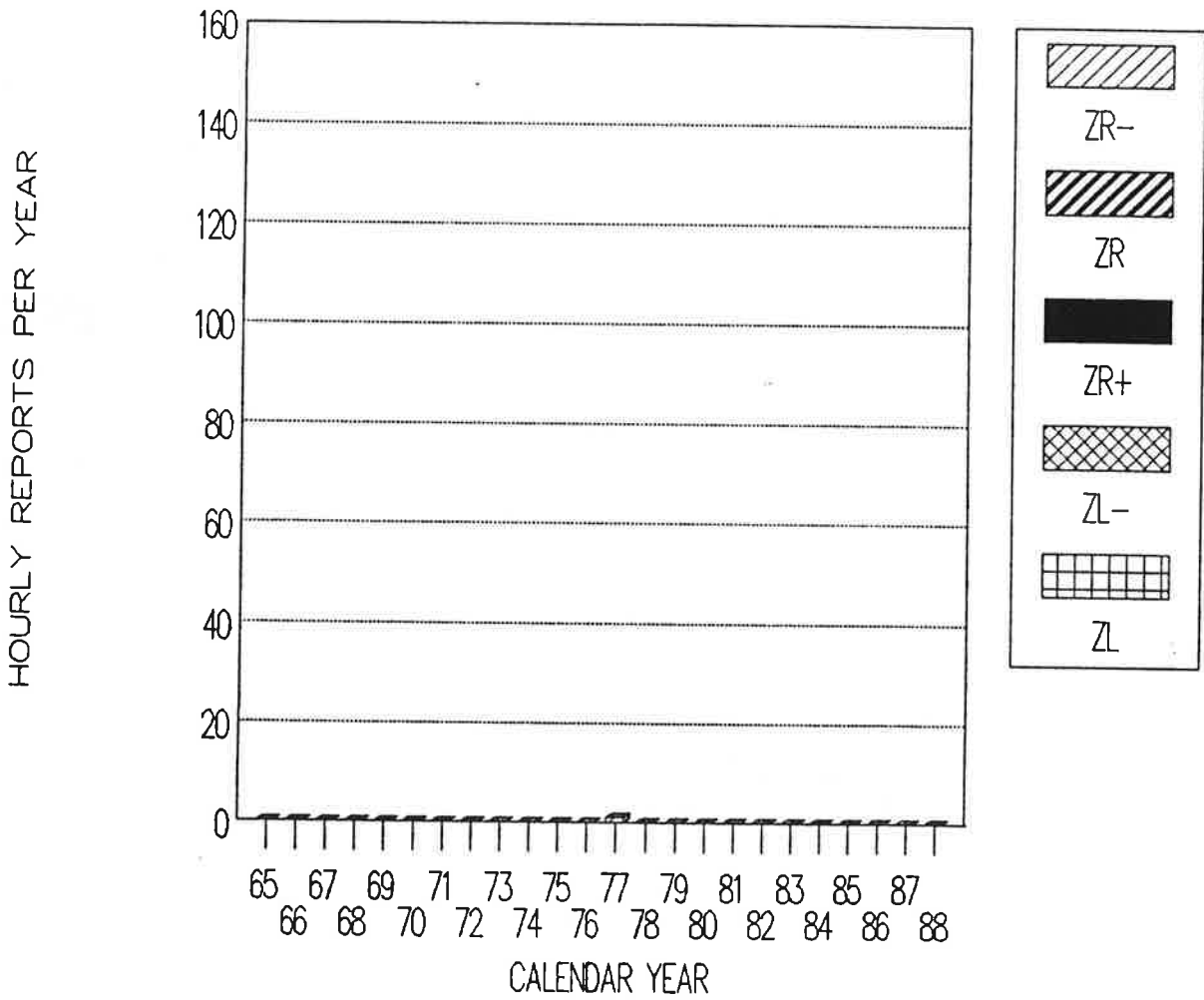
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FAYETTEVILLE, NC
 ICING REPORTS 1965-1988

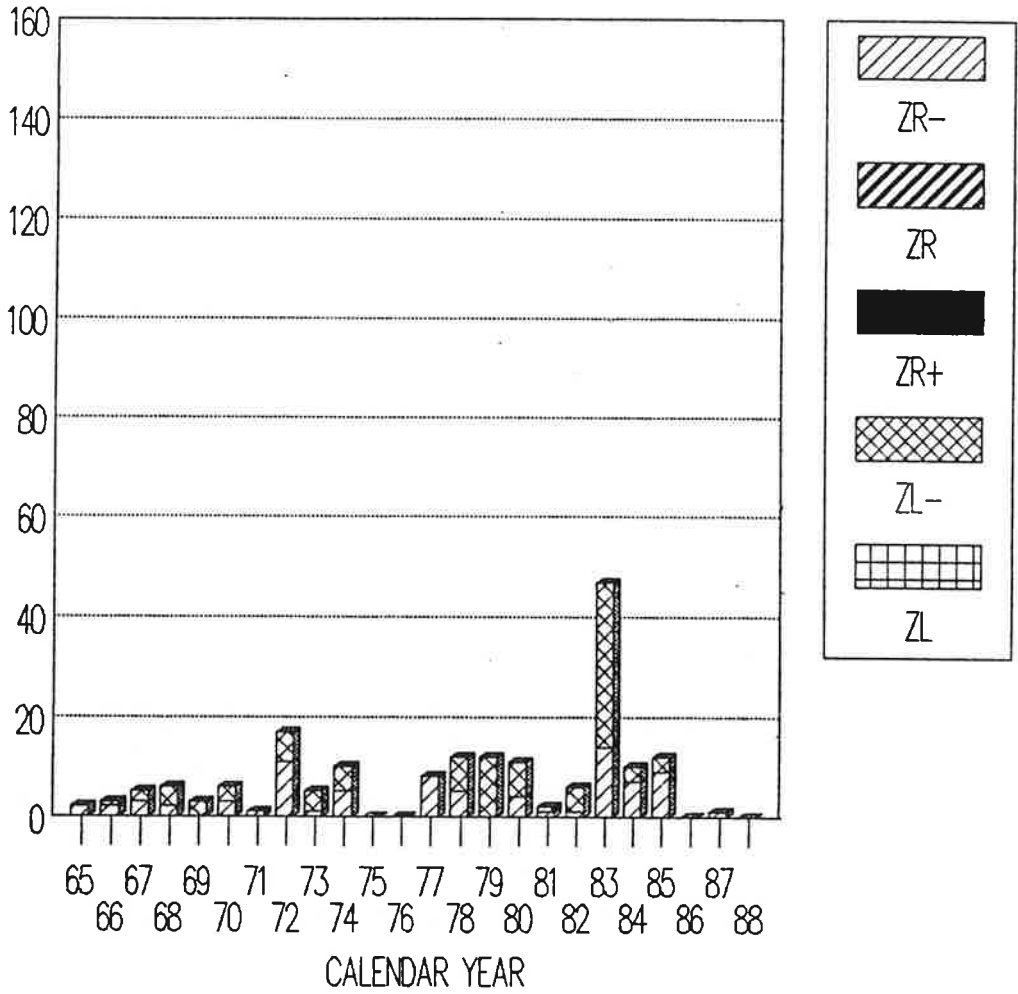


FT MYERS, FL
 ICING REPORTS 1965-1988

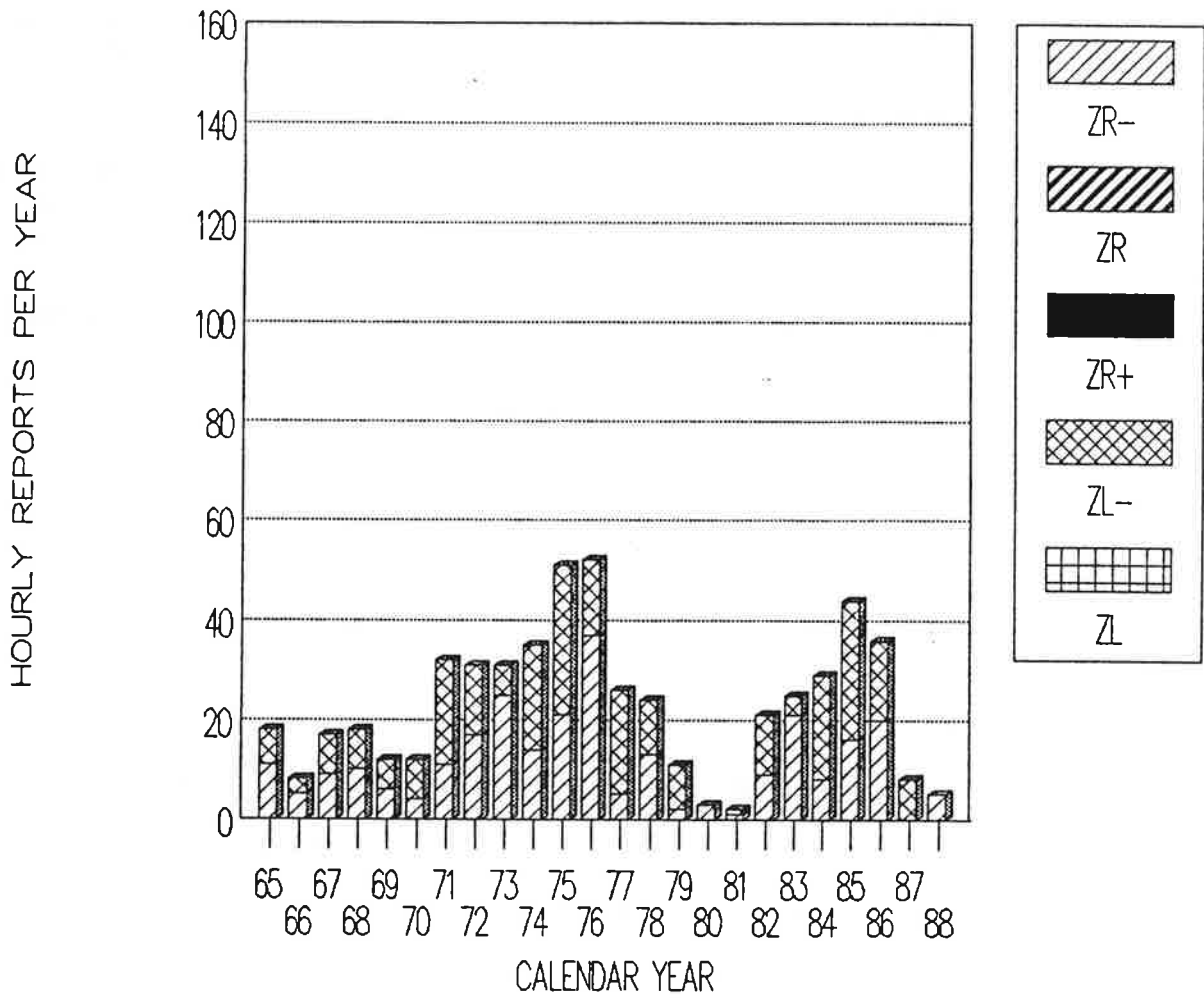


FORT SMITH, AR
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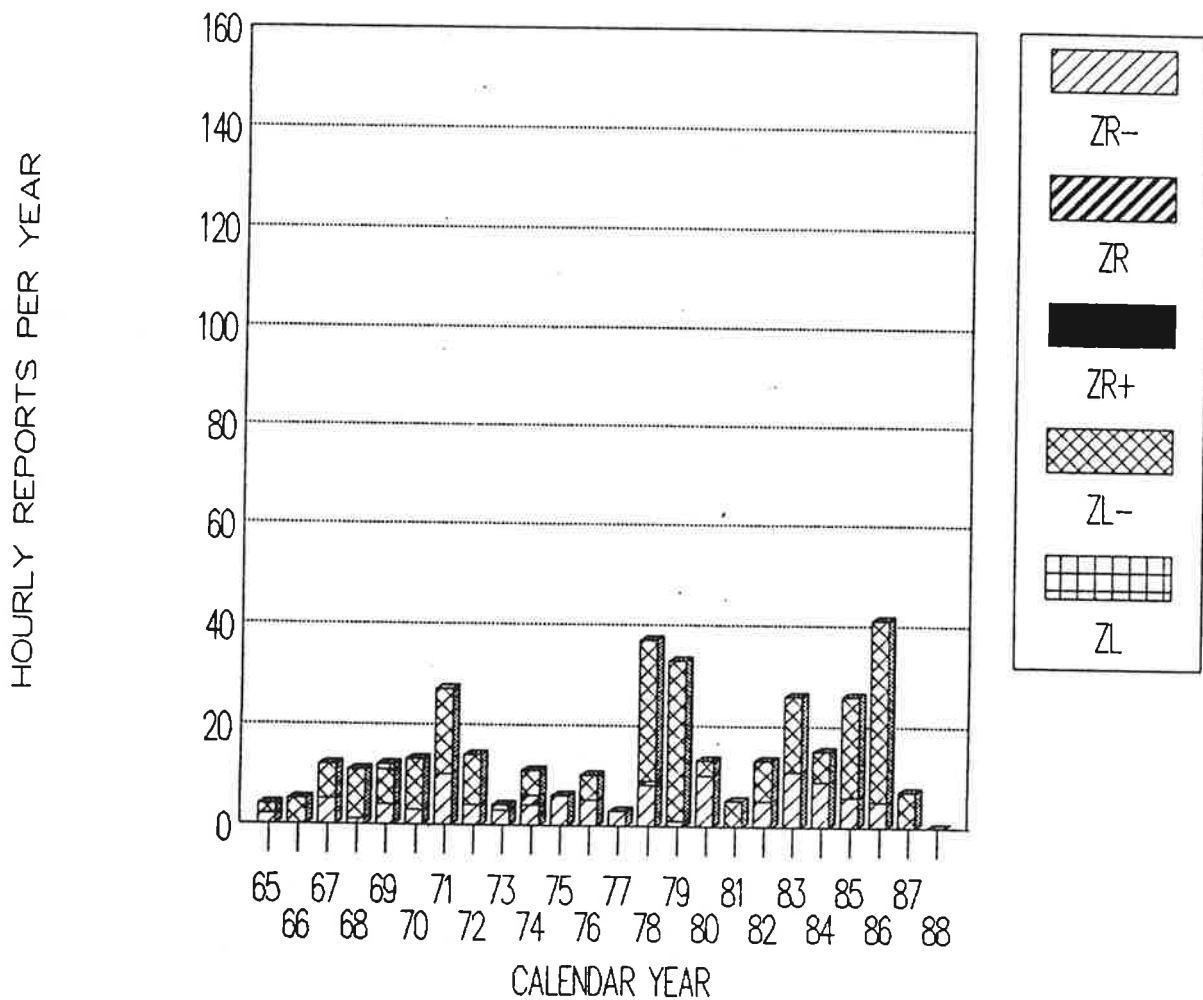
HOURLY REPORTS PER YEAR



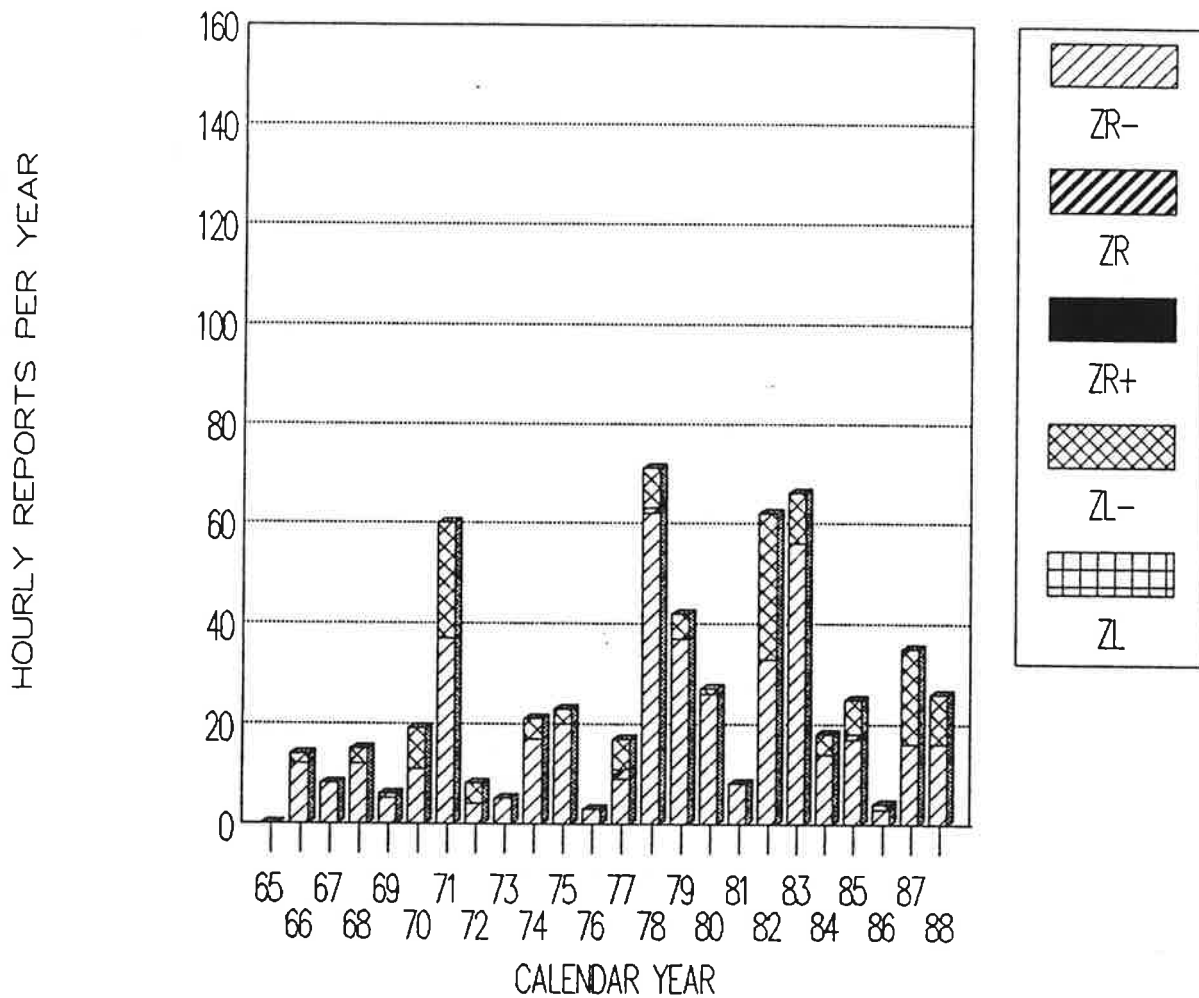
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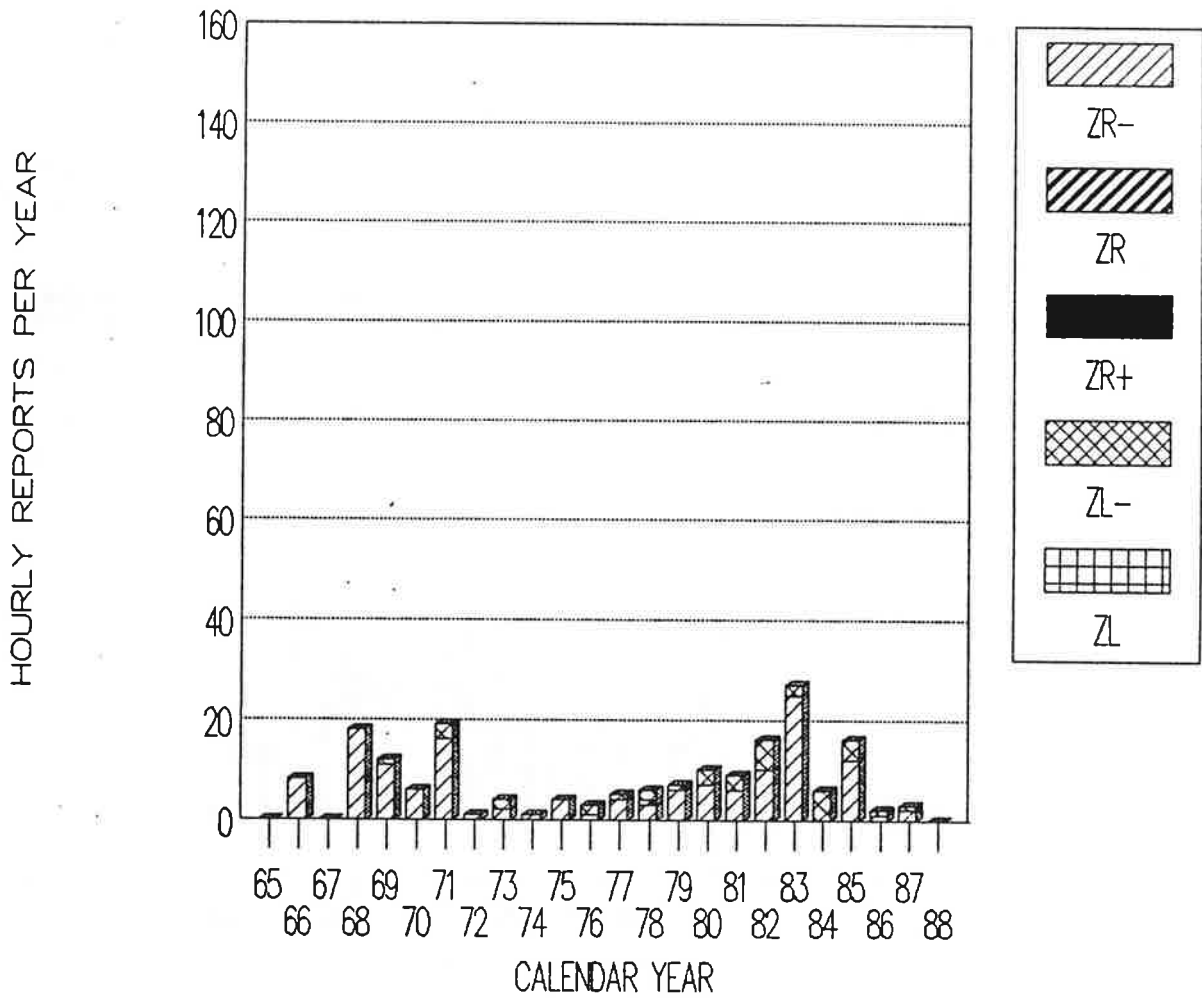
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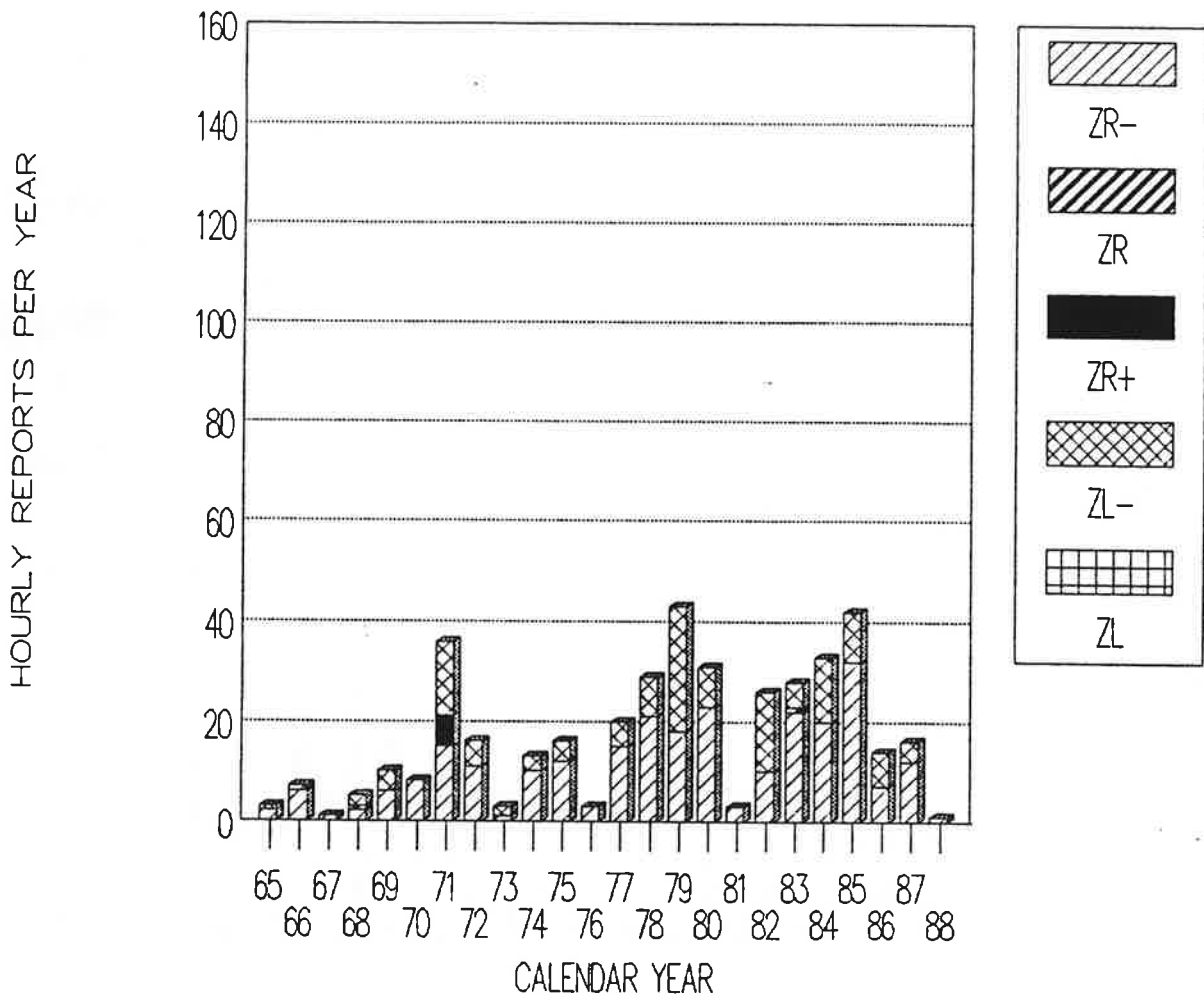
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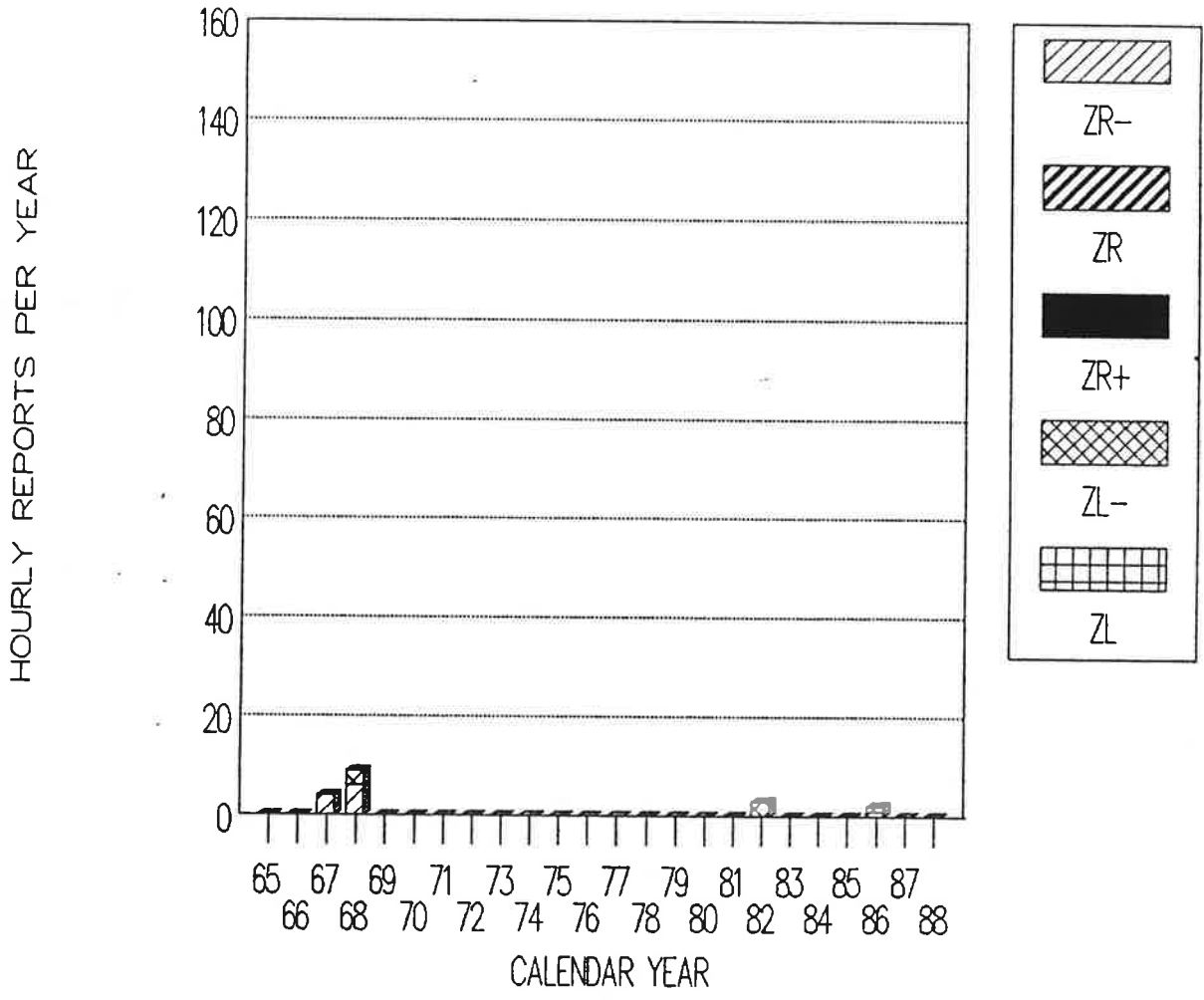
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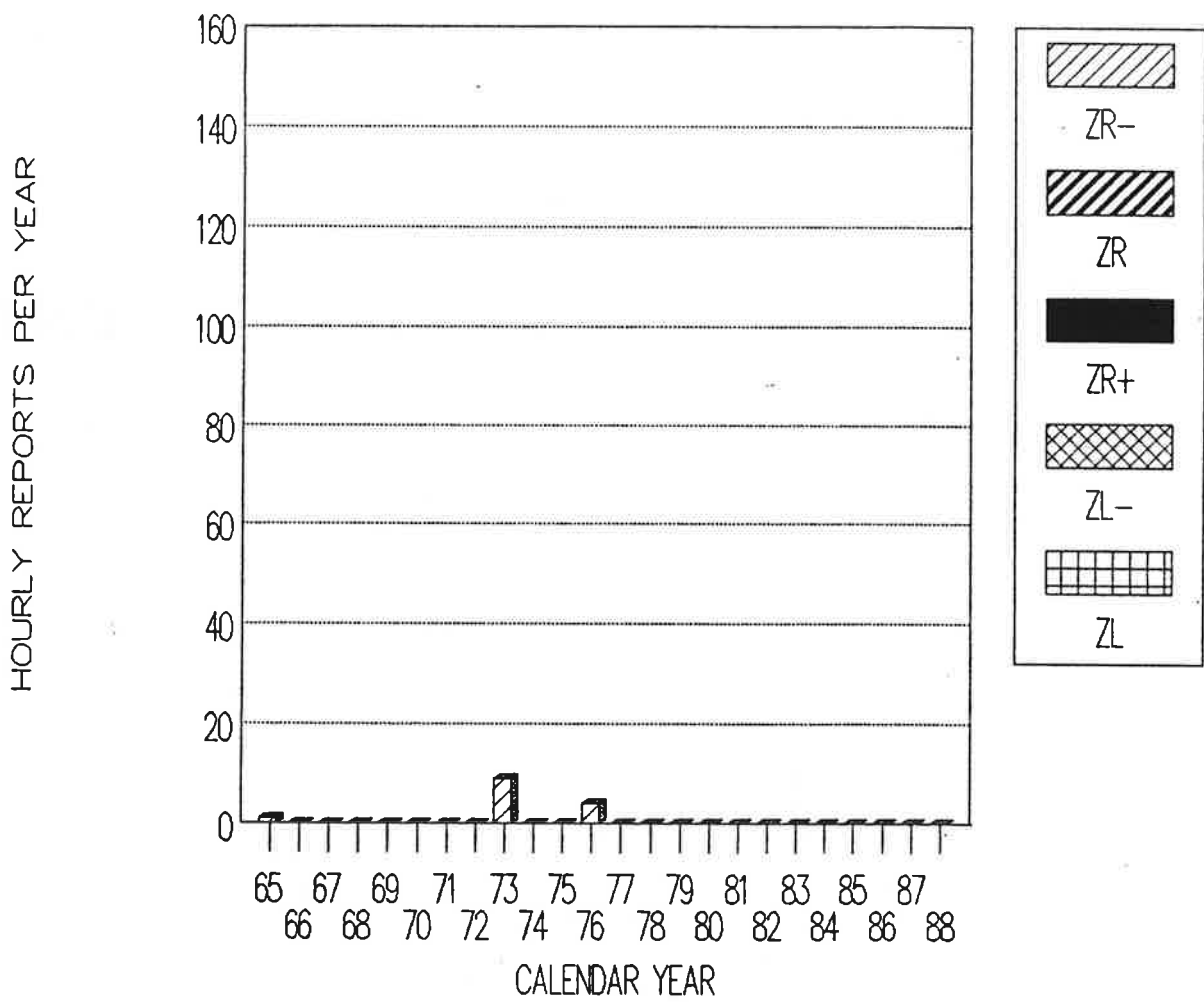
DULLES INTERNATIONAL, DC
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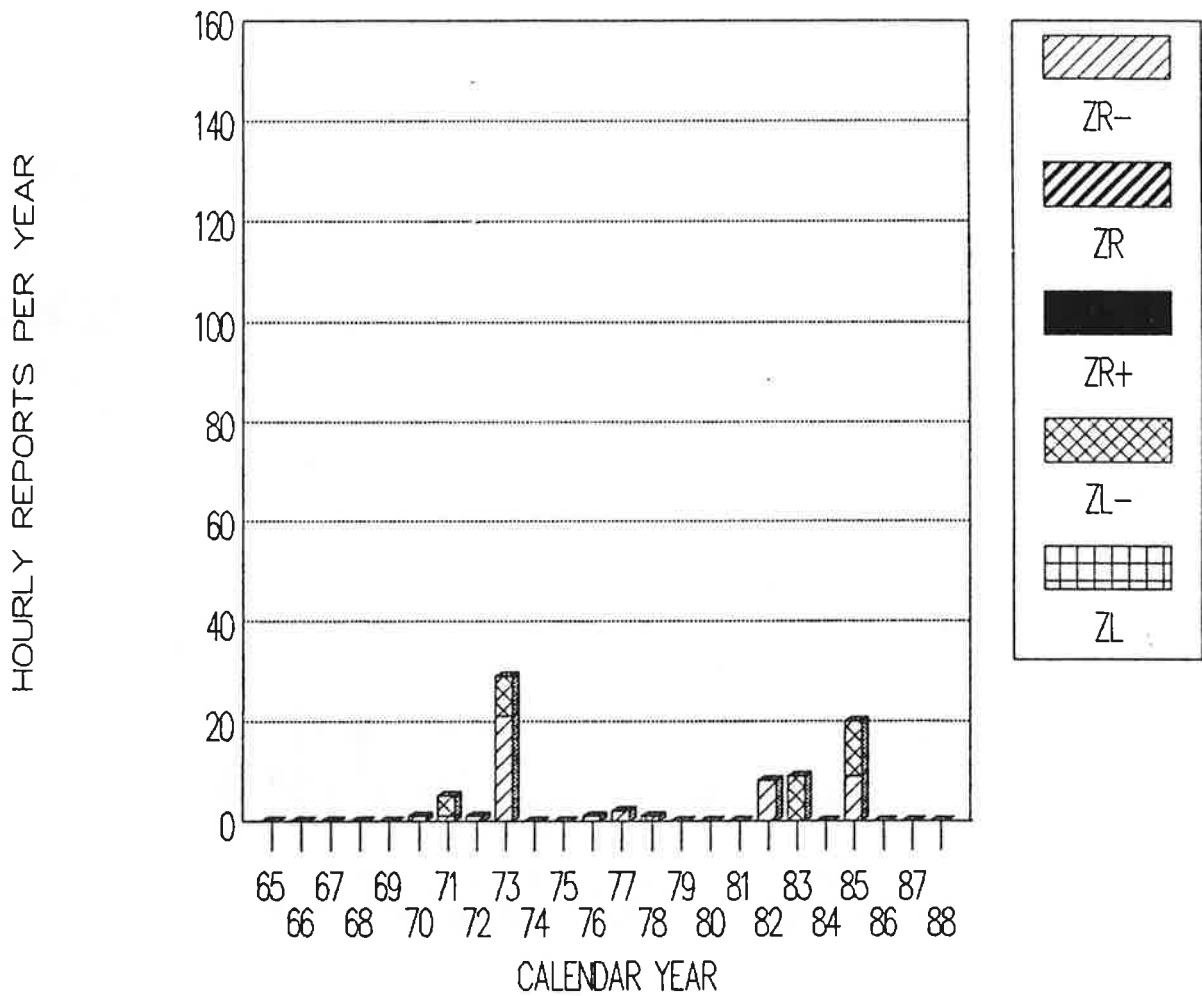
EL PASO, TX
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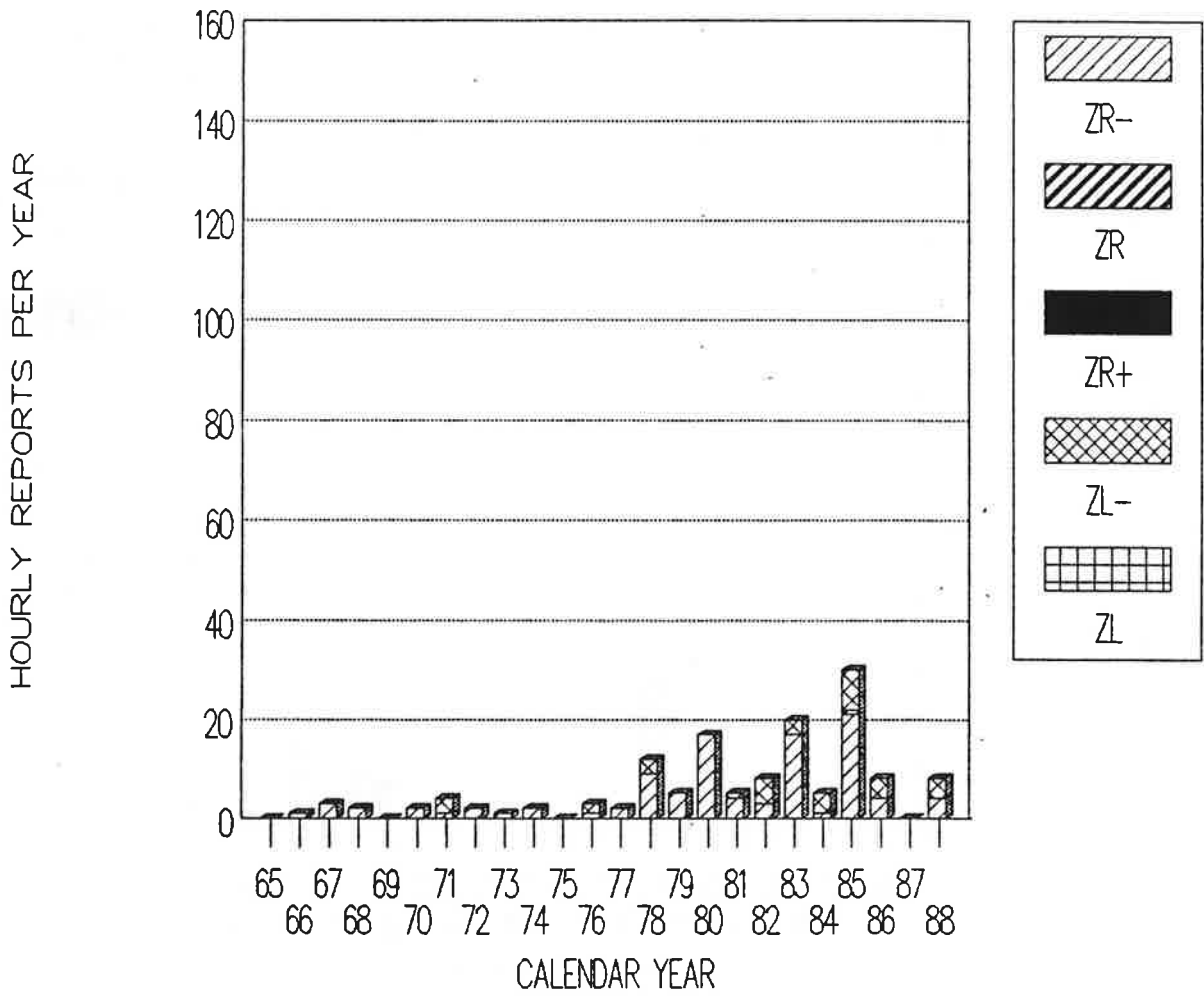
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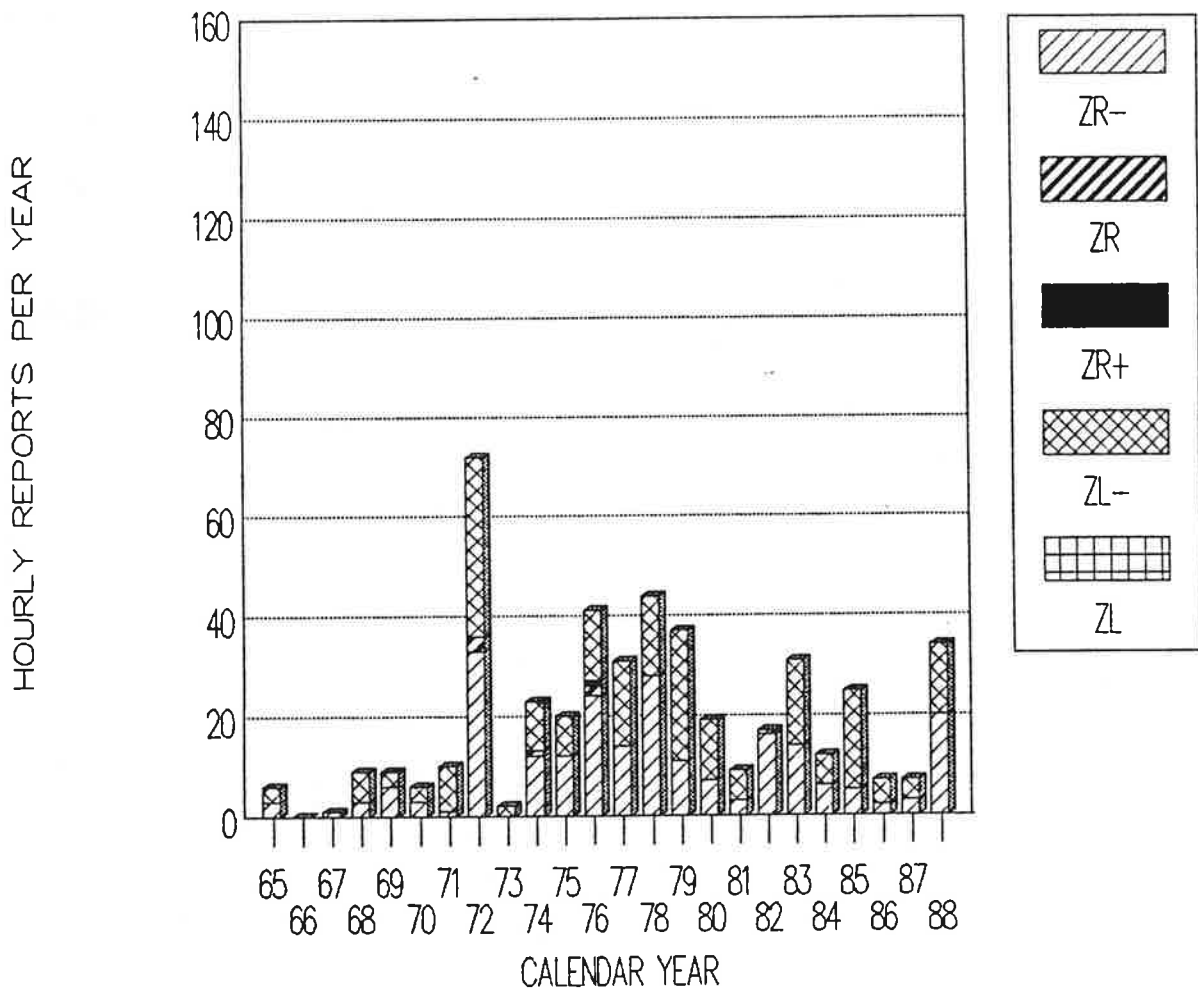
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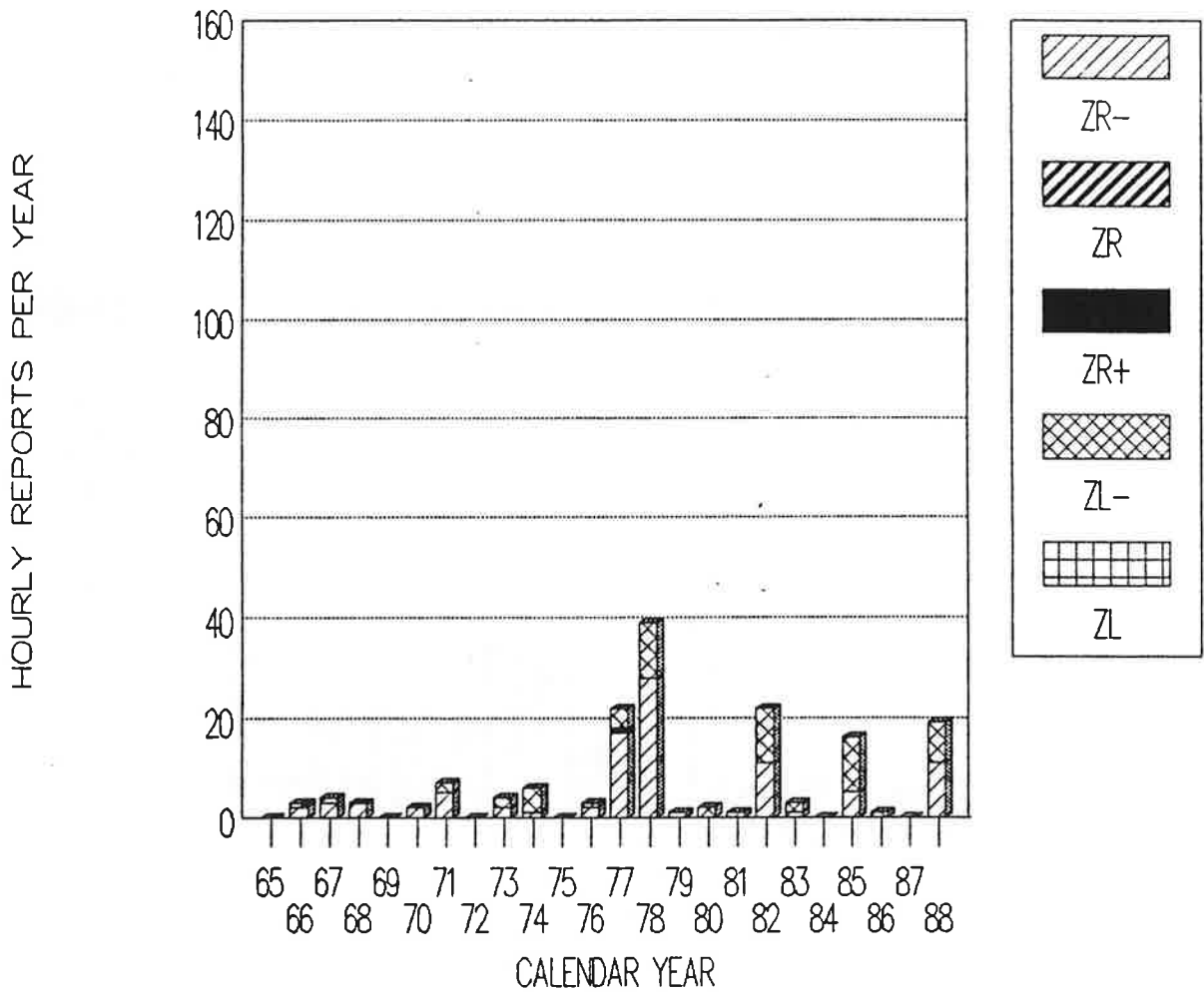
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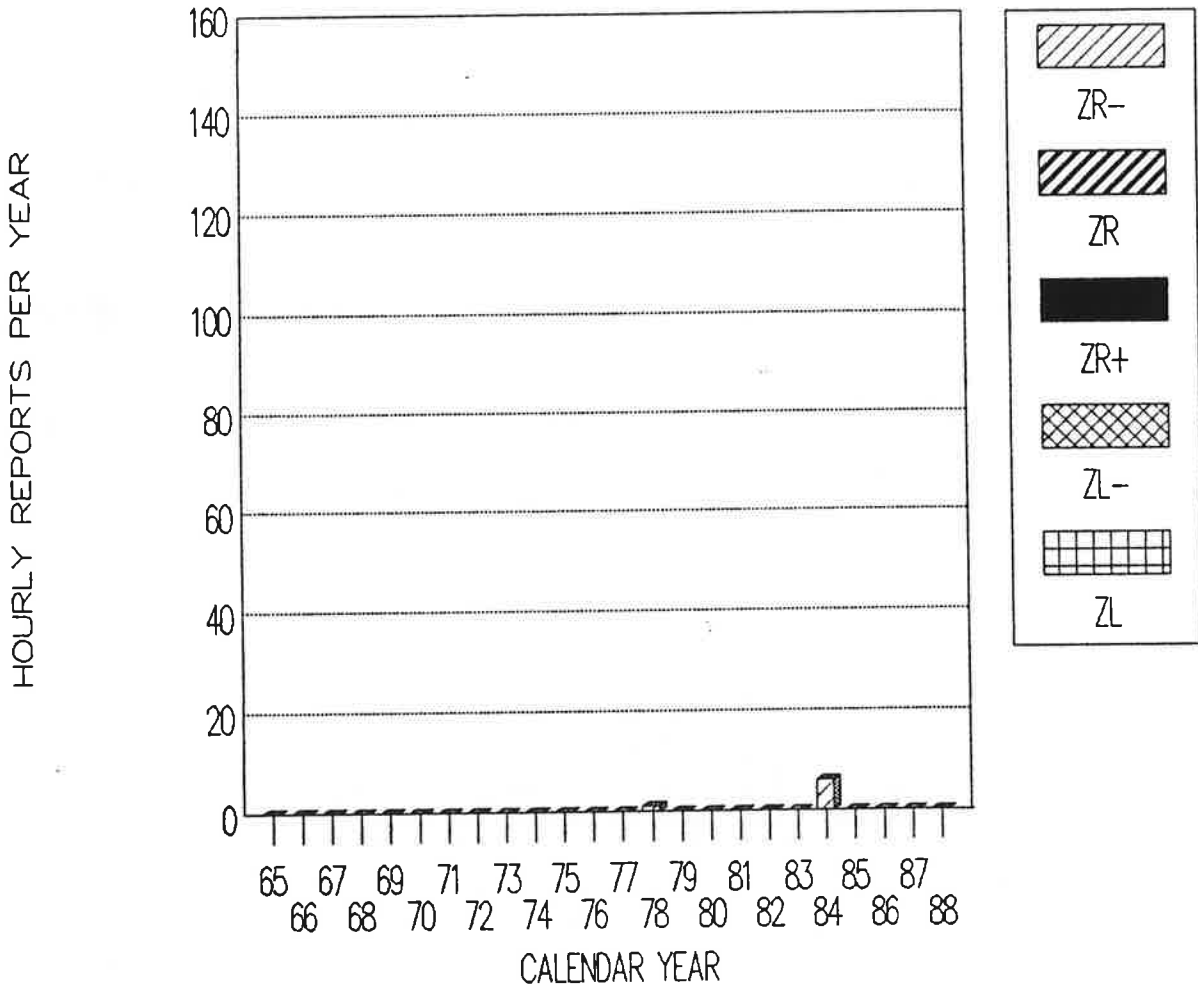
INDIANAPOLIS INTERNATIONAL, IN
ICING REPORTS 1965-1988



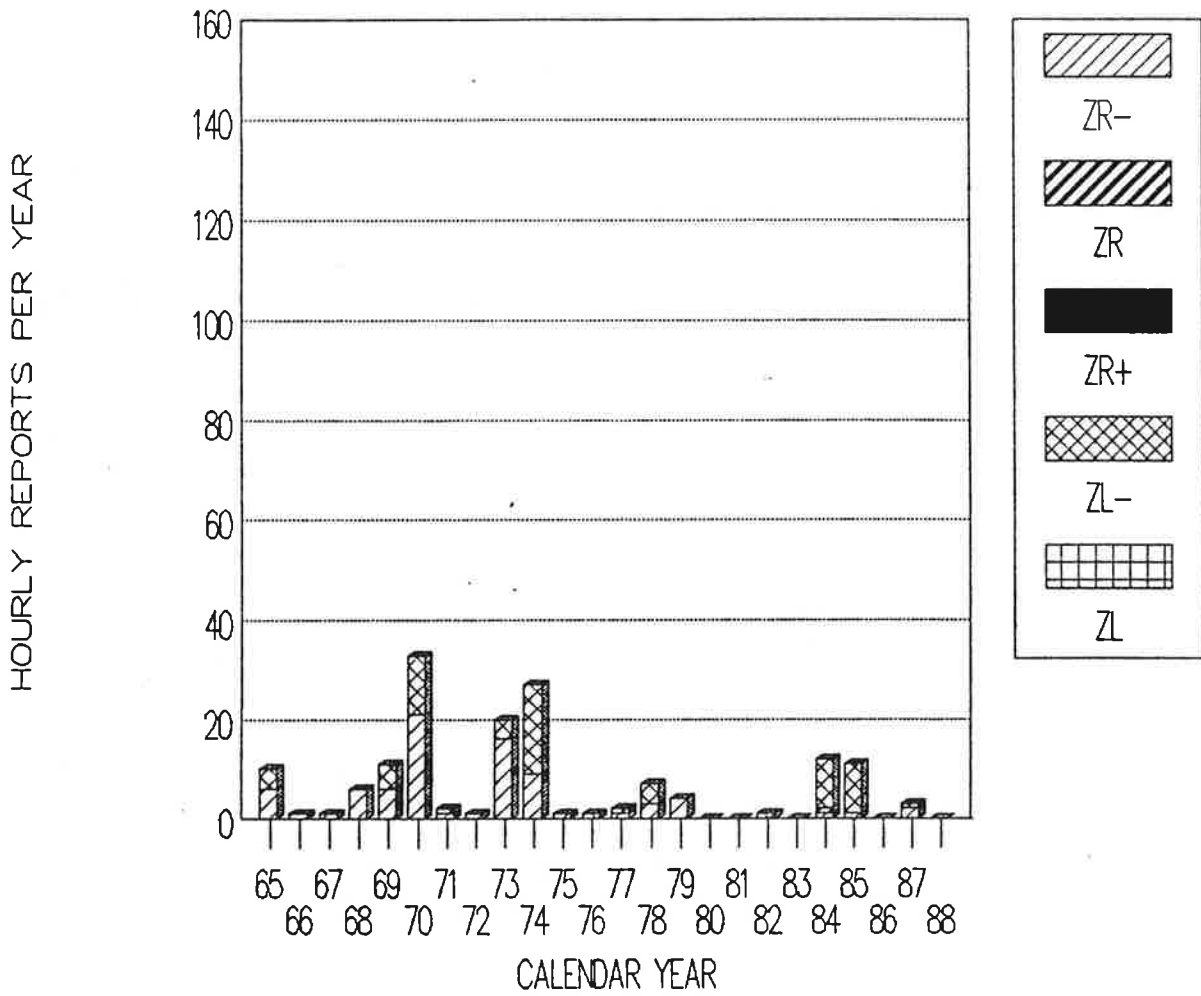
JACKSON, MS
 ICING REPORTS 1965-1988



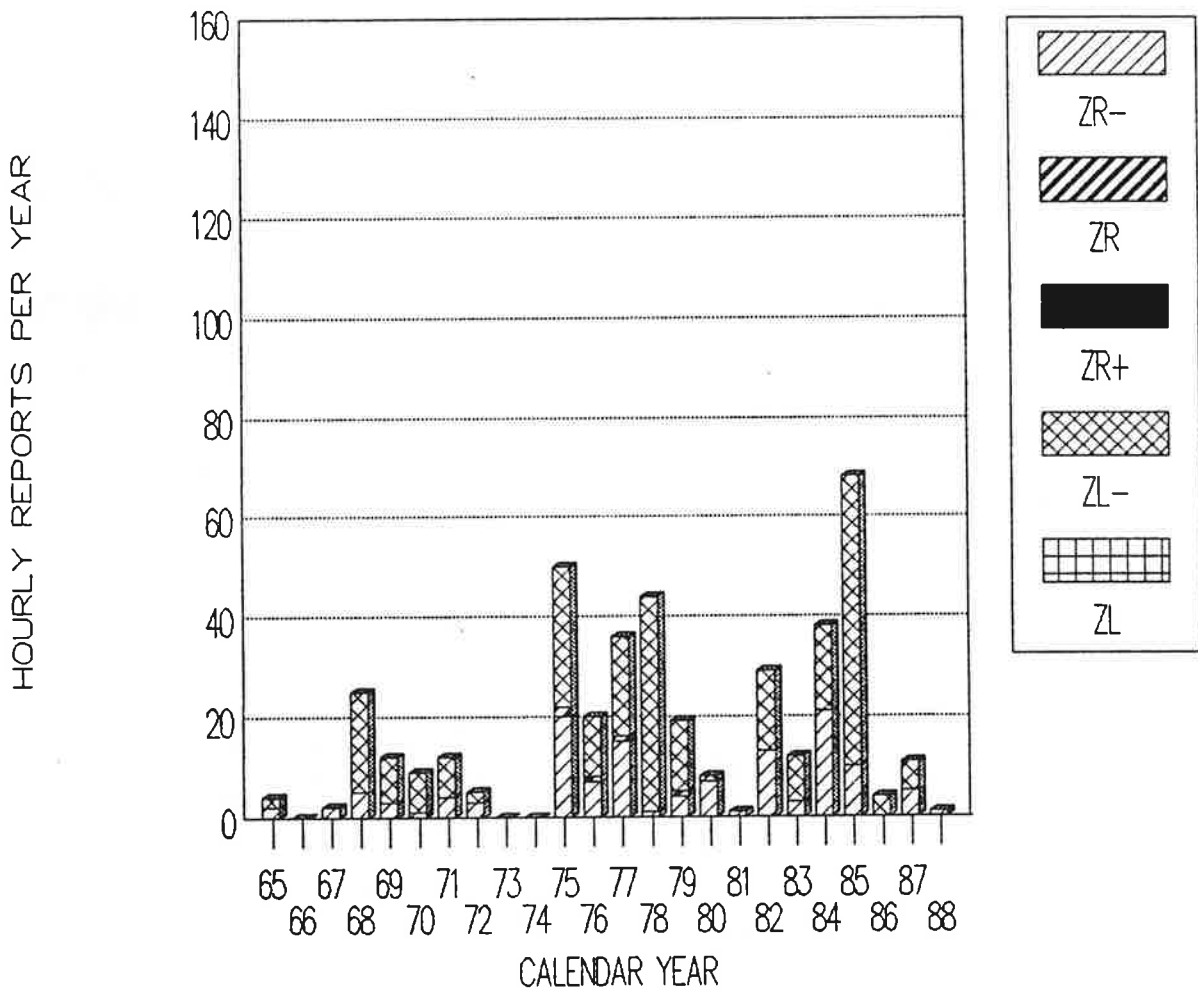
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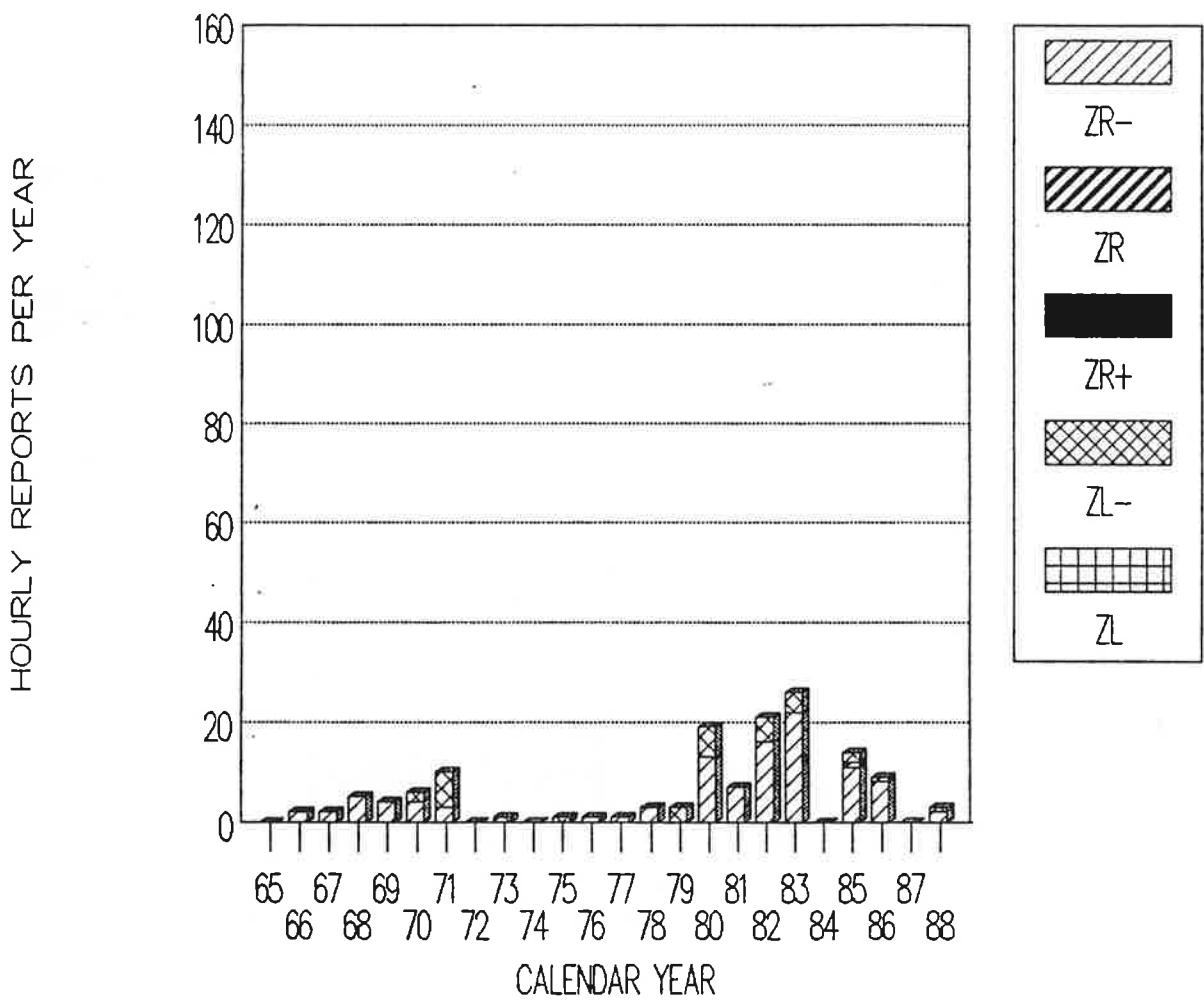
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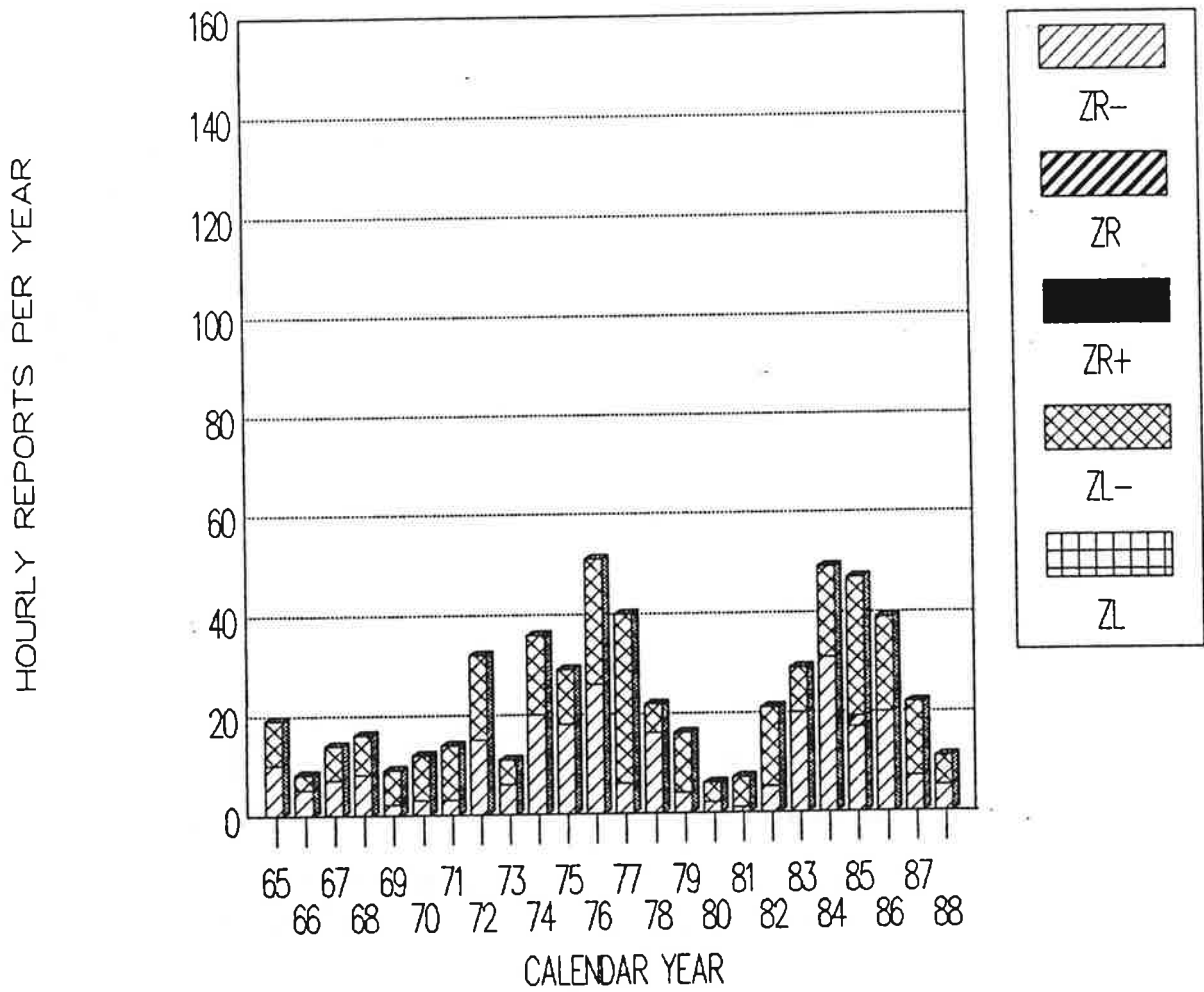
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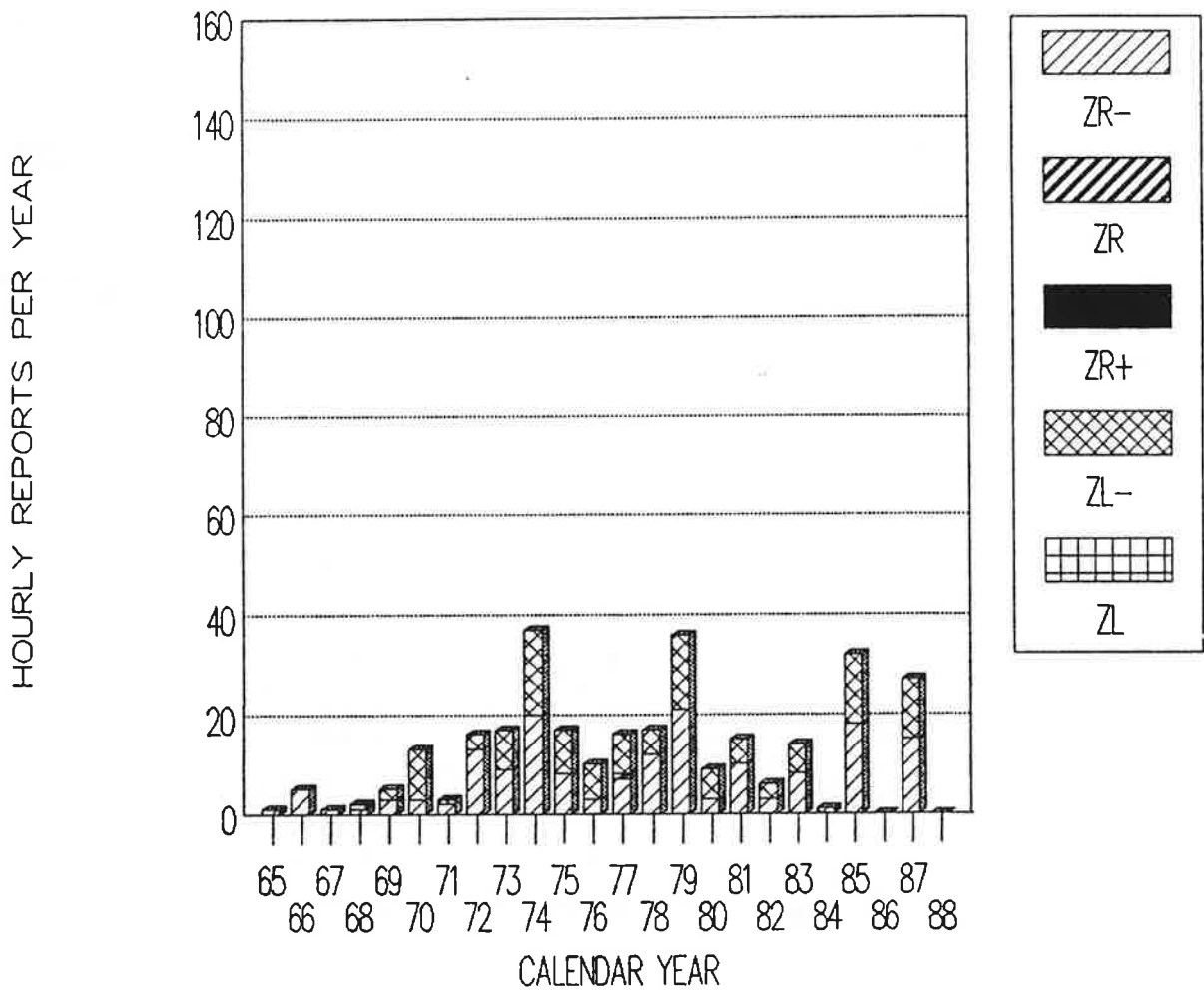
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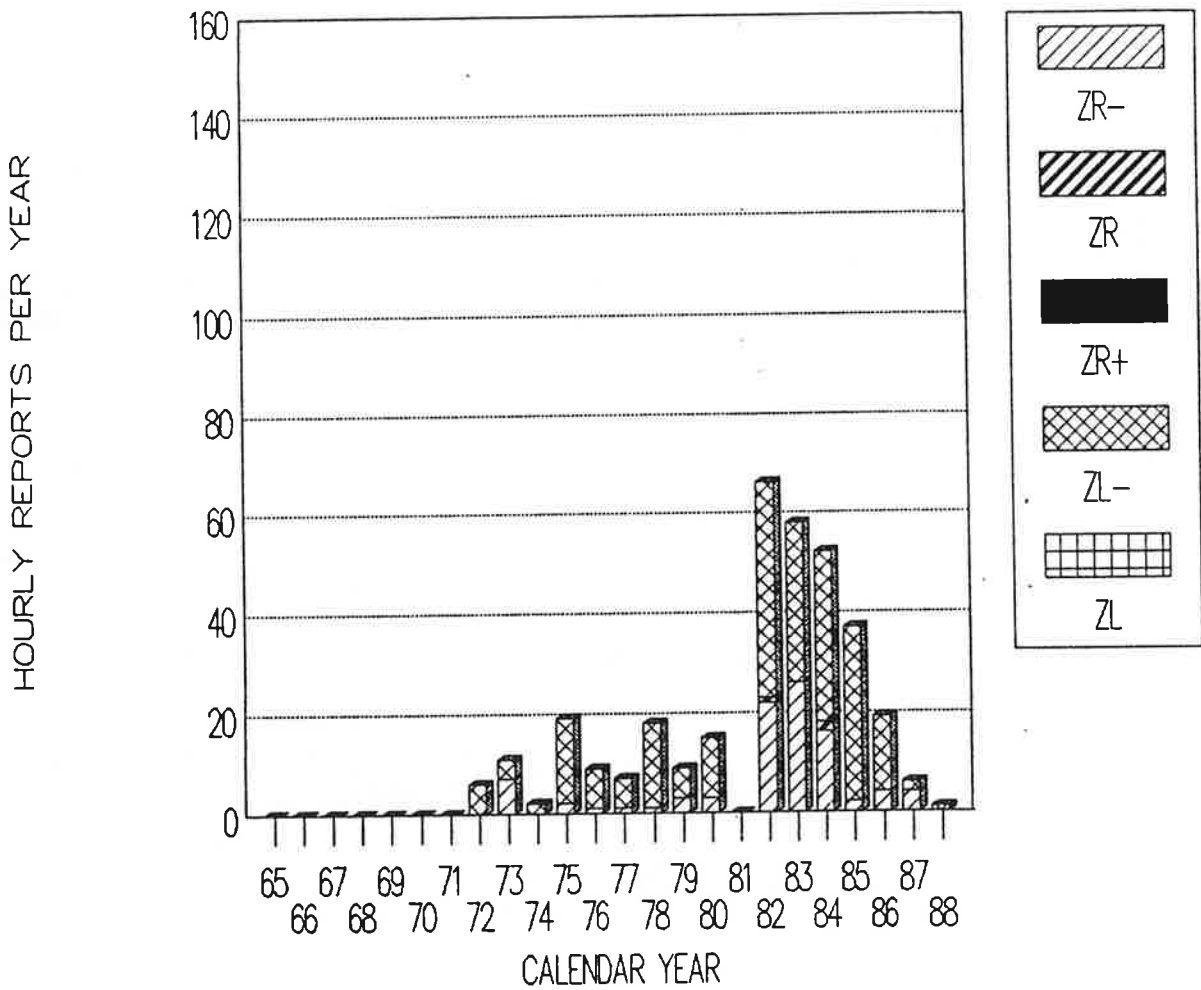
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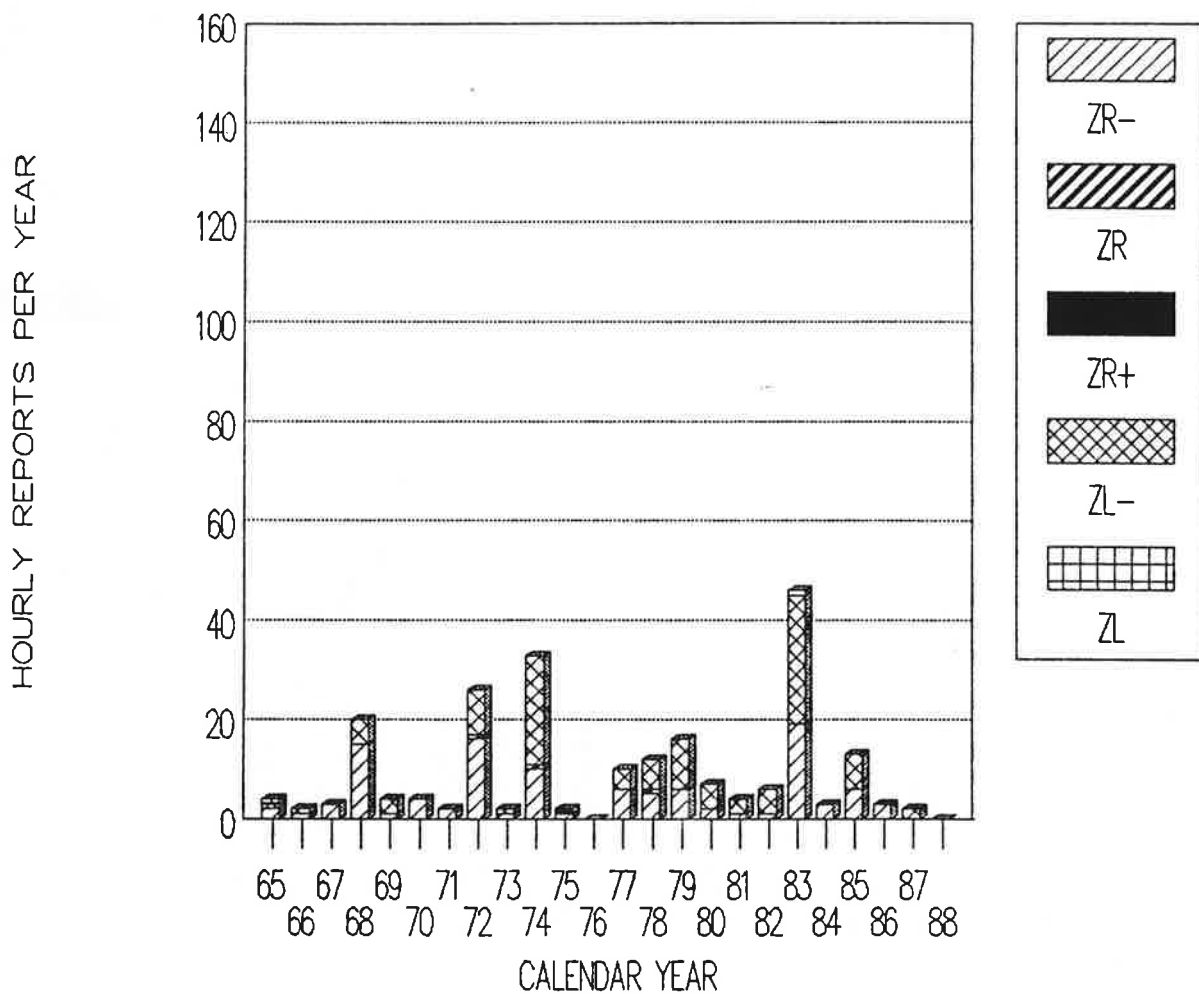
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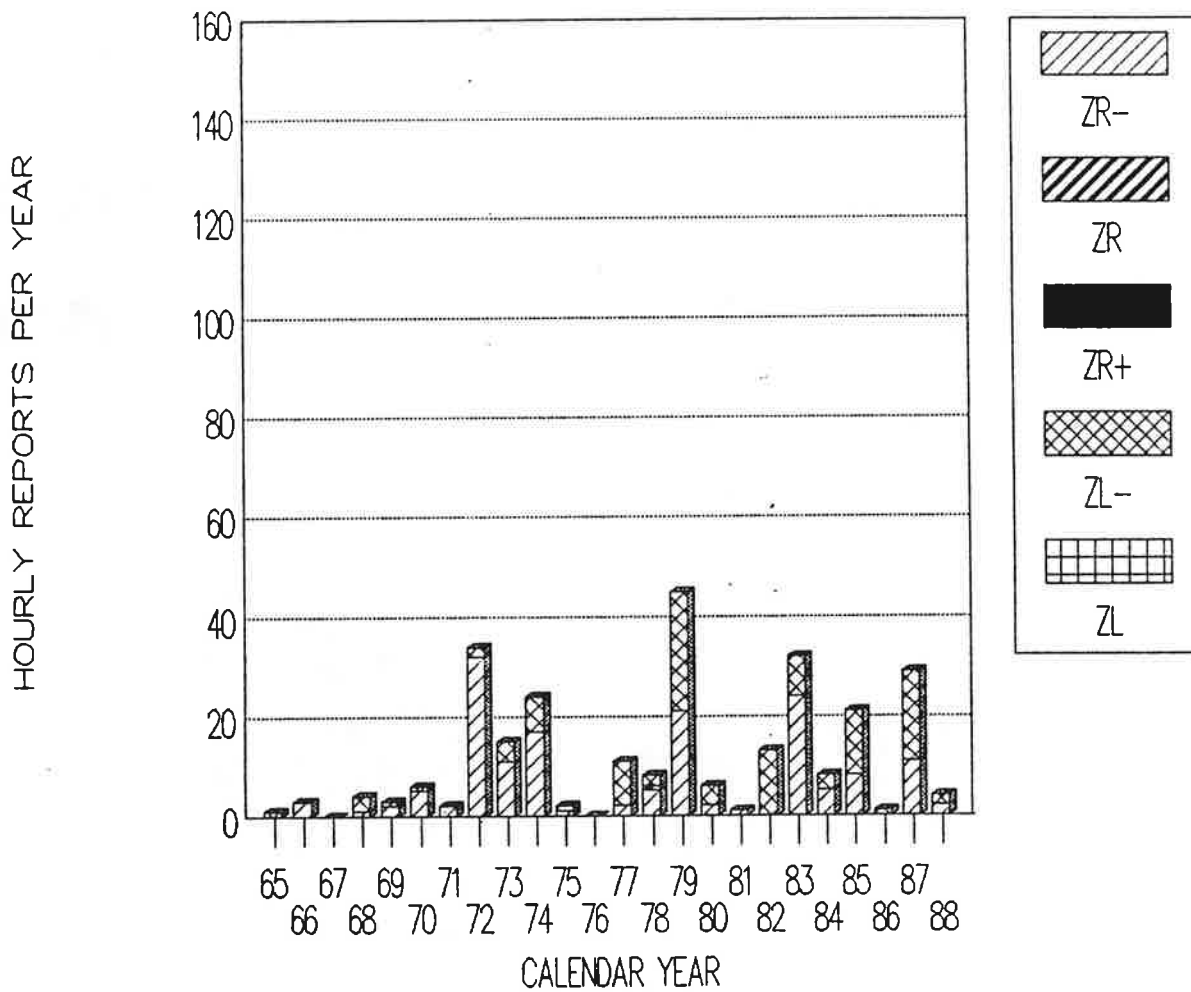
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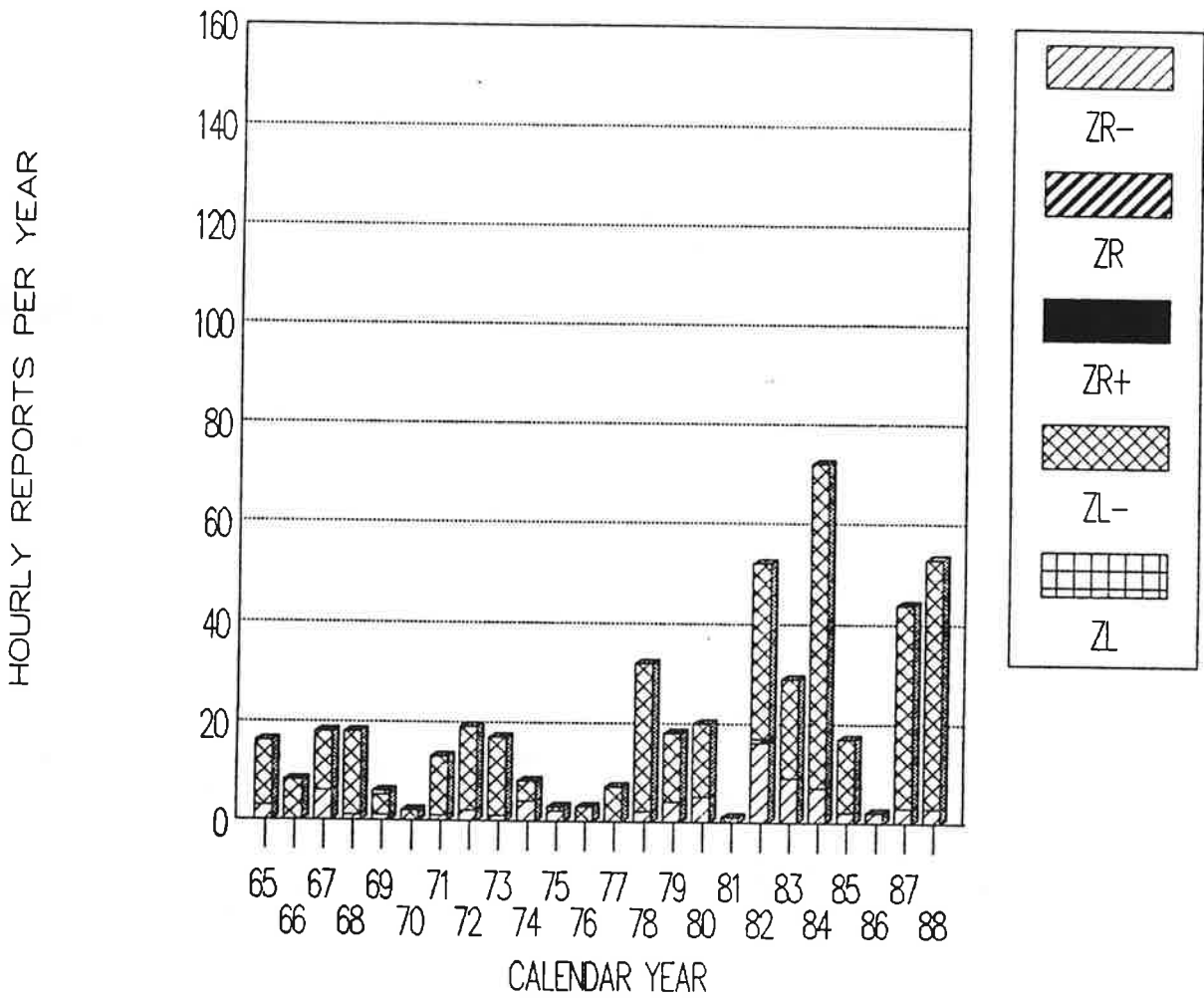
LITTLE ROCK, AR
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LOUISVILLE, KY
 ICING REPORTS 1965-1988

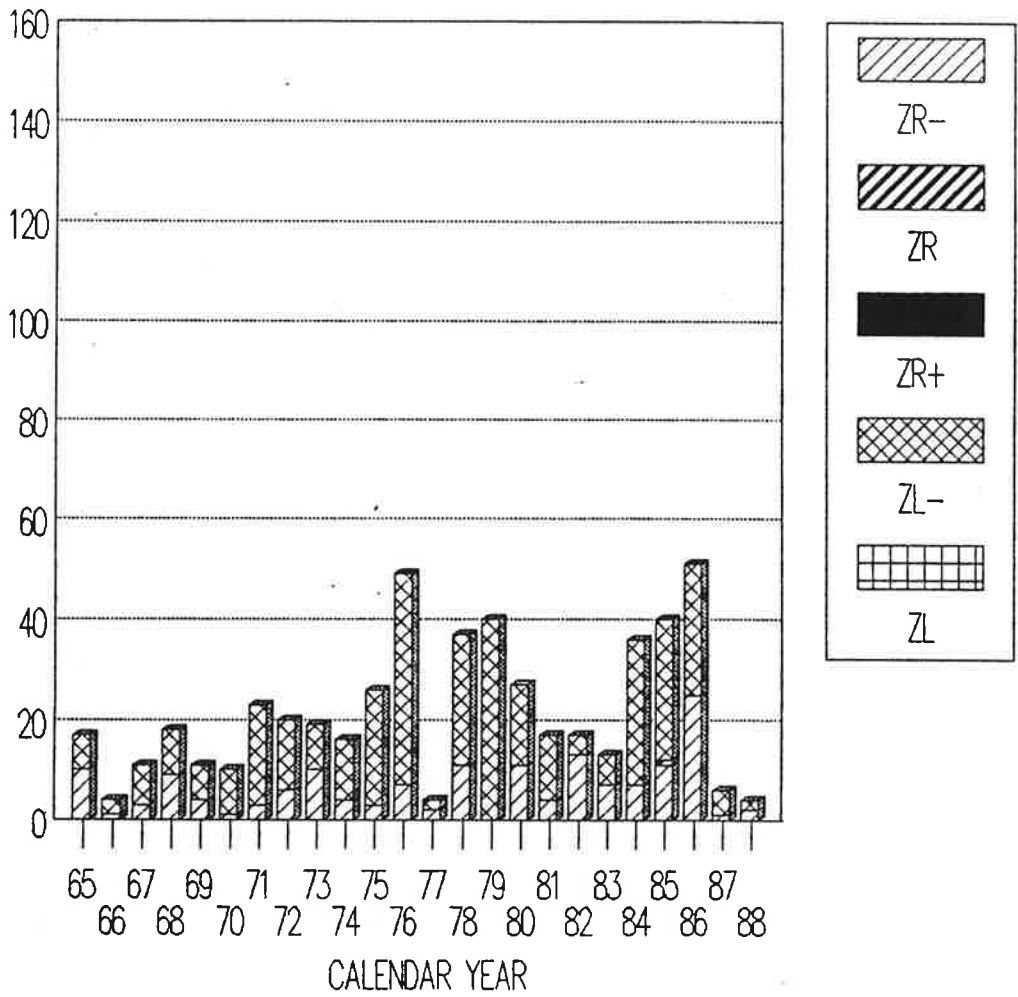


LUBBOCK, TX
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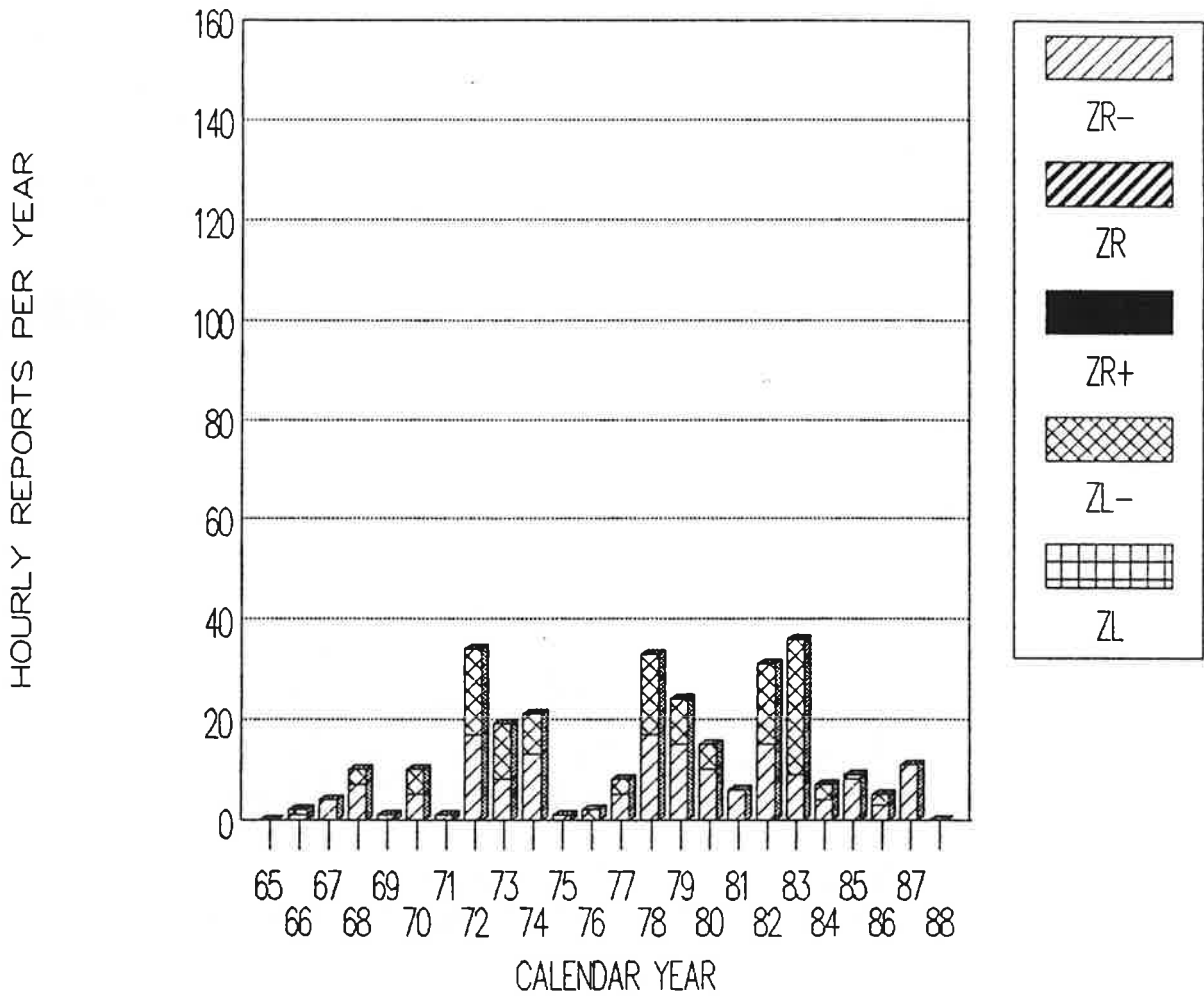


MADISON, WI
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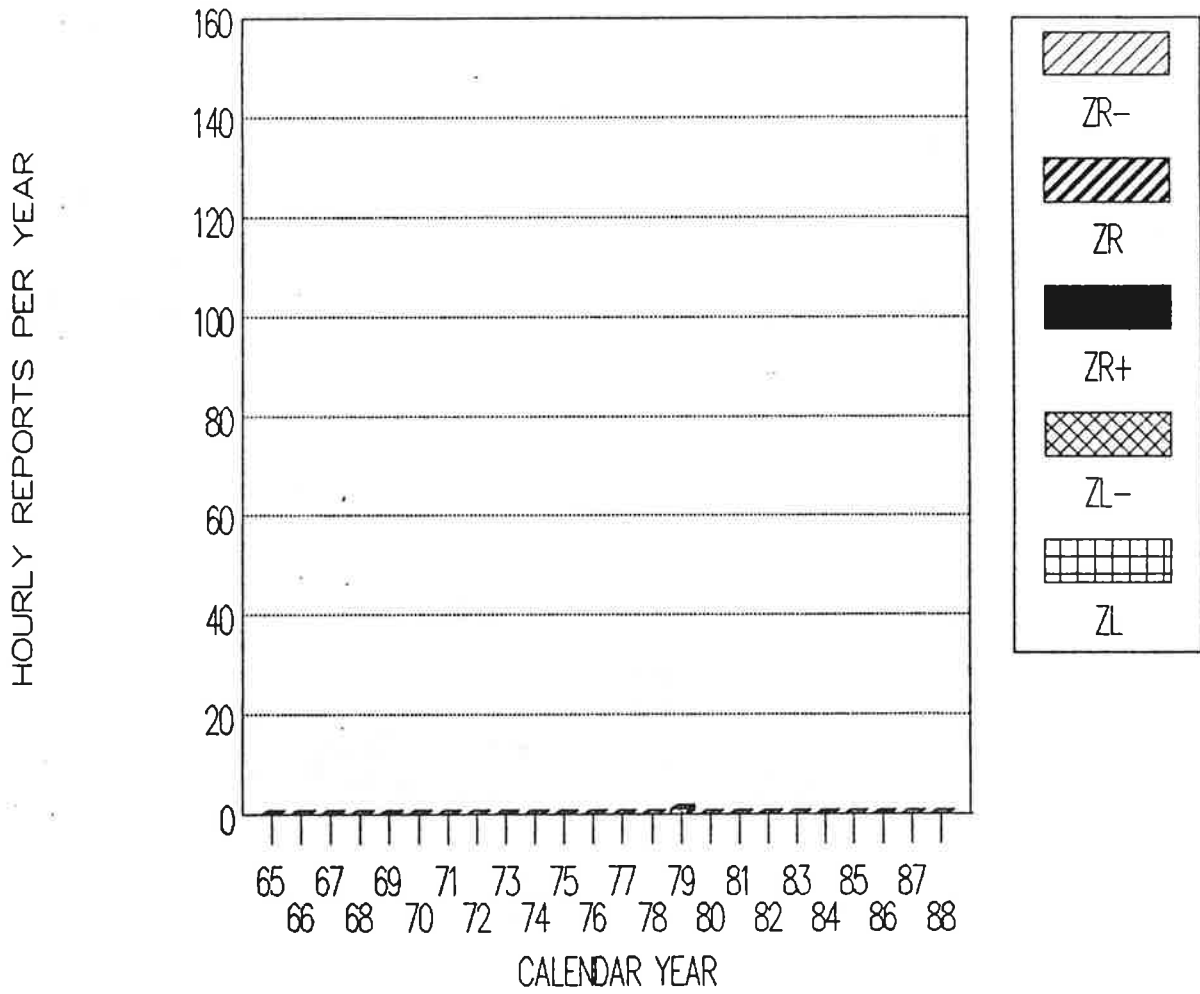
HOURLY REPORTS PER YEAR



