



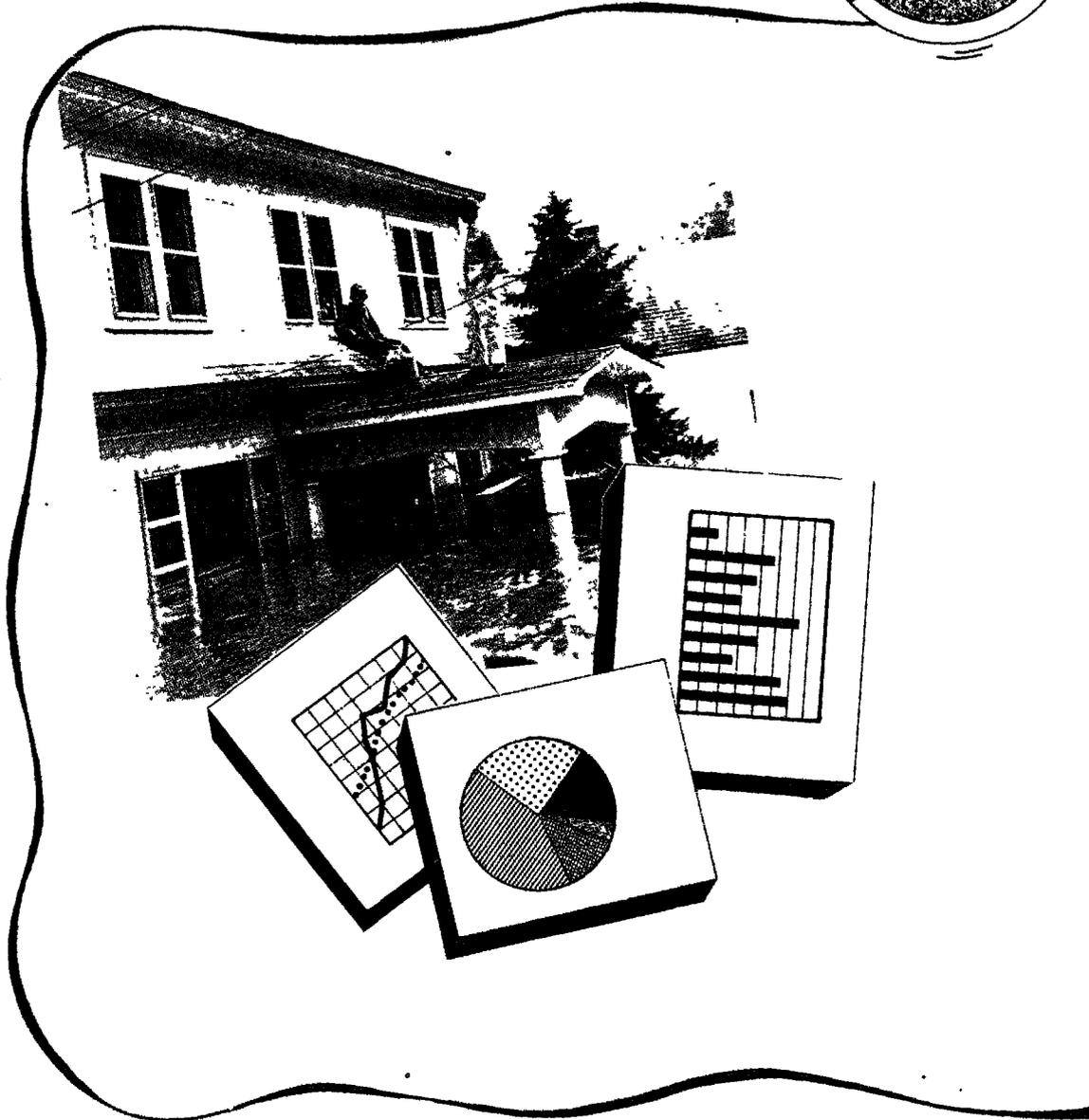
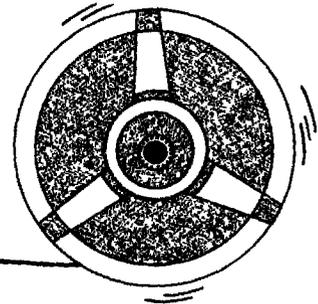
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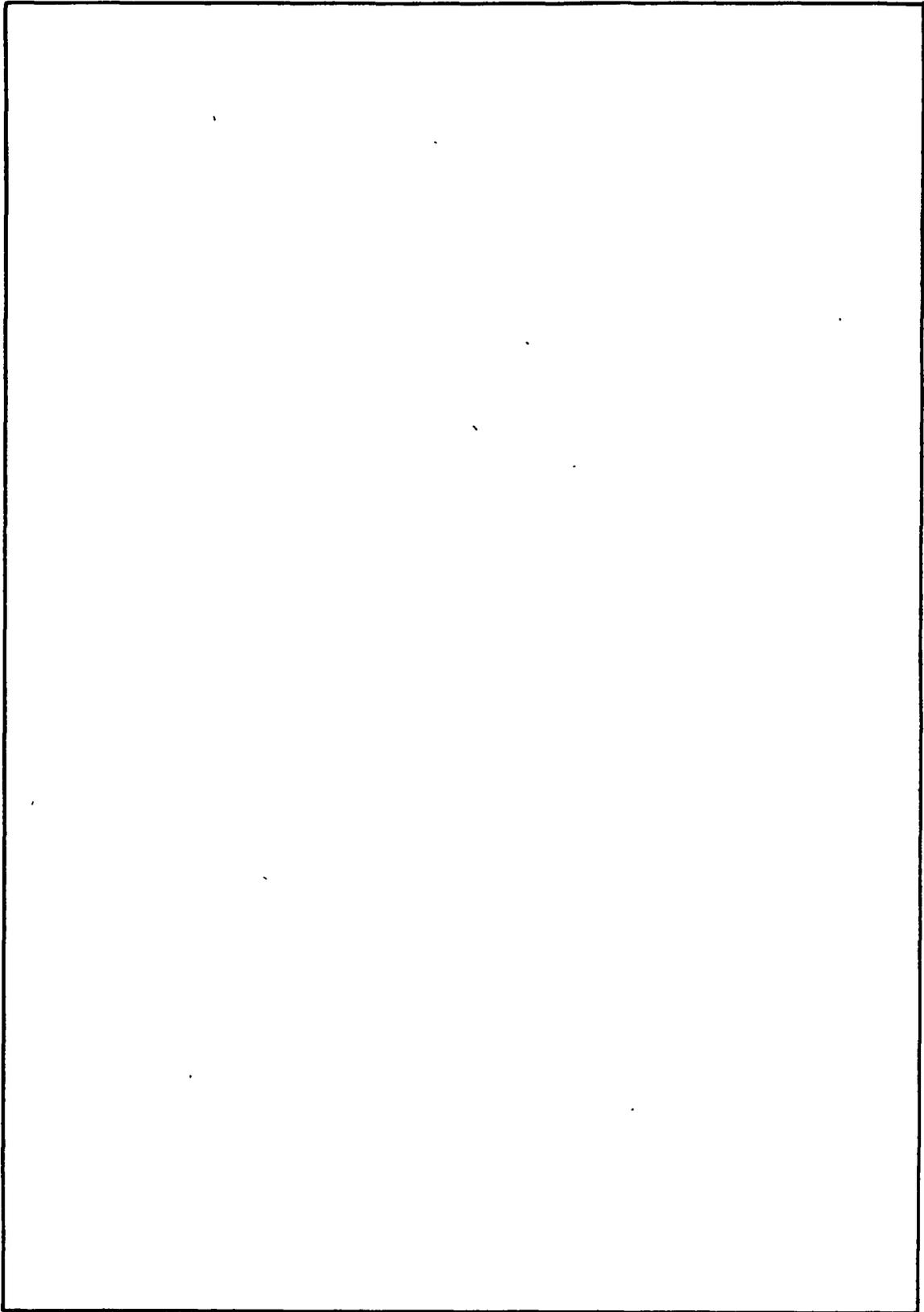
# User's Guide

**To The Federal Insurance Administration's  
1978-1979 Flood Claims File For Computation  
Of Depth-Damage Relationships**



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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) The Federal Insurance Administration (FIA) maintains the largest flood claims file in the United States. This manual explains the contents and use of a public access data file of 67,000 records primarily from the 1978 and 1979 FIA claims. The data base is accessible to all Corps of Engineers districts, divisions, and laboratories through Boeing Computer Service, EKS 1 account. The data base has been loaded onto the Scientific Information Retrieval (SIR) Data Base Management System to aid in the sorting, retrieval, and analysis of information.		

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USER'S GUIDE  
TO THE  
FEDERAL INSURANCE ADMINISTRATION'S  
1978-1979 FLOOD CLAIMS FILE  
FOR COMPUTATION OF DEPTH-DAMAGE RELATIONSHIPS

by

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## INTRODUCTION

The Federal Insurance Administration (FIA) maintains the largest flood claims file in the United States. This manual explains the contents and use of a public access data file of 67,000 records primarily from the 1978 and 1979 FIA claims.

The data base is accessible to all Corps of Engineers districts, divisions, and laboratories through Boeing Computer Service, EKS1 account. The data base has been loaded onto the Scientific Information Retrieval (SIR) data Base Management System to aid in the sorting, retrieval, and analysis of information.

## PURPOSE OF DATA BASE

Depth-percent damage relationships are essential for calculation of flood control benefits. The depth of water above or below the first floor is the most critical estimator of the percent flood damage to the structure and contents of residential buildings. This data base has been made accessible to make flood damage estimates more accurate in the following ways:

1. National Depth-Damage relationships are being investigated at the Institute for Water Resources. For structure types where a statistically reliable relationship exists, a depth damage function will be recommended for general use.

2. A study of the consistency between this data base and information gathered in field office surveys of other flood events can aid in verifying both sources of information. District offices are encouraged to compare the damage relationships that have been computed from their own field surveys with data in the FIA flood claims file for the same event.
  
3. This file contains sufficient records for many communities and most states to develop local depth damage functions where a data base is lacking completely, lacks sufficient detail or is out of date.

#### Definition and Frequency of the Variables

The data base is composed of 23 variables taken or calculated from FIA claims. Variables and frequency of their appearance in the claims file are described below:

State Identification Number

Month

Day

Year

Community Identification Code

Lookup Volume Code

Structure Type

Construction Code

Inland or Coastal

Water Height

Property Value of Structure

Property Value of Contents

Damage to Structure

Percent Damage to Structure

Case Number

Community Code

State Codes

### State Identification Number (SID)

The 50 states, District of Columbia and four U.S. territories are possible values of this variable. The frequency of the data under this variable is typical; states like Louisiana and Florida have the highest incidence of flooding. Small incidence is seen in most western states. Many states have too little data for separate investigation since data is only meaningful when analyzed separately for each of seven structure types. Information from these states will be combined with that from states in the same region or IWR researchers will wait for subsequent additions to the data base before analysis. For purposes of reliable regression analysis, there should be a minimum of cases to equal 20 times the number of independent variables in the equation. The user should take careful note that the values of the variables stored in the SIR data base are not necessarily the codes used in the preprocessor, which is outlined in subsequent sections. The preprocessor is menu driven from skipping an integer. This does not indicate the values stored in the data base itself. This document does, however, describe in detail each variable along with the actual values stored.

Table 1. State Identification/Codes and Frequencies

<u>CODE</u>	<u>DESCRIPTION</u>	<u>FREQUENCY OF CLAIMS IN DATA FILE</u>	<u>RELATIVE FREQUENCY (PERCENT)</u>
1	Alabama	580	.9
2	Alaska	2	0
3	Arizona	343	.5
4	Arkansas	262	.4
5	California	665	1.0
6	Canal Zone	0	0
7	Colorado	58	.1
8	Connecticut	738	1.1
9	Delaware	40	.1
10	District of Columbia	2	0
11	Florida	2289	3.4
12	Georgia	307	.5
13	Hawaii	38	.1
14	Idaho	19	0
15	Illinois	3010	4.5
16	Indiana	545	.8
17	Iowa	128	.2
18	Kansas	146	.2
19	Kentucky	1091	1.6
20	Louisiana	10591	15.8
21	Maine	569	.8
22	Maryland	167	.2
23	Massachusetts	2978	4.4

24	Michigan	96	.1
25	Minnesota	1463	2.2
26	Mississippi	2045	3.1
27	Missouri	1969	2.9
28	Montana	324	.5
29	Nebraska	326	.5
30	Nevada	6	0
31	New Hampshire	214	.3
32	New Mexico	24	0
33	New Jersey	2497	3.7
34	New York	9657	14.4
35	North Carolina	119	.2
36	North Dakota	1740	2.6
37	Ohio	994	1.5
38	Oklahoma	266	.4
39	Oregon	50	.1
40	Pennsylvania	3899	5.8
41	Rhode Island	278	.4
42	South Carolina	44	1.1
43	South Dakota	50	.1
44	Tennessee	273	.4
45	Texas	8383	12.5
46	Utah	10	0
47	Vermont	29	0
48	Virginia	667	1.0
49	Washington	147	.2
50	West Virginia	1781	2.7

51	Wisconsin	242	.4
52	Wyoming	14	.0
53	Guam	0	0
54	Puerto Rico	105	.2
55	Virgin Islands	<u>25</u>	<u>.0</u>
	TOTAL	67006	100.0

MONTH (MO)

The month of flood loss is coded in a two-digit numeric code from 01 for January to 12 for December.

DAY (DAY)

Day of the month is coded in a two-digit code from 01 to 31.

YEAR (YR)

The year is coded in a two-digit code from 73 to 79. Earlier cases are the result of late settlement of claims. Dollar values for each claim is coded in the current dollars for the year of actual loss.

Table 2. Year of Flood Loss/Codes and Frequencies

CODE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PCT)
73.	1	.0
75.	5	.0
76.	9	.0
77.	3597	5.4
78.	28716	38.4
79.	<u>37678</u>	<u>56.2</u>
TOTAL	67006	100.0

COMMUNITY IDENTIFICATION CODE (CID)

The community identification is a four-digit numeric code. Codes are given for approximately 20,000 separate communities. These codes are not unique. Many communities share the same code. However, a community can usually be uniquely identified using community identification and state identification. Other times it is necessary to use the lookup volume code described below.

LOOKUP VOLUME CODE (LUV)

The lookup volume is identified by a one-digit alpha code. The community data was so voluminous that it was advantageous to develop the data on separate files of information.

STRUCTURE TYPE (STY)

Seven structure types are contained in this data file. Depth-damage analysis should always be done separately for each structure type. The structure types with the smaller number of cases, i.e., mobile homes and split levels without basements can only be analyzed separately for certain states or groups of states.

Table 3. Structure Type/Codes and Frequencies

CATEGORY LABEL	CODE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PCT)
ONE STORY W-BASMT	1.	11785	17.6
ONE STORY-NO BASMT	2.	30348	45.3
TWO OR MORE-W-BASMT	3.	14089	21.0
TWO OR MORE-NO-BASMT	4.	7552	11.3
SPLIT LEVEL-W-BASMT	5.	1198	1.8
SPLIT LEVEL-NO-BASMT	6.	442	.7
MOBILE HOME-ON FOUND	7.	<u>1592</u>	<u>2.4</u>
	TOTAL	67006	100.0

Community Codes and lookup volume numbers can be used to isolate individual or selected groups of communities for analysis. This must be done by the SELECT IF statement of the statistical package procedure file. Community Codes and lookup volumes are on file on Boeing-EKS, user identification number: CEW501. To access this file, the user logsin with his own user identification number, and password while in C>, types GET, the state's two-digit post office abbreviation/UN=CEW501.

CONSTRUCTION CODE (CONC)

This variable is included to determine whether the type of building material makes any difference in the extent of damages incurred.

Table 4. Construction Code/Codes and Frequencies

DESCRIPTION	CODE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PCT)
UNKNOWN	0	83	.1
SOLID MASONRY-ON SLAB	1.	17368	25.9
SOLID MASONRY-ON OTHER	2.	6625	9.9
NOT MASONRY-ON SLAB	3.	10419	15.5
NOT MASONRY-ON OTHER	4.	<u>32511</u>	<u>48.5</u>
	TOTAL	67006	100.0

INLAND OR COASTAL (INLCOA)

This variable indicates whether flooding occurred in a community subject to coastal flooding, wave action from an ocean, the Gulf of Mexico or one of the Great Lakes or whether it occurred in a community only subject to inland flooding.

Table 5. Inland-Coastal/Codes and Frequencies

DESCRIPTION	CODE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PCT)
COASTAL	0	22268	33.2
INLAND	1	42640	63.6
UNKNOWN	X	<u>2098</u>	<u>3.1</u>
	TOTAL	67006	100.0

WATER HEIGHT

Water height has been the key independent variable in estimating flood damages. Water height is defined above or below the first floor of a structure. These values are estimated by insurance adjusters whose responsibility is to settle dollar damage of insurance claims. Whether due to this being a secondary concern of the adjuster, hydraulic probability, or chance, the user should be cautioned about the heavy clustering of data at 0 and 1 foot above the first floor of the structure. There are also a few cases with attributes beyond the probability of occurrence. In one instance the flood depth is recorded as 66 feet below the first flooded the structure.

PROPERTY VALUE OF STRUCTURE (PVS)

This figure is the insurance adjuster's estimate of the value in hundreds of dollars, of each structures before the flood occurred. The figure does not

include land value. It does represent the replacement value of the structure less depreciation that occurred prior to the flood loss.

#### PROPERTY VALUE OF CONTENTS (PVC)

This figure represents, in hundreds of dollars, the value of contents estimated by the insurance adjuster. The figure is the replacement value of the contents, less any depreciation that may have occurred before the flood. A very sizeable percentage, over 40 percent of content values is coded at zero. When this occurs, it is possible that the structure was vacated of valuables before flooding took place. More often the zero values are due to lack of insurance on contents. In many cases only the structure was insured.