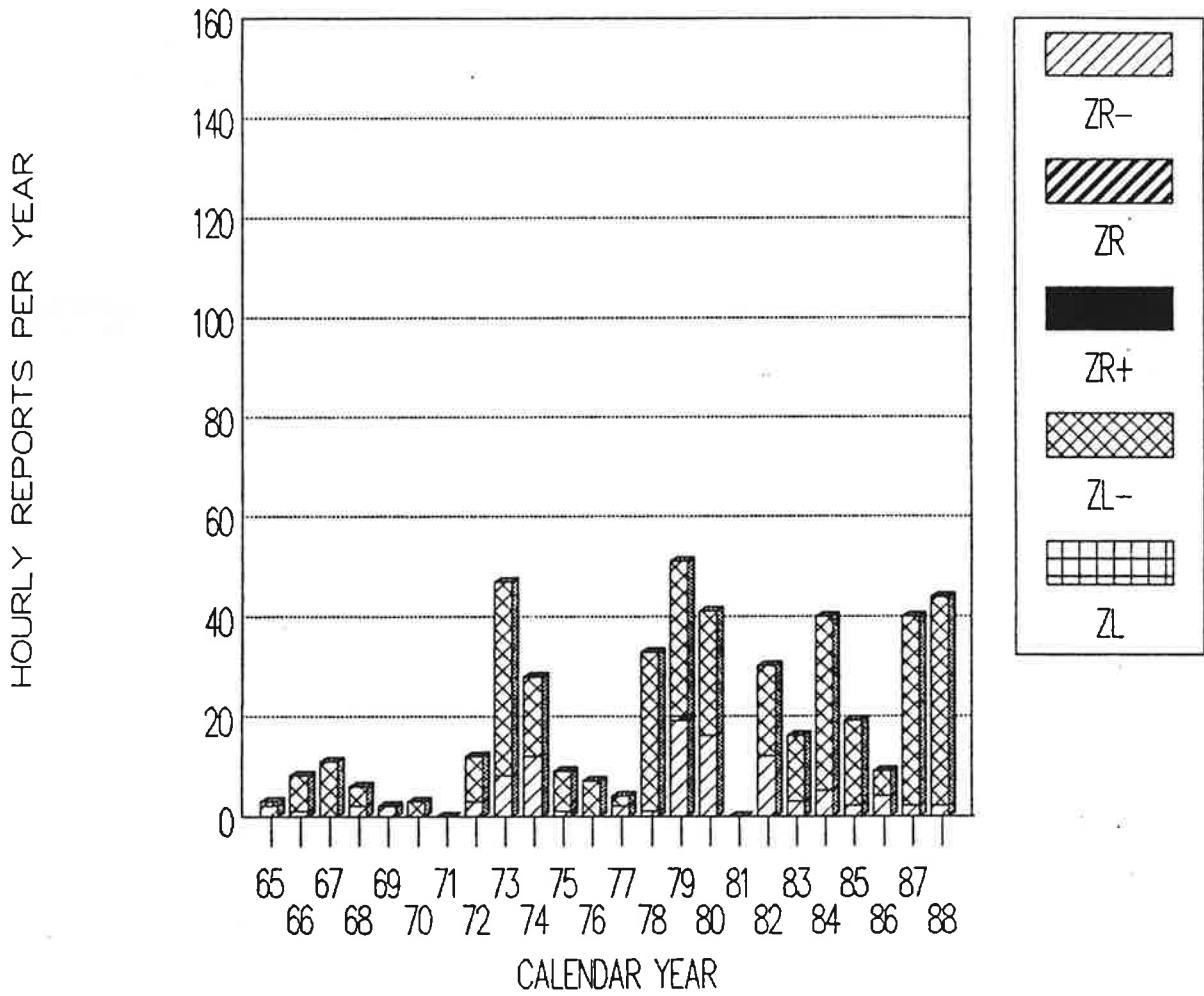
MEMPHIS, TN
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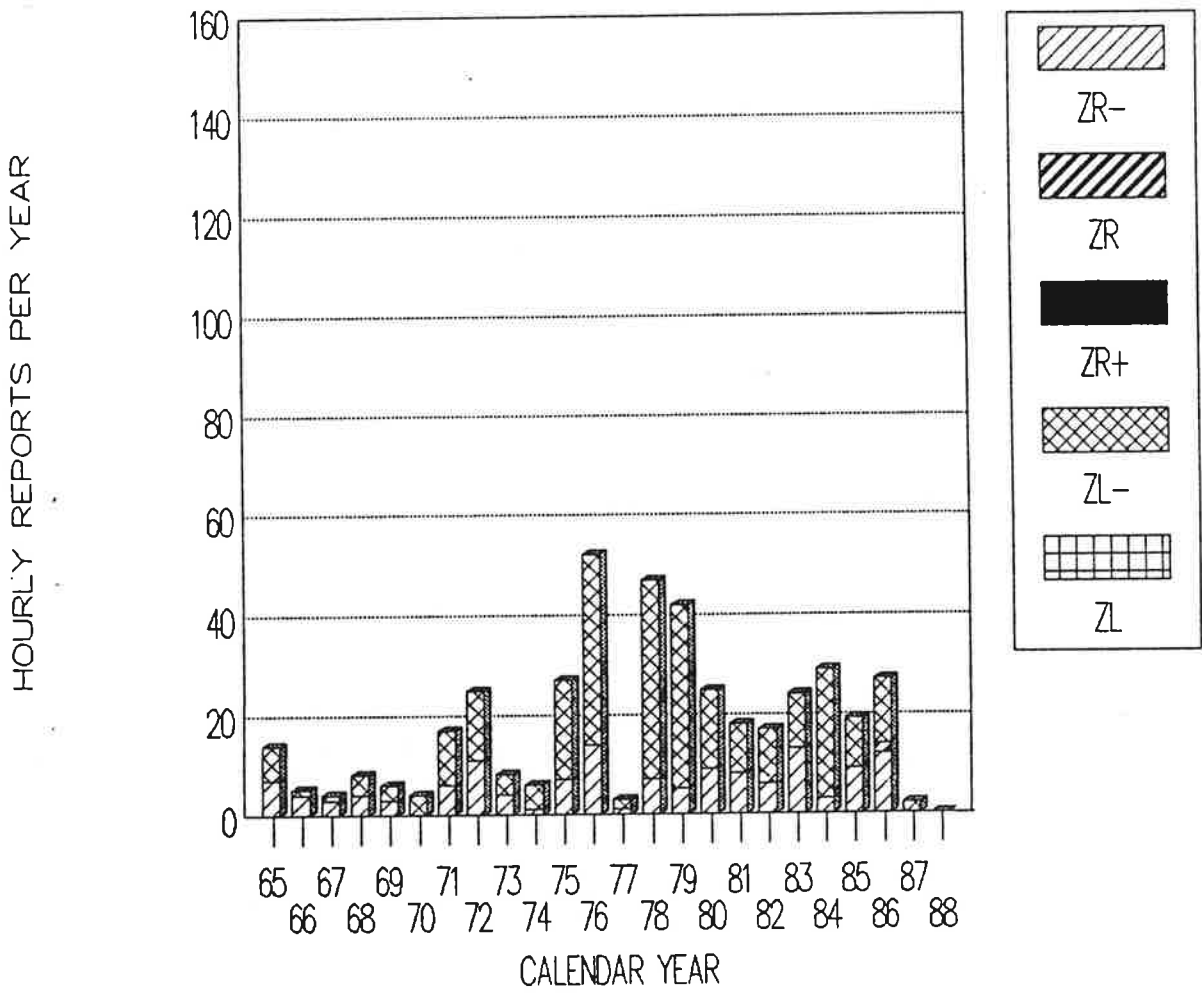
MIAMI, FL
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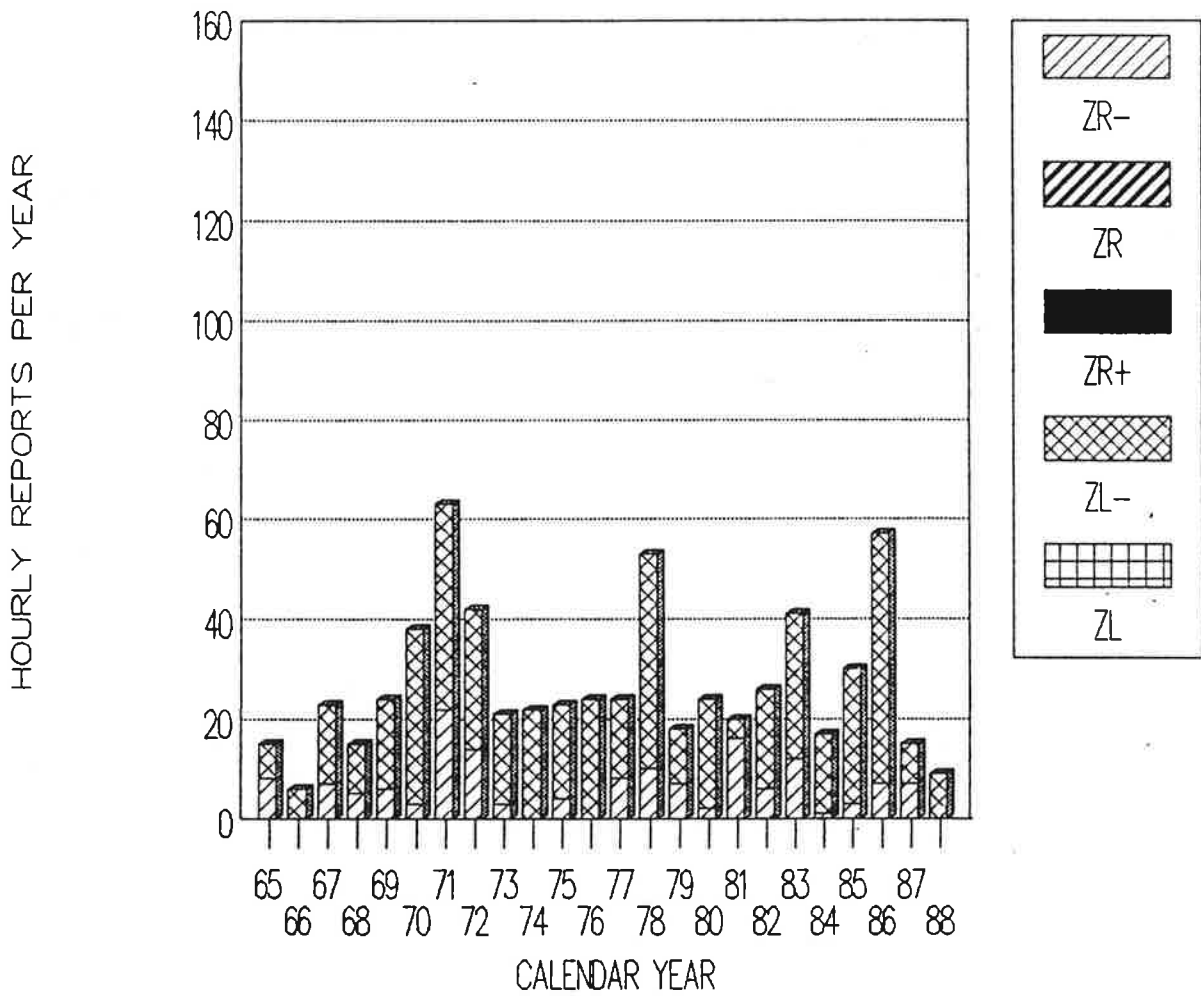
MIDLAND, TX
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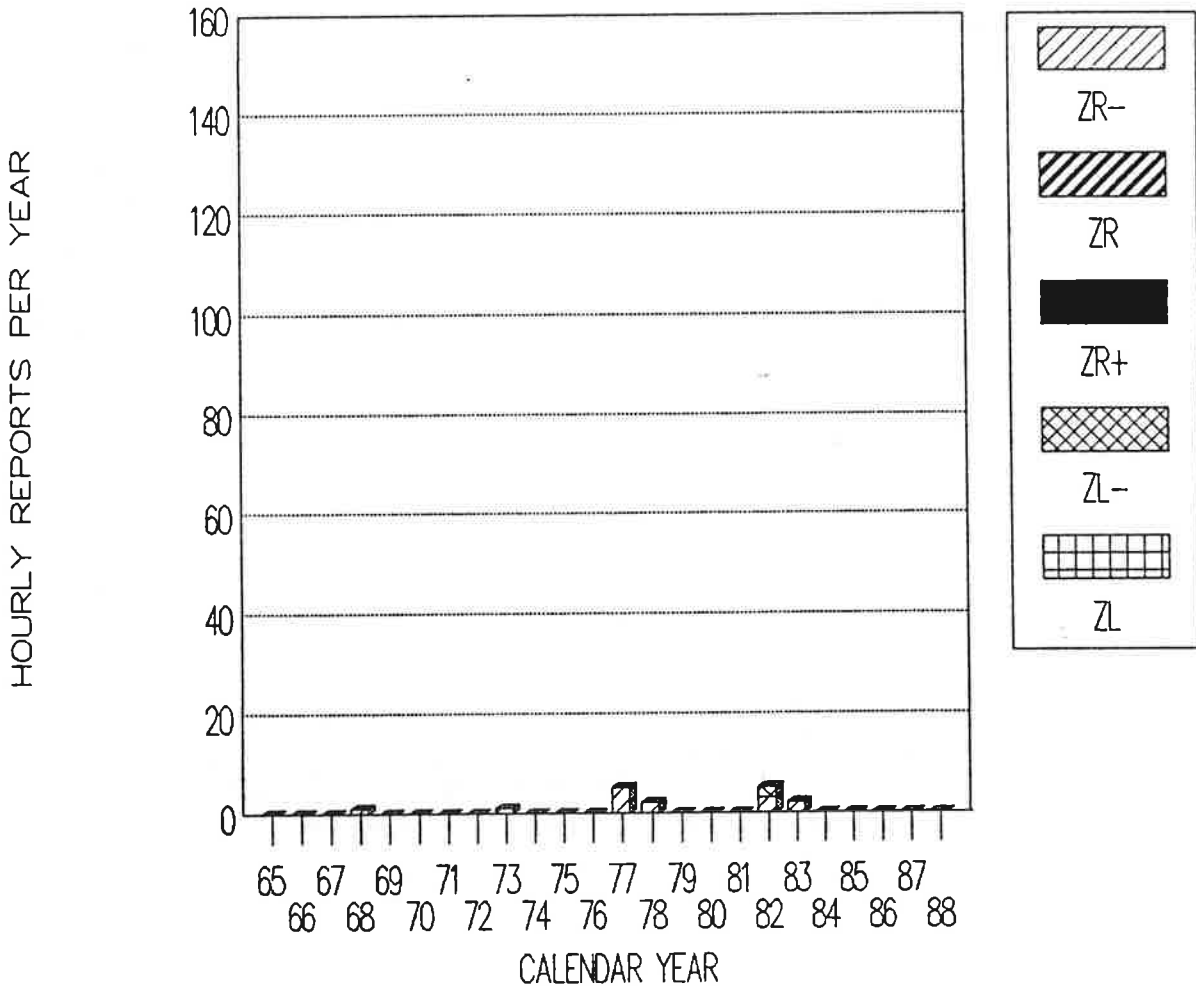
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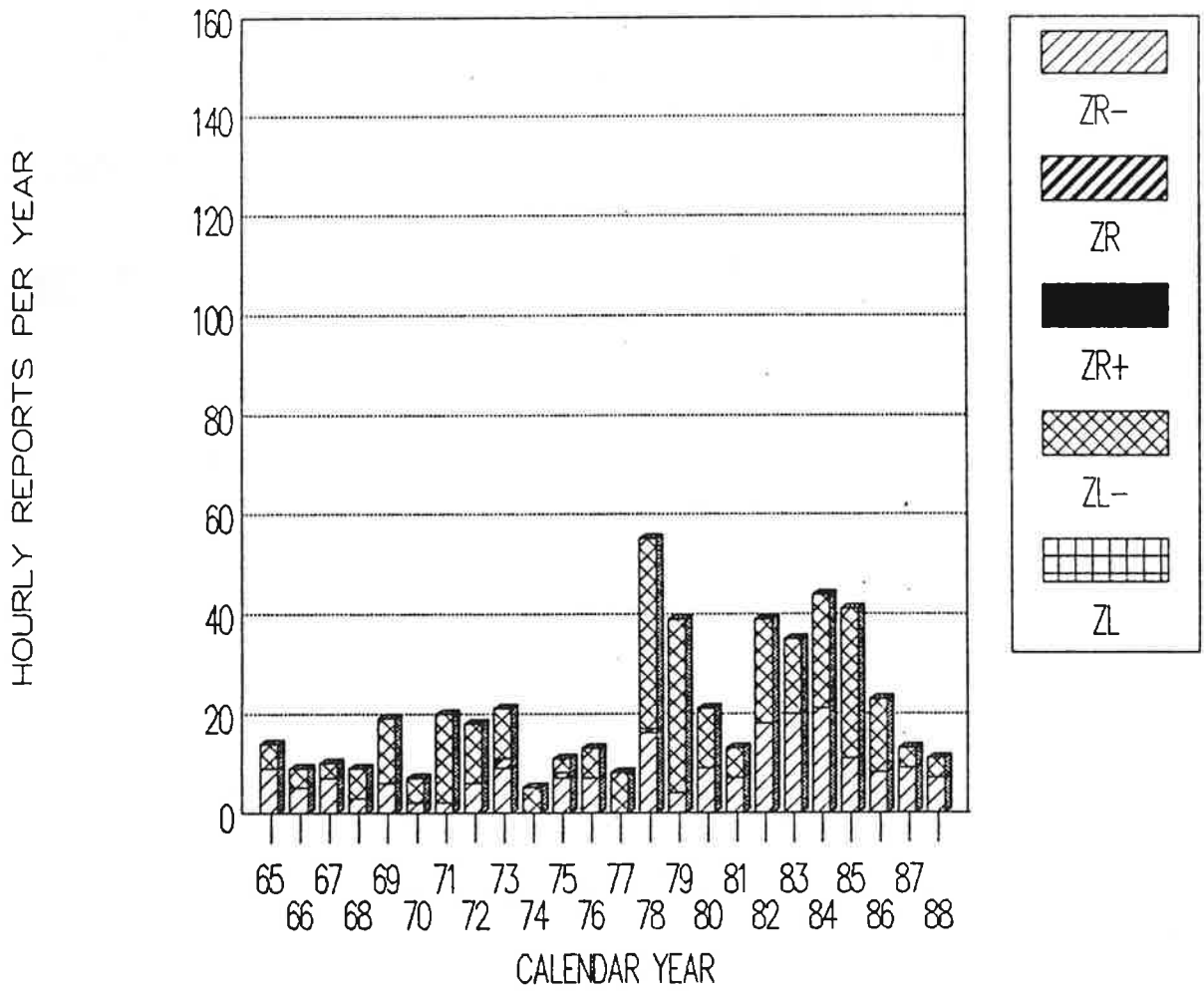
MINNEAPOLIS ST. PAUL INTERNATIONAL, MN
 ICING REPORTS 1965-1988



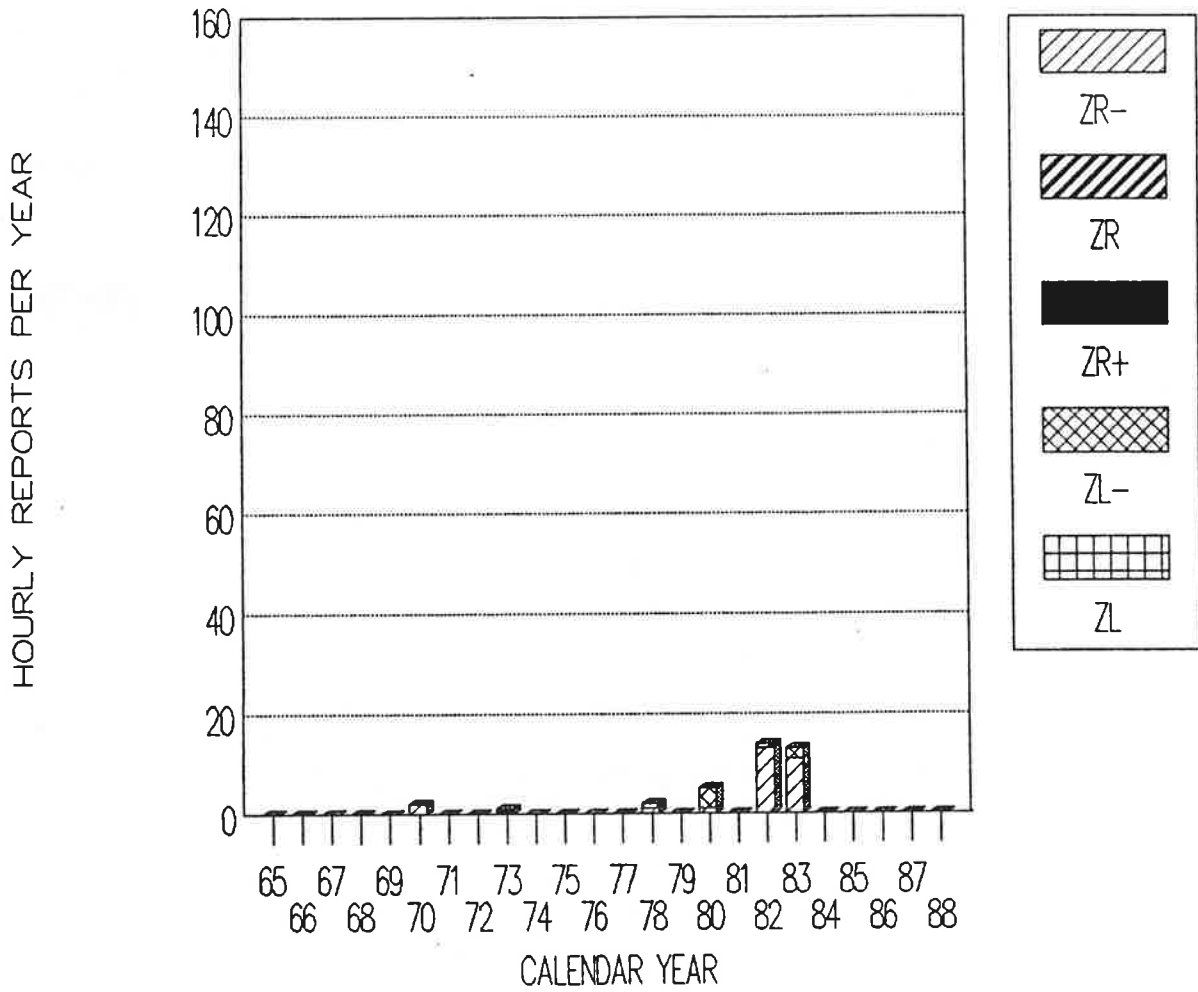
MOBILE, AL
 ICING REPORTS 1965-1988



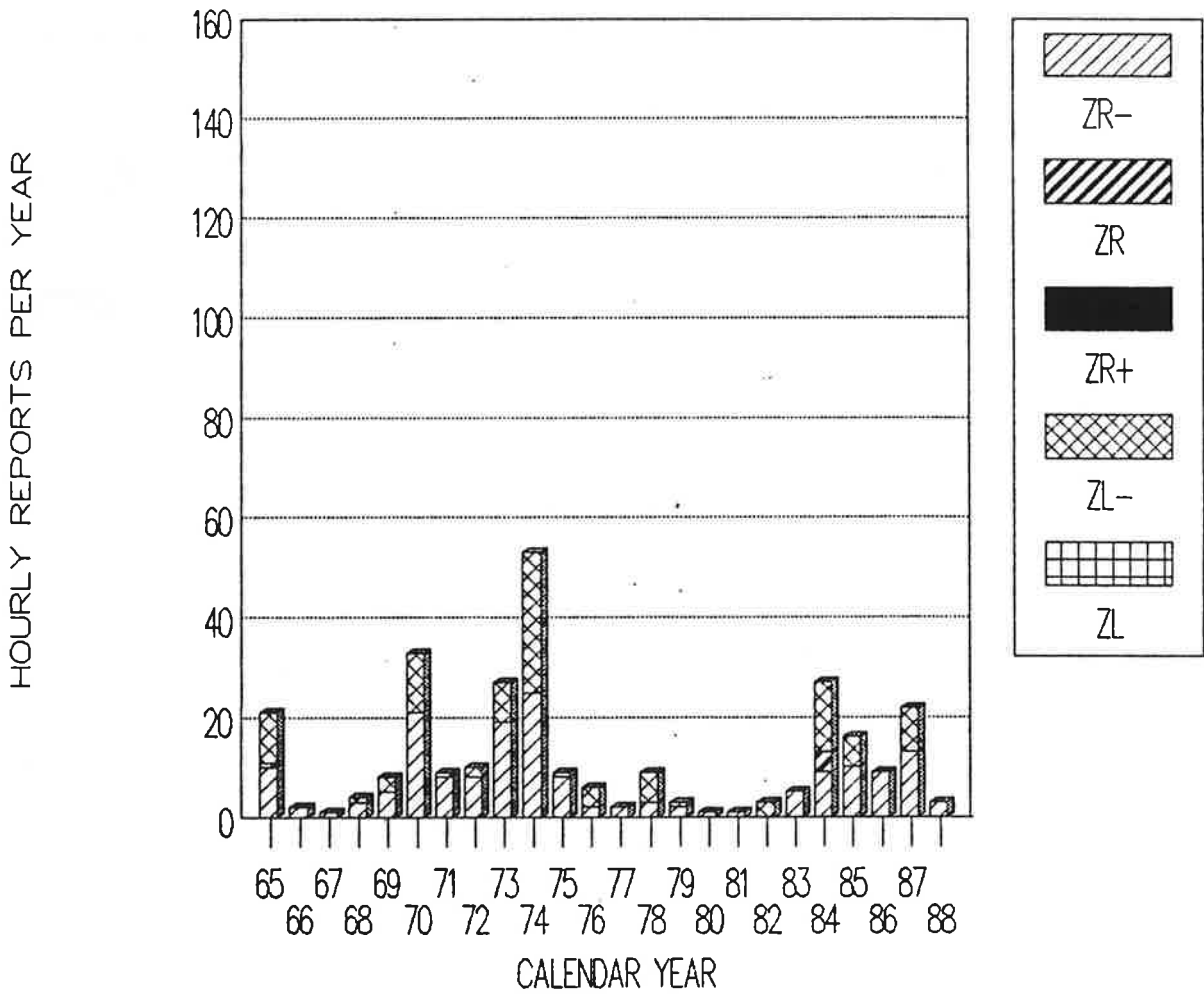
MOLINE, IL
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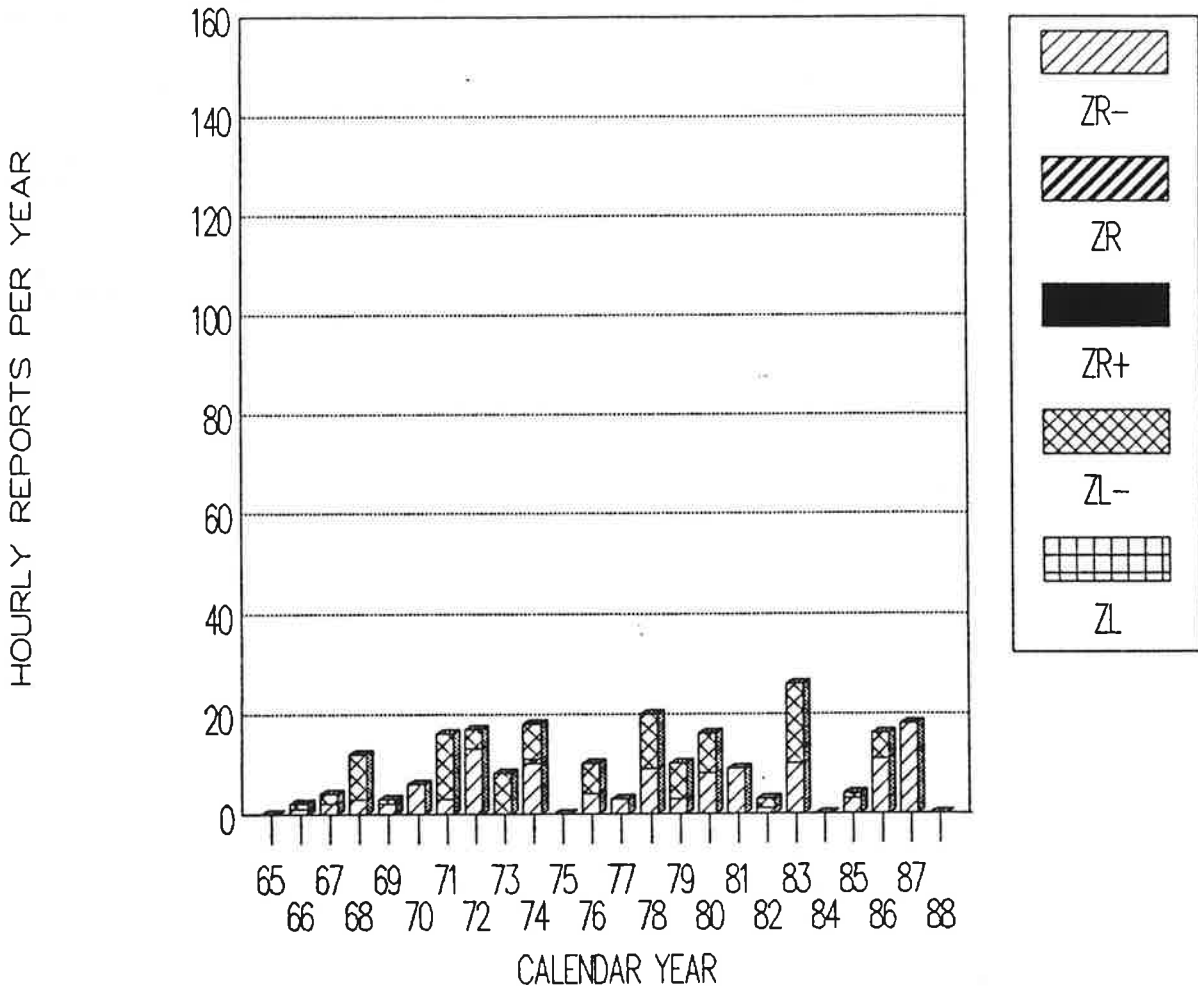
MONTGOMERY, AL
 ICING REPORTS 1965-1988



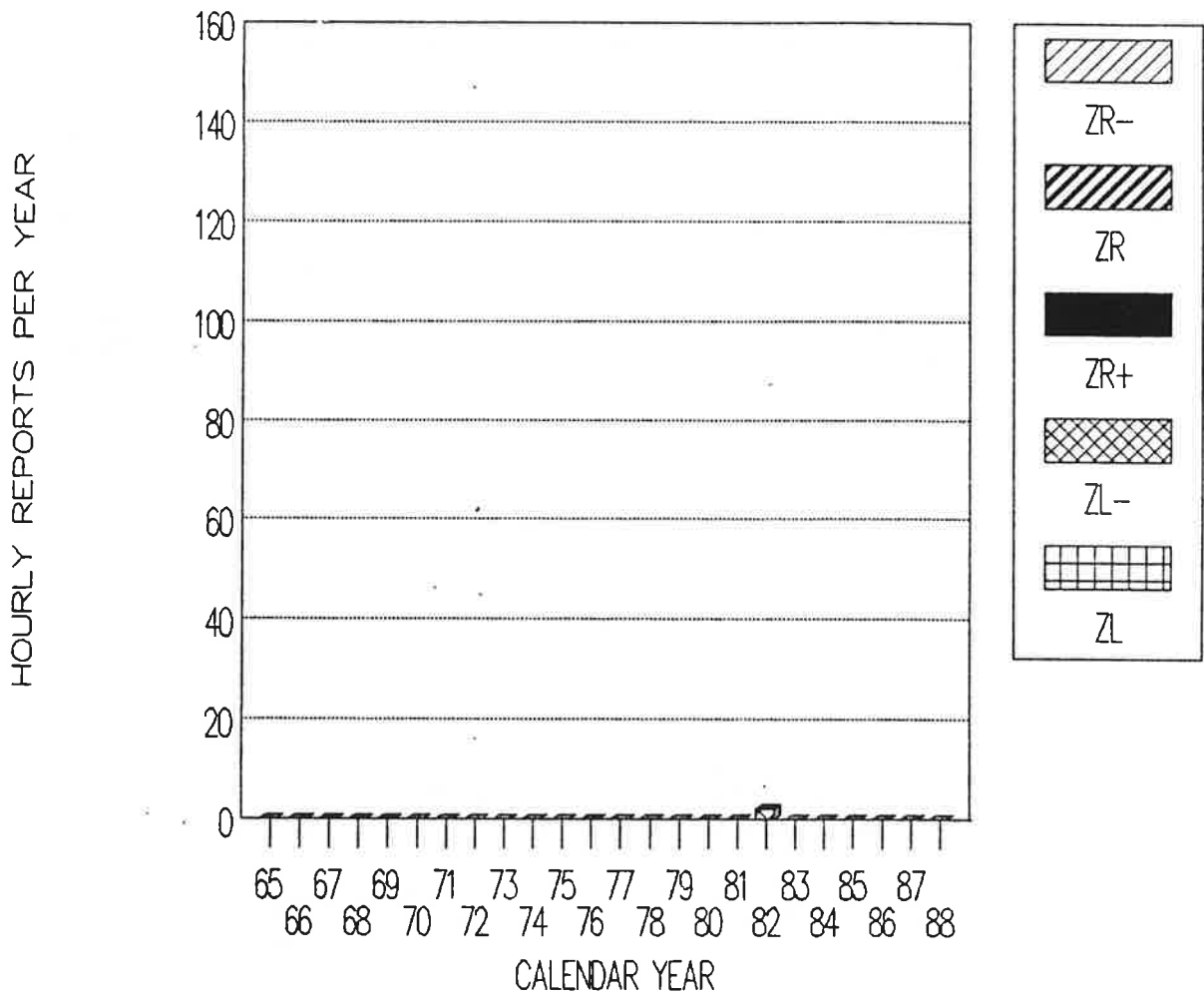
NEWARK INTERNATIONAL, NJ
 ICING REPORTS 1965-1988



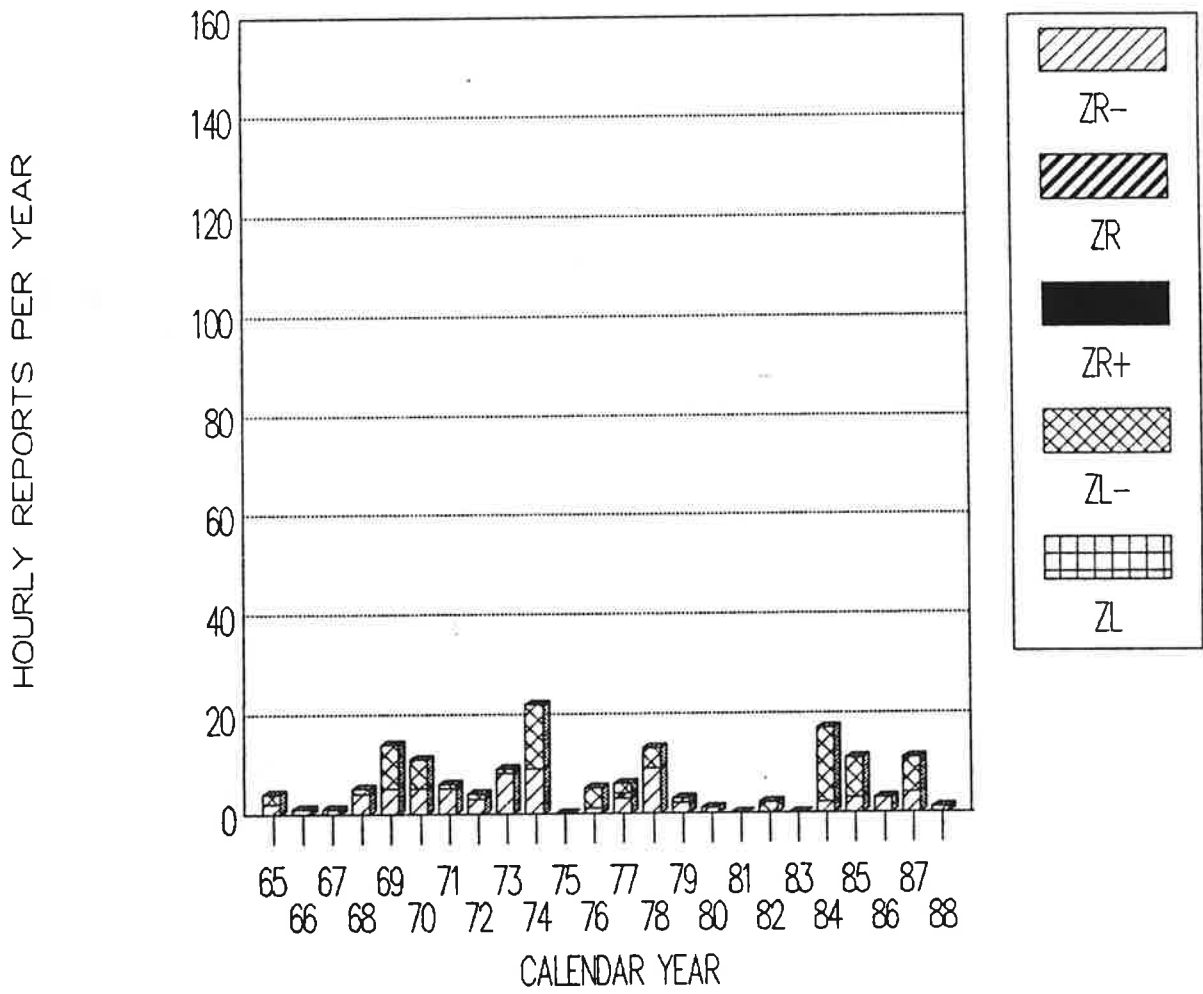
NASHVILLE, TN
 ICING REPORTS 1965-1988



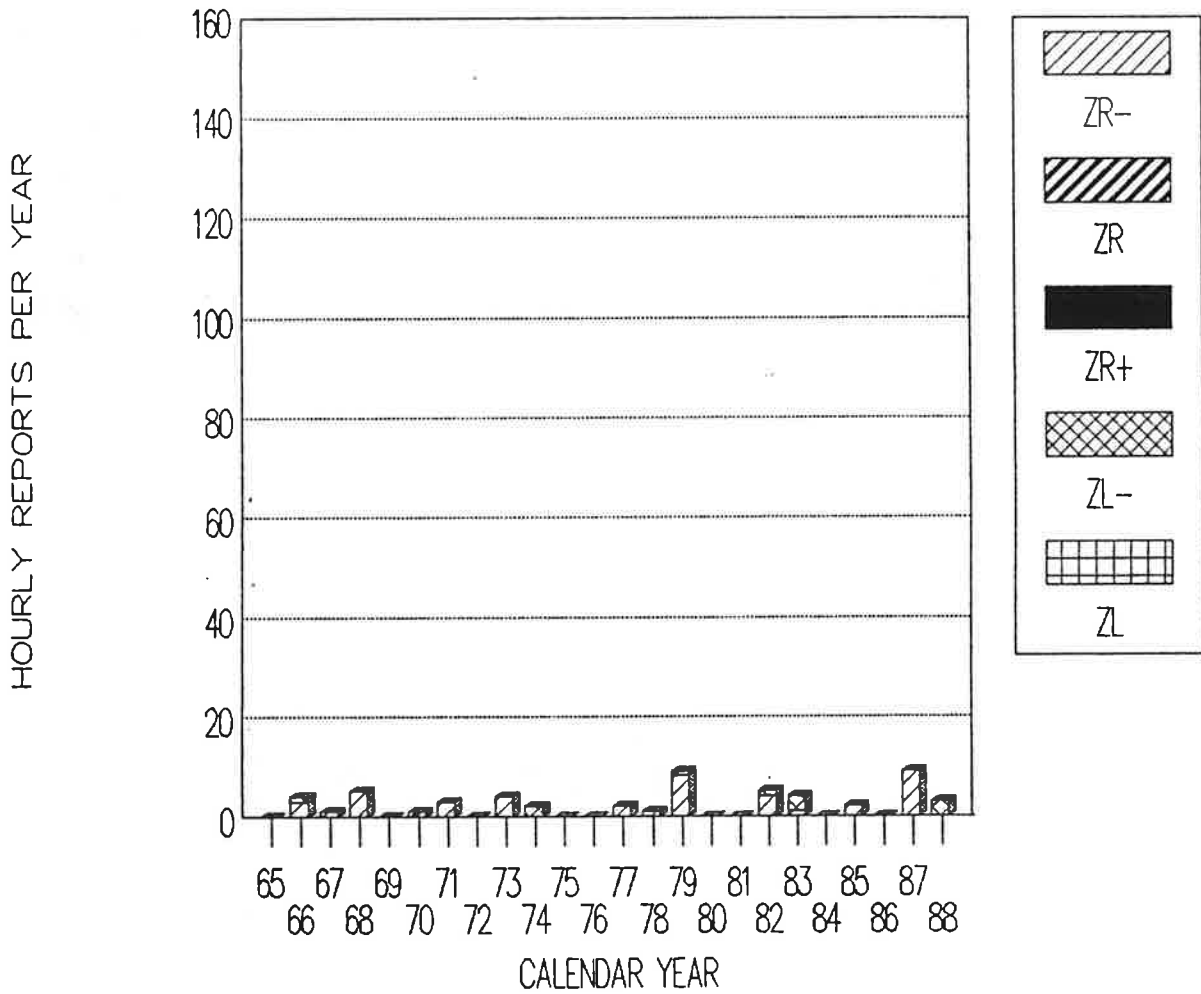
NEW ORLEANS INTERNATIONAL, LA
ICING REPORTS 1965-1988



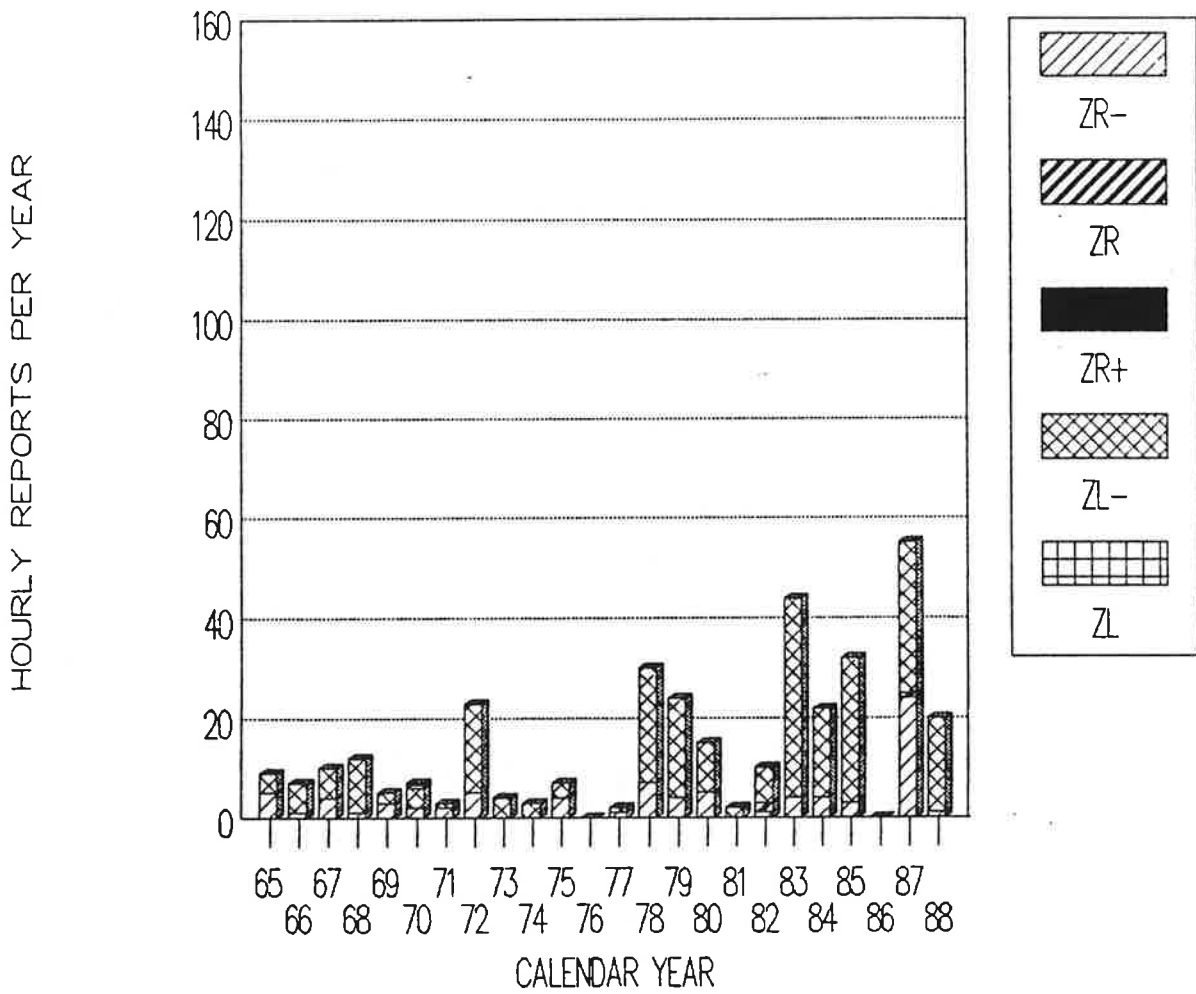
NEW YORK-LA GUARDIA, NY
 ICING REPORTS 1965-1988



NORFOLK INTERNATIONAL, VA
 ICING REPORTS 1965-1988

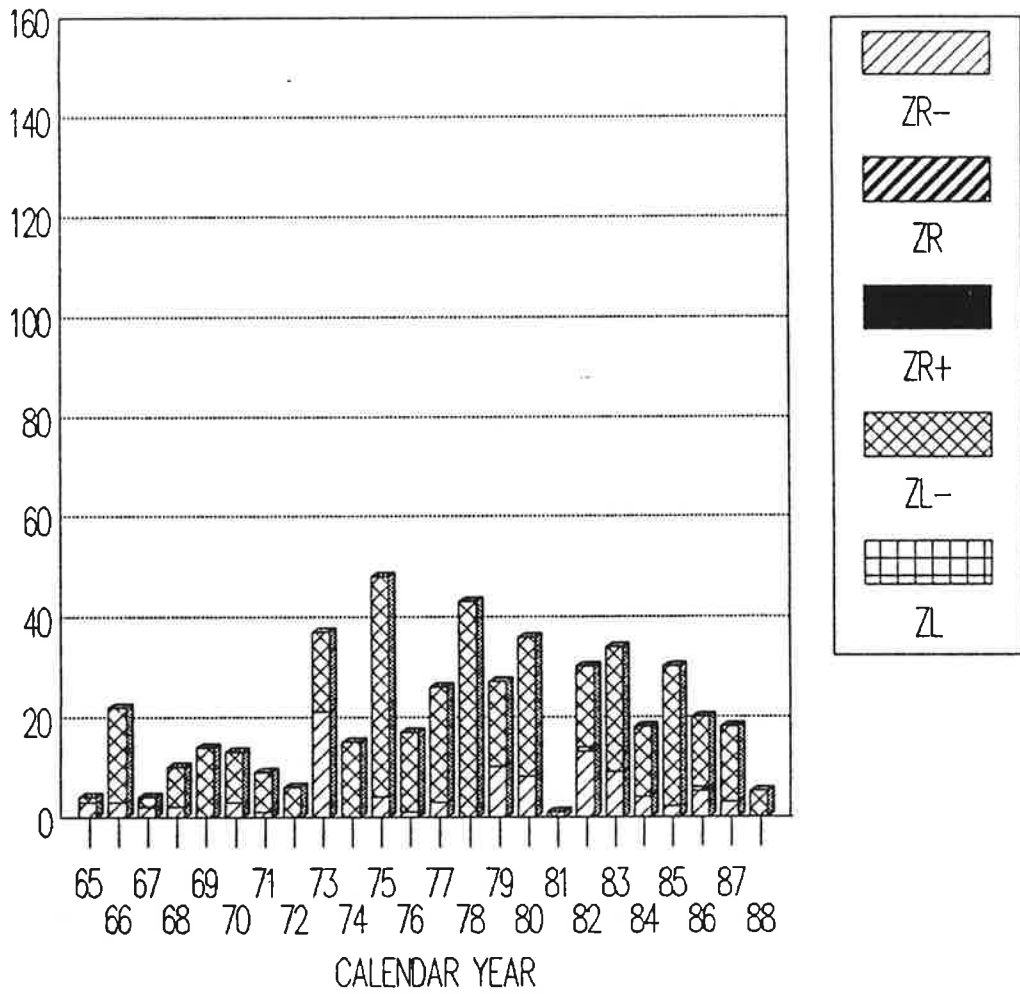


OKLAHOMA CITY, OK
 ICING REPORTS 1965-1988

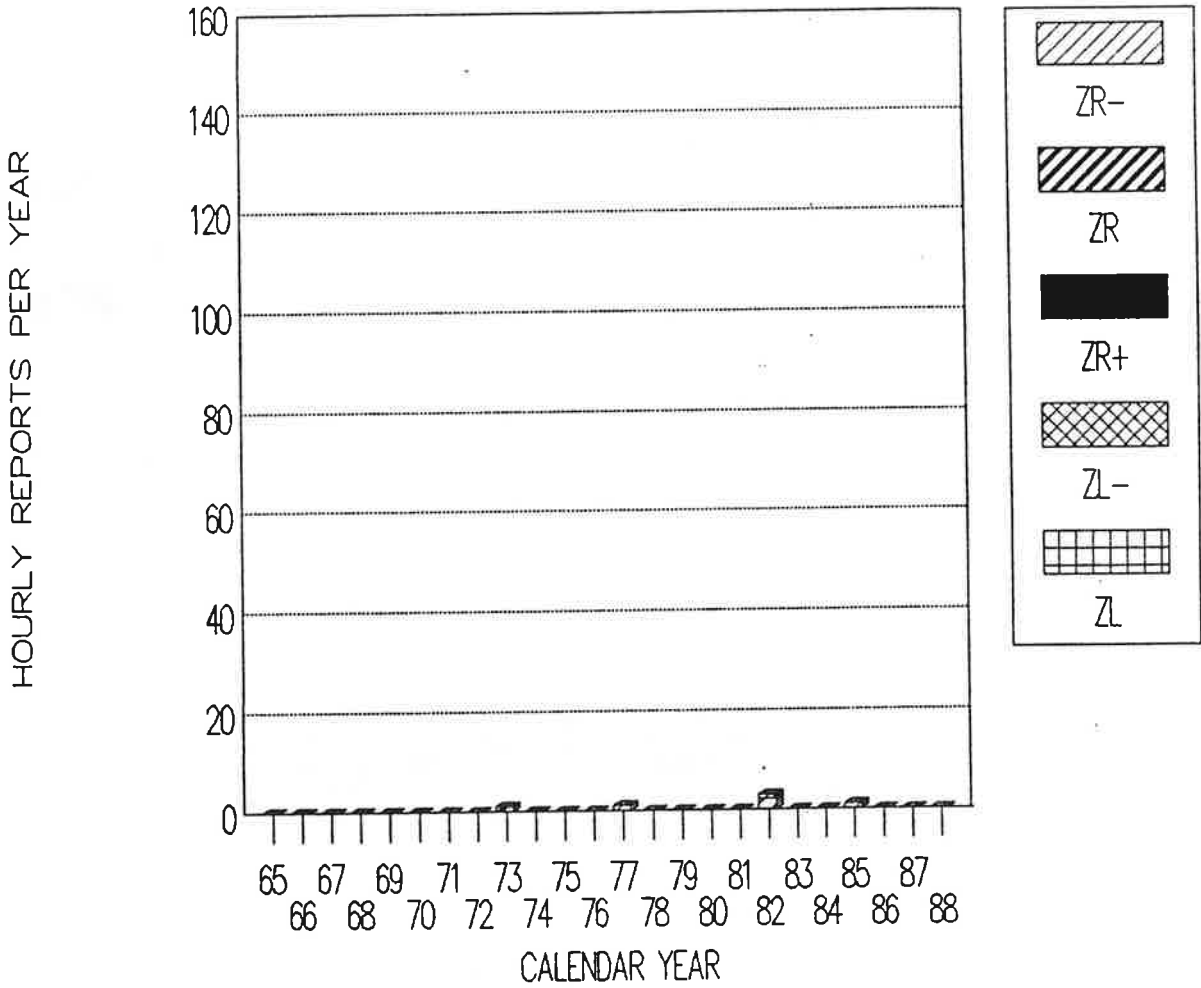


OMAHA, NE
 ICING REPORTS 1965-1988

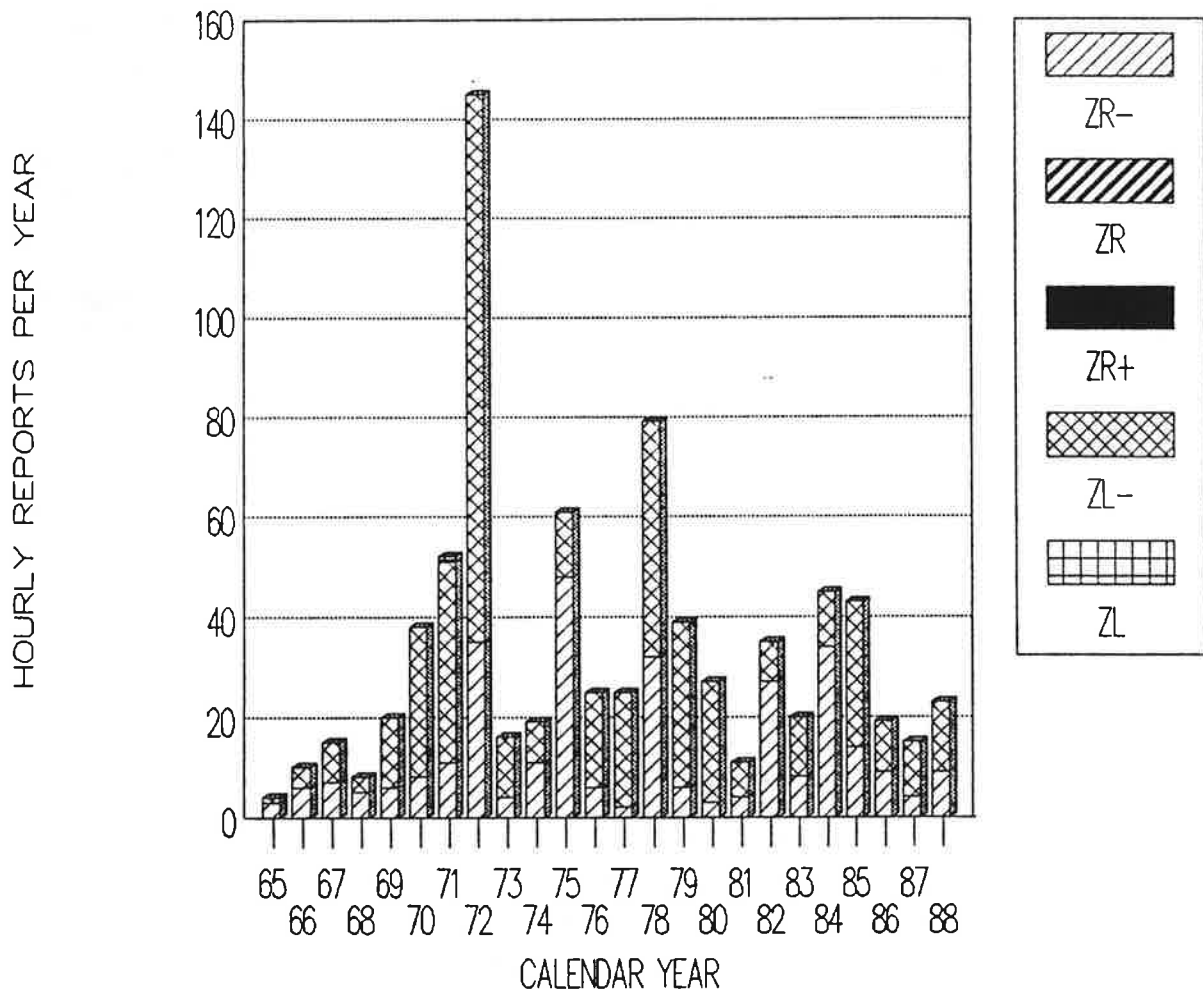
HOURLY REPORTS PER YEAR



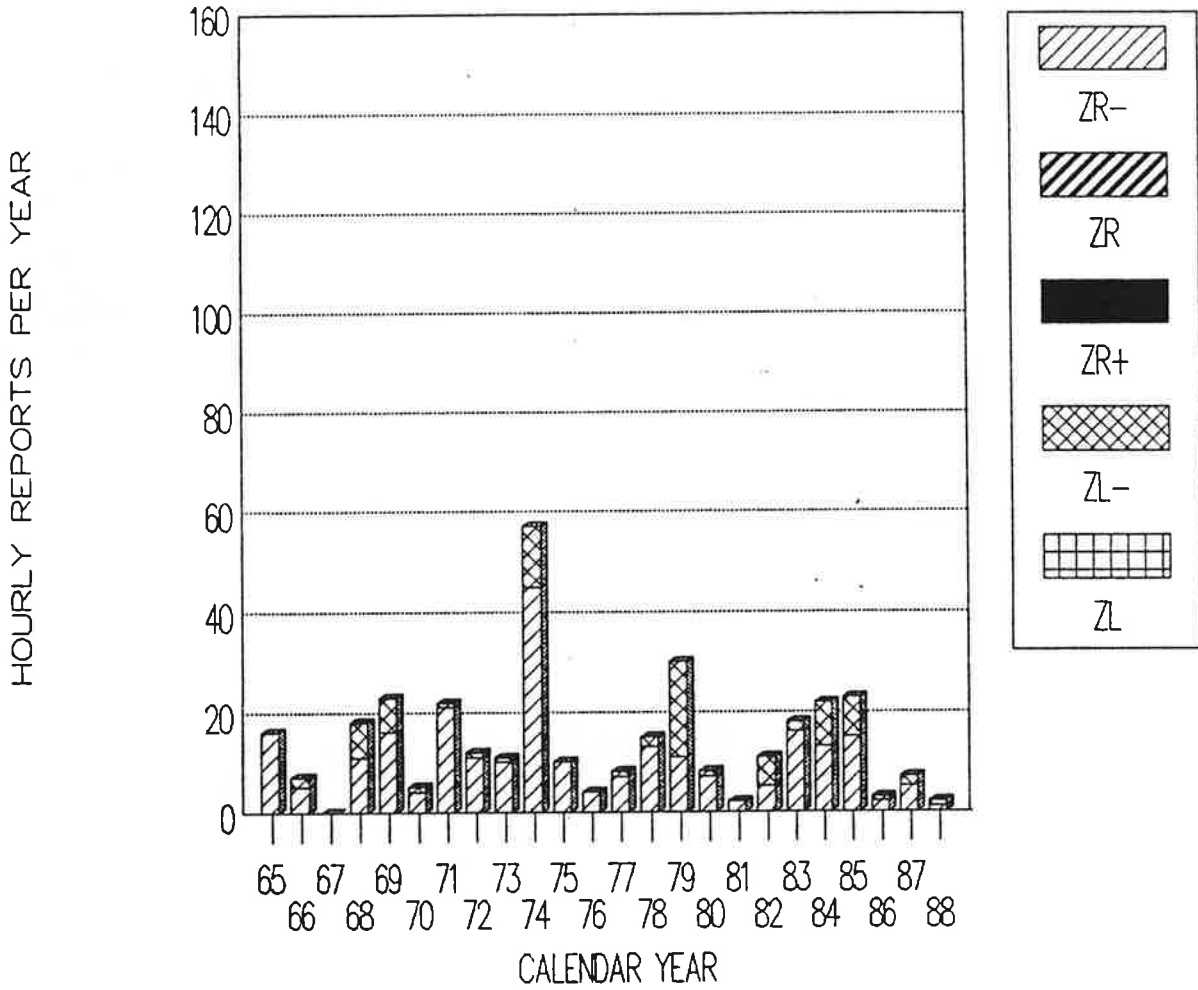
PENSACOLA, FL
 ICING REPORTS 1965-1988



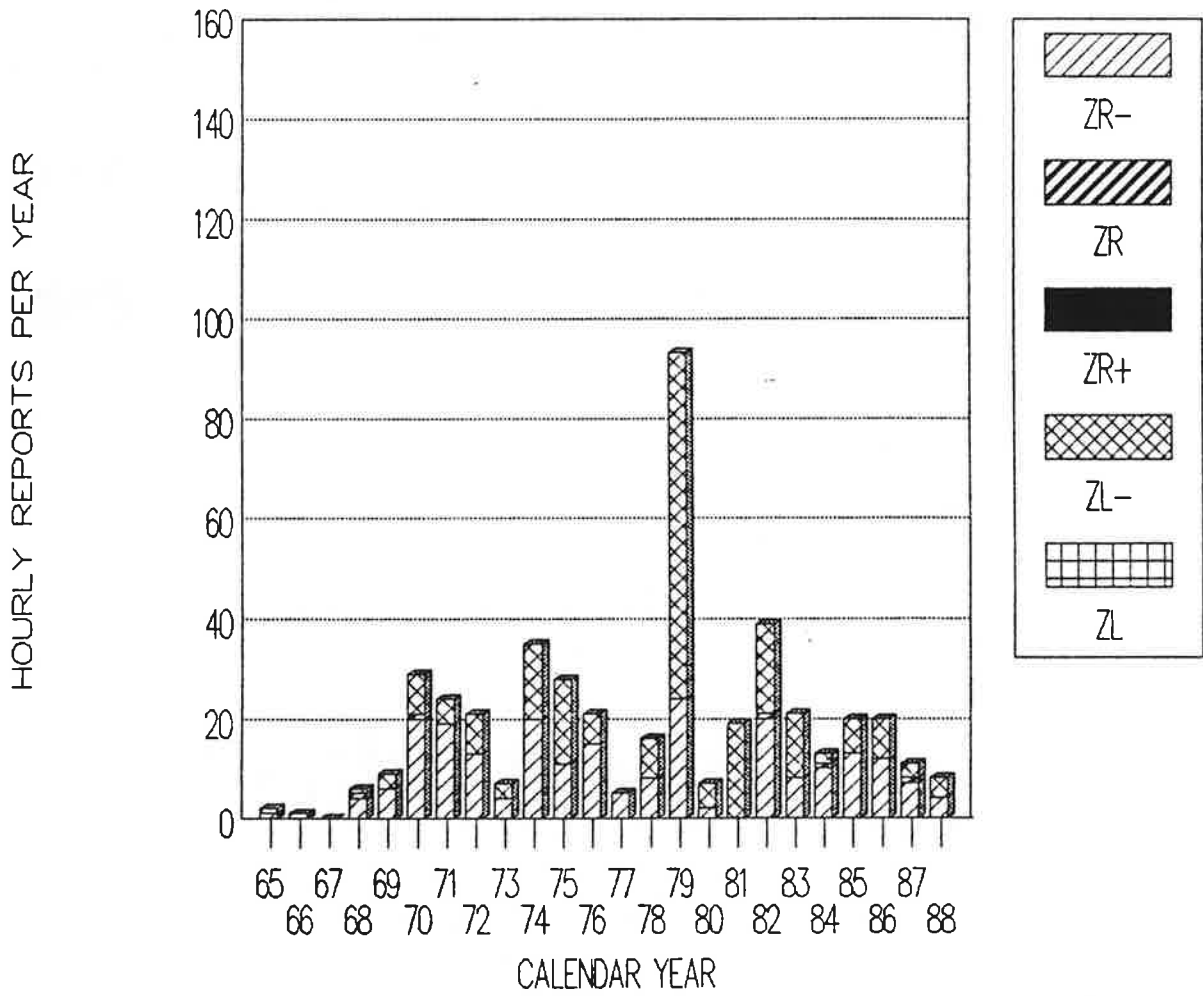
PEORIA, IL
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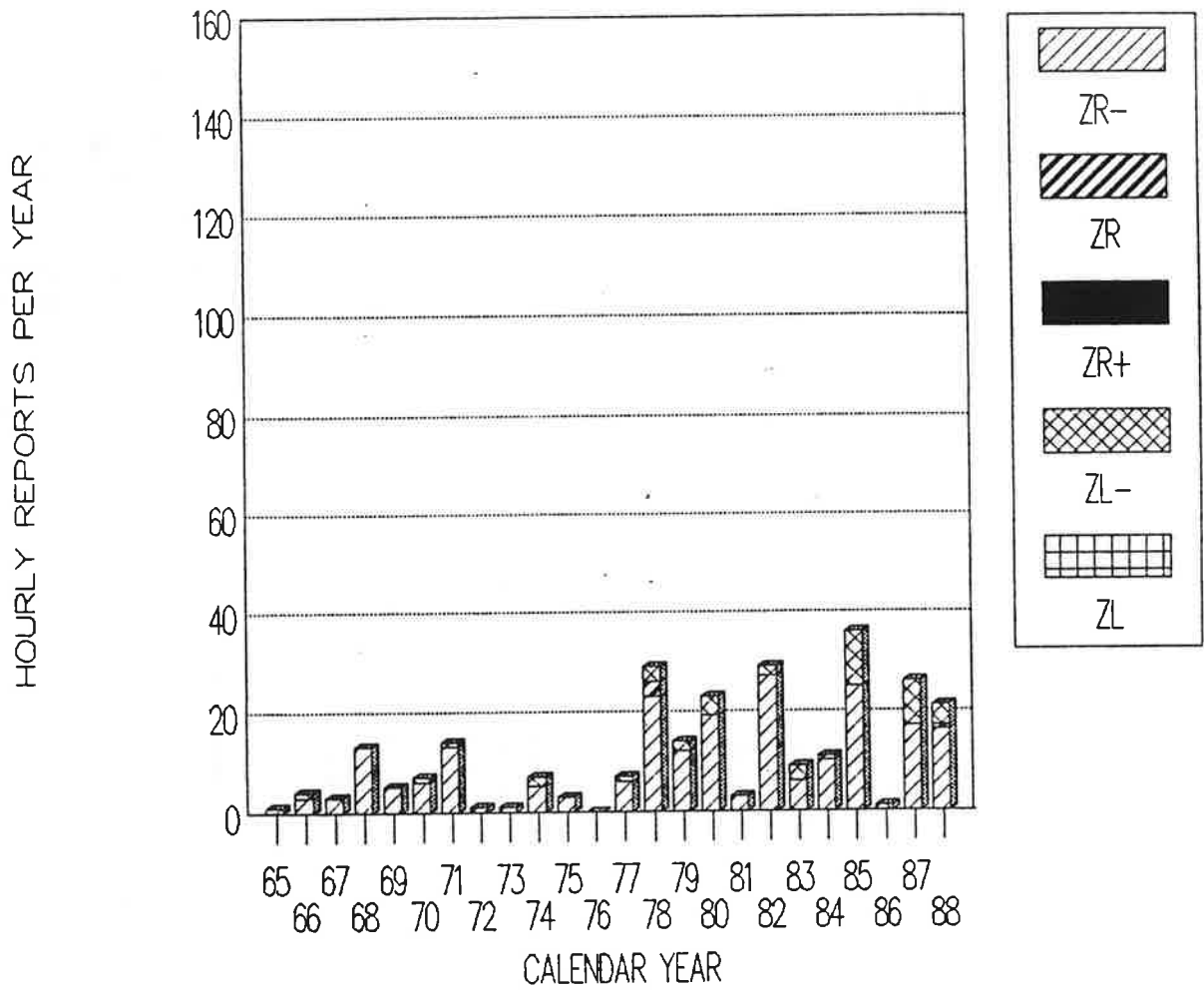
PHILADELPHIA, PA
 ICING REPORTS 1965-1988



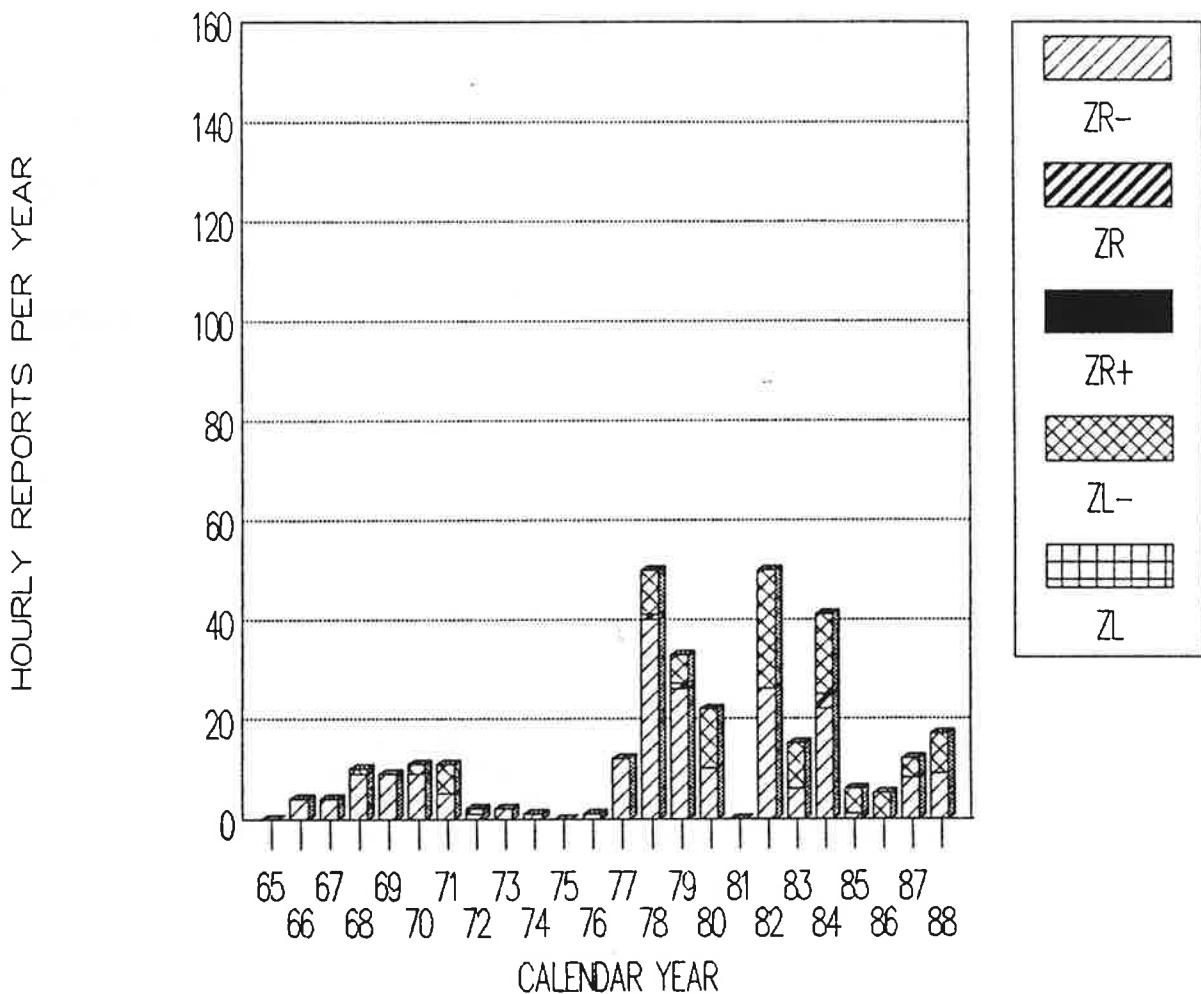
PITTSBURG INTERNATIONAL, PA
 ICING REPORTS 1965-1988



RALEIGH-DURHAM, NC
 ICING REPORTS 1965-1988

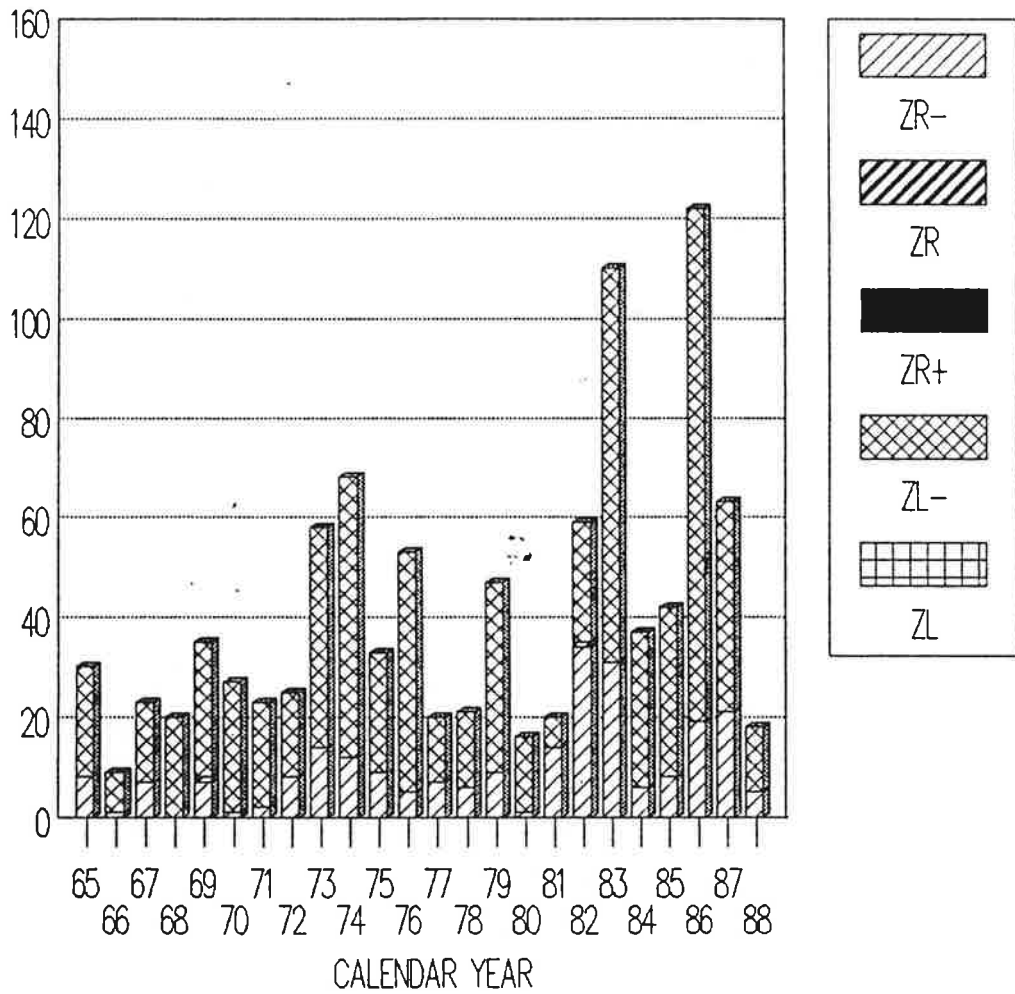


RICHMOND INTERNATIONAL, VA
 ICING REPORTS 1965-1988

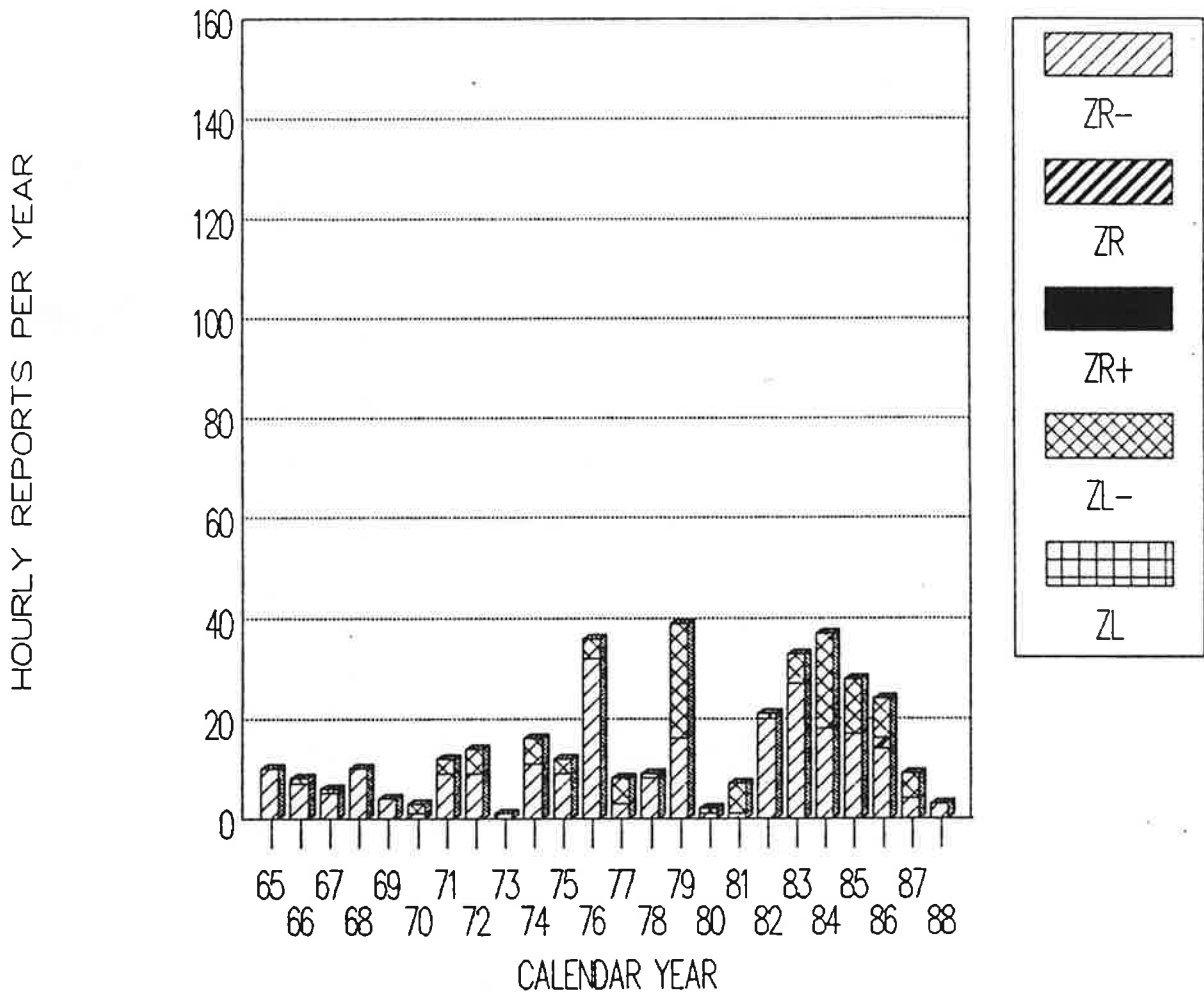


ROCHESTER, MN
 ICING REPORTS 1965-1988

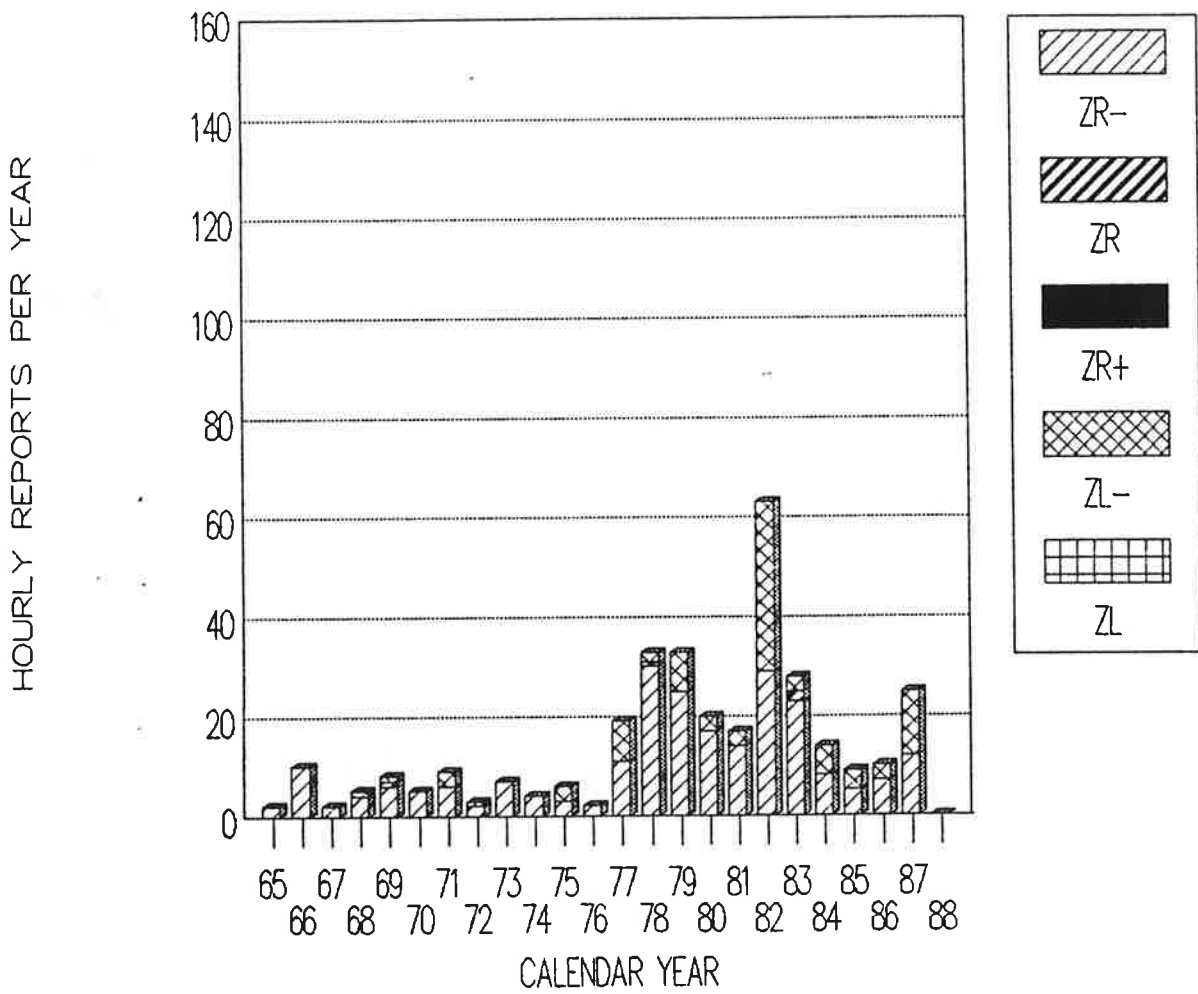
HOURLY REPORTS PER YEAR



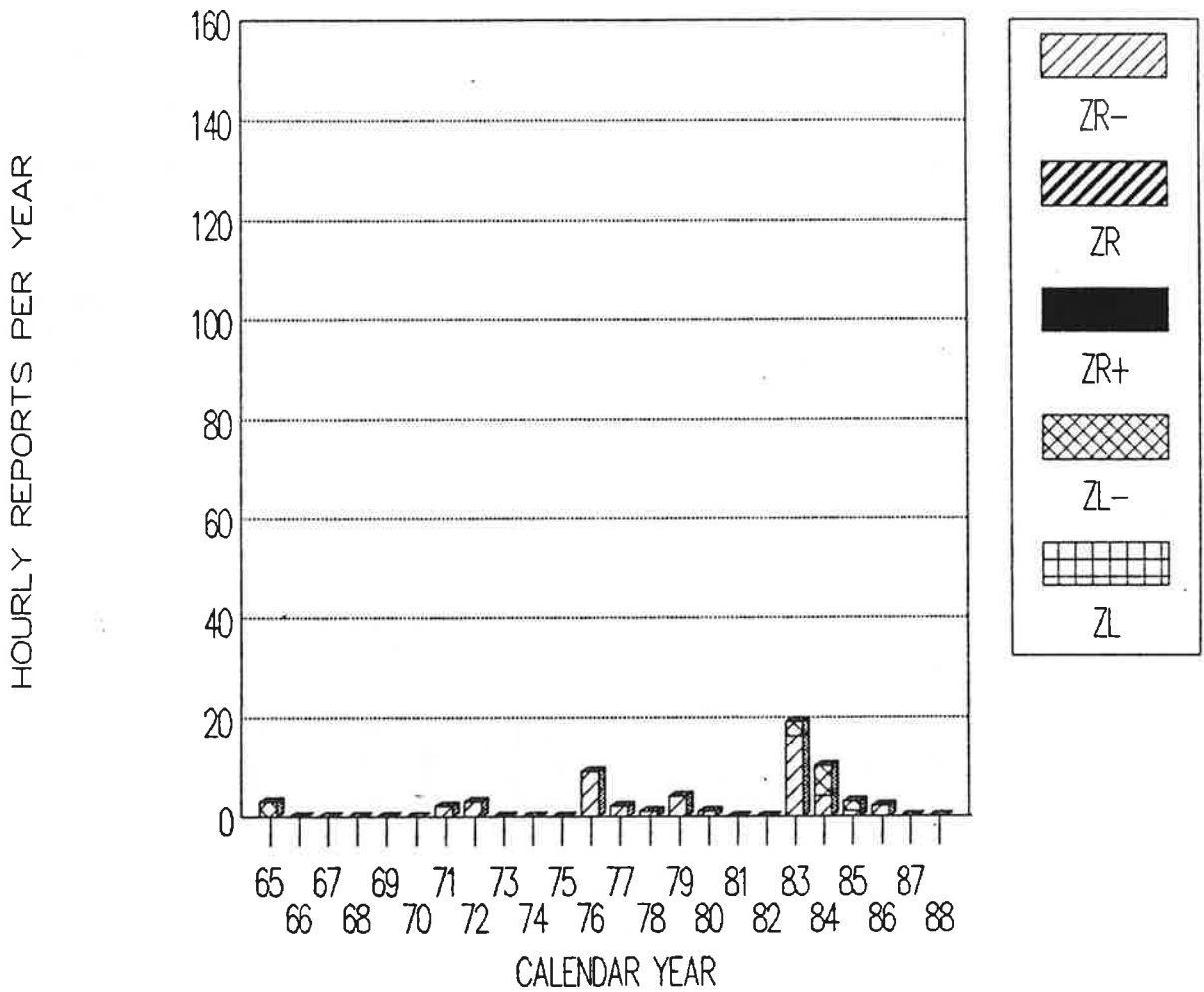
ROCHESTER-MONROE COUNTY, NY
 ICING REPORTS 1965-1988



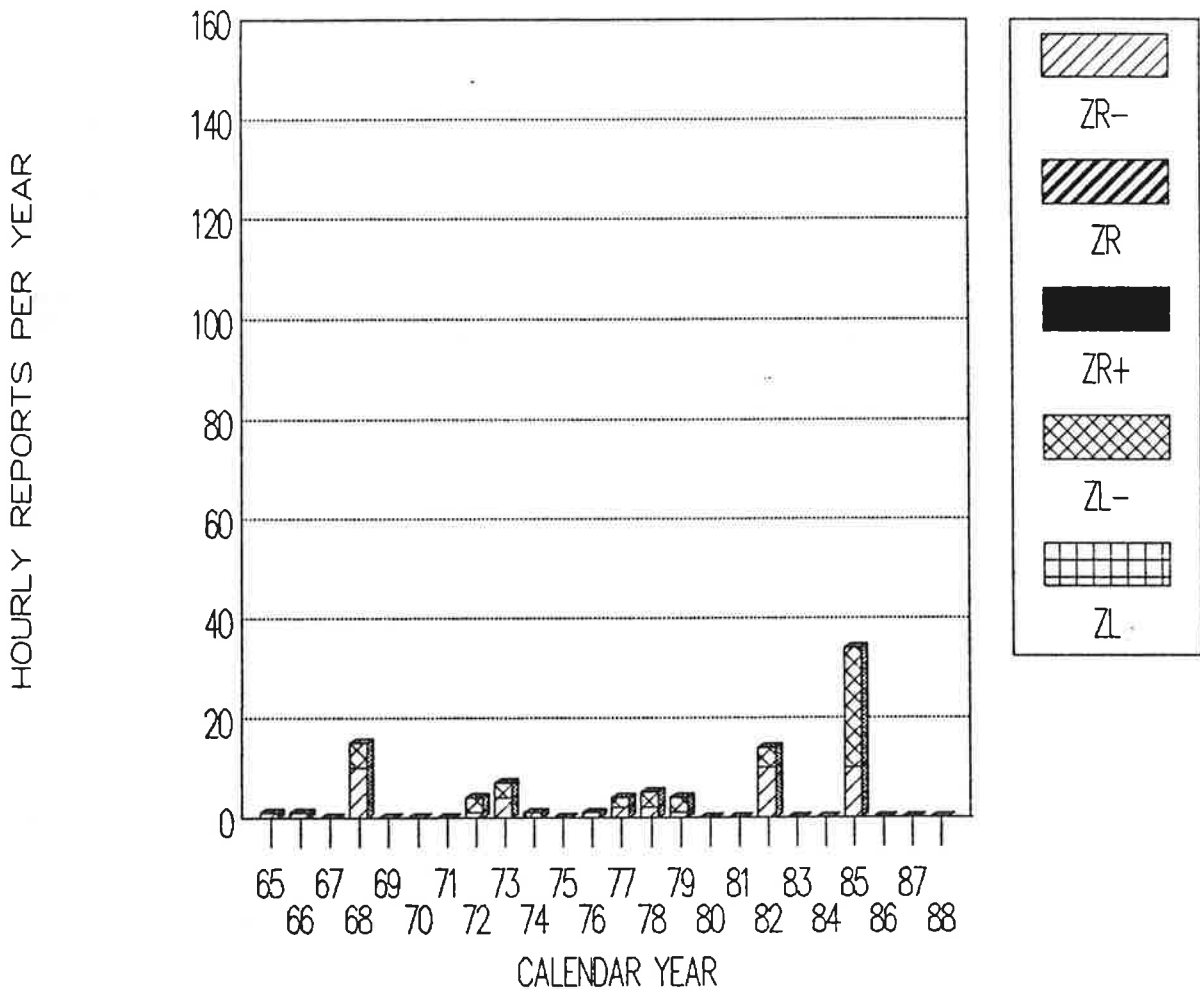
ROANOKE, VA
 ICING REPORTS 1965-1988



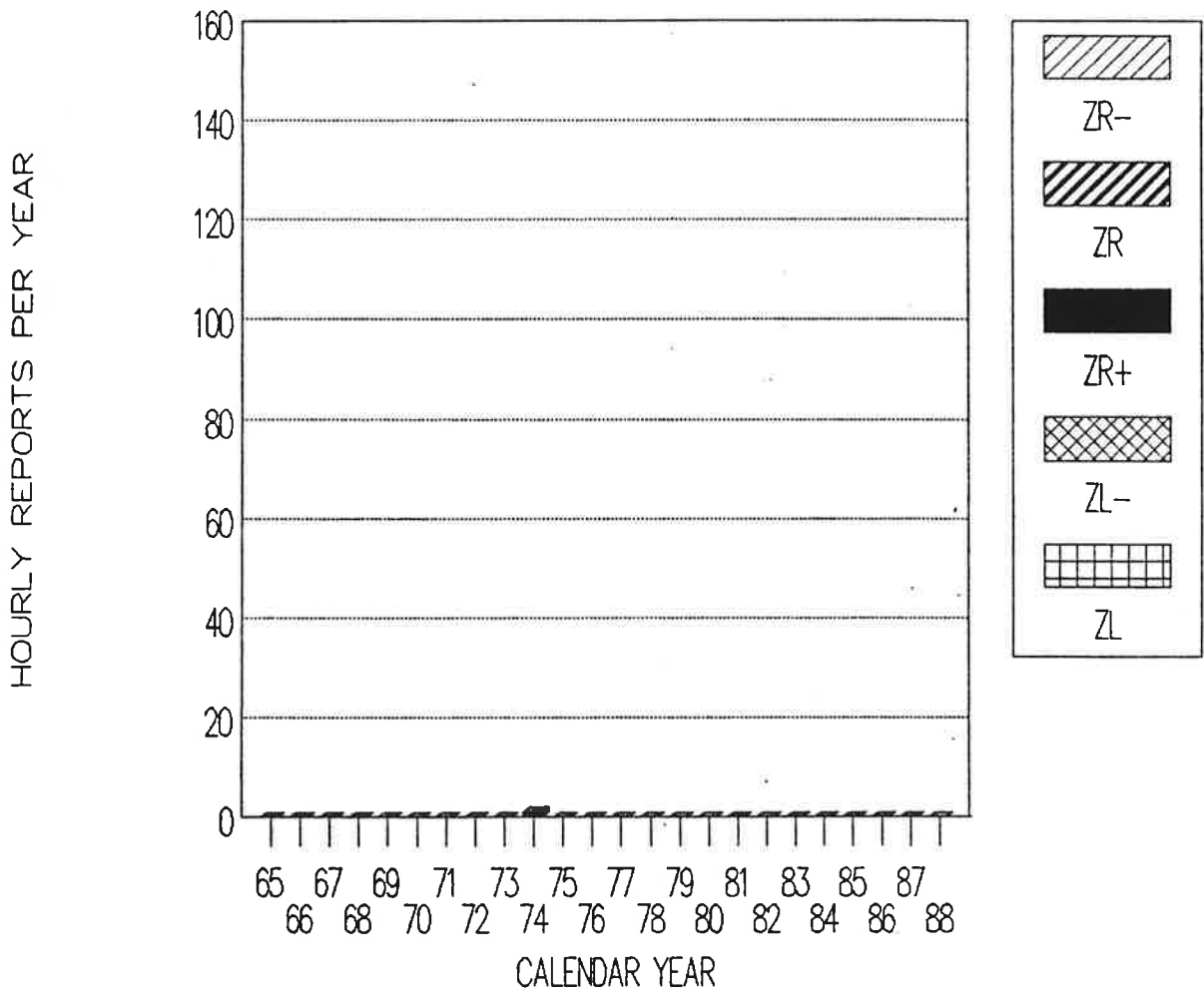
SALT LAKE CITY INTERNATIONAL, UT
 ICING REPORTS 1965-1988