#### DAMAGE TO STRUCTURE (DAMS)

Damage to structure is in actual dollars. The figure represents the adjuster's estimate of the amount of damage due to flooding. Wind damage, backed up drains, fire, hydrostatic pressure, erosion, landslides and mudslides, clogged drains, and seepage are not covered by standard flood insurance policies and the loss would not be documented in this claims file. The undepreciated replacement value of a structure is figured to compute this damage total. Damage figures include clean up, debris removed, adjuster expense of \$50 to \$100, and damage to outside property.

DAMAGE TO CONTENTS (DAMC)

This figure represents the undepreciated replacement value of contents in actual dollars. Damage from other causes other than flooding are excluded here just as it is in structure damage.

PERCENT DAMAGE TO STRUCTURE (PCTDSTRT)

The percentage that structural damage represents of the value of the structure is computed by dividing structural damage; which is in dollars, by structural value, which is in hundreds of dollars. The user should beware of cases that are beyond the reasonable probability of occurrence.

PERCENT DAMAGE TO CONTENT (PCTDCONT)

Percent damage to contents is computed the same way as percent damage to structure.

CASE NUMBER (CASENO)

Each case is given a sequential number by the order it is found in the data file. The case number reflects no other attribute.

COMMUNITY CODE 1 (COM 1), COMMUNITY CODE 2 (COM 2), COMMUNITY CODE 3 (COM 3)

This set of variables identifies the name of the village, township, city or county where the flood loss occurred. The community code is constrained to

eight characters due to a limit in the size of Fortran variables.

STATE CODE 1 (ST1), STATE CODE 2 (ST2) (It is anticipated that these codes will be removed).

This set of variables identifies the name of the state where the flood loss occurred.

#### SCREENING OF THE DATA BASE

The data base IWR received from FIA contained over 100,000 records. These claims were screened for cases that could not be validly analyzed with the rest of the data base. All small businesses were eliminated since it is not known whether any particular case was a fast food restaurant or a barbershop where significant differences could be expected in both content and structure. Claims were eliminated where damage was due to causes other than flooding, such as landslide, wind, or erosion.

## THE SIR SYSTEM

Like other data base management systems, SIR, the Scientific Information Retrieval developed by SIR, Inc., Evanston, Ill. was designed to store and retrieve large files of data. SIR was chosen as the data base management system for the FIA data base because of its special array of capabilities, many of them unique. The following capabilities were considered particularly important:

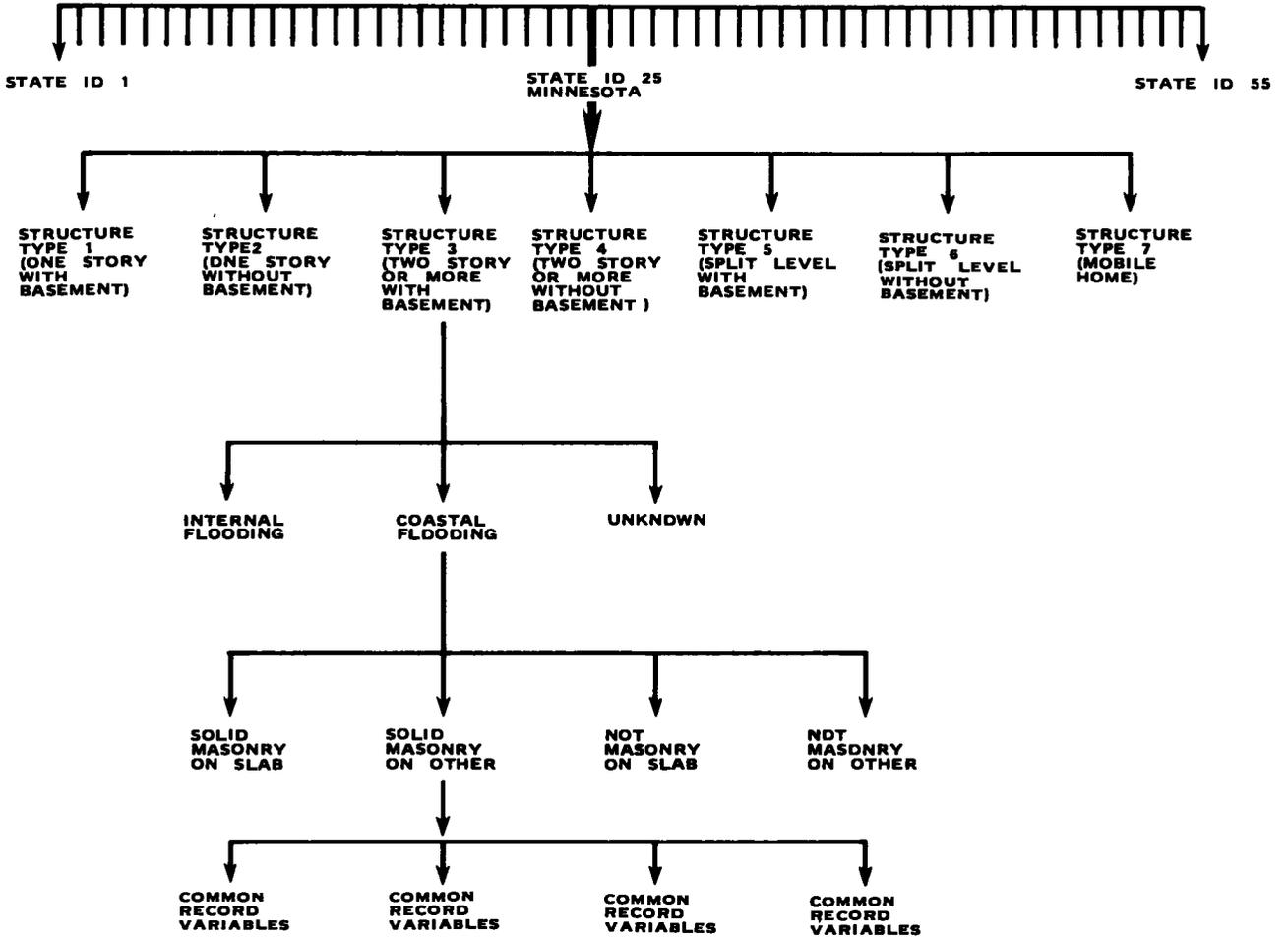
1. It handles millions of cases on the same file.
2. It handles many records per case.
3. Data can be updated.
4. Records of variable lengths and compositions can be handled.
5. A hierarchical system of sorting and searching for data can be established.
6. Data processing costs can be cut to fractions by use of the system.
7. The package has a flexible report-writing feature.
8. SIR has an interactive mode that can be used for those not familiar with SIR or computers to use and retrieve data.

9. SIR has a very flexible security system designed to establish who can access or edit certain records.

10. SIR retrievals can be compatible with either Statistical Package for Social Sciences (SPSS) or Biomedical Computer Program (BMDP).

A SIR data base can be divided into several different record types. For instance, a data file of census information might be divided into record types for income, housing or unemployment. Flood claims information is the only category of data and the only record type in the file. The state identification code serves as the case identifier for this file. That means the file is partitioned into 55 separate cells, one for each state and territory. These state cells are further subdivided by sort variables. Number of stories is the primary sort variable, followed by the inland-coastal variables and construction codes. All other variables are common record variables that cannot be used for data selection via the preprocessor described in the sequel. The structure of the data base is illustrated in figure 1. For special purpose retrievals not supported by the preprocessor the user should take advantage of the SIR syntax directly. Before attempting direct access of the data base the user should contact the data base administrator at IWR. (See Robinson, Barry N., et al., SIR: SCIENTIFIC INFORMATION RETRIEVAL USER's MANUAL, Chicago: SIR, INC., 1979)

**RECORD TYPE  
(FLOOD CONTROL INFORMATION)**



**FIGURE 1: FIASIR DATA FILE STRUCTURE**

## ACCESSING THE DATA BASE

The FIA-SIR data file is stored on disk which can be accessed directly, and on tape, which must be restored to disk by the data base administrator at IWR. To access the data base when it is on disk, the user must log on to Boeing-EKS1. When a C> appears, type

**GET,FIASIR/UN=CEW501 (carriage return)**

**-FIASIR**

If the data base is on disk, the FIASIR preprocessor will immediately come on-line. If the data base is on tape, call the data base administrator at IWR, and it will take one hour for the data base to be restored to disk file.

### Using the Preprocessor

The preprocessor is a simplified way to make retrievals from the data base. The preprocessor can be used to create data file for work with SPSS and BMDP to analyze the data base or subsets of the data base. The preprocessor can also be used for generating lists of cases with certain characteristics, and for plotting data with a scatterplot, lineplot or spline fitting routine.

The preprocessor will ask for a response to a menu of information. When it is unclear what the choice of responses are, the user can type **MENU**, and the preprocessor will always come back with a multiple-choice questionnaire, a list of alternative responses that the user can give at that point.

The following is a step-by-step guide to the preprocessor and the menus along the way:

PREPROCESSOR QUESTION

SELECT ENTRY COMMAND

MENU OF RESPONSES

COMMAND

DESCRIPTION

**TERM**

Conventional Terminal Entry

This command is used to make new data retrievals.