SAN ANTONIO INTERNATIONAL, TX
 ICING REPORTS 1965-1988

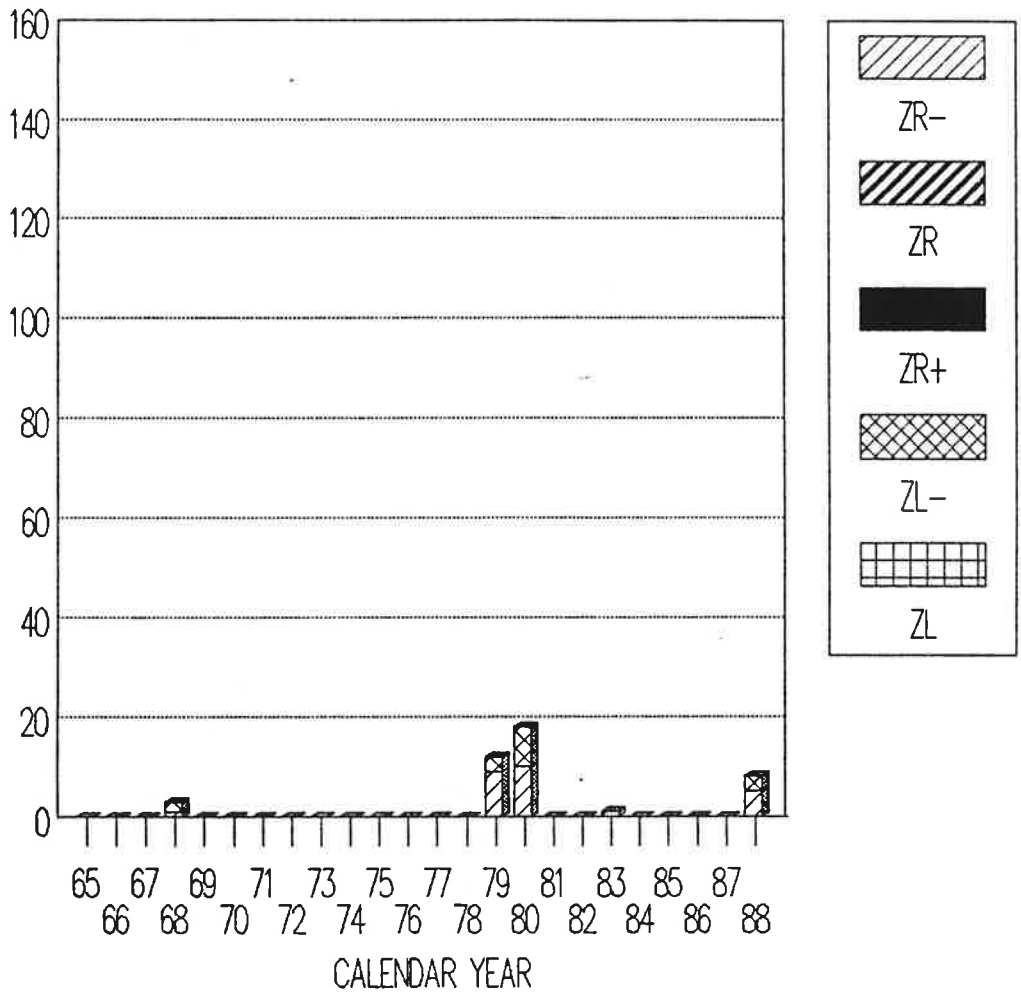


SAN FRANCISCO INTERNATIONAL, CA
 ICING REPORTS 1965-1988

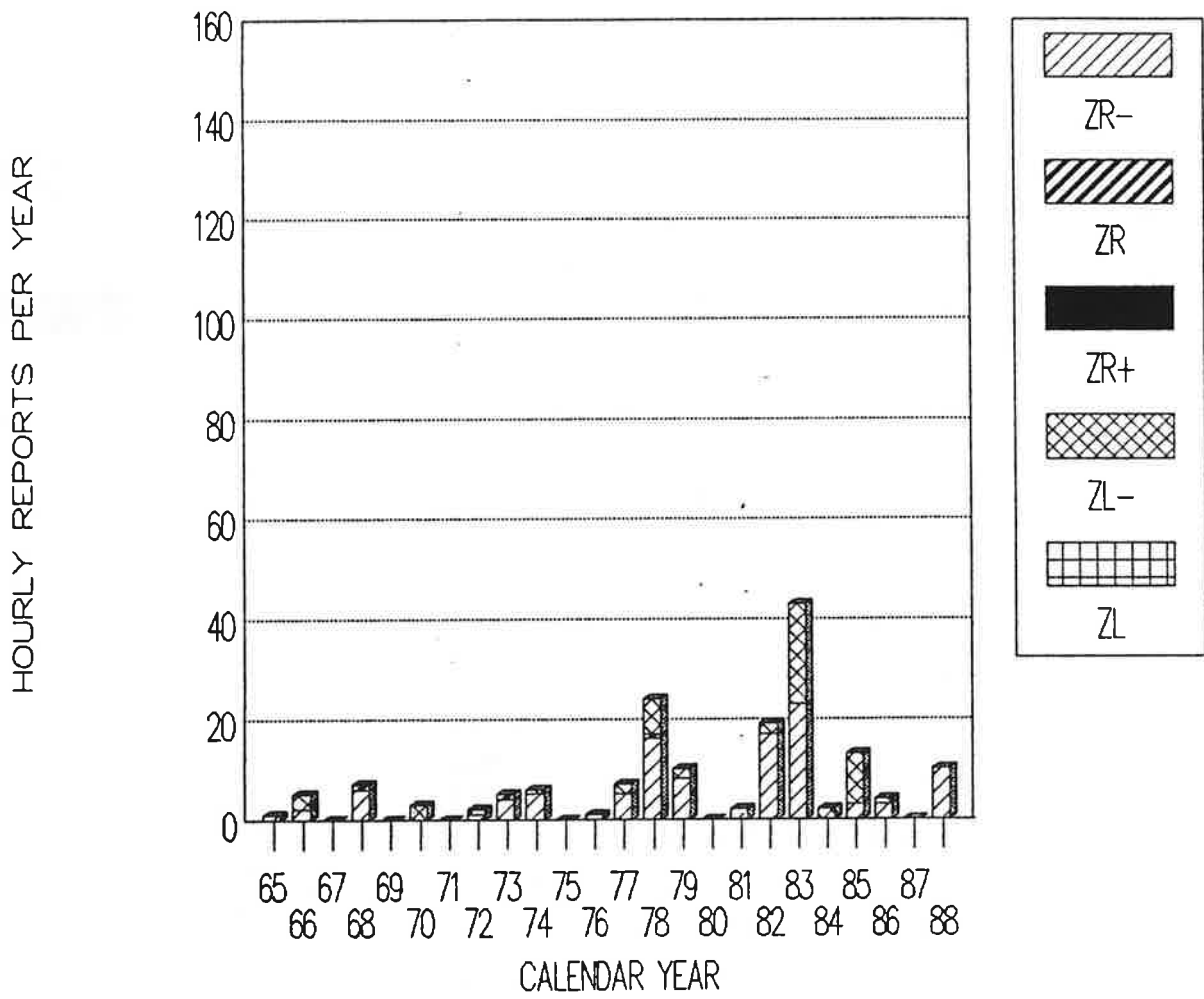


SAVANAH INTERNATIONAL, GA
 ICING REPORTS 1965-1988

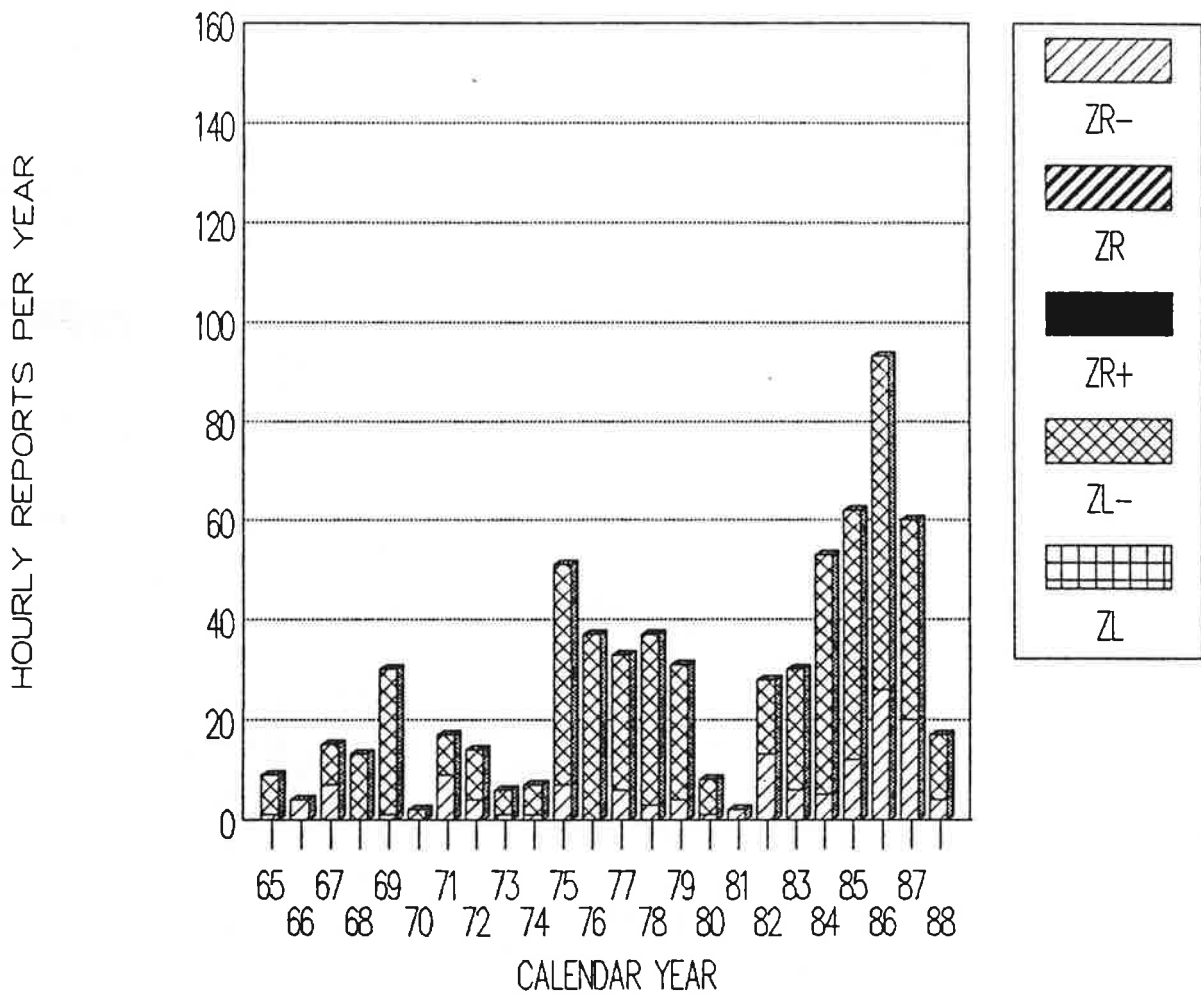
HOURLY REPORTS PER YEAR



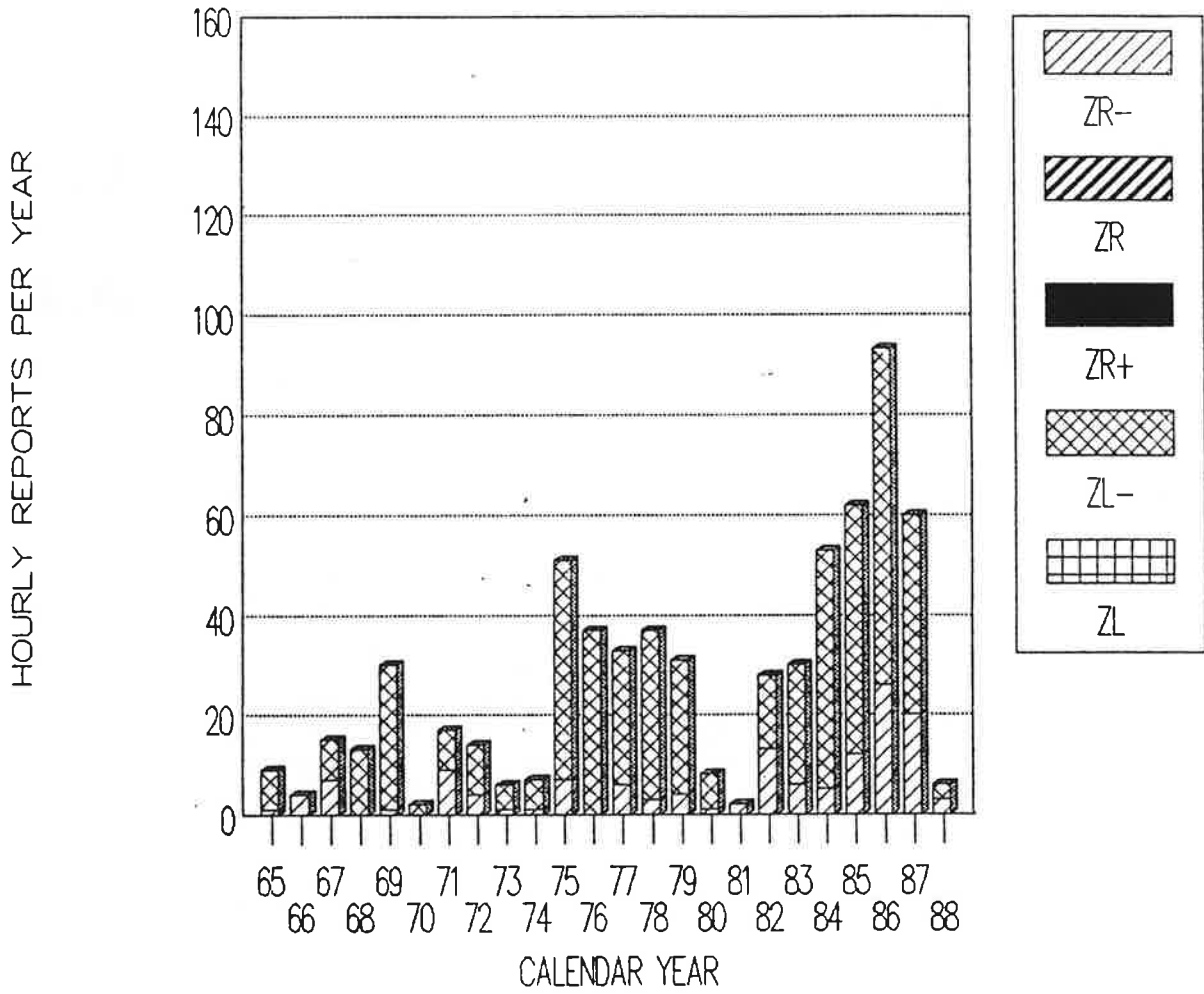
SHREVEPORT, LA
 ICING REPORTS 1965-1988



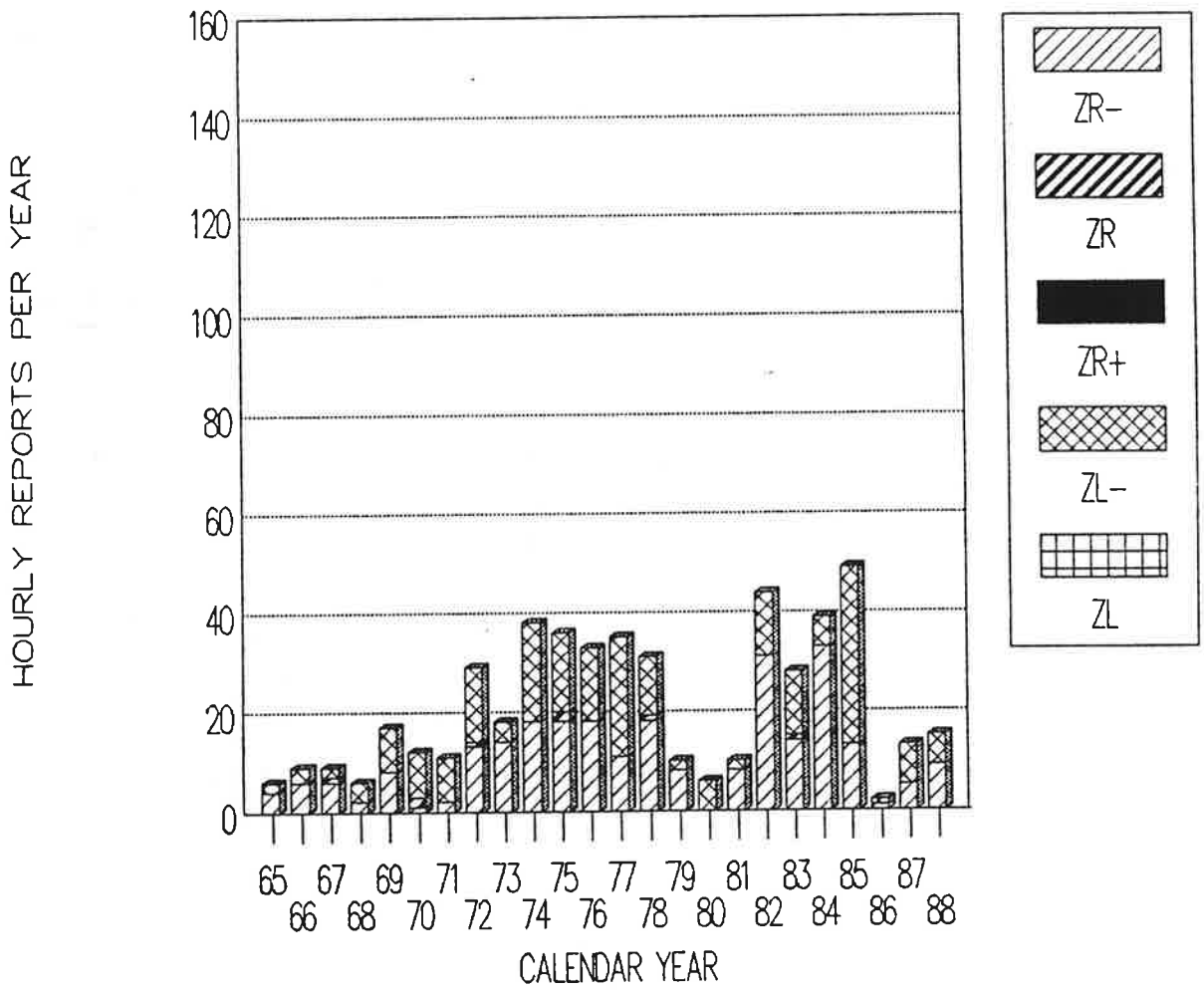
SIOUX CITY, IA
ICING REPORTS 1965-1988



SIoux FALLS-JOE FOSS FIELD, SD
 ICING REPORTS 1965-1988

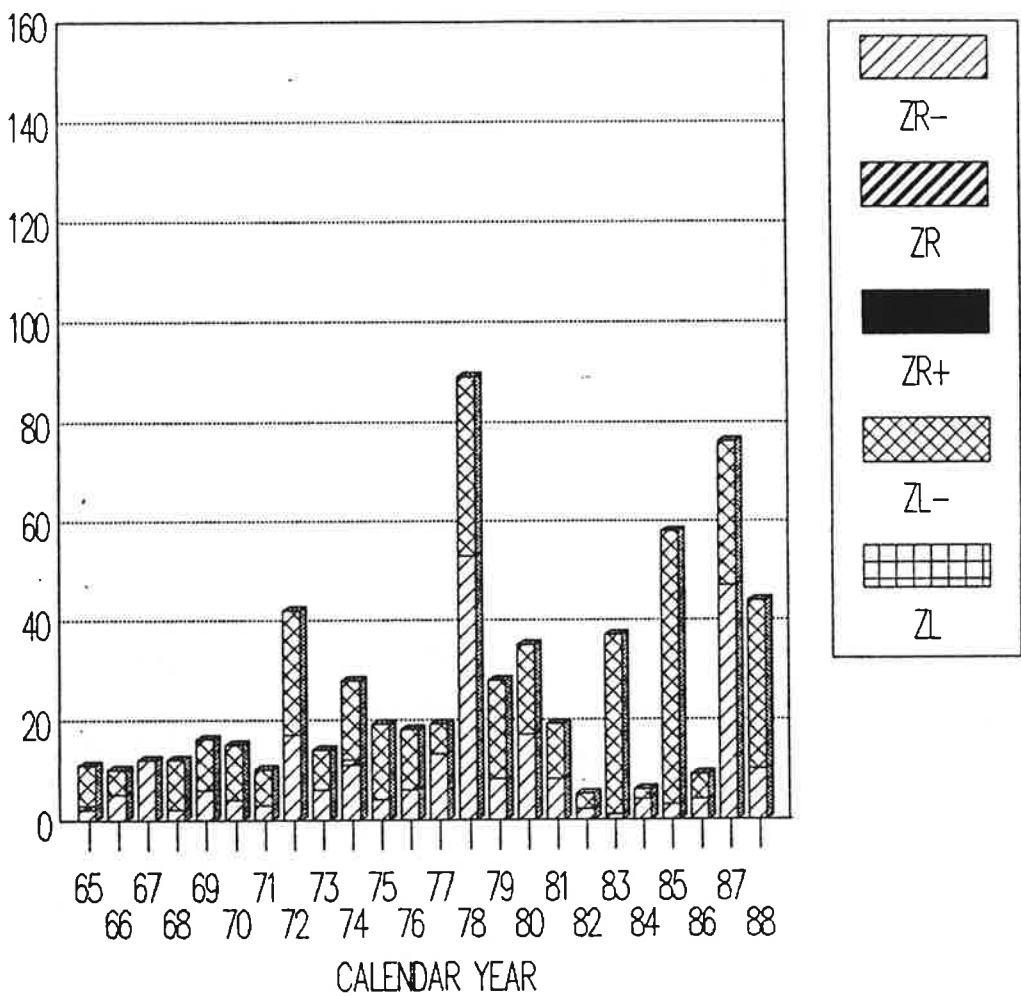


SPRINGFIELD, IL
 ICING REPORTS 1965-1988

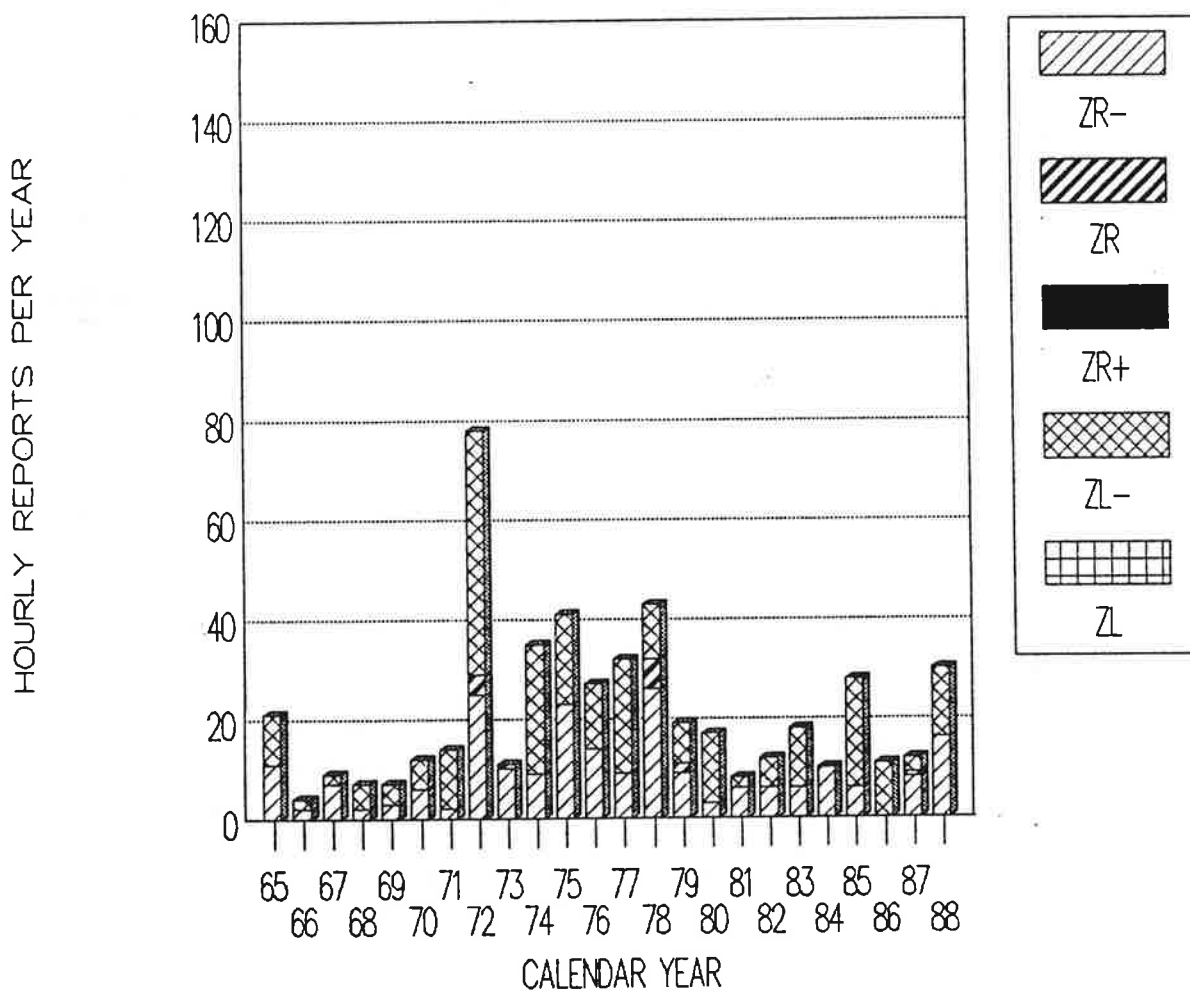


SPRINGFIELD, MO
 ICING REPORTS 1965-1988

HOURLY REPORTS PER YEAR

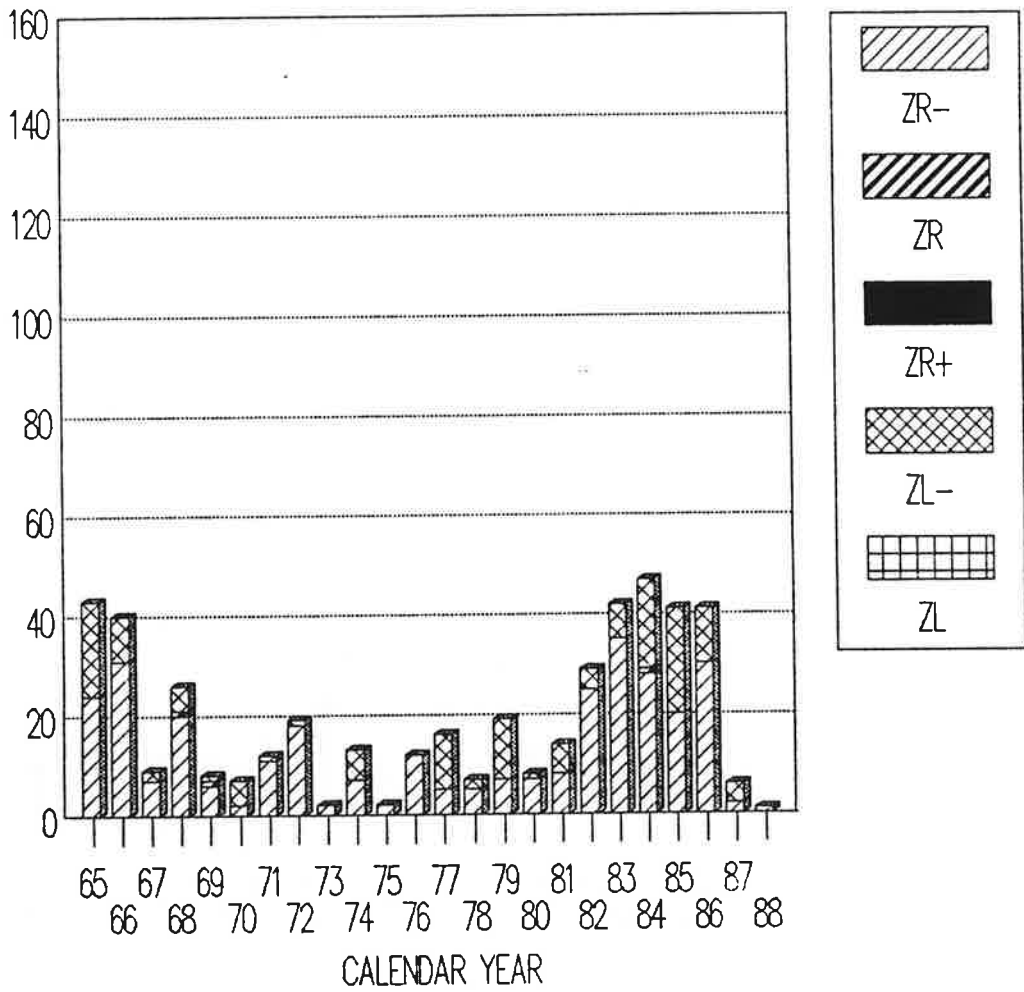


ST. LOUIS INTERNATIONAL, MO
 ICING REPORTS 1965-1988



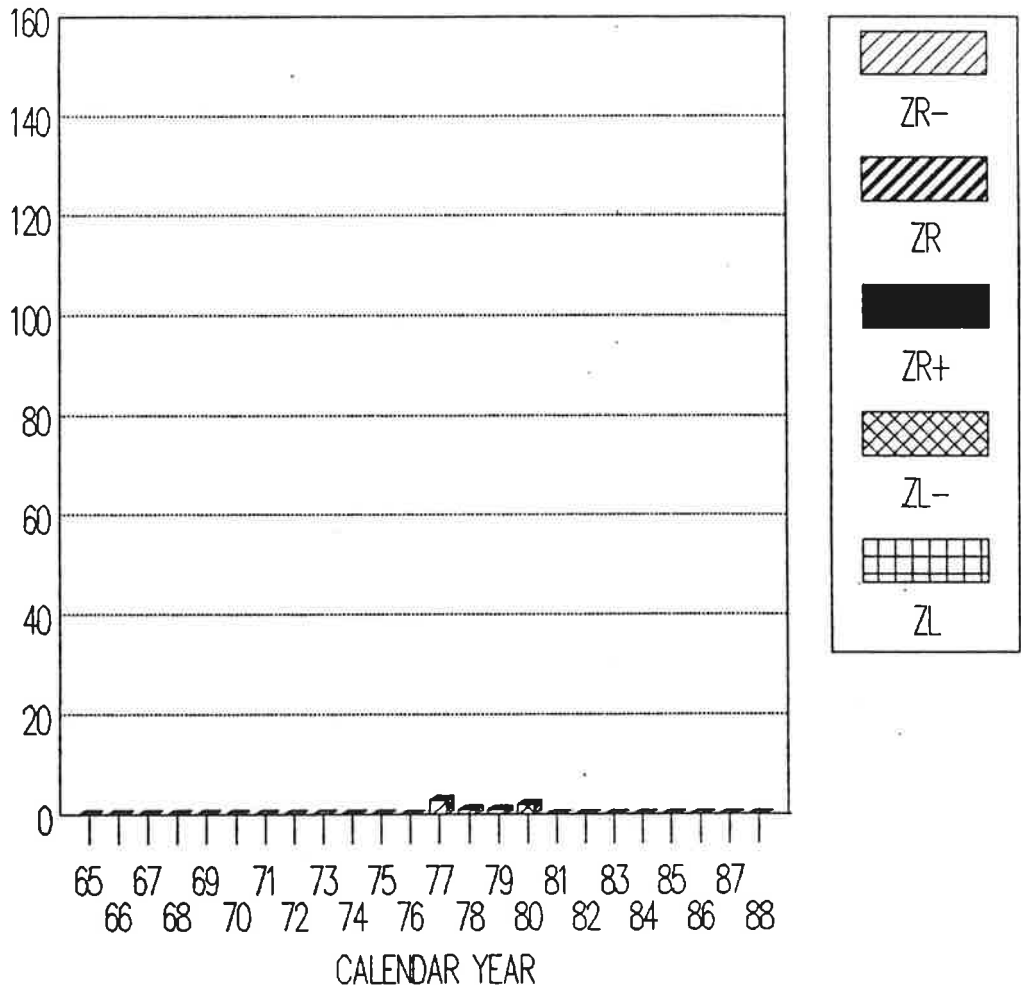
SYRACUSE HANCOCK INTERNATIONAL, NY
 ICING REPORTS 1965-1988

HOURLY REPORTS PER YEAR

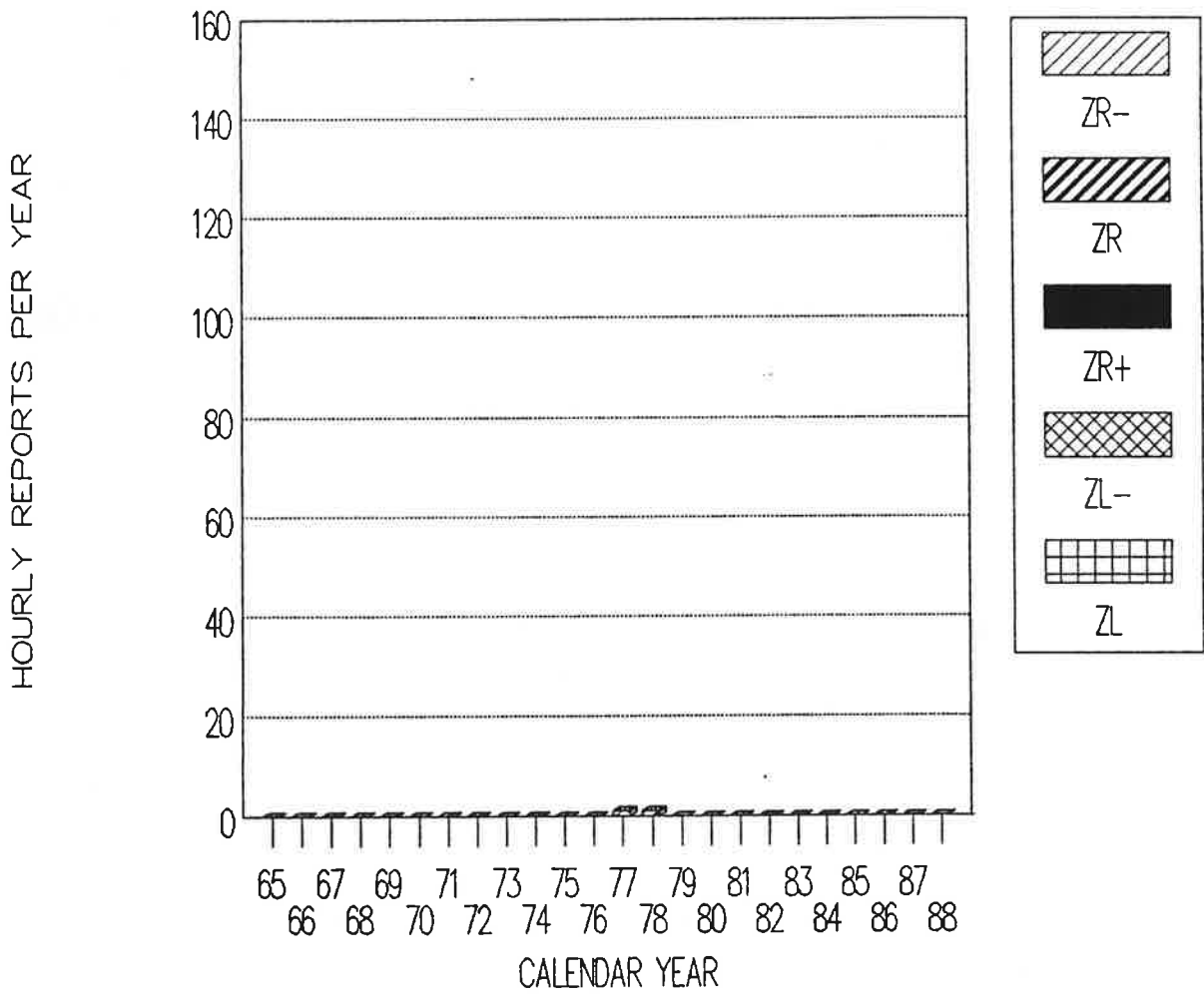


TALLAHASSEE, FL
 ICING REPORTS 1965-1988

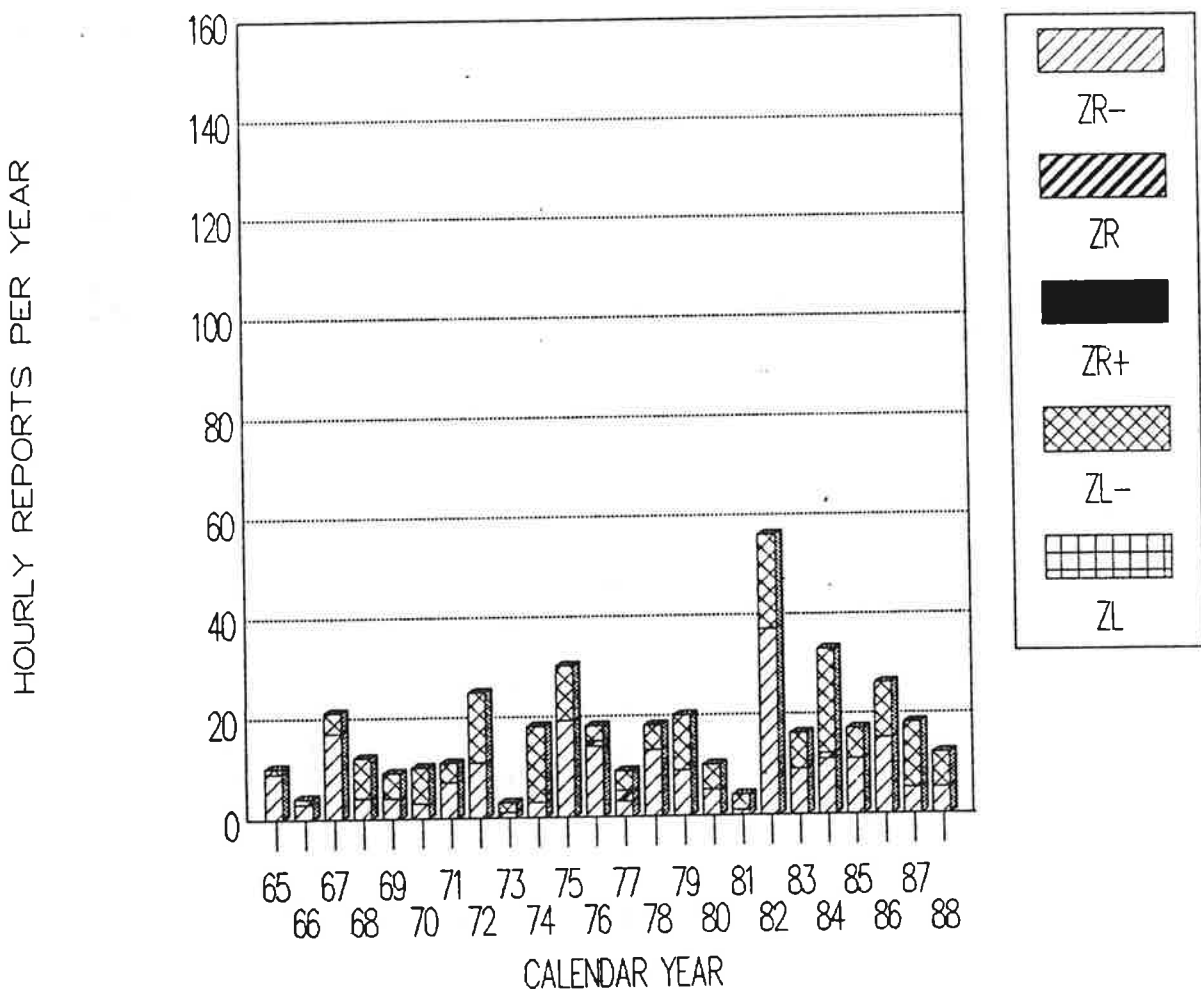
HOURLY REPORTS PER YEAR



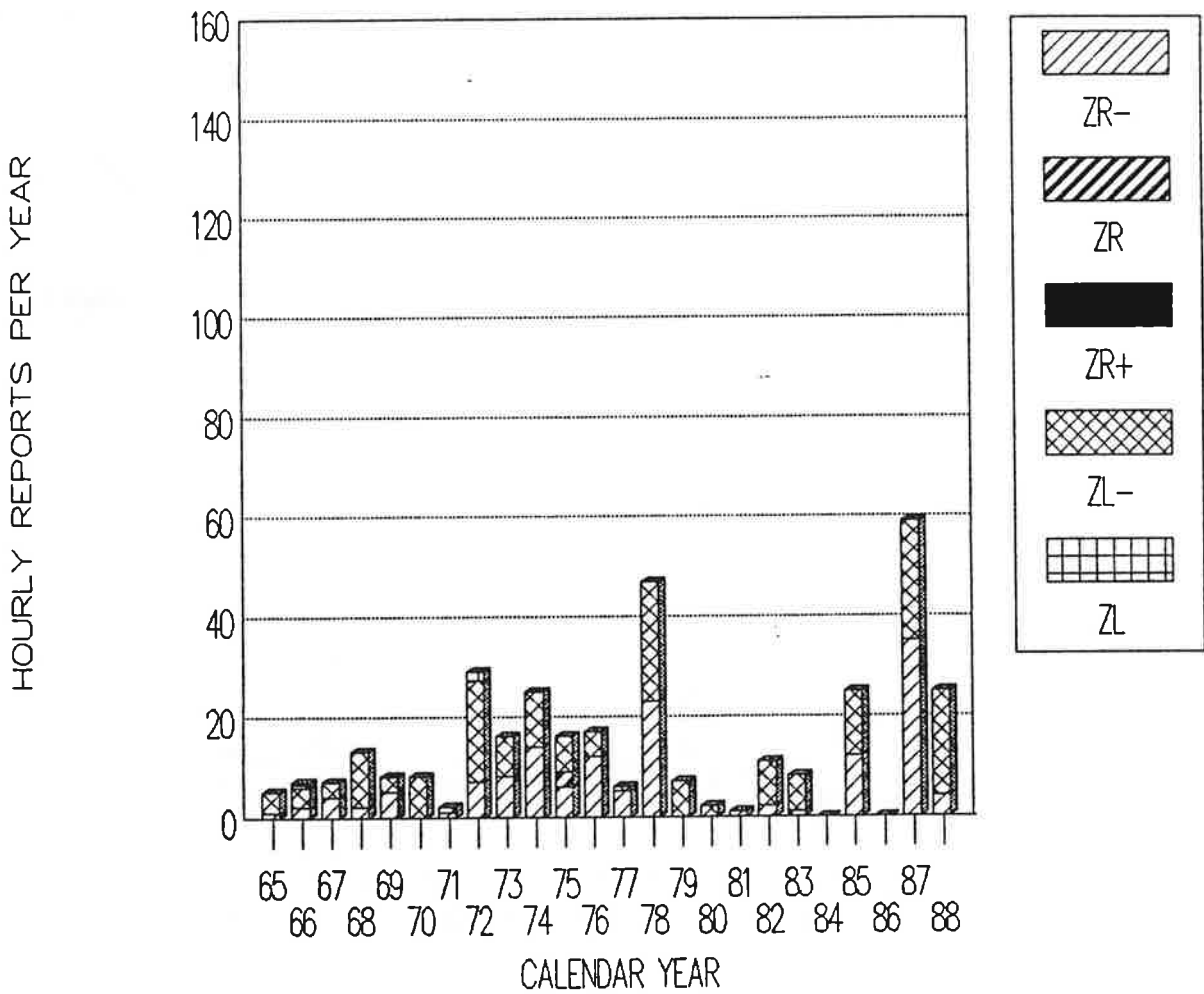
TAMPA INTERNATIONAL, FL
 ICING REPORTS 1965-1988



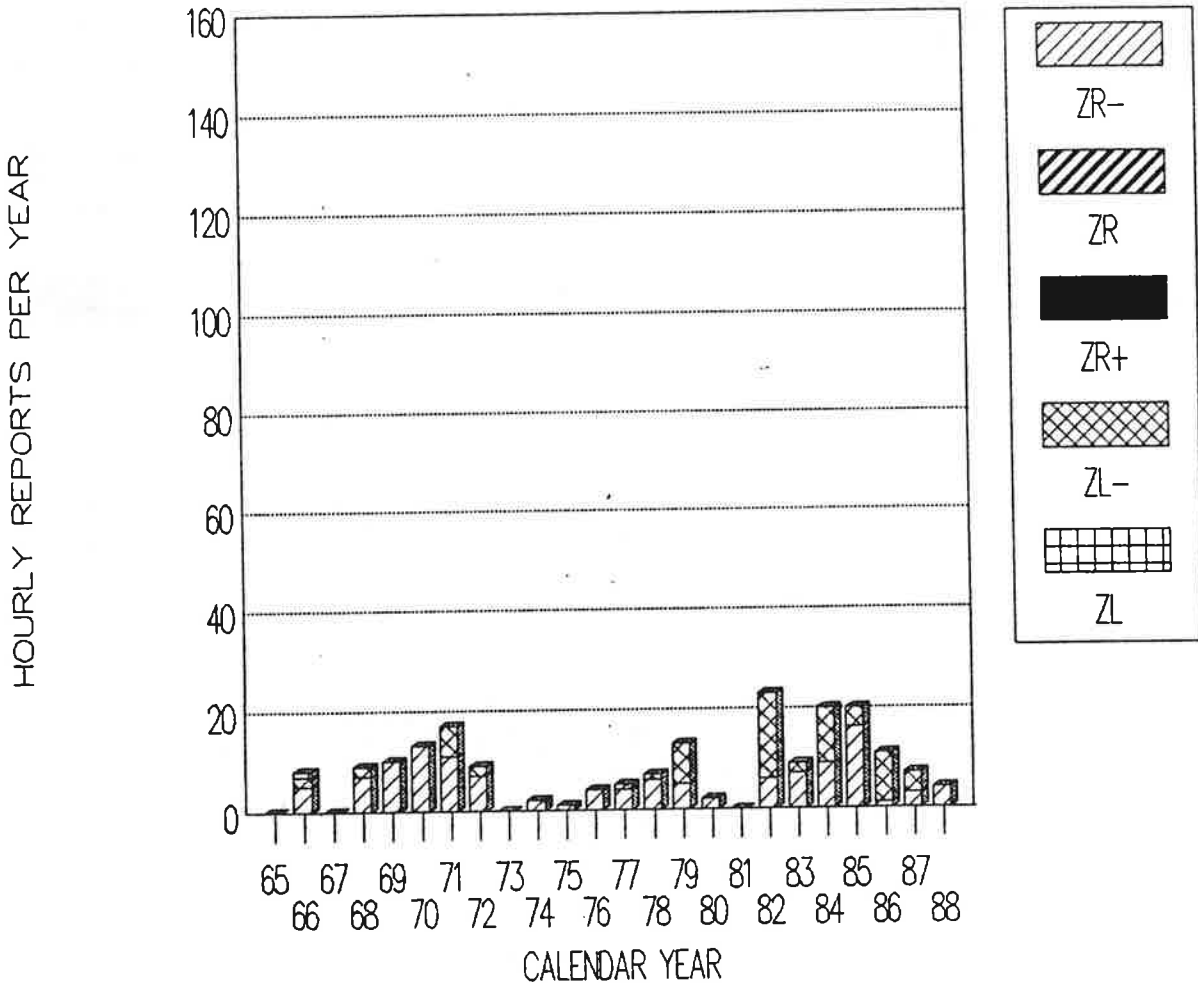
TOLEDO, OH
 ICING REPORTS 1965-1988



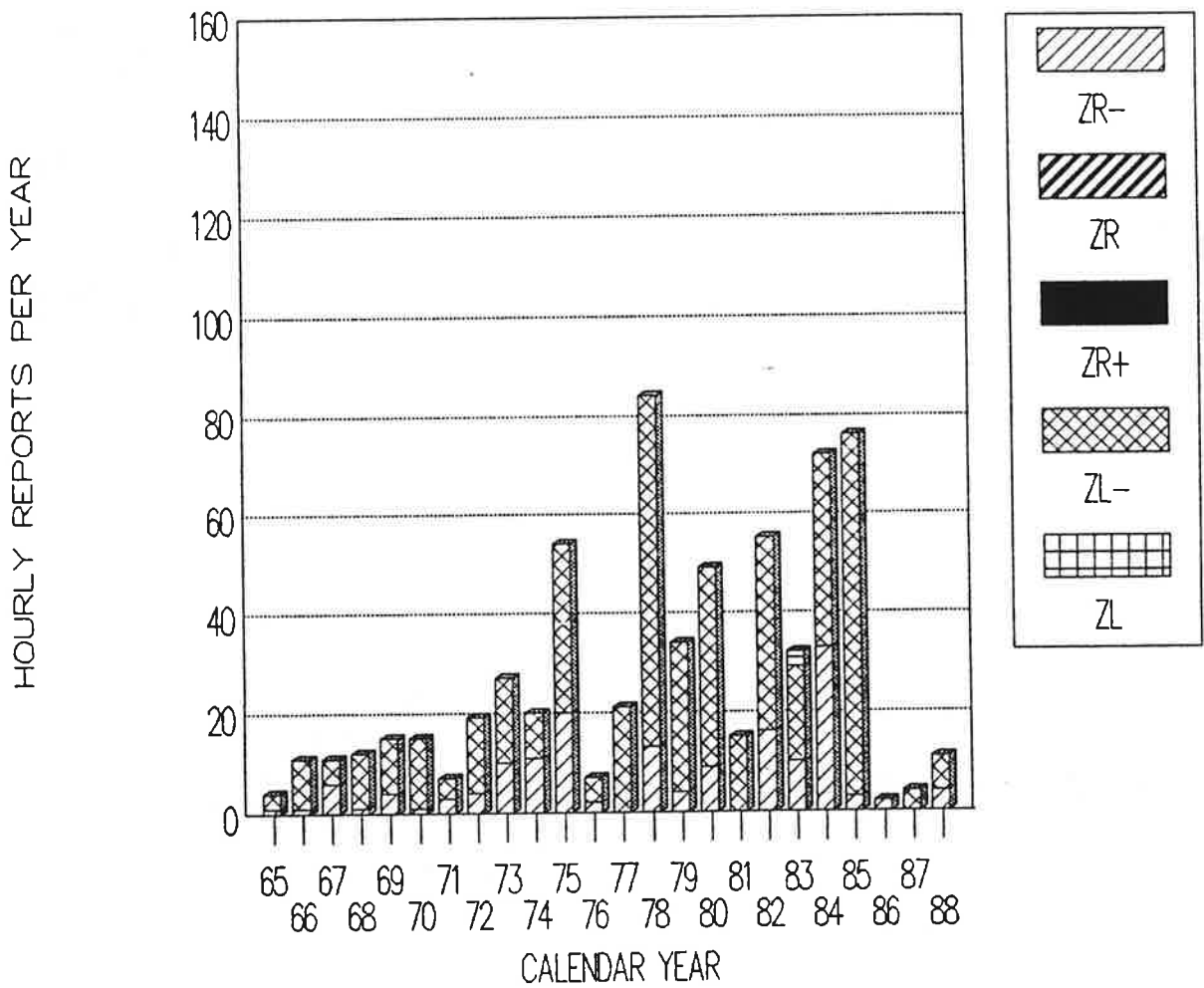
TULSA INTERNATIONAL, OK
 ICING REPORTS 1965-1988



WASHINGTON NATIONAL, DC
 ICING REPORTS 1965-1988

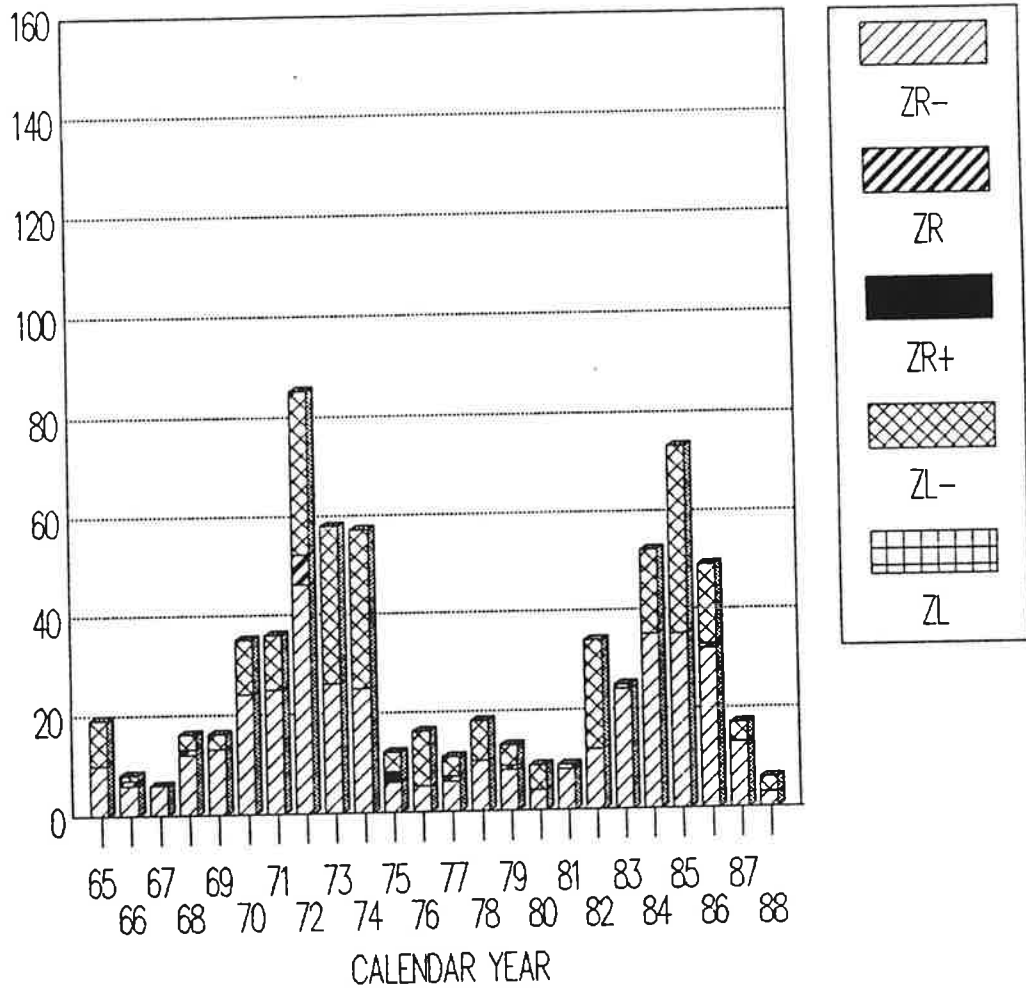


WICHITA MID-CONTINENT, KS
 ICING REPORTS 1965-1988



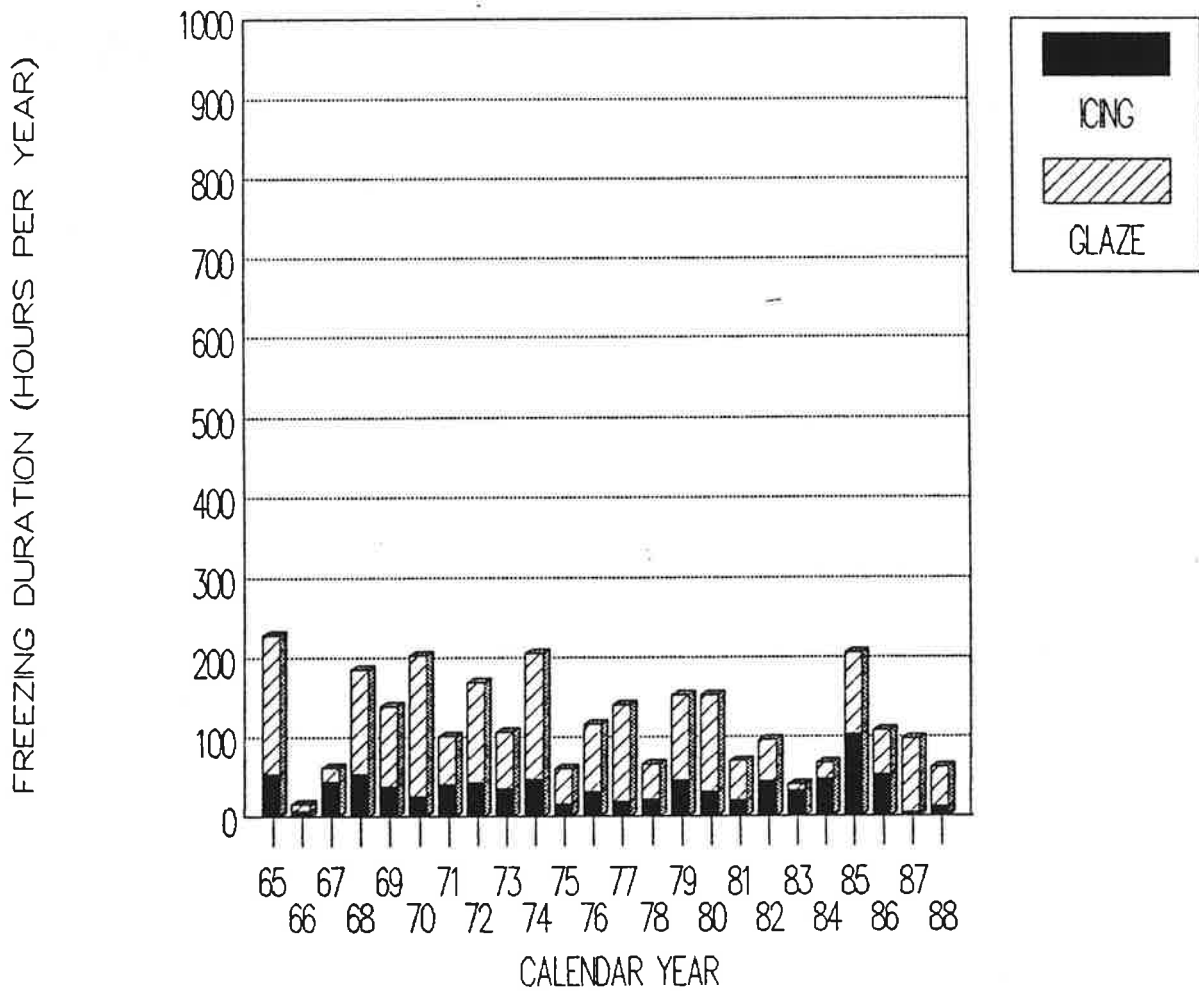
WINDSOR LOCKS, BRADLEY INTERNATIONAL, CT
 ICING REPORTS 1965-1988

HOURLY REPORTS PER YEAR

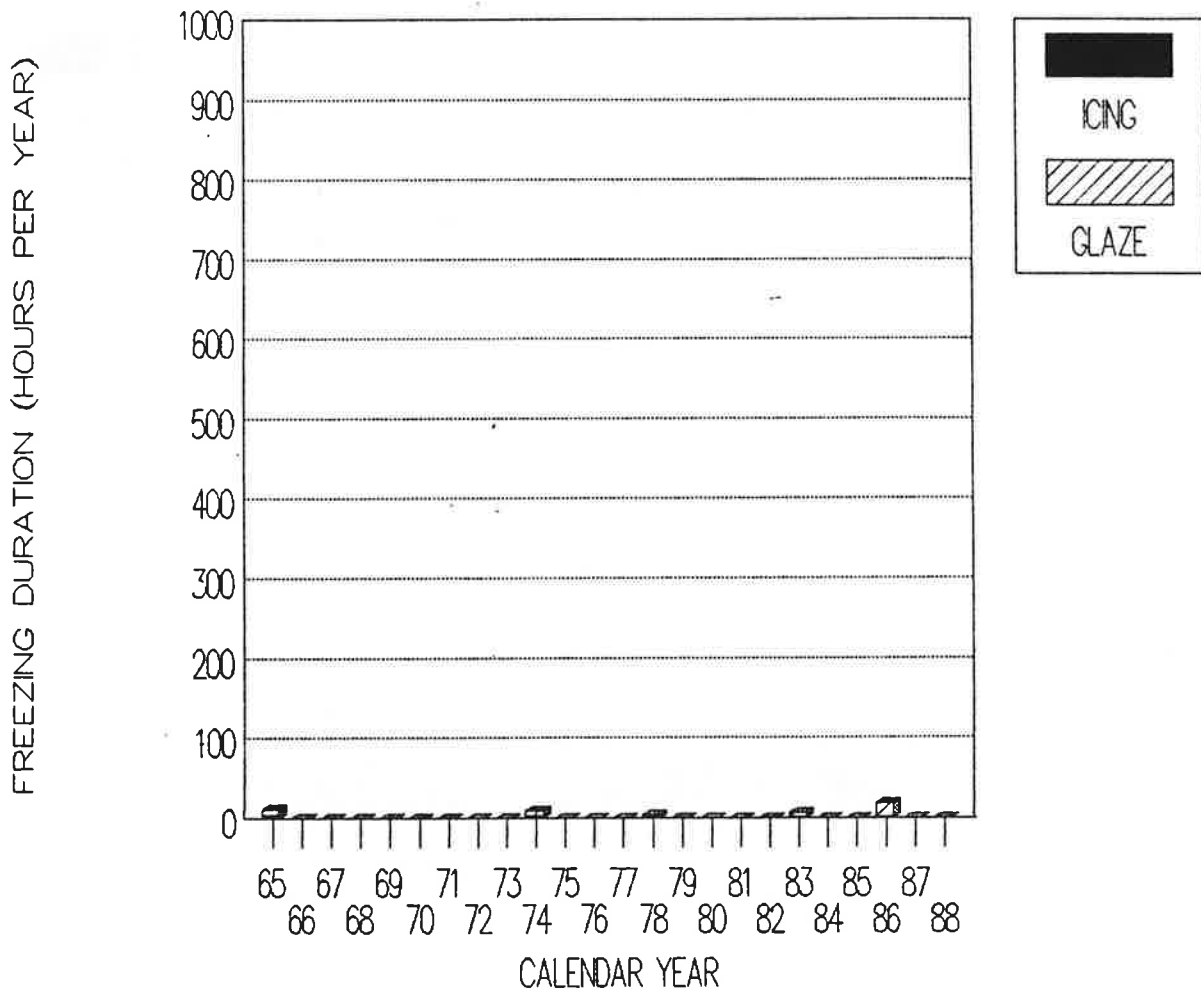


B-2. HISTOGRAMS OF FREEZING DURATIONS

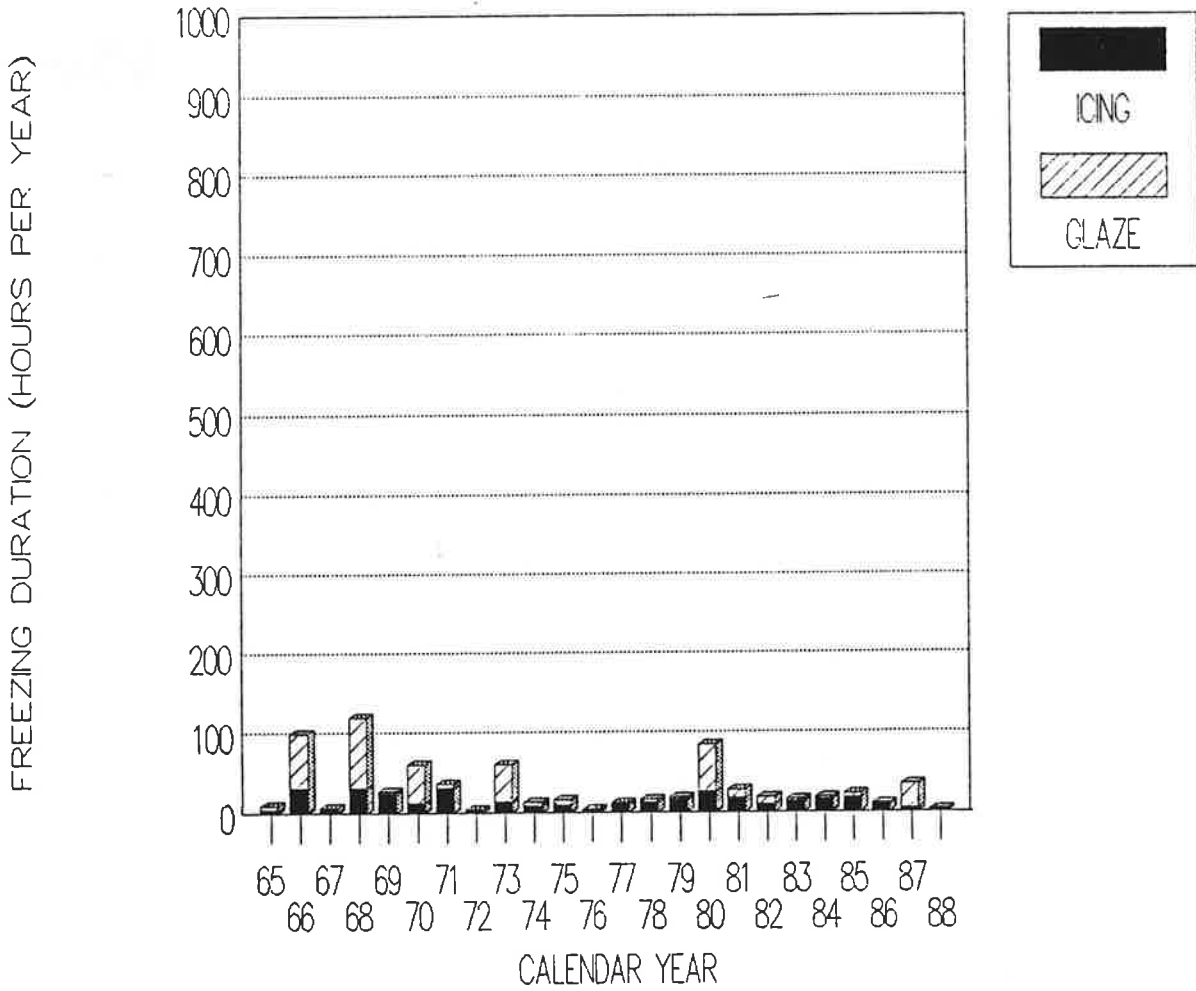
ALBANY COUNTY, NY
FREEZING DURATION 1965-1988



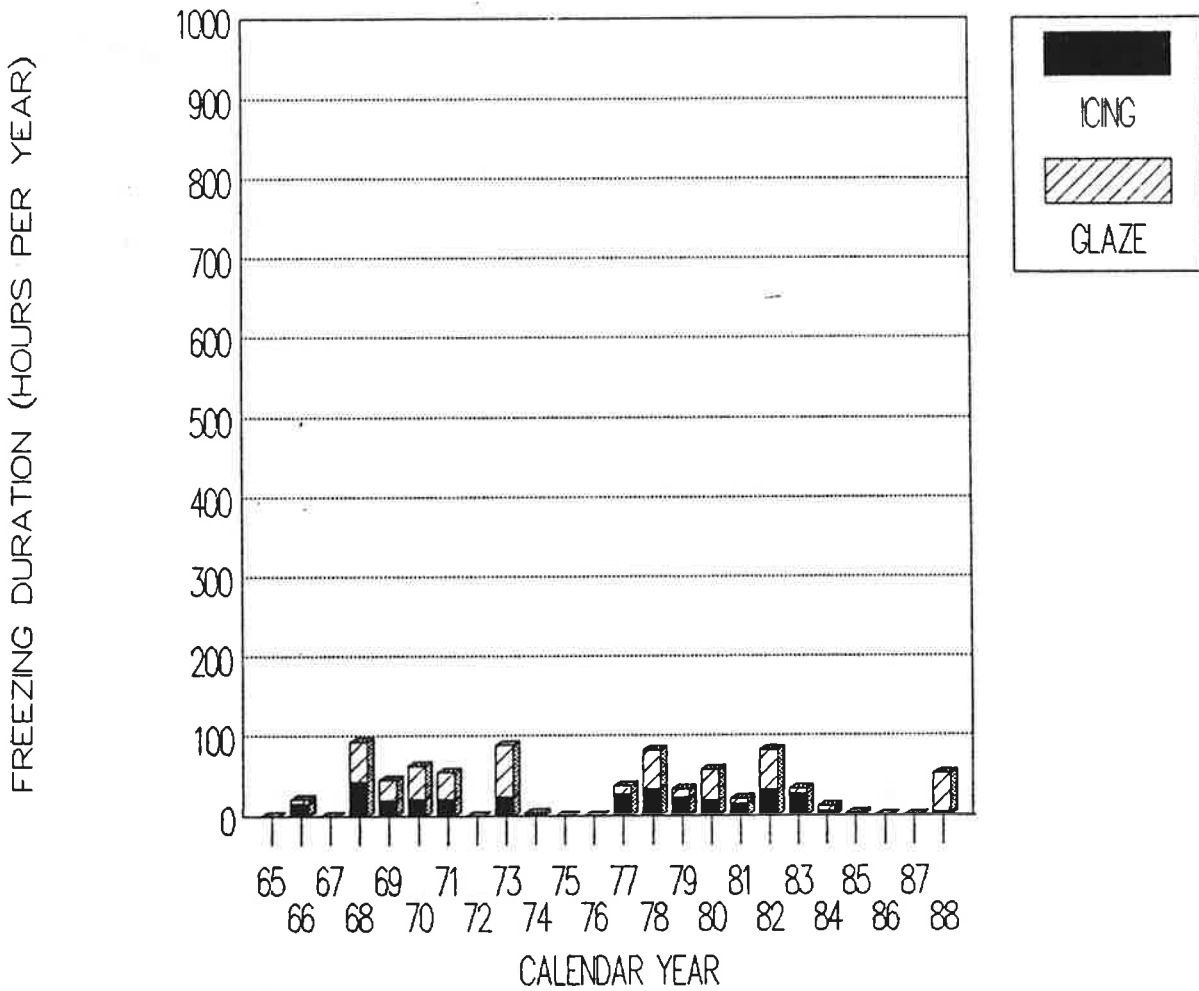
ALBUQUERQUE INTERNATIONAL, NM
FREEZING DURATION 1965-1988



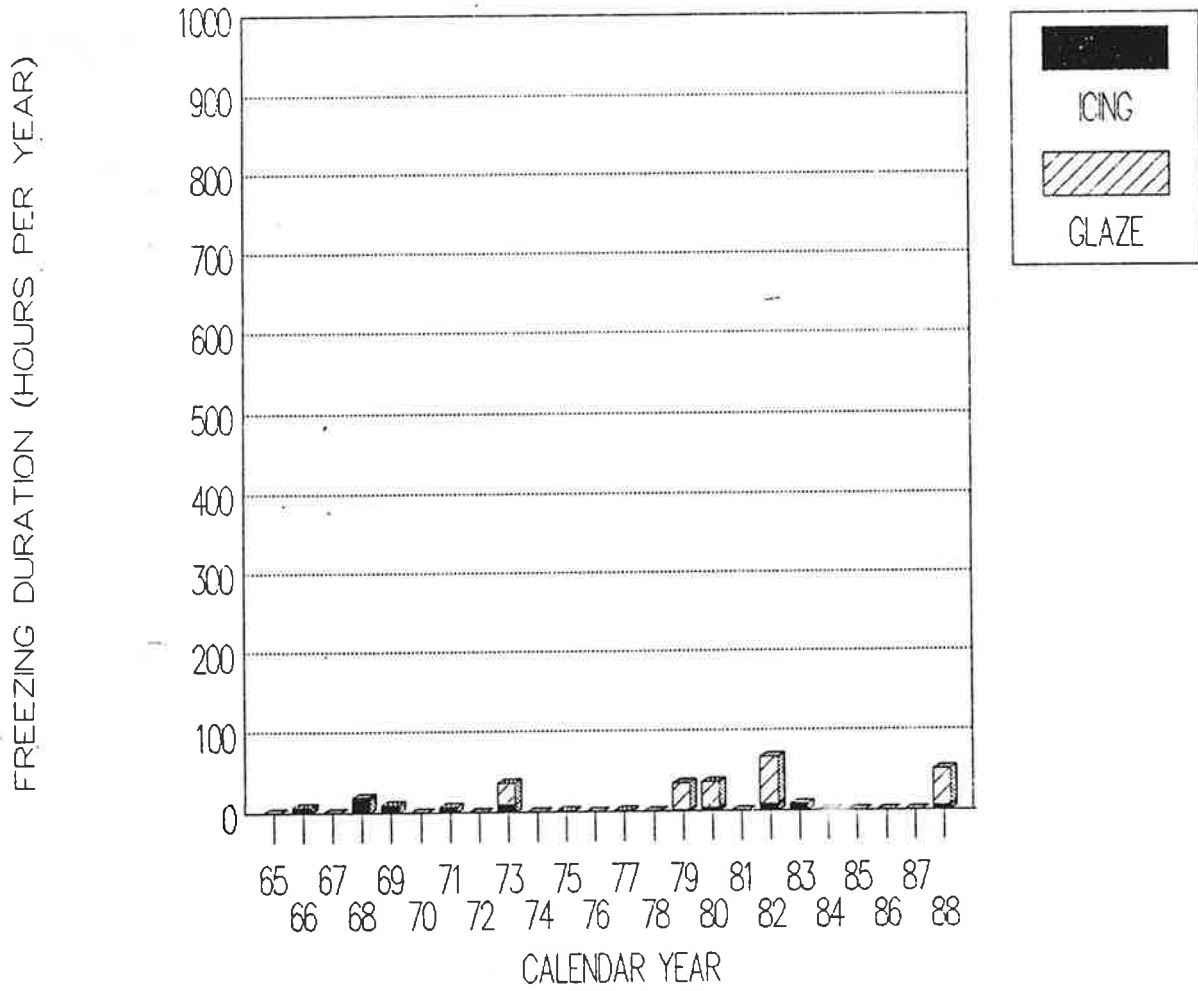
ASHEVILLE, NC
FREEZING DURATION 1965-1988



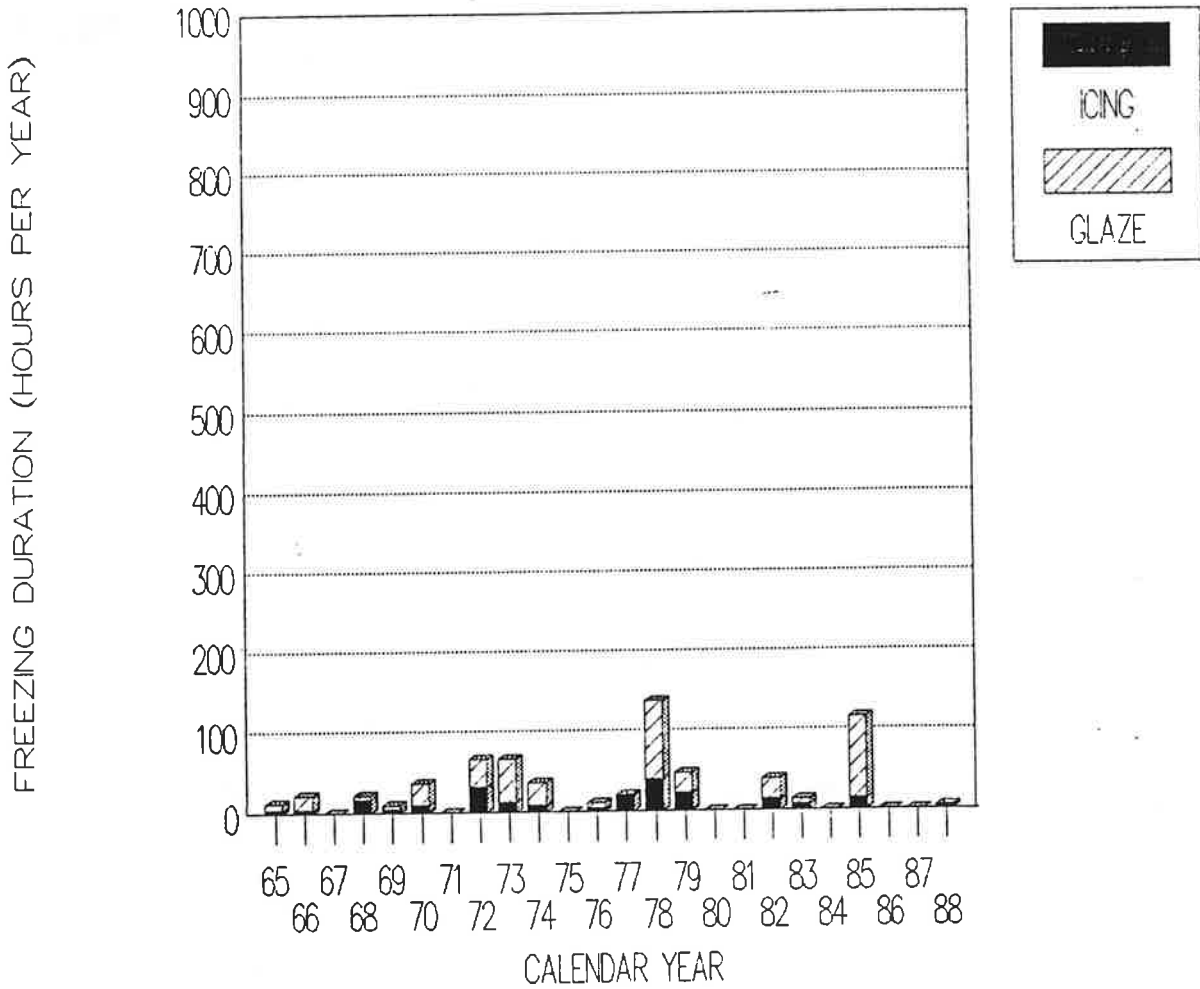
ATLANTA-HARTSFIELD INTERNATIONAL, GA
 FREEZING DURATION 1965-1988



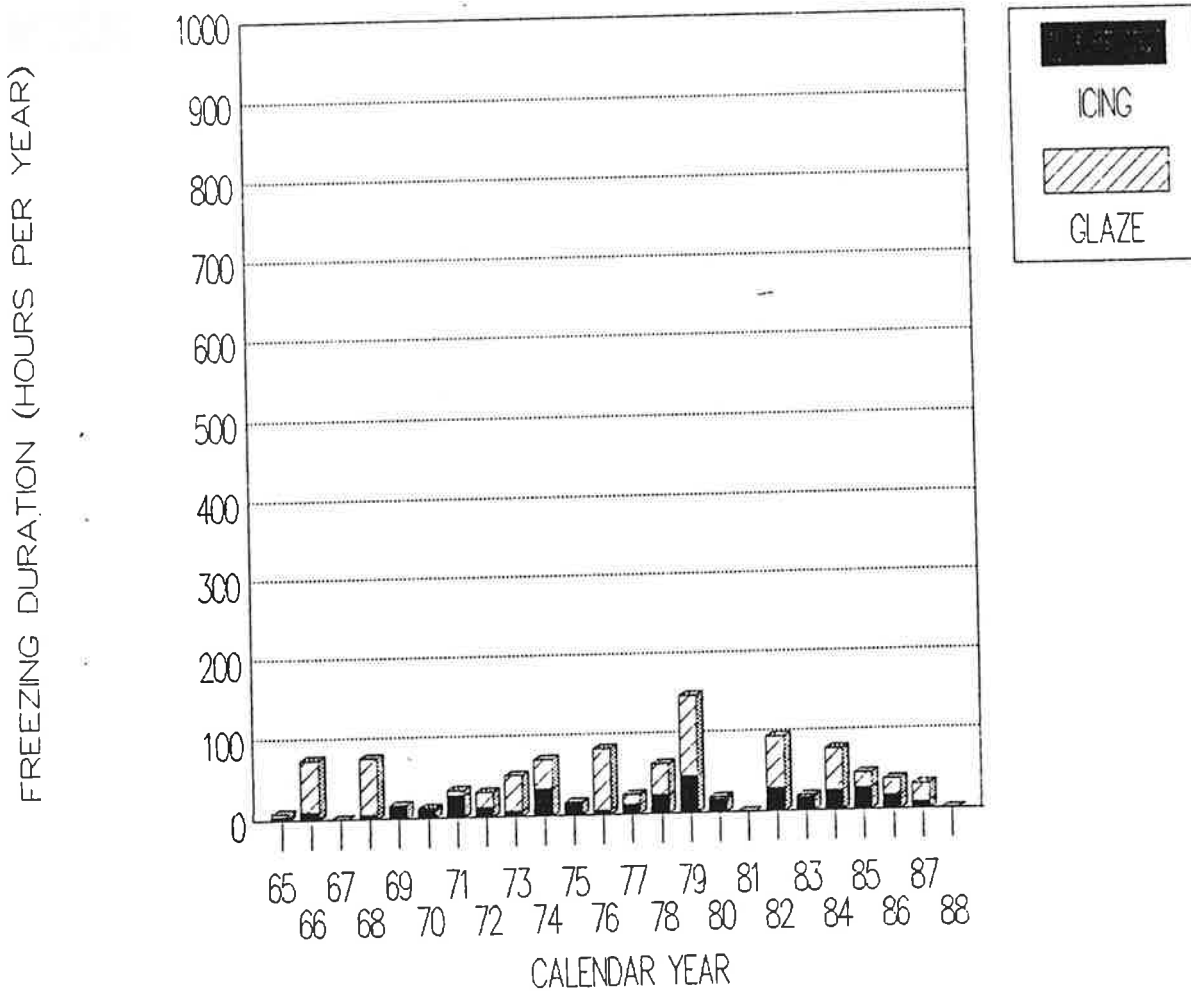
AUGUSTA, GA
FREEZING DURATION. 1965-1988



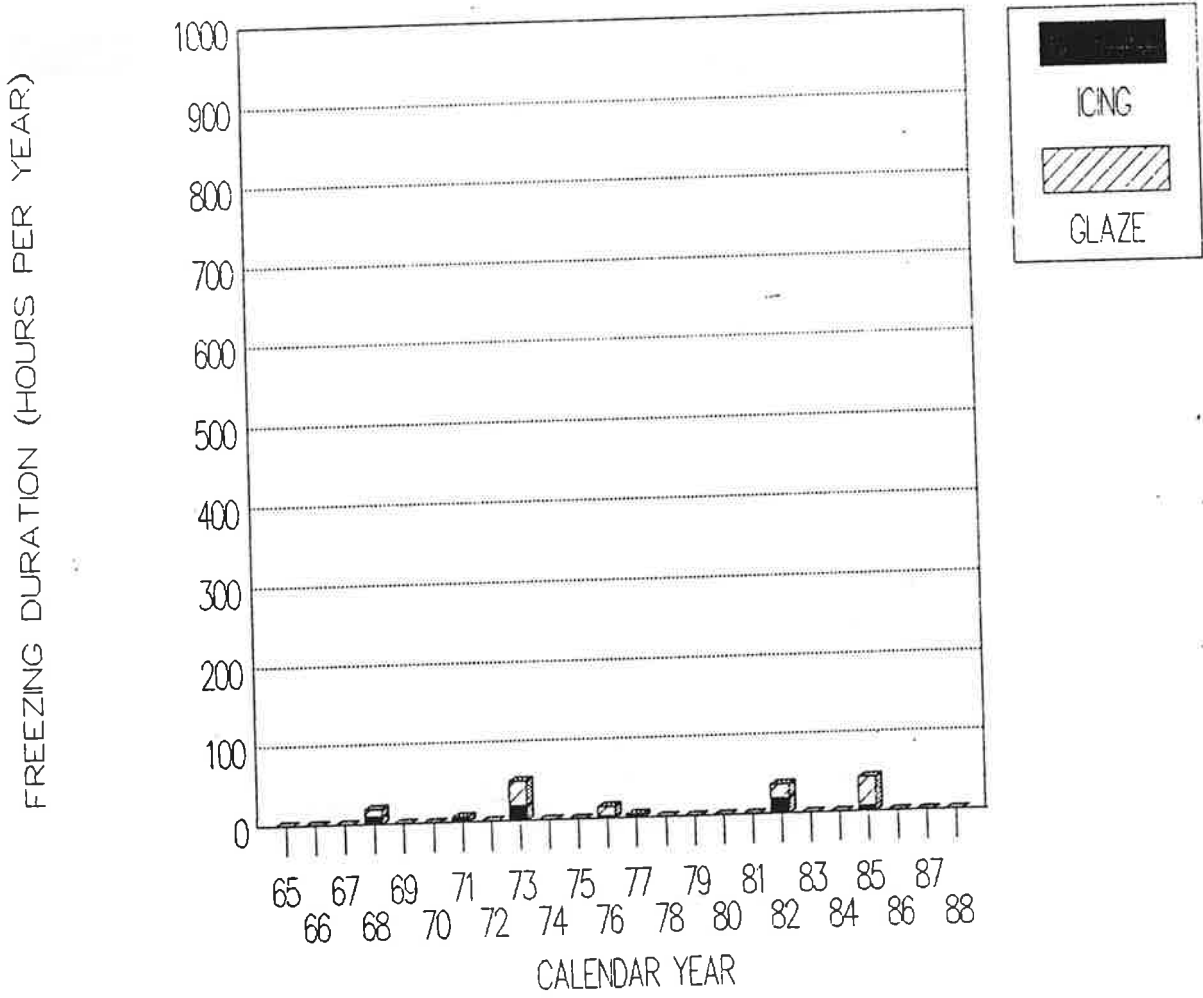
AUSTIN, TX
 FREEZING DURATION 1965-1988



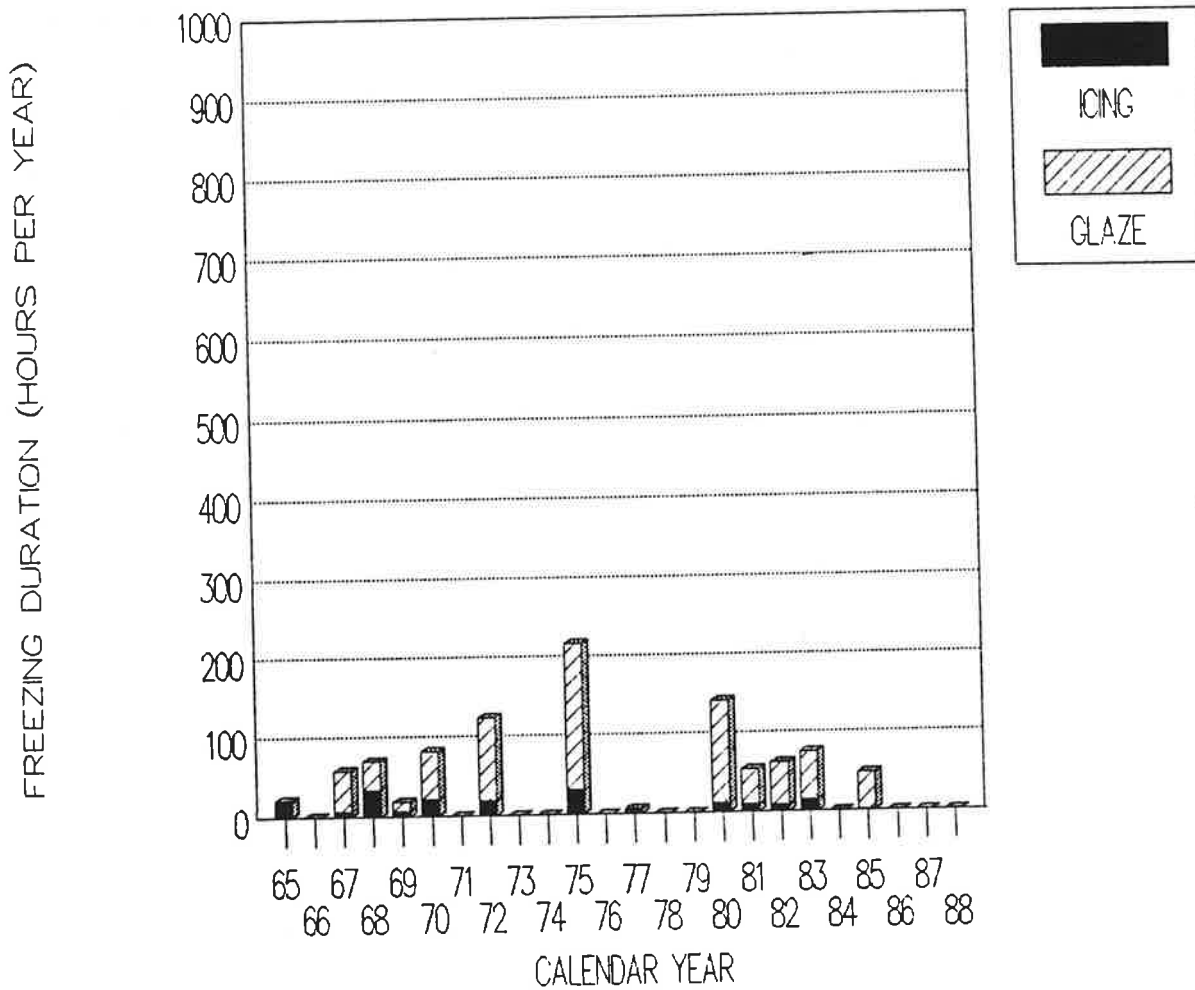
BALTIMORE, MD
 FREEZING DURATION 1965-1988



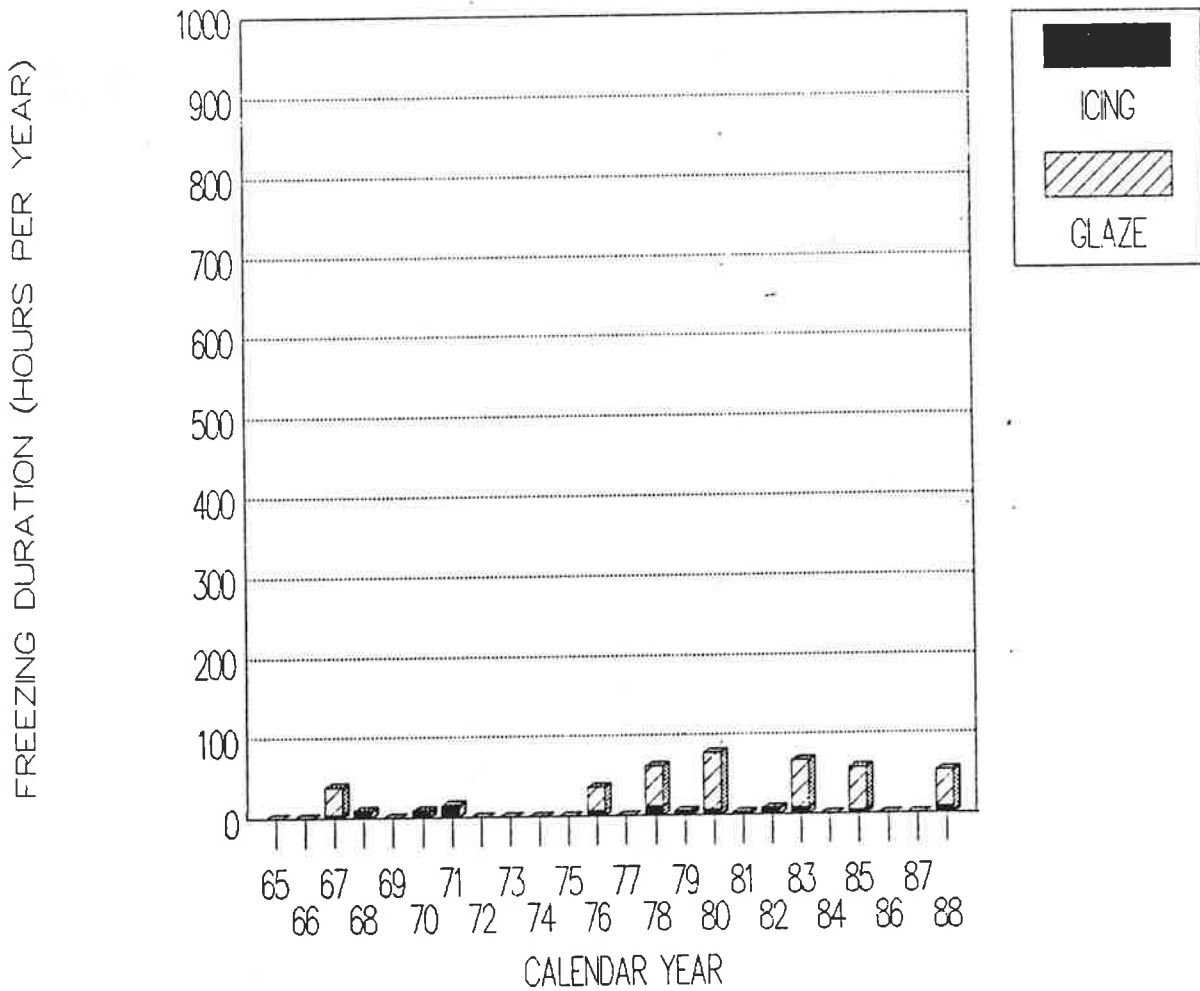
BATON ROUGE, LA
FREEZING DURATION 1965-1988



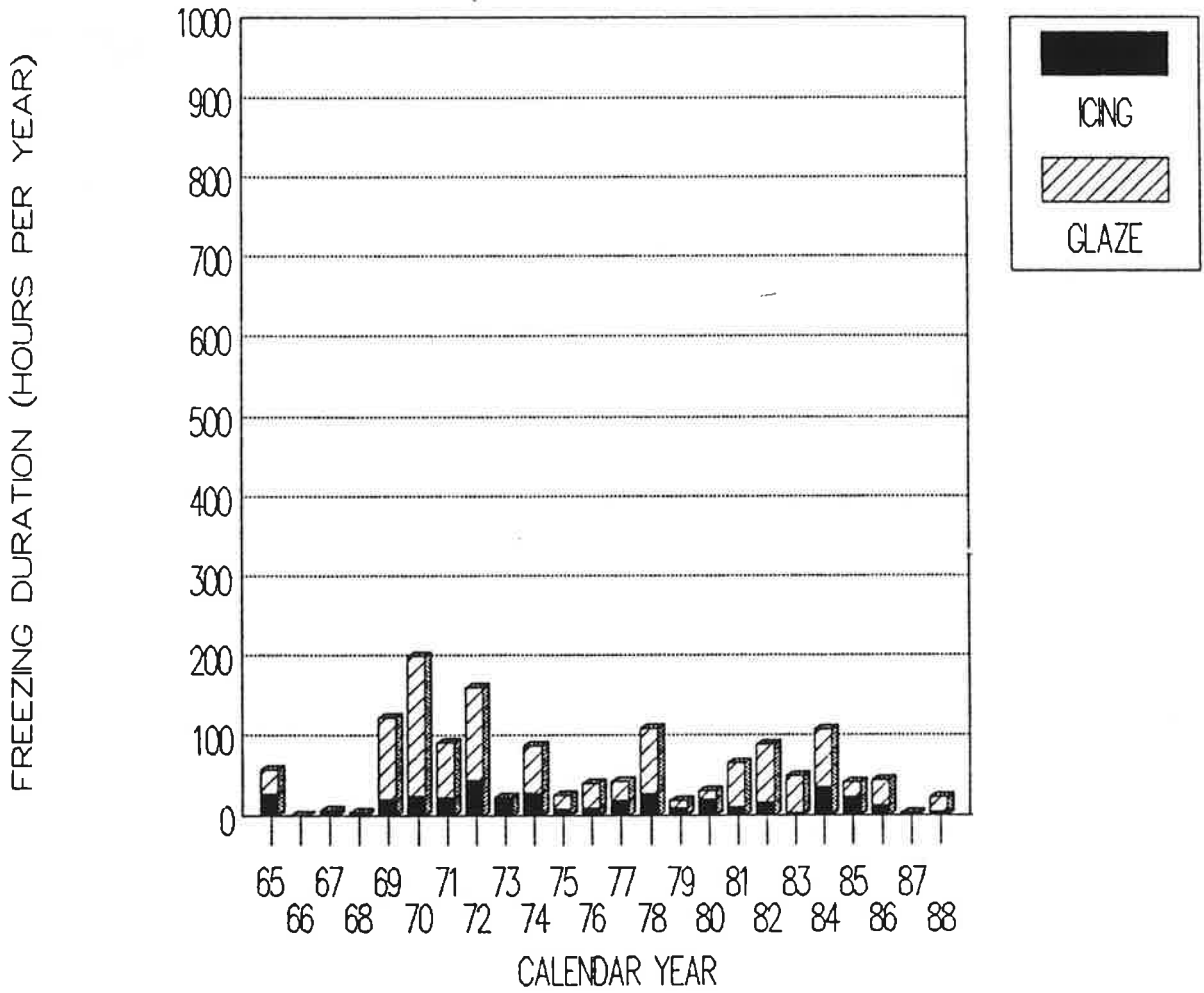
BILLINGS LOGAN, MT
 FREEZING DURATION 1965-1988



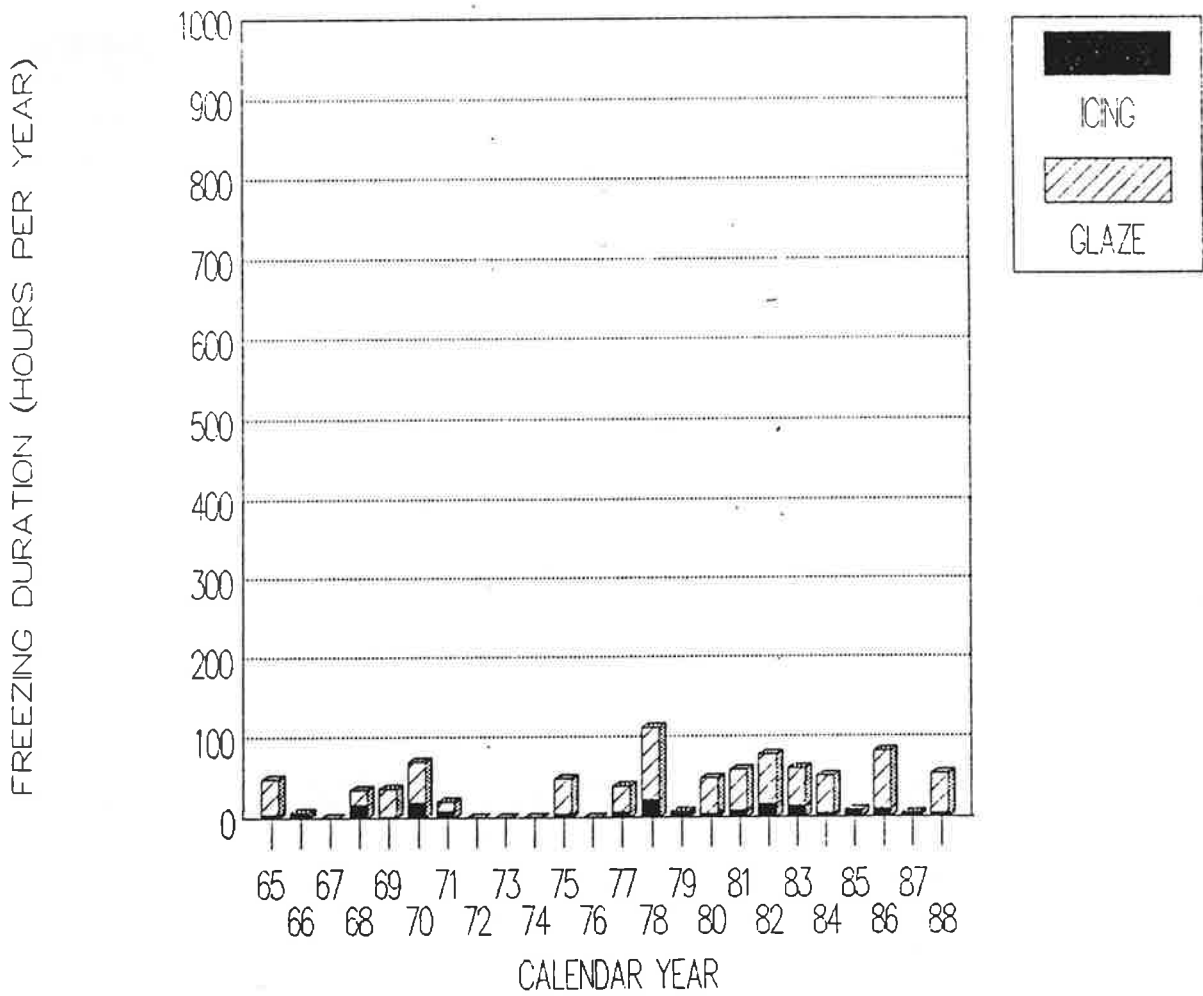
BIRMINGHAM, AL
FREEZING DURATION 1965-1988