**READ PEN**

DIRECT ENTRY FROM A PREVIOUSLY SAVED FILE

This command bypasses the conventional terminal entry by reading a file either saved in a previous session or created as a result of the internal execution save file (described later).

**LOAD PFN**

LOADS INTERNAL SAVE FILE

This command accesses a file created using the internal execution save file output option. Loading a file results in entering the internal execution mode indicated by IX> prompt. This mode permits graphical display of retrieved data.

REMOVE

REMOVES THE ENTIRE SYSTEM FROM DISK

(Data Base Administrator Only)

STORE

OVERWRITES THE TAPE BACKUP WITH THE EXISTING SYSTEM

(Only needed after Data Base Change, e.g., addition of new data)

Note--The Data Base is not purged from disk.

RJE RJENO

CHANGES THE DESTINATION RJE FROM CEW5RJ TO RJENO

The user should enter the number of the RJE terminal at his facility in order to obtain printouts.

EXIT

TERMINATES SESSION

RETURNS THE USER TO C>

SELECT RECORD TYPES

CODE

DESCRIPTION

I

FLOOD CONTROL INFORMATION SYSTEM

ONLY ONE RECORD TYPE EXISTS FOR THIS FILE. EITHER SELECT 1 OR ALL.

SELECT THE STATE CODES

(See Variable Descriptions, Page 3)

SELECT NUMBER OF STORIES

(See Variable Description, Page (6)

SELECT THE INLAND OR COASTAL CODES

<u>CODE</u>	<u>DESCRIPTION</u>
1	INLAND
2	UNKNOWN
3	COASTAL

NOTE: Codes are different than they appear  
in Variable Descriptions.

SELECT THE CONSTRUCTION CODES

(See Variable Description, Page (7))

SELECT COMMUNITY CODES (It is anticipated that this command will be  
eliminated)

DO NOT SELECT ANYTHING BUT ALL FOR THIS.

The preprocessor is incapable of offering a choice of so many attributes of one variable.

A basic SIR Retrieval, SPSS or BMDP, must be used to select the community.

SELECT CASE NUMBER (It is anticipated that this command will be eliminated)

DO NOT TYPE IN ANYTHING BUT ALL FOR THIS. (Again, this variable has too many attributes for the preprocessor to handle.)

SELECT PARAMETER CODES

<u>CODE</u>	<u>DESCRIPTION</u>	<u>VARIABLE NAME</u>
1	STATE ID	SID
2	MONTH	MO
3	DAY	DAY
4	YEAR	YR
5	COMMUNITY CODE	CID
6	LOOKUP VOLUME	LUV
7	NUMBER OF STORIES	STY
8	FLOOD ZONE	FLOODZ
9	CONSTRUCTION CODE	CONC
10	INLAND OR COASTAL	INLCOA
11	WATER HEIGHT	WATHT

12	PROPERTY VALUE OF STRUCTURE	PVS
13	PROPERTY VALUE OF CONTENTS	PVS
14	DAMAGE TO STRUCTURE	DAMS
15	DAMAGE TO CONTENTS	DAMC
16	DAMS-PVS	PCTDSTRT
17	DAMC-PVC	PCTDCONT
18	CASE NUMBER	CASENO
19	COMMUNITY CODE1	COM1
20	COMMUNITY CODE2	COM2
21	COMMUNITY CODE3	COM3
22	STATE CODE1	ST1
23	STATE CODE2	ST2

SELECT OUTPUT OPTIONS

<u>CODE</u>	<u>DESCRIPTION</u>
1	SPSS SAVE FILE
2	BMDP SAVE FILE
3	INTERNAL EXECUTION SAVE FILE
4	STANDARD REPORT

The first two options create permanent indirect access files to be stored on disk. These files are compatible for analysis with SPSS and BMDP Statistical Packages. Procedure files for this analysis require no variables list,

variable or value labels. Only standard batch, procedure commands are required.

SELECT PRIORITY

<u>CODE</u>	<u>DESCRIPTION</u>	<u>MAXIMUM</u> <u>WAITING TIME</u>	<u>RATE-CCU</u>	<u>RATE WITH</u> <u>VOLUME</u> <u>DISCOUNT</u>
1	Standby	48 hours	6.0¢	3.6¢
2	Priority 2	12 hours	7.5¢	4.5¢
3	Priority 4	4 hours	8.5¢	5.1¢
4	Priority 6	2 hours	10.0¢	6.0¢
5	Priority 10	one-half hour	12.5¢	7.5¢

WAITING TIMES ARE  
USUALLY A GREAT  
DEAL SHORTER THAN  
LISTED HERE.

EXECUTION MODE

<u>COMMAND</u>	<u>DESCRIPTION</u>
RUN	EXECUTES DATA RETRIEVAL FOR CURRENT SELECTIONS
SAVE PN	SAVES THE CURRENT SELECTION CODES ON PERMANENT FILE
READ PFN	READS A PREVIOUSLY SAVE PERMANENT FILE
LOAD PFN	LOAD AN INTERNAL SAVE FILE
SUMMARY	ENTERS SUMMARY MODE
UPDATE	ENTERS UPDATE MODE
CPUTIME NNN	CHANGES THE JOB CPU TIME LIMIT FROM THE 64 SECOND DEFAULT TO THE SPECIFIED VALUE
RJE RJENO	CHANGES THE DESTINATION RJE FROM CEW5RJ TO RJENO
NOS OPT	CONTROLS NOS ENVIRONMENT (ON, OFF)
EXIT	TERMINATES SESSION

---

- The SAVE command saves only the current selections and does not execute a retrieval.

- The READ, LOAD and RJE commands are all described under Entry Command.

- Summary mode gives the user a review of what the current selections are for each sort variable and the parameters or common record variables that have been selected.
- Update mode allows the user to change those selections.
- The default of 64 decimal seconds is adequate for most selections of states or small groups of states. Five hundred seconds should be considered more than adequate for a retrieval of the entire data file. The CPU time should be specified on a separate line before giving the **RUN** command. The default is for the NOS option to be off. If the option is on, the user temporarily leaves the preprocessor for the NOS batch mode. Users are cautioned to enter at their own risk. To return to the preprocessor the user should type: C>NOS,OFF

#### SUMMARY MODE

The Summary Mode will list the current selections for a retrieval. Upon entering Summary Mode, the user will be presented with the following choices:

<u>SUMMARY</u>	<u>SUMMARY CODE</u>
<u>CODE</u>	<u>DESCRIPTION</u>
1	RECORD TYPES
2	STATE CODES
3	OUTPUT OPTIONS
4	PRIORITY

5	NUMBER OF STORIES CODES
6	INLAND OR COASTAL CODES
7	CONSTRUCTION CODES
8	COMMUNITY CODES
9	CASE NUMBER
10	PARAMETER CODES

The issuing of the SUMMARY command may take the following forms:

- X > SUMMARY - lists only the major summary codes
- X > SUMMARY N - list a full summary of summary code N
- X > SUMMARY ALL - lists a complete summary for all summary codes

Summary and update options, standard reports and internal execution modes are further illustrated in the following case example.

#### CASE EXAMPLE

The following is an example of how a data retrieval might occur. In this case a user wants information for Minnesota inland communities (those communities not on the shore of Lake Superior).

```
C>get,fiasir/un=cew501
```

```
C/-fiasir
```

```
F L O O D   C O N T R O L   I N F O R M A T I O N   S Y S T E M
```

YOU ARE LOGGED IN UNDER USERNO CEW502

ENTER YOUR PASSWORD

>User's password

ENTER YOUR LOCAL RJE NUMBER

>Users RJE number

SELECT ENTRY COMMAND

>term (mode of entry for new retrieval)

SELECT THE RECORD TYPES

I>1 (only 1 record type exists in this data base).

SELECT THE STATE CODES

I>25 (Although Minnesota has a code of 27 in the data base, it is necessary to give it code 25 for the preprocessor). State data base codes can be found on page 4. Preprocessor codes can be found by typing MENU.

\*\* RECORD TYPE 1 — FLOOD CONTROL INFORMATION

SELECT THE NUMBER OF STORIES CODES

I>all

SELECT THE INLAND OR COASTAL CODES

I>1 (Only inland community data is to be selected).

SELECT THE CONSTRUCTION CODES

I>all

SELECT THE COMMUNITY CODES

I>all

(It is the only possible response. There are too many community codes for the preprocessor to handle).

SELECT THE CASE NUMBER

I>all

(All is the only possible response. There are too many case numbers for the preprocessor to handle).

SELECT THE PARAMETER CODES

SELECT THE PARAMETER CODES

I>2,3,4,5,6,7,9,11,12,13,14,15,16,17,19,20

(All information for case selected except state identification code, case number and state codes).

SELECT THE OUTPUT OPTIONS

I>1,3,4

(SPSS output,\* internal execution save file, and standard report options have been selected).

\* A file would be written which would conform to SPSS data format for later statistical analysis.