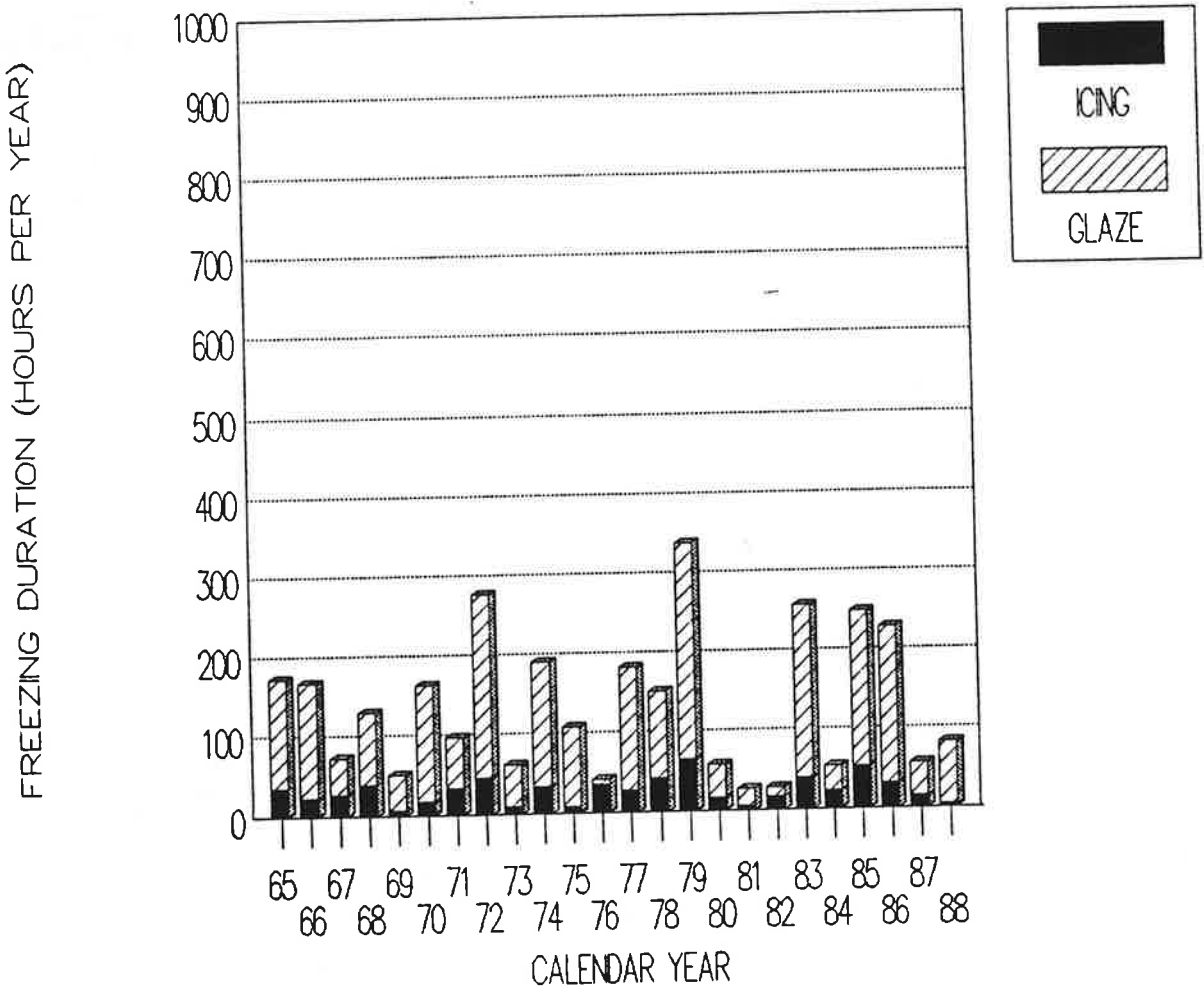
BOSTON-LOGAN INTERNATIONAL, MA
 FREEZING DURATION 1965-1988



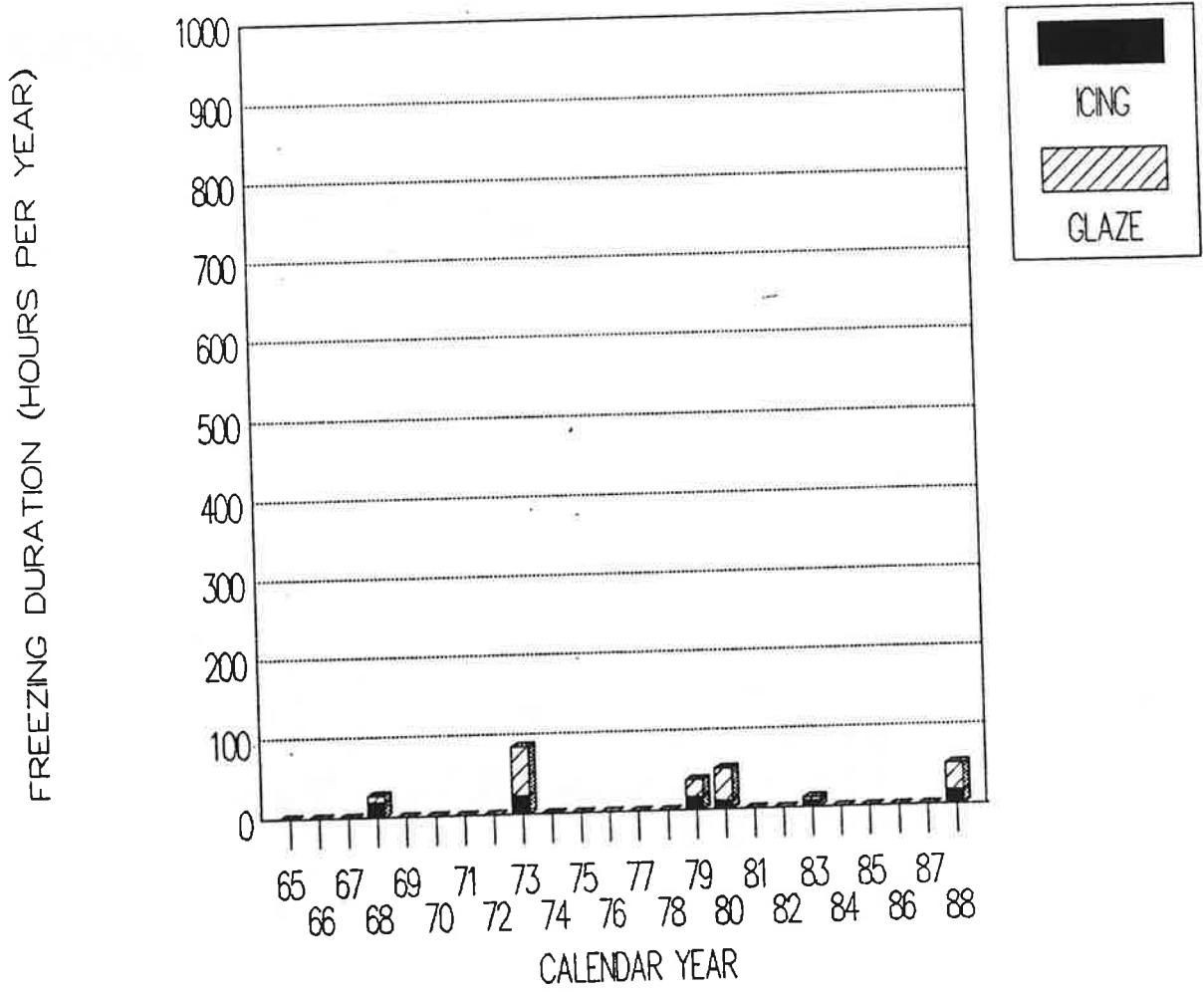
BRISTOL, TN
 FREEZING DURATION 1965-1988



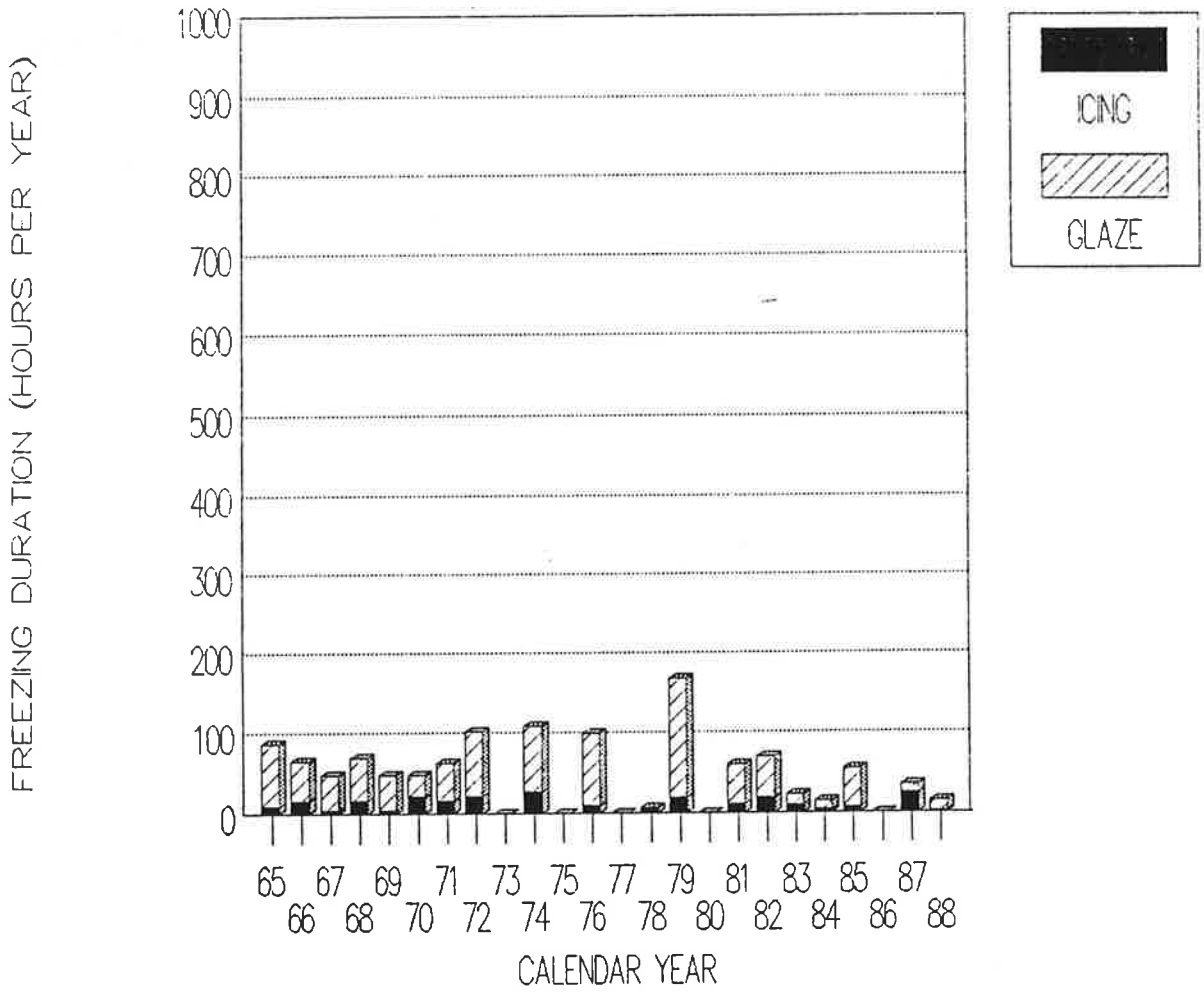
BUFFALO, NY
 FREEZING DURATION 1965-1988



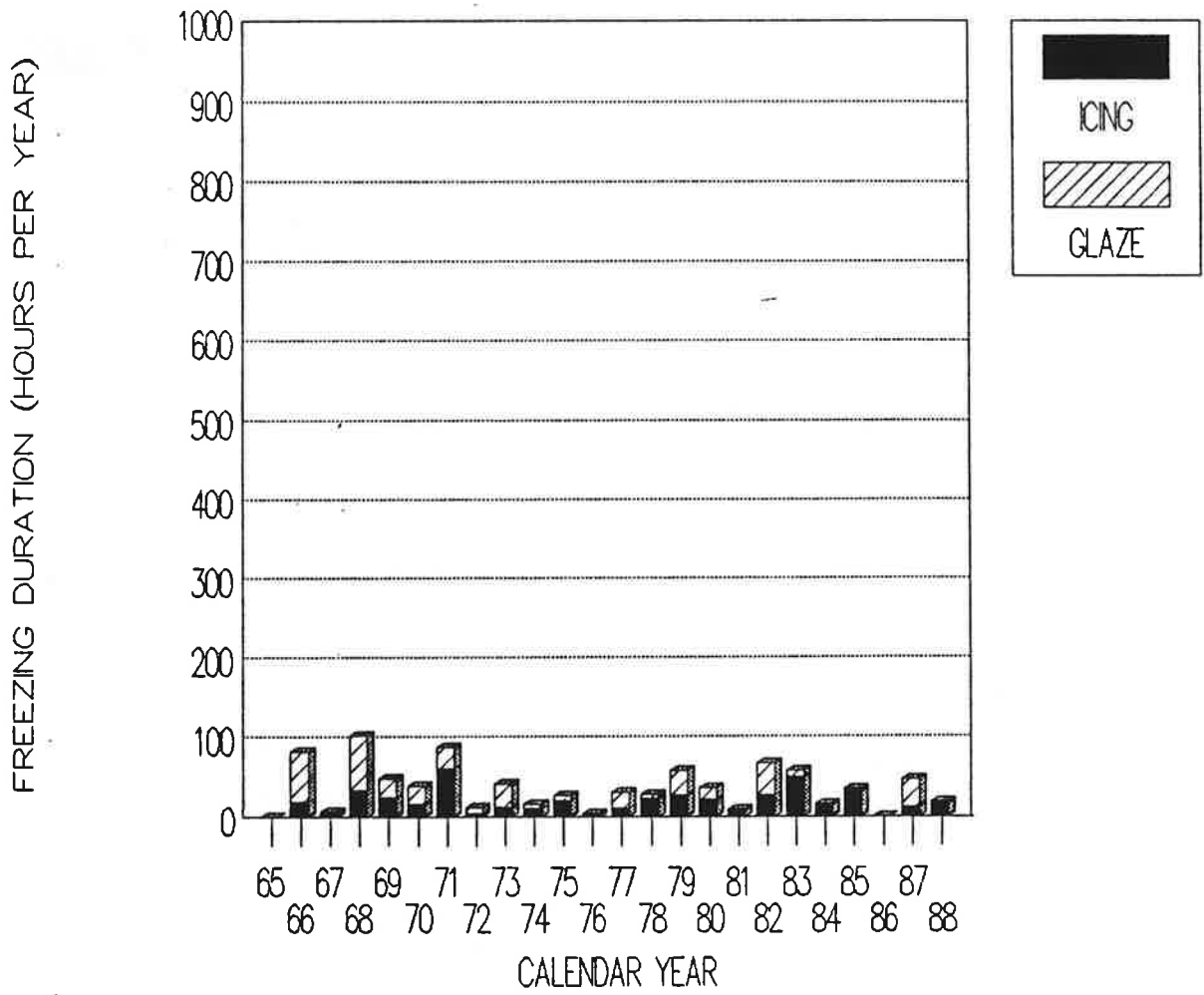
CHARLESTON, SC
FREEZING DURATION 1965-1988



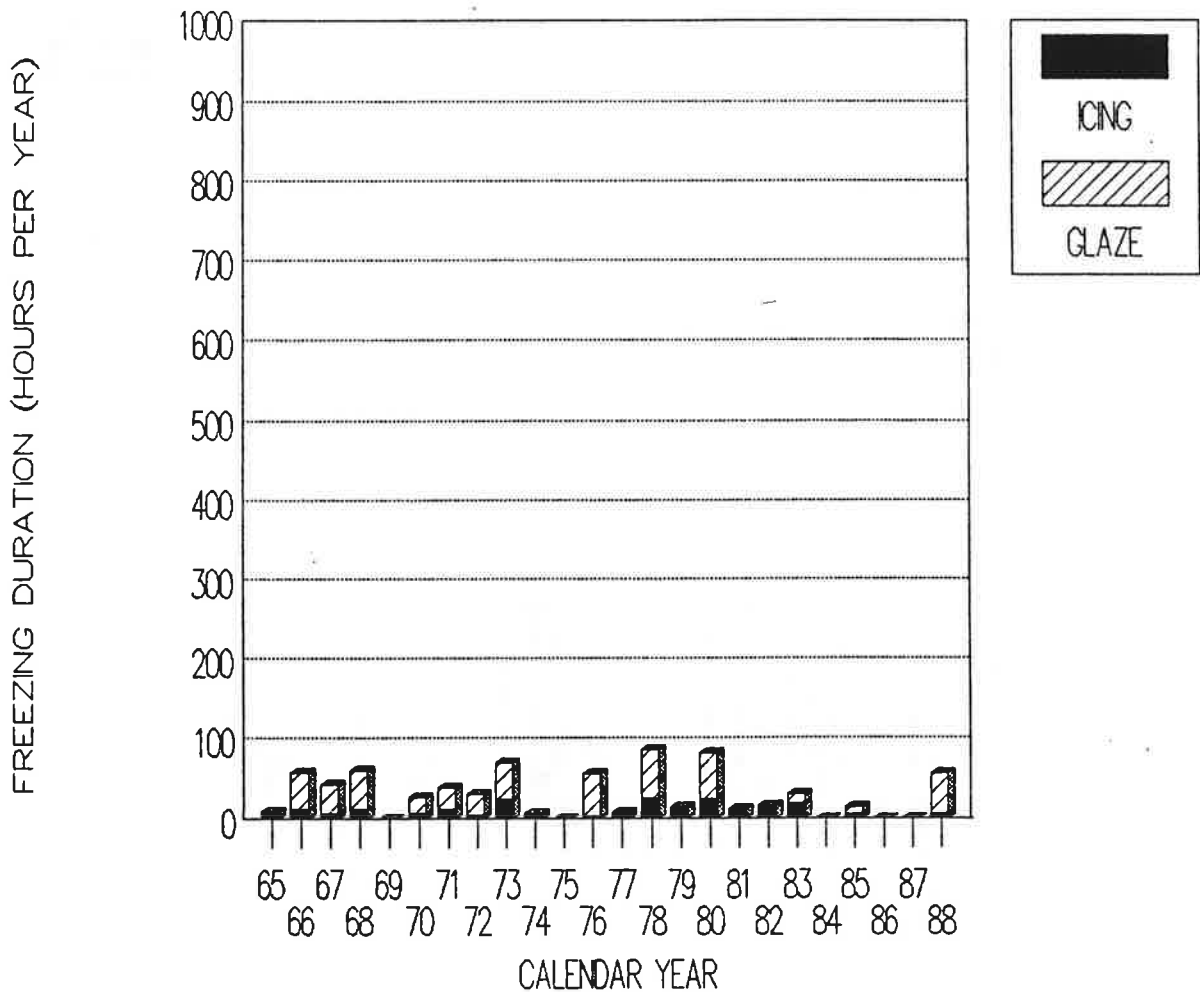
CHARLESTON, WV
 FREEZING DURATION 1965-1988



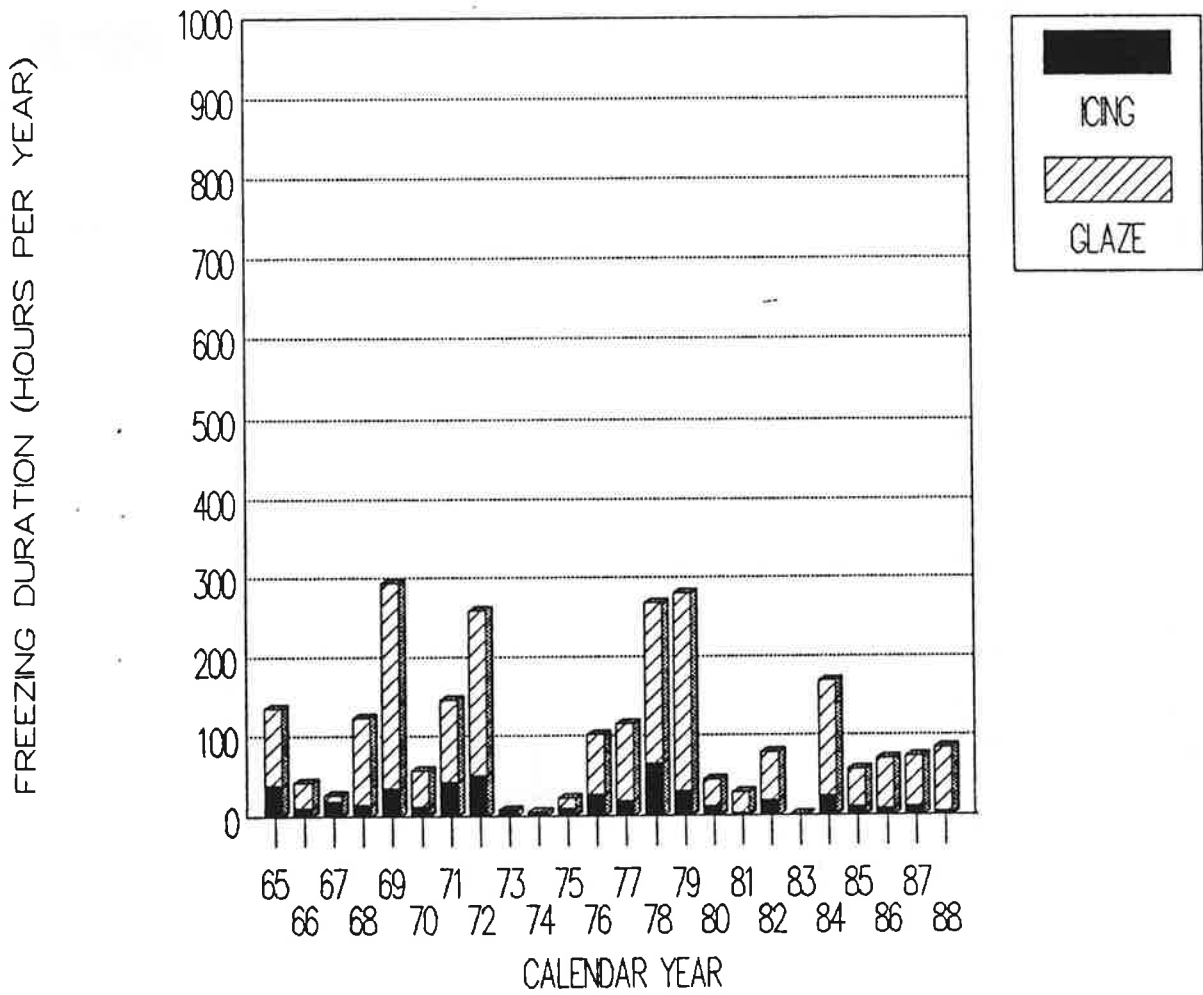
CHARLOTTE, NC
FREEZING DURATION 1965-1988



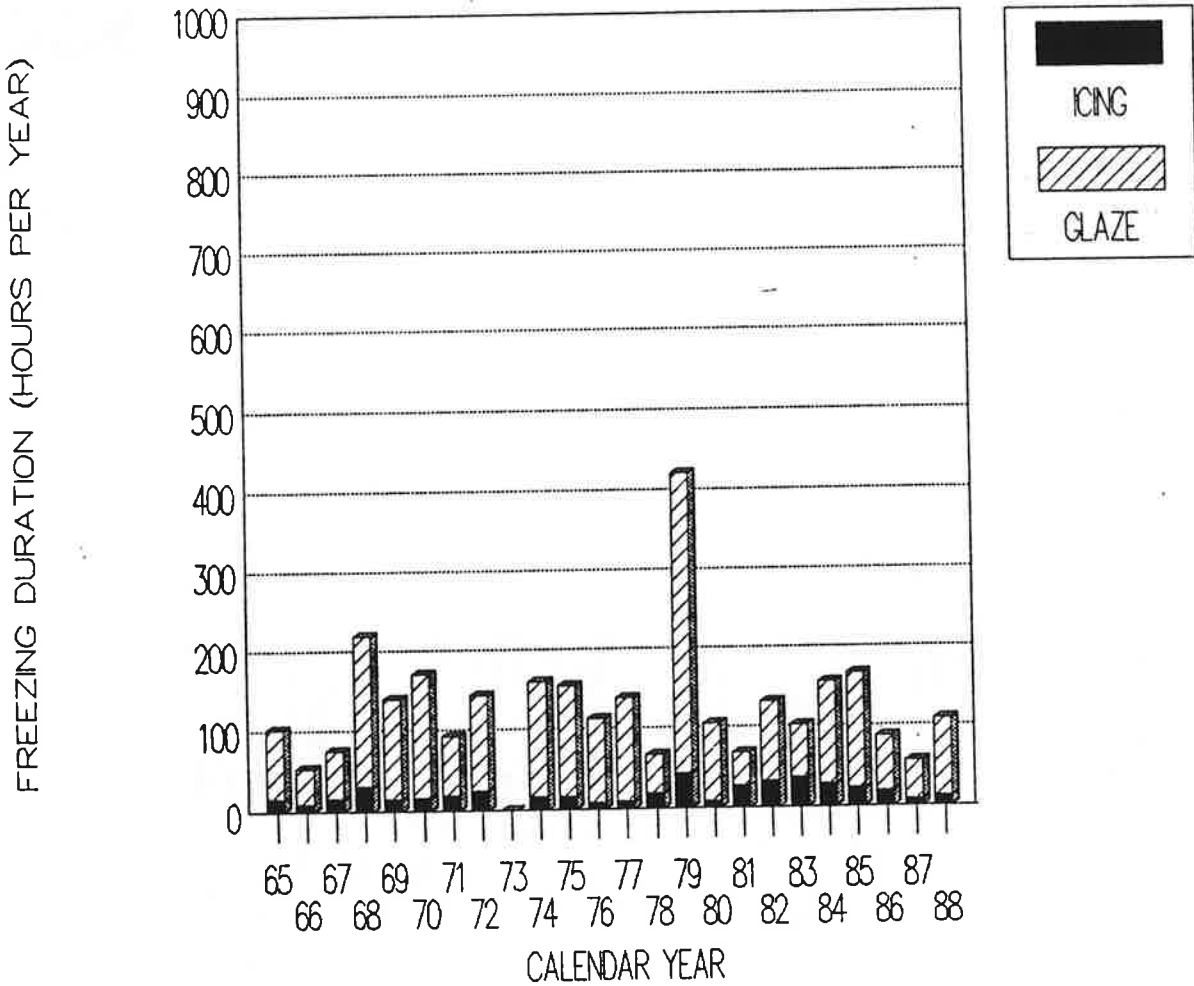
CHATANOOGA, TN
FREEZING DURATION 1965-1988



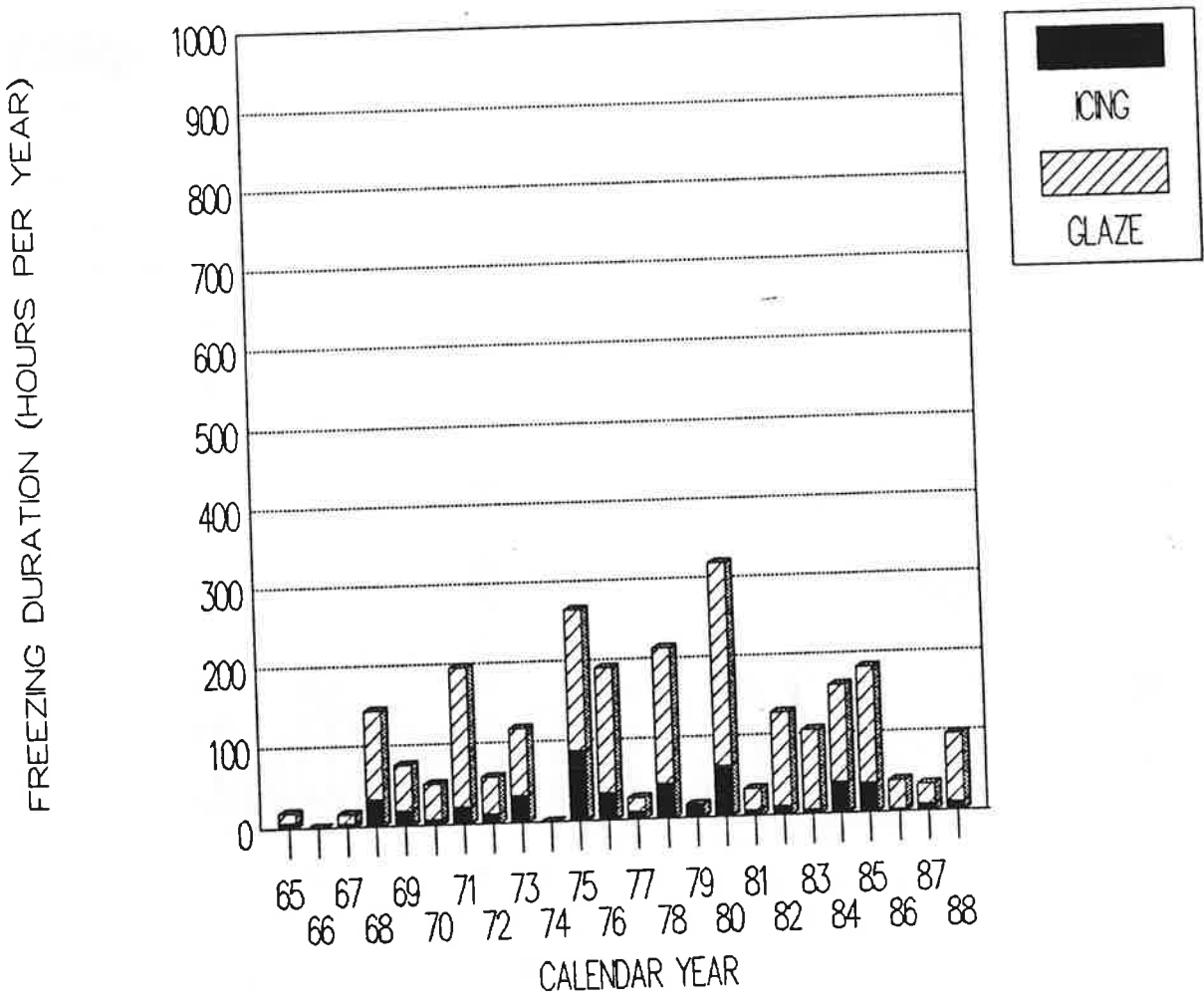
CHICAGO, IL
 FREEZING DURATION 1965-1988



CLEVELAND-HOPKINS INTERNATIONAL, OH
 FREEZING DURATION 1965-1988

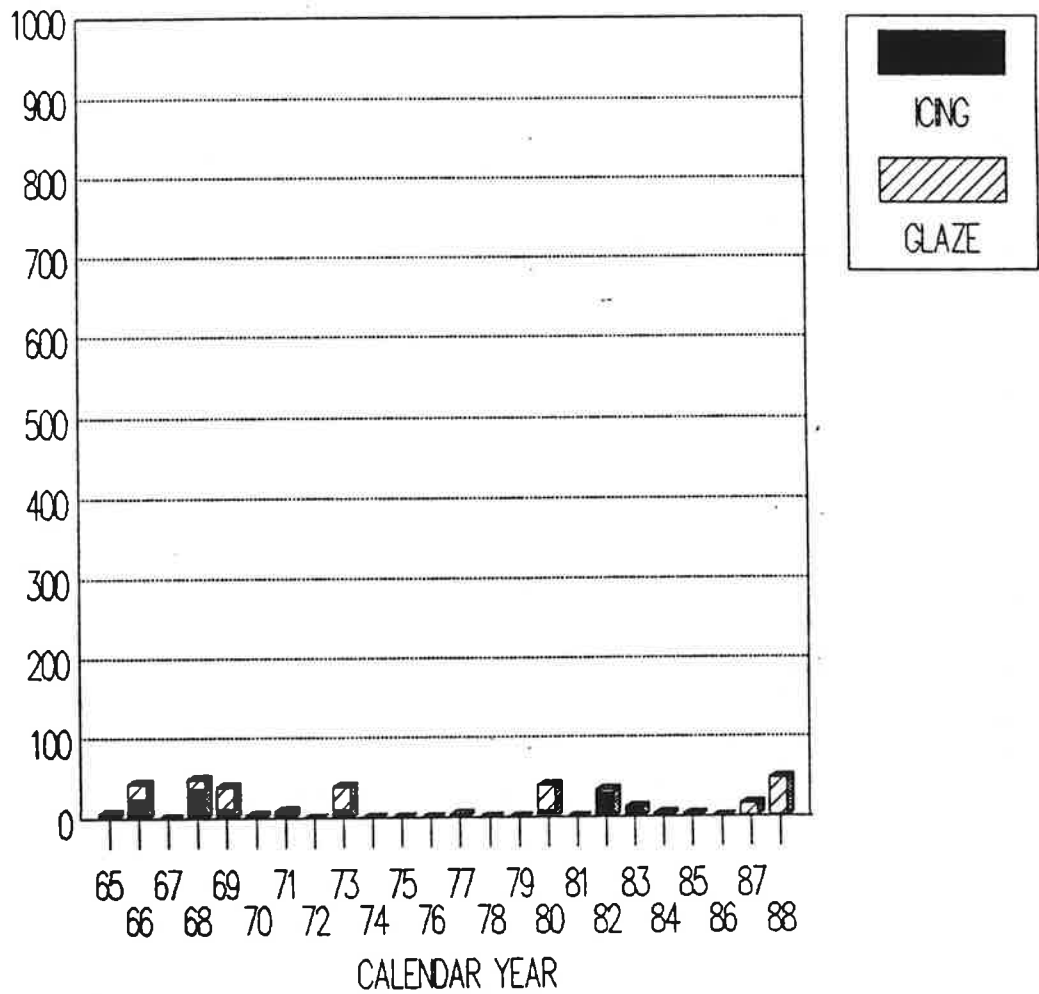


COLORADO SPRINGS, CO
 FREEZING DURATION 1965-1988

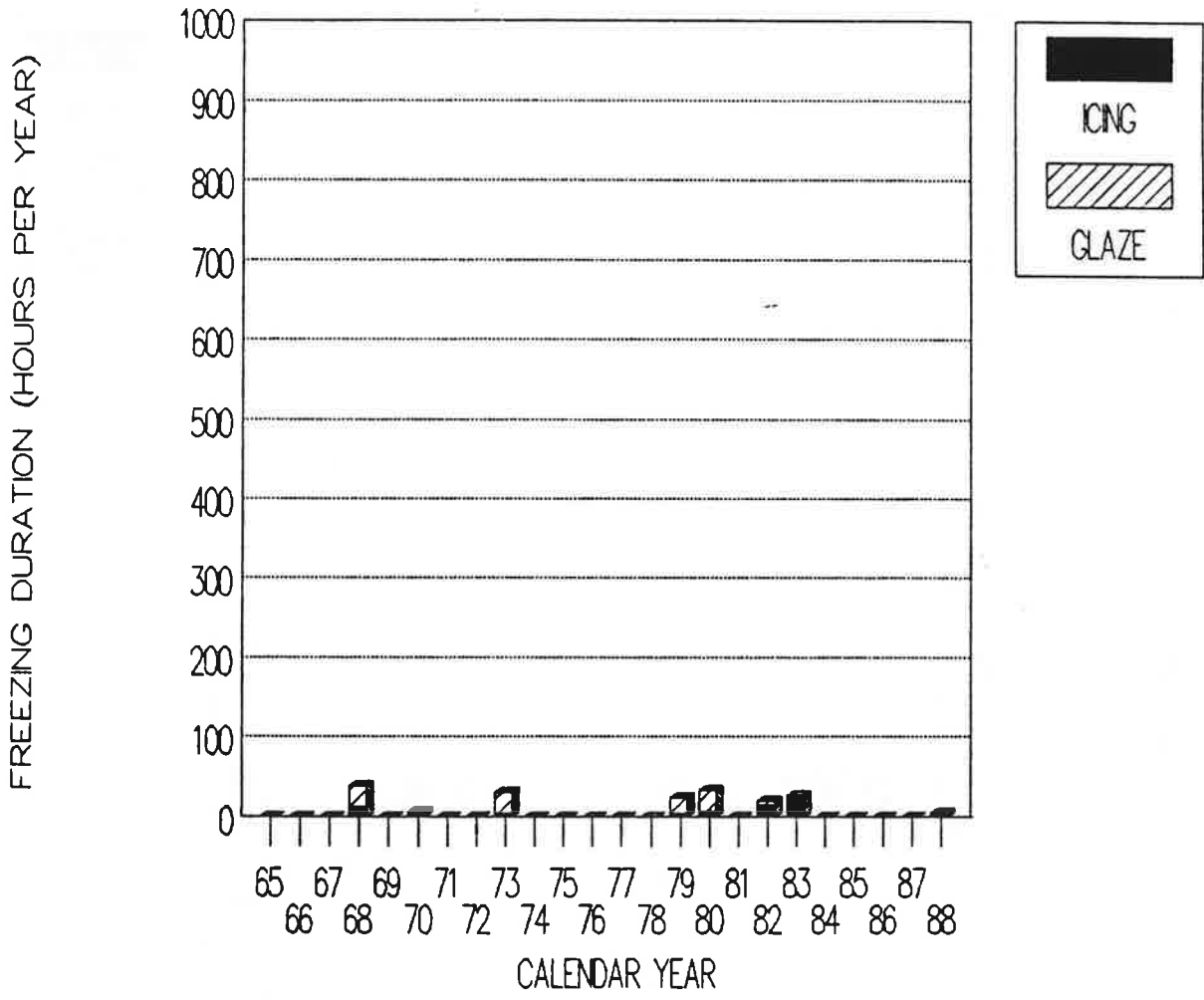


COLUMBIA, SC
FREEZING DURATION 1965-1988

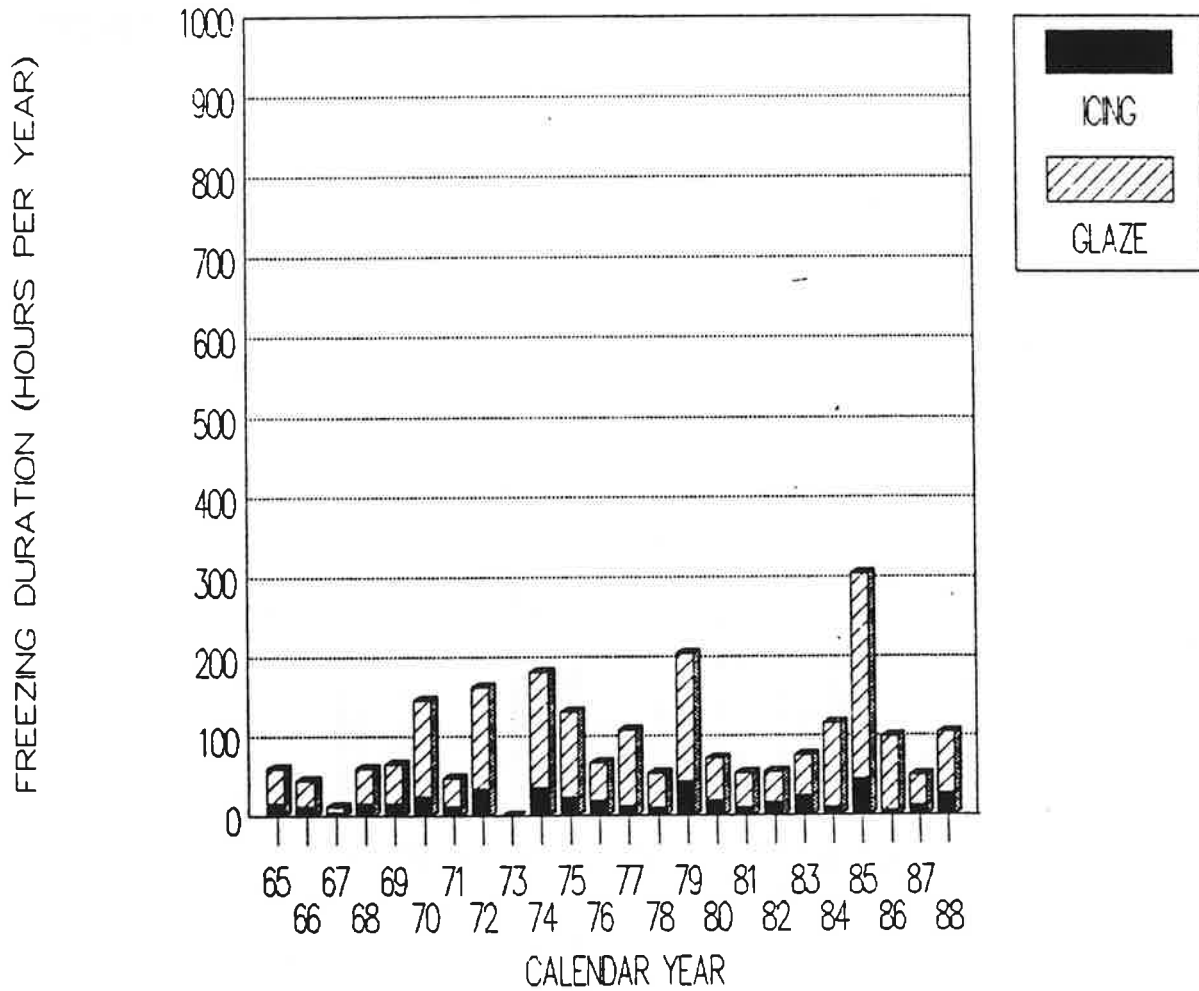
FREEZING DURATION (HOURS PER YEAR)



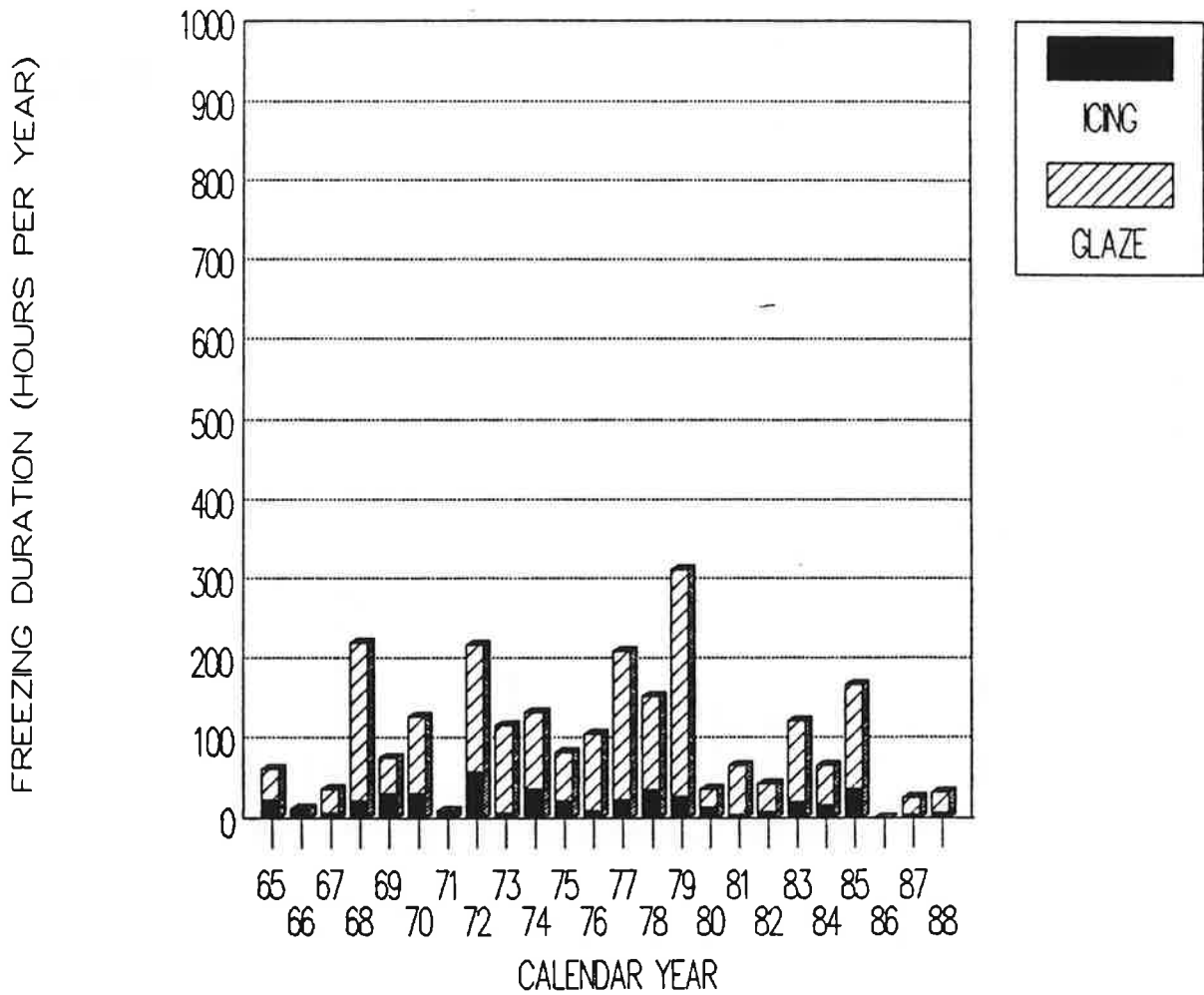
COLUMBUS, GA
FREEZING DURATION 1965-1988



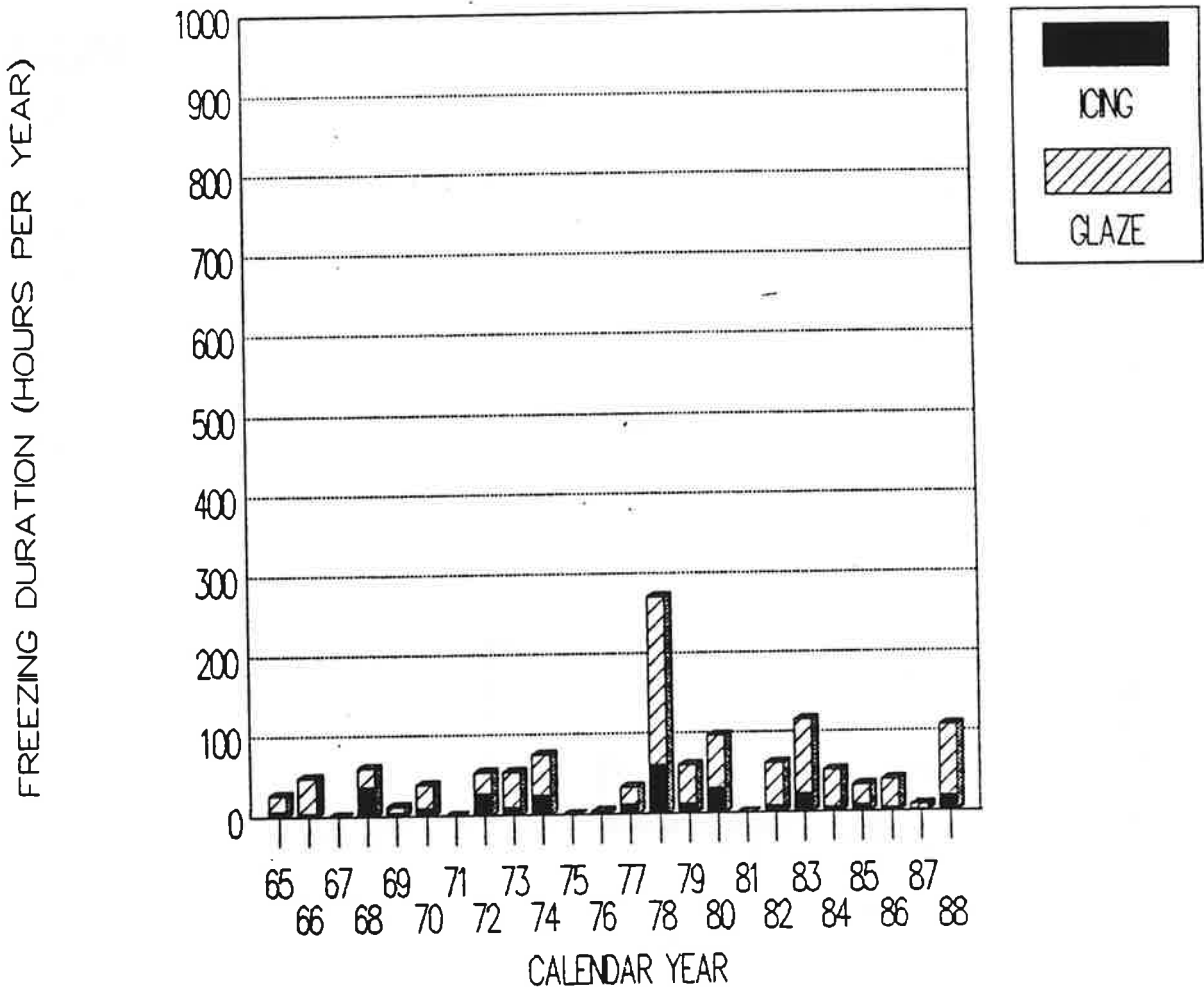
COLUMBUS INTERNATIONAL, OH
 FREEZING DURATION 1965-1988



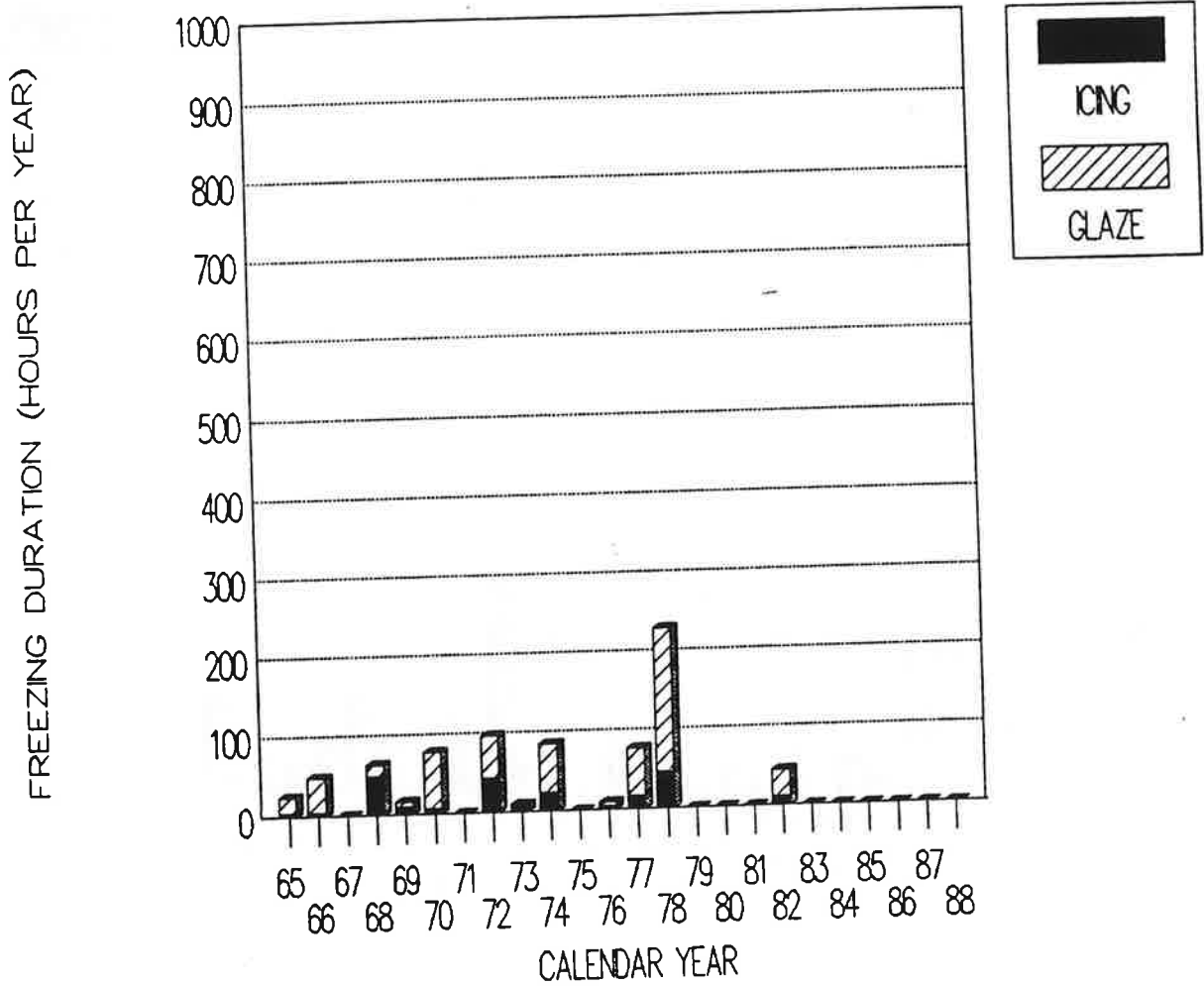
COVINGTON, KY
 FREEZING DURATION 1965-1988



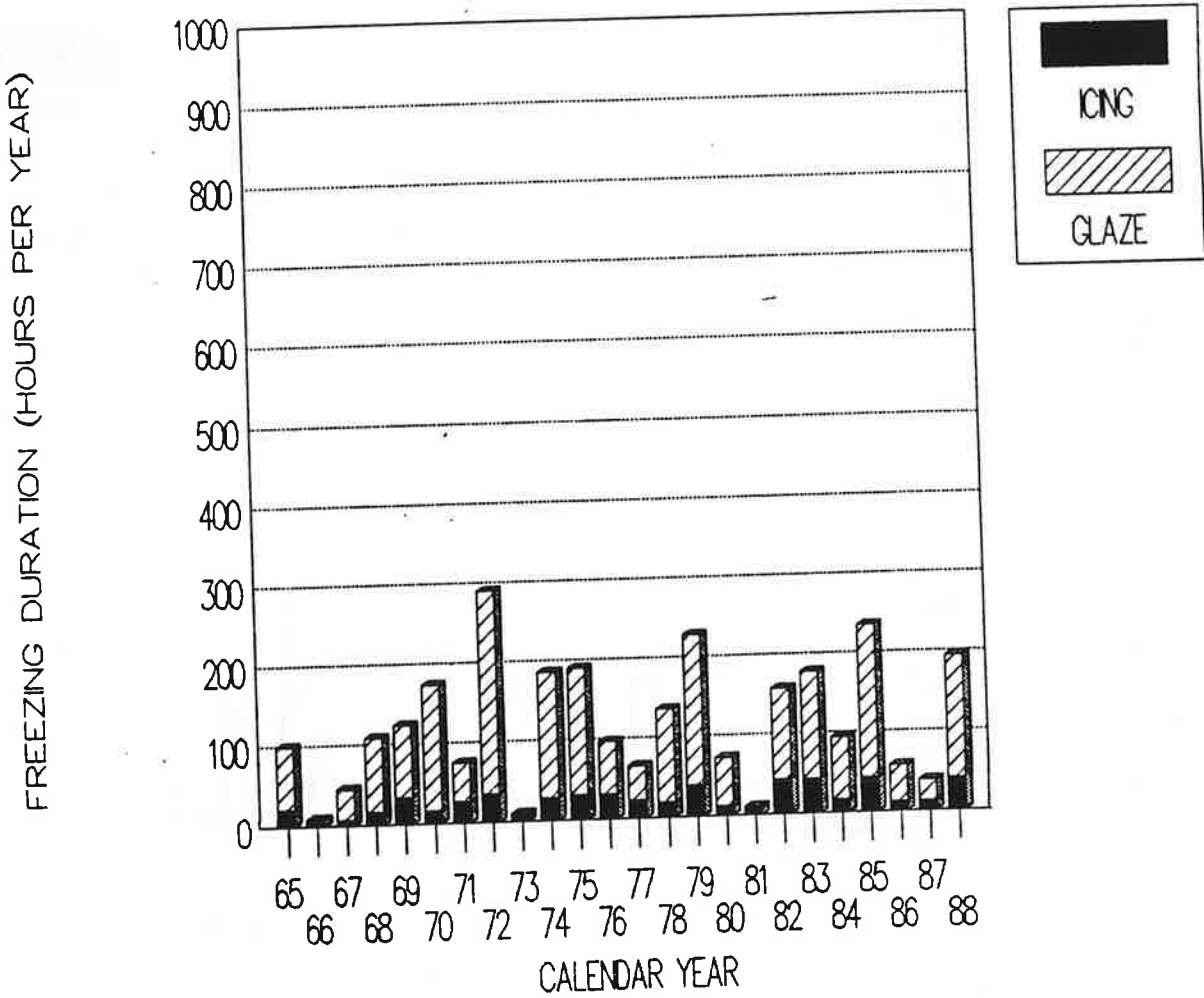
DALLAS-FORT WORTH, TX
 FREEZING DURATION 1965-1988



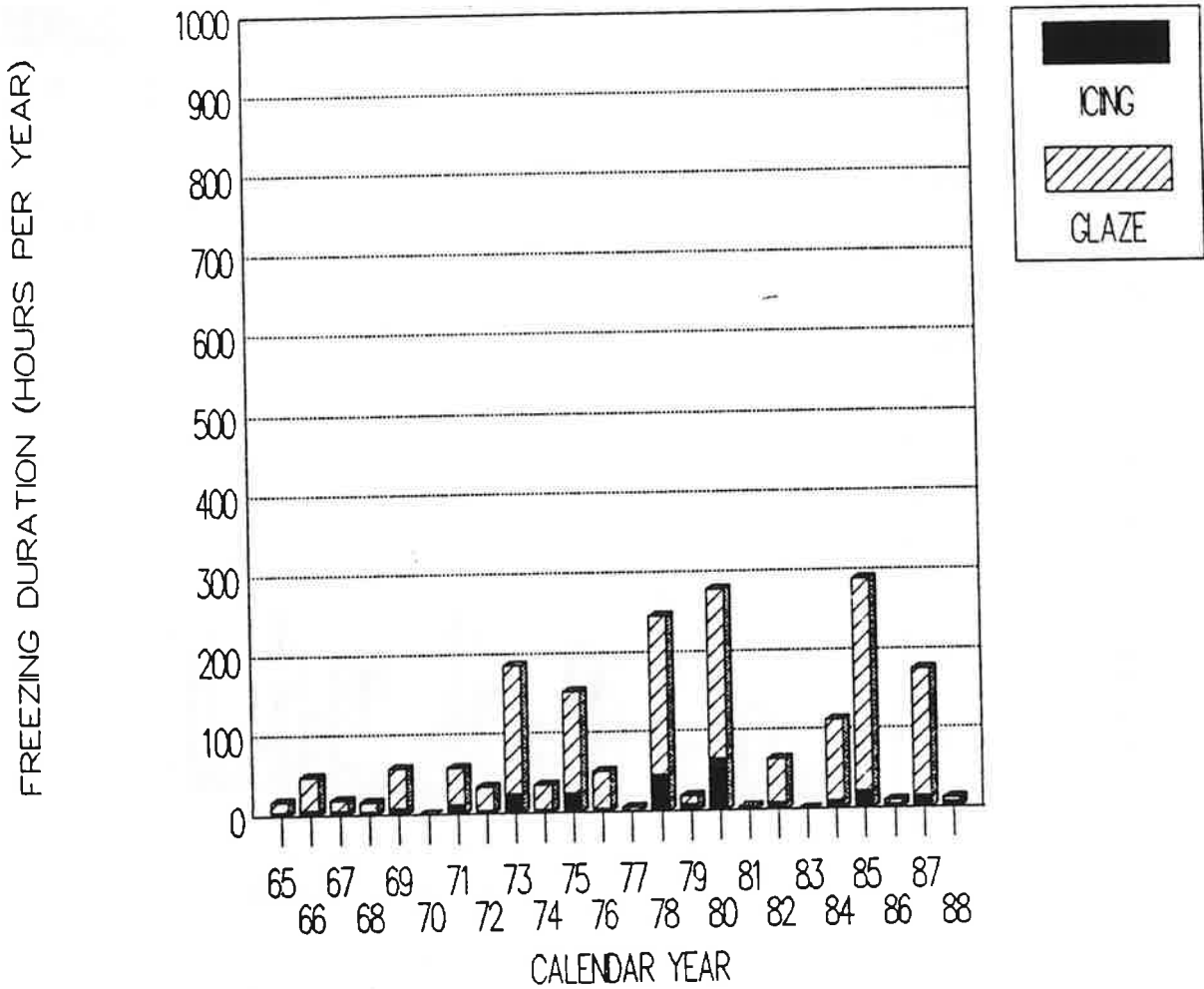
DALLAS LOVE FIELD, TX
 FREEZING DURATION 1965-1988



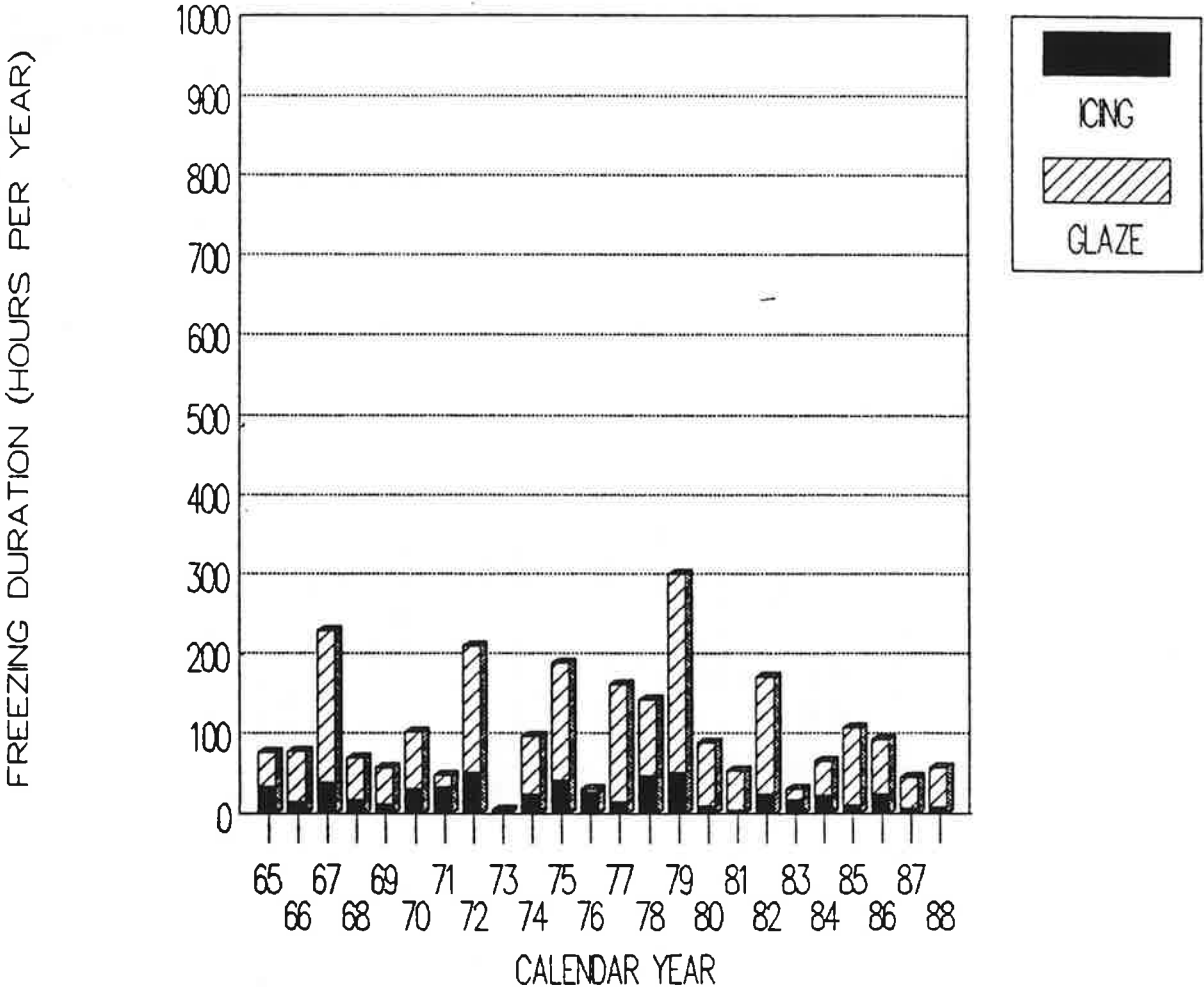
DAYTON, OH
 FREEZING DURATION 1965-1988



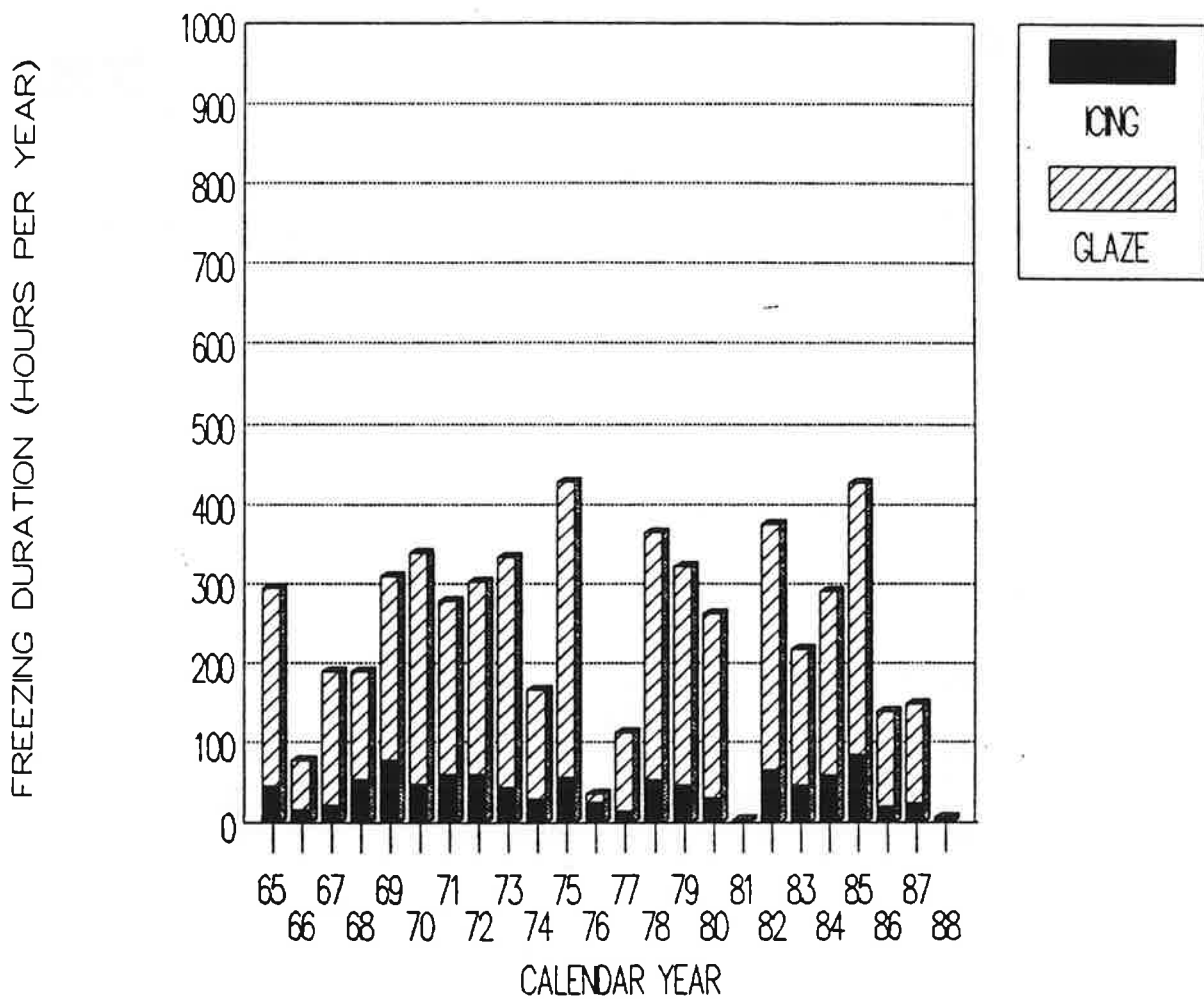
DENVER-STAPLETON INTERNATIONAL, CO
 FREEZING DURATION 1965-1988



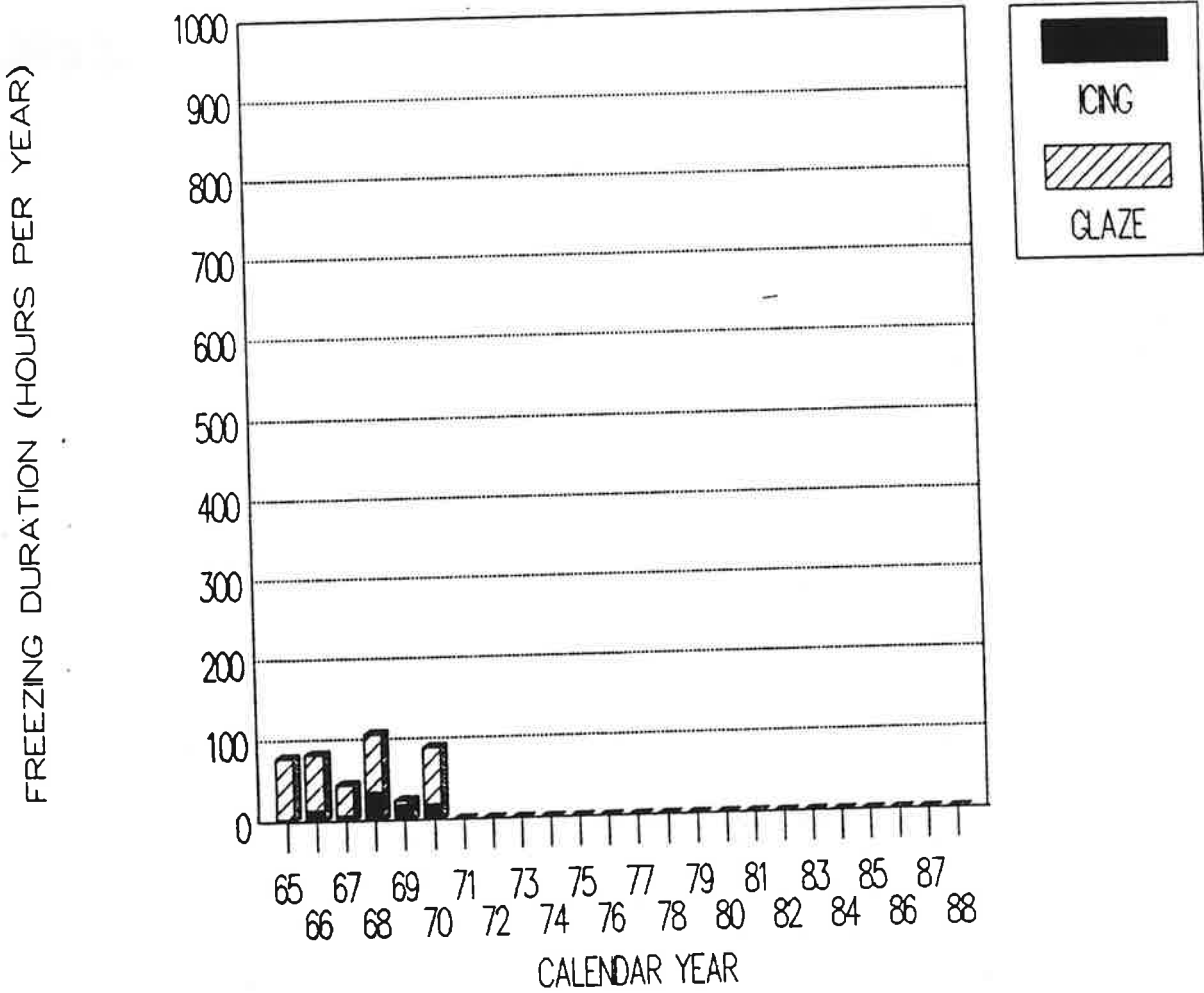
DETROIT METROPOLITAN WAYNE COUNTY, MI
 FREEZING DURATION 1965-1988



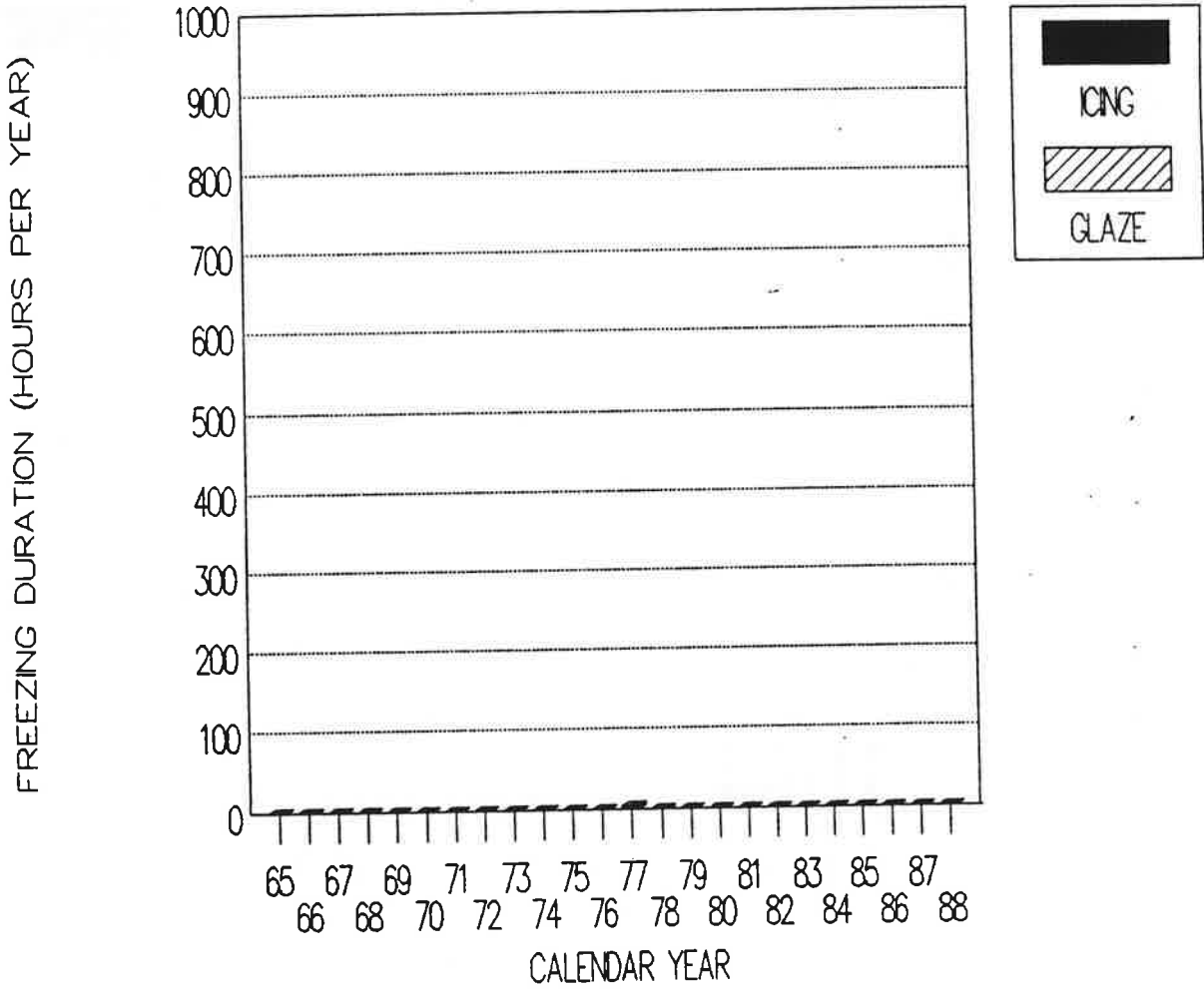
DES MOINES, IA
 FREEZING DURATION 1965-1988



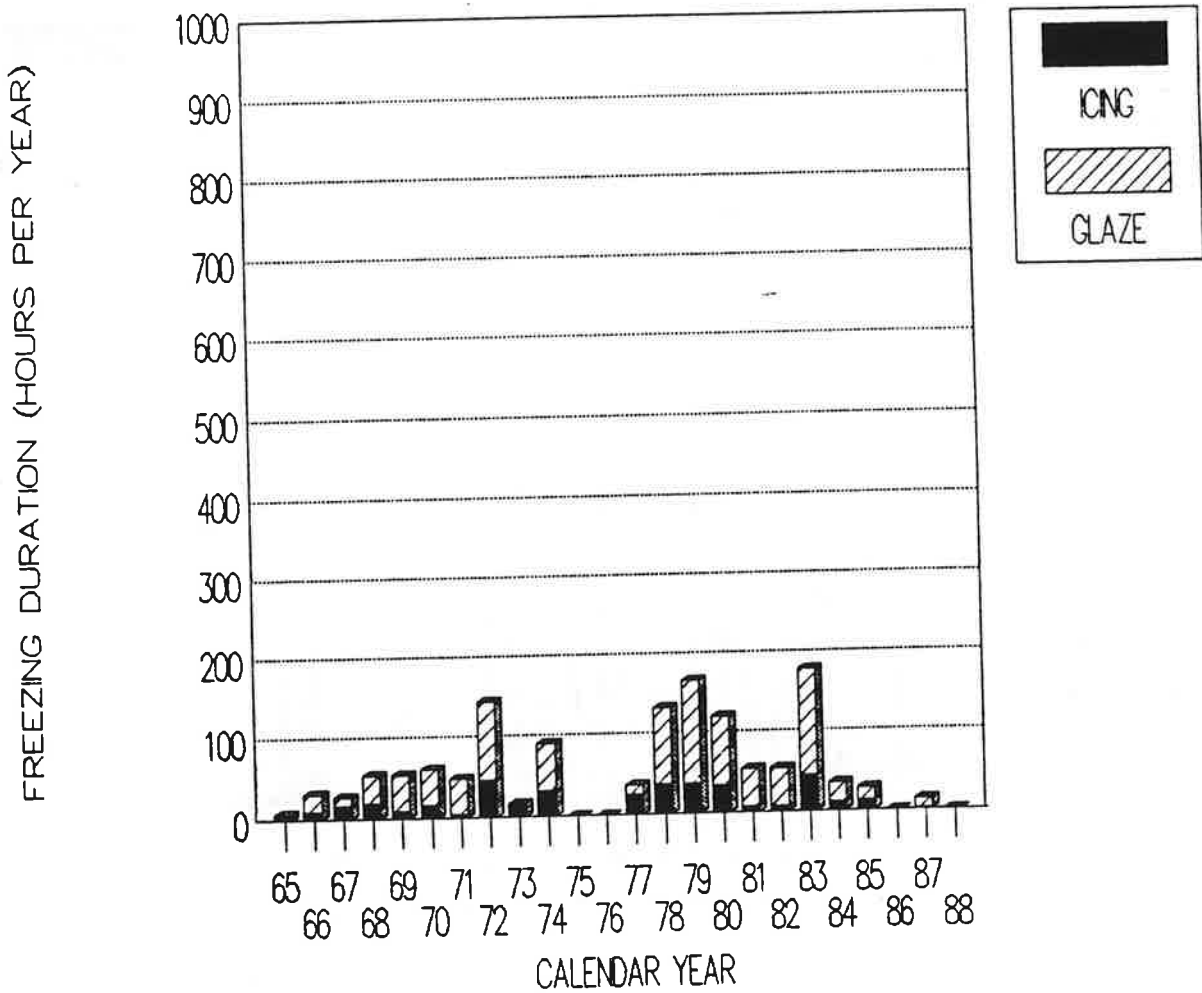
FAYETTEVILLE, NC
FREEZING DURATION 1965-1988



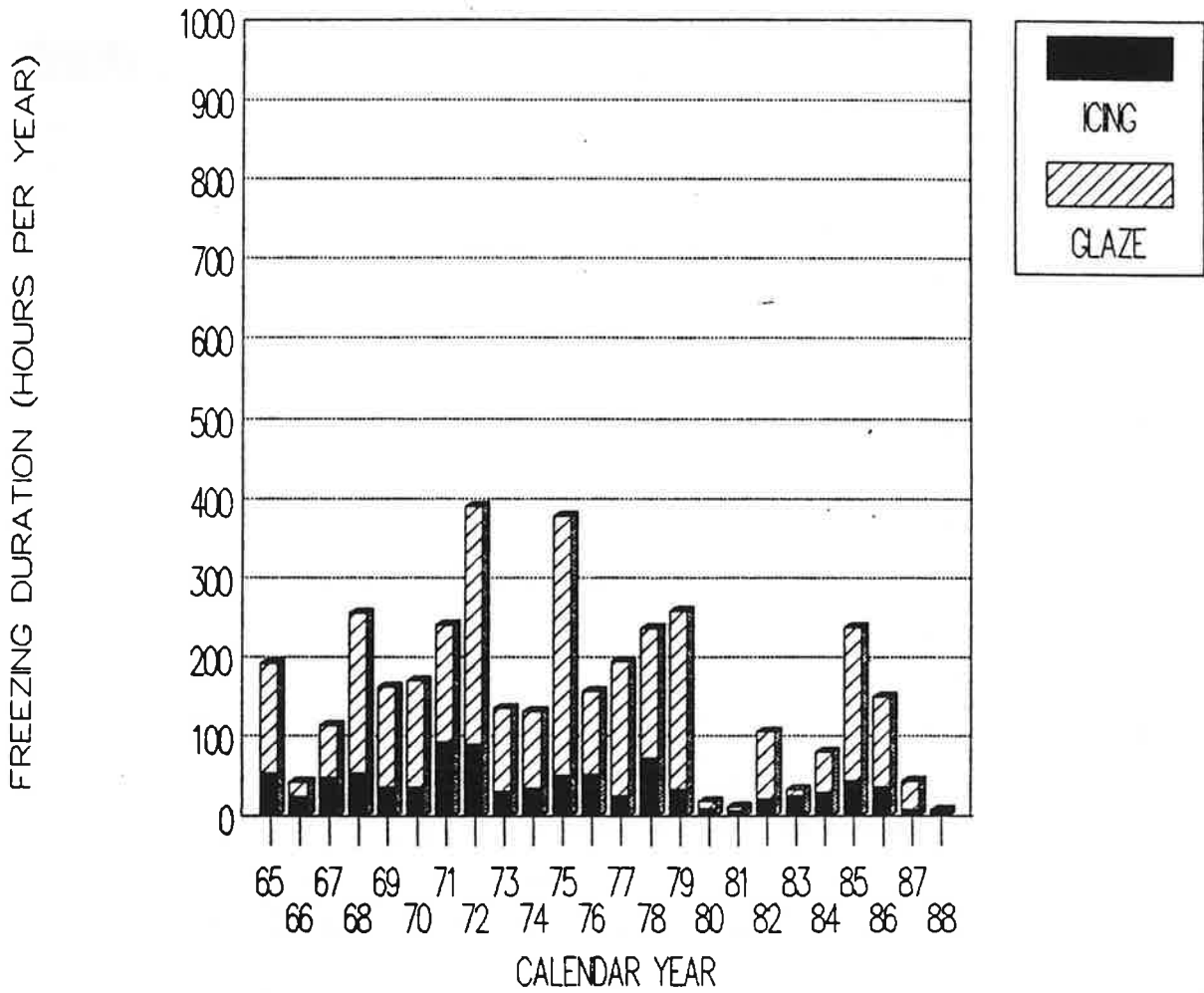
FT MYERS, FL
FREEZING DURATION 1965-1988



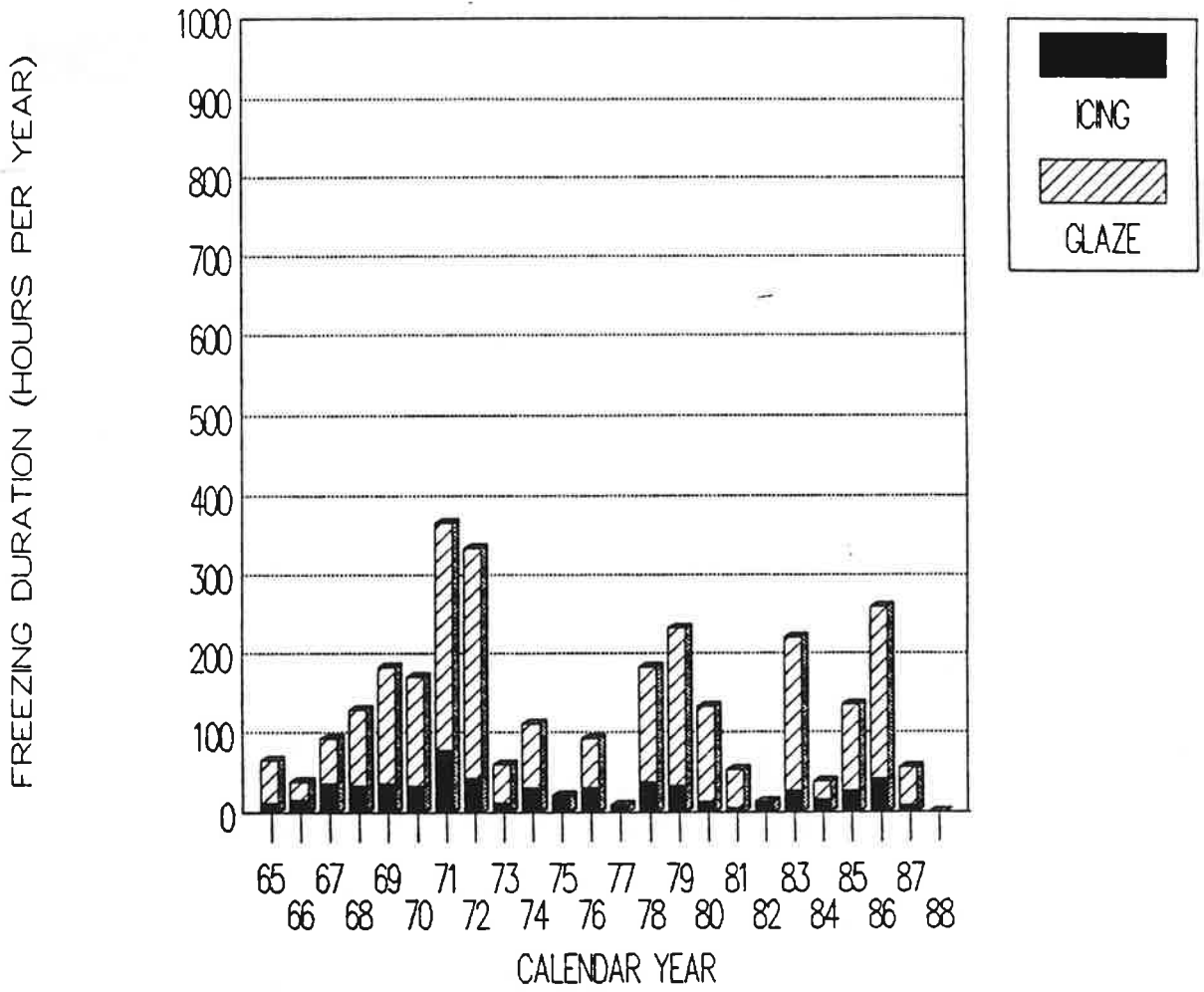
FORT SMITH, AR
 FREEZING DURATION 1965-1988



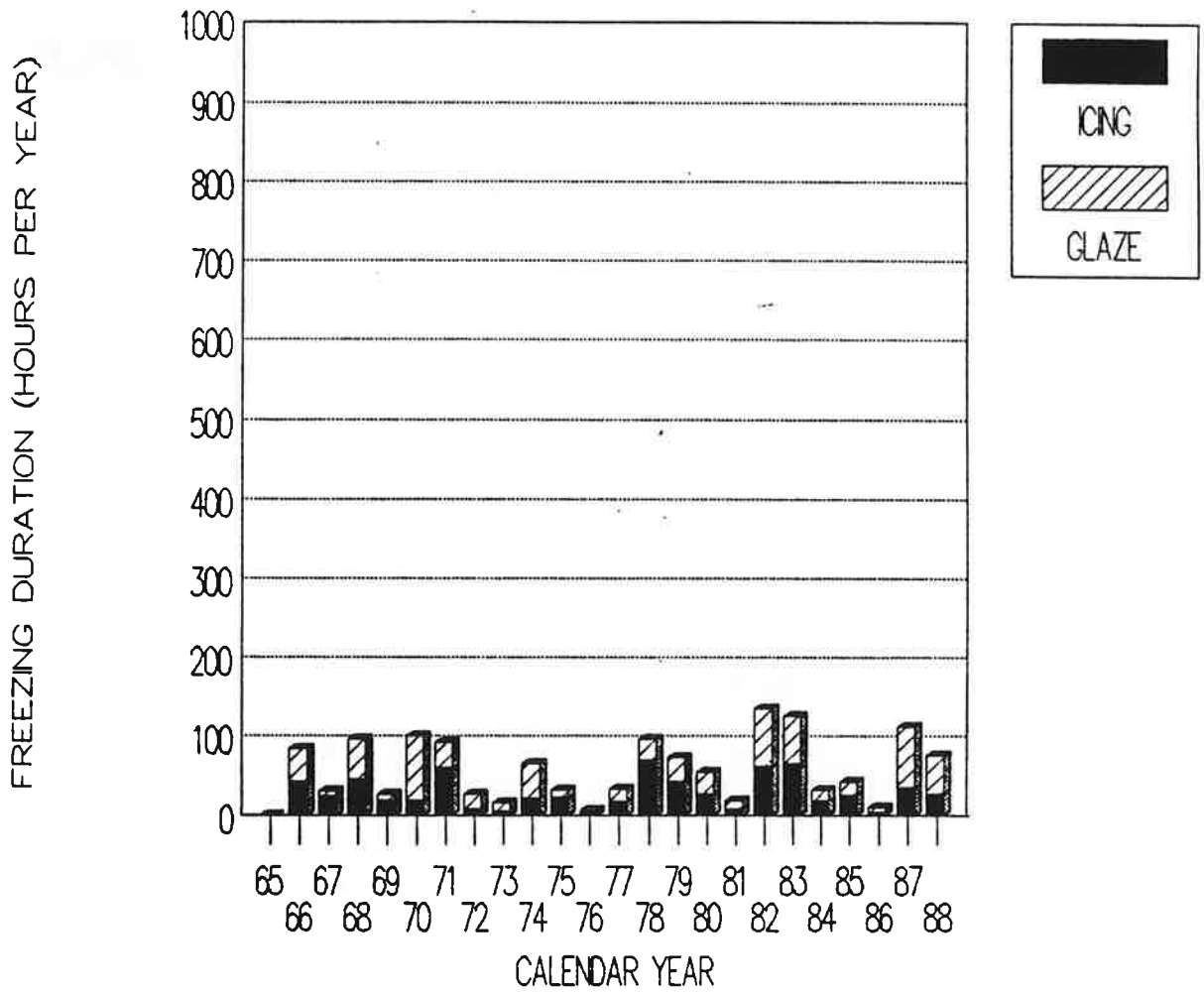
GRAND RAPIDS, MI
 FREEZING DURATION 1965-1988



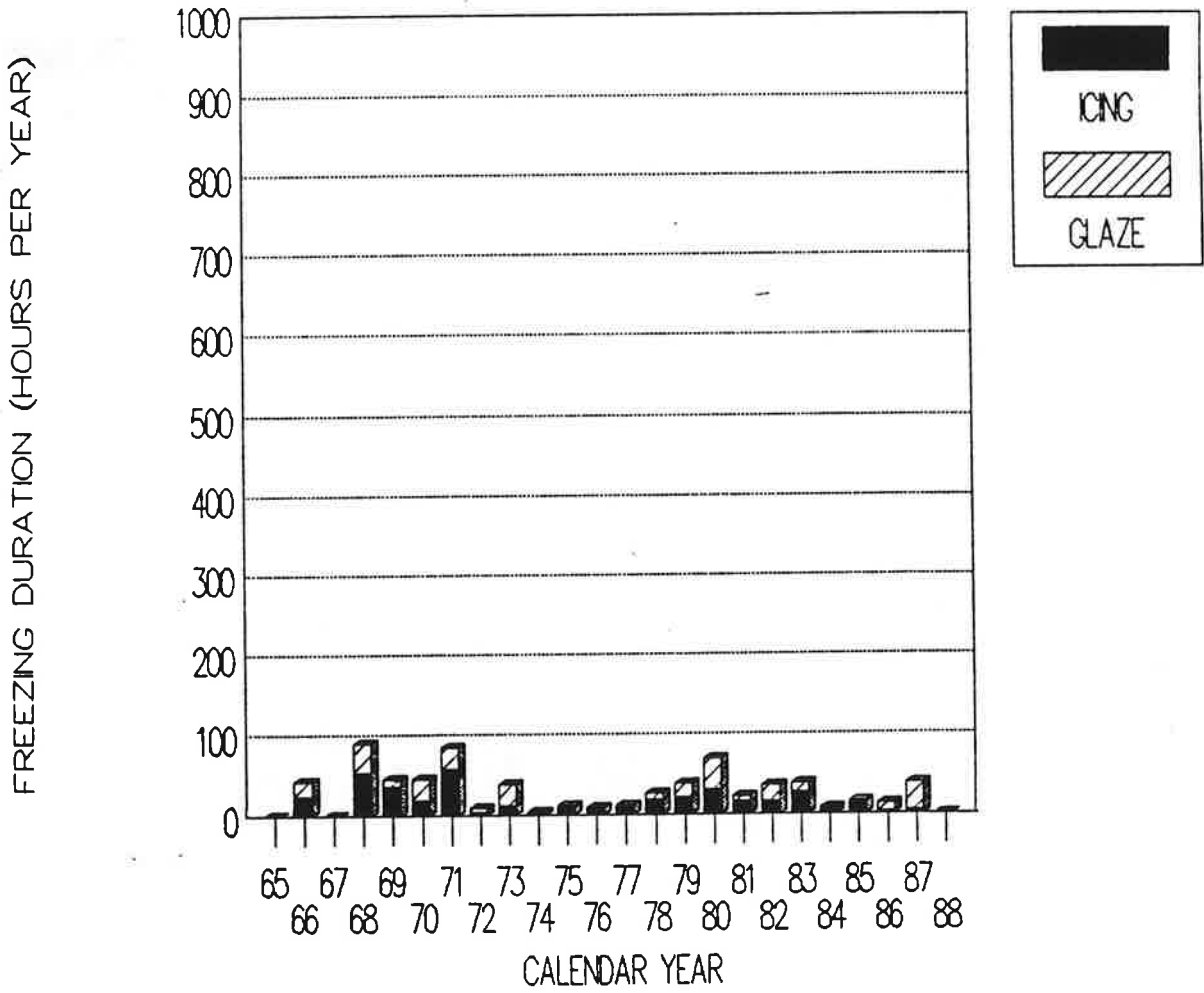
GREEN BAY, WI
 FREEZING DURATION 1965-1988



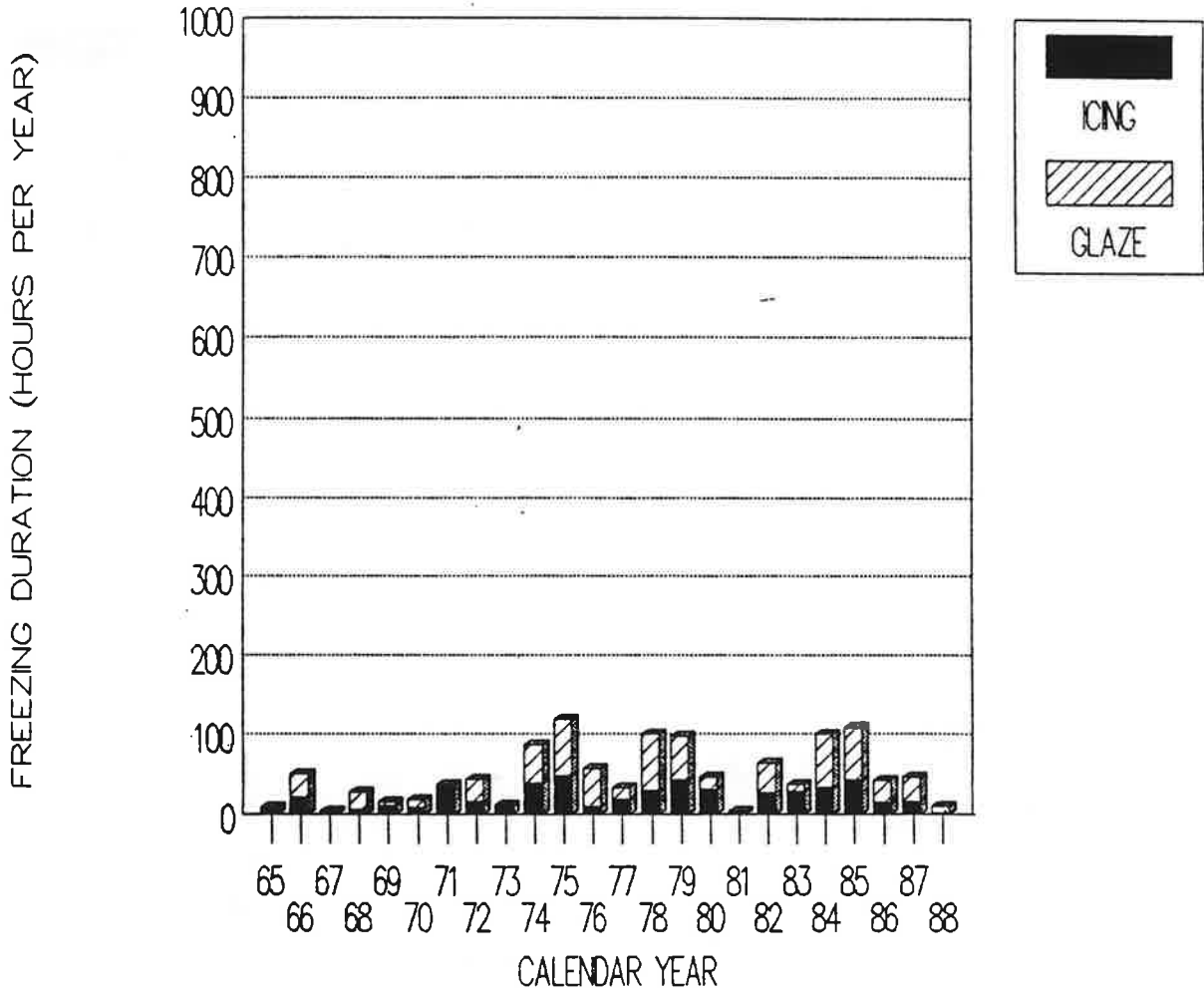
GREENSBORO, NC
 FREEZING DURATION 1965-1988



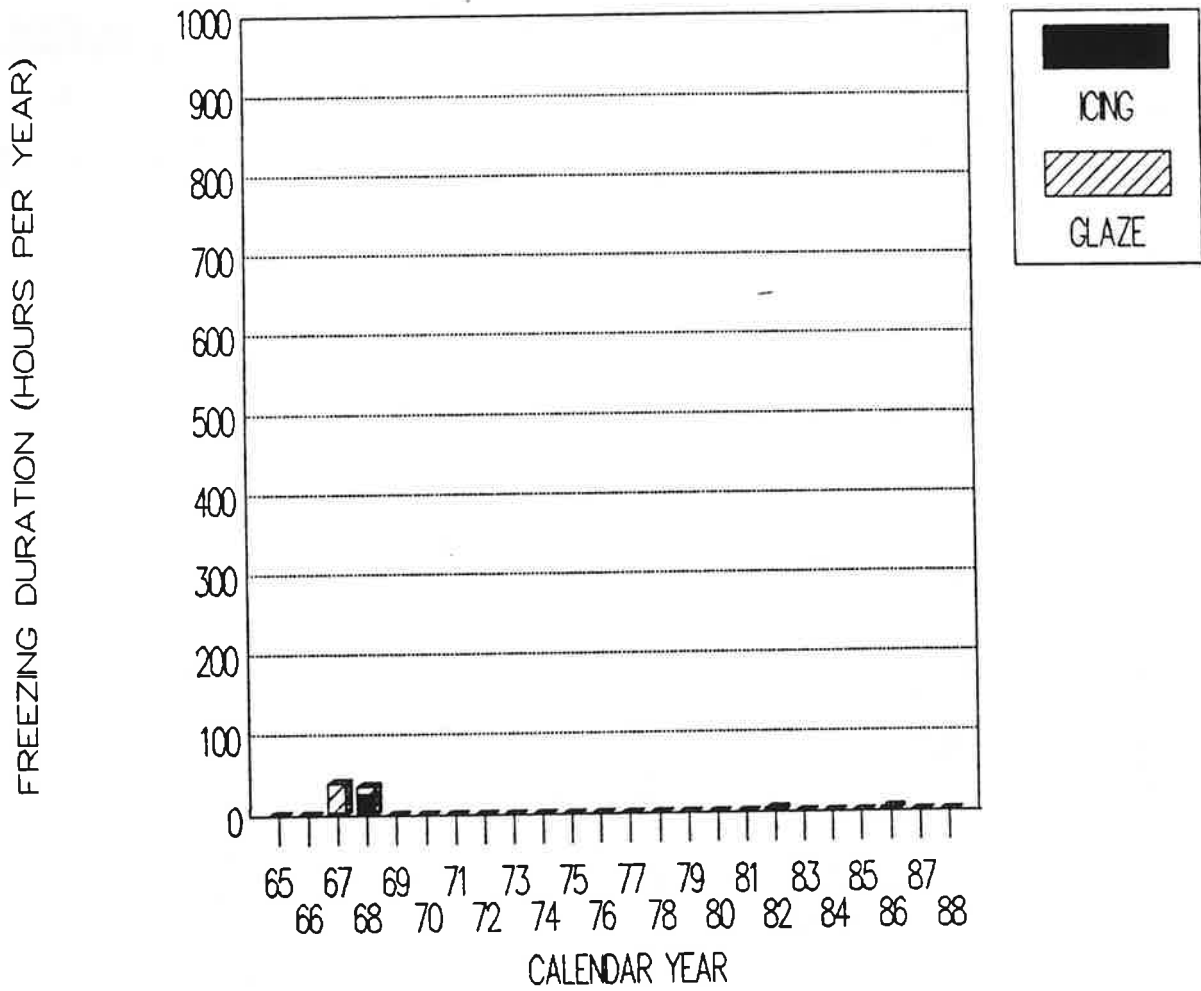
GREER, SC
FREEZING DURATION 1965-1988



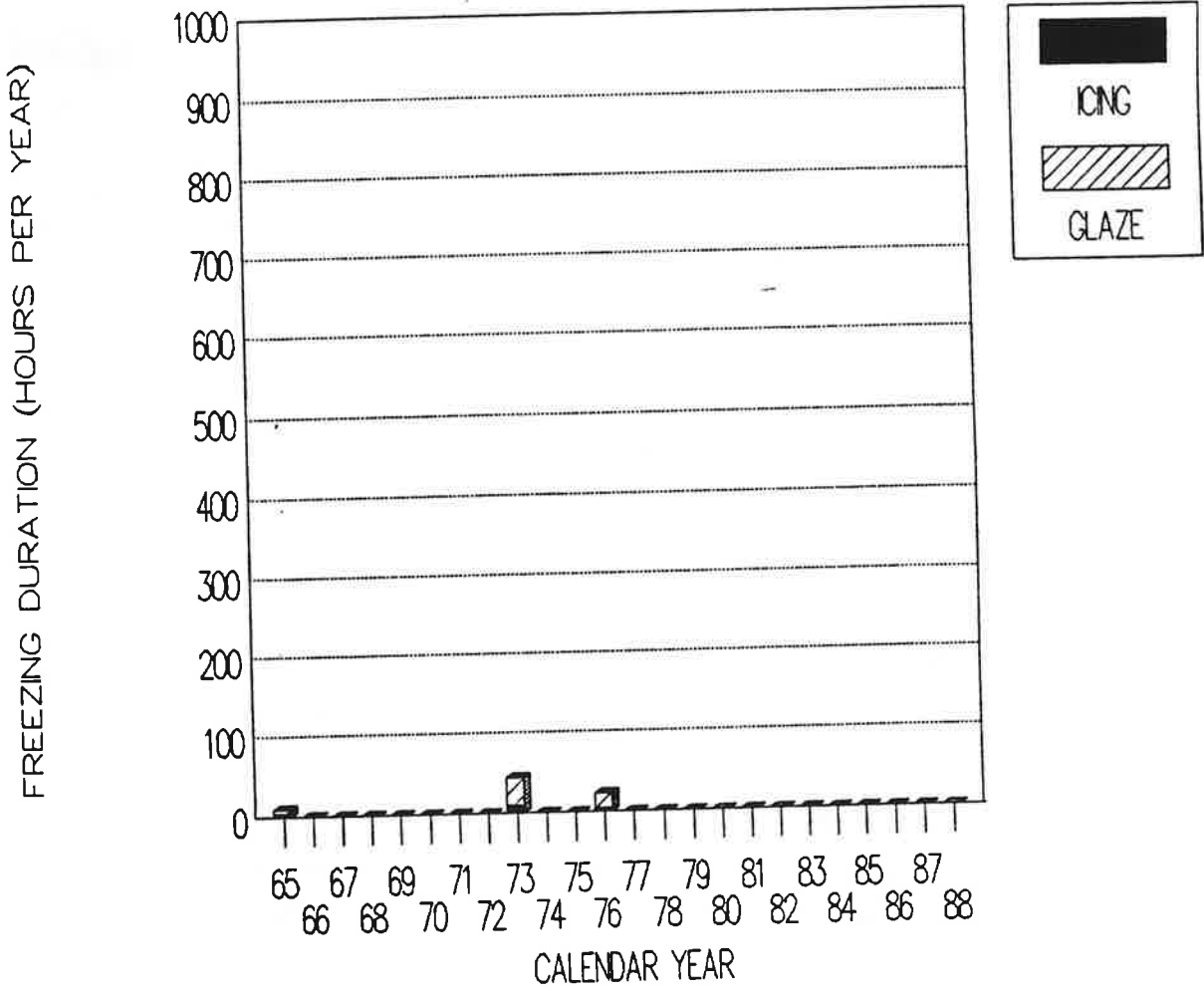
DULLES INTERNATIONAL, DC
 FREEZING DURATION 1965-1988



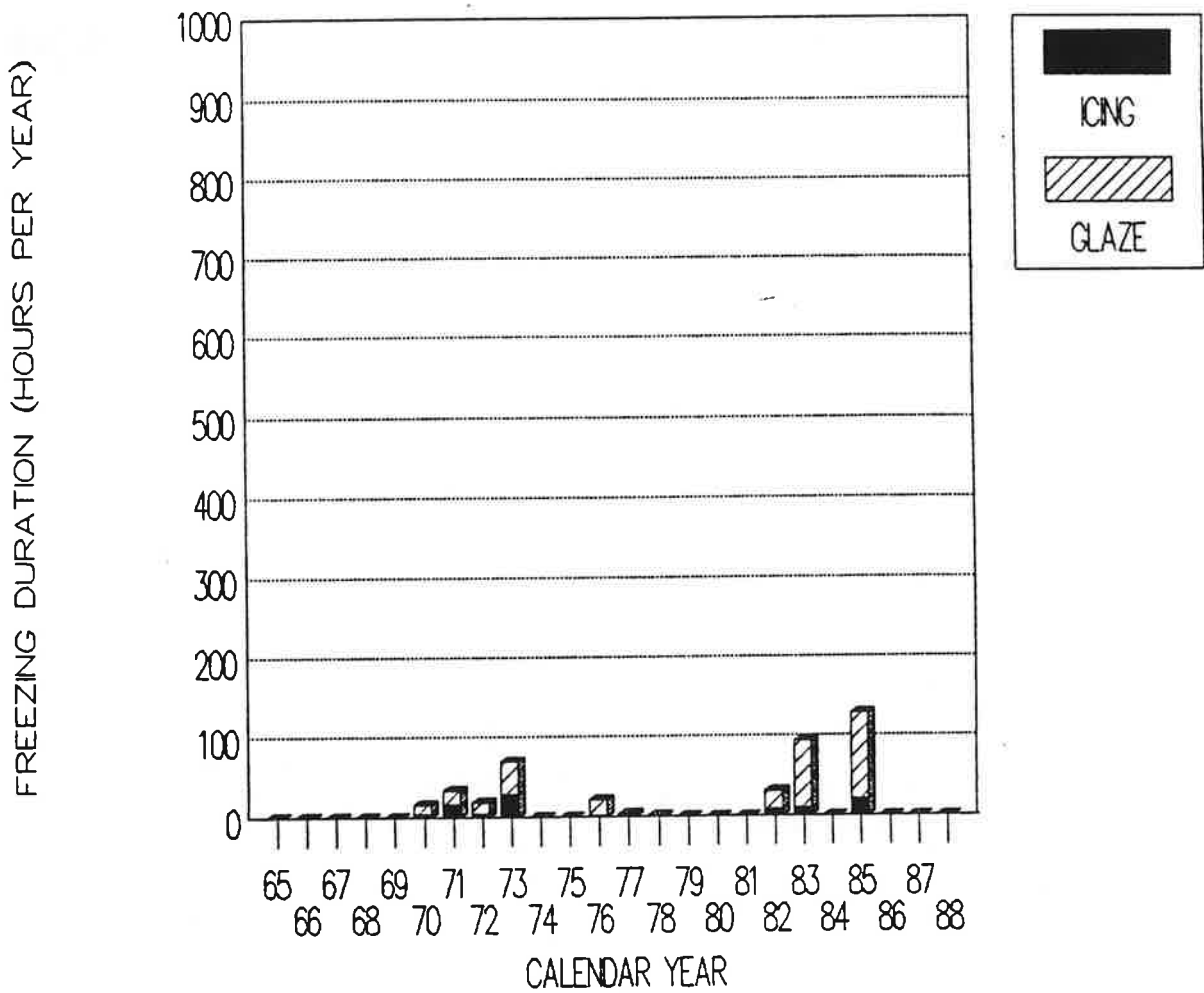
EL PASO, TX
FREEZING DURATION 1965-1988



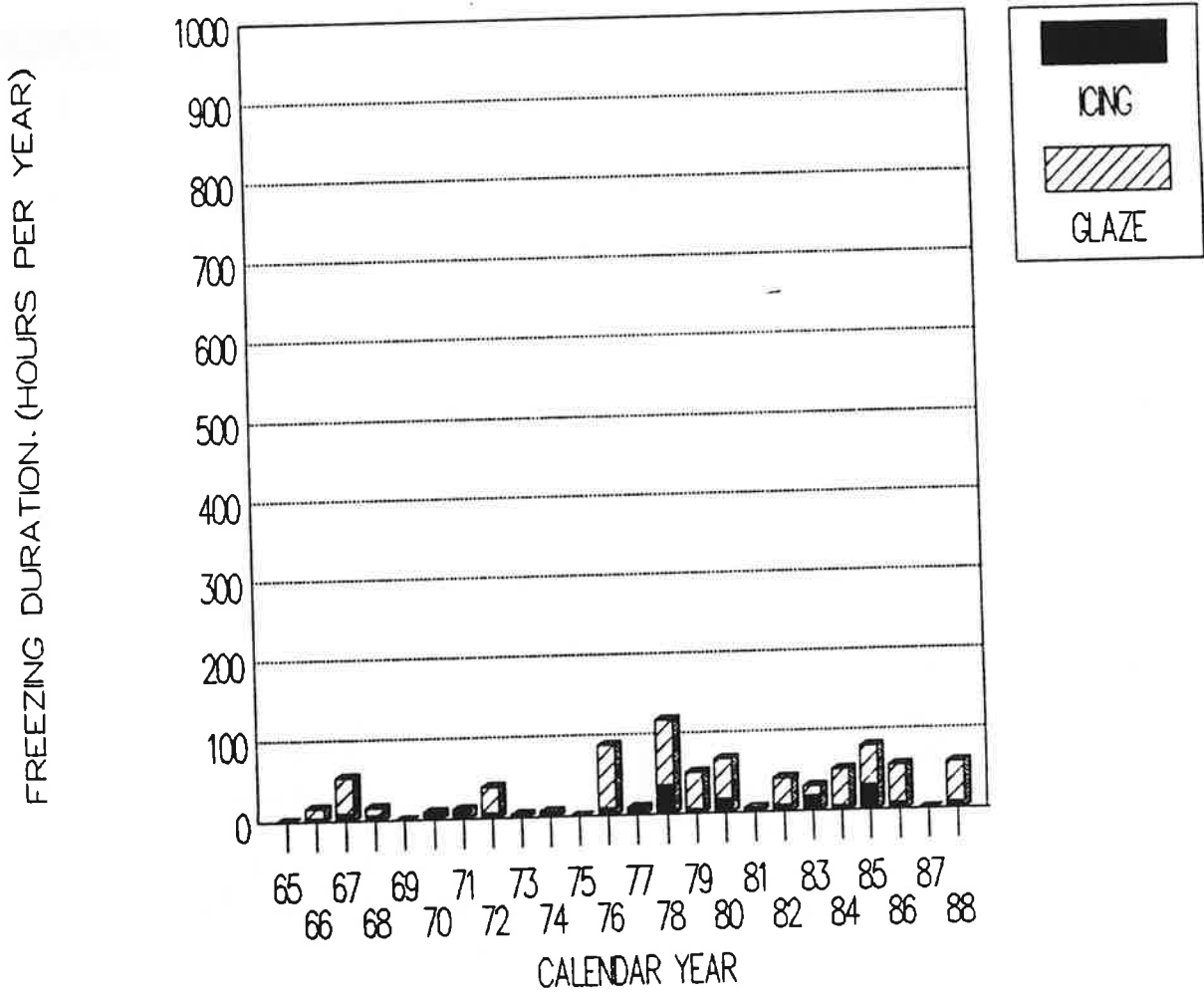
HOUSTON, TX
FREEZING DURATION 1965-1988



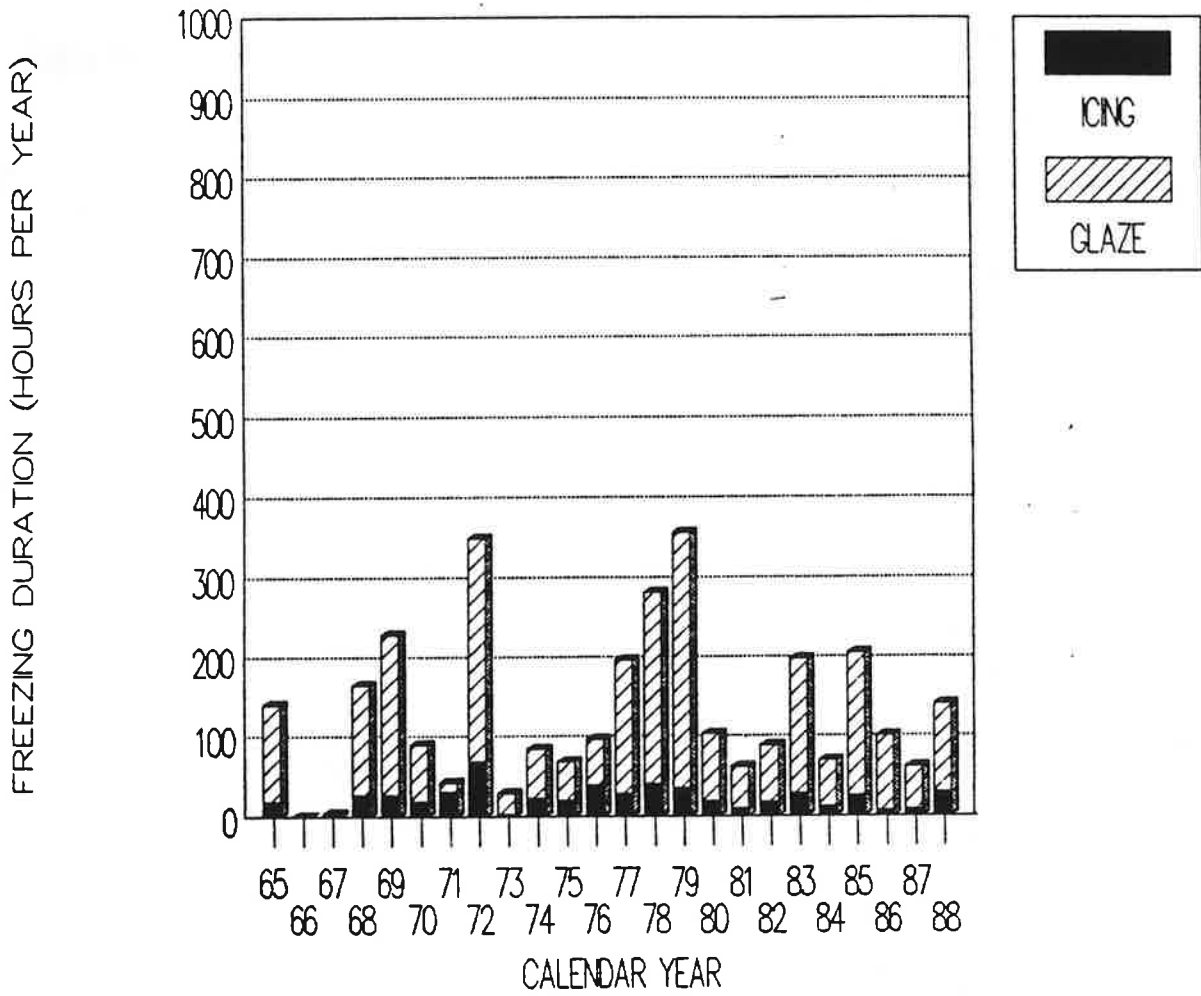
HOUSTON INTERCONTINENTAL, TX
 FREEZING DURATION 1965-1988



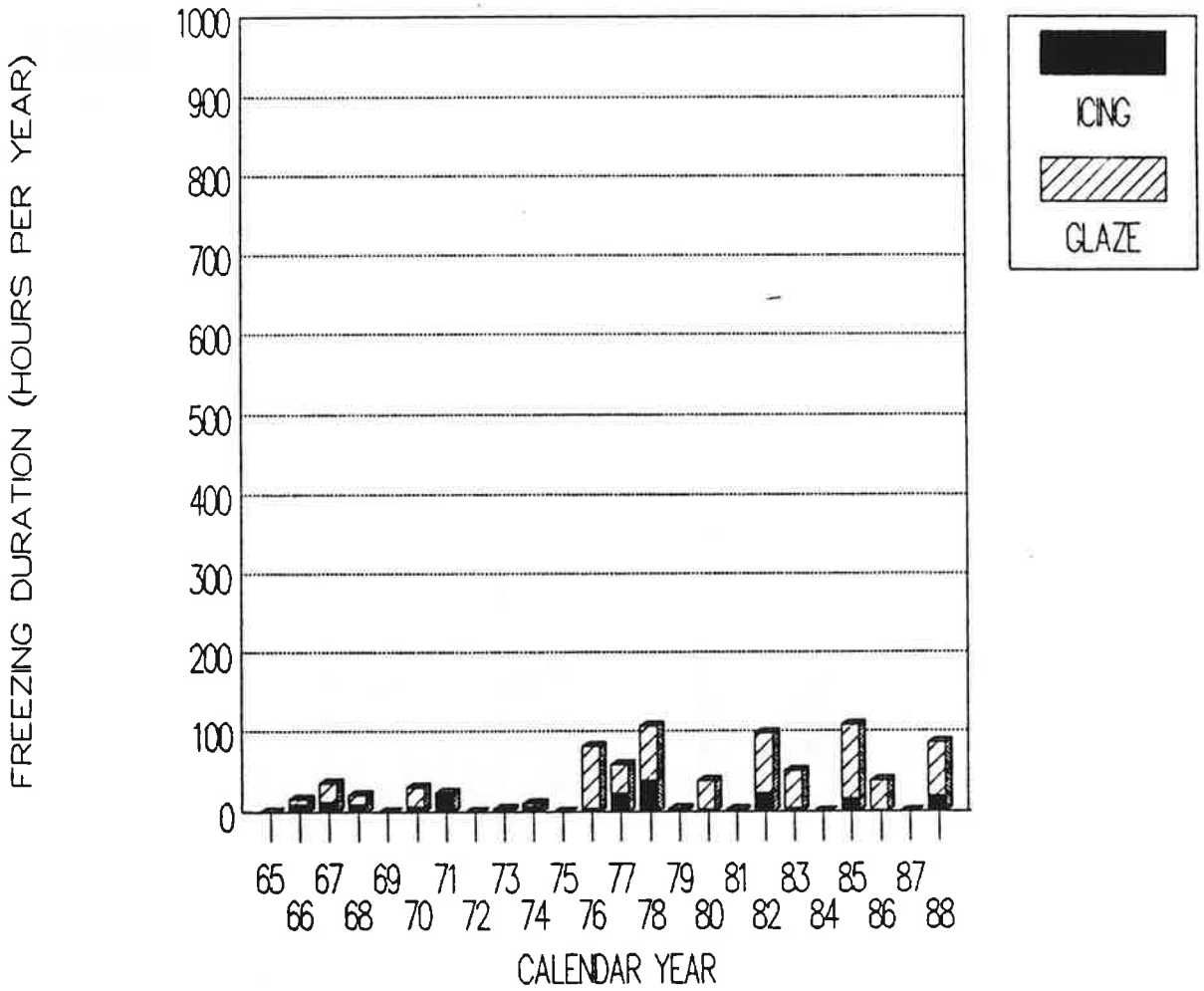
HUNTSVILLE INTERNATIONAL, AL
FREEZING DURATION 1965-1988



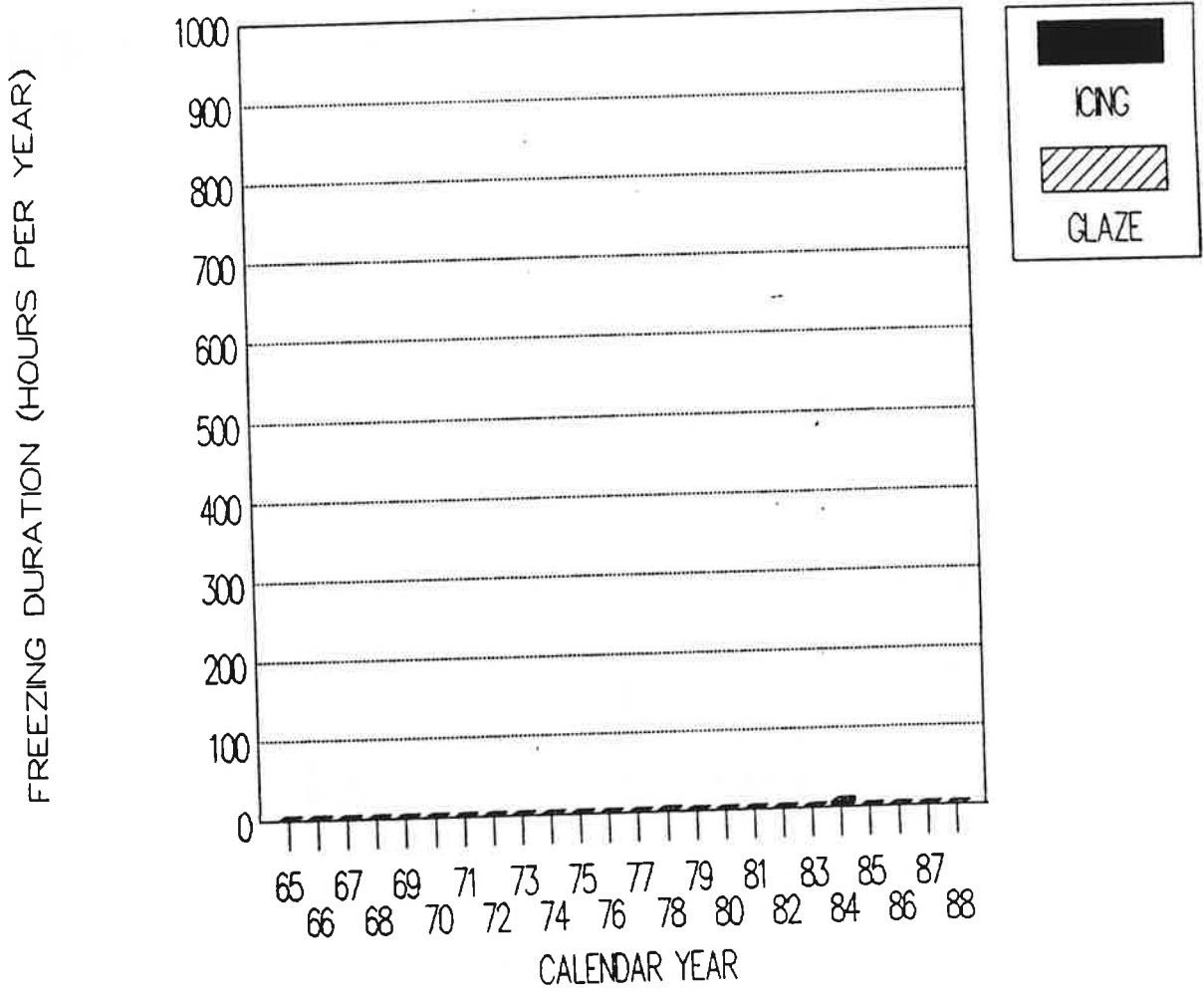
INDIANAPOLIS INTERNATIONAL, IN
FREEZING DURATION 1965-1988



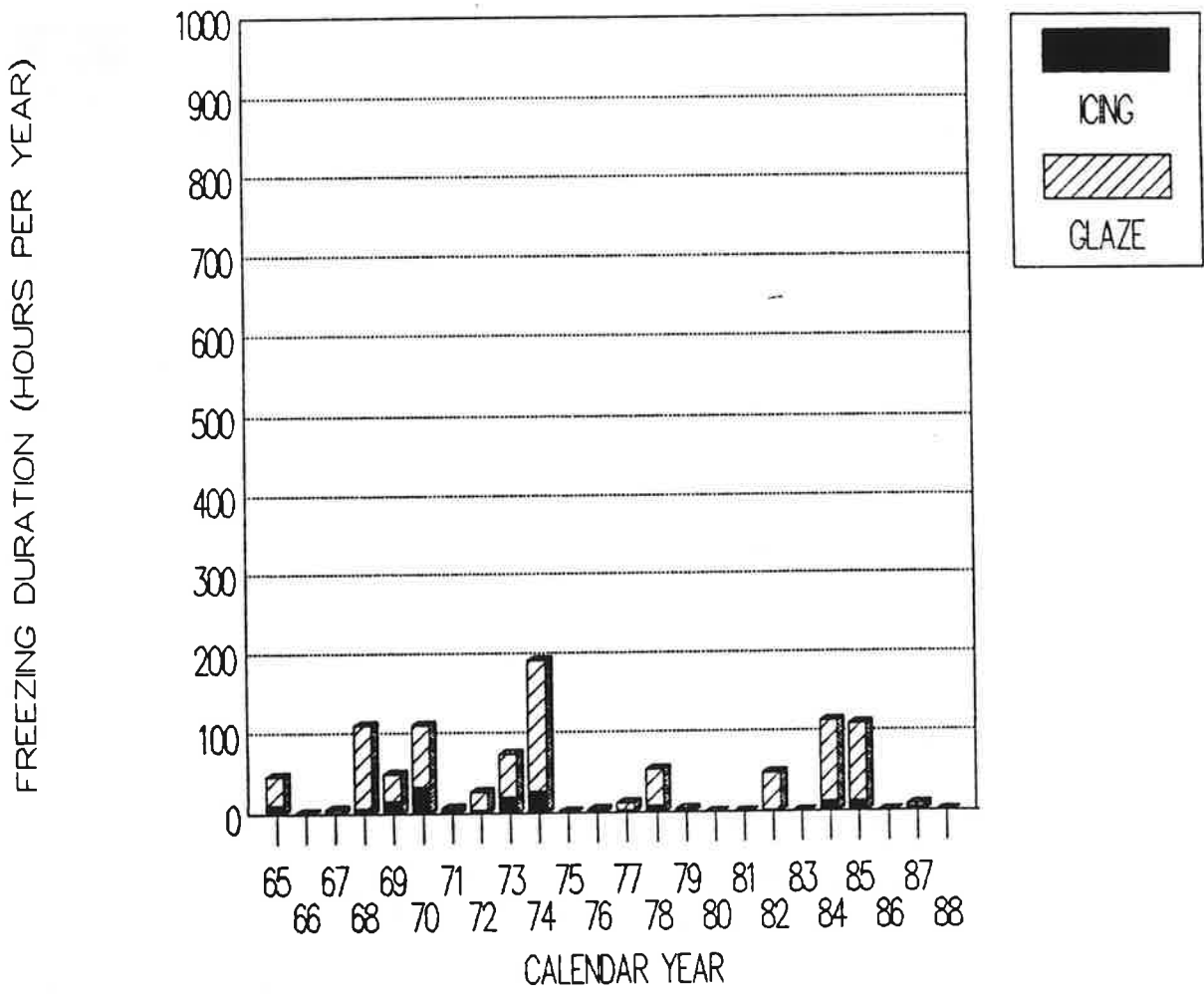
JACKSON, MS
 FREEZING DURATION 1965-1988



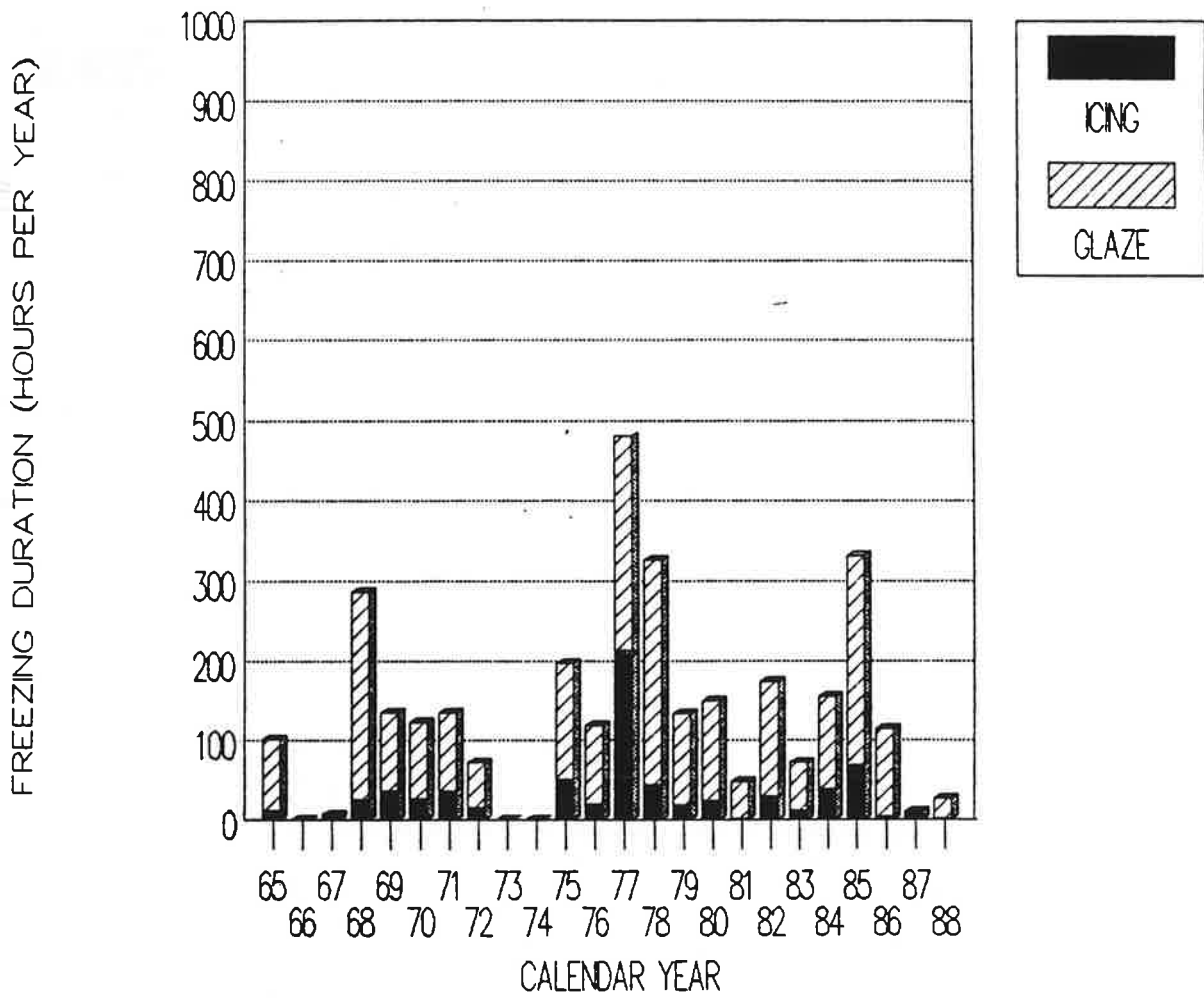
JACKSONVILLE, FL
FREEZING DURATION 1965-1988



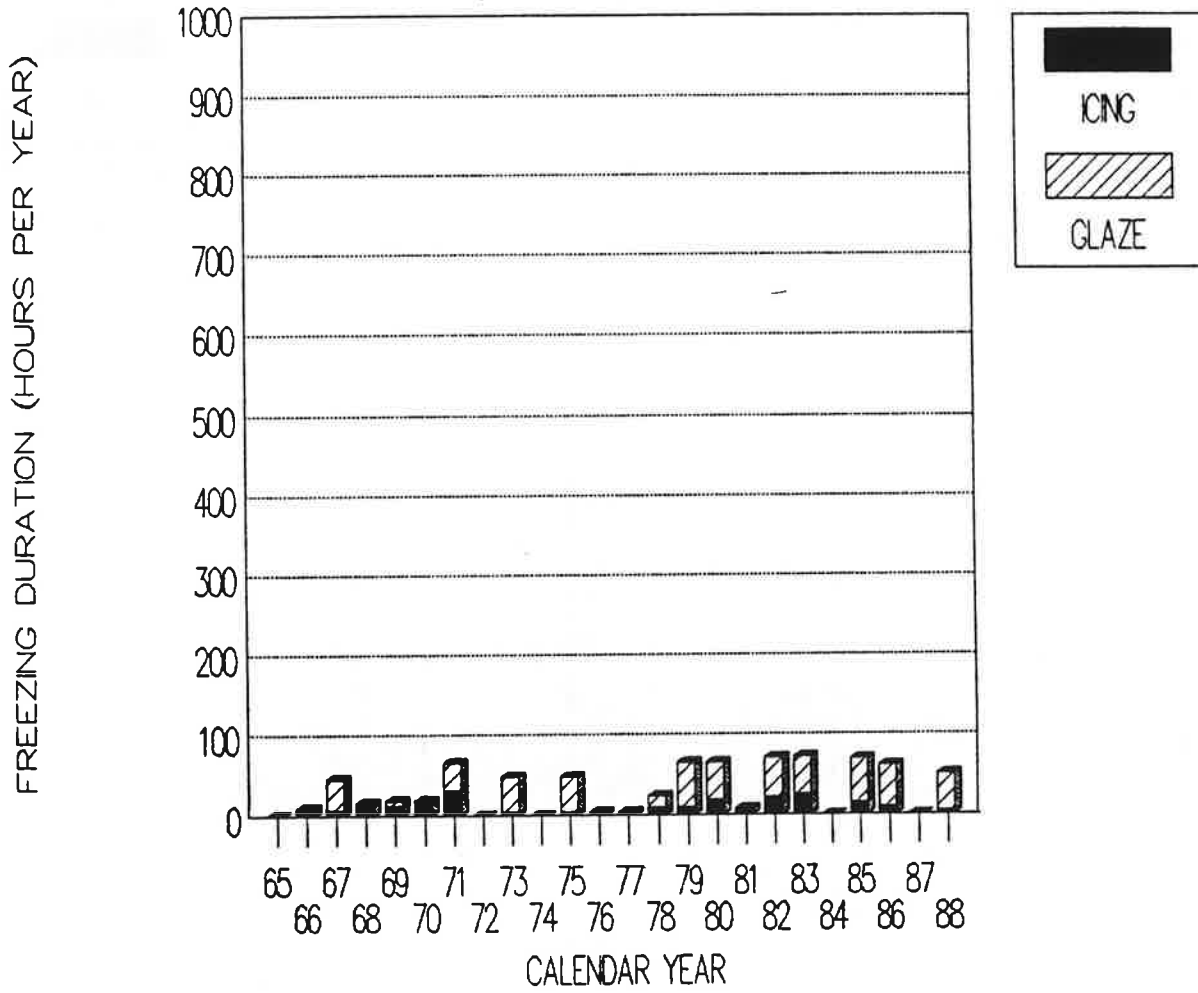
JOHN F. KENNEDY INTERNATIONAL, NY
 FREEZING DURATION 1965-1988



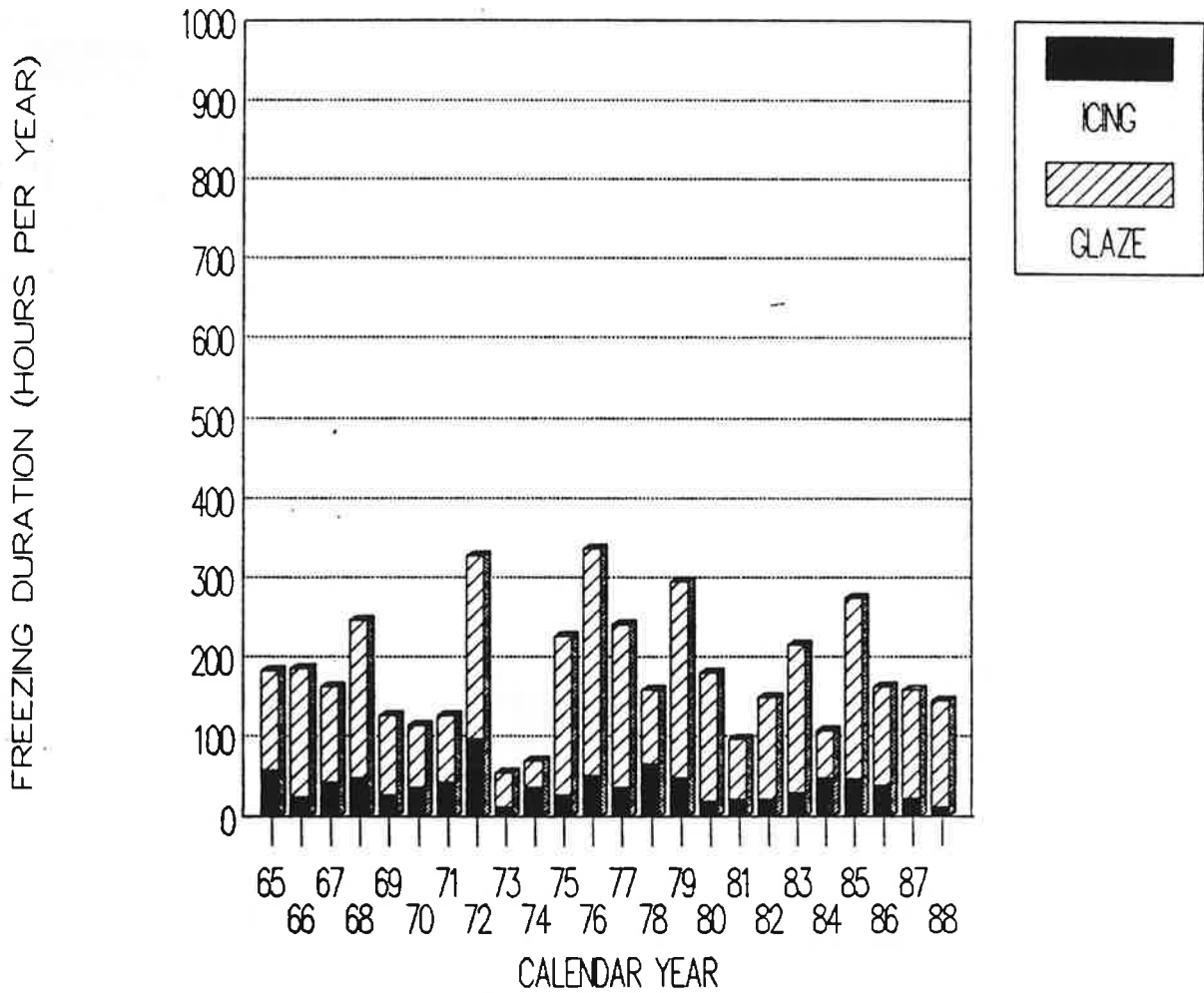
KANSAS CITY INTERNATIONAL, MO
 FREEZING DURATION 1965-1988



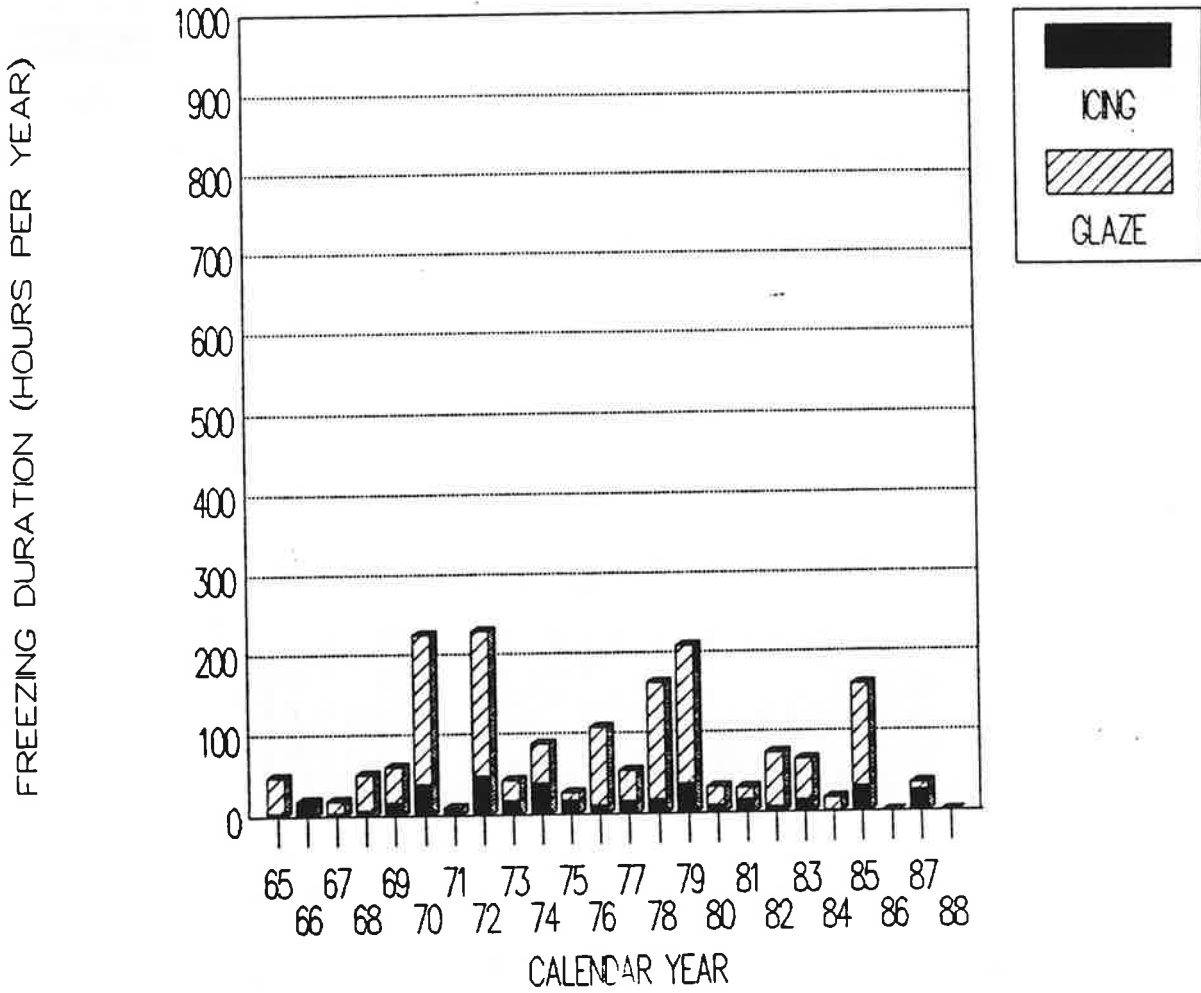
KNOXVILLE, TN
 FREEZING DURATION 1965-1988



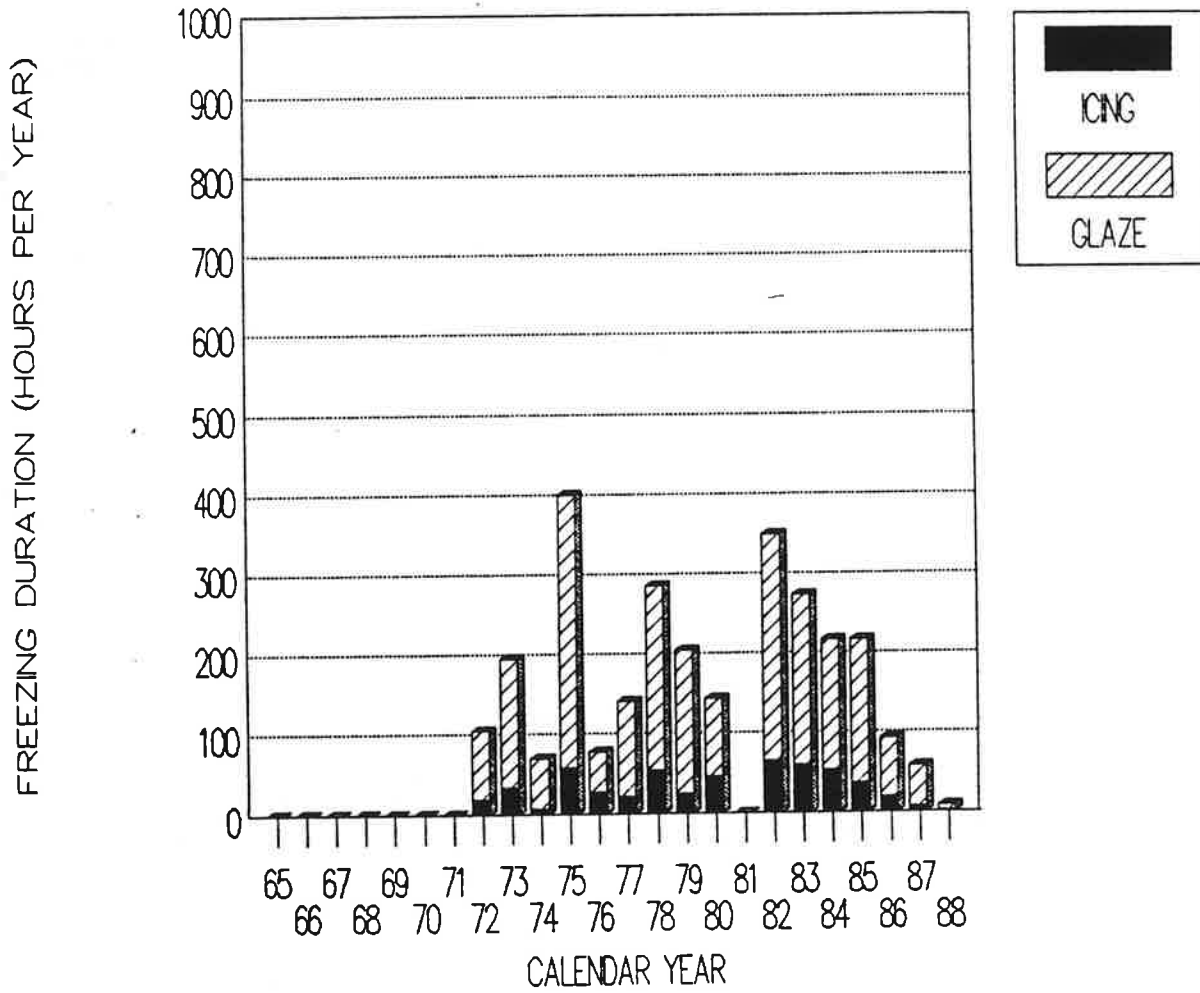
LANSING, MI
 FREEZING DURATION 1965-1988



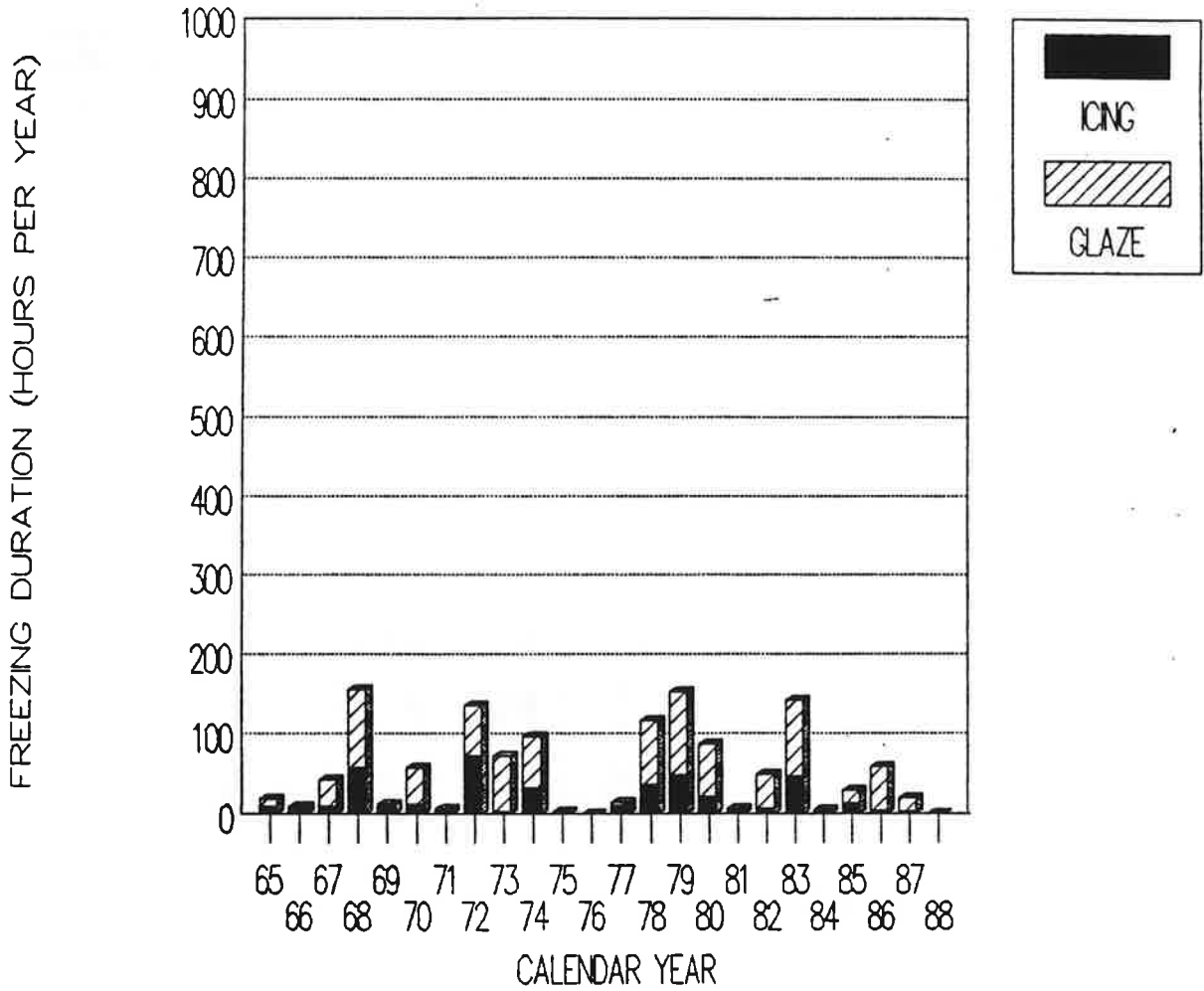
LEXINGTON, KY
 FREEZING DURATION 1965-1988



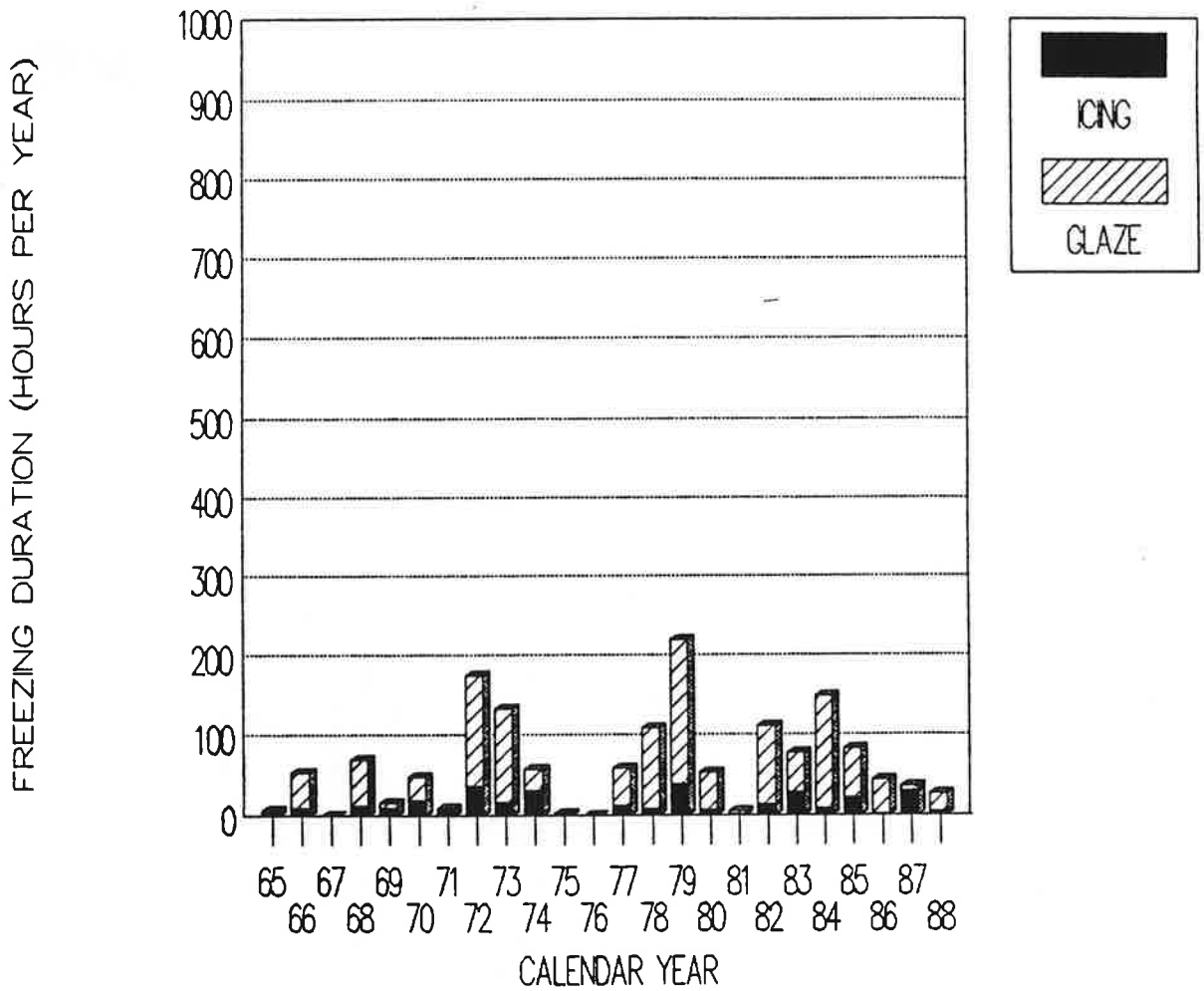
LINCOLN, NE
 FREEZING DURATION 1965-1988



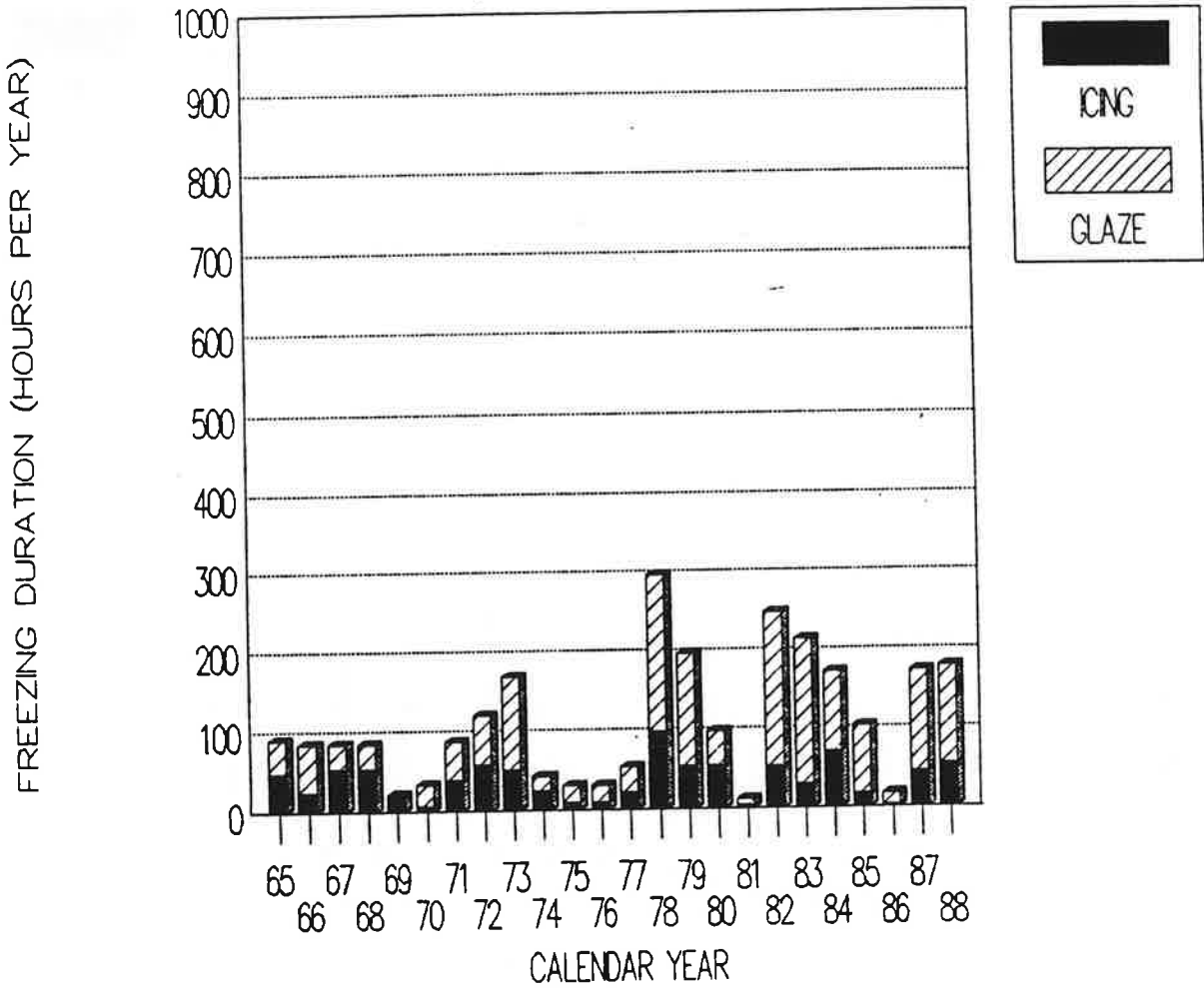
LITTLE ROCK, AR
 FREEZING DURATION 1965-1988



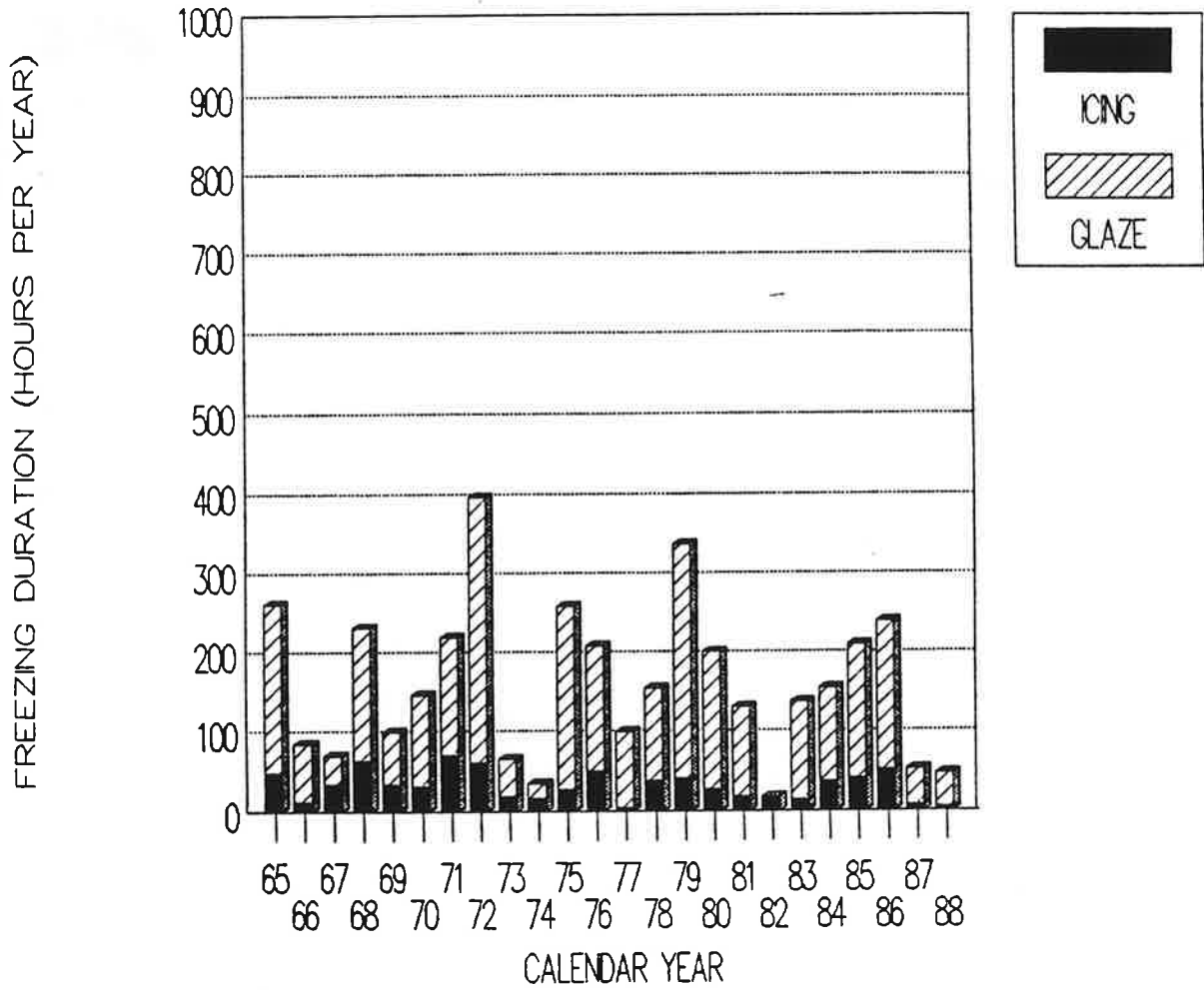
LOUISVILLE, KY
 FREEZING DURATION 1965-1988



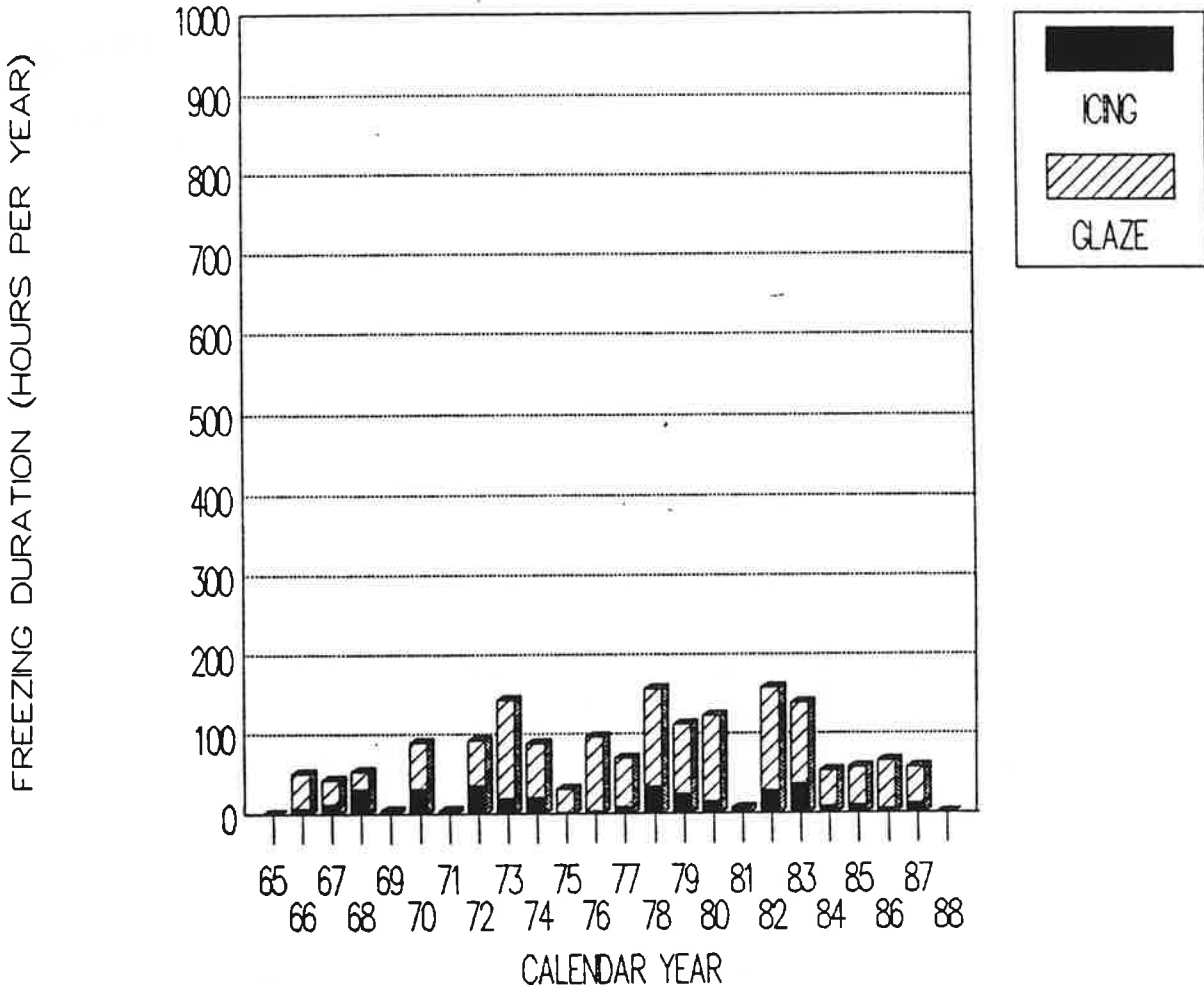
LUBBOCK, TX
 FREEZING DURATION 1965-1988



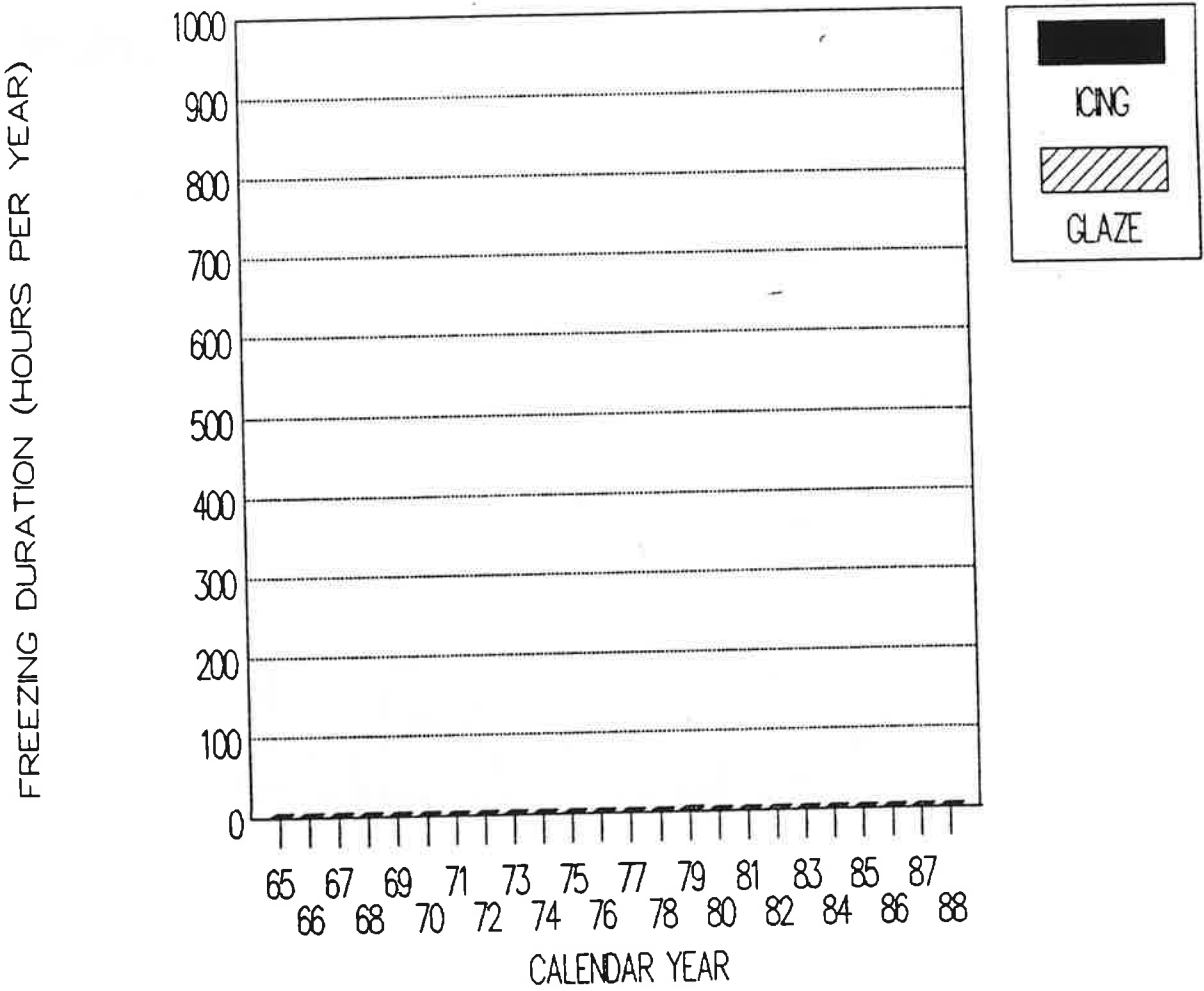
MADISON, WI
 FREEZING DURATION 1965-1988



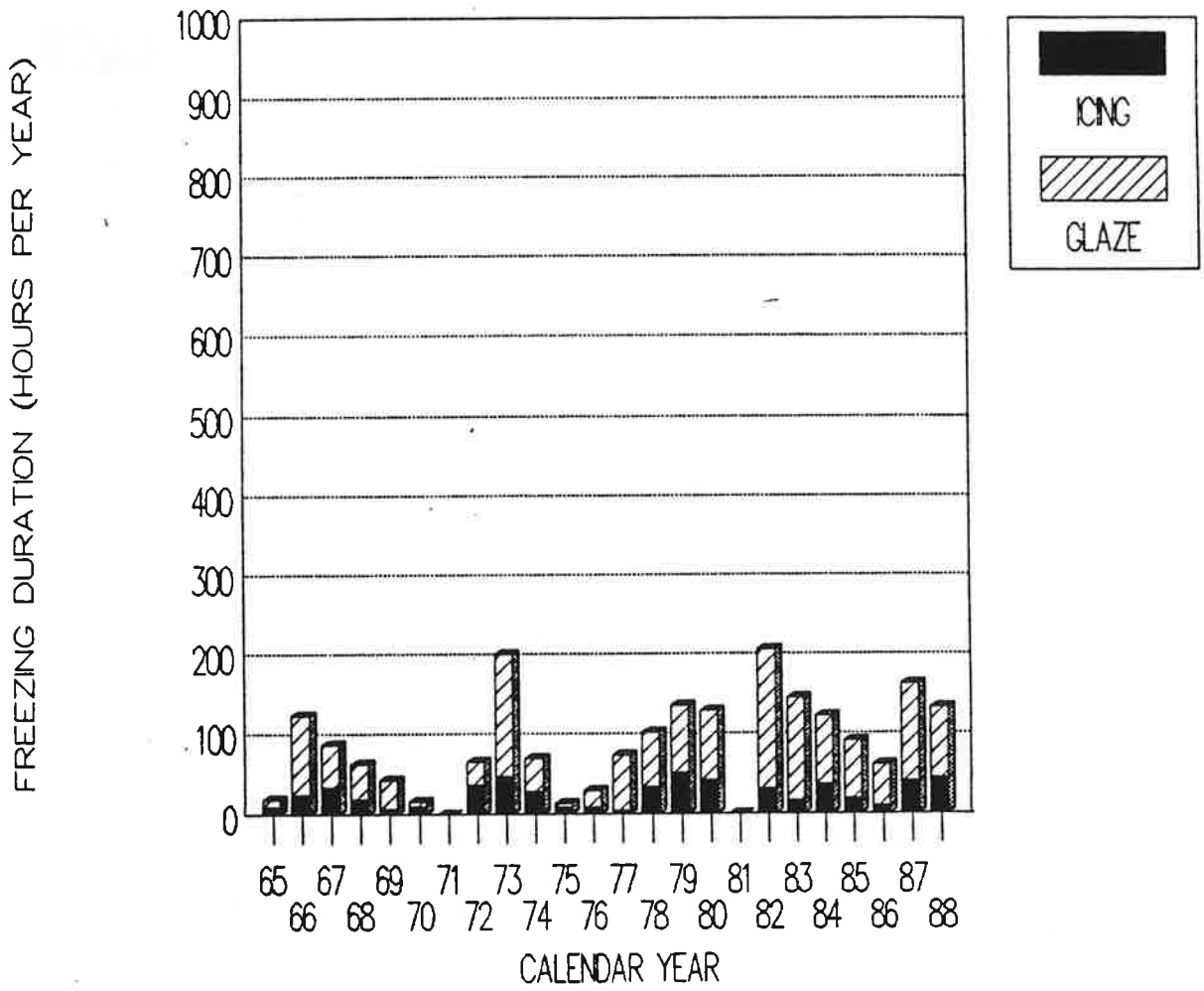
MEMPHIS, TN
 FREEZING DURATION 1965-1988



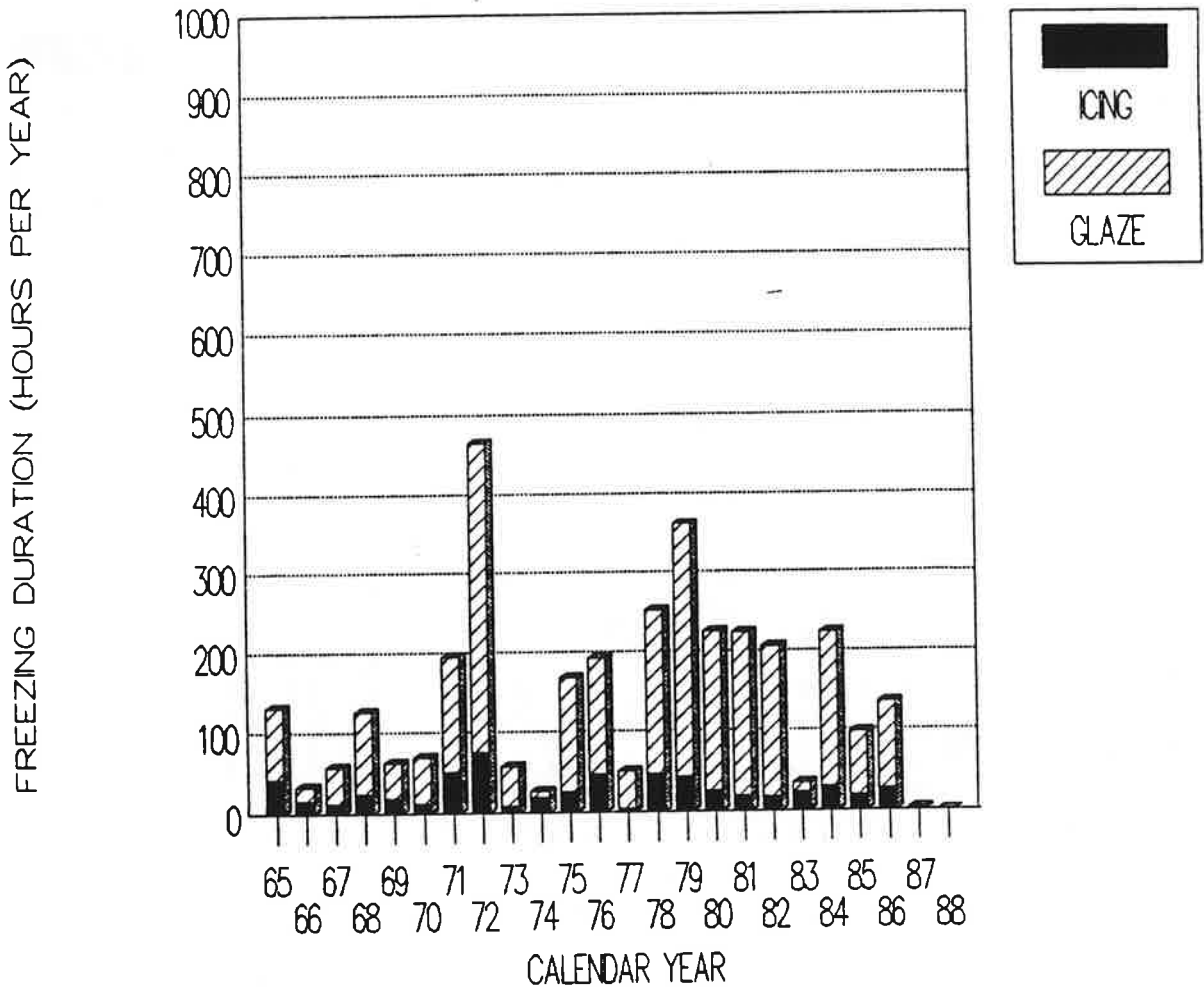
MIAMI, FL
FREEZING DURATION 1965-1988



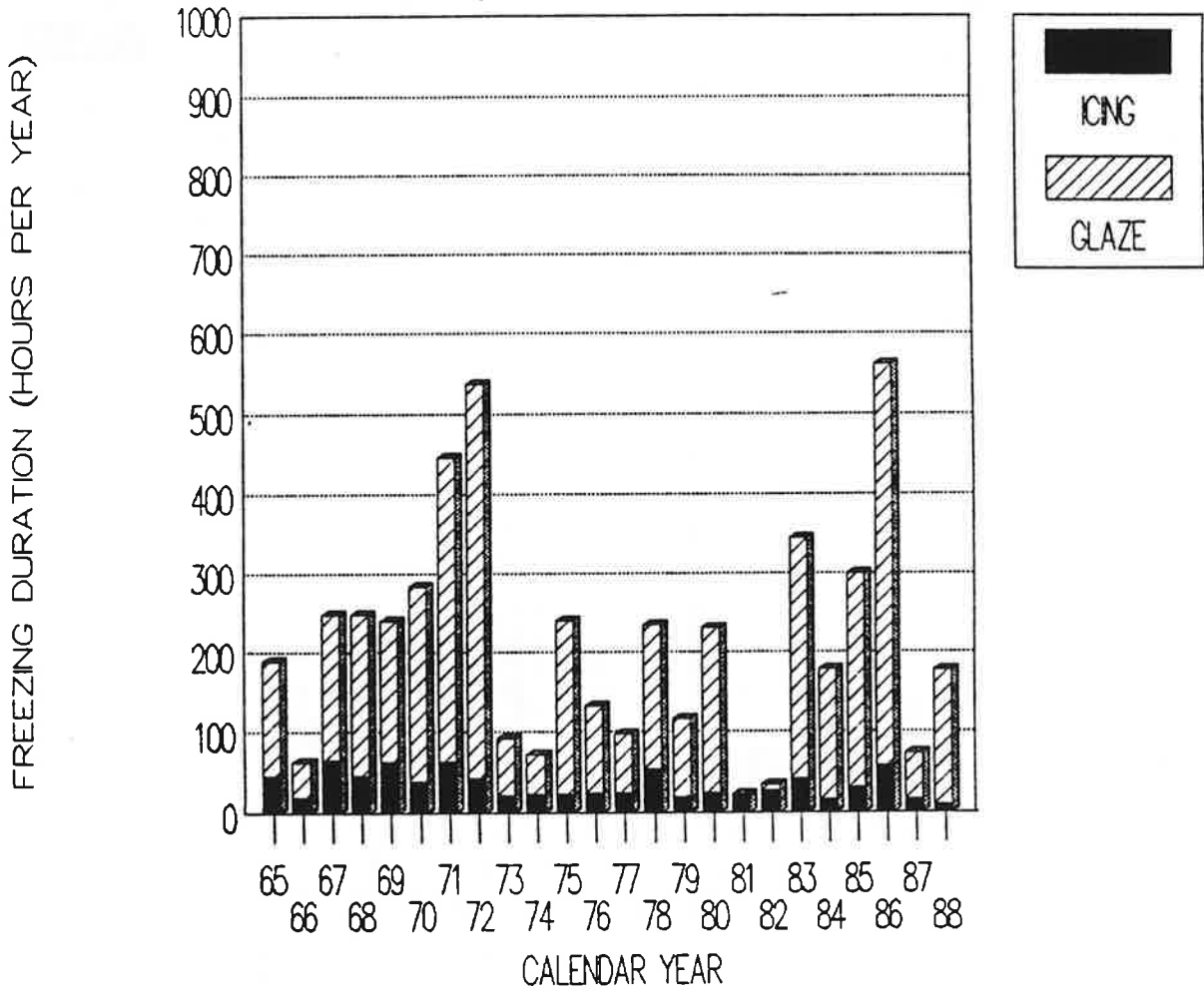
MIDLAND, TX
 FREEZING DURATION 1965-1988



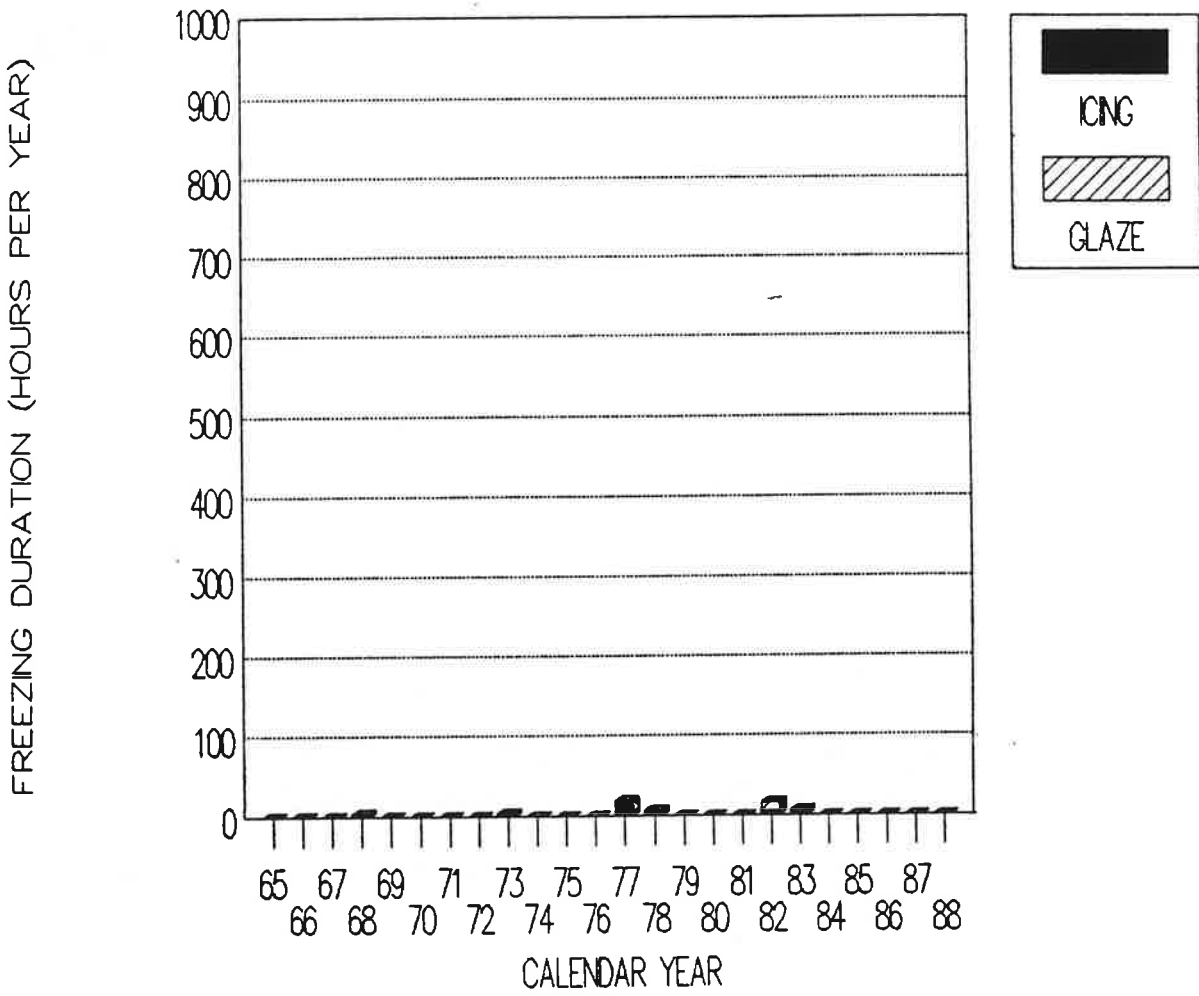
MILWAUKEE INTERNATIONAL, WI
 FREEZING DURATION 1965-1988



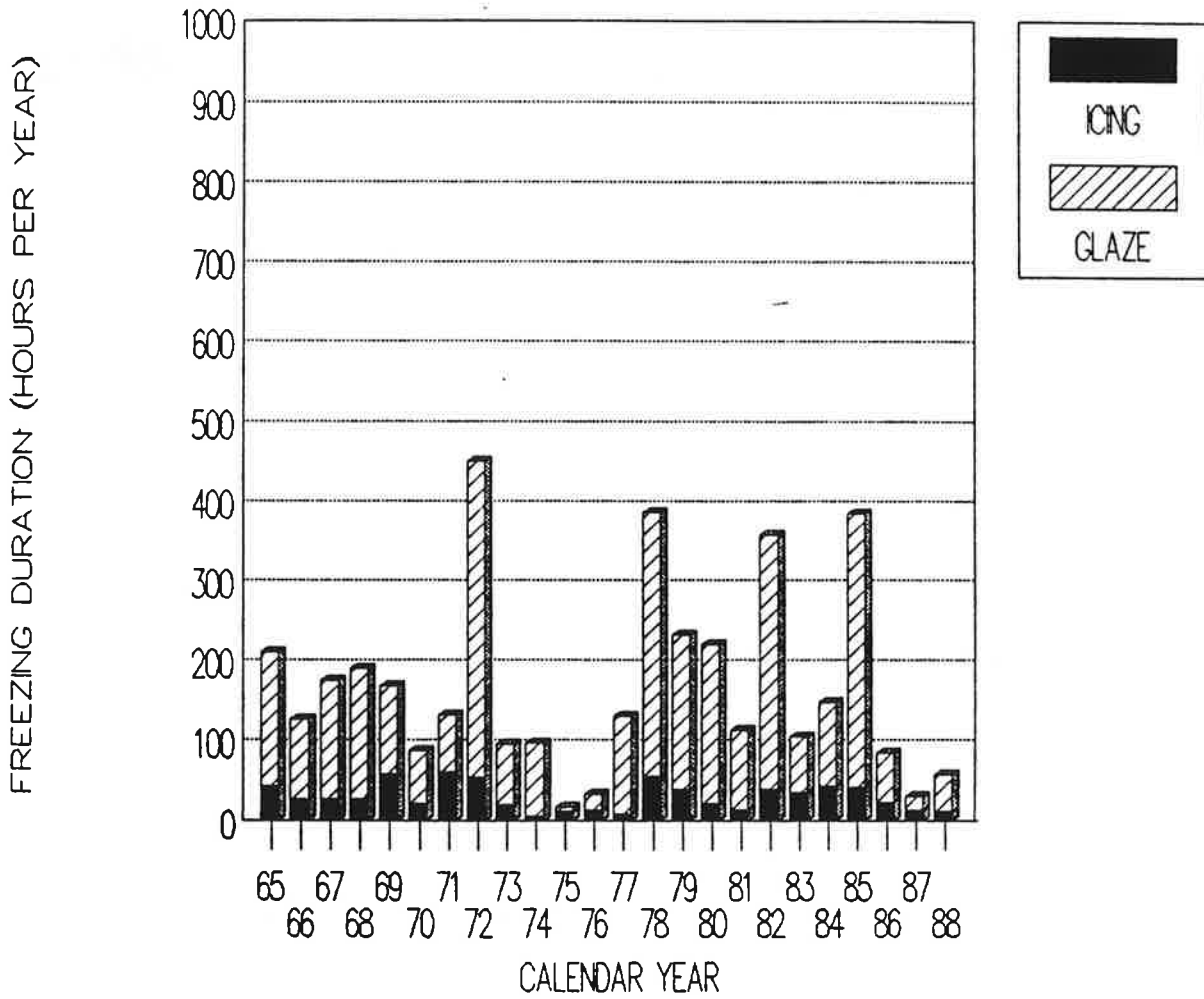
MINNEAPOLIS-ST PAUL INTERNATIONAL, MN
 FREEZING DURATION 1965-1988



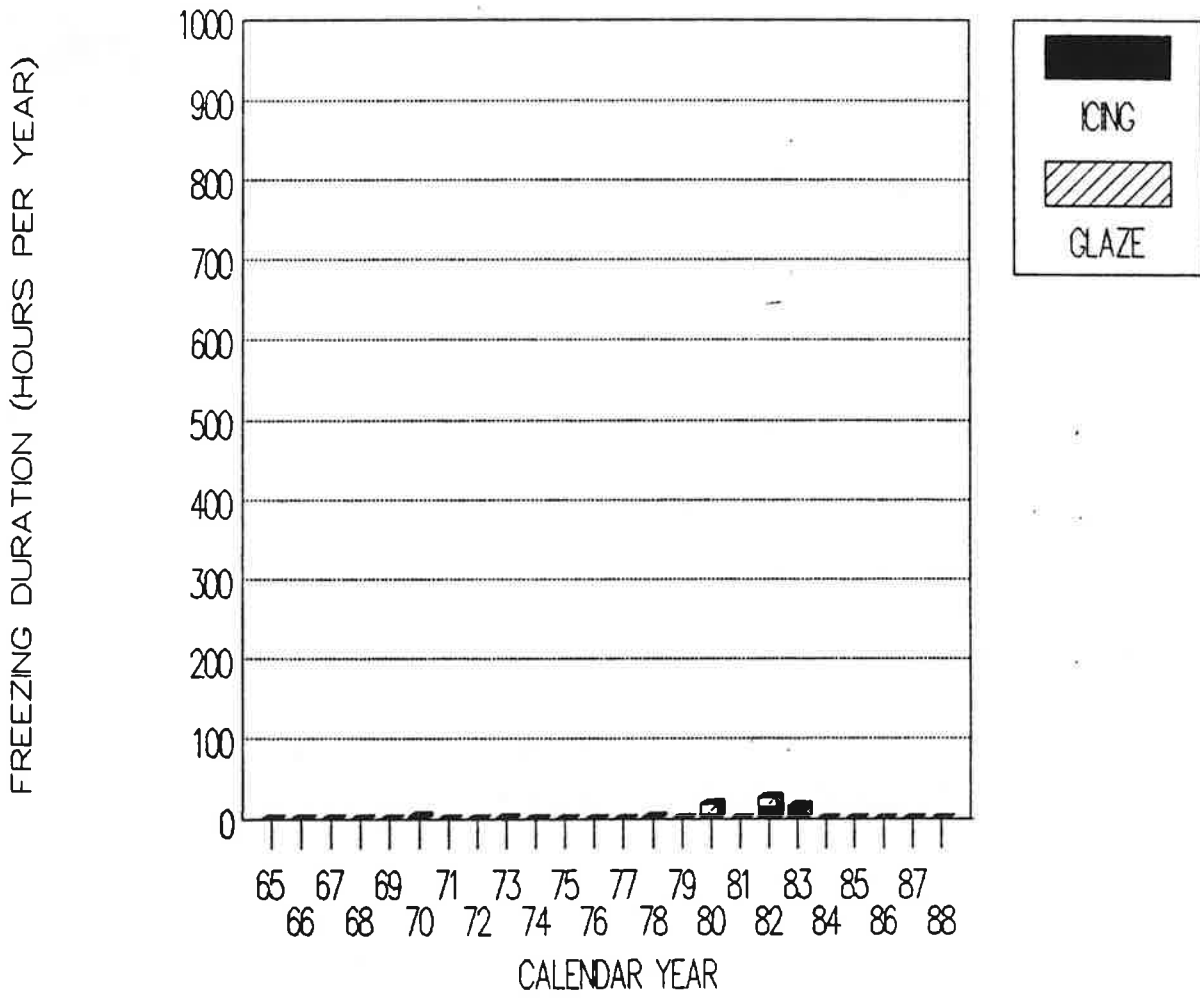
MOBILE, AL
FREEZING DURATION 1965-1988



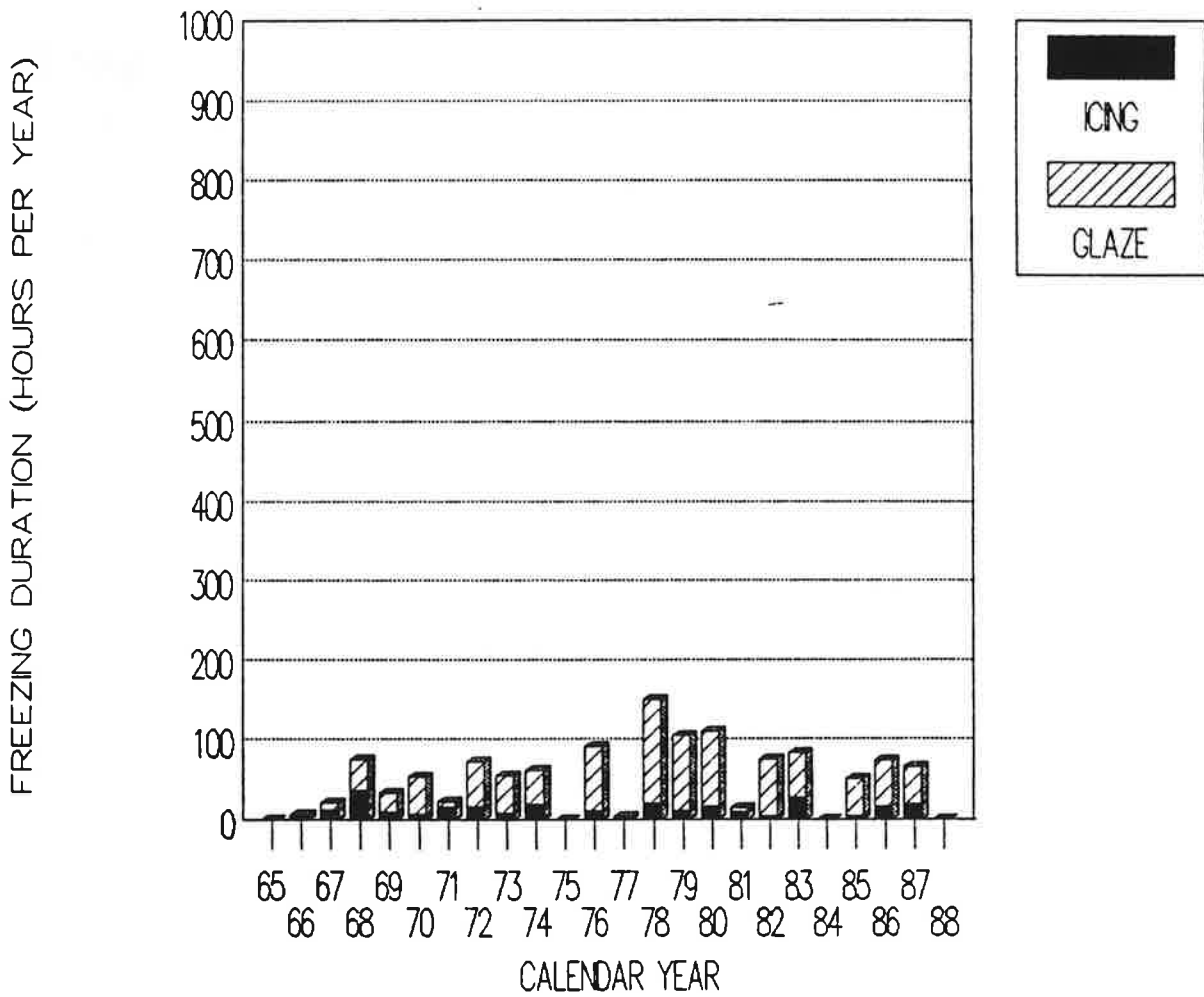
MOLINE, IL
 FREEZING DURATION 1965-1988



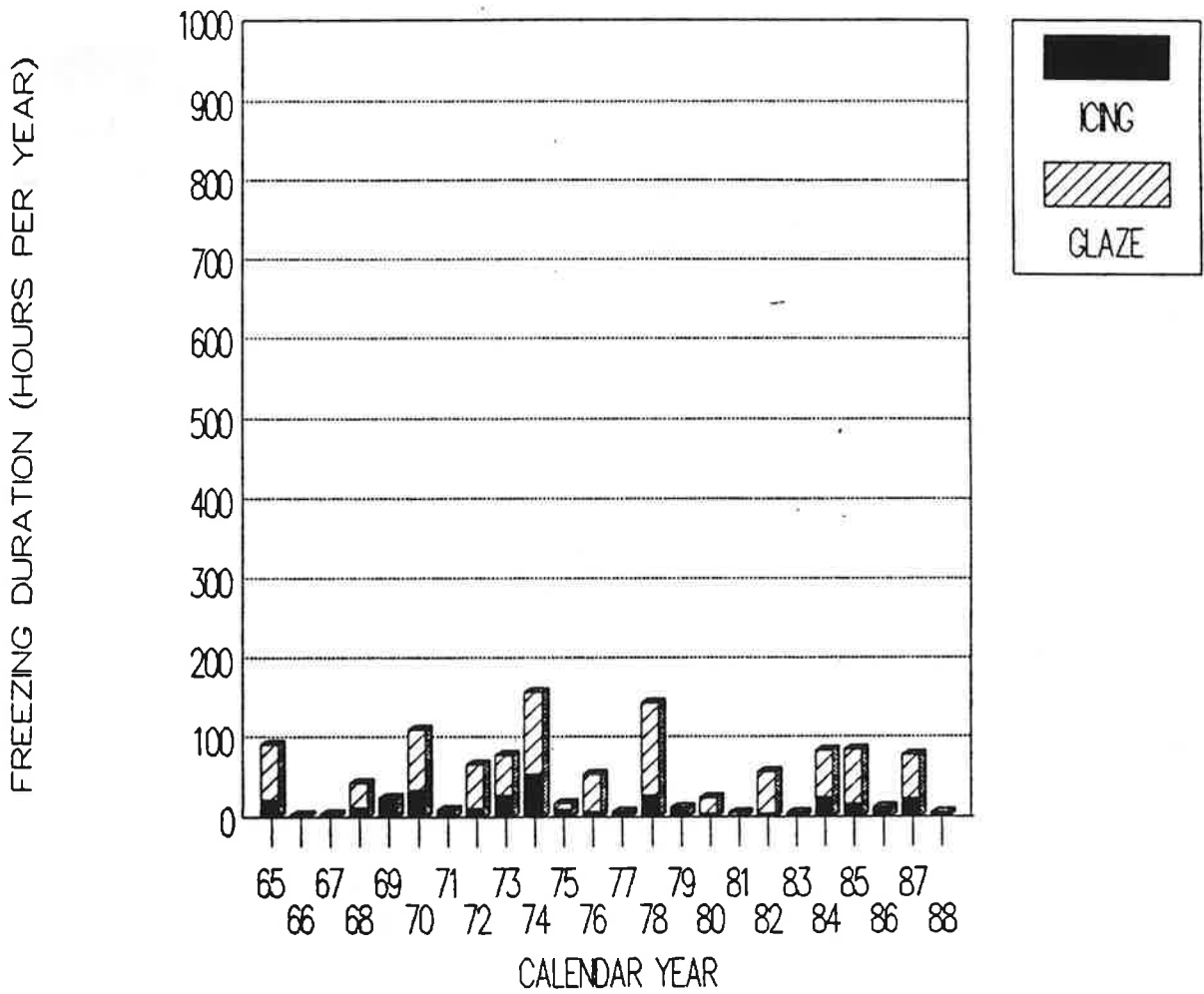
MONTGOMERY, AL
FREEZING DURATION 1965-1988