SELECT THE PRIORITY

I>2

EXECUTION MODE

X>summary

SUMMARY	SUMMARY CODE
<u>CODE</u>	<u>DESCRIPTION</u>
1	RECORD TYPES
2	STATE CODES
3	OUTPUT OPTIONS
4	PRIORITY
5	NUMBER OF STORIES CODES
6	INLAND OR COASTAL CODES
7	CONSTRUCTION CODES
8	COMMUNITY CODES
9	CASE NUMBER
10	PARAMETER CODES

X>summary 3

\*\*SUMMARY OPTION\*\*

SUMMARY            SUMMARY CODE

CODE            DESCRIPTION

3                    OUTPUT OPTIONS

1	SPSS SAVE FILE
3	INTERNAL EXECUTION SAVE FILE
4	STANDARD REPORT

**\*\*SUMMARY COMPLETE\*\***

X>update

**\*\*UPDATE OPTION\*\***

**\*\*UPDATE OPTION\*\***

SELECT THE DESIRED SUMMARY CODES

I>menu

SUMMARY    SUMMARY CODE

CODE        DESCRIPTION

1	RECORD TYPES
2	STATE CODES
3	OUTPUT OPTIONS
4	PRIORITY
5	NUMBER OF STORIES CODES
6	INLAND OR COASTAL CODES

- 7 CONSTRUCTION CODES
- 8 COMMUNITY CODES
- 9 CASE NUMBER
- 10 PARAMETER CODES

SELECT THE DESIRED SUMMARY CODES

3

SELECT THE OUTPUT OPTIONS

1, 2, 3, 4

(output options edited to include BMDP save file)

I>1,2,3,4

\*\*UPDATE COMPLETE\*\*

EXECUTION MODE

X>summary all

\*\*SUMMARY OPTION\*\*

SUMMARY	SUMMARY CODE
<u>CODE</u>	<u>DESCRIPTION</u>

1	RECORD TYPES
	ALL

2            STATE CODES  
                 25    MINNESOTA

3            OUTPUT OPTIONS  
                 ALL

4            PRIORITY  
                 2     PRIORITY 2

5            NUMBER OF STORIES CODES  
                 ALL

6            INLAND OR COASTAL CODES  
                 1     INLAND

7            CONSTRUCTION CODES  
                 ALL

8            COMMUNITY CODES  
                 ALL

9            CASE NUMBER  
                 ALL

10           PARAMETER CODES  
                 2     MONTH                    MO  
                 3     DAY                        DAY

4	YEAR	YR
5	COMMUNITY CODE	CID
6	LOOKUP VOLUME	LUV
7	NUMBER OF STORIES	STY
9	CONSTRUCTION CODE	CONC
11	WATER HEIGHT	WATHT
12	PROPERTY VALUE OF STRUCTURE	PVS
13	PROPERTY VALUE OF CONTENTS	PVC
14	DAMAGE TO STRUCTURE	DAMS
15	DAMAGE TO CONTENTS	DAMC
16	DAMS/PVS	PCTDSTRT
17	DAMC/PVC	PCTDCONT
19	COMMUNITY CODE1	COM1
20	COMMUNITY CODE2	COM2

**\*\* SUMMARY COMPLETE \*\***

X>run

OUTPUT OPTION 1 --- SPSS SAVE FILE

CHOOSE A DESTINATION FILE NAME (1-7 CHARACTERS)

I>minnsav

OUTPUT OPTION 2 --- BMDP SAVE FILE

CHOOSE A DESTINATION FILE NAME (1-7 CHARACTERS)

I>bmdsav

\*\* OUTPUT OPTION 3 --- INTERNAL EXECUTION SAVE FILE \*\*

ENTER DESTINATION FILE NAME

I>minnt

\*\* OUTPUT OPTION 4 --- STANDARD REPORT \*\*

ENTER THE NUMBER OF COPIES YOU WISH TO PRINT (10 MAX.)

I>1

06.37.25. 81/06/04.ENTQBZED (The retrieved has been submitted. The time,  
date and job number have been indicated.

The standard report output, which is a listing of the information on that  
has been retrieved, can then be obtained from the RJE terminal)

#### STANDARD REPORT OUTPUT

Table 6 is output from the standard report option, a portion of the retrieval generated in the previous example. In this example, even where not all of the parameters are selected in the data retrieval, output still requires two pages. To identify all the information for any particular case, it is necessary to tear the output and align the separate information on each case. The floodzone category is adjacent to information on structure type and inland-coastal information is found in a column to the right, adjacent to construction code, instead of having distinct data fields. The SIR preprocessor is programmed to right justify numeric codes and left justify alpha codes.

FLOOD CONTROL REPORT

06/04/81.  
PAGE NO. 1

MU	DAY	YR	CID	LUV	STY	CONC	WATHY	PVS	PVC
4	12	79	820		1	1	0	200	0
8	26	78	105B		1	1	1	300	0
9	12	78	105B		1	1	1	350	0
6	26	79	105B		1	1	-7	0	250
6	26	79	105B		1	1	0	0	100
7	6	78	1560		1	1	1	530	250
7	7	78	156A		1	1	-4	435	0
7	7	78	156B		1	1	-5	500	0
7	6	78	156B		1	1	-4	500	250
7	6	78	162A		1	1	0	449	200
6	25	78	172A		1	1	-7	370	120
6	25	78	172A		1	1	-6	350	0
6	25	78	180A		1	1	4	30	0
4	24	79	2240		1	1	4	182	100
5	2	79	2240		1	1	2	348	150
3	18	79	258B		1	1	-7	0	50
4	27	79	2720		1	1	-7	205	0
4	18	79	2740		1	1	1	672	0
4	30	79	2740		1	1	7	400	0
4	18	79	274A		1	1	4	333	0
4	17	79	274A		1	1	-7	417	0
6	26	78	274A		1	1	7	280	0
4	17	79	274A		1	1	-8	372	0
4	17	79	274A		1	1	-3	578	0
6	26	78	274A		1	1	-7	370	0
4	17	79	274A		1	1	1	510	0
4	17	79	274A		1	1	1	470	0
4	17	79	274A		1	1	1	69	0
4	17	79	274A		1	1	-1	350	0
3	8	79	321A		1	1	1	315	0
5	10	79	321A		1	1	0	158	0
4	20	79	364C		1	1	1	265	0
4	21	79	423B		1	1	2	240	0
4	22	79	423B		1	1	-1	238	100
7	1	78	4830		1	1	4	0	200
4	12	78	5030		1	1	0	360	0
4	28	79	5030		1	1	-1	369	0
3	30	79	510A		1	1	-7	393	150
7	1	78	599B		1	1	0	0	300
7	6	78	6260		1	1	5	369	0
7	6	78	6260		1	1	-6	400	0
7	6	78	6260		1	1	3	383	0
7	6	78	6260		1	1	-5	220	0
4	27	79	6360		1	1	-7	384	0
4	27	79	6360		1	1	-4	127	50
4	29	79	6360		1	1	2	0	00
4	25	79	6380		1	1	-6	672	0
4	25	79	6380		1	1	-1	300	0
4	28	79	6380		1	1	4	349	0
5	6	79	6380		1	1	8	291	0
7	6	78	52280		1	1	1	280	0
7	17	78	52280		1	1	1	230	0
7	6	78	52280		1	1	3	120	50
7	17	78	52280		1	1	-1	110	100
8	6	78	5228A		1	1	0	700	0

FLOOD CONTROL REPORT

06/04/81.  
PAGE NO. 1

DAMS	DAMC	PCTDSIRT	PCTDCONT	COM1	COM2
120v	0	6.00		GEORGETOWN, CITY OF	
2272	0	7.57		HASTINGS, CITY OF	
247	0	.71		HASTINGS, CITY OF	
0	1447			5.79HASTINGS, CITY OF	
0	450			4.50HASTINGS, CITY OF	
66b2	74b2	12.57	29.85	NONE	
4b27	0	10.64		NONE	
7589	0	15.18		CRYSTAL, CITY OF	
5232	6195	10.4b	24.7b	CRYSTAL, CITY OF	
5037	1338	11.22	6.69	GULOEEN VALLEY, CITY	
1e55	152b	4.47	12.72	MINNEAPOLIS, CITY OF	
11442	0	32.69		MINNEAPOLIS, CITY OF	
1791	0	59.70		RICHFIELD, CITY OF	
15482	1125	85.07	11.25	KITTISON COUNTY *	
6494	11348	18.66	75.65	KITTISON COUNTY *	
0	743		14.86	MARSHALL, CITY OF	
1441	0	7.03		OSLO, CITY OF	
1b13	0	2.40		WARREN, CITY OF	
1323	0	3.31		WARREN, CITY OF	
600	0	2.40		WARREN, CITY OF	
810	0	1.94		WARREN, CITY OF	
64b	0	2.31		WARREN, CITY OF	
830	0	2.37		WARREN, CITY OF	
2305	0	3.99		WARREN, CITY OF	
5430	0	14.68		WARREN, CITY OF	
4095	0	8.03		WARREN, CITY OF	
504	0	1.07		WARREN, CITY OF	
400	0	5.80		WARREN, CITY OF	
840	0	2.40		WARREN, CITY OF	
701	0	2.23		WORTHINGTON, CITY OF	
759	0	4.80		WORTHINGTON, CITY OF	
680	0	2.57		CROOKSTON, CITY OF	
834	0	3.47		FLOODWOOD, CITY OF	
3561	1001	14.96	10.01	FLOODWOOD, CITY OF	
0	991		4.95	WARASHA COUNTY *	
4213	0	11.70		POLK COUNTY *	
1008b	0	27.33		POLK COUNTY *	
247b	668	6.30	4.45	NEWPORT, CITY OF	
0	1447		4.82	RUSEVILLE, CITY OF	
7b97	0	20.8b		OLMSTED COUNTY *	
1155	0	2.89		OLMSTED COUNTY *	
3543	0	9.25		OLMSTED COUNTY *	
8752	0	39.78		OLMSTED COUNTY *	
9030	0	23.52		MARSHALL COUNTY *	
288b	440	22.72	8.80	MARSHALL COUNTY *	
0	741		12.35	MARSHALL COUNTY *	
7527	0	11.20		MARSHALL COUNTY *	
1970	0	6.57		MARSHALL COUNTY *	
968	0	2.77		MARSHALL COUNTY *	
4144	0	14.24		MARSHALL COUNTY *	
3445	0	12.30		AUSTIN, CITY OF	
5172	0	22.49		AUSTIN, CITY OF	
12385	4452	103.21	89.04	AUSTIN, CITY OF	
4998	4452	45.44	44.52	AUSTIN, CITY OF	
2233	0	3.19		AUSTIN, CITY OF	