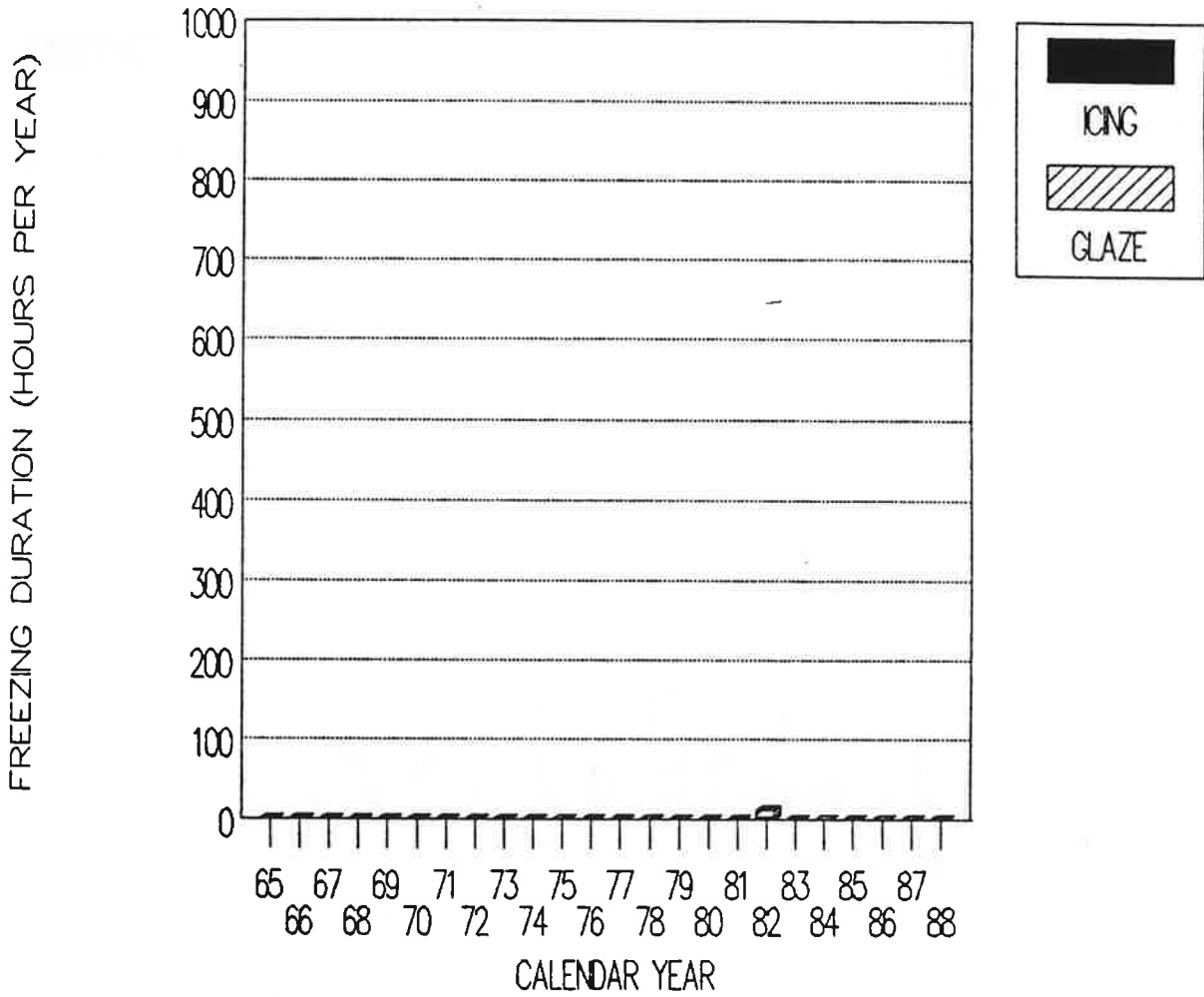
NASHVILLE, TN
 FREEZING DURATION 1965-1988



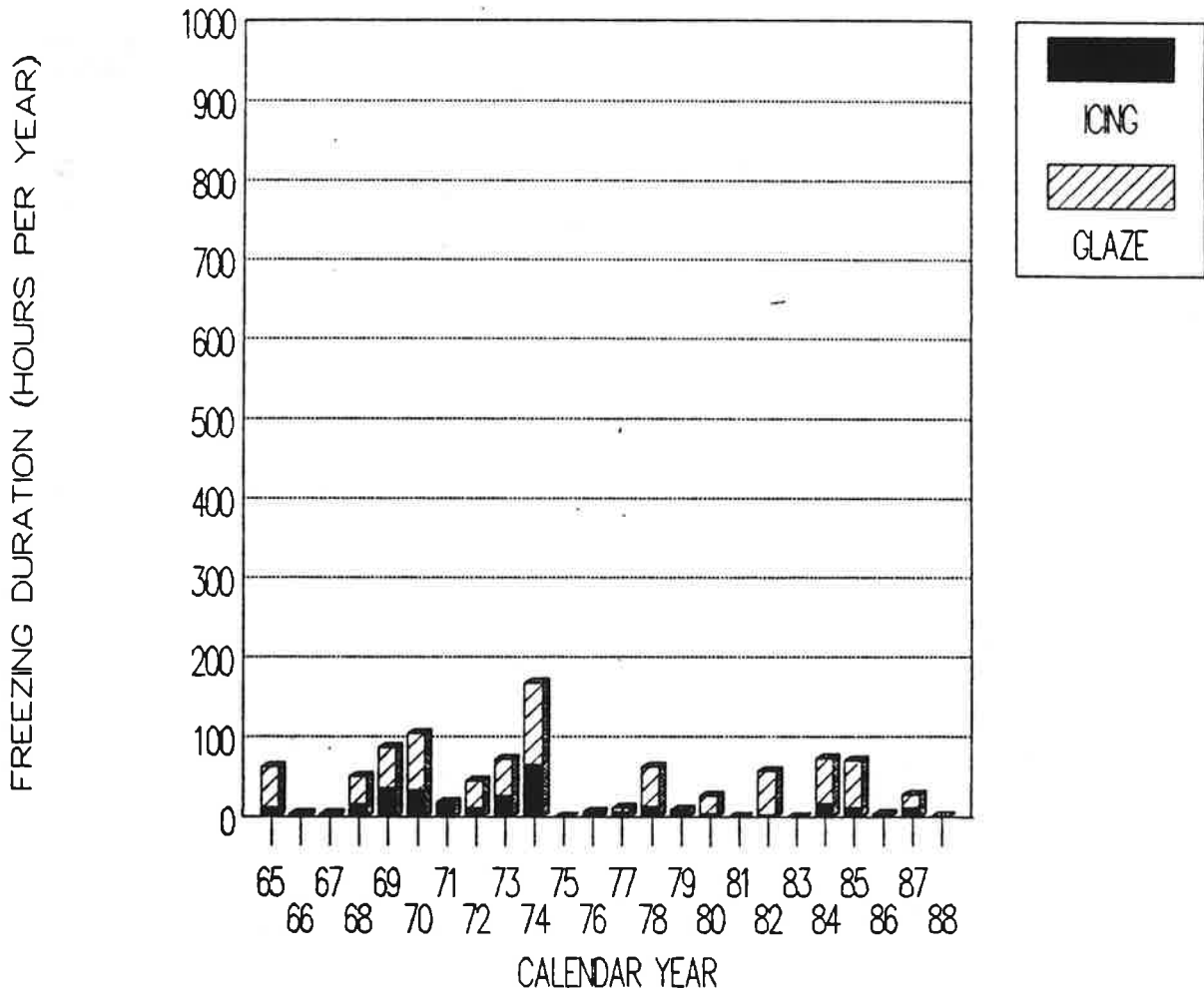
NEWARK INTERNATIONAL, NJ
FREEZING DURATION 1965-1988



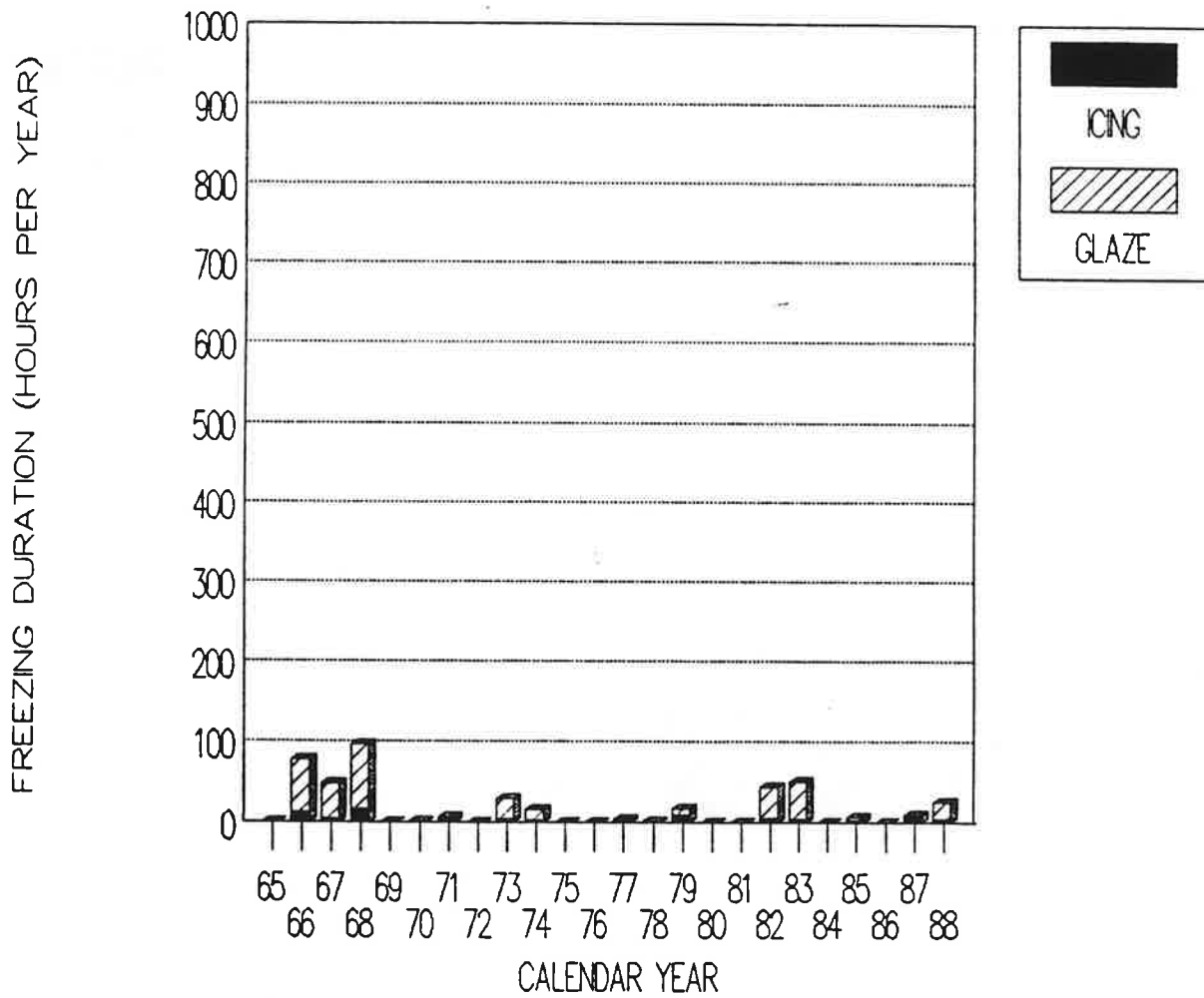
NEW ORLEANS INTERNATIONAL, LA
FREEZING DURATION 1965-1988



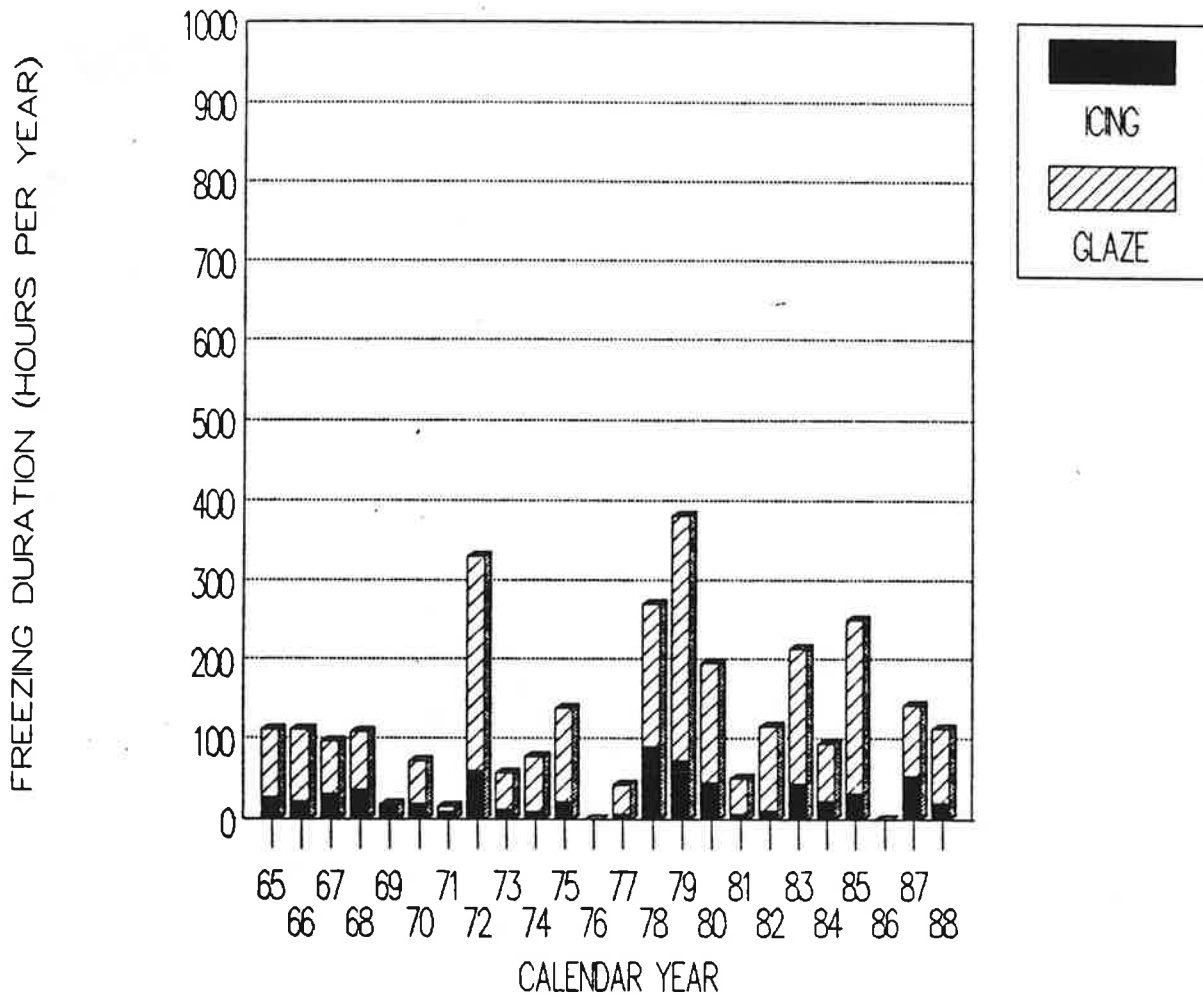
NEW YORK-LA GUARDIA, NY
FREEZING DURATION 1965-1988



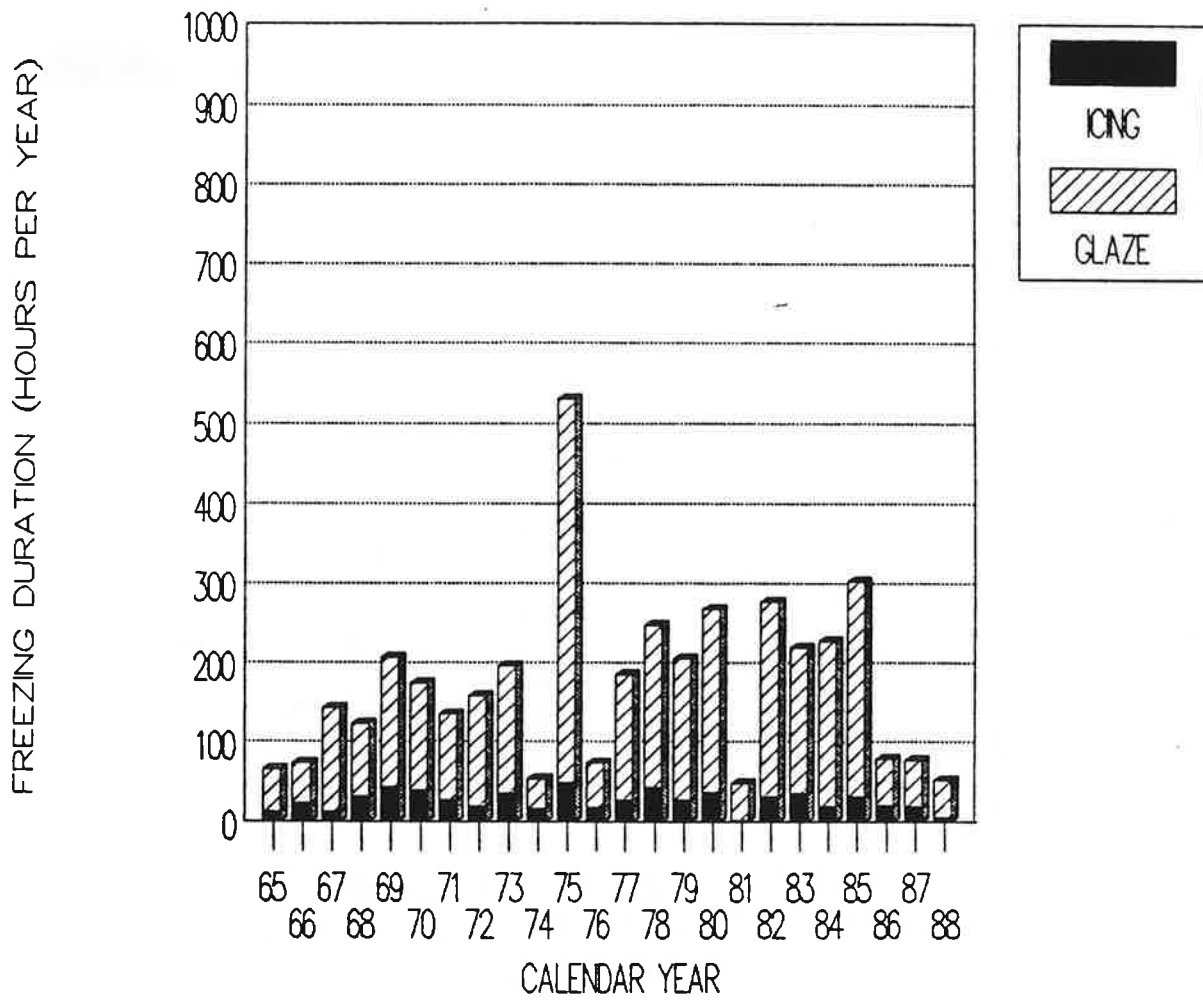
NORFOLK INTERNATIONAL, VA
FREEZING DURATION 1965-1988



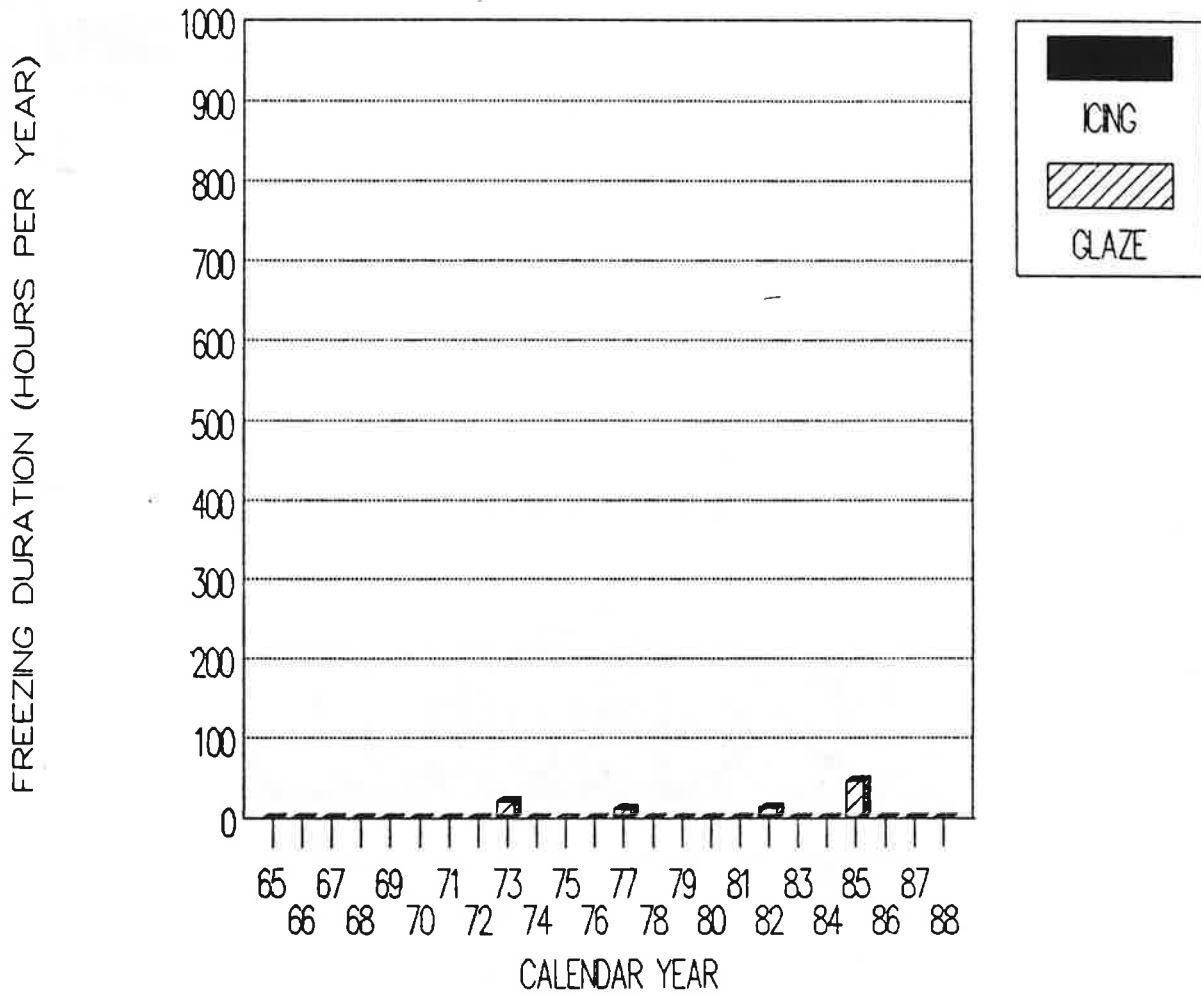
OKLAHOMA CITY, OK
 FREEZING DURATION 1965-1988



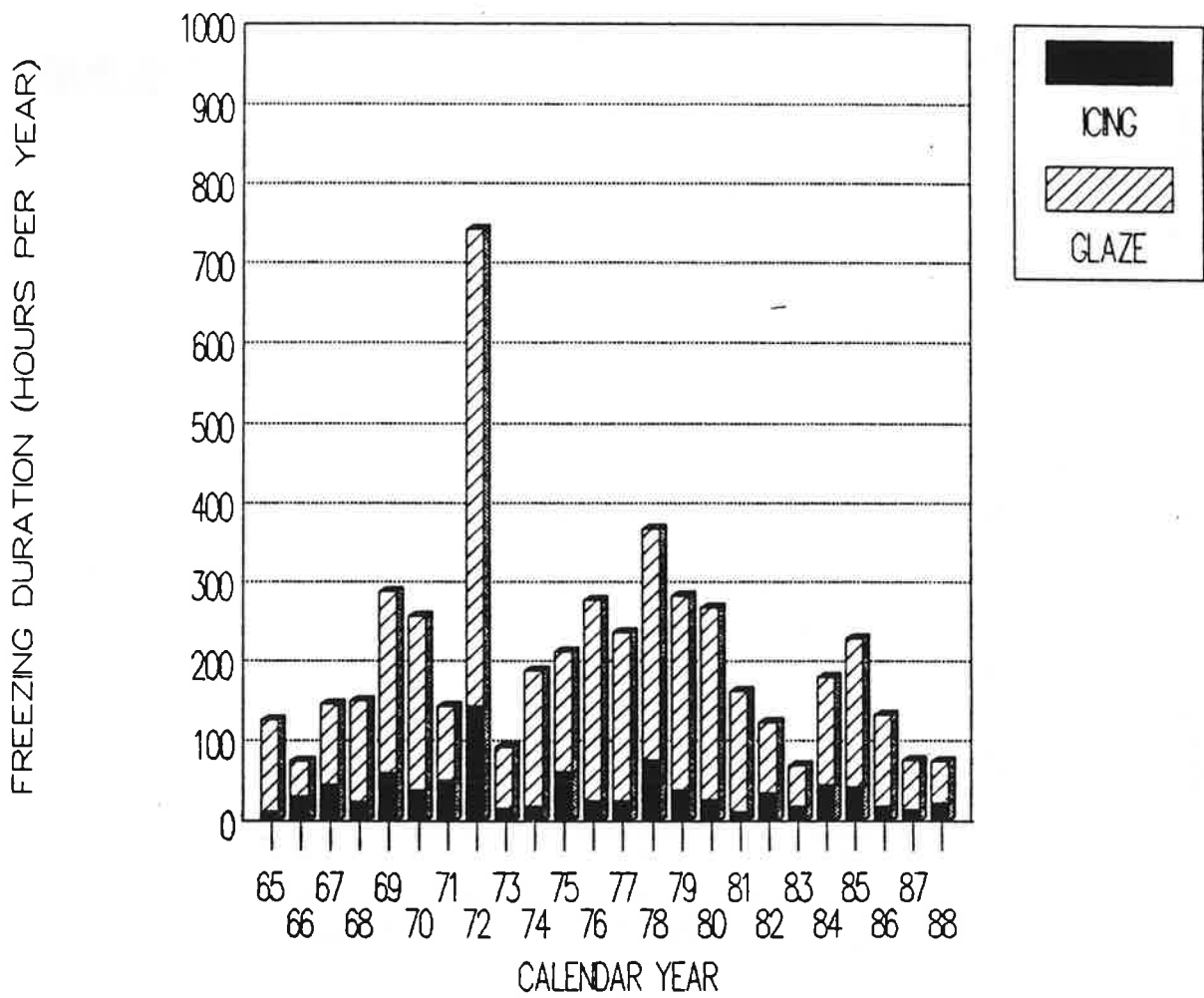
OMAHA, NE
 FREEZING DURATION 1965-1988



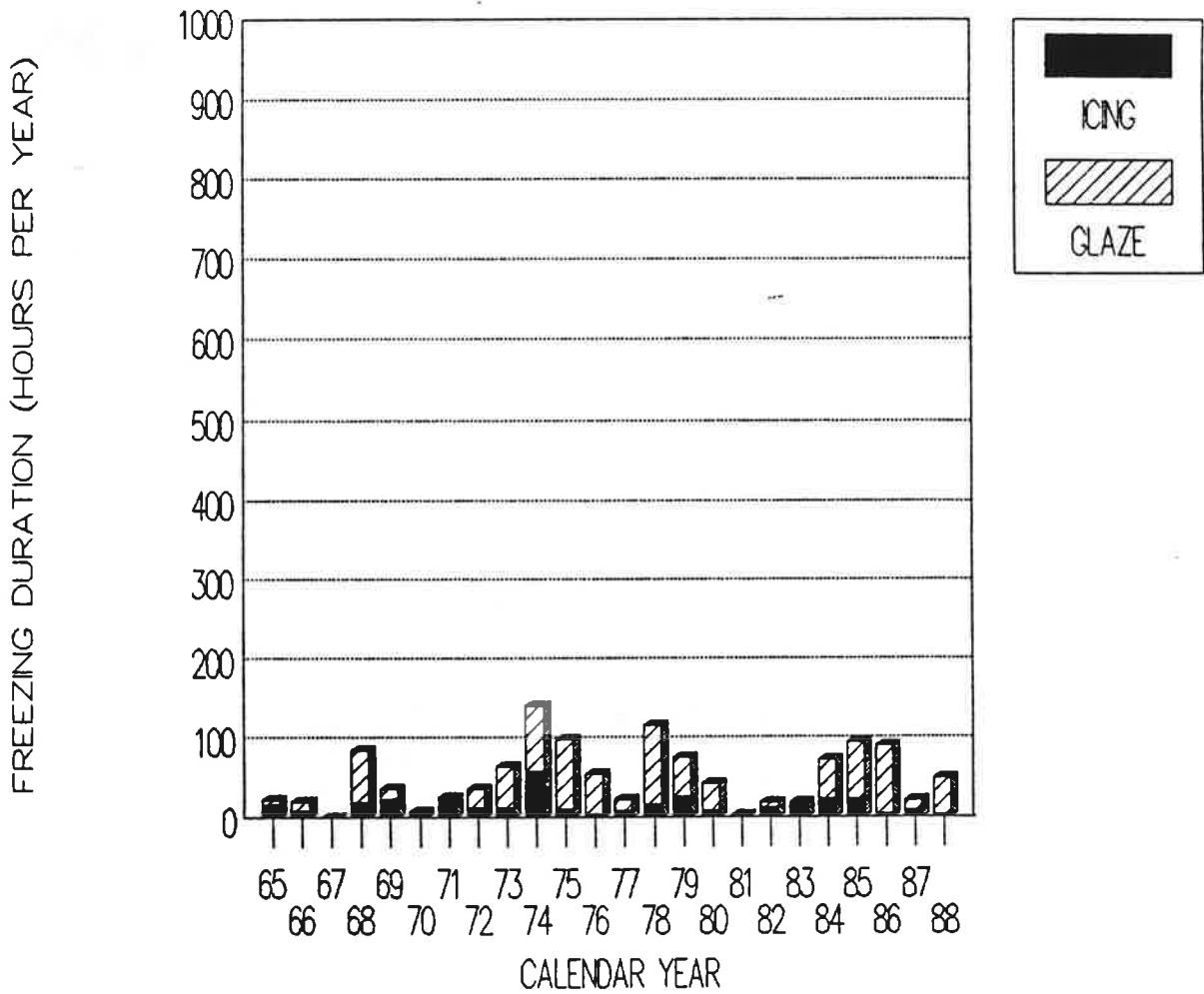
PENSACOLA, FL
FREEZING DURATION 1965-1988



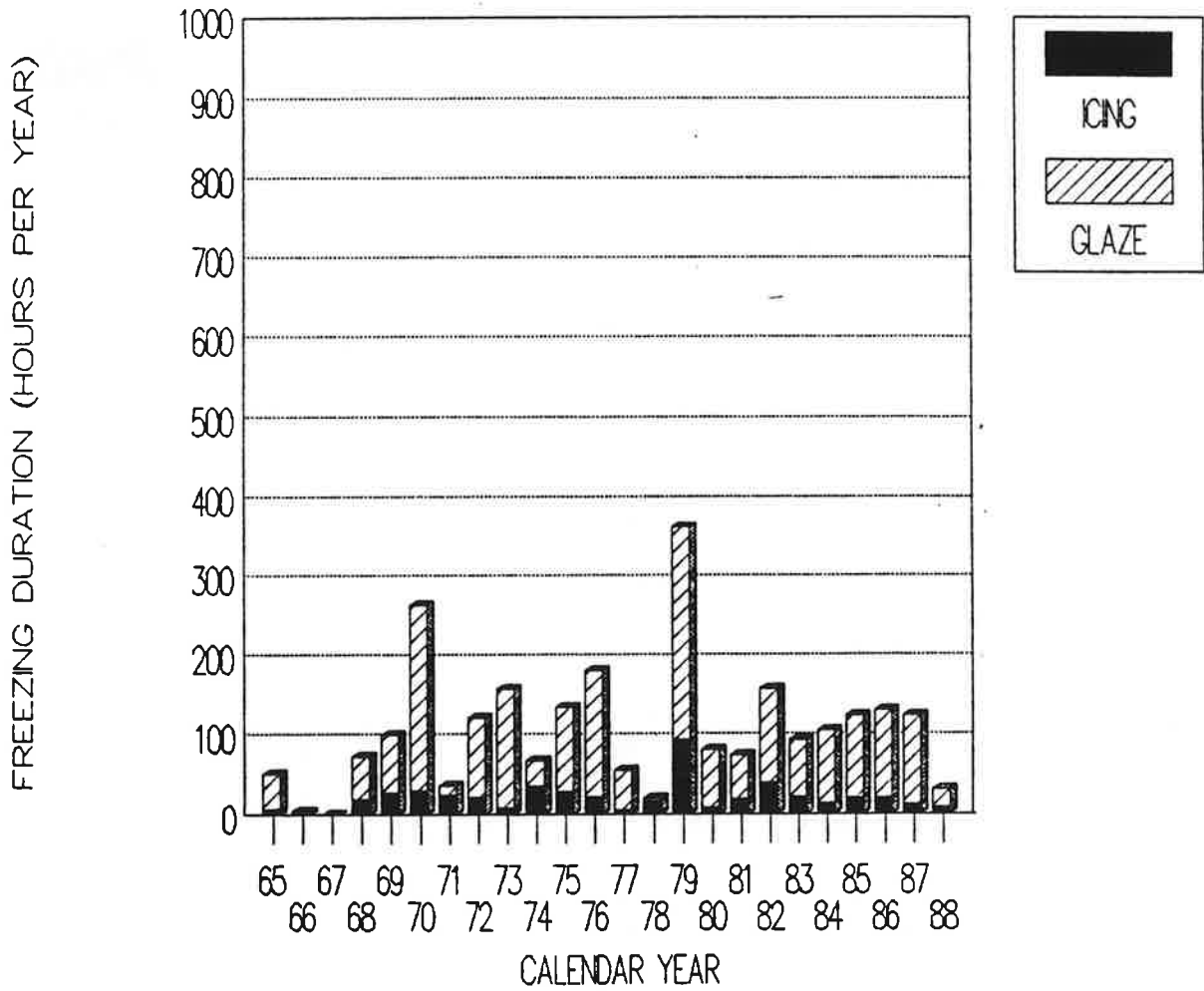
PEORIA, IL
 FREEZING DURATION 1965-1988



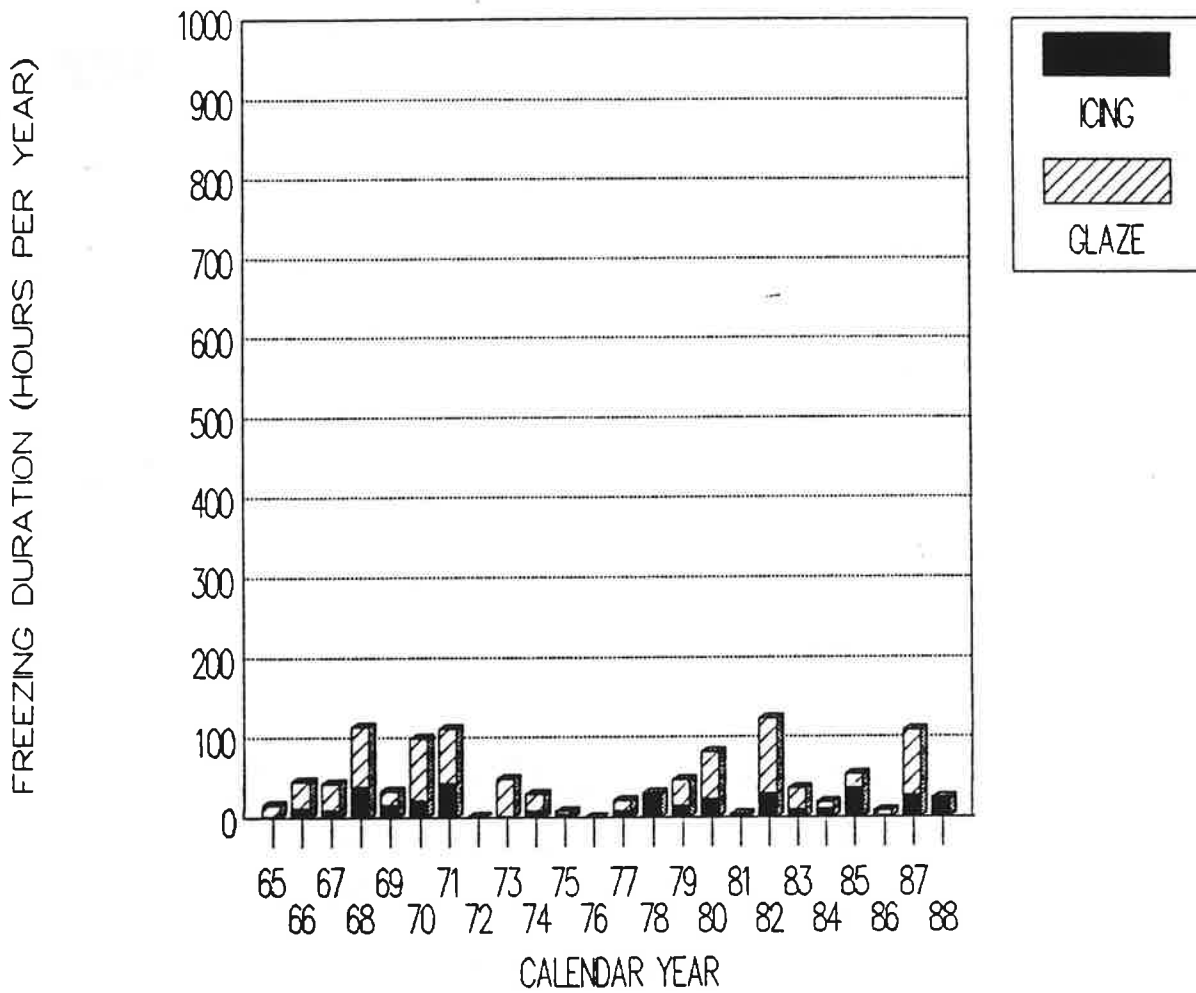
PHILADELPHIA, PA
 FREEZING DURATION 1965-1988



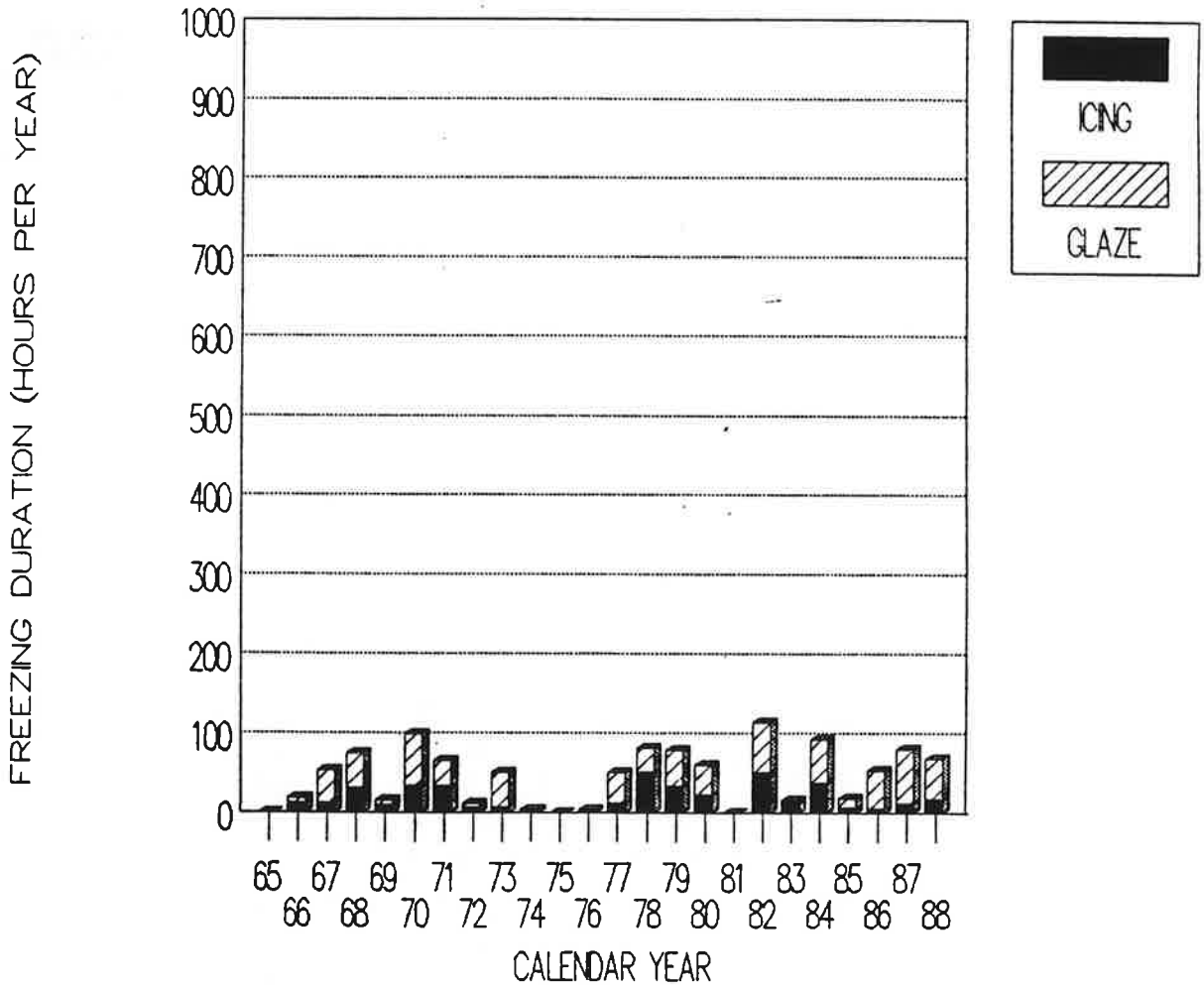
PITTSBURG INTERNATIONAL, PA
 FREEZING DURATION 1965-1988



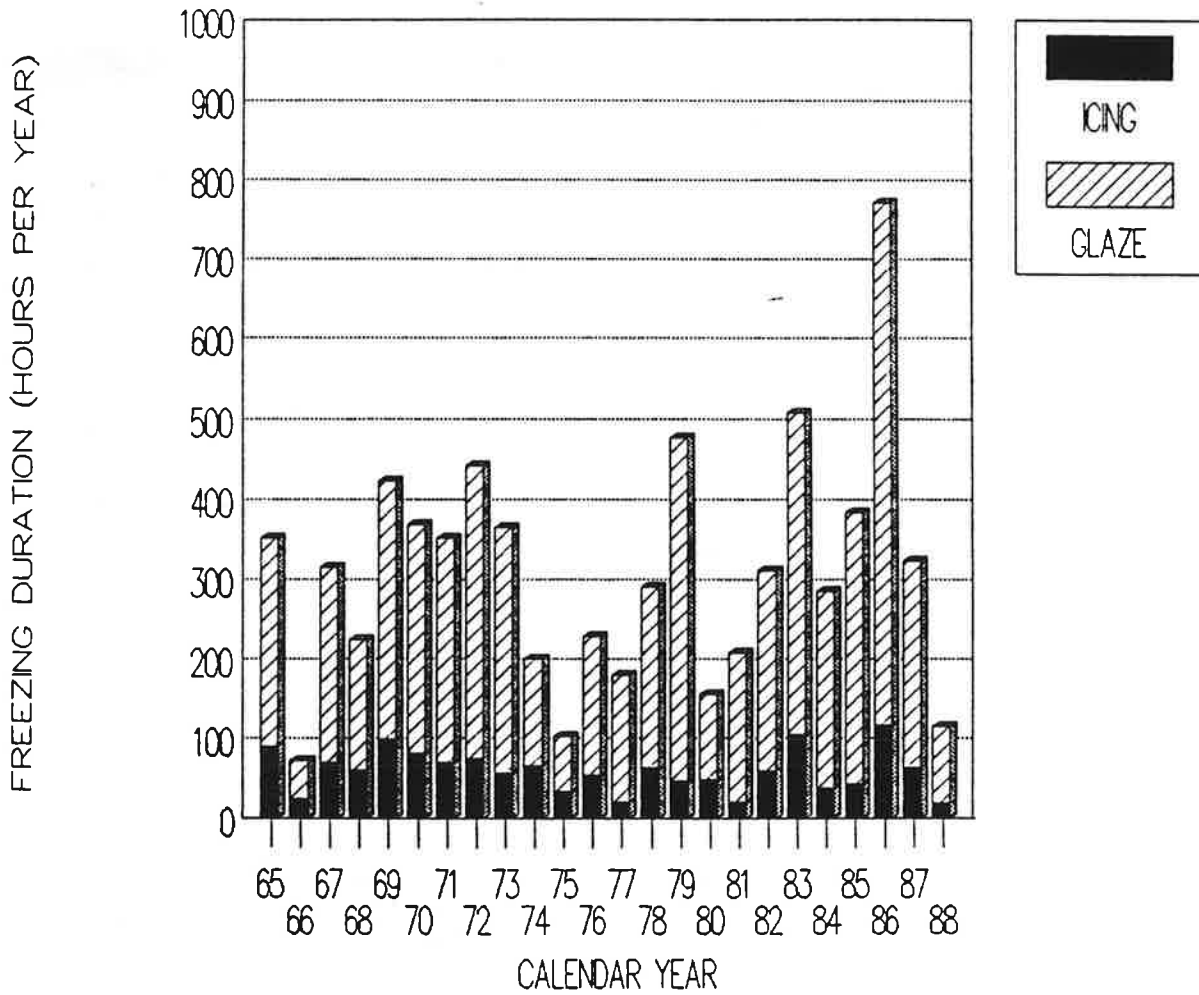
RALEIGH-DURHAM, NC
 FREEZING DURATION 1965-1988



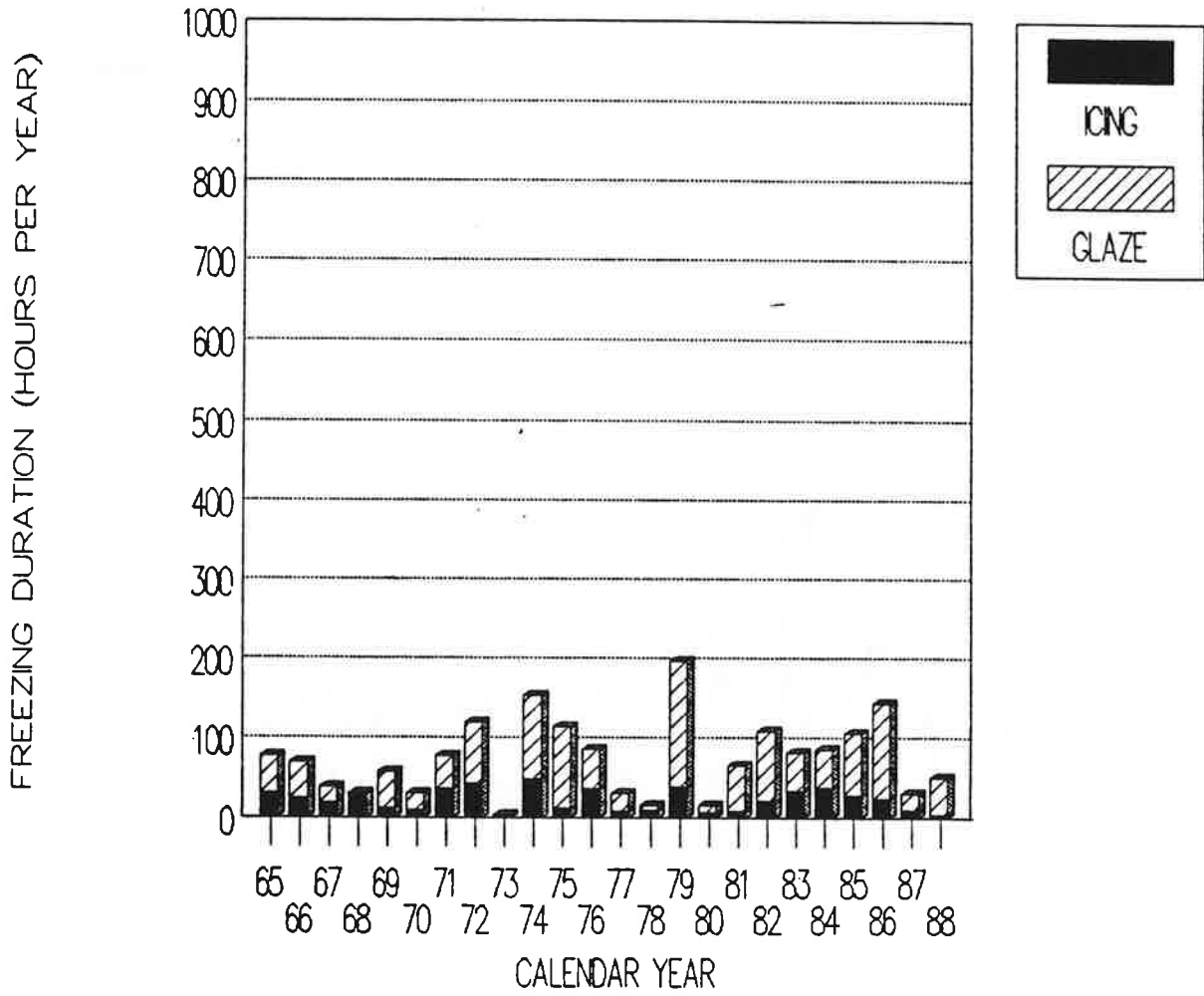
RICHMOND INTERNATIONAL, VA
 FREEZING DURATION 1965-1988



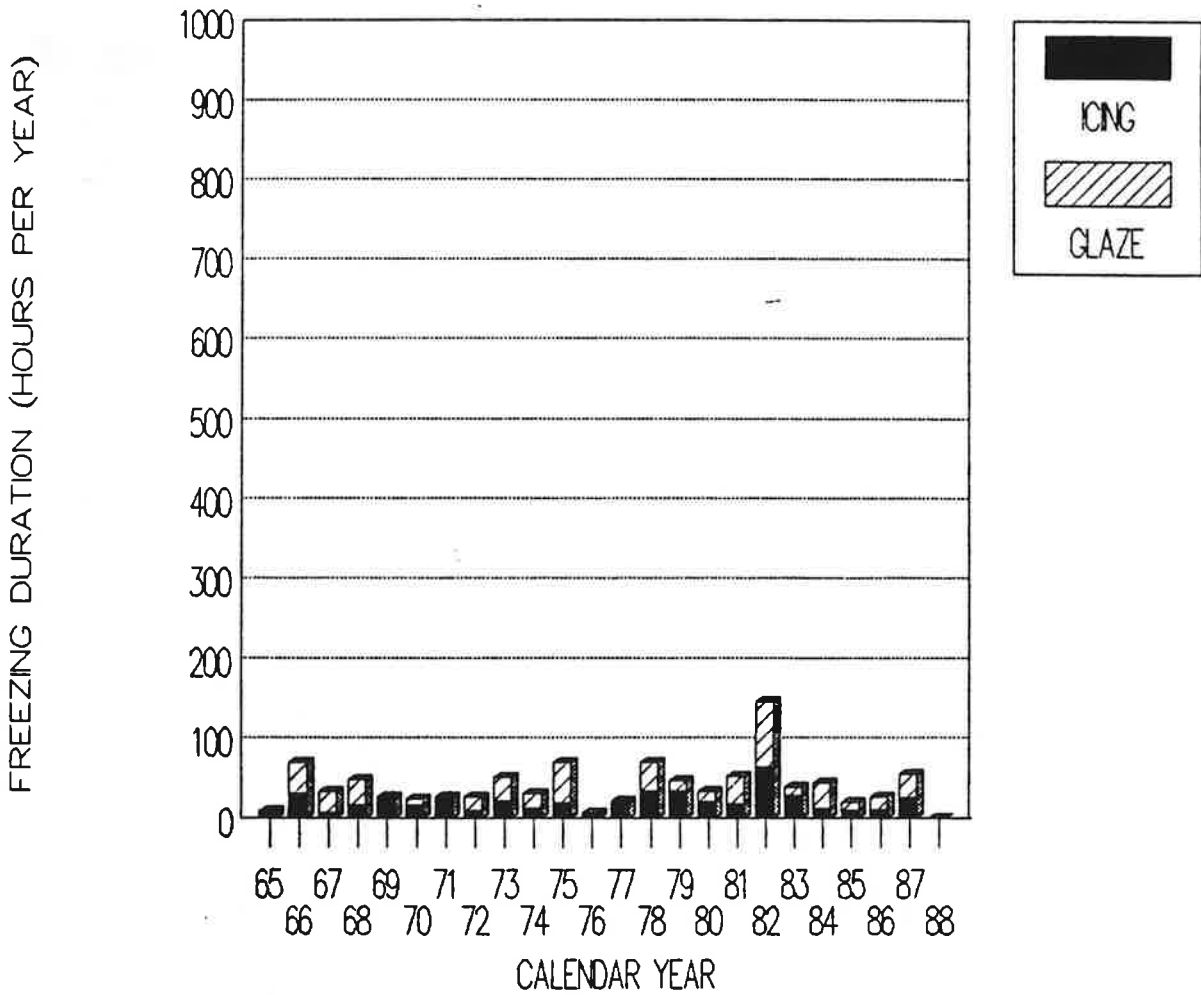
ROCHESTER, MN
 FREEZING DURATION 1965-1988



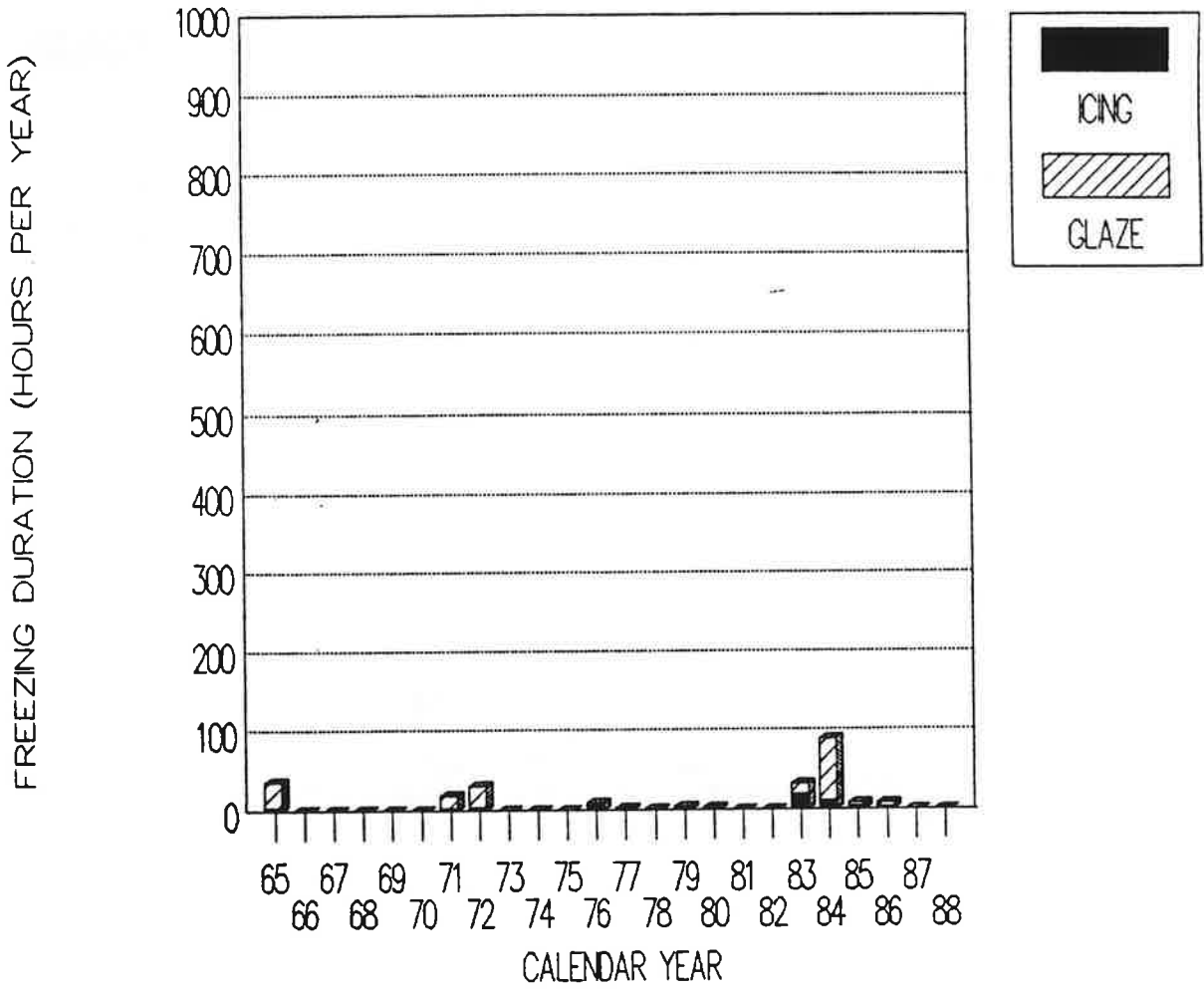
ROCHESTER-MONROE COUNTY, NY
 FREEZING DURATION 1965-1988



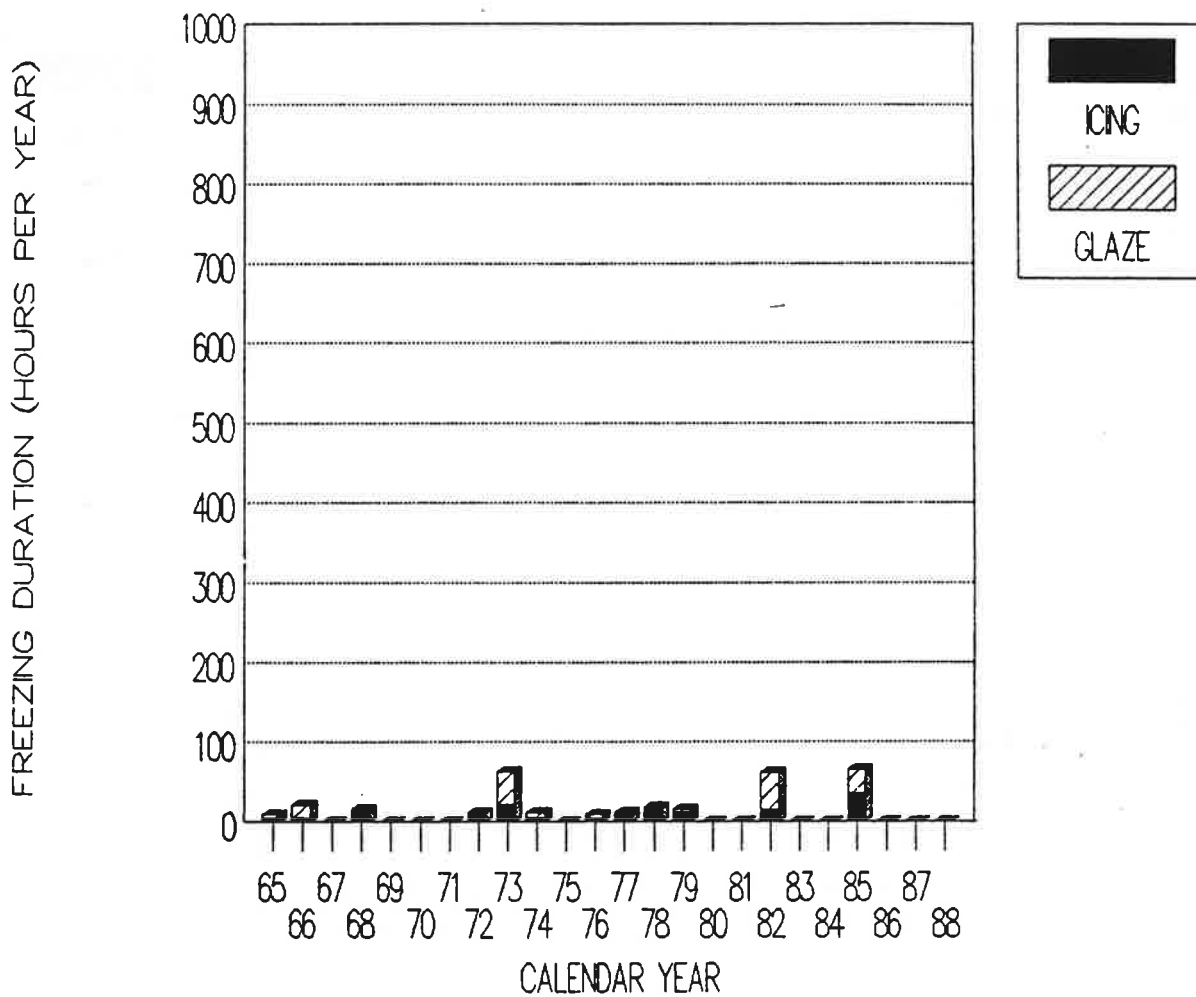
ROANOKE, VA
 FREEZING DURATION 1965-1988



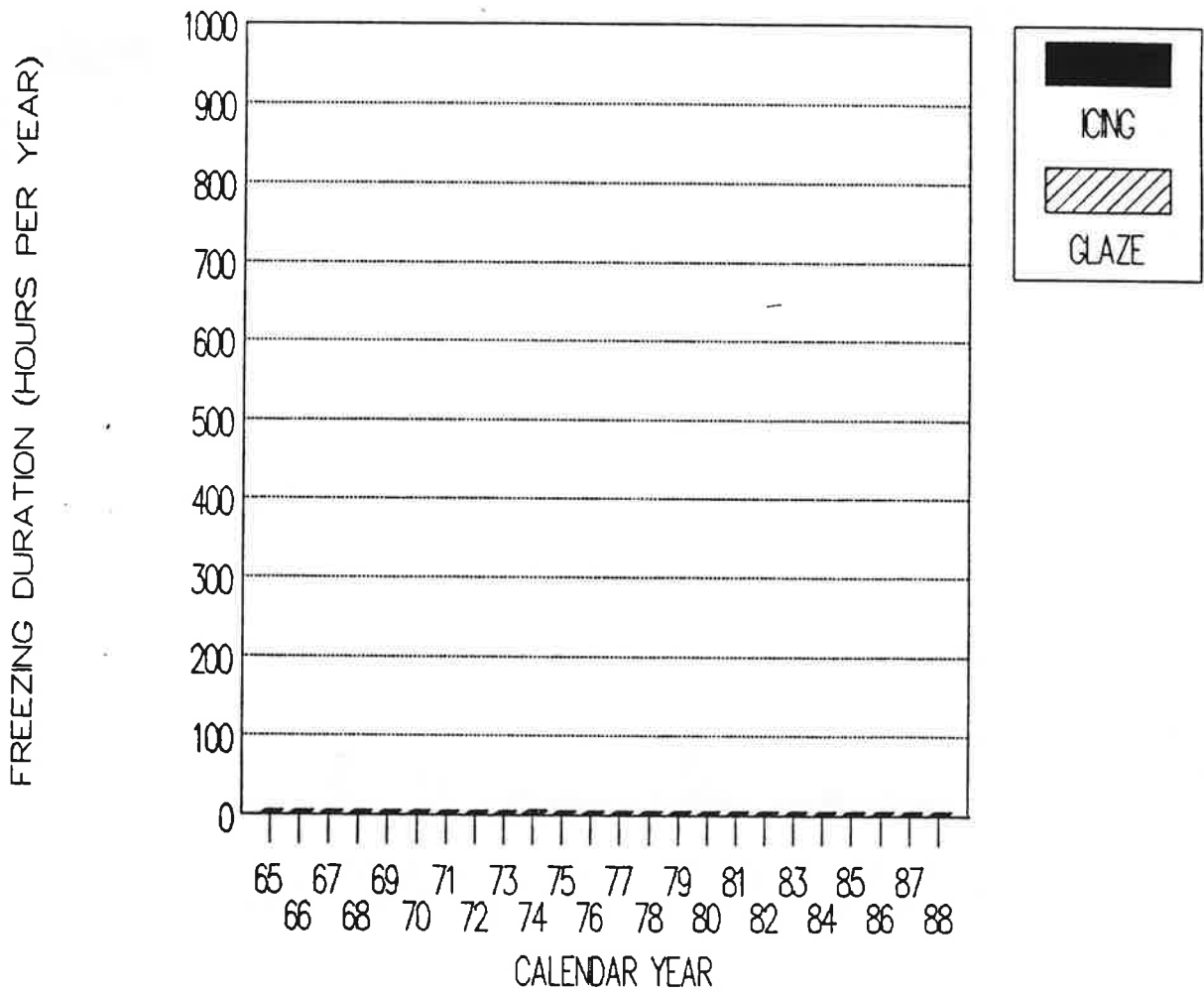
SALT LAKE CITY INTERNATIONAL, UT
 FREEZING DURATION 1965-1988



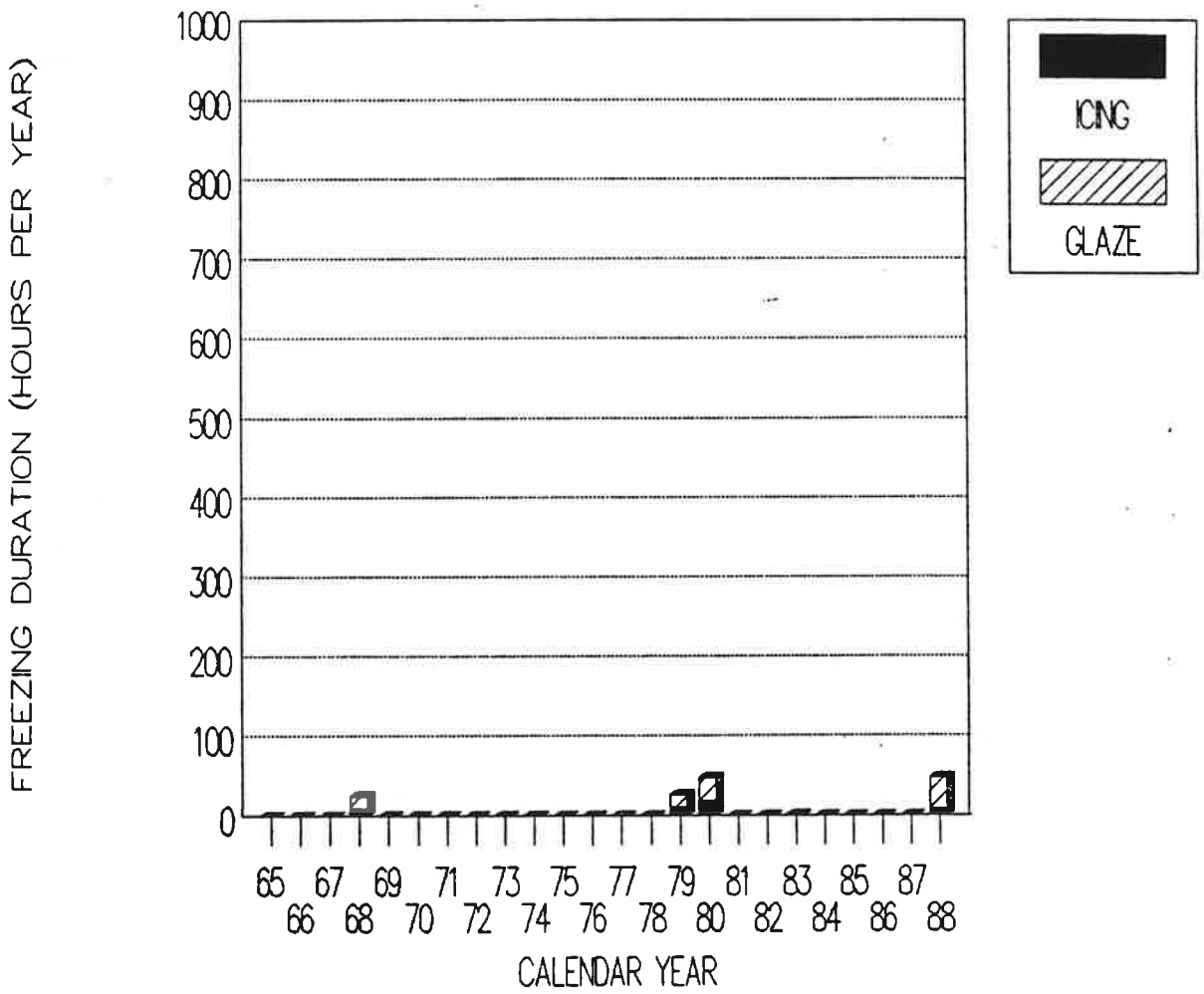
SAN ANTONIO INTERNATIONAL, TX.
FREEZING DURATION 1965-1988



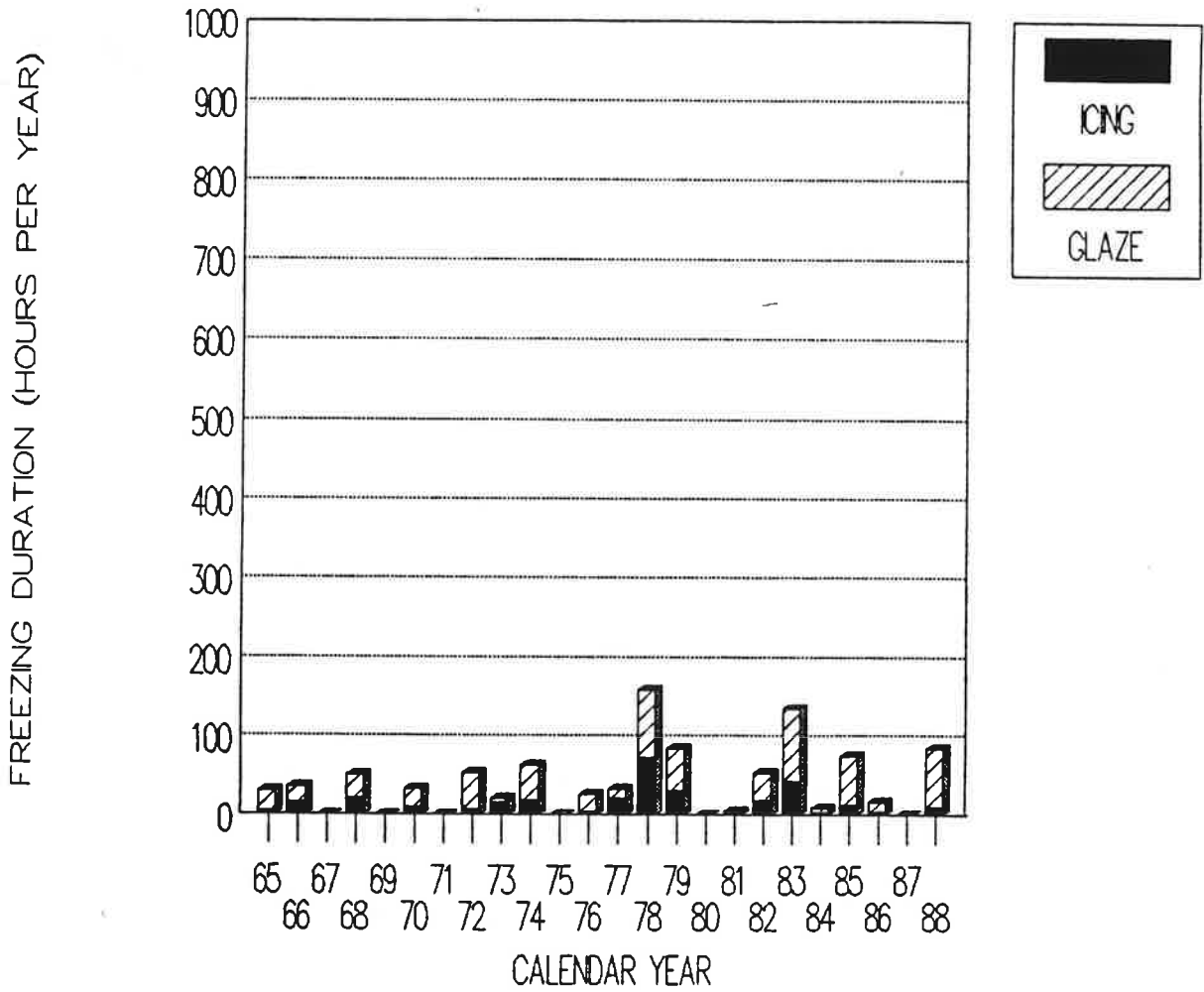
SAN FRANCISCO INTERNATIONAL, CA
FREEZING DURATION 1965-1988



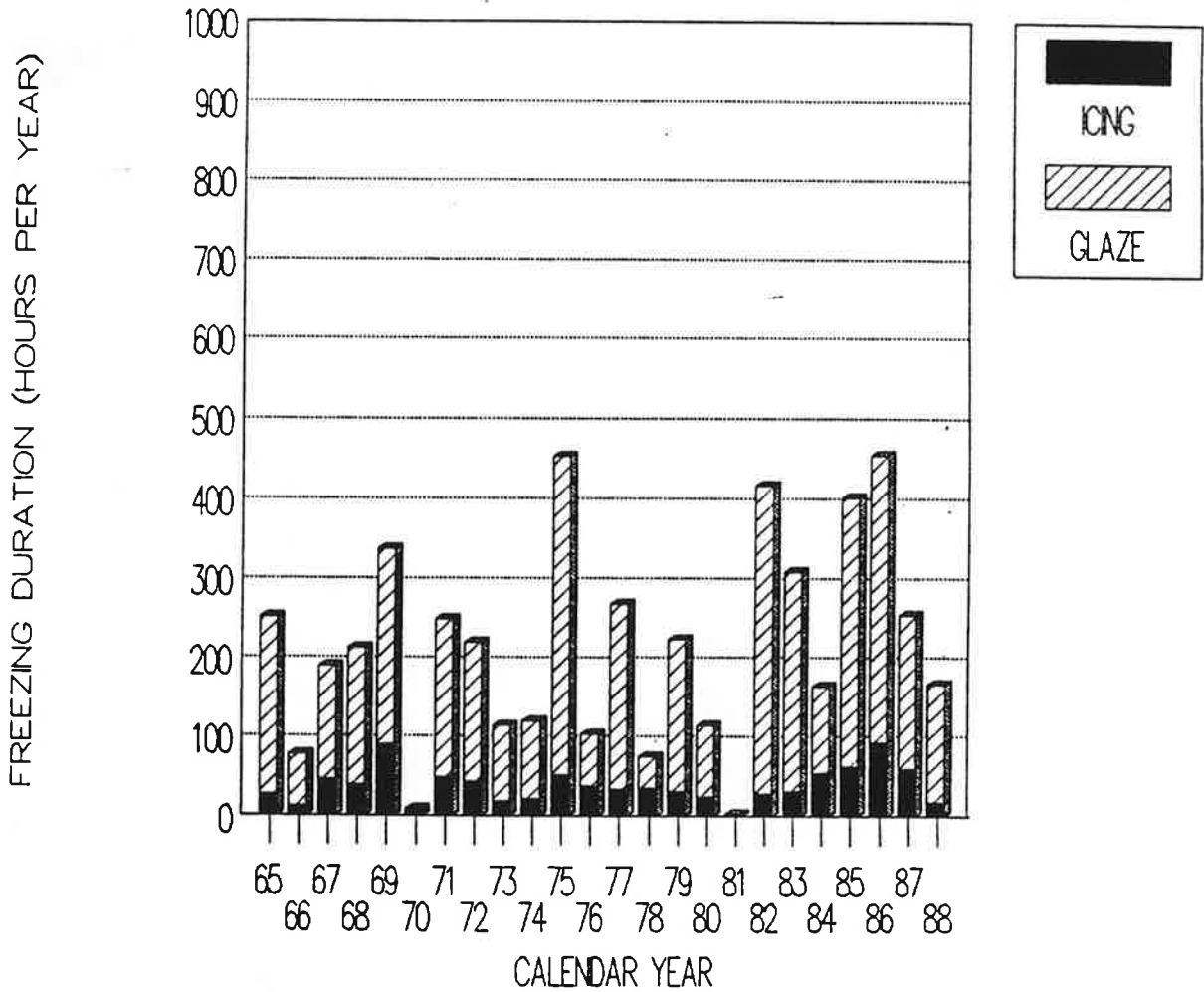
SAVANNAH INTERNATIONAL, GA
FREEZING DURATION 1965-1988



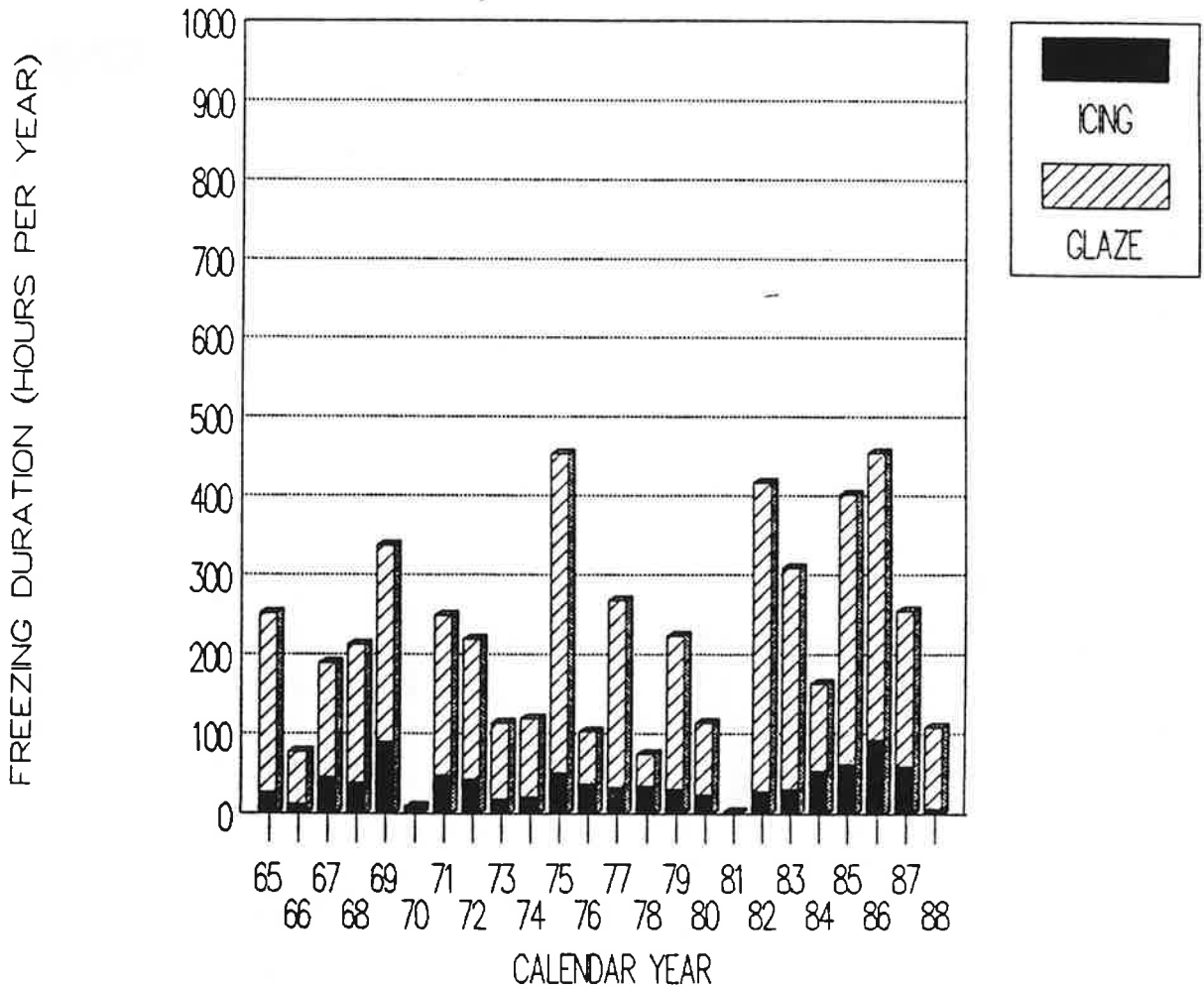
SHREVEPORT, LA
FREEZING DURATION 1965-1988



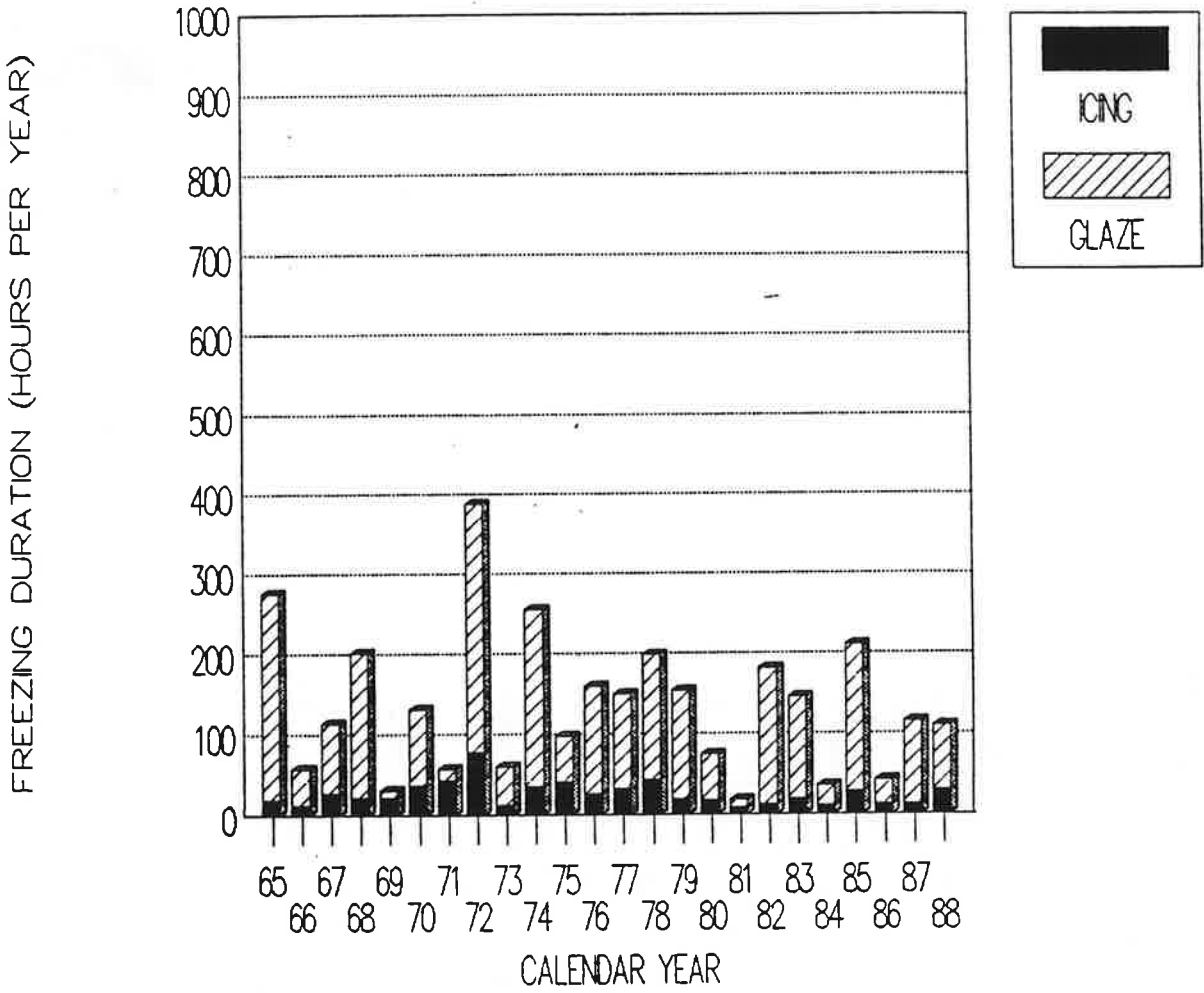
SIOUX CITY, IA
FREEZING DURATION 1965-1988



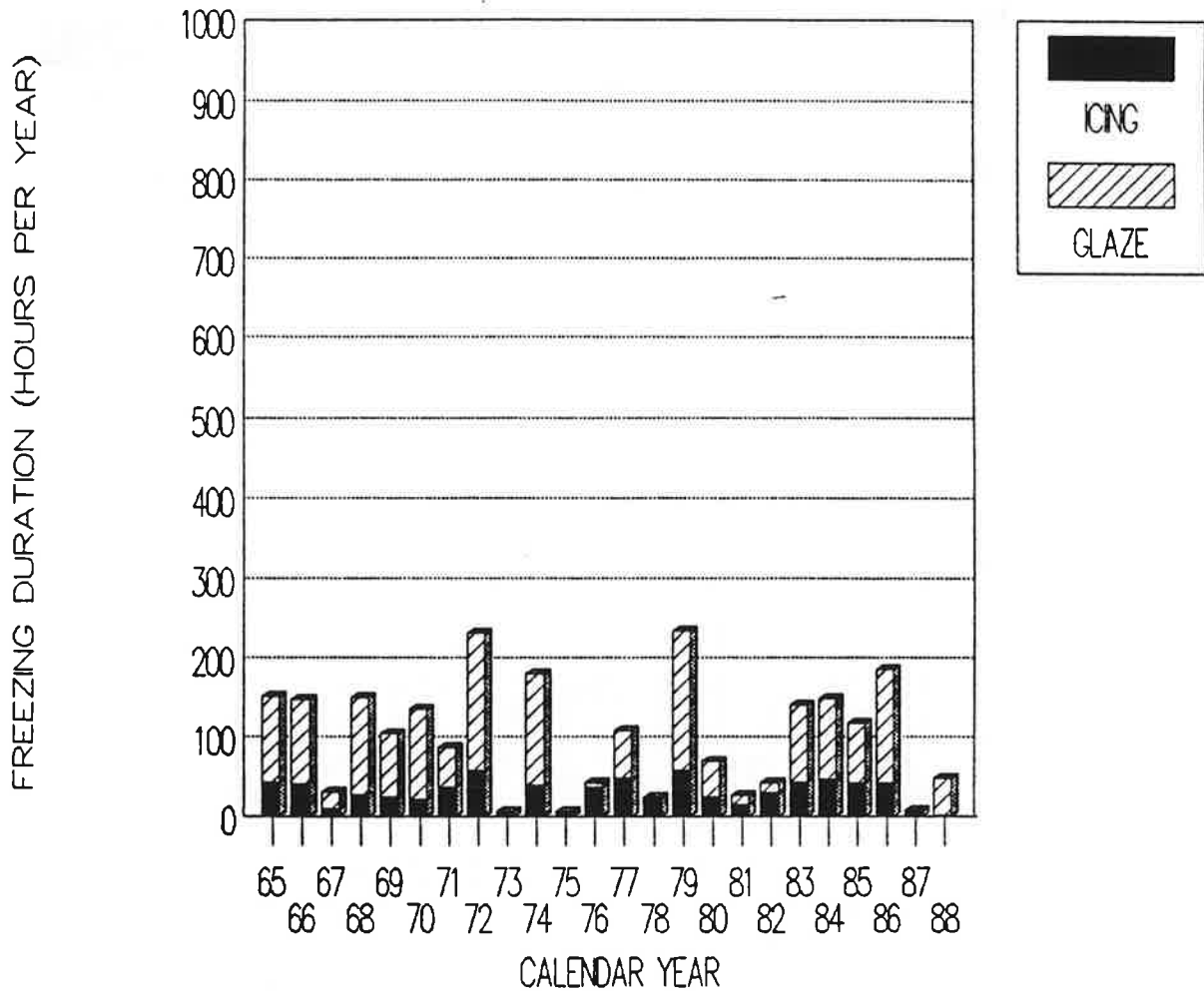
SIOUX FALLS-JOE FOSS FIELD, SD
 FREEZING DURATION 1965-1988



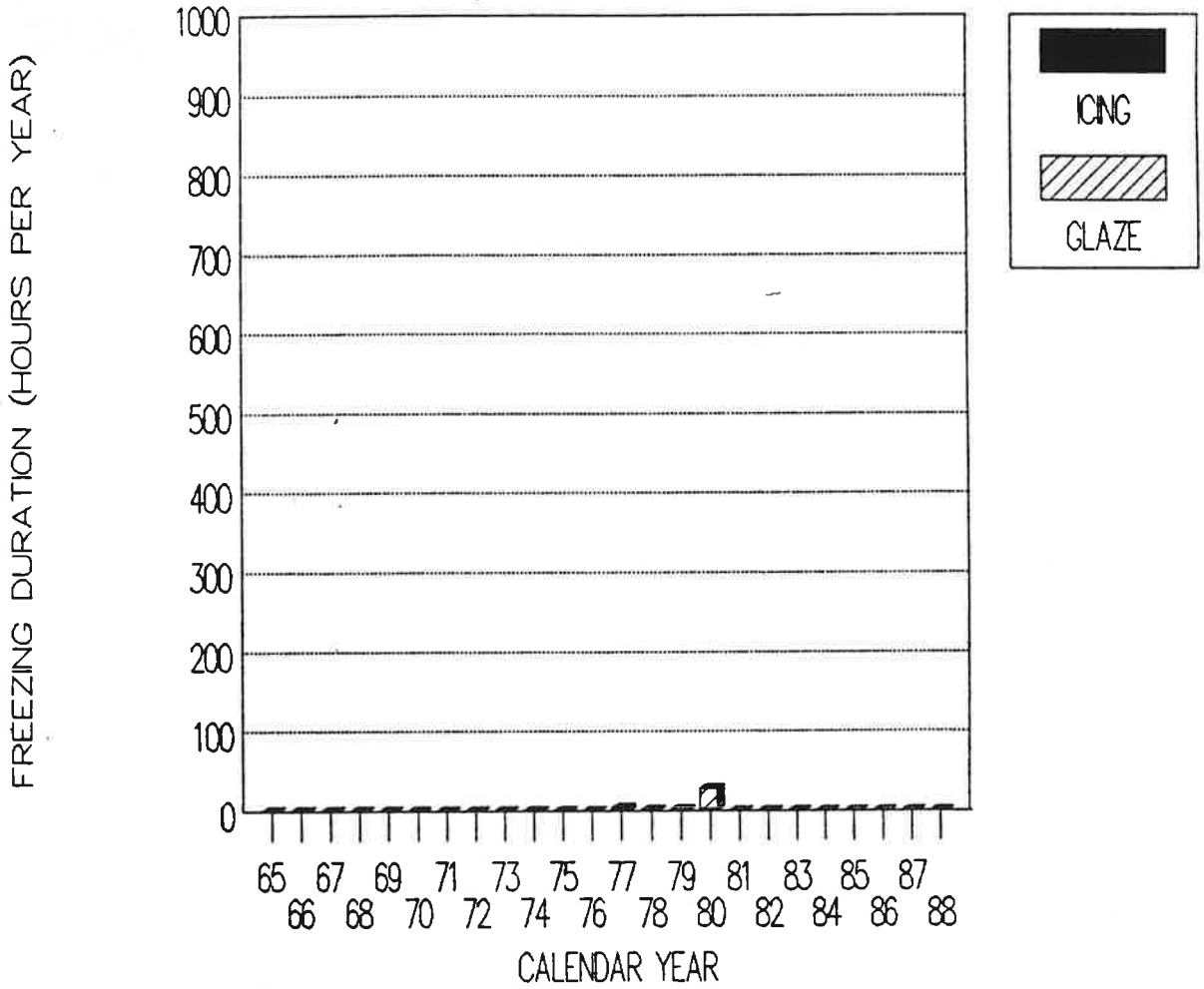
ST. LOUIS INTERNATIONAL, MO
 FREEZING DURATION 1965-1988