## INTERNAL EXECUTION MODE

After the retrieval has been completed, the user can again enter the SIR preprocessor to work with the internal execution save file. The following illustrates how the internal execution mode can be used to obtain plots of the retrieved data:

### SELECT ENTRY COMMAND

```
>load minnent
```

### INTERNAL EXECUTION MODE

```
IX>menu
```

```
SCATTER  VAR1 WITH VAR2
```

```
LINEPLOT VAR1 WITH VAR2
```

```
SPLINE   VAR1 WITH VAR2
```

```
GRID     OPT  — (ON,OFF)
```

```
FONT     OPT  — (STANDARD,BOLD,GOTHIC)
```

```
SUMMARY  OPT  — (NUMERIC CODE, ALL,  )
```

```
LOAD     PFN  — (LOADS AN INTERNAL SAVE FILE)
```

```
NOS      OPT  — (CONTROLS NOS ENVIRONMENT (ON,OFF))
```

```
EXIT     — (TERMINATES SESSION)
```

```
IX>font gothic
```

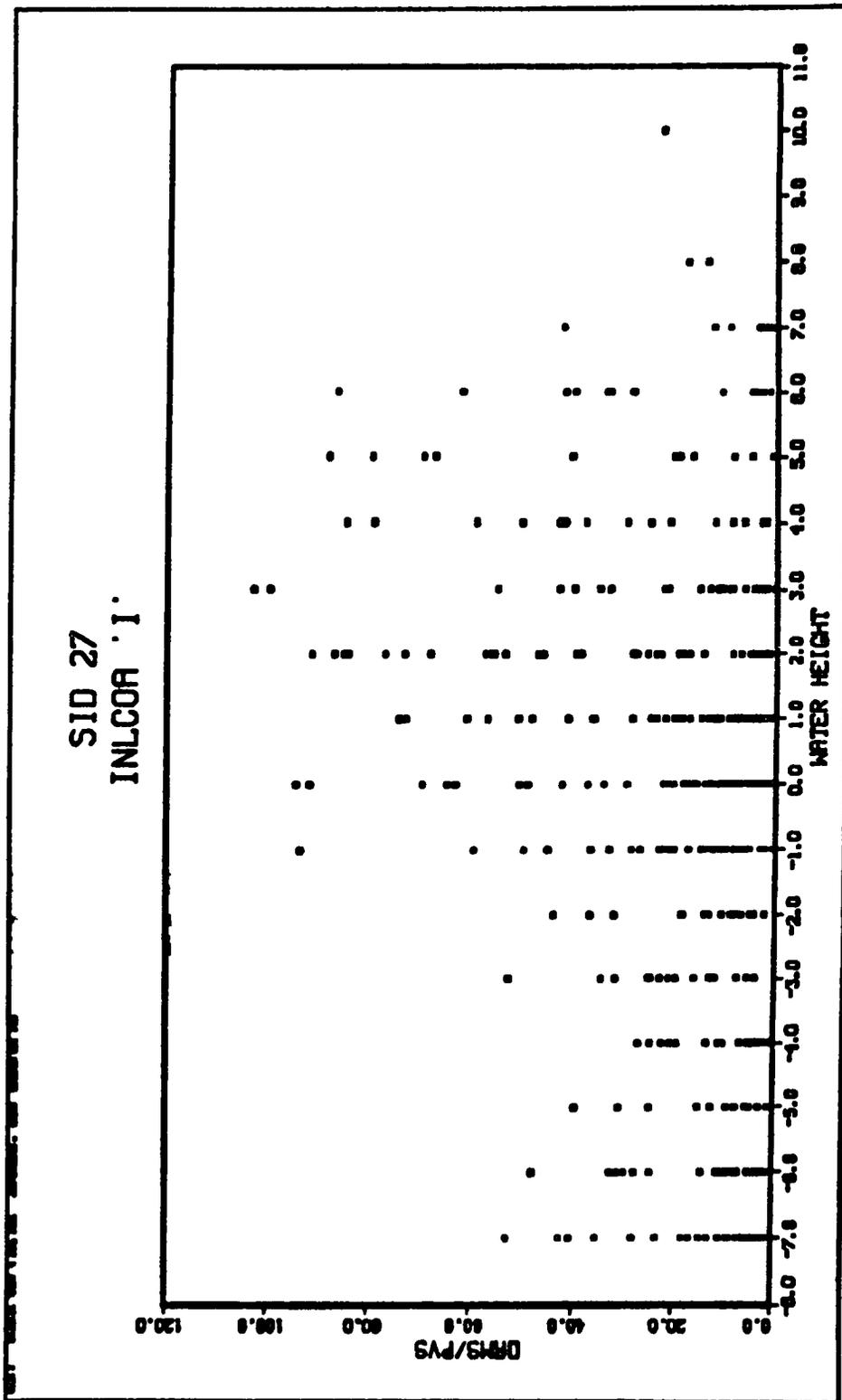
```
IX>scatter PCTDSTRT with watht
```

```
INTERNAL WORKSPACE FILLED
```

```
500 RECORDS READ 353 RECORDS CONTAINING MISSING ENTRIES
```

Figure 2. Scatterplot

ENTER A CARRIAGE RETURN  
IX



IX>grid on  
IX>lineplot pctdstrt with watht  
ENTER A CARRIAGE RETURN  
IX>

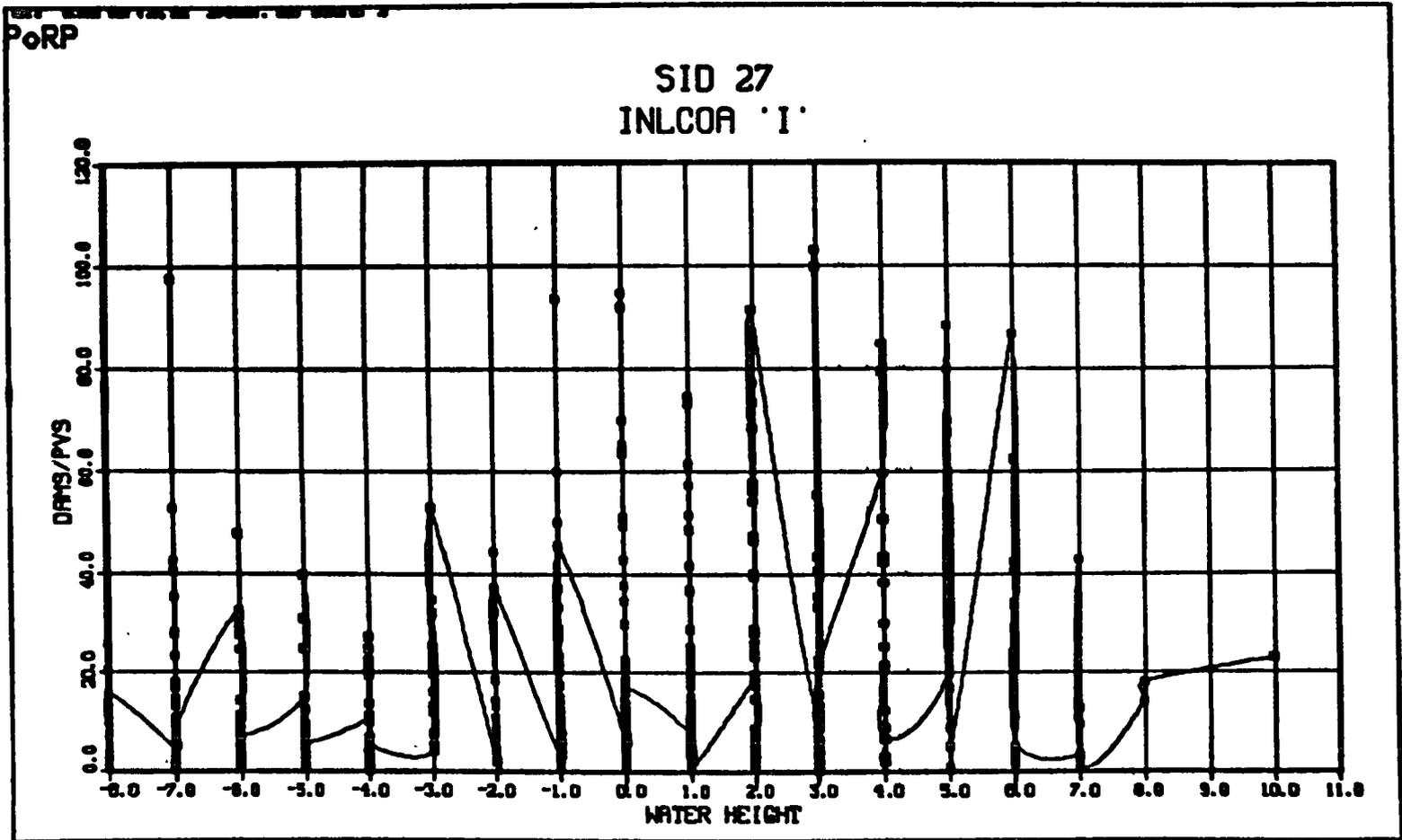


Figure 3. Lineplot

IX) SPLINE PCTDSTRT WITH WATH  
ENTER CARRIAGE RETURN  
IX)

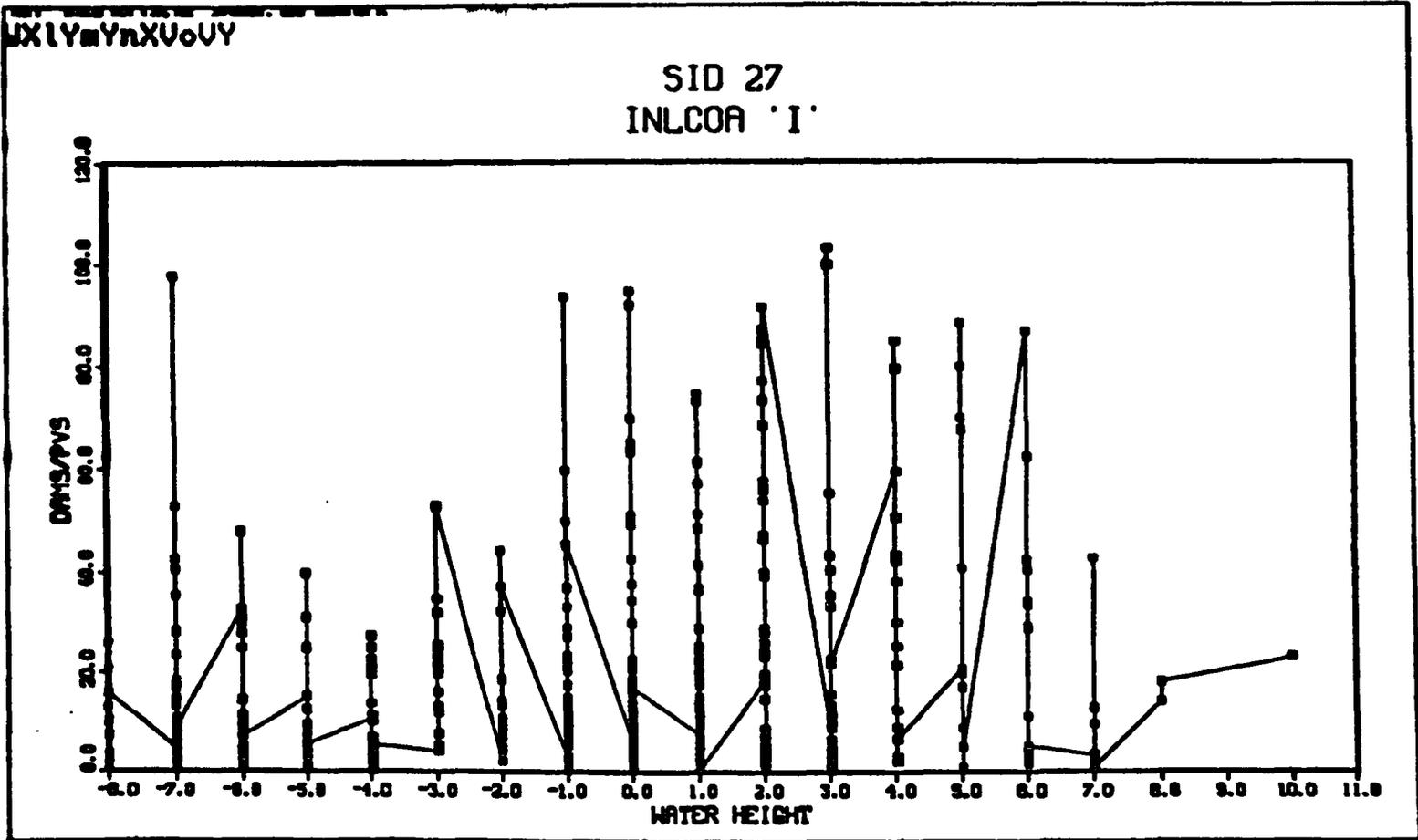


Figure 4. Spline

## USE OF SPSS

SPSS can be used for most necessary analysis of this data base, although there are some procedures where a user might find application of BMDP necessary. The following is a simple example of how SPSS might be used to obtain frequencies on structure type and construction codes for Austin, Minnesota. It is first necessary to obtain the community identification number for Austin. The user accesses the public file of Minnesota community codes by typing the following:

C>get,mn/un=cew501            Attach file of Minnesota community codes.

C>cme,mn                       Places community code file into text editor.

E>l /austin                    Locates line with string "Austin".

275228AAUSTIN, CITY OF        Twenty-seven is the state code.

MINNESOTA                     5228 is the community code.

A is the lookup volumes.

E>n                             Skips to next line

275220AUSTIN, CITY OF

MINNESOTA

E>n

275229ABAYPORT, CITY OF

MINNESOTA

E>l /austin

EOI Indicates end of information.

It has been determined that 5228 is the only  
community code for Austin, Minnesota.

E>t Returns to top of the page.

E>l /5228

275228AAUSTIN, CITY OF MINNESOTA

E>n

2752280AUSTIN, CITY OF MINNESOTA

E>n

275229ABAYPORT, CITY OF MINNESOTA

E>l /5228

EOI. It has been determined that community code 5228 is  
unique to Austin.

The SPSS Control Deck and Procedure File

MINNFRQ,CM150000,P02,T2000.

This command indicates the name of the file, control memory limit, priority, and time limit.

USER, USER ID, PASSWORD  
NAME/PHONE/MAILING ADDRESS

User's paper id and password are required. Name, phone number and mailing address are optional.

ATTACH,SPSS/UN=EKSAPP

These commands make the SPSS package available for processing and our recently retrieved data file available for analysis.

GET,MINNSAV.

SPSS,G=MINNSAV,MF=150000.

EXIT,U.

REWIND, OUTPUT.

COPY,OUTPUT,OUTMNFQ.

REPLACE,OUTMNFQ.

These commands cause the output of this analysis to be written to output file, "OUTMNFQ"

COST.

This command causes the cost in CCUS to be written into the dayfile.

DAYFILE, DAYMNFQ.

These commands create a day file under the

REPLACE, DAYMNFQ.

name "DAYMNFQ".

\*WEOR

Indicate the end of record or the end of the control cards. This card causes processing to continue.

RUN NAME            MINNFRQ

This command causes the title of the run

1                    16

to be printed at top of each page of output.

GET FILE            MINNSAV

The name of the file is specified.

SELECT IF            (CID EQ 5228)

Only cases with community id 5228, Austin, are to be selected for analysis.

FREQUENCIES        GENERAL=STY, CONC

These commands caused frequency

STATISTICS         ALL

distribution and all accompanying statistics to be calculated for structure types, and construction codes.

Table 7.  
SPSS Output

RUN NAME                    MINNSAV  
GET FILE                    MINNSAV

FILE MINNSAV HAS 22 VARIABLES

THE SUBFILES ARE..