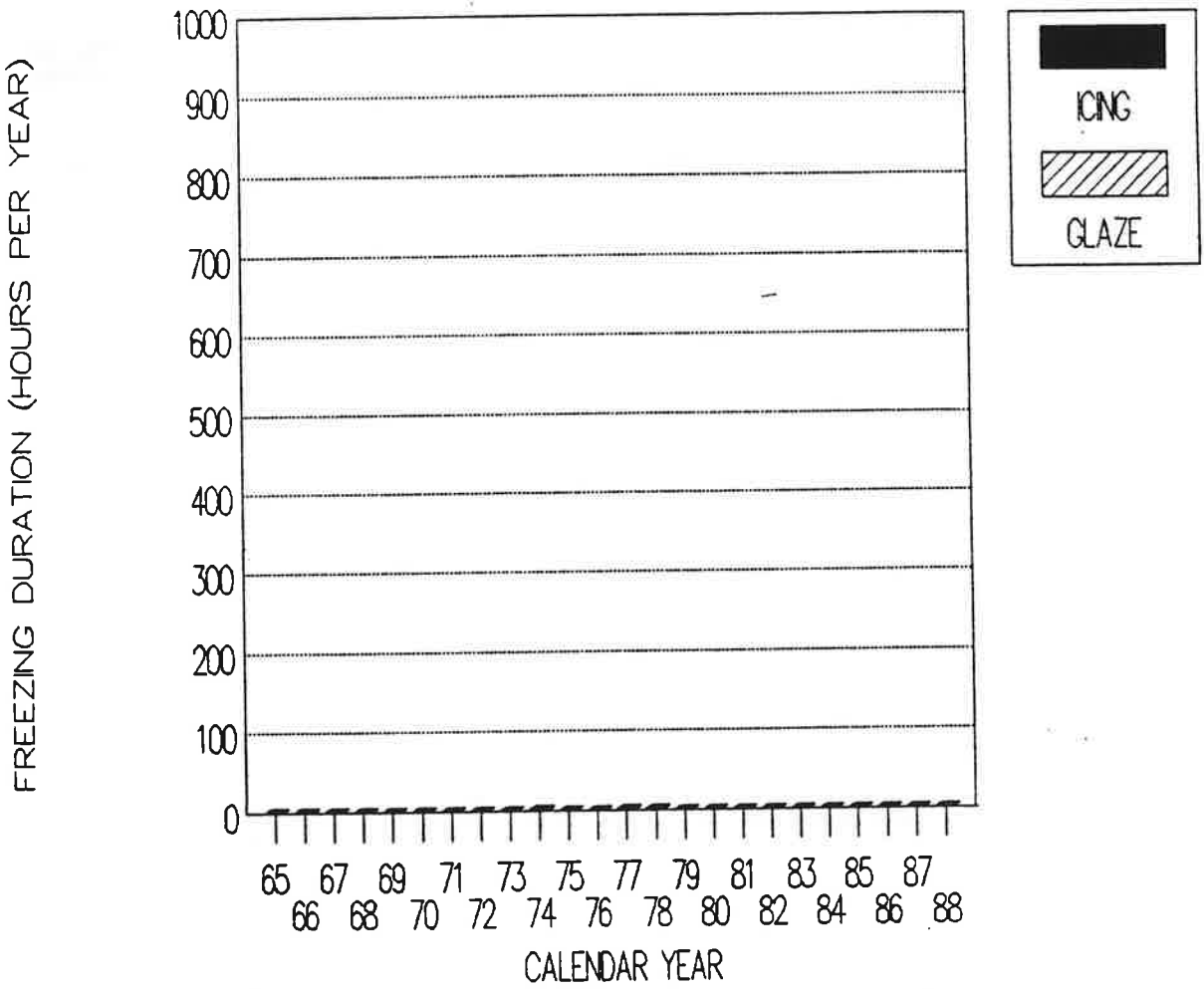
SYRACUSE HANCOCK INTERNATIONAL, NY
 FREEZING DURATION 1965-1988



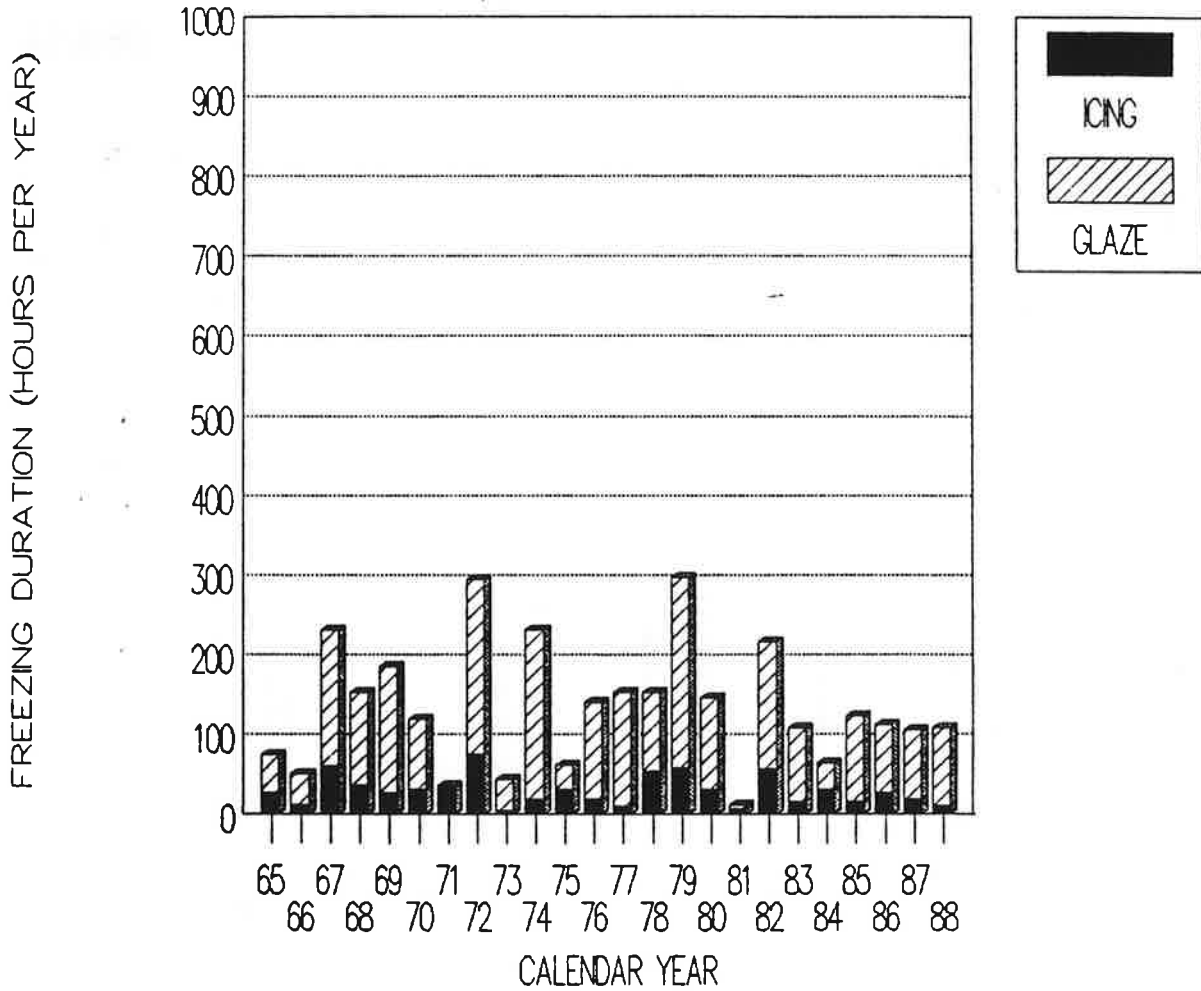
TALLAHASSEE, FL
FREEZING DURATION 1965-1988



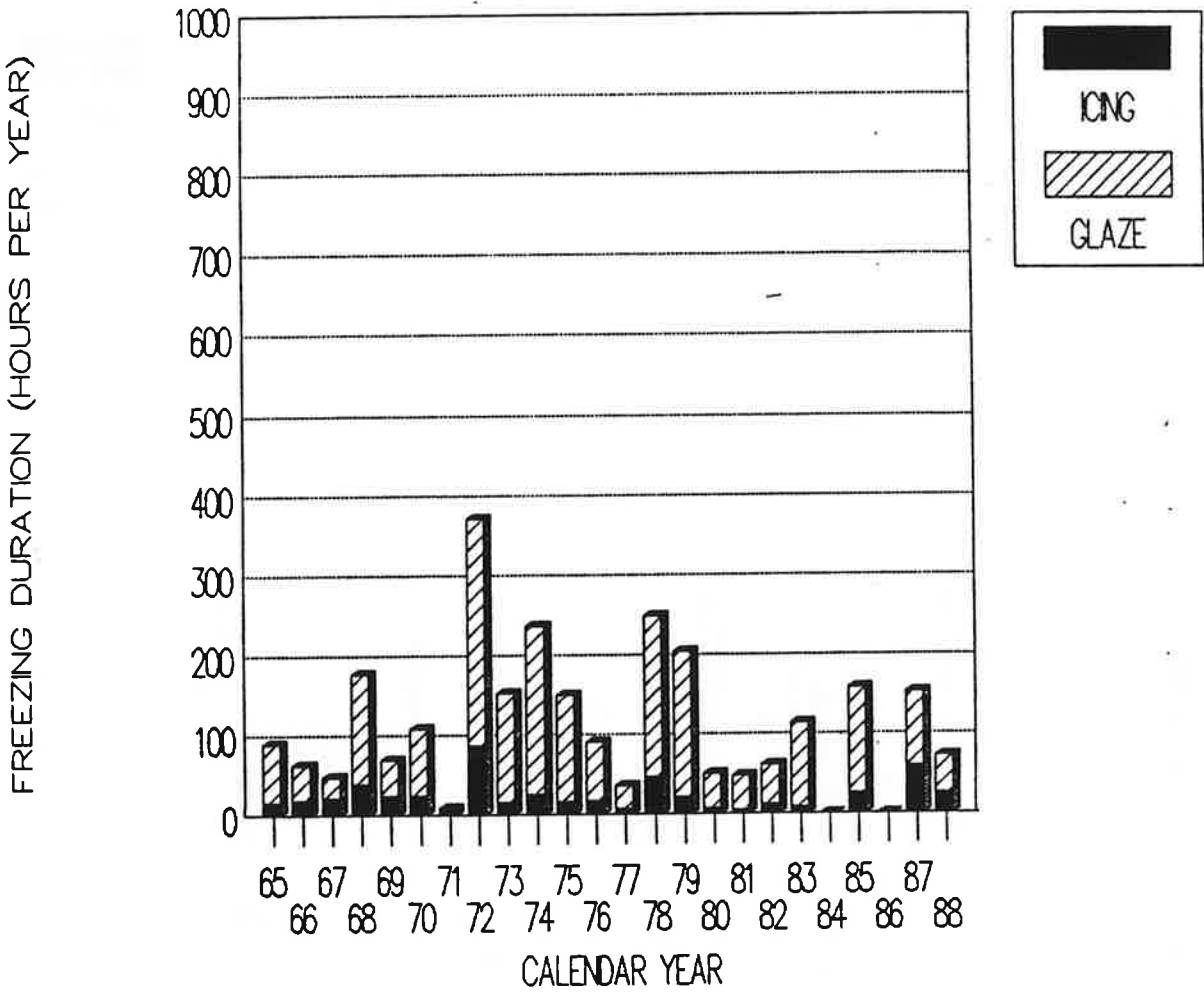
TAMPA INTERNATIONAL, FL
FREEZING DURATION 1965-1988



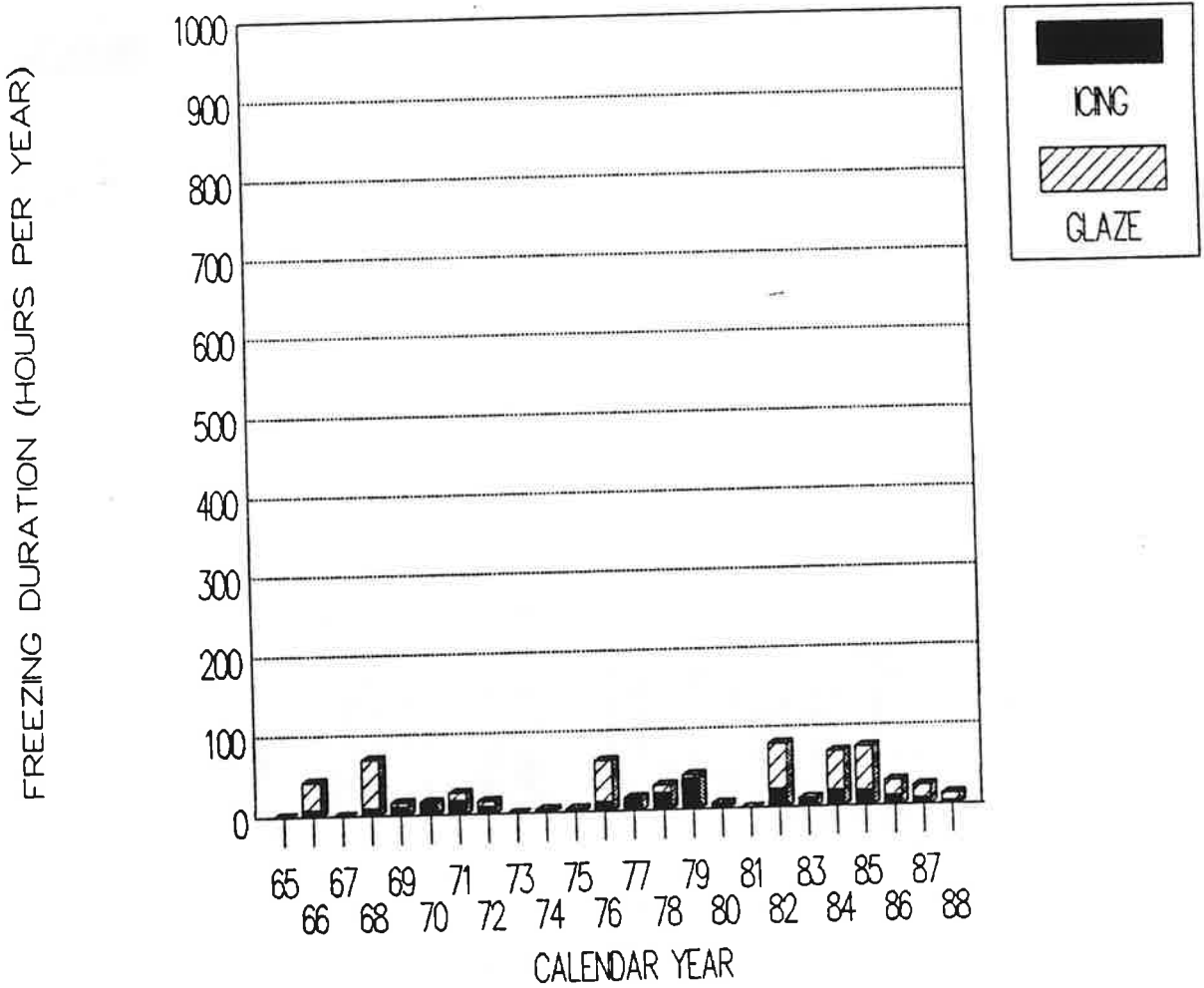
TOLEDO, OH
 FREEZING DURATION 1965-1988



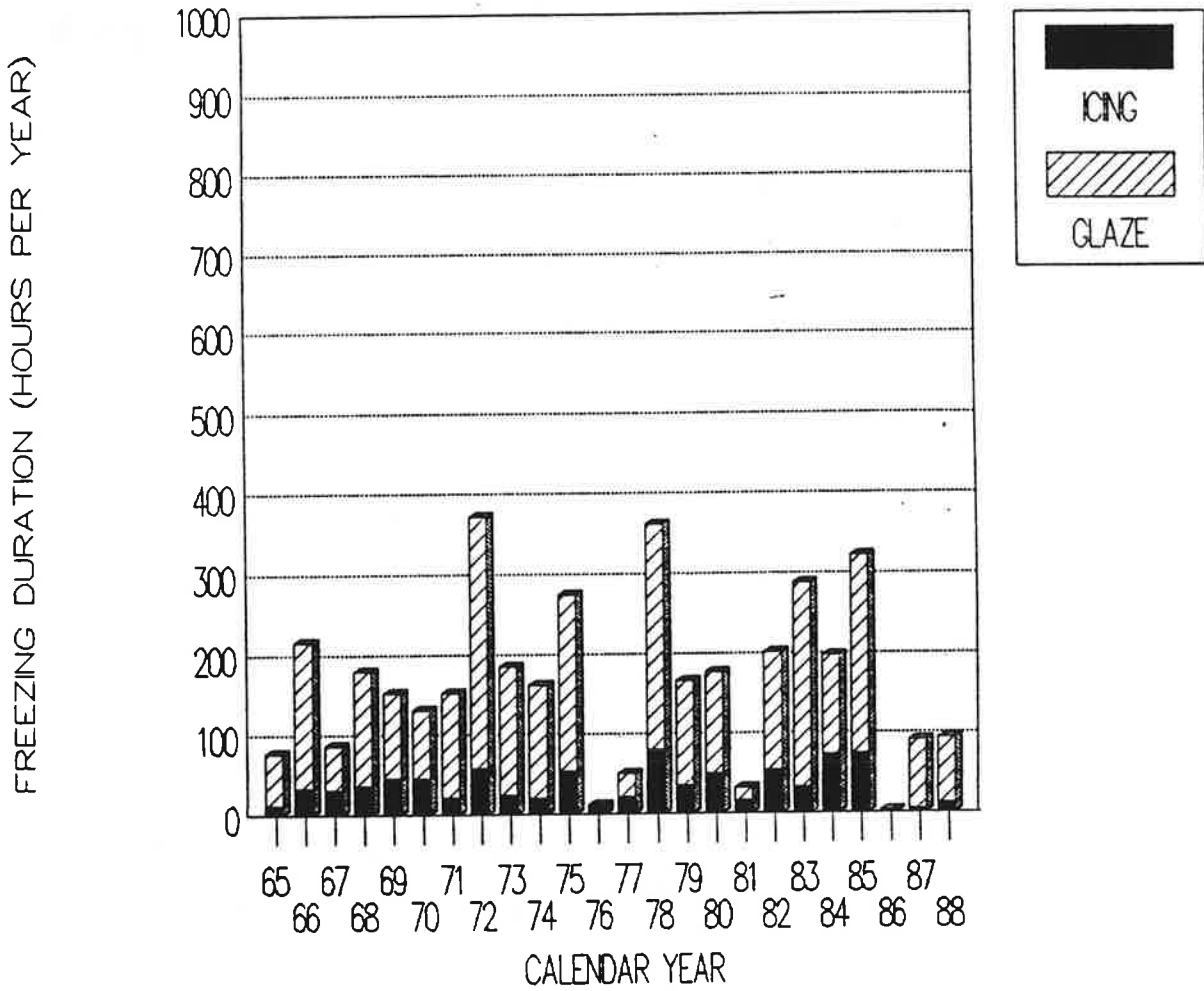
TULSA INTERNATIONAL, OK
FREEZING DURATION 1965-1988



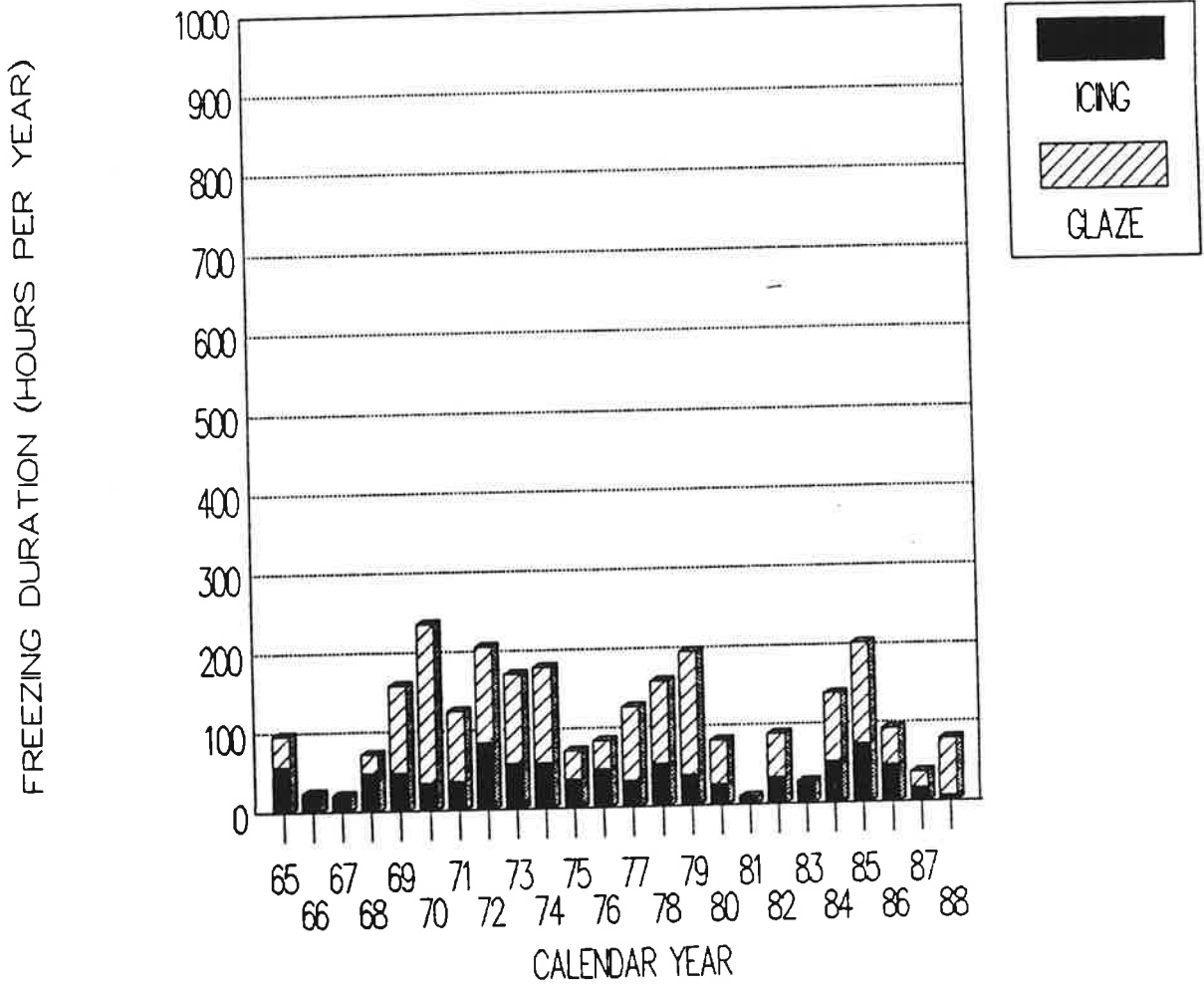
WASHINGTON NATIONAL, DC
FREEZING DURATION 1965-1988



WICHITA MID-CONTINENT, KS
 FREEZING DURATION 1965-1988



WINDSOR LOCKS BRADLEY INTERNATIONAL, CT
 FREEZING DURATION 1965-1988



B-3. DATA TABLES OF ICING AND FREEZING REPORTS

ALBANY COUNTY AIRPORT

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	14	0	0	14	4	0	0	4	13	54	228
1966	2	0	0	2	0	0	0	0	2	6	15
1967	18	0	0	18	9	0	0	9	12	44	61
1968	41	0	0	41	13	0	0	13	21	54	185
1969	24	1	0	25	12	0	0	12	9	37	140
1970	20	0	0	20	5	0	0	5	8	25	203
1971	25	0	0	25	15	0	0	15	15	40	102
1972	35	0	0	35	8	0	0	8	16	43	169
1973	29	0	0	29	5	0	0	5	10	34	107
1974	23	1	0	24	22	0	0	22	24	46	205
1975	4	0	0	4	1	0	0	1	3	15	60
1976	5	0	0	5	5	0	0	5	8	30	117
1977	4	0	0	4	2	0	0	2	5	18	141
1978	4	0	0	4	3	0	0	3	5	21	66
1979	9	0	0	9	6	0	0	6	8	45	153
1980	9	0	0	9	1	0	0	1	6	30	153
1981	20	0	0	20	0	0	0	0	5	20	69
1982	29	2	0	31	13	0	0	13	10	44	97
1983	25	0	0	25	8	0	0	8	12	32	40
1984	31	1	0	32	14	0	0	14	14	46	67
1985	43	0	0	43	36	0	0	36	16	103	206
1986	30	1	0	31	21	0	0	21	12	52	109
1987	1	0	0	1	2	0	0	2	3	3	98
1988	10	0	0	10	2	0	0	2	4	12	62
TOTAL	455	6	0	461	207	0	0	207	241	854	2853
AVERAGE DURATION OF AN ICING EVENT:											
AVERAGE DURATION OF A FREEZING EVENT:											
3.543 HOURS											
11.838 HOURS											

ALBUQUERQUE INTERNATIONAL AIRPORT

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	1	0	0	1	0	0	0	0	1	3	12
1966	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0	0
1974	2	0	0	2	0	0	0	0	1	2	9
1975	0	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0
1978	1	0	0	1	0	0	0	0	1	1	3
1979	0	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0	0
1983	1	0	0	1	0	0	0	0	1	1	6
1984	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0
1986	1	0	0	1	0	0	0	0	1	1	19
1987	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0
TOTAL	6	0	0	6	0	0	0	0	5	8	49

1.6 HOURS
9.8 HOURS

AVERAGE DURATION OF AN ICING EVENT:
AVERAGE DURATION OF A FREEZING EVENT:

ASHEVILLE REGIONAL AIRPORT, NC

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	1	0	0	1	0	0	0	0	1	3	9
1966	8	0	0	8	2	0	0	2	7	30	99
1967	2	0	0	2	0	0	0	0	2	6	6
1968	7	0	0	7	3	0	0	3	4	30	120
1969	7	0	0	7	1	0	0	1	3	24	27
1970	2	0	0	2	2	0	0	2	2	12	60
1971	8	0	0	8	2	0	0	2	5	30	36
1972	1	0	0	1	0	0	0	0	1	3	3
1973	13	0	0	13	0	0	0	0	4	13	60
1974	7	0	0	7	0	0	0	0	4	7	13
1975	9	0	0	9	0	0	0	0	4	9	16
1976	0	0	0	0	3	0	0	3	1	3	3
1977	1	0	0	1	8	0	0	8	3	9	11
1978	9	0	0	9	3	0	0	3	4	12	15
1979	13	0	0	13	2	0	0	2	6	15	19
1980	22	0	0	22	3	0	0	3	9	25	84
1981	17	0	0	17	0	0	0	0	7	17	28
1982	8	0	0	8	1	0	0	1	3	9	18
1983	13	0	0	13	0	0	0	0	4	13	16
1984	4	0	0	4	11	0	0	11	3	15	18
1985	14	0	0	14	3	0	0	3	3	17	23
1986	9	0	0	9	0	0	0	0	3	9	10
1987	3	0	0	3	1	0	0	1	3	4	34
1988	1	0	0	1	0	0	0	0	1	1	2
TOTAL	179	0	0	179	45	0	0	45	88	316	730

AVERAGE DURATION OF AN ICING EVENT: 3.590 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 8.295 HOURS

ATLANTA - HARTSFIELD INTERNATIONAL AIRPORT, GA

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	0	0	0	0	0	0	0	0	0	0	0
1966	14	0	0	14	1	0	0	1	2	15	21
1967	0	0	0	0	0	0	0	0	0	0	0
1968	26	0	0	26	17	0	0	17	8	43	93
1969	12	0	0	12	8	0	0	8	6	20	45
1970	11	0	0	11	10	0	0	10	5	21	63
1971	17	0	0	17	4	0	0	4	9	21	55
1972	0	0	0	0	0	0	0	0	0	0	0
1973	12	0	1	13	11	0	0	11	9	24	88
1974	3	0	0	3	0	0	0	0	1	3	3
1975	0	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0	0
1977	23	0	0	23	3	0	0	3	4	26	37
1978	21	1	1	23	10	0	0	10	5	33	82
1979	12	5	0	17	6	0	0	6	2	23	33
1980	5	0	0	5	13	0	0	13	6	18	57
1981	11	3	0	14	0	0	0	0	3	14	21
1982	24	1	0	25	7	0	0	7	6	32	81
1983	16	0	0	16	10	0	0	10	4	26	33
1984	0	0	0	0	5	0	0	5	2	5	11
1985	2	0	0	2	0	0	0	0	1	2	2
1986	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0
1988	1	0	0	1	2	0	0	2	2	3	52
TOTAL	210	10	2	222	107	0	0	107	75	329	777

AVERAGE DURATION OF AN ICING EVENT: 4.386 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 10.360 HOURS

AUGUSTA - BUSH FIELD, GA

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	0	0	0	0	0	0	0	0	0	0	0
1966	2	0	0	2	0	0	0	0	1	6	6
1967	0	0	0	0	0	0	0	0	0	0	0
1968	5	0	0	5	0	0	0	0	1	15	18
1969	3	0	0	3	0	0	0	0	2	9	9
1970	0	0	0	0	0	0	0	0	0	0	0
1971	2	0	0	2	0	0	0	0	2	6	6
1972	0	0	0	0	0	0	0	0	0	0	0
1973	3	0	0	3	0	0	0	0	2	9	36
1974	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	1	1	0	0	0	0	1	1	1
1976	0	0	0	0	0	0	0	0	0	0	0
1977	1	0	0	1	0	0	0	0	1	1	1
1978	0	0	0	0	0	0	0	0	0	0	0
1979	1	0	0	1	0	0	0	0	1	1	0
1980	0	0	0	0	1	0	0	0	1	3	35
1981	0	0	0	0	0	0	0	0	1	0	0
1982	2	0	0	2	5	0	0	5	4	7	36
1983	7	0	0	7	0	0	0	0	2	7	67
1984	0	0	0	0	0	0	0	0	0	0	7
1985	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0
1988	2	0	0	2	3	0	0	3	2	5	51
TOTAL	28	0	1	29	9	0	0	9	20	70	273

AVERAGE DURATION OF AN ICING EVENT: 3.500 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 13.650 HOURS

AUSTIN - ROBERT MUELLER MUNICIPAL AIRPORT, TX

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	0	0	0	0	1	0	0	1	1	3	12
1966	1	0	0	1	0	0	0	0	1	3	21
1967	0	0	0	0	0	0	0	0	0	0	0
1968	4	1	0	5	0	0	0	0	1	15	21
1969	1	0	0	1	0	0	0	0	1	3	9
1970	2	0	0	2	1	0	0	1	3	9	36
1971	0	0	0	0	0	0	0	0	0	0	0
1972	7	0	0	7	3	0	0	3	2	30	66
1973	9	0	0	9	3	0	0	3	5	12	65
1974	0	0	0	0	7	0	0	7	2	7	36
1975	0	0	0	0	0	0	0	0	0	0	0
1976	3	0	0	3	0	0	0	0	1	3	10
1977	6	0	0	6	0	0	0	0	2	19	20
1978	22	1	0	23	13	0	0	13	11	39	137
1979	1	0	0	1	17	0	0	17	5	21	47
1980	0	0	0	0	20	0	0	20	0	0	0
1981	0	0	0	0	0	0	0	0	0	0	0
1982	6	0	0	6	7	0	0	7	5	13	39
1983	0	0	0	0	6	0	0	6	1	6	13
1984	0	0	0	0	0	0	0	0	0	0	0
1985	4	0	0	4	9	0	0	9	7	13	116
1986	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0
1988	1	0	0	1	0	0	0	1	1	1	4
TOTAL	67	2	0	69	87	0	0	87	49	197	652

AVERAGE DURATION OF AN ICING EVENT: 4.020 HOURS

AVERAGE DURATION OF A FREEZING EVENT: 13.306 HOURS

BALTIMORE - WASHINGTON INTERNATIONAL AIRPORT, MD

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	3	0	0	3	0	0	0	0	2	3	7
1966	8	0	0	8	1	0	0	1	3	9	74
1967	0	0	0	0	0	0	0	0	0	0	0
1968	2	0	0	2	3	0	0	3	2	5	75
1969	5	1	0	6	7	0	0	7	3	15	16
1970	2	0	0	2	1	0	0	1	1	9	12
1971	5	0	0	5	4	0	0	4	4	27	33
1972	4	0	0	4	0	0	0	0	3	12	30
1973	2	0	0	2	0	0	0	0	1	6	51
1974	6	0	0	6	5	0	0	5	7	33	69
1975	11	0	0	11	4	0	0	4	5	15	15
1976	4	0	0	4	1	0	0	1	5	5	81
1977	9	0	0	9	3	0	0	3	3	12	24
1978	9	0	0	9	14	0	0	14	9	23	61
1979	23	0	0	23	22	0	0	22	10	45	146
1980	2	0	0	2	3	0	0	3	3	15	18
1981	0	0	0	0	0	0	0	0	0	0	0
1982	11	0	0	11	18	0	0	18	8	28	93
1983	9	0	0	9	7	0	0	7	4	15	19
1984	15	0	0	15	10	0	0	10	4	24	76
1985	13	0	0	13	7	0	0	7	5	27	45
1986	5	0	0	5	12	0	0	12	4	17	37
1987	3	2	0	5	3	0	0	3	3	8	30
1988	0	0	0	0	0	0	0	0	0	0	0
TOTAL	151	3	0	154	125	0	0	125	89	353	1012

AVERAGE DURATION OF AN ICING EVENT: 3.966 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 11.370 HOURS

BATON ROUGE METROPOLITAN AIRPORT, LA

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0
1968	3	0	0	3	0	0	0	0	2	9	18
1969	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0
1971	2	0	0	2	1	0	0	1	1	6	6
1972	0	0	0	0	0	0	0	0	0	0	0
1973	17	0	0	17	1	0	0	1	5	18	49
1974	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0	0
1976	2	0	0	2	0	0	0	0	1	2	14
1977	3	0	0	3	0	0	0	0	1	3	3
1978	0	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	19	36
1982	19	0	0	19	0	0	0	0	3	0	0
1983	0	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	0	0
1985	4	0	0	4	2	0	0	2	2	6	42
1986	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0
TOTAL	50	0	0	50	4	0	0	4	15	63	168

AVERAGE DURATION OF AN ICING EVENT: 4.200 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 11.200 HOURS

BILLINGS LOGAN AIRPORT, MT

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	0	0	0	0	6	0	0	6	2	18	21
1966	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	2	0	0	2	2	6	57
1968	10	0	0	10	1	0	0	11	4	33	69
1969	2	0	0	2	0	0	0	2	2	6	18
1970	1	0	0	1	6	0	0	7	4	21	81
1971	0	0	0	0	0	0	0	0	0	0	0
1972	1	0	0	1	5	0	0	6	5	18	123
1973	0	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0	0
1975	1	0	0	1	9	0	0	10	5	30	216
1976	0	0	0	0	0	0	0	0	0	0	0
1977	2	0	0	2	0	0	0	2	1	6	6
1978	0	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0	0
1980	3	0	0	3	1	0	0	4	4	12	141
1981	0	0	0	0	3	0	0	3	1	9	54
1982	0	0	0	0	8	0	0	8	2	8	61
1983	1	0	0	1	13	0	0	14	4	14	75
1984	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	1	0	0	1	1	1	48
1986	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0
TOTAL	21	0	0	21	55	0	0	55	37	182	970

AVERAGE DURATION OF AN ICING EVENT: 4.918 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 26.216 HOURS

BIRMINGHAM MUNICIPAL AIRPORT, AL

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0
1967	1	0	0	1	0	0	0	0	1	3	39
1968	3	0	0	3	0	0	0	0	1	9	9
1969	0	0	0	0	0	0	0	0	0	0	0
1970	2	0	0	2	0	0	0	0	2	6	9
1971	2	0	0	2	3	0	0	3	1	15	15
1972	0	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0	0
1976	1	0	0	1	1	0	0	1	1	6	36
1977	0	0	0	0	0	0	0	0	0	0	0
1978	10	0	0	10	1	0	0	1	4	11	62
1979	0	1	0	1	4	0	0	4	2	5	5
1980	1	0	0	1	1	0	0	1	2	6	78
1981	2	0	0	2	0	0	0	2	2	2	2
1982	7	1	0	8	0	0	0	0	2	8	8
1983	6	0	0	6	1	0	0	1	4	7	67
1984	0	0	0	0	0	0	0	0	0	0	0
1985	3	0	0	3	1	0	0	1	2	4	57
1986	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0
1988	2	0	0	2	5	0	0	2	2	7	54
TOTAL	40	2	0	42	17	0	0	17	25	89	441

AVERAGE DURATION OF AN ICING EVENT: 3.560 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 17.640 HOURS

BOSTON - LOGAN INTERNATIONAL AIRPORT, MA

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	4	0	0	4	5	0	0	5	6	27	57
1966	0	0	0	0	0	0	0	0	0	0	0
1967	1	0	0	1	0	0	0	0	0	3	6
1968	1	0	0	1	0	0	0	0	1	3	3
1969	14	0	0	14	6	0	0	6	6	20	122
1970	13	6	0	19	5	0	0	5	15	24	199
1971	15	1	0	16	6	0	0	6	10	22	91
1972	20	0	0	20	26	0	0	26	15	44	160
1973	15	1	0	16	4	0	0	4	7	20	22
1974	20	0	0	20	8	0	0	8	4	28	87
1975	6	0	0	6	1	0	0	1	4	7	25
1976	1	0	0	1	8	0	0	8	5	9	40
1977	5	0	0	5	15	0	0	15	3	18	42
1978	9	0	0	9	18	0	0	18	8	27	108
1979	9	0	0	9	0	0	0	0	4	9	18
1980	3	0	0	3	17	0	0	17	7	20	31
1981	8	0	0	8	2	0	0	2	3	10	66
1982	8	0	0	8	7	0	0	7	5	15	88
1983	1	0	0	1	1	0	0	1	2	2	49
1984	10	0	0	10	28	0	0	28	12	35	107
1985	10	0	0	10	14	0	0	14	10	22	41
1986	9	0	0	9	4	0	0	4	4	12	44
1987	1	0	0	1	0	0	0	0	1	1	2
1988	4	0	0	4	1	0	0	1	1	4	23
TOTAL	187	8	0	195	176	0	0	176	134	382	1431

AVERAGE DURATION OF AN ICING EVENT: 2.850 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 10.679 HOURS

BRISTOL - TRI-CITY REGIONAL AIRPORT, TN

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	1	0	0	1	0	0	0	0	1	3	48
1966	2	0	0	2	0	0	0	0	2	6	6
1967	0	0	0	0	0	0	0	0	0	0	0
1968	14	0	0	14	1	0	0	1	6	15	35
1969	1	0	0	1	0	0	0	0	1	1	36
1970	6	0	0	6	12	0	0	12	2	18	70
1971	6	0	0	6	1	0	0	1	3	7	20
1972	0	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	1	0	0	1	1	3	48
1976	0	0	0	0	0	0	0	0	0	0	0
1977	1	0	0	1	0	0	0	0	1	0	0
1978	4	0	0	4	1	0	0	1	2	6	39
1979	0	0	0	0	3	0	0	3	4	21	111
1980	0	0	0	0	1	0	0	1	1	3	6
1981	1	0	0	1	0	0	0	0	1	3	48
1982	4	0	0	4	1	0	0	1	3	7	59
1983	6	0	0	6	11	0	0	11	6	16	77
1984	3	0	0	3	10	0	0	10	2	13	60
1985	0	0	0	0	3	0	0	3	1	3	50
1986	7	0	0	7	0	0	0	0	2	7	8
1987	8	0	0	8	1	0	0	1	4	9	82
1988	2	0	0	2	0	0	0	0	1	2	4
1988	3	0	0	3	1	0	0	1	3	4	53
TOTAL	69	0	0	69	47	0	0	47	46	147	860

AVERAGE DURATION OF AN ICING EVENT: 3.195 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 18.695 HOURS

BUFFALO - GREATER BUFFALO AIRPORT, NY

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	34	0	0	34	0	0	0	0	13	34	172
1966	9	0	0	9	8	0	0	8	9	23	166
1967	9	0	0	9	0	0	0	0	6	27	72
1968	11	0	0	11	2	0	0	2	6	39	129
1969	1	0	0	1	2	0	0	0	2	6	51
1970	12	0	0	12	5	0	0	5	6	17	162
1971	27	2	0	29	4	0	0	4	9	33	96
1972	26	0	0	26	21	0	0	21	17	45	276
1973	7	0	0	7	3	0	0	3	4	9	61
1974	18	0	0	18	17	0	0	17	11	33	190
1975	3	0	0	3	4	0	0	4	5	7	107
1976	28	2	0	30	4	0	0	4	9	34	41
1977	7	0	0	7	4	0	0	4	9	27	182
1978	17	0	0	17	20	0	0	20	9	41	151
1979	18	1	0	19	24	0	0	24	14	64	336
1980	8	1	0	9	46	0	0	46	18	16	58
1981	2	0	0	2	8	0	0	8	7	5	26
1982	13	1	0	14	3	0	0	3	4	16	28
1983	24	0	0	24	2	0	0	2	6	38	256
1984	11	0	0	11	14	0	0	14	13	22	54
1985	24	2	0	26	12	0	0	12	7	52	247
1986	15	1	0	16	26	0	0	26	19	31	227
1987	8	0	0	8	16	0	0	16	14	14	56
1988	3	0	0	3	6	0	0	6	8	14	81
TOTAL	335	9	0	344	246	0	0	246	218	636	3225

AVERAGE DURATION OF AN ICING EVENT: 2.917 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 14.793 HOURS

CHARLESTON AIRPORT, SC

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0
1968	2	0	0	2	4	0	0	4	3	18	27
1969	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0	0
1973	17	0	0	17	6	0	0	6	5	23	85
1974	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0	0
1979	12	2	0	14	1	0	0	1	3	15	37
1980	1	0	0	1	9	0	0	9	4	10	51
1981	0	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0	0
1983	8	0	0	8	0	0	0	0	3	8	12
1984	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0
1988	12	0	0	12	5	0	0	5	6	17	50
TOTAL	52	2	0	54	25	0	0	25	24	91	262

AVERAGE DURATION OF AN ICING EVENT: 3.791 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 10.916 HOURS

CHARLOTTE - DOUGLAS INTERNATIONAL AIRPORT, NC

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	0	0	0	0	0	0	0	0	0	0	0
1966	4	0	0	4	2	0	0	2	4	18	81
1967	1	0	0	1	0	0	0	1	1	3	6
1968	10	0	0	10	2	0	0	2	5	33	102
1969	3	0	0	3	5	0	0	5	3	24	48
1970	3	0	0	3	2	0	0	2	4	15	39
1971	15	0	0	15	5	0	0	5	8	60	87
1972	1	0	0	1	0	0	0	0	1	3	12
1973	8	0	0	8	4	0	0	4	5	12	41
1974	10	0	0	10	0	0	0	0	4	10	16
1975	20	0	0	20	0	0	0	0	4	20	26
1976	1	0	0	1	2	0	0	2	3	3	4
1977	4	0	0	4	6	0	0	6	4	10	30
1978	10	1	0	11	12	0	0	12	8	23	28
1979	21	1	0	22	5	0	0	5	2	27	57
1980	15	0	0	15	6	0	0	6	7	21	36
1981	8	0	0	8	0	0	0	0	4	8	9
1982	18	0	0	18	8	0	0	8	8	26	67
1983	47	0	0	47	2	0	0	2	9	49	57
1984	13	0	0	13	1	0	0	1	1	14	16
1985	28	0	0	28	4	0	0	4	5	32	34
1986	0	0	0	0	0	0	0	0	0	0	0
1987	5	0	0	5	7	0	0	7	5	12	47
1988	16	0	0	16	1	0	0	1	2	17	19
TOTAL	261	2	0	263	74	0	0	74	97	440	862

AVERAGE DURATION OF AN ICING EVENT: 4.536 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 8.886 HOURS

CHATANOOGA - LOVELL FIELD AIRPORT, TN

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	3	0	0	3	0	0	0	0	1	9	9
1966	4	0	0	4	0	0	0	0	2	12	57
1967	2	0	0	2	0	0	0	0	2	6	42
1968	4	0	0	4	0	0	0	0	2	12	60
1969	0	0	0	0	0	0	0	0	0	0	0
1970	2	0	0	2	0	0	0	0	1	6	27
1971	2	0	0	2	2	0	0	0	4	12	39
1972	1	0	0	1	0	0	0	0	1	3	30
1973	7	0	0	7	1	0	0	0	2	24	69
1974	2	0	0	2	0	0	0	0	1	6	6
1975	0	0	0	0	0	0	0	0	0	0	0
1976	1	0	0	1	1	0	0	0	2	2	56
1977	1	0	0	1	4	0	0	0	1	5	8
1978	21	2	0	23	2	0	0	0	6	25	86
1979	12	0	0	12	1	0	0	0	2	13	14
1980	18	1	0	19	5	0	0	0	5	24	82
1981	11	0	0	11	0	0	0	0	3	11	11
1982	7	0	0	7	8	0	0	0	2	15	15
1983	17	0	0	17	2	0	0	0	3	19	30
1984	0	0	0	0	0	0	0	0	0	0	0
1985	5	0	0	5	0	0	0	0	1	5	14
1986	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0
1988	2	0	0	2	3	0	0	0	3	5	56
TOTAL	122	3	0	125	29	0	0	29	44	214	711

AVERAGE DURATION OF AN ICING EVENT: 4.863 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 16.159 HOURS

CHICAGO - O'HARE INTERNATIONAL AIRPORT, IL

YEAR	ZR-	ZR	ZR+	ZR HOURS	ZL-	ZL	ZL+	ZL HOURS	# EVENTS	ICING HOURS	FREEZING HOURS
1965	7	0	0	7	6	0	0	6	4	39	135
1966	3	0	0	3	3	0	0	3	4	10	42
1967	1	0	0	1	5	0	0	5	5	18	27
1968	1	0	0	1	13	0	0	13	7	14	123
1969	11	0	0	11	20	0	0	20	10	35	293
1970	1	0	0	1	4	0	0	4	3	12	57
1971	3	0	0	3	12	0	0	12	6	42	147
1972	4	0	0	4	13	0	0	13	11	51	258
1973	3	0	0	3	6	0	0	6	2	8	8
1974	0	0	0	0	5	0	0	5	2	5	5
1975	2	0	0	2	7	0	0	7	6	9	22
1976	4	0	0	4	23	0	0	23	7	27	102
1977	4	0	0	4	15	0	0	15	4	19	116
1978	17	0	0	17	51	0	0	51	17	66	268
1979	3	0	0	3	28	0	0	28	10	31	280
1980	2	0	0	2	9	0	0	9	5	11	45
1981	0	0	0	0	2	0	0	2	1	2	29
1982	14	0	0	14	5	0	0	5	8	19	79
1983	1	0	0	1	0	0	0	0	1	1	1
1984	11	0	0	11	13	0	0	13	11	24	169
1985	7	0	0	7	3	0	0	3	3	10	57
1986	5	0	0	5	2	0	0	2	4	7	71
1987	2	0	0	2	8	0	0	8	4	10	74
1988	2	0	0	2	1	0	0	1	3	3	85
TOTAL	108	0	0	108	254	0	0	254	138	473	2493

AVERAGE DURATION OF AN ICING EVENT:
 AVERAGE DURATION OF A FREEZING EVENT:

3.427
 18.065

CLEVELAND - HOPKINS INTERNATIONAL AIRPORT, OH

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL #	EVENTS	ICING HOURS	FREEZING HOURS
1965	0	0	0	0	4	1	0	5	3	15	102
1966	1	0	0	1	2	0	0	2	3	9	54
1967	2	0	0	2	3	0	0	3	5	15	75
1968	8	0	0	8	2	0	0	2	7	30	219
1969	6	0	0	6	8	0	0	8	9	14	140
1970	4	0	0	4	11	0	0	11	6	15	171
1971	5	0	0	5	13	0	0	13	6	18	93
1972	12	0	0	12	12	0	0	12	6	24	144
1973	0	0	0	0	0	0	0	0	0	0	0
1974	7	0	0	7	8	0	0	8	4	15	160
1975	7	0	0	7	8	0	0	8	6	15	154
1976	5	0	0	5	2	0	0	2	4	7	113
1977	2	0	0	2	7	0	0	7	5	9	138
1978	16	0	0	16	2	0	0	2	7	18	67
1979	17	0	0	17	25	0	0	25	16	42	420
1980	6	0	0	6	2	0	0	2	4	8	104
1981	6	0	0	6	20	0	0	20	9	26	68
1982	28	0	0	28	4	0	0	4	11	32	131
1983	19	0	0	19	17	0	0	17	7	36	102
1984	6	0	0	6	22	0	0	22	11	28	156
1985	16	0	0	16	7	0	0	7	9	23	167
1986	14	0	0	14	4	0	0	4	10	18	87
1987	7	0	0	7	0	0	0	0	4	7	56
1988	4	0	0	4	7	0	0	7	4	11	109
TOTAL	198	0	0	198	190	1	0	191	156	435	3030

AVERAGE DURATION OF AN ICING EVENT: 2.788 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 19.423 HOURS

COLUMBIA METROPOLITAN AIRPORT, SC

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	2	0	0	2	0	0	0	0	1	6	6
1966	8	0	0	8	0	0	0	0	1	24	42
1967	0	0	0	0	0	0	0	0	0	0	0
1968	6	0	0	6	6	0	0	6	7	36	48
1969	2	0	0	2	2	0	0	2	3	12	39
1970	1	0	0	1	0	0	0	0	1	3	3
1971	2	0	0	2	1	0	0	1	3	9	9
1972	0	0	0	0	0	0	0	0	0	0	0
1973	10	0	0	10	0	0	0	0	5	10	39
1974	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0	0
1977	4	0	0	4	0	0	0	0	1	4	4
1978	0	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0	0
1980	4	0	0	4	3	0	0	3	3	7	40
1981	0	0	0	0	0	0	0	0	0	0	0
1982	15	0	0	15	14	0	0	14	6	29	33
1983	11	0	0	11	0	0	0	0	1	11	12
1984	1	0	0	1	2	0	0	2	2	3	4
1985	2	0	0	2	0	0	0	0	1	2	2
1986	0	0	0	0	0	0	0	0	0	0	0
1987	1	0	0	1	0	0	0	0	1	1	15
1988	1	0	0	1	0	0	0	0	1	1	48
TOTAL	70	0	0	70	28	0	0	28	37	158	344

AVERAGE DURATION OF AN ICING EVENT:
 AVERAGE DURATION OF A FREEZING EVENT:

COLUMBUS - YEAGER AIRPORT, GA

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0
1968	1	0	0	1	3	0	0	3	3	12	39
1969	0	0	0	0	0	0	0	0	0	0	0
1970	1	0	0	1	0	0	0	0	1	3	6
1971	0	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0	0
1973	1	0	0	1	0	0	0	0	1	3	30
1974	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0	0
1979	1	0	0	1	0	0	0	0	1	3	24
1980	1	0	0	1	1	0	0	0	1	6	33
1981	0	0	0	0	0	0	0	0	0	0	0
1982	14	0	0	14	0	0	0	0	3	14	20
1983	23	0	0	23	2	0	0	2	3	25	27
1984	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0
1988	5	0	0	5	0	0	0	0	2	5	5
TOTAL	47	0	0	47	6	0	0	6	15	71	184

AVERAGE DURATION OF AN ICING EVENT: 4.733 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 12.266 HOURS

COLUMBUS - PORT COLUMBUS INTERNATIONAL AIRPORT, OH

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	2	0	0	2	3	0	0	3	4	15	60
1966	3	0	0	3	1	0	0	1	3	12	45
1967	1	0	0	1	0	0	0	0	1	3	12
1968	3	0	0	3	2	0	0	2	3	15	60
1969	2	0	0	2	3	0	0	3	3	15	66
1970	4	0	0	4	4	0	0	4	4	24	147
1971	1	0	0	1	3	0	0	3	3	12	48
1972	8	0	0	8	3	0	0	3	8	33	162
1973	0	0	0	0	0	0	0	0	0	0	0
1974	21	1	0	22	12	0	0	12	12	34	182
1975	15	0	0	15	7	0	0	7	11	22	132
1976	13	0	0	13	6	0	0	6	3	19	67
1977	7	0	0	7	5	0	0	5	5	12	108
1978	1	0	0	1	2	0	0	2	2	9	54
1979	0	0	0	0	14	0	0	14	6	42	204
1980	0	0	0	0	6	0	0	6	6	18	72
1981	4	0	0	4	3	0	0	3	3	9	54
1982	16	0	0	16	0	0	0	16	6	16	55
1983	9	0	0	9	15	0	0	9	9	24	76
1984	7	0	0	7	2	0	0	2	8	9	117
1985	11	0	0	11	15	0	0	15	13	45	304
1986	2	0	0	2	3	0	0	3	4	5	99
1987	10	0	0	10	2	0	0	2	8	12	50
1988	19	1	0	20	6	0	0	6	10	26	105
TOTAL	159	2	0	161	117	0	0	117	132	431	2279

AVERAGE DURATION OF AN ICING EVENT: 3.265 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 17.265 HOURS

CHARLESTON - YEAGER AIRPORT, WV

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	1	0	0	1	2	0	0	2	2	9	87
1966	3	0	0	3	2	0	0	2	4	15	66
1967	1	0	0	1	0	0	0	1	1	3	48
1968	2	0	0	2	3	0	0	3	5	15	69
1969	0	0	0	0	1	0	0	1	1	3	48
1970	1	0	0	1	6	0	0	6	4	21	48
1971	3	0	0	3	2	0	0	2	2	15	63
1972	4	0	0	4	3	0	0	3	4	21	102
1973	0	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	9	0	0	9	6	27	108
1975	0	0	0	0	0	0	0	0	0	0	0
1976	1	0	0	1	0	0	0	1	0	0	0
1977	0	0	0	0	2	0	0	2	2	9	99
1978	2	0	0	2	0	0	0	2	0	0	0
1979	1	0	0	1	5	0	0	5	1	6	6
1980	0	0	0	0	0	0	0	0	5	18	168
1981	7	0	0	7	0	0	0	7	0	0	0
1982	14	0	0	14	1	0	0	14	4	10	60
1983	8	0	0	8	5	0	0	8	7	19	69
1984	3	0	0	3	1	0	0	3	5	9	23
1985	1	0	0	1	3	0	0	3	3	4	14
1986	0	0	0	0	6	0	0	6	4	6	55
1987	20	0	0	20	0	0	0	20	0	0	0
1988	0	0	0	0	5	0	0	5	6	24	35
TOTAL	72	0	0	72	57	0	0	57	67	235	1182

AVERAGE DURATION OF AN ICING EVENT: 3.507 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 17.641 HOURS

COLORADO SPRINGS - CITY OF COLORADO SPRINGS MUNICIPAL AIRPORT, CO

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	0	0	0	0	2	0	0	2	2	6	18
1966	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	1	0	0	1	1	3	15
1968	0	0	0	0	11	0	0	11	6	33	144
1969	0	0	0	0	6	0	0	6	3	18	75
1970	0	0	0	0	2	0	0	2	1	6	51
1971	0	0	0	0	7	0	0	7	5	21	195
1972	0	0	0	0	4	0	0	4	3	12	57
1973	0	0	0	0	11	0	0	11	3	33	117
1974	0	0	0	0	0	0	0	0	0	0	0
1975	2	0	0	2	27	0	0	27	11	87	264
1976	0	0	0	0	11	0	0	11	4	33	189
1977	0	0	0	0	3	0	0	3	1	9	27
1978	0	0	0	0	14	0	0	14	8	42	213
1979	0	0	0	0	5	0	0	5	3	15	15
1980	0	0	0	0	21	0	0	21	10	63	318
1981	0	0	0	0	2	0	0	2	2	6	33
1982	1	0	0	1	8	0	1	9	5	10	128
1983	2	0	0	2	3	0	0	3	4	5	104
1984	1	0	0	1	38	0	0	38	8	39	160
1985	1	0	0	1	35	0	0	35	10	36	182
1986	0	0	0	0	2	0	0	2	1	2	39
1987	0	0	0	0	7	0	0	7	1	7	33
1988	0	0	0	0	10	0	0	10	3	10	95
TOTAL	7	0	0	7	230	0	1	231	95	496	2472

AVERAGE DURATION OF AN ICING EVENT: 5.221 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 26.021 HOURS

COVINGTON - GREATER CINCINNATI INTERNATIONAL AIRPORT, KY

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	10	0	0	10	12	0	0	12	6	22	61
1966	3	0	0	3	1	0	0	1	2	12	12
1967	2	0	0	2	0	0	0	0	1	6	36
1968	0	0	0	0	7	0	0	7	6	21	219
1969	10	0	0	10	0	0	0	0	6	30	75
1970	6	0	0	6	4	0	0	4	4	30	126
1971	2	0	0	2	0	0	0	0	1	6	9
1972	15	2	0	17	2	0	0	2	8	57	216
1973	2	0	0	2	4	0	0	4	1	6	115
1974	22	4	0	26	10	0	0	10	10	36	131
1975	15	2	0	17	4	0	0	4	5	21	82
1976	6	0	0	6	3	0	0	3	3	9	104
1977	15	0	0	15	8	0	0	8	8	23	208
1978	25	0	0	25	11	0	0	11	7	34	152
1979	18	0	0	18	9	0	0	9	12	27	311
1980	6	0	0	6	7	0	0	7	4	13	36
1981	0	0	0	0	4	0	0	4	4	4	66
1982	7	1	0	8	0	0	0	0	5	8	42
1983	14	0	0	14	11	0	0	11	5	20	121
1984	13	0	0	13	3	0	0	3	7	16	66
1985	11	0	0	11	19	0	0	19	10	36	166
1986	0	0	0	0	0	0	0	0	0	0	0
1987	4	0	0	4	0	0	0	0	2	4	25
1988	6	0	0	6	0	0	0	0	4	6	32
TOTAL	212	9	0	221	119	0	0	119	124	447	2411

AVERAGE DURATION OF AN ICING EVENT: 3.604 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 19.443 HOURS

DALLAS - FORT WORTH INTERNATIONAL AIRPORT, TX

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	2	0	0	2	0	0	0	0	2	6	27
1966	1	0	0	1	0	0	0	0	1	3	48
1967	0	0	0	0	0	0	0	0	0	0	0
1968	6	0	0	6	6	0	0	6	4	36	60
1969	0	0	0	0	1	0	0	1	1	3	12
1970	1	0	0	1	2	0	0	2	2	9	39
1971	0	0	0	0	0	0	0	0	0	0	0
1972	3	0	0	3	6	0	0	6	6	27	54
1973	2	0	0	2	1	0	0	1	3	9	54
1974	3	0	0	3	5	0	0	5	7	24	75
1975	0	0	0	0	0	0	0	0	0	0	0
1976	1	0	0	1	0	0	0	0	1	3	3
1977	1	0	0	1	3	0	0	3	2	12	33
1978	11	0	0	11	9	0	0	9	11	60	270
1979	1	0	0	1	3	0	0	3	4	12	60
1980	2	0	0	2	8	0	0	8	4	30	96
1981	0	0	0	0	0	0	0	0	0	0	0
1982	2	0	0	2	6	0	0	6	4	8	62
1983	0	0	0	0	22	0	0	22	4	22	116
1984	0	0	0	0	5	0	0	5	1	5	52
1985	8	0	0	8	0	0	0	8	2	8	33
1986	0	0	0	0	4	0	0	4	2	4	40
1987	0	0	0	0	1	0	0	1	1	1	8
1988	6	0	0	6	12	0	0	12	5	18	107
TOTAL	50	0	0	50	94	0	0	94	67	300	1249

AVERAGE DURATION OF AN ICING EVENT: 4.477 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 18.641 HOURS

DALLAS LOVE FIELD AIRPORT, TX

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	0	1	0	1	0	0	0	0	1	3	24
1966	1	0	0	1	0	0	0	0	1	3	48
1967	0	0	0	0	0	0	0	0	0	0	0
1968	11	0	0	11	5	0	0	5	6	48	63
1969	0	0	0	0	3	0	0	3	1	9	15
1970	0	0	0	0	2	0	0	2	2	6	78
1971	0	0	0	0	0	0	0	0	0	0	0
1972	4	0	0	4	10	0	0	10	7	42	96
1973	3	0	0	3	0	0	0	0	1	9	9
1974	2	0	0	2	20	0	0	20	6	22	84
1975	0	0	0	0	0	0	0	0	0	0	0
1976	3	0	0	3	0	0	0	0	1	3	9
1977	7	0	0	7	8	0	0	8	6	15	76
1978	18	4	0	22	23	0	0	23	16	45	227
1979	0	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0	0
1982	6	0	0	6	4	0	0	4	4	10	44
1983	0	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0
TOTAL	55	5	0	60	75	0	0	75	52	215	773

AVERAGE DURATION OF AN ICING EVENT: 4.134 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 14.865 HOURS

DAYTON - JAMES M COX DAYTON INTERNATIONAL AIRPORT, OH

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	3	0	0	3	4	0	0	4	5	21	99
1966	2	0	0	2	1	0	0	1	3	6	45
1967	1	0	0	1	1	0	0	1	1	6	108
1968	0	0	0	0	5	0	0	5	5	15	123
1969	7	0	0	7	4	0	0	4	7	33	173
1970	8	0	0	8	7	0	0	7	7	15	75
1971	8	0	0	8	18	0	0	18	10	26	289
1972	24	0	0	24	10	0	0	10	11	34	289
1973	8	0	0	8	1	0	0	1	5	9	10
1974	17	0	0	17	11	0	0	11	16	28	186
1975	11	0	0	11	19	0	0	19	14	30	190
1976	30	0	0	30	0	0	0	0	9	30	97
1977	13	2	0	15	7	0	0	7	7	22	66
1978	17	0	0	17	1	0	0	1	5	18	136
1979	6	0	0	6	32	0	0	32	10	38	227
1980	3	0	0	3	9	0	0	9	4	12	72
1981	4	0	0	4	3	0	0	3	3	7	10
1982	32	0	0	32	11	0	0	11	13	43	157
1983	33	0	0	33	10	0	0	10	7	43	178
1984	9	0	0	9	7	0	0	7	8	16	94
1985	23	0	0	23	19	0	0	19	12	42	234
1986	9	0	0	9	2	0	0	2	4	11	58
1987	11	0	0	11	1	0	0	1	4	12	38
1988	40	0	0	40	0	0	0	0	10	40	193
TOTAL	319	2	0	321	183	0	0	183	180	560	2867

AVERAGE DURATION OF AN ICING EVENT: 3.111 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 15.927 HOURS

DENVER - STAPLETON INTERNATIONAL AIRPORT, CO

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	0	0	0	0	2	0	0	2	2	4	17
1966	0	0	0	0	2	0	0	2	2	6	48
1967	0	0	0	0	3	0	0	3	2	5	19
1968	0	0	0	0	4	0	0	4	1	4	15
1969	0	0	0	0	7	0	0	7	2	7	57
1970	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	4	0	0	4	3	12	57
1972	0	0	0	0	1	0	0	1	1	3	33
1973	2	0	0	2	22	0	0	22	7	24	186
1974	2	0	0	2	1	0	0	1	1	3	35
1975	0	0	0	0	24	0	0	24	6	24	152
1976	0	0	0	0	4	0	0	4	1	4	51
1977	0	0	0	0	1	0	0	1	1	1	5
1978	3	0	0	3	42	0	0	42	15	45	245
1979	0	0	0	0	8	0	0	8	4	8	19
1980	0	0	0	0	64	0	0	64	14	64	277
1981	0	0	0	0	3	0	0	3	1	3	3
1982	3	0	0	3	4	0	0	4	3	7	63
1983	0	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	9	0	0	9	3	9	111
1985	0	0	0	0	21	0	0	21	12	21	288
1986	0	0	0	0	4	0	0	4	1	4	9
1987	0	0	0	0	14	0	0	14	5	14	175
1988	0	0	0	0	6	0	0	6	2	6	11
TOTAL	10	0	0	10	250	0	0	250	89	278	1876

AVERAGE DURATION OF AN ICING EVENT: 3.123 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 21.078 HOURS

DES MOINES INTERNATIONAL AIRPORT, IA

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	5	0	0	5	10	0	0	10	8	45	294
1966	2	0	0	2	3	0	0	3	4	15	78
1967	2	0	0	2	5	0	0	5	7	21	189
1968	4	0	0	4	15	0	0	15	6	54	189
1969	9	0	0	9	17	0	0	17	11	78	309
1970	6	0	0	6	10	0	0	10	13	48	339
1971	3	0	0	3	17	0	0	17	8	60	279
1972	3	0	0	3	16	1	0	17	12	60	303
1973	15	3	0	18	28	0	0	28	11	44	334
1974	6	0	0	6	23	0	0	23	12	29	166
1975	21	0	0	21	37	0	0	37	17	56	428
1976	7	0	0	7	18	0	0	18	6	25	36
1977	4	0	0	4	11	0	0	11	5	14	113
1978	12	0	0	12	42	0	0	42	12	53	364
1979	7	0	0	7	39	0	0	39	15	46	322
1980	4	0	0	4	26	0	0	26	11	30	262
1981	3	0	0	3	0	0	0	0	1	3	3
1982	29	2	0	31	37	0	0	37	22	65	375
1983	9	0	0	9	38	0	0	38	14	46	218
1984	15	2	0	17	43	0	0	43	17	59	291
1985	6	0	0	6	81	0	0	81	18	84	426
1986	1	0	0	1	19	0	0	19	7	20	139
1987	9	1	0	10	15	0	0	15	10	24	149
1988	0	0	0	0	6	0	0	6	1	6	6
TOTAL	182	8	0	190	556	1	0	557	248	985	5612

AVERAGE DURATION OF AN ICING EVENT: 3.971 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 22.629 HOURS

DETROIT METROPOLITAN WAYNE COUNTY AIRPORT, MI

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	ZL TOTAL #	EVENTS	ICING HOURS	FREEZING HOURS
1965	28	0	0	28	5	0	0	5	7	33	76	
1966	5	0	0	5	9	0	0	9	8	14	77	
1967	27	0	0	27	11	0	0	11	16	38	229	
1968	1	0	0	1	16	0	0	16	7	17	69	
1969	2	0	0	2	2	0	0	2	2	12	57	
1970	2	0	0	2	8	0	0	8	8	30	102	
1971	4	0	0	4	7	0	0	7	6	33	48	
1972	6	0	0	6	11	0	0	11	9	51	210	
1973	0	0	0	0	2	0	0	2	1	2	5	
1974	17	0	0	17	7	0	0	7	7	24	97	
1975	27	0	0	27	15	0	0	15	17	41	188	
1976	20	0	0	20	7	0	0	7	8	26	31	
1977	6	0	0	6	8	0	0	8	6	14	161	
1978	16	1	0	17	30	0	0	30	18	47	142	
1979	21	0	0	21	31	0	0	31	10	51	300	
1980	2	0	0	2	7	0	0	7	6	9	89	
1981	1	0	0	1	3	0	0	3	3	4	53	
1982	11	0	0	11	13	0	0	13	8	24	170	
1983	11	0	0	11	6	0	0	6	8	17	31	
1984	13	0	0	13	12	0	0	12	7	22	65	
1985	6	0	0	6	4	0	0	4	4	10	107	
1986	15	0	0	15	9	0	0	9	9	24	92	
1987	2	0	0	2	5	0	0	5	3	6	45	
1988	3	0	0	3	5	0	0	5	5	7	58	
TOTAL	246	1	0	247	233	0	0	233	233	182	2502	

AVERAGE DURATION OF AN ICING EVENT: 3.054 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 13.747 HOURS

EL PASO INTERNATIONAL AIRPORT, TX

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0
1967	4	0	0	4	0	0	0	0	1	4	40
1968	6	0	0	6	3	0	0	3	2	27	36
1969	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	3	0	0	3	1	3	4
1983	0	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0
1986	1	0	0	1	1	0	0	1	1	2	4
1987	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0
TOTAL	11	0	0	11	7	0	0	7	5	36	84

AVERAGE DURATION OF AN ICING EVENT: 7.200 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 16.800 HOURS

FAYETTEVILLE MUNICIPAL AIRPORT, NC

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	1	0	0	1	1	0	0	1	2	2	77
1966	6	0	0	6	7	0	0	7	4	13	82
1967	5	0	0	5	1	0	0	1	3	6	44
1968	15	0	0	15	21	0	0	21	13	34	106
1969	17	1	0	18	1	0	0	1	3	19	24
1970	7	0	0	7	12	0	0	12	9	19	88
1971	0	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0
TOTAL	51	1	0	52	43	0	0	43	34	93	421

AVERAGE DURATION OF AN ICING EVENT: 2.735 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 12.382 HOURS

FORT MYERS - SOUTHWEST REGIONAL AIRPORT, FL

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0	0
1977	1	0	0	1	0	0	0	0	1	3	3
1978	0	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0
TOTAL	1	0	0	1	0	0	0	0	1	3	3
AVERAGE DURATION OF AN ICING EVENT:					3.000 HOURS						
AVERAGE DURATION OF A FREEZING EVENT:					3.000 HOURS						

FORT SMITH MUNICIPAL AIRPORT, AR

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	2	0	0	2	0	0	0	0	1	6	6
1966	2	0	0	2	1	0	0	1	3	9	30
1967	3	0	0	3	2	0	0	2	1	15	27
1968	2	0	0	2	4	0	0	4	6	18	54
1969	0	0	0	0	3	0	0	3	2	9	54
1970	3	0	0	3	3	0	0	3	2	15	60
1971	1	0	0	1	0	0	0	0	1	3	48
1972	11	0	0	11	6	0	0	6	5	45	144
1973	1	0	0	1	4	0	0	4	1	15	15
1974	5	0	0	5	5	0	0	5	3	30	90
1975	0	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0	0
1977	8	0	0	8	0	0	0	0	3	24	36
1978	5	0	0	5	7	0	0	7	6	36	132
1979	0	0	0	0	12	0	0	12	7	36	165
1980	4	0	0	4	7	0	0	7	6	33	120
1981	1	0	0	1	1	0	0	1	2	6	54
1982	1	0	0	1	5	0	0	5	2	6	54
1983	14	0	0	14	33	0	0	33	11	44	178
1984	7	0	0	7	3	0	0	3	2	10	35
1985	9	0	0	9	3	0	0	3	4	12	28
1986	0	0	0	0	0	0	0	0	0	0	0
1987	1	0	0	1	0	0	0	0	1	1	13
1988	0	0	0	0	0	0	0	0	0	0	0
TOTAL	80	0	0	80	99	0	0	99	69	373	1343

AVERAGE DURATION OF AN ICING EVENT: 5.405 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 19.463 HOURS

GRAND RAPIDS - KENT COUNTY INTERNATIONAL AIRPORT, MI

AIRPORT	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	11	0	0	11	7	0	0	7	12	54	192
1966	5	0	0	5	3	0	0	3	4	24	42
1967	9	0	0	9	8	0	0	8	10	48	114
1968	10	0	0	10	8	0	0	8	9	54	255
1969	6	0	0	6	8	0	0	6	6	36	162
1970	4	0	0	4	6	0	0	4	7	36	171
1971	11	0	0	11	8	0	0	11	16	93	240
1972	17	0	0	17	21	0	0	14	19	90	390
1973	25	0	0	25	14	0	0	6	11	31	135
1974	14	0	0	14	6	0	0	21	11	35	131
1975	21	0	0	21	21	0	0	30	23	51	378
1976	37	0	0	37	15	0	0	15	15	52	157
1977	5	0	0	5	21	0	0	21	9	25	195
1978	13	0	0	13	11	0	0	11	12	72	237
1979	2	0	0	2	9	0	0	9	10	33	258
1980	3	0	0	3	0	0	0	0	2	9	18
1981	1	0	0	1	1	0	0	1	2	6	12
1982	9	0	0	9	12	0	0	12	9	21	106
1983	21	0	0	21	4	0	0	4	7	25	33
1984	8	0	0	8	21	0	0	21	9	29	80
1985	16	0	0	16	28	0	0	28	19	44	238
1986	20	0	0	20	16	0	0	16	10	36	151
1987	0	0	0	0	8	0	0	0	2	8	44
1988	5	0	0	5	0	0	0	0	3	5	8
TOTAL	273	0	0	273	278	0	0	278	237	917	3747

AVERAGE DURATION OF AN ICING EVENT: 3.869 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 15.810 HOURS

GREER - GREENVILLE-SPARTANBURG AIRPORT, SC

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	0	0	0	0	0	0	0	0	0	0	0
1966	8	0	0	8	0	0	0	0	5	24	42
1967	0	0	0	0	0	0	0	0	0	0	0
1968	18	0	0	18	0	0	0	0	5	54	90
1969	11	0	0	11	1	0	0	1	5	36	45
1970	6	0	0	6	0	0	0	0	2	18	45
1971	16	0	0	16	3	0	0	3	8	57	84
1972	1	0	0	1	0	0	0	0	1	3	9
1973	2	0	0	2	2	0	0	2	3	12	39
1974	1	0	0	1	0	0	0	0	1	3	3
1975	4	0	0	4	0	0	0	0	1	12	12
1976	1	0	0	1	2	0	0	2	1	9	9
1977	4	0	0	4	1	0	0	1	2	12	12
1978	3	1	0	4	1	0	0	1	5	18	27
1979	6	0	0	6	1	0	0	1	3	21	39
1980	7	0	0	7	3	0	0	3	4	30	69
1981	6	0	0	6	3	0	0	3	5	15	22
1982	10	0	0	10	6	0	0	6	7	16	36
1983	25	0	0	25	2	0	0	2	7	27	38
1984	0	0	0	0	6	0	0	6	2	6	8
1985	12	0	0	12	4	0	0	4	3	16	16
1986	1	0	0	1	1	0	0	1	2	2	13
1987	2	0	0	2	1	0	0	1	2	3	39
1988	0	0	0	0	0	0	0	0	0	0	0
TOTAL	144	1	0	145	38	0	0	38	74	394	697

AVERAGE DURATION OF AN ICING EVENT: 5.324 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 9.418 HOURS

GREEN BAY - AUSTIN STRAUBEL FIELD, WI

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	2	0	0	2	2	0	0	2	4	12	66
1966	0	0	0	0	5	0	0	5	3	15	39
1967	5	0	0	5	7	0	0	7	7	36	93
1968	1	0	0	1	10	0	0	10	4	33	129
1969	4	0	0	4	7	1	0	8	7	36	183
1970	3	0	0	3	10	0	0	10	7	33	171
1971	10	0	0	10	17	0	0	17	10	78	366
1972.	4	0	0	4	10	0	0	10	12	42	333
1973	3	0	0	3	1	0	0	1	3	12	60
1974	4	2	0	6	5	0	0	5	6	30	111
1975	6	0	0	6	0	0	0	0	4	18	21
1976	5	0	0	5	5	0	0	5	7	30	93
1977	3	0	0	3	0	0	0	0	1	9	9
1978	8	1	0	9	28	0	0	28	8	37	183
1979	1	0	0	1	32	0	0	32	10	33	232
1980	10	0	0	10	3	0	0	3	6	13	133
1981	0	0	0	0	5	0	0	0	2	5	54
1982	5	0	0	5	8	0	0	8	3	13	13
1983	11	0	0	11	15	0	0	15	6	26	220
1984	9	0	0	9	6	0	0	6	5	15	38
1985	6	0	0	6	20	0	0	20	10	26	136
1986	5	0	0	5	36	0	0	36	13	41	259
1987	0	0	0	0	7	0	0	7	3	7	56
1988	0	0	0	0	0	0	0	0	0	0	0
TOTAL	105	3	0	108	239	1	0	240	141	600	2998

4.255 HOURS

21.262 HOURS

AVERAGE DURATION OF AN ICING EVENT:

AVERAGE DURATION OF A FREEZING EVENT:

GREENSBORO - PIEDMONT INTERNATIONAL AIRPORT, NC

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS	
1965	0	0	0	0	0	0	0	0	0	0	0	
1966	12	0	0	12	2	0	0	2	7	42	84	
1967	8	0	0	8	0	0	0	0	4	24	30	
1968	12	0	0	12	3	0	0	3	6	45	96	
1969	5	0	0	5	1	0	0	1	2	18	27	
1970	11	0	0	11	8	0	0	8	7	19	100	
1971	37	0	0	37	23	0	0	23	10	60	93	
1972	4	0	0	4	4	0	0	4	3	8	26	
1973	5	0	0	5	0	0	0	0	3	5	15	
1974	17	0	0	17	4	0	0	4	4	21	66	
1975	20	0	0	20	3	0	0	3	5	23	32	
1976	3	0	0	3	0	0	0	0	2	3	6	
1977	9	2	0	11	6	0	0	6	4	17	33	
1978	62	1	0	63	8	0	0	8	8	70	96	
1979	37	0	0	37	5	0	0	5	8	42	73	
1980	26	0	0	26	1	0	0	1	6	27	55	
1981	8	0	0	8	0	0	0	0	3	8	19	
1982	33	0	0	33	29	0	0	29	13	62	136	
1983	56	0	0	56	10	0	0	10	12	66	126	
1984	14	0	0	14	4	0	0	4	7	18	32	
1985	17	1	0	18	7	0	0	7	6	25	42	
1986	3	0	0	3	1	0	0	1	3	4	10	
1987	16	0	0	16	19	0	0	19	13	35	112	
1988	16	0	0	16	10	0	0	10	4	26	76	
TOTAL	431	4	0	435	148	0	0	148	140	668	1385	
AVERAGE DURATION OF AN ICING EVENT:					4.771 HOURS							
AVERAGE DURATION OF A FREEZING EVENT:					9.892 HOURS							

HUNTSVILLE INTERNATIONAL - CARL T JONES FIELD AIRPORT, AL

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	0	0	0	0	0	0	0	0	0	0	0
1966	1	0	0	1	0	0	0	0	1	3	15
1967	3	0	0	3	0	0	0	0	2	9	54
1968	2	0	0	2	0	0	0	0	2	6	15
1969	0	0	0	0	0	0	0	0	0	0	0
1970	2	0	0	2	0	0	0	0	2	6	9
1971	1	0	0	1	3	0	0	3	1	12	12
1972	2	0	0	2	0	0	0	0	2	6	39
1973	1	0	0	1	0	0	0	0	1	3	3
1974	2	0	0	2	0	0	0	0	1	6	6
1975	0	0	0	0	0	0	0	0	0	0	0
1976	1	0	0	1	2	0	0	2	3	9	87
1977	2	0	0	2	0	0	0	0	1	6	9
1978	9	0	0	9	3	0	0	3	3	36	117
1979	5	0	0	5	0	0	0	0	4	5	50
1980	17	0	0	17	0	0	0	0	5	17	67
1981	4	0	0	4	1	0	0	1	1	5	5
1982	3	0	0	3	5	0	0	5	3	8	41
1983	17	0	0	17	3	0	0	3	6	18	31
1984	1	0	0	1	4	0	0	4	2	5	51
1985	21	1	0	22	8	0	0	8	8	30	79
1986	4	0	0	4	4	0	0	4	2	8	55
1987	0	0	0	0	4	0	0	0	0	0	0
1988	4	0	0	4	4	0	0	4	3	8	57
TOTAL	102	1	0	103	37	0	0	37	53	206	802

AVERAGE DURATION OF AN ICING EVENT: 3.886 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 15.132 HOURS

HOUSTON INTERCONTINENTAL AIRPORT, TX

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0
1970	1	0	0	1	0	0	0	0	1	3	15
1971	1	0	0	1	4	0	0	4	1	15	33
1972	1	0	0	1	0	0	0	0	1	3	18
1973	21	0	0	21	8	0	0	8	5	28	69
1974	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0	0
1976	1	0	0	1	0	0	0	0	1	1	21
1977	2	0	0	2	0	0	0	0	2	2	3
1978	0	0	0	0	1	0	0	1	1	1	1
1979	0	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0	0
1982	8	0	0	8	0	0	0	0	4	8	31
1983	0	0	0	0	0	0	0	0	3	9	94
1984	0	0	0	0	9	0	0	9	0	0	0
1985	9	0	0	9	11	0	0	11	9	20	129
1986	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0
TOTAL	44	0	0	44	33	0	0	33	28	90	414

AVERAGE DURATION OF AN ICING EVENT: 3.214 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 14.785 HOURS

HOUSTON - WILLIAM P HOBBY AIRPORT, TX

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL #	EVENTS	ICING HOURS	FREEZING HOURS
1965	1	0	0	1	0	0	0	0	1	3	9
1966	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0	0
1973	9	0	0	9	0	0	0	0	3	9	44
1974	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0	0
1976	4	0	0	4	0	0	0	0	2	4	22
1977	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0
TOTAL	14	0	0	14	0	0	0	0	6	16	75

2.666 HOURS
12.500 HOURS

AVERAGE DURATION OF AN ICING EVENT:
AVERAGE DURATION OF A FREEZING EVENT:

INDIANAPOLIS INTERNATIONAL AIRPORT, IN

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	3	0	0	3	3	0	0	3	5	18	141
1966	0	0	0	0	0	0	0	0	0	0	0
1967	1	0	0	1	0	0	0	1	1	3	3
1968	3	0	0	3	6	0	0	6	7	27	165
1969	6	0	0	6	3	0	0	3	7	27	228
1970	3	0	0	3	3	0	0	3	6	18	90
1971	1	0	0	1	3	0	0	9	5	30	42
1972	33	3	0	36	36	0	0	36	18	68	348
1973	0	0	0	0	2	0	0	2	2	2	29
1974	12	1	0	13	10	0	0	10	9	23	84
1975	12	0	0	12	8	0	0	8	6	20	68
1976	24	2	1	27	14	0	0	14	9	38	97
1977	14	0	0	14	17	0	0	17	8	28	196
1978	28	0	0	28	16	0	0	16	12	40	281
1979	11	0	0	11	26	0	0	26	16	34	355
1980	7	0	0	7	12	0	0	12	8	19	103
1981	3	0	0	3	6	0	0	6	5	9	62
1982	16	0	0	16	1	0	0	1	6	17	89
1983	14	0	0	14	17	0	0	17	8	28	197
1984	6	0	0	6	6	0	0	6	7	12	69
1985	5	0	0	5	20	0	0	20	13	25	205
1986	2	0	0	2	5	0	0	5	3	6	100
1987	3	0	0	3	4	0	0	4	5	7	61
1988	20	0	0	20	14	0	0	14	5	29	141
TOTAL	227	6	1	234	238	0	0	238	171	528	3154

AVERAGE DURATION OF AN ICING EVENT: 3.087 HOURS

AVERAGE DURATION OF A FREEZING EVENT: 18.444 HOURS

JACKSON - ALLEN C THOMPSON FIELD, MS

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	0	0	0	0	0	0	0	0	0	0	0
1966	2	1	0	3	0	0	0	0	1	9	15
1967	3	0	0	3	1	0	0	1	2	12	36
1968	3	0	0	3	0	0	0	0	2	9	21
1969	0	0	0	0	0	0	0	0	0	0	0
1970	2	0	0	2	0	0	0	0	1	6	30
1971	5	0	0	5	2	0	0	2	2	21	24
1972	0	0	0	0	0	0	0	0	0	0	0
1973	2	0	0	2	2	0	0	2	3	4	4
1974	1	0	0	1	5	0	0	5	2	6	10
1975	0	0	0	0	0	0	0	0	0	0	0
1976	2	0	0	2	1	0	0	1	2	3	82
1977	17	0	1	18	4	0	0	4	4	22	59
1978	28	0	0	28	11	0	0	11	8	39	107
1979	1	0	0	1	0	0	0	0	1	1	4
1980	0	0	0	0	2	0	0	2	1	2	39
1981	1	0	0	1	0	0	0	0	1	1	2
1982	11	0	0	11	11	0	0	11	5	22	98
1983	1	0	0	1	2	0	0	2	1	3	50
1984	0	0	0	0	0	0	0	0	0	0	0
1985	5	0	0	5	11	0	0	11	4	16	108
1986	0	0	0	0	1	0	0	1	1	1	39
1987	0	0	0	0	0	0	0	0	0	0	0
1988	11	0	0	11	8	0	0	8	4	19	86
TOTAL	95	1	1	97	61	0	0	61	45	196	814

AVERAGE DURATION OF AN ICING EVENT: 4.355 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 18.088 HOURS

JACKSONVILLE INTERNATIONAL AIRPORT, FL

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0
1978	1	0	0	1	0	0	0	0	1	1	1
1979	0	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0	0	0
1984	6	0	0	6	0	0	0	6	1	6	6
1985	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0
TOTAL	7	0	0	7	0	0	0	0	2	7	7

AVERAGE DURATION OF AN ICING EVENT: 3.500 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 3.500 HOURS

KANSAS CITY INTERNATIONAL AIRPORT, MO

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	2	0	0	2	2	0	0	2	4	12	102
1966	0	0	0	0	0	0	0	0	0	0	0
1967	2	0	0	2	0	0	0	0	2	6	6
1968	5	0	0	5	20	0	0	20	10	25	287
1969	3	0	0	3	9	0	0	9	8	36	135
1970	1	0	0	1	8	0	0	8	6	27	123
1971	4	0	0	4	8	0	0	8	7	36	135
1972	3	0	0	3	2	0	0	2	3	15	72
1973	0	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0	0
1975	20	2	0	22	28	0	0	28	16	50	197
1976	7	1	0	8	12	0	0	12	8	20	120
1977	15	1	0	16	20	0	0	20	12	481	208
1978	1	0	0	1	43	0	0	43	10	44	326
1979	4	1	0	5	14	0	0	14	6	19	134
1980	7	0	0	7	1	0	0	1	6	24	150
1981	1	0	0	1	1	0	0	0	1	1	48
1982	13	0	0	13	16	0	0	16	12	29	175
1983	3	0	0	3	9	0	0	9	6	12	72
1984	21	0	0	21	17	0	0	17	11	38	156
1985	10	0	0	10	58	0	0	58	16	68	331
1986	0	0	0	0	4	0	0	4	3	4	115
1987	5	0	0	5	6	0	0	6	2	10	10
1988	1	0	0	1	0	0	0	0	1	1	26
TOTAL	128	5	0	133	277	0	0	277	150	958	2928

AVERAGE DURATION OF AN ICING EVENT: 6.386 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 19.520 HOURS

KNOXVILLE - MC GEE TYSON AIRPORT, TN

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	0	0	0	0	0	0	0	0	0	0	0
1966	2	0	0	2	0	0	0	0	1	6	9
1967	2	0	0	2	0	0	0	0	1	6	45
1968	5	0	0	5	0	0	0	0	2	15	15
1969	4	0	0	4	0	0	0	0	2	12	18
1970	4	0	0	4	2	0	0	2	1	18	18
1971	3	0	0	3	7	0	0	7	3	30	66
1972	0	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	1	0	0	1	1	3	48
1974	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	1	0	0	1	1	3	48
1976	1	0	0	1	0	0	0	0	1	3	3
1977	1	0	0	1	0	0	0	0	1	3	3
1978	3	0	0	3	0	0	0	0	2	9	24
1979	0	0	0	0	3	0	0	3	2	66	66
1980	13	0	0	13	6	0	0	6	4	18	66
1981	7	0	0	7	0	0	0	0	2	7	7
1982	16	0	0	16	5	0	0	5	3	21	71
1983	22	0	0	22	4	0	0	4	3	25	72
1984	0	0	0	0	0	0	0	0	0	0	0
1985	11	1	0	12	2	0	0	2	4	14	69
1986	8	0	0	8	1	0	0	1	3	9	61
1987	0	0	0	0	0	0	0	0	0	0	0
1988	2	0	0	2	1	0	0	1	1	3	50
TOTAL	104	1	0	105	33	0	0	33	38	214	759

AVERAGE DURATION OF AN ICING EVENT: 5.631 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 19.973 HOURS

LANSING - CAPITAL CITY AIRPORT, MI

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	10	0	0	10	9	0	0	9	8	57	183
1966	5	0	0	5	3	0	0	3	5	24	186
1967	7	0	0	7	7	0	0	7	9	42	162
1968	8	0	0	8	8	0	0	8	9	48	246
1969	2	0	0	2	7	0	0	7	5	27	126
1970	3	0	0	3	9	0	0	9	9	36	114
1971	3	0	0	3	11	0	0	11	7	42	126
1972	15	0	0	15	17	0	0	17	19	96	327
1973	6	0	0	6	5	0	0	5	6	11	55
1974	20	0	0	20	16	0	0	16	11	36	70
1975	18	0	0	18	11	0	0	11	14	27	226
1976	26	0	0	26	25	0	0	25	17	50	336
1977	6	0	0	6	34	0	0	34	9	36	241
1978	16	0	0	16	6	0	0	6	10	66	159
1979	4	0	0	4	12	0	0	12	9	48	294
1980	2	0	0	2	4	0	0	4	5	18	180
1981	1	0	0	1	6	0	0	6	3	21	96
1982	5	0	0	5	16	0	0	16	8	21	149
1983	20	0	0	20	9	0	0	9	13	29	215
1984	31	0	0	31	18	0	0	18	11	48	107
1985	17	2	0	19	28	0	0	28	15	47	274
1986	20	0	0	20	19	0	0	19	10	39	163
1987	7	0	0	7	15	0	0	15	6	22	159
1988	5	0	0	5	6	0	0	6	8	11	145
TOTAL	257	2	0	259	301	0	0	301	226	902	4339

AVERAGE DURATION OF AN ICING EVENT: 3.991 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 19.199 HOURS

LEXINGTON - BLUE GRASS FIELD, KY

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	1	0	0	1	0	0	0	0	1	3	48
1966	5	0	0	5	0	0	0	0	3	15	18
1967	1	0	0	1	0	0	0	0	1	3	18
1968	1	0	0	1	1	0	0	1	2	6	51
1969	3	0	0	3	2	0	0	2	4	15	60
1970	3	0	0	3	10	0	0	10	8	39	225
1971	2	0	0	2	1	0	0	1	2	9	9
1972	13	0	0	13	3	0	0	3	9	48	228
1973	9	0	0	9	8	0	0	8	5	17	43
1974	20	0	0	20	17	0	0	17	10	38	87
1975	8	0	0	8	9	0	0	9	6	17	26
1976	3	0	0	3	7	0	0	7	5	10	107
1977	7	1	0	8	8	0	0	8	7	16	53
1978	12	0	0	12	5	0	0	5	9	17	163
1979	21	0	0	21	15	0	0	15	6	36	208
1980	3	0	0	3	6	0	0	6	3	9	32
1981	10	0	0	10	5	0	0	5	4	15	30
1982	3	0	0	3	3	0	0	3	3	6	74
1983	8	0	0	8	6	0	0	6	4	14	66
1984	0	0	0	0	1	0	0	1	1	1	17
1985	18	0	0	18	14	0	0	14	4	30	158
1986	0	0	0	0	0	0	0	0	0	0	0
1987	15	0	0	15	12	0	0	12	3	25	34
1988	0	0	0	0	0	0	0	0	0	0	0
TOTAL	166	1	0	167	133	0	0	133	100	389	1755

AVERAGE DURATION OF AN ICING EVENT: 3.890 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 17.550 HOURS

LINCOLN MUNICIPAL AIRPORT, NE

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	6	0	0	6	4	18	105
1973	7	0	0	7	4	0	0	4	8	33	195
1974	0	0	0	0	2	0	0	2	2	6	69
1975	2	0	0	2	17	0	0	17	12	57	399
1976	1	0	0	1	8	0	0	8	5	27	78
1977	1	0	0	1	6	0	0	6	5	21	141
1978	1	0	0	1	17	0	0	17	10	54	285
1979	3	0	0	3	6	0	0	6	5	24	204
1980	3	0	0	3	12	0	0	12	4	45	144
1981	0	0	0	0	0	0	0	0	0	0	0
1982	22	1	0	23	43	0	0	43	17	64	348
1983	26	0	0	26	32	0	0	32	11	59	273
1984	16	2	0	18	34	0	0	34	13	52	217
1985	2	0	0	2	35	0	0	35	8	36	216
1986	4	0	0	4	15	0	0	15	6	19	92
1987	4	0	0	4	2	0	0	2	3	6	58
1988	0	0	0	0	1	0	0	1	1	1	8
TOTAL	92	3	0	95	240	0	0	240	114	522	2832

AVERAGE DURATION OF AN ICING EVENT:
 AVERAGE DURATION OF A FREEZING EVENT:

LITTLE ROCK - ADAMS FIELD, AR

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	2	0	0	2	1	1	0	2	1	9	18
1966	1	0	0	1	1	0	0	1	2	6	9
1967	3	0	0	3	0	0	0	0	3	9	42
1968	15	0	0	15	5	0	0	5	6	57	156
1969	1	0	0	1	3	0	0	3	1	12	12
1970	4	0	0	4	0	0	0	0	2	12	57
1971	2	0	0	2	0	0	0	0	2	6	6
1972	16	1	0	17	9	0	0	9	9	72	135
1973	1	0	0	1	1	0	0	1	2	2	72
1974	10	1	0	11	22	0	0	22	7	32	96
1975	1	0	1	2	0	0	0	0	2	2	2
1976	0	0	0	0	0	0	0	0	0	0	0
1977	6	0	0	6	4	0	0	4	3	10	14
1978	5	1	0	6	6	0	0	6	7	36	117
1979	6	0	0	6	10	0	0	10	8	48	153
1980	2	0	0	2	5	0	0	5	4	21	87
1981	1	0	0	1	3	0	0	3	3	4	6
1982	1	0	0	1	5	0	0	5	3	6	49
1983	19	0	0	19	26	0	0	27	4	46	142
1984	3	0	0	3	0	0	0	0	2	3	5
1985	6	0	0	6	7	0	0	7	4	13	29
1986	3	0	0	3	0	0	0	0	3	3	59
1987	0	0	0	0	2	0	0	2	1	2	20
1988	0	0	0	0	0	0	0	0	0	0	0
TOTAL	108	3	1	112	110	2	0	112	79	411	1286

AVERAGE DURATION OF AN ICING EVENT: 5.202 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 16.278 HOURS

LUBBOCK INTERNATIONAL AIRPORT, TX

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	3	0	0	3	13	0	0	13	8	48	90
1966	0	0	0	0	8	0	0	8	3	24	84
1967	6	0	0	6	12	0	0	12	8	54	84
1968	1	0	0	1	17	0	0	17	5	54	84
1969	1	0	0	1	4	1	0	5	1	18	21
1970	0	0	0	0	2	0	0	2	6	6	33
1971	1	0	0	1	12	0	0	12	4	39	87
1972	2	0	0	2	17	0	0	17	10	57	120
1973	1	0	0	1	16	0	0	16	6	51	168
1974	4	0	0	4	4	0	0	4	4	24	42
1975	2	0	0	2	1	0	0	1	2	9	30
1976	0	0	0	0	3	0	0	3	2	9	30
1977	0	0	0	0	7	0	0	7	3	21	54
1978	2	0	0	2	30	0	0	30	15	96	294
1979	4	0	0	4	14	0	0	14	6	54	195
1980	5	0	0	5	15	0	0	15	3	54	96
1981	0	0	0	0	1	0	0	1	1	3	12
1982	16	1	0	17	35	0	0	35	10	52	246
1983	9	0	0	9	20	0	0	20	8	29	212
1984	7	0	0	7	65	0	0	65	10	69	170
1985	2	0	0	2	15	0	0	15	5	17	102
1986	2	0	0	2	0	0	0	0	1	2	17
1987	3	0	0	3	41	0	0	41	10	44	172
1988	3	0	0	3	50	0	0	50	11	53	178
TOTAL	74	1	0	75	402	1	0	403	137	887	2621

AVERAGE DURATION OF AN ICING EVENT: 6.474 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 19.131 HOURS

LOUISVILLE - STANDIFORD FIELD, KY

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	0	0	0	0	1	0	0	1	1	3	6
1966	3	0	0	3	0	0	0	0	2	9	54
1967	0	0	0	0	0	0	0	0	0	0	0
1968	1	0	0	1	3	0	0	3	3	12	69
1969	2	0	0	2	1	0	0	1	3	9	15
1970	5	0	0	5	1	0	0	1	1	18	48
1971	2	0	0	2	0	0	0	0	1	6	9
1972	32	0	0	32	2	0	0	2	9	36	175
1973	11	0	0	11	4	0	0	4	2	15	133
1974	17	0	0	17	7	0	0	7	6	30	57
1975	1	0	0	1	1	0	0	1	1	2	2
1976	0	0	0	0	0	0	0	0	0	0	0
1977	2	0	0	2	9	0	0	2	4	11	59
1978	5	1	0	6	2	0	0	2	6	8	109
1979	21	0	0	21	24	0	0	24	10	38	219
1980	2	0	0	2	4	0	0	4	3	6	53
1981	1	0	0	1	0	0	0	0	1	1	5
1982	0	0	0	0	13	0	0	13	4	13	111
1983	24	0	0	24	8	0	0	8	6	28	78
1984	5	0	0	5	3	0	0	3	5	8	149
1985	8	0	0	8	13	0	0	13	7	21	83
1986	0	0	0	0	1	0	0	1	1	1	44
1987	11	0	0	11	18	0	0	18	2	29	36
1988	2	0	0	2	2	0	0	2	3	4	27
TOTAL	155	1	0	156	117	0	0	117	81	308	1541

AVERAGE DURATION OF AN ICING EVENT: 3.802 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 19.024 HOURS

MADISON - DANE COUNTY REGIONAL-TRUAX FIELD, WI

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	10	0	0	10	7	0	0	7	12	48	261
1966	1	0	0	1	3	0	0	3	3	12	84
1967	3	0	0	3	8	0	0	8	6	33	69
1968	9	0	0	9	9	0	0	9	11	63	231
1969	4	0	0	4	7	0	0	7	5	33	99
1970	1	0	0	1	9	0	0	9	7	30	147
1971	3	0	0	3	20	0	0	20	9	69	219
1972	6	0	0	6	14	0	0	14	11	60	396
1973	10	0	0	10	9	0	0	9	6	19	66
1974	4	0	0	4	12	0	0	12	6	16	35
1975	3	0	0	3	23	0	0	23	12	26	258
1976	7	0	0	7	42	0	0	42	12	49	208
1977	2	0	0	2	2	0	0	2	4	4	99
1978	11	0	0	11	26	0	0	26	10	37	154
1979	0	0	0	0	40	0	0	40	11	40	337
1980	11	0	0	11	16	0	0	16	10	27	200
1981	4	0	0	4	13	0	0	13	7	17	130
1982	13	0	0	13	4	0	0	4	3	17	17
1983	7	0	0	7	6	0	0	6	4	13	137
1984	7	0	0	7	29	0	0	29	11	36	155
1985	11	1	0	12	28	0	0	28	14	40	209
1986	25	0	0	25	26	0	0	26	11	51	239
1987	1	0	0	1	5	0	0	5	4	6	52
1988	2	0	0	2	2	0	0	2	4	4	47
TOTAL	155	1	0	156	360	0	0	360	193	750	3849

AVERAGE DURATION OF AN ICING EVENT: 3.886 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 19.943 HOURS

MEMPHIS INTERNATIONAL AIRPORT, TN

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	0	0	0	0	0	0	0	0	0	0	0
1966	1	0	0	1	1	0	0	1	2	6	51
1967	4	0	0	4	0	0	0	0	2	12	42
1968	7	0	0	7	3	0	0	3	6	30	54
1969	0	0	0	0	1	0	0	1	1	3	3
1970	5	0	0	5	5	0	0	5	3	30	90
1971	1	0	0	1	0	0	0	0	1	3	3
1972	17	0	0	17	17	0	0	17	11	34	93
1973	8	0	0	8	11	0	0	11	6	19	144
1974	13	0	0	13	8	0	0	8	8	20	88
1975	1	0	0	1	0	0	0	0	1	1	31
1976	0	0	0	0	2	0	0	2	2	2	96
1977	5	0	0	5	3	0	0	3	5	8	69
1978	17	0	0	17	16	0	0	16	10	33	157
1979	15	0	0	15	9	0	0	9	3	24	113
1980	10	0	0	10	5	0	0	5	5	14	123
1981	6	0	0	6	0	0	0	0	1	6	6
1982	15	0	0	15	16	0	0	16	9	28	159
1983	9	0	0	9	27	0	0	27	9	36	139
1984	4	0	0	4	3	0	0	3	2	7	54
1985	8	0	0	8	1	0	0	1	4	9	58
1986	3	0	0	3	2	0	0	2	3	5	66
1987	11	0	0	11	0	0	0	0	3	11	58
1988	0	0	0	0	0	0	0	0	0	0	0
TOTAL	160	0	0	160	130	0	0	130	97	341	1697

AVERAGE DURATION OF AN ICING EVENT: 3.515 HOURS

AVERAGE DURATION OF A FREEZING EVENT: 17.494 HOURS

MIAMI INTERNATIONAL AIRPORT, FL

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	1	0	0	1	1	1	1
1980	0	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	1	0	0	1	1	1	1

1.000 HOURS
1.000 HOURS

AVERAGE DURATION OF AN ICING EVENT:
AVERAGE DURATION OF A FREEZING EVENT:

MIDLAND INTERNATIONAL AIRPORT, TX

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	2	0	0	2	1	0	0	1	2	9	18
1966	1	0	0	1	7	0	0	7	4	24	123
1967	0	0	0	0	11	0	0	11	5	33	87
1968	2	0	0	2	4	0	0	4	4	18	63
1969	2	0	0	2	0	0	0	0	2	6	42
1970	0	0	0	0	3	0	0	3	2	9	15
1971	0	0	0	0	0	0	0	0	0	0	0
1972	3	0	0	3	9	0	0	9	5	36	66
1973	8	0	0	8	39	0	0	39	12	47	200
1974	12	0	0	12	16	0	0	16	8	28	70
1975	1	0	0	1	8	0	0	8	2	8	13
1976	0	0	0	0	7	0	0	7	1	7	29
1977	2	0	0	2	2	0	0	2	2	4	74
1978	1	0	0	1	32	0	0	32	8	33	102
1979	19	1	0	20	31	0	0	31	11	51	136
1980	16	0	0	16	25	0	0	25	8	41	129
1981	0	0	0	0	0	0	0	0	0	0	0
1982	12	0	0	12	18	0	0	18	10	30	206
1983	3	0	0	3	13	0	0	13	4	16	145
1984	5	0	0	5	35	0	0	35	8	36	122
1985	2	0	0	2	17	0	0	17	6	18	91
1986	4	0	0	4	5	0	0	5	6	9	61
1987	2	0	0	2	38	0	0	38	7	40	162
1988	2	0	0	2	42	0	0	42	7	44	133
TOTAL	99	1	0	100	363	0	0	363	124	547	2087

AVERAGE DURATION OF AN ICING EVENT: 4.411 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 16.830 HOURS

MILWAUKEE - GENERAL MITCHELL INTERNATIONAL AIRPORT, WI

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	7	0	0	7	7	0	0	7	11	42	132
1966	4	0	0	4	1	0	0	1	1	15	33
1967	3	0	0	3	1	0	0	1	2	12	57
1968	4	0	0	4	4	0	0	4	6	24	126
1969	3	0	0	3	3	0	0	3	3	18	63
1970	0	0	0	0	4	0	0	4	3	12	69
1971	6	0	0	6	11	0	0	11	9	51	195
1972	11	0	0	11	14	0	0	14	15	75	465
1973	4	0	0	4	4	0	0	4	3	8	57
1974	1	0	0	1	5	0	0	5	4	18	27
1975	7	0	0	7	20	0	0	20	7	25	168
1976	14	0	0	14	38	0	0	38	13	46	192
1977	1	0	0	1	2	0	0	2	2	3	50
1978	7	0	0	7	40	0	0	40	14	47	252
1979	5	0	0	5	37	0	0	37	17	42	360
1980	9	0	0	9	16	0	0	16	10	25	225
1981	8	0	0	8	10	0	0	10	11	18	223
1982	6	0	0	6	11	0	0	11	5	17	206
1983	13	0	0	13	11	0	0	11	7	22	35
1984	3	0	0	3	26	0	0	26	12	29	223
1985	9	0	0	9	10	0	0	10	9	19	98
1986	12	2	0	14	13	0	0	13	9	27	135
1987	0	0	0	0	2	0	0	2	1	2	2
1988	0	0	0	0	0	0	0	0	0	0	0
TOTAL	137	2	0	139	290	0	0	290	174	597	3393

AVERAGE DURATION OF AN ICING EVENT: 3.431 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 19.500 HOURS

MINNEAPOLIS - ST PAUL INTERNATIONAL AIRPORT, MN

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	8	0	0	8	7	0	0	7	9	45	189
1966	0	0	0	0	6	0	0	6	3	18	63
1967	7	0	0	7	16	0	0	16	11	66	249
1968	5	0	0	5	10	0	0	10	8	45	249
1969	6	0	0	6	18	0	0	18	8	63	240
1970	3	0	0	3	35	0	0	35	10	38	284
1971	22	0	0	22	41	0	0	41	15	63	446
1972	14	0	0	14	28	0	0	28	19	42	537
1973	3	0	0	3	18	0	0	18	9	21	93
1974	0	0	0	0	22	0	0	22	5	22	72
1975	4	0	0	4	19	0	0	19	13	23	240
1976	0	0	0	0	24	0	0	24	6	24	133
1977	8	0	0	8	16	0	0	16	7	24	98
1978	10	0	0	10	43	0	0	43	10	53	235
1979	7	0	0	7	11	0	0	11	7	18	117
1980	2	0	0	2	22	0	0	22	10	24	231
1981	16	0	0	16	4	0	0	4	7	20	22
1982	6	0	0	6	20	0	0	20	11	26	34
1983	12	0	0	12	29	0	0	29	14	41	344
1984	1	0	0	1	16	0	0	16	9	16	179
1985	3	0	0	3	27	0	0	27	12	30	300
1986	7	0	0	7	50	0	0	50	28	57	561
1987	7	0	0	7	8	0	0	8	3	15	74
1988	0	0	0	0	9	0	0	9	5	9	178
TOTAL	151	0	0	151	499	0	0	499	239	803	5168

AVERAGE DURATION OF AN ICING EVENT: 3.359 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 21.623 HOURS

MOBILE - BATES FIELD, AL

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	EVENTS	ICING HOURS	FREEZING HOURS
1965	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0
1968	1	0	0	1	0	0	0	0	1	3	3
1969	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0	0
1973	1	0	0	1	0	0	0	0	1	3	3
1974	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0	0
1977	5	0	0	5	0	0	0	0	2	15	18
1978	2	0	0	2	0	0	0	0	2	6	6
1979	0	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0	0
1982	3	0	0	3	2	0	0	2	3	5	15
1983	2	0	0	2	0	0	0	0	1	2	6
1984	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0
TOTAL	14	0	0	14	2	0	0	2	10	34	51

3.400 HOURS

5.100 HOURS

AVERAGE DURATION OF AN ICING EVENT:

AVERAGE DURATION OF A FREEZING EVENT:

MOLINE - QUAD-CITY AIRPORT, IL

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	9	0	0	9	5	0	0	5	6	42	210
1966	5	0	0	5	4	0	0	4	4	27	126
1967	7	0	0	7	3	0	0	3	8	27	174
1968	3	0	0	3	6	0	0	6	7	27	189
1969	6	0	0	6	13	0	0	13	11	57	168
1970	2	0	0	2	5	0	0	5	5	21	87
1971	2	0	0	2	18	0	0	18	8	60	132
1972	6	0	0	6	12	0	0	12	16	54	450
1973	9	2	0	11	10	0	0	10	9	20	95
1974	0	0	0	0	5	0	0	5	3	5	96
1975	7	1	0	8	3	0	0	3	5	11	17
1976	7	0	0	7	6	0	0	6	7	13	33
1977	0	0	0	0	8	0	0	8	5	8	130
1978	16	1	0	17	38	0	0	38	14	55	385
1979	4	0	0	4	35	0	0	35	8	39	231
1980	9	0	0	9	12	0	0	12	10	21	219
1981	7	0	0	7	6	0	0	6	8	13	112
1982	18	0	0	18	21	0	0	21	16	39	356
1983	20	0	0	20	15	0	0	15	11	35	105
1984	21	0	0	21	23	0	0	23	10	43	148
1985	11	0	0	11	30	0	0	30	15	41	384
1986	8	0	0	8	15	0	0	15	4	23	84
1987	9	0	0	9	4	0	0	4	6	13	30
1988	7	0	0	7	4	0	0	4	4	11	58
TOTAL	193	4	0	197	301	0	0	301	200	705	4019

AVERAGE DURATION OF AN ICING EVENT: 3.525 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 20.095 HOURS

MONTGOMERY - DANNELLY FIELD, AL

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL--	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0
1970	2	0	0	2	0	0	0	0	1	2	3
1971	0	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0	0
1973	0	0	1	1	0	0	0	0	1	1	1
1974	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0
1978	1	0	0	1	1	0	0	1	0	2	2
1979	0	0	0	0	0	0	0	0	0	0	0
1980	1	0	0	1	4	0	0	4	2	5	18
1981	0	0	0	0	0	0	0	0	0	0	0
1982	13	1	0	14	0	0	0	14	2	14	26
1983	11	0	0	11	2	0	0	13	3	13	16
1984	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0
TOTAL	28	1	1	30	7	0	0	7	10	37	66
				AVERAGE DURATION OF AN ICING EVENT:	3.700 HOURS						
				AVERAGE DURATION OF A FREEZING EVENT:	6.600 HOURS						

NASHVILLE METROPOLITAN AIRPORT, TN

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	0	0	0	0	0	0	0	0	0	0	0
1966	1	0	0	1	1	0	0	1	2	6	6
1967	2	0	0	2	2	0	0	2	2	12	21
1968	3	0	0	3	9	0	0	9	6	36	75
1969	2	0	0	2	1	0	0	1	2	9	33
1970	6	0	0	6	0	0	0	0	2	6	54
1971	3	0	0	3	13	0	0	13	3	16	23
1972	13	0	0	13	4	0	0	4	4	16	72
1973	0	0	0	0	8	0	0	8	1	8	55
1974	10	1	0	11	7	0	0	7	3	18	61
1975	0	0	0	0	0	0	0	0	0	0	0
1976	4	0	0	4	6	0	0	6	4	10	91
1977	3	0	0	3	0	0	0	3	1	3	3
1978	9	0	0	9	11	0	0	11	8	20	151
1979	3	0	0	3	7	0	0	7	4	10	104
1980	8	0	0	8	8	0	0	8	4	16	110
1981	9	0	0	9	0	0	0	9	4	9	14
1982	1	0	0	1	2	0	0	2	2	3	75
1983	10	0	0	10	16	0	0	16	6	26	83
1984	0	0	0	0	0	0	0	0	0	0	0
1985	3	0	0	3	1	0	0	1	2	4	51
1986	11	0	0	11	5	0	0	5	4	16	73
1987	18	0	0	18	0	0	0	0	2	18	65
1988	0	0	0	0	0	0	0	0	0	0	0
TOTAL	119	1	0	120	101	0	0	101	66	262	1220

AVERAGE DURATION OF AN ICING EVENT:
 AVERAGE DURATION OF A FREEZING EVENT:

3.969 HOURS
 18.484 HOURS

NEWARK INTERNATIONAL AIRPORT, NJ

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965		1	0	11	10	0	0	10	3	21	91
1966	2	0	0	2	0	0	0	0	1	2	2
1967	1	0	0	1	0	0	0	0	1	3	3
1968	3	0	0	3	1	0	0	1	4	12	42
1969	5	0	0	5	3	0	0	3	4	24	24
1970	21	0	0	21	12	0	0	12	10	33	110
1971	8	0	0	8	1	0	0	1	2	9	9
1972	8	0	0	8	2	0	0	2	5	10	66
1973	19	0	0	19	8	0	0	8	7	27	78
1974	25	0	0	25	28	0	0	28	15	53	157
1975	8	0	0	8	1	0	0	1	4	9	17
1976	2	0	0	2	4	0	0	4	3	6	53
1977	2	0	0	2	0	0	0	0	1	6	6
1978	3	0	0	3	6	0	0	6	5	27	144
1979	2	0	0	2	1	0	0	1	1	9	12
1980	1	0	0	1	0	0	0	0	1	3	24
1981	1	0	0	1	0	0	0	0	1	1	5
1982	0	0	0	0	3	0	0	3	2	3	56
1983	5	0	0	5	0	0	0	0	2	5	5
1984	9	4	0	13	14	0	0	14	9	24	83
1985	10	0	0	10	6	0	0	6	7	16	85
1986	9	0	0	9	0	0	0	0	3	9	12
1987	13	0	0	13	9	0	0	9	10	22	78
1988	3	0	0	3	0	0	0	0	1	3	5
TOTAL	170	5	0	175	109	0	0	109	102	337	1167

AVERAGE DURATION OF AN ICING EVENT: 3.303 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 11.441 HOURS

NEW YORK - JOHN F KENNEDY INTERNATIONAL AIRPORT, NY

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	6	0	0	6	4	0	0	4	4	10	47
1966	1	0	0	1	0	0	0	0	1	1	1
1967	1	0	0	1	0	0	0	0	1	1	5
1968	6	0	0	6	0	0	0	0	4	6	110
1969	6	0	0	6	5	0	0	5	5	15	49
1970	21	0	0	21	12	0	0	12	10	33	110
1971	1	0	0	1	1	0	0	1	1	6	6
1972	1	0	0	1	0	0	0	0	1	3	27
1973	16	0	0	16	4	0	0	4	6	20	73
1974	9	0	0	9	18	0	0	18	13	27	191
1975	1	0	0	1	0	0	0	0	1	1	1
1976	0	0	0	0	1	0	0	1	1	1	3
1977	1	0	0	1	1	0	0	1	2	2	11
1978	3	0	0	3	4	0	0	4	2	7	54
1979	4	0	0	4	0	0	0	0	1	4	4
1980	0	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	1	0	0	1	1	1	48
1983	0	0	0	0	0	0	0	0	0	0	0
1984	1	1	0	2	10	0	0	10	7	12	113
1985	1	0	0	1	10	0	0	10	6	11	108
1986	0	0	0	0	0	0	0	0	0	0	0
1987	2	0	0	2	1	0	0	1	2	3	8
1988	0	0	0	0	0	0	0	0	0	0	0
TOTAL	81	1	0	82	72	0	0	72	69	164	969

AVERAGE DURATION OF AN ICING EVENT: 2.376 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 14.043 HOURS

NEW YORK - LA GUARDIA AIRPORT, NY

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	2	0	0	2	2	0	0	2	2	12	63
1966	1	0	0	1	0	0	0	0	1	3	3
1967	0	0	0	0	1	0	0	1	1	3	3
1968	4	0	0	4	1	0	0	1	5	15	51
1969	5	0	0	5	1	0	0	9	5	36	87
1970	5	0	0	5	6	0	0	6	7	33	105
1971	5	0	0	5	1	0	0	1	2	18	18
1972	3	0	0	3	1	0	0	1	3	12	45
1973	8	0	0	8	1	0	0	1	3	27	72
1974	9	0	0	9	13	0	0	13	10	66	168
1975	0	0	0	0	0	0	0	0	0	0	0
1976	1	0	0	1	4	0	0	4	2	5	6
1977	3	1	0	4	2	0	0	2	4	6	12
1978	9	0	0	9	4	0	0	4	4	13	63
1979	2	0	0	2	1	0	0	1	2	9	9
1980	1	0	0	1	1	0	0	0	1	3	27
1981	0	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	2	0	0	2	2	2	57
1983	0	0	0	0	0	0	0	0	0	0	0
1984	2	0	0	2	15	0	0	15	8	17	74
1985	3	0	0	3	8	0	0	8	4	11	71
1986	3	0	0	3	0	0	0	0	2	3	3
1987	4	0	0	4	7	0	0	7	4	11	28
1988	1	0	0	1	0	0	0	0	1	1	1
TOTAL	71	1	0	72	78	0	0	78	73	306	966
AVERAGE DURATION OF AN ICING EVENT:											
AVERAGE DURATION OF A FREEZING EVENT:											
	4.191 HOURS										
	13.232 HOURS										

NEW ORLEANS INTERNATIONAL AIRPORT, LA

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	2	0	0	2	1	2	12
1983	0	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	2	0	0	2	1	2	12

2.000 HOURS

12.000 HOURS

AVERAGE DURATION OF AN ICING EVENT:

AVERAGE DURATION OF A FREEZING EVENT:

NORFOLK INTERNATIONAL AIRPORT, VA

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	0	0	0	0	0	0	0	0	0	0	0
1966	3	0	0	3	1	0	0	1	3	12	78
1967	1	0	0	1	0	0	0	0	1	3	48
1968	5	0	0	5	0	0	0	0	2	15	96
1969	0	0	0	0	0	0	0	0	0	0	0
1970	0	1	0	1	0	0	0	0	1	1	1
1971	3	0	0	3	0	0	0	0	2	3	6
1972	0	0	0	0	0	0	0	0	0	0	0
1973	4	0	0	4	0	0	0	0	1	4	29
1974	0	0	0	0	2	0	0	2	1	2	15
1975	0	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0	0
1977	2	0	0	2	0	0	0	0	2	2	3
1978	1	0	0	1	0	0	0	0	1	1	1
1979	8	0	0	8	1	0	0	1	3	9	17
1980	0	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0	0
1982	4	0	0	4	1	0	0	1	1	5	44
1983	1	0	0	1	3	0	0	3	3	4	51
1984	0	0	0	0	0	0	0	0	0	0	0
1985	2	0	0	2	0	0	0	0	1	2	6
1986	0	0	0	0	0	0	0	0	0	0	0
1987	9	0	0	9	0	0	0	0	2	9	9
1988	0	0	0	0	3	0	0	3	2	3	25
TOTAL	43	1	0	44	11	0	0	11	26	75	429

AVERAGE DURATION OF AN ICING EVENT: 2.884 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 16.500 HOURS

OKLAHOMA CITY - WILL ROGERS WORLD AIRPORT, OK

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	5	0	0	5	4	0	0	4	7	27	111
1966	1	0	0	1	6	0	0	6	4	21	111
1967	4	0	0	4	6	0	0	6	5	30	96
1968	1	0	0	1	11	0	0	11	6	36	108
1969	3	0	0	3	2	0	0	2	3	15	18
1970	2	0	0	2	4	1	0	5	5	18	72
1971	2	0	0	2	1	0	0	1	3	9	15
1972	5	0	0	5	18	0	0	18	9	60	330
1973	0	0	0	0	4	0	0	4	1	12	57
1974	4	0	0	4	3	0	0	3	2	9	78
1975	4	0	0	4	3	0	0	3	5	21	138
1976	0	0	0	0	0	0	0	0	0	0	0
1977	1	0	0	1	1	0	0	1	0	6	42
1978	7	0	0	7	23	0	0	23	12	90	270
1979	4	0	0	4	20	0	0	20	14	72	381
1980	5	0	0	5	10	0	0	10	5	45	195
1981	0	0	0	0	2	0	0	2	1	6	51
1982	1	2	0	3	7	0	0	7	7	10	115
1983	4	0	0	4	40	0	0	40	11	44	214
1984	4	0	0	4	18	0	0	18	6	22	94
1985	3	0	0	3	29	0	0	29	9	32	250
1986	0	0	0	0	0	0	0	0	0	0	0
1987	24	1	0	25	30	0	0	30	13	54	142
1988	1	0	0	1	19	0	0	19	9	20	113
TOTAL	81	3	0	84	261	1	0	262	139	659	3001

AVERAGE DURATION OF AN ICING EVENT: 4.741 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 21.589 HOURS

OMAHA - EPPLEY AIRFIELD, NE

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	3	0	0	3	1	0	0	1	3	12	66
1966	3	0	0	3	19	0	0	19	4	22	74
1967	2	0	0	2	2	0	0	2	4	12	144
1968	2	0	0	2	8	0	0	8	4	30	123
1969	0	0	0	0	14	0	0	14	7	42	207
1970	3	0	0	3	10	0	0	10	5	39	174
1971	1	0	0	1	8	0	0	8	4	27	135
1972	0	0	0	0	6	0	0	6	5	18	159
1973	21	0	0	21	16	0	0	16	9	35	196
1974	0	0	0	0	15	0	0	15	4	15	53
1975	4	0	0	4	44	0	0	44	22	48	531
1976	1	0	0	1	16	0	0	16	5	17	73
1977	3	0	0	3	23	0	0	23	10	26	186
1978	0	0	0	0	43	0	0	43	11	43	247
1979	10	0	0	10	17	0	0	17	9	27	205
1980	8	0	0	8	28	0	0	28	8	36	267
1981	0	0	0	0	1	0	0	1	1	1	48
1982	13	1	0	14	16	0	0	16	13	30	277
1983	9	0	0	9	25	0	0	25	9	35	219
1984	4	0	0	4	14	0	0	14	12	18	227
1985	2	0	0	2	28	0	0	28	10	30	302
1986	5	1	0	6	14	0	0	14	9	20	79
1987	3	0	0	3	15	0	0	15	6	18	78
1988	0	0	0	0	5	0	0	5	1	5	52
TOTAL	97	2	0	99	388	0	0	388	175	606	4122

AVERAGE DURATION OF AN ICING EVENT: 3.462 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 23.554 HOURS

PENSACOLA REGIONAL AIRPORT, FL

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0	0
1973	0	1	0	1	0	0	0	0	1	3	21
1974	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0	0
1977	1	0	0	1	0	0	0	0	1	3	12
1978	0	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0	0
1982	2	0	0	2	1	0	0	1	3	3	13
1983	0	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	0	0
1985	1	0	0	1	0	0	0	0	1	1	46
1986	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0
TOTAL	4	1	0	5	1	0	0	1	6	10	92

AVERAGE DURATION OF AN ICING EVENT: 1.666 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 15.333 HOURS

PEORIA - GREATER PEORIA AIRPORT, IL

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	3	0	0	3	1	0	0	1	4	12	126
1966	6	0	0	6	4	0	0	4	4	30	75
1967	7	0	0	7	8	0	0	8	5	45	147
1968	5	0	0	5	3	0	0	3	6	24	150
1969	6	0	0	6	14	0	0	14	10	60	288
1970	8	0	0	8	30	0	0	30	8	38	257
1971	11	0	0	11	40	1	0	41	10	51	143
1972	35	0	0	35	110	0	0	110	40	144	742
1973	4	0	0	4	12	0	0	12	5	16	92
1974	11	0	0	11	8	0	0	8	7	19	188
1975	48	0	0	48	13	0	0	13	14	61	212
1976	6	0	0	6	19	0	0	19	8	25	277
1977	2	0	0	2	23	0	0	23	9	25	236
1978	32	0	0	32	47	0	0	47	19	76	367
1979	6	0	0	6	33	0	0	33	12	39	282
1980	3	0	0	3	24	0	0	24	11	27	268
1981	4	0	0	4	7	0	0	7	7	11	162
1982	27	0	0	27	8	0	0	8	10	35	123
1983	8	0	0	8	12	0	0	12	5	18	70
1984	34	0	0	34	11	0	0	11	11	45	180
1985	14	0	0	14	29	0	0	29	14	43	229
1986	9	0	0	9	10	0	0	10	7	19	133
1987	4	0	0	4	11	0	0	11	7	14	76
1988	9	0	0	9	14	0	0	14	6	23	75
TOTAL	302	0	0	302	491	1	0	492	239	900	4898

AVERAGE DURATION OF AN ICING EVENT: 3.765 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 20.493 HOURS

PITTSBURG - GREATER PITTSBURG INTERNATIONAL AIRPORT, PA

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	1	0	0	1	1	0	0	1	2	6	51
1966	1	0	0	1	0	0	0	0	1	3	3
1967	0	0	0	0	0	0	0	0	0	0	0
1968	4	1	0	5	1	0	0	1	5	18	72
1969	6	0	0	6	3	0	0	3	6	27	99
1970	20	1	0	21	8	0	0	8	9	29	262
1971	19	0	0	19	5	0	0	5	3	24	36
1972	13	0	0	13	8	0	0	8	6	21	121
1973	4	0	0	4	3	0	0	3	3	7	157
1974	20	0	0	20	15	0	0	15	9	35	67
1975	11	0	0	11	17	0	0	17	11	28	134
1976	15	0	0	15	6	0	0	6	6	21	180
1977	5	0	0	5	0	0	0	5	3	5	55
1978	8	0	0	8	8	0	0	8	6	16	20
1979	24	0	0	24	69	0	0	69	18	93	361
1980	2	0	0	2	5	0	0	5	7	7	80
1981	0	0	0	0	19	0	0	19	3	19	73
1982	20	1	0	21	18	0	0	18	12	39	157
1983	8	0	0	8	13	0	0	13	7	21	92
1984	10	1	0	11	2	0	0	2	7	13	104
1985	13	0	0	13	7	0	0	7	6	20	124
1986	12	0	0	12	8	0	0	8	10	20	130
1987	7	1	0	8	3	0	0	3	5	11	124
1988	4	0	0	4	4	0	0	4	3	7	31
TOTAL	227	5	0	232	223	0	0	223	148	490	2533

AVERAGE DURATION OF AN ICING EVENT: 3.310 HOURS

AVERAGE DURATION OF A FREEZING EVENT: 17.114 HOURS

PHILADELPHIA INTERNATIONAL AIRPORT, PA

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	EVENTS	ICING HOURS	FREEZING HOURS
1965	16	0	0	16	0	0	0	0	3	16	23
1966	5	0	0	5	2	0	0	2	2	7	20
1967	0	0	0	0	0	0	0	0	0	0	0
1968	11	0	0	11	7	0	0	7	9	18	85
1969	16	0	0	16	7	0	0	7	8	23	36
1970	4	0	0	4	1	0	0	1	1	5	8
1971	21	0	0	21	1	0	0	1	5	22	25
1972	11	0	0	11	1	0	0	1	6	12	36
1973	10	0	0	10	1	0	0	1	4	11	64
1974	45	0	0	45	12	0	0	12	11	57	139
1975	10	0	0	10	0	0	0	0	5	10	98
1976	4	0	0	4	0	0	0	0	2	4	55
1977	7	0	0	7	1	0	0	1	3	8	22
1978	13	0	0	13	2	0	0	2	8	15	116
1979	11	0	0	11	19	0	0	19	7	25	75
1980	7	0	0	7	1	0	0	1	4	8	42
1981	2	0	0	2	0	0	0	0	1	2	2
1982	5	0	0	5	6	0	0	6	4	11	19
1983	16	0	0	16	2	0	0	2	5	18	19
1984	13	0	0	13	9	0	0	9	6	22	72
1985	15	0	0	15	8	0	0	8	8	23	94
1986	2	0	0	2	1	0	0	1	3	3	90
1987	5	0	0	5	2	0	0	2	3	7	21
1988	1	0	0	1	1	0	0	1	2	2	49
TOTAL	250	0	0	250	84	0	0	84	110	329	1210

AVERAGE DURATION OF AN ICING EVENT: 2.990 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 11.000 HOURS

RALEIGH-DURHAM AIRPORT, NC

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	1	0	0	1	0	0	0	0	1	1	16
1966	3	0	0	3	1	0	0	1	3	12	45
1967	3	0	0	3	0	0	0	0	3	9	42
1968	13	0	0	13	0	0	0	0	5	39	114
1969	5	0	0	5	0	0	0	0	3	15	33
1970	6	0	0	6	1	0	0	1	5	21	99
1971	13	0	0	13	1	0	0	1	7	42	111
1972	0	1	0	1	0	0	0	0	1	1	1
1973	1	0	0	1	0	0	0	0	1	1	48
1974	5	0	0	5	2	0	0	2	2	7	29
1975	3	0	0	3	0	0	0	0	2	3	8
1976	0	0	0	0	0	0	0	0	0	0	0
1977	6	0	0	6	0	0	0	1	3	7	21
1978	23	3	0	26	3	0	0	3	5	29	30
1979	12	0	0	12	2	0	0	2	5	14	46
1980	19	0	0	19	4	0	0	4	8	23	81
1981	3	0	0	3	0	0	0	0	1	3	3
1982	27	0	0	27	2	0	0	2	9	29	124
1983	6	0	0	6	3	0	0	3	3	9	36
1984	10	0	0	10	1	0	0	1	1	10	18
1985	25	0	0	25	11	0	0	11	7	36	53
1986	0	0	0	0	1	0	0	1	1	1	7
1987	17	0	0	17	9	0	0	9	8	26	109
1988	16	1	0	17	4	0	0	4	2	21	24
TOTAL	217	5	0	222	46	0	0	46	86	359	1098

AVERAGE DURATION OF AN ICING EVENT: 4.174 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 12.767 HOURS

RICHMOND INTERNATIONAL AIRPORT, VA

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	0	0	0	0	0	0	0	0	0	0	0
1966	4	0	0	4	0	0	0	0	2	12	18
1967	4	0	0	4	0	0	0	0	2	12	54
1968	9	0	0	9	1	0	0	1	4	30	75
1969	9	0	0	9	0	0	0	0	1	9	15
1970	9	0	0	9	2	0	0	2	5	33	99
1971	5	0	0	5	6	0	0	6	5	33	66
1972	1	0	0	1	1	0	0	1	2	6	12
1973	2	0	0	2	0	0	0	0	1	6	51
1974	1	0	0	1	0	0	0	0	1	3	3
1975	0	0	0	0	0	0	0	0	0	0	0
1976	1	0	0	1	0	0	0	0	1	3	3
1977	12	0	0	12	0	0	0	0	4	12	50
1978	40	1	0	41	9	0	0	9	14	50	81
1979	26	1	0	27	6	0	0	6	8	33	79
1980	10	0	0	10	12	0	0	12	6	22	60
1981	0	0	0	0	0	0	0	0	0	0	0
1982	26	0	0	26	24	0	0	24	10	50	114
1983	6	0	0	6	9	0	0	9	5	15	16
1984	22	3	0	25	16	0	0	16	5	37	93
1985	1	0	0	1	5	0	0	5	3	6	19
1986	0	0	0	0	5	0	0	5	2	5	53
1987	8	0	0	8	4	0	0	4	3	11	80
1988	9	0	0	9	8	0	0	8	3	17	68
TOTAL	205	5	0	210	108	0	0	108	87	405	1109

AVERAGE DURATION OF AN ICING EVENT: 4.655 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 12.747 HOURS

ROANOKE REGIONAL AIRPORT, VA

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	2	0	0	2	0	0	0	0	1	6	9
1966	10	0	0	10	0	0	0	0	5	30	69
1967	2	0	0	2	0	0	0	0	2	6	33
1968	4	0	0	4	1	0	0	1	4	15	48
1969	6	1	0	7	1	0	0	1	4	24	27
1970	5	0	0	5	0	0	0	0	4	15	24
1971	6	0	0	6	3	0	0	3	2	27	27
1972	2	0	0	2	1	0	0	1	3	9	27
1973	7	0	0	7	0	0	0	0	4	21	51
1974	4	0	0	4	0	0	0	0	2	12	30
1975	3	0	0	3	3	0	0	3	4	18	69
1976	2	0	0	2	0	0	0	0	1	6	6
1977	11	0	0	11	8	0	0	8	2	19	21
1978	30	1	0	31	2	0	0	2	8	33	69
1979	25	0	0	25	8	0	0	8	4	33	47
1980	17	0	0	17	3	0	0	3	4	20	33
1981	14	0	0	14	3	0	0	3	8	17	52
1982	29	0	0	29	34	0	0	34	13	63	147
1983	23	2	0	25	3	0	0	3	5	28	39
1984	8	0	0	8	6	0	0	6	6	12	44
1985	5	0	0	5	4	0	0	4	2	9	20
1986	7	0	0	7	3	0	0	3	6	10	27
1987	12	0	0	12	13	0	0	13	5	25	55
1988	0	0	0	0	0	0	0	0	0	0	0
TOTAL	234	4	0	238	96	0	0	96	99	458	974

AVERAGE DURATION OF AN ICING EVENT: 4.626 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 9.838 HOURS

ROCHESTER - MONROE COUNTY AIRPORT, NY

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	10	0	0	10	0	0	0	0	5	30	78
1966	7	0	0	7	1	0	0	1	4	24	69
1967	5	0	0	5	1	0	0	1	4	18	39
1968	10	0	0	10	0	0	0	0	5	30	30
1969	4	0	0	4	0	0	0	0	2	12	57
1970	1	0	0	1	2	0	0	2	2	9	30
1971	9	0	0	9	3	0	0	3	5	36	78
1972	9	0	0	9	5	0	0	5	9	42	120
1973	1	0	0	1	0	0	0	0	1	3	3
1974	11	0	0	11	5	0	0	5	9	48	153
1975	9	0	0	9	3	0	0	3	8	12	114
1976	32	0	0	32	4	0	0	4	6	36	86
1977	3	0	0	3	5	0	0	5	5	8	30
1978	8	0	0	8	1	0	0	1	6	9	16
1979	16	0	0	16	23	0	0	23	14	39	196
1980	1	0	0	1	1	0	0	1	2	6	15
1981	1	0	0	1	6	0	0	6	3	7	66
1982	20	0	0	20	1	0	0	1	11	21	109
1983	27	0	0	27	6	0	0	6	9	33	82
1984	18	0	0	18	19	0	0	19	9	37	86
1985	17	0	0	17	11	0	0	11	11	28	106
1986	14	2	0	16	8	0	0	8	11	24	143
1987	4	0	0	4	5	0	0	5	4	9	30
1988	3	0	0	3	0	0	0	0	2	3	50
TOTAL	240	2	0	242	110	0	0	110	147	524	1786

AVERAGE DURATION OF AN ICING EVENT:
 3.564 HOURS

AVERAGE DURATION OF A FREEZING EVENT:
 12.149 HOURS

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS	
1965	8	0	0	8	22	0	0	22	17	90	351	
1966	1	0	0	1	8	0	0	8	4	24	72	
1967	7	0	0	7	16	0	0	16	13	69	315	
1968	0	0	0	0	20	0	0	20	9	60	225	
1969	7	1	0	8	27	0	0	27	12	99	423	
1970	1	0	0	1	26	0	0	26	13	81	369	
1971	2	0	0	2	21	0	0	21	13	69	351	
1972	8	0	0	8	17	0	0	17	16	75	441	
1973	14	0	0	14	44	0	0	44	22	56	364	
1974	12	0	0	12	56	0	0	56	13	66	200	
1975	9	0	0	9	24	0	0	24	10	33	103	
1976	5	0	0	5	48	0	0	48	9	53	228	
1977	7	0	0	7	13	0	0	13	10	20	180	
1978	6	0	0	6	15	0	0	15	9	63	291	
1979	9	0	0	9	38	0	0	38	19	47	477	
1980	1	0	0	1	15	0	0	15	11	48	156	
1981	14	0	0	14	15	0	0	15	8	20	208	
1982	34	1	0	35	6	0	0	24	19	59	311	
1983	31	0	0	31	79	0	0	79	29	104	508	
1984	6	0	0	6	31	0	0	31	9	37	285	
1985	8	0	0	8	34	0	0	34	17	42	383	
1986	19	0	0	19	103	0	0	103	37	117	772	
1987	21	0	0	21	42	0	0	42	21	63	323	
1988	5	0	0	5	13	0	0	13	7	18	115	
TOTAL	235	2	0	237	742	0	0	742	347	1413	7451	
					4.072 HOURS							
					21.472 HOURS							
					AVERAGE DURATION OF AN ICING EVENT:							
					AVERAGE DURATION OF A FREEZING EVENT:							

SAN ANTONIO INTERNATIONAL AIRPORT, TX

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	1	0	0	1	0	0	0	0	1	3	9
1966	1	0	0	1	0	0	0	0	1	3	21
1967	0	0	0	0	0	0	0	0	0	0	0
1968	10	0	0	10	5	0	0	5	3	15	16
1969	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0
1972	1	0	0	1	3	0	0	3	2	12	12
1973	4	0	0	4	3	0	0	3	2	21	63
1974	0	0	0	0	1	0	0	1	1	3	12
1975	0	0	0	0	0	0	0	0	0	0	0
1976	1	0	0	1	0	0	0	0	1	3	9
1977	2	0	0	2	2	0	0	2	3	9	12
1978	2	0	0	2	3	0	0	3	4	15	18
1979	1	0	0	1	3	0	0	3	1	12	15
1980	0	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0	0
1982	10	0	0	10	4	0	0	4	4	14	61
1983	0	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	0	0
1985	10	0	0	10	24	0	0	24	8	34	66
1986	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0
TOTAL	43	0	0	43	48	0	0	48	31	144	314

AVERAGE DURATION OF AN ICING EVENT: 4.645 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 10.129 HOURS

SALT LAKE CITY INTERNATIONAL AIRPORT, UT

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	0	0	0	0	3	0	0	3	2	3	36
1966	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0
1971	2	0	0	2	0	0	0	2	1	2	19
1972	3	0	0	3	0	0	0	3	3	3	31
1973	0	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0	0
1976	9	0	0	9	0	0	0	9	1	9	9
1977	2	0	0	2	0	0	0	2	1	2	2
1978	1	0	0	1	0	0	0	1	1	1	1
1979	4	0	0	4	0	0	0	4	2	4	4
1980	1	0	0	1	0	0	0	1	1	1	2
1981	0	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0	0
1983	16	0	0	16	3	0	0	19	7	19	32
1984	4	0	0	4	6	0	0	10	3	10	89
1985	1	0	0	1	2	0	0	3	2	3	8
1986	2	0	0	2	0	0	0	2	2	2	8
1987	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0
TOTAL	45	0	0	45	14	0	0	14	26	59	241

AVERAGE DURATION OF AN ICING EVENT: 2.269 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 9.269 HOURS

SAN FRANCISCO INTERNATIONAL AIRPORT, CA

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS	
1965	0	0	0	0	0	0	0	0	0	0	0	
1966	0	0	0	0	0	0	0	0	0	0	0	
1967	0	0	0	0	0	0	0	0	0	0	0	
1968	0	0	0	0	0	0	0	0	0	0	0	
1969	0	0	0	0	0	0	0	0	0	0	0	
1970	0	0	0	0	0	0	0	0	0	0	0	
1971	0	0	0	0	0	0	0	0	0	0	0	
1972	0	0	0	0	0	0	0	0	0	0	0	
1973	0	0	0	0	0	0	0	0	0	0	0	
1974	0	0	1	1	0	0	0	0	1	1	1	
1975	0	0	0	0	0	0	0	0	0	0	0	
1976	0	0	0	0	0	0	0	0	0	0	0	
1977	0	0	0	0	0	0	0	0	0	0	0	
1978	0	0	0	0	0	0	0	0	0	0	0	
1979	0	0	0	0	0	0	0	0	0	0	0	
1980	0	0	0	0	0	0	0	0	0	0	0	
1981	0	0	0	0	0	0	0	0	0	0	0	
1982	0	0	0	0	0	0	0	0	0	0	0	
1983	0	0	0	0	0	0	0	0	0	0	0	
1984	0	0	0	0	0	0	0	0	0	0	0	
1985	0	0	0	0	0	0	0	0	0	0	0	
1986	0	0	0	0	0	0	0	0	0	0	0	
1987	0	0	0	0	0	0	0	0	0	0	0	
1988	0	0	0	0	0	0	0	0	0	0	0	
TOTAL	0	0	1	1	0	0	0	0	1	1	1	
AVERAGE DURATION OF AN ICING EVENT:					1.000 HOURS							
AVERAGE DURATION OF A FREEZING EVENT:					1.000 HOURS							

SAVANNAH INTERNATIONAL AIRPORT, GA

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL HOURS	# EVENTS	ICING HOURS	FREEZING HOURS	
1965	0	0	0	0	0	0	0	0	0	0	0	
1966	0	0	0	0	0	0	0	0	0	0	0	
1967	0	0	0	0	0	0	0	0	0	0	0	
1968	1	0	0	1	2	0	2	2	2	9	24	
1969	0	0	0	0	0	0	0	0	0	0	0	
1970	0	0	0	0	0	0	0	0	0	0	0	
1971	0	0	0	0	0	0	0	0	0	0	0	
1972	0	0	0	0	0	0	0	0	0	0	0	
1973	0	0	0	0	0	0	0	0	0	0	0	
1974	0	0	0	0	0	0	0	0	0	0	0	
1975	0	0	0	0	0	0	0	0	0	0	0	
1976	0	0	0	0	0	0	0	0	0	0	0	
1977	0	0	0	0	0	0	0	0	0	0	0	
1978	0	0	0	0	0	0	0	0	0	0	0	
1979	9	0	0	9	3	0	0	3	3	10	27	
1980	10	0	0	10	8	0	0	8	4	18	48	
1981	0	0	0	0	0	0	0	0	0	0	0	
1982	0	0	0	0	0	0	0	0	0	0	0	
1983	1	0	0	1	0	0	0	0	1	1	1	
1984	0	0	0	0	0	0	0	0	0	0	0	
1985	0	0	0	0	0	0	0	0	0	0	0	
1986	0	0	0	0	0	0	0	0	0	0	0	
1987	0	0	0	0	0	0	0	0	0	0	0	
1988	5	0	0	5	3	0	0	3	3	8	48	
TOTAL	26	0	0	26	16	0	0	16	13	46	148	
					3.538 HOURS							
					11.384 HOURS							
					AVERAGE DURATION OF AN ICING EVENT:							
					AVERAGE DURATION OF A FREEZING EVENT:							

SHREVEPORT REGIONAL AIRPORT, LA

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	1	0	0	1	0	0	0	0	1	3	30
1966	2	0	0	2	3	0	0	3	4	15	36
1967	0	0	0	0	0	0	0	0	0	0	0
1968	6	1	0	7	0	0	0	0	3	21	51
1969	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	3	0	0	3	2	9	33
1971	0	0	0	0	0	0	0	0	0	0	0
1972	1	0	0	1	1	0	0	1	2	6	54
1973	4	1	0	5	0	0	0	0	2	15	21
1974	5	0	0	5	1	0	0	1	2	18	66
1975	0	0	0	0	0	0	0	0	0	0	0
1976	1	0	0	1	0	0	0	0	1	3	27
1977	5	0	0	5	2	0	0	2	3	21	33
1978	16	1	0	17	7	0	0	7	5	72	183
1979	8	0	0	8	2	0	0	2	4	30	90
1980	0	0	0	0	0	0	0	0	0	0	0
1981	2	0	0	2	0	0	0	0	1	2	5
1982	17	0	0	17	2	0	0	2	3	19	53
1983	23	0	0	23	20	0	0	20	13	42	156
1984	0	0	0	0	2	0	0	2	1	2	9
1985	3	0	0	3	10	0	0	10	5	13	79
1986	3	0	0	3	1	0	0	1	3	4	17
1987	0	0	0	0	0	0	0	0	0	0	0
1988	10	0	0	10	0	0	0	0	3	10	92
TOTAL	107	3	0	110	54	0	0	54	58	305	1035

AVERAGE DURATION OF AN ICING EVENT:
 AVERAGE DURATION OF A FREEZING EVENT:

5.258 HOURS
 16.706 HOURS

SIOUX CITY - SIOUX GATEWAY AIRPORT, IA											
YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	1	0	0	1	8	0	0	8	7	12	78
1966	4	0	0	4	8	0	0	8	10	45	189
1967	7	0	0	7	13	0	0	13	7	39	213
1968	0	0	0	0	29	0	0	29	13	90	336
1969	1	0	0	1	2	0	0	2	1	6	9
1970	0	0	0	0	8	0	0	8	9	48	249
1971	9	0	0	9	10	0	0	10	10	42	219
1972	4	0	0	4	10	0	0	10	4	18	114
1973	1	0	0	1	5	0	0	5	4	21	120
1974	1	0	0	1	6	0	0	6	24	51	452
1975	7	0	0	7	44	0	0	44	6	37	103
1976	0	0	0	0	37	0	0	37	8	33	267
1977	6	0	0	6	27	0	0	27	8	35	75
1978	3	0	0	3	34	0	0	34	13	31	223
1979	4	0	0	4	27	0	0	27	13	24	114
1980	1	0	0	1	7	0	0	7	2	2	2
1981	2	0	0	2	0	0	0	0	1	28	416
1982	13	0	0	13	15	0	0	15	15	30	308
1983	6	0	0	6	24	0	0	24	10	53	164
1984	5	0	0	5	48	0	0	48	16	62	401
1985	12	0	0	12	50	0	0	50	15	93	454
1986	26	0	0	26	67	0	0	67	29	59	254
1987	20	0	0	20	40	0	0	40	19	17	167
1988	4	0	0	4	13	0	0	13	6	903	5179
TOTAL	137	0	0	137	522	0	0	522	240		
AVERAGE DURATION OF AN ICING EVENT:					3.762 HOURS						
AVERAGE DURATION OF A FREEZING EVENT:					21.579 HOURS						

SIoux FALLS - JOE FOSS FIELD, SD

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	1	0	0	1	8	0	0	8	7	27	252
1966	4	0	0	4	0	0	0	0	3	12	78
1967	7	0	0	7	8	0	0	8	10	45	189
1968	0	0	0	0	13	0	0	13	7	39	213
1969	1	0	0	1	29	0	0	29	13	90	336
1970	0	0	0	0	2	0	0	2	1	6	9
1971	9	0	0	9	8	0	0	8	9	48	249
1972	4	0	0	4	10	0	0	10	10	42	219
1973	1	0	0	1	5	0	0	5	4	18	114
1974	1	0	0	1	6	0	0	6	4	21	120
1975	7	0	0	7	44	0	0	44	24	51	452
1976	0	0	0	0	37	0	0	37	6	37	103
1977	6	0	0	6	27	0	0	27	8	33	267
1978	3	0	0	3	34	0	0	34	8	35	75
1979	4	0	0	4	27	0	0	27	13	31	223
1980	1	0	0	1	7	0	0	7	2	24	114
1981	2	0	0	2	0	0	0	0	1	2	2
1982	13	0	0	13	15	0	0	15	15	28	416
1983	6	0	0	6	24	0	0	24	10	30	308
1984	5	0	0	5	48	0	0	48	16	53	164
1985	12	0	0	12	50	0	0	50	15	62	401
1986	26	0	0	26	67	0	0	67	29	93	454
1987	20	0	0	20	40	0	0	40	19	59	254
1988	3	0	0	3	3	0	0	3	5	6	109
TOTAL	136	0	0	136	512	0	0	512	239	892	5121

AVERAGE DURATION OF AN ICING EVENT:
 3.732 HOURS

AVERAGE DURATION OF A FREEZING EVENT:
 21.426 HOURS

SPRINGFIELD REGIONAL AIRPORT, MO

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	2	1	0	3	8	0	0	8	7	33	180
1966	5	0	0	5	5	0	0	5	4	30	132
1967	12	0	0	12	0	0	0	0	4	36	120
1968	2	0	0	2	0	0	0	10	8	33	246
1969	6	0	0	6	10	0	0	10	13	48	204
1970	4	0	0	4	10	0	0	11	9	45	198
1971	3	0	0	3	11	0	0	7	7	30	138
1972	17	0	0	17	25	0	0	25	16	126	366
1973	6	0	0	6	8	0	0	8	9	14	248
1974	11	1	0	12	16	0	0	16	16	28	284
1975	4	0	0	4	15	0	0	15	13	19	195
1976	6	0	0	6	12	0	0	12	5	16	217
1977	13	0	0	13	6	0	0	6	14	19	148
1978	53	0	0	53	36	0	0	36	27	89	468
1979	8	0	0	8	20	0	0	20	15	28	380
1980	17	0	0	17	18	0	0	18	11	35	183
1981	8	0	0	8	11	0	0	11	6	19	73
1982	2	0	0	2	3	0	0	3	3	5	83
1983	1	0	0	1	36	0	0	36	8	37	172
1984	4	0	0	4	2	0	0	2	2	6	32
1985	3	0	0	3	55	0	0	55	9	58	205
1986	4	0	0	4	5	0	0	5	6	9	108
1987	47	0	0	47	29	0	0	29	16	76	232
1988	10	0	0	10	34	0	0	34	7	44	152
TOTAL	248	2	0	250	382	0	0	382	235	883	4764

AVERAGE DURATION OF AN ICING EVENT: 3.757 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 20.272 HOURS

SPRINGFIELD - CAPITAL AIRPORT, IL

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	4	0	0	4	2	0	0	2	3	18	153
1966	6	0	0	6	3	0	0	3	4	27	81
1967	6	1	0	7	2	0	0	2	4	27	120
1968	2	0	0	2	4	0	0	4	5	18	117
1969	8	0	0	8	9	0	0	9	10	45	228
1970	1	2	0	3	9	0	0	9	6	33	198
1971	2	0	0	2	9	0	0	9	5	33	57
1972	13	1	0	14	15	0	0	15	18	84	414
1973	14	0	0	14	4	0	0	4	6	18	162
1974	18	0	0	18	20	0	0	20	10	37	239
1975	18	2	0	20	16	0	0	16	16	35	162
1976	18	0	0	18	15	0	0	15	12	33	185
1977	11	0	0	11	24	0	0	24	14	35	323
1978	18	1	0	19	12	0	0	12	13	93	315
1979	8	0	0	8	2	0	0	2	5	30	114
1980	0	0	0	0	6	0	0	6	3	18	87
1981	8	0	0	8	2	0	0	2	5	14	60
1982	31	0	0	31	13	0	0	13	14	44	190
1983	14	1	0	15	13	0	0	13	8	28	176
1984	33	0	0	33	6	0	0	6	13	39	189
1985	13	0	0	13	36	0	0	36	13	49	228
1986	1	0	0	1	1	0	0	1	2	2	2
1987	5	0	0	5	8	0	0	8	5	12	93
1988	9	0	0	9	6	0	0	6	6	15	132
TOTAL	261	8	0	269	237	0	0	237	200	787	4025

AVERAGE DURATION OF AN ICING EVENT: 3.935 HOURS

AVERAGE DURATION OF A FREEZING EVENT: 20.125 HOURS

ST LOUIS - LAMBERT-ST LOUIS INTERNATIONAL AIRPORT, MO

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	11	0	0	11	10	0	0	10	12	19	276
1966	2	0	0	2	2	0	0	2	2	12	57
1967	7	0	0	7	2	0	0	7	5	27	114
1968	2	0	0	2	5	0	0	5	5	21	201
1969	3	0	0	3	4	0	0	4	4	21	30
1970	6	0	0	6	6	0	0	6	8	36	132
1971	2	0	0	2	12	0	0	12	6	42	57
1972	25	4	0	29	49	0	0	49	22	78	387
1973	10	1	0	11	0	0	0	11	4	11	60
1974	9	0	0	9	26	0	0	26	13	35	256
1975	23	0	0	23	18	0	0	18	17	40	98
1976	14	0	0	14	13	0	0	13	6	25	160
1977	9	0	0	9	23	0	0	23	9	32	150
1978	26	6	0	32	11	0	0	11	14	43	199
1979	9	2	0	11	8	0	0	8	7	19	155
1980	3	0	0	3	14	0	0	14	4	17	75
1981	6	0	0	6	2	0	0	2	2	8	18
1982	6	0	0	6	6	0	0	6	7	12	181
1983	6	0	0	6	12	0	0	12	11	18	146
1984	10	0	0	10	0	0	0	10	4	10	36
1985	6	0	0	6	22	0	0	22	12	28	211
1986	0	0	0	0	11	0	0	11	1	11	42
1987	8	1	0	9	3	0	0	3	7	12	115
1988	16	0	0	16	14	0	0	14	10	29	110
TOTAL	219	14	0	233	273	0	0	273	192	606	3266

AVERAGE DURATION OF AN ICING EVENT: 3.156 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 17.010 HOURS

SYRACUSE HANCOCK INTERNATIONAL AIRPORT, NY

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	24	0	0	24	19	0	0	19	13	42	152
1966	31	0	0	31	9	0	0	9	10	40	148
1967	7	0	0	7	2	0	0	2	2	9	31
1968	20	1	0	21	5	0	0	5	10	26	150
1969	6	1	0	7	1	0	0	1	6	24	105
1970	2	0	0	2	5	0	0	5	3	21	135
1971	11	0	0	11	1	0	0	1	10	36	87
1972	18	0	0	18	1	0	0	1	13	57	231
1973	2	0	0	2	0	0	0	0	1	6	6
1974	7	0	0	7	6	0	0	6	9	39	180
1975	2	0	0	2	0	0	0	0	2	6	6
1976	12	0	0	12	0	0	0	0	2	36	42
1977	5	0	0	5	11	0	0	11	6	48	108
1978	5	0	0	5	2	0	0	2	6	21	24
1979	7	0	0	7	12	0	0	12	10	57	234
1980	7	0	0	7	1	0	0	1	4	24	69
1981	8	0	0	8	6	0	0	6	6	14	26
1982	25	0	0	25	4	0	0	4	10	29	43
1983	35	0	0	35	7	0	0	7	16	42	141
1984	28	1	0	29	18	0	0	18	12	47	149
1985	20	0	0	20	21	0	0	21	9	41	118
1986	30	0	0	30	11	0	0	11	14	41	186
1987	2	0	0	2	4	0	0	4	3	6	7
1988	1	0	0	1	0	0	0	0	1	1	48
TOTAL	315	3	0	318	146	0	0	146	178	713	2426

AVERAGE DURATION OF AN ICING EVENT:
 AVERAGE DURATION OF A FREEZING EVENT:

TALLAHASSEE MUNICIPAL AIRPORT, FL

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0	0
1977	3	0	0	3	0	0	0	0	0	0	0
1978	1	0	0	1	0	0	0	0	1	3	3
1979	1	0	0	1	0	0	0	0	1	1	1
1980	0	0	0	0	2	0	0	2	1	1	1
1981	0	0	0	0	0	0	0	0	1	2	2
1982	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0
TOTAL	5	0	0	5	2	0	0	2	4	7	33

AVERAGE DURATION OF AN ICING EVENT: 1.750 HOURS

AVERAGE DURATION OF A FREEZING EVENT: 8.250 HOURS

TAMPA INTERNATIONAL AIRPORT, FL

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	1	1	1	1	1
1975	0	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	1	0	0	1	1	1	1
1978	0	1	0	1	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	1	0	1	1	0	1	2	3	3	3

1.000 HOURS
1.000 HOURS

AVERAGE DURATION OF AN ICING EVENT:
AVERAGE DURATION OF A FREEZING EVENT:

TOLEDO EXPRESS AIRPORT, OH

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	9	0	0	9	1	0	0	1	4	27	75
1966	3	0	0	3	1	0	0	1	3	12	51
1967	17	0	0	17	4	0	0	4	9	60	231
1968	4	0	0	4	8	0	0	8	8	36	153
1969	4	0	0	4	5	0	0	5	6	27	186
1970	3	0	0	3	7	0	0	7	5	30	120
1971	7	0	0	7	4	0	0	4	4	33	36
1972	11	0	0	11	14	0	0	14	11	75	294
1973	1	0	0	1	2	0	0	2	2	3	44
1974	3	0	0	3	15	0	0	15	10	18	231
1975	19	0	0	19	11	0	0	11	10	30	61
1976	14	1	0	15	3	0	0	3	7	18	141
1977	3	2	0	5	4	0	0	4	5	9	153
1978	13	0	0	13	5	0	0	5	10	54	153
1979	9	0	0	9	11	0	0	11	12	57	297
1980	5	0	0	5	5	0	0	5	7	30	147
1981	1	0	0	1	3	0	0	3	2	6	11
1982	37	0	0	37	19	0	0	19	14	56	217
1983	9	0	0	9	7	0	0	7	7	16	109
1984	11	1	0	12	21	0	0	21	8	31	64
1985	11	0	0	11	6	0	0	6	8	16	123
1986	15	0	0	15	11	0	0	11	9	26	113
1987	5	0	0	5	13	0	0	13	6	18	106
1988	5	0	0	5	7	0	0	7	7	10	108
TOTAL	219	4	0	223	187	0	0	187	174	698	3224

4.011 HOURS

18.528 HOURS

AVERAGE DURATION OF AN ICING EVENT:

AVERAGE DURATION OF A FREEZING EVENT:

TULSA INTERNATIONAL AIRPORT, OK

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	1	0	0	1	4	0	0	4	4	15	90
1966	2	0	0	2	4	1	0	5	2	18	63
1967	4	0	0	4	3	0	0	3	3	21	48
1968	2	0	0	2	11	0	0	11	8	39	177
1969	5	0	0	5	3	0	0	3	2	24	69
1970	0	0	0	0	8	0	0	8	4	24	108
1971	1	0	0	1	1	0	0	1	2	6	9
1972	7	0	0	7	20	2	0	22	10	87	372
1973	8	0	0	8	8	0	0	8	3	16	153
1974	14	0	0	14	11	0	0	11	9	25	236
1975	6	3	0	9	7	0	0	7	7	16	150
1976	12	0	0	12	5	0	0	5	6	17	91
1977	5	0	0	5	1	0	0	1	3	6	36
1978	23	0	0	23	24	0	0	24	10	46	249
1979	0	0	0	0	7	0	0	7	5	21	204
1980	0	0	0	0	2	0	0	2	2	6	51
1981	1	0	0	1	0	0	0	0	1	3	48
1982	2	0	0	2	9	0	0	9	5	11	61
1983	1	0	0	1	7	0	0	7	6	8	114
1984	0	0	0	0	0	0	0	0	0	0	0
1985	12	0	0	12	13	0	0	13	12	25	158
1986	0	0	0	0	0	0	0	0	0	0	0
1987	35	0	0	35	24	0	0	24	11	59	153
1988	4	0	0	4	21	0	0	21	4	25	72
TOTAL	145	3	0	148	193	3	0	196	119	518	2712

AVERAGE DURATION OF AN ICING EVENT: 4.352 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 22.789 HOURS

WASHINGTON - DULLES INTERNATIONAL AIRPORT, DC

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	2	0	0	2	1	0	0	1	2	9	9
1966	6	0	0	6	1	0	0	1	3	21	51
1967	1	0	0	1	0	0	0	0	1	3	3
1968	2	1	0	3	2	0	0	2	4	5	28
1969	6	0	0	6	4	0	0	4	2	10	15
1970	8	0	0	8	0	0	0	0	2	8	18
1971	15	0	6	21	15	0	0	15	5	36	37
1972	11	0	0	11	5	0	0	5	9	16	44
1973	1	0	0	1	2	0	0	2	2	9	12
1974	10	0	0	10	3	0	0	3	8	39	87
1975	12	0	0	12	4	0	0	4	7	48	120
1976	3	0	0	3	0	0	0	0	2	9	63
1977	15	0	0	15	5	0	0	5	3	19	33
1978	21	0	0	21	8	0	0	8	12	29	111
1979	18	0	0	18	25	0	0	25	8	43	114
1980	23	0	0	23	8	0	0	8	10	31	47
1981	3	0	0	3	0	0	0	0	1	3	3
1982	10	0	0	10	16	0	0	16	6	26	64
1983	22	1	0	23	5	0	0	5	4	28	37
1984	20	0	0	20	13	0	0	13	8	33	106
1985	32	0	0	32	10	0	0	10	8	42	114
1986	7	0	0	7	7	0	0	7	8	14	42
1987	12	0	0	12	4	0	0	4	6	16	47
1988	1	0	0	1	0	0	0	0	1	1	10
TOTAL	261	2	6	269	138	0	0	138	122	498	1215

AVERAGE DURATION OF AN ICING EVENT: 4.082 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 9.614 HOURS

WASHINGTON NATIONAL AIRPORT, DC

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	0	0	0	0	0	0	0	0	0	0	0
1966	5	0	0	5	2	1	0	3	4	8	43
1967	0	0	0	0	0	0	0	0	0	0	0
1968	7	0	0	7	2	0	0	2	4	9	70
1969	10	0	0	10	0	0	0	0	3	10	15
1970	13	0	0	13	0	0	0	0	2	13	15
1971	11	0	0	11	6	0	0	6	4	17	26
1972	7	0	0	7	2	0	0	2	3	9	16
1973	0	0	0	0	0	0	0	0	0	0	0
1974	2	0	0	2	0	0	0	0	2	2	3
1975	1	0	0	1	0	0	0	0	1	3	3
1976	4	0	0	4	0	0	0	0	2	12	63
1977	4	0	0	4	1	0	0	1	2	15	15
1978	6	0	0	6	1	0	0	1	6	21	30
1979	5	0	0	5	8	0	0	8	3	39	42
1980	2	0	0	2	0	0	0	0	1	6	6
1981	0	0	0	0	0	0	0	0	0	0	0
1982	6	0	0	6	17	0	0	17	9	23	79
1983	7	0	0	7	2	0	0	2	3	9	10
1984	9	0	0	9	11	0	0	11	3	20	68
1985	16	0	0	16	4	0	0	4	5	19	73
1986	1	0	0	1	10	0	0	10	4	11	30
1987	3	0	0	3	4	0	0	4	4	7	24
1988	4	0	0	4	0	0	0	0	2	4	13
TOTAL	123	0	0	123	70	1	0	71	64	257	644

AVERAGE DURATION OF AN ICING EVENT: 4.015 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 10.062 HOURS

WICHITA MID-CONTINENT AIRPORT, KS

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	1	0	0	1	3	0	0	3	4	12	78
1966	1	0	0	1	10	0	0	10	6	33	216
1967	6	0	0	6	5	0	0	5	4	30	87
1968	1	0	0	1	11	0	0	11	8	36	180
1969	4	0	0	4	11	0	0	11	9	45	153
1970	1	0	0	1	14	0	0	14	6	45	132
1971	3	0	0	3	4	0	0	4	4	21	153
1972	4	0	0	4	15	0	0	15	8	57	372
1973	10	0	0	10	17	0	0	17	8	24	185
1974	11	0	0	11	9	0	0	9	8	20	163
1975	20	0	0	20	34	0	0	34	18	54	274
1976	2	0	0	2	5	0	0	5	1	7	11
1977	0	0	0	0	21	0	0	21	5	21	50
1978	13	0	0	13	71	0	0	71	21	80	360
1979	4	0	0	4	30	0	0	30	7	34	166
1980	9	0	0	9	40	0	0	40	7	49	177
1981	0	0	0	0	15	0	0	15	2	15	32
1982	16	0	0	16	39	0	0	39	10	53	201
1983	10	0	0	10	19	3	0	22	12	32	288
1984	33	0	0	33	39	0	0	39	12	72	198
1985	3	0	0	3	73	0	0	73	14	74	321
1986	2	0	0	2	0	0	0	0	1	2	2
1987	0	0	0	0	4	0	0	4	2	4	91
1988	4	0	0	4	7	0	0	7	3	11	94
TOTAL	158	0	0	158	496	3	0	499	180	831	3984

AVERAGE DURATION OF AN ICING EVENT:
 AVERAGE DURATION OF A FREEZING EVENT:

4.616 HOURS
 22.133 HOURS

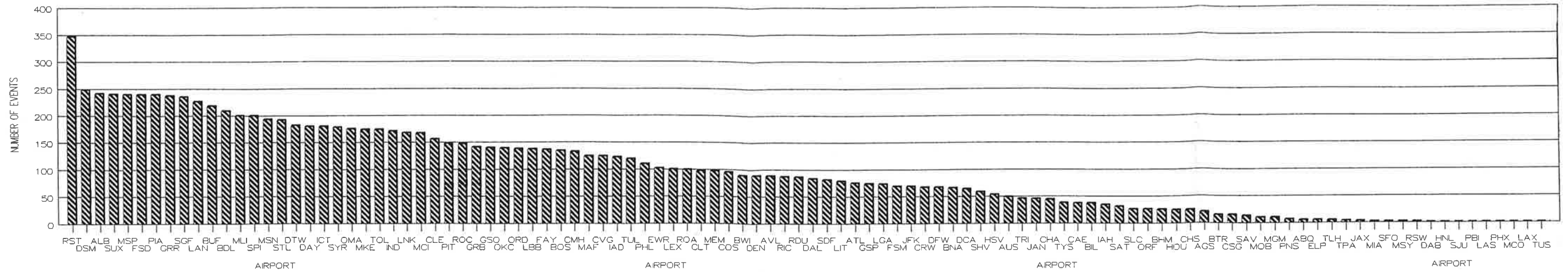
WINDSOR LOCKS - BRADLEY INTERNATIONAL AIRPORT, CT

YEAR	ZR-	ZR	ZR+	ZR TOTAL	ZL-	ZL	ZL+	ZL TOTAL	# EVENTS	ICING HOURS	FREEZING HOURS
1965	10	0	0	10	9	0	0	9	11	57	96
1966	6	1	0	7	1	0	0	1	4	21	24
1967	6	0	0	6	0	0	0	0	4	18	21
1968	12	1	0	13	3	0	0	3	7	48	72
1969	13	0	0	13	3	0	0	3	7	48	159
1970	24	0	0	24	11	0	0	11	14	34	235
1971	25	0	0	25	11	0	0	11	9	36	125
1972	46	6	0	52	33	0	0	33	24	85	206
1973	26	0	0	26	32	0	0	32	9	57	170
1974	25	0	0	25	32	0	0	32	14	57	179
1975	6	0	2	8	4	0	0	4	9	36	72
1976	5	0	0	5	11	0	0	11	10	48	84
1977	6	1	0	7	4	0	0	4	4	33	126
1978	10	0	0	10	8	0	0	8	8	54	159
1979	8	1	0	9	4	0	0	4	10	39	195
1980	4	0	0	4	5	0	0	5	5	27	81
1981	8	0	0	8	1	0	0	1	3	10	10
1982	12	0	0	12	22	0	0	22	7	33	88
1983	24	0	0	24	1	0	0	1	6	25	28
1984	35	0	0	35	17	0	0	17	15	52	138
1985	35	0	0	35	38	0	0	38	10	73	201
1986	32	1	0	33	16	0	0	16	11	47	93
1987	13	0	0	13	4	0	0	4	5	17	37
1988	3	0	0	3	3	0	0	3	3	6	79
TOTAL	394	11	2	407	273	0	0	273	209	961	2678

AVERAGE DURATION OF AN ICING EVENT: 4.598 HOURS
 AVERAGE DURATION OF A FREEZING EVENT: 12.813 HOURS

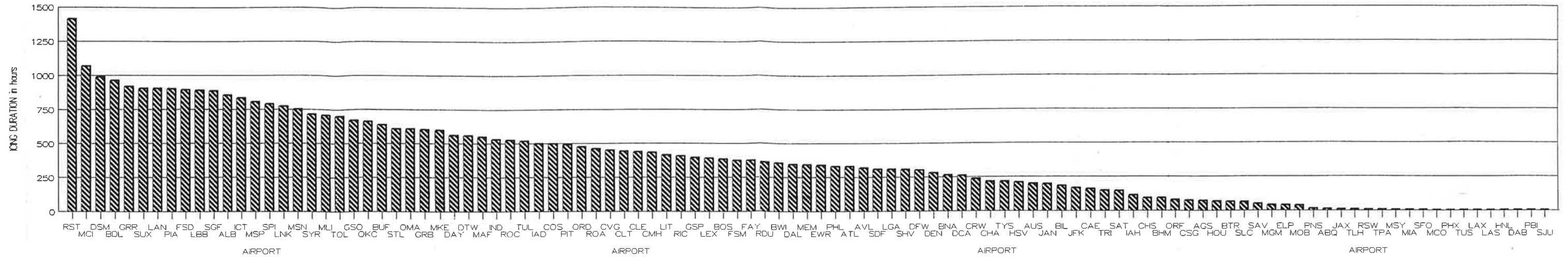
APPENDIX C. RANKED DATA SUMMARIES: HISTOGRAMS AND DATA TABLES

- C-1. RANKED ICING EVENTS
- C-2. RANKED ICING DURATION
- C-3. RANKED FREEZING DURATION
- C-4. RANKED GLAZING DURATION
- C-5. RANKED WEIGHTED ICING AND GLAZING DURATION



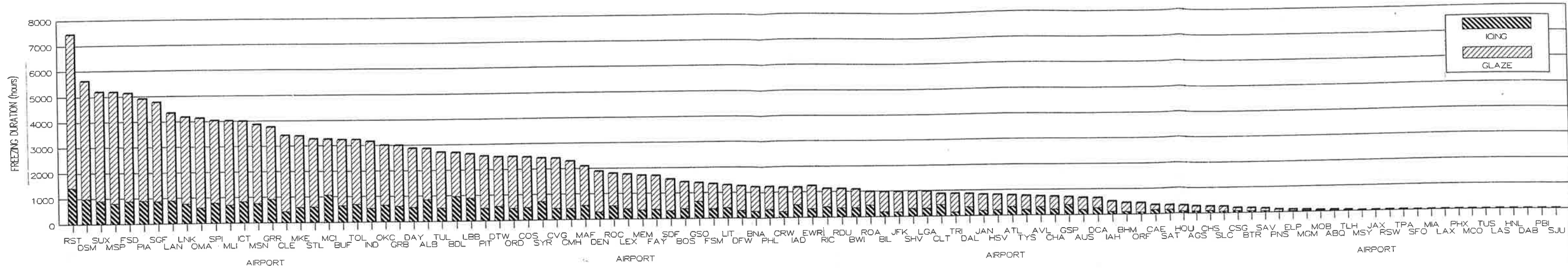
AIRPORT	# EVENTS	ICING	FREEZING	GLAZING	I+G/6	AIRPORT	# EVENTS	ICING	FREEZING	GLAZING	I+G/6	AIRPORT	# EVENTS	ICING	FREEZING	GLAZING	I+G/6
RST	347	1413	7451	6038	2419	CMH	132	431	2279	1848	739	CAE	37	158	344	186	189
DSM	248	985	5612	4627	1756	MAF	124	547	2087	1540	804	BIL	37	182	970	788	313
ALB	241	854	2853	2252	1372	CVG	124	447	2411	1964	774	IAH	34	110	503	393	176
SUX	240	903	5179	4276	1616	IAD	122	498	1173	675	611	SAT	31	144	314	170	172
PIA	239	900	4898	3998	1566	TUL	119	518	2712	2194	884	ORF	26	75	429	354	134
FSD	239	892	5121	4229	1597	PHL	110	329	1210	881	476	SLC	26	59	241	182	89
MSP	239	803	5168	4365	1531	EWR	102	337	1167	889	485	BHM	25	89	441	352	148
GRR	237	917	3747	2830	1389	LEX	100	389	1755	1366	617	HOU	24	64	300	236	103
SGF	235	883	4764	3881	1530	ROA	99	458	974	516	544	CHS	24	91	262	171	120
LAN	226	902	4339	3437	1475	MEM	97	341	1697	1356	567	AGS	20	70	273	203	104
BUF	218	636	3225	2589	1068	CLT	97	440	862	422	510	CSG	15	71	184	113	90
BDL	209	961	2678	1717	1247	COS	95	496	2472	1976	825	BTR	15	63	168	105	81
SPI	200	787	4025	3238	1327	BWI	89	353	1012	728	533	SAV	13	46	148	102	63
MLI	200	705	4019	3314	1257	DEN	89	278	1876	1598	544	MOB	10	34	51	17	37
MSN	193	750	3849	3099	1267	AVL	88	316	730	414	385	MGM	10	37	66	29	42
STL	192	606	3266	2660	1049	RIC	87	405	1109	704	522	PNS	6	10	92	82	24
DTW	182	556	2502	1946	880	RDU	86	359	1098	739	482	ABQ	5	8	49	41	15
DAY	180	560	2867	2307	945	DAL	83	344	855	511	429	ELP	5	36	84	48	44
ICT	180	831	3984	3153	1357	SDF	81	308	1541	1233	514	TLH	4	7	33	26	11
SYR	178	713	2426	1713	999	LIT	79	411	1286	875	557	TPA	3	3	3	0	3
OMA	175	606	4122	3516	1192	ATL	75	329	777	448	404	JAX	2	7	7	0	7
MKE	174	597	3393	2796	1063	GSP	74	394	697	303	445	SFO	1	1	1	0	1
TOL	174	698	3224	2526	1119	LGA	73	306	966	660	416	MIA	1	1	1	0	1
IND	171	528	3154	2626	966	JFK	69	164	969	805	298	RSW	1	3	3	0	3
LNK	168	771	4173	3402	1338	FSM	69	373	1343	970	535	MSY	1	2	12	10	4
MCI	167	1065	3260	2195	1431	CRW	67	235	1182	947	393	DAB	0	0	0	0	0
CLE	156	435	3417	2982	932	DFW	67	300	1249	949	458	HNL	0	0	0	0	0
PIT	148	490	2533	2043	831	BNA	66	262	1220	958	422	SJU	0	0	0	0	0
ROC	147	524	1786	1262	734	DCA	64	257	644	387	322	PBI	0	0	0	0	0
GRB	141	600	2998	2398	1000	SHV	58	305	969	664	416	LAS	0	0	0	0	0
GSO	140	668	1385	717	788	HSV	53	206	802	596	305	PHX	0	0	0	0	0
OKC	139	659	3001	2342	1049	AUS	49	197	652	455	273	LAX	0	0	0	0	0
ORD	138	473	2493	2020	810	TRI	46	147	860	713	266	TUS	0	0	0	0	0
LBB	137	887	2621	1734	1176	JAN	45	196	814	618	299	MCO	0	0	0	0	0
FAY	136	372	1684	1312	591	CHA	44	214	711	497	297						
BOS	134	382	1431	1049	557	TYS	38	214	759	545	305						

C-1. RANKED ICING EVENTS



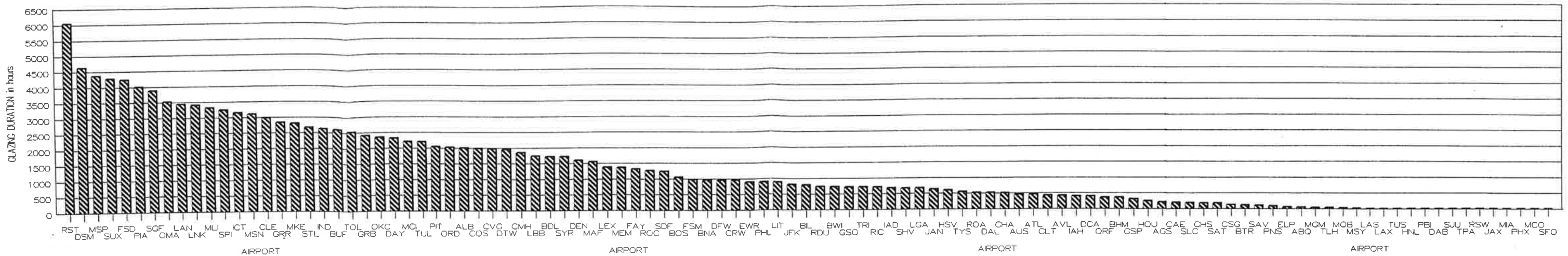
AIRPORT	# EVENTS	ICING	FREEZING	GLAZING	I+G/6	AIRPORT	# EVENTS	ICING	FREEZING	GLAZING	I+G/6	AIRPORT	# EVENTS	ICING	FREEZING	GLAZING	I+G/6
RST	347	1413	7451	6038	2419	ORD	138	473	2493	2020	810	CAE	37	158	344	186	189
MCI	167	1065	3260	2195	1431	ROA	99	458	974	516	544	TRI	46	147	860	713	266
DSM	248	985	5612	4627	1756	CVG	124	447	2411	1964	774	SAT	31	144	314	170	172
BDL	209	961	2678	1717	1247	CLT	97	440	862	422	510	IAH	34	110	503	393	176
GRR	237	917	3747	2830	1389	CLE	156	435	3417	2982	932	CHS	24	91	262	171	120
SUX	240	903	5179	4276	1616	CMH	132	431	2279	1848	739	BHM	25	89	441	352	148
LAN	226	902	4339	3437	1475	LIT	79	411	1286	875	557	ORF	26	75	429	354	134
PIA	239	900	4898	3998	1566	RIC	87	405	1109	704	522	CSG	15	71	184	113	90
FSD	239	892	5121	4229	1597	GSP	74	394	697	303	445	AGS	20	70	273	203	104
LBB	137	887	2621	1734	1176	LEX	100	389	1755	1366	617	HOU	24	64	300	236	103
SGF	235	883	4764	3881	1530	BOS	134	382	1431	1049	557	BTR	15	63	168	105	81
ALB	241	854	2853	2252	1372	FSM	69	373	1343	970	535	SLC	26	59	241	182	89
ICT	180	831	3984	3153	1357	FAY	136	372	1684	1312	591	SAV	13	46	148	102	63
MSP	239	803	5168	4365	1531	RDU	86	359	1098	739	482	MGM	10	37	66	29	42
SPI	200	787	4025	3238	1327	BWI	89	353	1012	728	533	ELP	5	36	84	48	44
LNK	168	771	4173	3402	1338	DAL	83	344	855	511	429	MOB	10	34	51	17	37
MSN	193	750	3849	3099	1267	MEM	97	341	1697	1356	567	PNS	6	10	92	82	24
SYR	178	713	2426	1713	999	EWR	102	337	1167	889	485	ABQ	5	8	49	41	15
MLI	200	705	4019	3314	1257	ATL	75	329	777	448	404	JAX	2	7	7	0	7
TOL	174	698	3224	2526	1119	PHL	110	329	1210	881	476	TLH	4	7	33	26	11
GSO	140	668	1385	717	788	AVL	88	316	730	414	385	RSW	1	3	3	0	3
OKC	139	659	3001	2342	1049	SDF	81	308	1541	1233	514	TPA	3	3	3	0	3
BUF	218	636	3225	2589	1068	LGA	73	306	966	660	416	MSY	1	2	12	10	4
STL	192	606	3266	2660	1049	SHV	58	305	969	664	416	SFO	1	1	1	0	1
OMA	175	606	4122	3516	1192	DFW	67	300	1249	949	458	MIA	1	1	1	0	1
GRB	141	600	2998	2398	1000	DEN	89	278	1876	1598	544	LAX	0	0	0	0	0
MKE	174	597	3393	2796	1063	BNA	66	262	1220	958	422	PHX	0	0	0	0	0
DAY	180	560	2867	2307	945	DCA	64	257	644	387	322	MCO	0	0	0	0	0
DTW	182	556	2502	1946	880	CRW	67	235	1182	947	393	TUS	0	0	0	0	0
MAF	124	547	2087	1540	804	CHA	44	214	711	497	297	LAS	0	0	0	0	0
IND	171	528	3154	2626	966	TYS	38	214	759	545	305	HNL	0	0	0	0	0
ROC	147	524	1786	1262	734	HSV	53	206	802	596	305	DAB	0	0	0	0	0
TUL	119	518	2712	2194	884	AUS	49	197	652	455	273	PBI	0	0	0	0	0
IAD	122	498	1173	675	611	JAN	45	196	814	618	299	SJU	0	0	0	0	0
COS	95	496	2472	1976	825	BIL	37	182	970	788	313						
PIT	148	490	2533	2043	831	JFK	69	164	969	805	298						

C-2. RANKED ICING DURATION



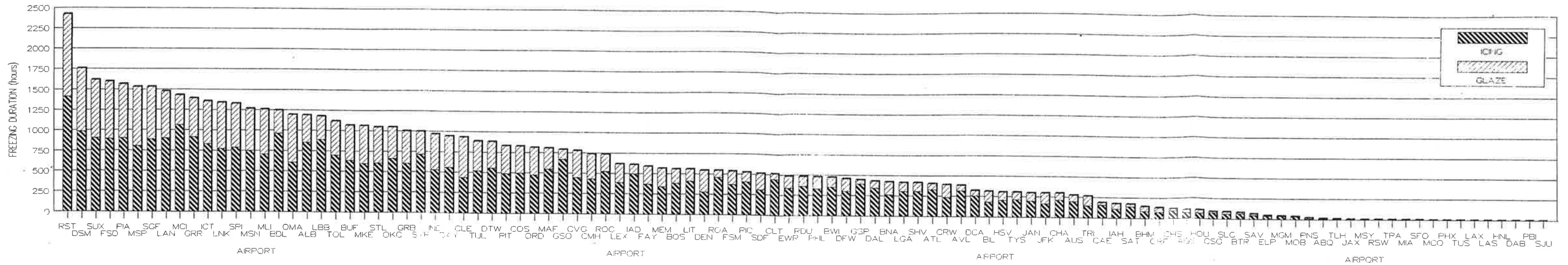
AIRPORT	# EVENTS	ICING	FREEZING	GLAZING	I+G/6	AIRPORT	# EVENTS	ICING	FREEZING	GLAZING	I+G/6	AIRPORT	# EVENTS	ICING	FREEZING	GLAZING	I+G/6
RST	347	1413	7451	6038	2419	MAF	124	547	2087	1540	804	DCA	64	257	644	387	322
DSM	248	985	5612	4627	1756	DEN	89	278	1876	1598	544	IAH	34	110	503	393	176
SUX	240	903	5179	4276	1616	ROC	147	524	1786	1262	734	BHM	25	89	441	352	148
MSP	239	803	5168	4365	1531	LEX	100	389	1755	1366	617	ORF	26	75	429	354	134
FSD	239	892	5121	4229	1597	MEM	97	341	1697	1356	567	CAE	37	158	344	186	189
PIA	239	900	4898	3998	1566	FAY	136	372	1684	1312	591	SAT	31	144	314	170	172
SGF	235	883	4764	3881	1530	SDF	81	308	1541	1233	514	HOU	24	64	300	236	103
LAN	226	902	4339	3437	1475	BOS	134	382	1431	1049	557	AGS	20	70	273	203	104
LNK	168	771	4173	3402	1338	GSO	140	668	1385	717	788	CHS	24	91	262	171	120
OMA	175	606	4122	3516	1192	FSM	69	373	1343	970	535	SLC	26	59	241	182	89
SPI	200	787	4025	3238	1327	LIT	79	411	1286	875	557	CSG	15	71	184	113	90
MLI	200	705	4019	3314	1257	DFW	67	300	1249	949	458	BTR	15	63	168	105	81
ICT	180	831	3984	3153	1357	BNA	66	262	1220	958	422	SAV	13	46	148	102	63
MSN	193	750	3849	3099	1267	PHL	110	329	1210	881	476	PNS	6	10	92	82	24
GRR	237	917	3747	2830	1389	CRW	67	235	1182	947	393	ELP	5	36	84	48	44
CLE	156	435	3417	2982	932	IAD	122	498	1173	675	611	MGM	10	37	66	29	42
MKE	174	597	3393	2796	1063	EWR	102	337	1167	889	485	MOB	10	34	51	17	37
STL	192	606	3266	2660	1049	RIC	87	405	1109	704	522	ABQ	5	8	49	41	15
MCI	167	1065	3260	2195	1431	RDU	86	359	1098	739	482	TLH	4	7	33	26	11
BUF	218	636	3225	2589	1068	BWI	89	353	1012	728	533	MSY	1	2	12	10	4
TOL	174	698	3224	2526	1119	ROA	99	458	974	516	544	JAX	2	7	7	0	7
IND	171	528	3154	2626	966	BIL	37	182	970	788	313	TPA	3	3	3	0	3
OKC	139	659	3001	2342	1049	SHV	58	305	969	664	416	RSW	1	3	3	0	3
GRB	141	600	2998	2398	1000	JFK	69	164	969	805	298	MIA	1	1	1	0	1
DAY	180	560	2867	2307	945	LGA	73	306	966	660	416	SFO	1	1	1	0	1
ALB	241	854	2853	2252	1372	CLT	97	440	862	422	510	DAB	0	0	0	0	0
TUL	119	518	2712	2194	884	TRI	46	147	860	713	266	HNL	0	0	0	0	0
BDL	209	961	2678	1717	1247	DAL	83	344	855	511	429	SJU	0	0	0	0	0
LBB	137	887	2621	1734	1176	JAN	45	196	814	618	299	PBI	0	0	0	0	0
PIT	148	490	2533	2043	831	HSV	53	206	802	596	305	LAS	0	0	0	0	0
DTW	182	556	2502	1946	880	ATL	75	329	777	448	404	PHX	0	0	0	0	0
ORD	138	473	2493	2020	810	TYS	38	214	759	545	305	LAX	0	0	0	0	0
COS	95	496	2472	1976	825	AVL	88	316	730	414	385	TUS	0	0	0	0	0
SYR	178	713	2426	1713	999	CHA	44	214	711	497	297	MCO	0	0	0	0	0
CVG	124	447	2411	1964	774	GSP	74	394	697	303	445						
CMH	132	431	2279	1848	739	AUS	49	197	652	455	273						

C-3. RANKED FREEZING DURATION



AIRPORT	# EVENTS	ICING	FREEZING	GLAZING	I+G/6	AIRPORT	# EVENTS	ICING	FREEZING	GLAZING	I+G/6	AIRPORT	# EVENTS	ICING	FREEZING	GLAZING	I+G/6
RST	347	1413	7451	6038	2419	DEN	89	278	1876	1598	544	DCA	64	257	644	387	322
DSM	248	985	5612	4627	1756	MAF	124	547	2087	1540	804	ORF	26	75	429	354	134
MSP	239	803	5168	4365	1531	LEX	100	389	1755	1366	617	BHM	25	89	441	352	148
SUX	240	903	5179	4276	1616	MEM	97	341	1697	1356	567	GSP	74	394	697	303	445
FSD	239	892	5121	4229	1597	FAY	136	372	1684	1312	591	HOU	24	64	300	236	103
PIA	239	900	4898	3998	1566	ROC	147	524	1786	1262	734	AGS	20	70	273	203	104
SGF	235	883	4764	3881	1530	SDF	81	308	1541	1233	514	CAE	37	158	344	186	189
OMA	175	606	4122	3516	1192	BOS	134	382	1431	1049	557	SLC	26	59	241	182	89
LAN	226	902	4339	3437	1475	FSM	69	373	1343	970	535	CHS	24	91	262	171	120
LNK	168	771	4173	3402	1338	BNA	66	262	1220	958	422	SAT	31	144	314	170	172
MLI	200	705	4019	3314	1257	DFW	67	300	1249	949	458	CSG	15	71	184	113	90
SPI	200	787	4025	3238	1327	CRW	67	235	1182	947	393	BTR	15	63	168	105	81
ICT	180	831	3984	3153	1357	EWR	102	337	1167	889	485	SAV	13	46	148	102	63
MSN	193	750	3849	3099	1267	PHL	110	329	1210	881	476	PNS	6	10	92	82	24
CLE	156	435	3417	2982	932	LIT	79	411	1286	875	557	ELP	5	36	84	48	44
GRR	237	917	3747	2830	1389	JFK	69	164	969	805	298	ABQ	5	8	49	41	15
MKE	174	597	3393	2796	1063	BIL	37	182	970	788	313	MGM	10	37	66	29	42
STL	192	606	3266	2660	1049	RDU	86	359	1098	739	482	TLH	4	7	33	26	11
IND	171	528	3154	2626	966	BWI	89	353	1012	728	533	MOB	10	34	51	17	37
BUF	218	636	3225	2589	1068	GSO	140	668	1385	717	788	MSY	1	2	12	10	4
TOL	174	698	3224	2526	1119	TRI	46	147	860	713	266	LAS	0	0	0	0	0
GRB	141	600	2998	2398	1000	RIC	87	405	1109	704	522	PBI	0	0	0	0	0
OKC	139	659	3001	2342	1049	IAD	122	498	1173	675	611	SJU	0	0	0	0	0
DAY	180	560	2867	2307	945	SHV	58	305	969	664	416	PHX	0	0	0	0	0
ALB	241	854	2853	2252	1372	LGA	73	306	966	660	416	MCO	0	0	0	0	0
MCI	167	1065	3260	2195	1431	JAN	45	196	814	618	299	TUS	0	0	0	0	0
TUL	119	518	2712	2194	884	HSV	53	206	802	596	305	LAX	0	0	0	0	0
PIT	148	490	2533	2043	831	TYS	38	214	759	545	305	RSW	1	3	3	0	3
ORD	138	473	2493	2020	810	ROA	99	458	974	516	544	TPA	3	3	3	0	3
COS	95	496	2472	1976	825	DAL	83	344	855	511	429	JAX	2	7	7	0	7
CVG	124	447	2411	1964	774	CHA	44	214	711	497	297	MIA	1	1	1	0	1
DTW	182	556	2502	1946	880	AUS	49	197	652	455	273	HNL	0	0	0	0	0
CMH	132	431	2279	1848	739	ATL	75	329	777	448	404	DAB	0	0	0	0	0
LBB	137	887	2621	1734	1176	CLT	97	440	862	422	510	SFO	1	1	1	0	1
BDL	209	961	2678	1717	1247	AVL	88	316	730	414	385						
SYR	178	713	2426	1713	999	IAH	34	110	503	393	176						

C-4. RANKED GLAZING DURATION



AIRPORT	# EVENTS	ICING	FREEZING	GLAZING	I+G/6	G/6	AIRPORT	# EVENTS	ICING	FREEZING	GLAZING	I+G/6	G/6	AIRPORT	# EVENTS	ICING	FREEZING	GLAZING	I+G/6	G/6	
RST	347	1413	7451	6038	2419	1006	CVG	124	447	2411	1964	774	327	AUS	49	197	652	455	273	76	
DSM	248	985	5612	4627	1756	771	CMH	132	431	2279	1848	739	308	TRI	46	147	860	713	266	119	
SUX	240	903	5179	4276	1616	713	ROC	147	524	1786	1262	734	210	CAE	37	158	344	186	189	31	
FSD	239	892	5121	4229	1597	705	LEX	100	389	1755	1366	617	228	IAH	34	110	503	393	176	66	
PIA	239	900	4898	3998	1566	666	IAD	122	498	1173	675	611	113	SAT	31	144	314	170	172	28	
MSP	239	803	5168	4365	1531	728	FAY	136	372	1684	1312	591	219	BHM	25	89	441	352	148	59	
SGF	235	883	4764	3881	1530	647	MEM	97	341	1697	1356	567	226	ORF	26	75	429	354	134	59	
LAN	226	902	4339	3437	1475	573	BOS	134	382	1431	1049	557	175	CHS	24	91	262	171	120	29	
MCI	167	1065	3260	2195	1431	366	LIT	79	411	1286	875	557	146	AGS	20	70	273	203	104	34	
GRR	237	917	3747	2830	1389	472	DEN	89	278	1876	1598	544	266	HOU	24	64	300	236	103	39	
ICT	180	831	3984	3153	1357	526	ROA	99	458	974	516	544	86	CSG	15	71	184	113	90	19	
LNK	168	771	4173	3402	1338	567	FSM	69	373	1343	970	535	162	SLC	26	59	241	182	89	30	
SPI	200	787	4025	3238	1327	540	RIC	87	405	1109	704	522	117	BTR	15	63	168	105	81	18	
MSN	193	750	3849	3099	1267	517	SDF	81	308	1541	1233	514	206	SAV	13	46	148	102	63	17	
MLI	200	705	4019	3314	1257	552	CLT	97	440	862	422	510	70	ELP	5	36	84	48	44	8	
BDL	209	961	2678	1717	1247	286	EWR	102	337	1167	889	485	148	MGM	10	37	66	29	42	5	
OMA	175	606	4122	3516	1192	586	RDU	86	359	1098	739	482	123	MOB	10	34	51	17	37	3	
ALB	241	854	2853	1999	1187	333	PHL	110	329	1210	881	476	147	PNS	6	10	92	82	24	14	
LBB	137	887	2621	1734	1176	289	BWI	89	353	1012	728	474	121	ABQ	5	8	49	41	15	7	
TOL	174	698	3224	2526	1119	421	DFW	67	300	1249	949	458	158	TLH	4	7	33	26	11	4	
BUF	218	636	3225	2589	1068	432	GSP	74	394	697	303	445	51	JAX	2	7	7	0	7	0	
MKE	174	597	3393	2796	1063	466	DAL	83	344	855	511	429	85	MSY	1	2	12	10	4	2	
OKC	139	659	3001	2342	1049	390	BNA	66	262	1220	958	422	160	RSW	1	3	3	0	3	0	
STL	192	606	3266	2660	1049	443	LGA	73	306	966	660	416	110	TPA	3	3	3	0	3	0	
GRB	141	600	2998	2398	1000	400	SHV	58	305	969	664	416	111	MIA	1	1	1	0	1	0	
SYR	178	713	2426	1713	999	286	ATL	75	329	777	448	404	75	SFO	1	1	1	0	1	0	
IND	171	528	3154	2626	966	438	CRW	67	235	1182	947	393	158	MCO	0	0	0	0	0	0	
DAY	180	560	2867	2307	945	385	AVL	88	316	730	414	385	69	PHX	0	0	0	0	0	0	
CLE	156	435	3417	2982	932	497	DCA	64	257	644	387	322	65	TUS	0	0	0	0	0	0	
TUL	119	518	2712	2194	884	366	BIL	37	182	970	788	313	131	LAX	0	0	0	0	0	0	
DTW	182	556	2502	1946	880	324	HSV	53	206	802	596	305	99	LAS	0	0	0	0	0	0	
PIT	148	490	2533	2043	831	341	TYS	38	214	759	545	305	91	HNL	0	0	0	0	0	0	
COS	95	496	2472	1976	825	329	JAN	45	196	814	618	299	103	DAB	0	0	0	0	0	0	
ORD	138	473	2493	2020	810	337	JFK	69	164	969	805	298	134	FBI	0	0	0	0	0	0	
MAF	124	547	2087	1540	804	257	CHA	44	214	711	497	297	83	SJU	0	0	0	0	0	0	
GSO	140	668	1385	717	788	120															

C-5. WEIGHTED ICING AND GLAZING DURATION