NAME                    N OF  
                          CASES

ELSE                    1465

SELECT IF                    (CID EQ 5228)  
FREQUENCIES                GENERAL=STY,CONC  
STATISTICS                 ALL

FREQUENCIES - INITIAL CM ALLOWS FOR 1443 VALUES  
                          MAXIMUM CM ALLOWS FOR 11960 VALUES

1MINNFRO

FILE MINNSAV                (CREATION DATE = 81/06/04.)            SPSS SAVE FILE FOR MINNSAV  
SUBFILE ELSE

STY                    NUMBER OF STORIES

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
ONE STORY W-BASEMT	1.	56	37.8	37.8	37.8
ONE STORY-NO BASEMT	2.	7	4.7	4.7	42.6
TWO OR MORE-W-BASEMT	3.	79	53.4	53.4	95.9
TWO OR MORE-NO BASMT	4.	<u>6</u>	<u>4.1</u>	<u>4.1</u>	100.0
	TOTAL	148	100.0	100.0	

MEAN	2.236	STD ERR	.083	MEDIAN	2.639
MODE	3.000	STD DEV	1.013	VARIANCE	1.025
KURTOSIS	-1.608	SKEWNESS	-.252	RANGE	3.000
MINIMUM	1.000	MAXIMUM	4.000	SUM	331.000
C.V. PCT	45.276	.95 C.I	2.072	TO	2.401

VALID CASES            148                    MISSING CASES            0

1MINNFRO

FILE MINNSAV (CREATION DATE = 81/08/04.) SPSS SAVE FILE FOR MINNSAV  
SUBFILE ELSE

CONC CONSTRUCTION CODE

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
SOLID MASONRY-ON SLA	1.	25	16.9	16.9	16.9
SOLID MASONRY-ON OT	2.	8	5.4	5.4	22.3
NOT MASONRY-ON SLAB	3.	8	5.4	5.4	27.7
NOT MASONRY-ON OTHER	4.	<u>107</u>	<u>72.3</u>	<u>72.3</u>	100.0
	TOTAL	148	100.0	100.0	

MEAN	3.331	STD ERR	.096	MEDIAN	3.808
MODE	4.000	STD DEV	1.163	VARIANCE	1.352
KURTOSIS	-.021	SKEWNESS	-1.332	RANGE	3.000
MINIMUM	1.000	MAXIMUM	4.000	SUM	493.000
D.V. PCT	34.909	.95 C.E.	3.142	TO	3.520

VALID CASES 148 MISSING CASES 0

1MINNFRO

CPU TIME REQUIRED.. .2870 SECONDS

FINISH

TOTAL CPU TIME USED.. .3120 SECONDS

RUN COMPLETED

NUMBER OF CONTROL CARDS READ 5  
NUMBER OF ERRORS DETECTED 0

## WHAT LIES AHEAD FOR THE FIA-SIR DATA BASE?

This data base will be maintained and available at least through September 1982. If possible, it will be supplemented with new information from recent flood insurance claims.

IWR will continue its analysis and release new information periodically. If the work produces equations of sufficient reliability, the new damage functions will be recommended for use.

It has been noted that a large number of claims are on file for individual floods. It would be helpful to IWR and FIA to have verification the FIA-SIR data base from the results of Corps post-flood damage surveys.

It is believed damage functions computed at the local levels would be more reliable since housing values and type of flood event would be more consistent.

APPENDIX

COMMUNITY CODES AND FREQUENCIES FOR  
COMMUNITIES WITH 30 CASES OR MORE

STATE	STATE CODE	COMMUNITY	COMMUNITY CODE	FREQUENCY
Alabama	1	Birmingham, City of	0116	97
	1	Pelham, Town of	0193	71
	1	Baldwin County	5000	79
	1	Mobile, City of	5007	59
Arizona	4	Maricopa County	0037	53
	4	Phoenix, City of	0051	74
	4	Tolleson, City of	0055	48
	4	Winslow, City of	0072	32
Arkansas	5	Little Rock, City of	0181	131
California	6	Los Angeles, City of	0137	88
	6	Monterey County	0195	31
	6	Sonoma County	0375	127
	6	Palm Desert, City of	0629	33
	6	Los Angles County	5043	82
Connecticut	9	Fairfield, City of	0007	54
	9	Greenwich, City of	0008	66
	9	Norwalk, City of	0012	70
	9	Westport, City of	0019	89
	9	East Haven, Town of	0076	1132
	9	Milford, City of	0082	65
	9	Norwich, City of	0102	34
Florida	12	Coral Springs, City of	0033	97
	12	Lauderhill, City of	0044	127
	12	Margate, City of	0047	90
	12	North Lauderdale, City of	0049	81
	12	Plantation, City of	0054	52
	12	Escambia County	0080	60
	12	Tampa, City of	0114	63
	12	Palm Beach County	0192	95
	12	Boca Raton, City of	0195	52
	12	Palm Beach, Town of	0220	86
	12	Pinellas Park, City of	0251	216
	12	Gulf Breeze, City of	0275	30
	12	Sunrise, City of	0328	47
	12	Broward County	5093	47
	12	Dade County	5098	137
	12	Delray Beach, City of	5102	107
	12	Ft. Lauderdale, City of	5105	48
	12	Hollywood, City of	5113	32
	12	Pinellas County	5139	117
12	St. Petersburg, City of	5148	138	
Georgia	13	Acworth, City of	0052	41
	13	Rome, City of	0081	74
	13	Cedartown, City of	0153	40
	13	Atlanta, City of	5157	59

STATE	STATE CODE	COMMUNITY	COMMUNITY CODE	FREQUENCY
Illinois	17	Calhoun County	0018	223
	17	Addison, Village of	0198	35
	17	Jersey County	0312	289
	17	Kankakee County	0336	58
	17	Mason County	0463	33
	17	Peoria County	0533	218
	17	Peoria, City of	0536	51
	17	Peoria Heights, Village of	0537	60
	17	Pike County	0551	42
	17	Rock Island County	0582	47
	17	East Moline, City of	0587	30
	17	Will County	0694	39
	17	Winnebago County	0720	75
	17	Loves Park, City of	0722	39
	17	Rockford, City of	0723	97
	17	Woodford County	0730	44
	17	McHenry County	0732	66
	17	Kampsville, Village of	0738	65
	17	Hardin, Village of	0738	65
	17	Liverpool, Village of	0762	48
17	Alexander County	0812	35	
17	Morgan County	0903	31	
Indiana	18	Ft. Wayne, City of	0003	94
	18	Indianapolis, City of	0159	91
	18	Clark County	0426	46
Iowa	19	Waterloo, City of	0035	35
Kansas	20	Augusta, City of	0039	55
Kentucky	21	Hopkinsville, City of	0055	138
	21	Frankfort, City of	0075	100
	21	Jefferson County	0120	198
	21	Louisville, City of	0122	61
	21	Martin County	016	58
	21	Oldham County	0230	76
	21	Woodford County	0230	37
	21	Pike County	0298	121
Louisiana	22	Ascension Parish	0013	156
	22	Assumption Parish	0019	107
	22	Avoyelles Parish	0036	312
	22	Shreveport, City of	0036	66
	22	Catahoula Parish	0047	305
	22	Condordia Parish	0053	241
	22	E. Baton Rouge Parish	0058	262
	22	Iberia Parish	0078	37
	22	New Iberia, City of	0082	53
	22	Iberville Parish	0082	44
	22	Westwego, City of	0094	87
	22	Lafayette Parish	0101	68

STATE	STATE CODE	COMMUNITY	COMMUNITY CODE	FREQUENCY
Louisiana	22	La Salle Parish	0112	66
(Cont.)	22	Livingston Parish	0113	134
	22	Denham Springs, City of	0116	52
	22	Monroe, City of	0140	280
	22	Pointe Coupee Parish	0140	218
	22	St. Martin Parish	0178	3
	22	St. Mary Parish	0192	52
	22	Grand Isle, Town of	5197	72
	22	Gretna, City of	5198	351
	-	Jefferson Parish	5199	2953
	22	Hurahn, City of	5200	115
	22	Orleans Parish	5203	2450
	22	St. Bernard Parish	5204	1180
Maine	23	Fort Kent, Town of	0019	31
	23	Biddeford, City of	0145	44
	23	Kennebunk, Town of	0151	38
	23	Old Orchard Beach, Town of	0155	45
	23	Saco, City of	0155	54
	23	Wells, Town of	0158	101
	23	York, Town of	0159	50
Maryland	24	Baltimore County	0010	44
Massachusetts	25	Fairhaven, Town of	0054	-8
	25	Marblehead, Town of	0091	7
	25	Nahant, Town of	0095	83
	25	Newbury, Town of	0096	64
	25	Newburyport, City of	0097	79
	25	Rockport, Town of	0010	37
	25	Salisbury, Town of	0103	44
	25	Swampscott, Town of	0105	43
	25	Framingham, Town of	0193	37
	25	Newton, City of	0208	0
	25	Duxbury, Town of	0263	52
	25	Hull, Town of	0269	425
	25	Marshfield, Town of	0273	178
	25	Plymouth, Town of	0278	43
	25	Scituate, Town of	0282	639
	25	Revere, City of	0288	697
	25	Winthrop, Town of	0289	247
	25	Mattapoisett, Town of	5214	49
	25	Quincy, Town of	5219	196
Minnesota	27	Kittson County	0224	52
	27	Hallock, City of	0226	42
	27	Stephen, City of	0273	48
	27	Norman County	0322	51
	27	Marshall County	0638	99
	27	Austin, City of	5228	148
	27	Clay County	5235	88
	27	E. Grand Forks, City of	5236	111
	27	Moorhead, City of	5244	47
	27	Rochester, City of	5246	429

STATE	STATE CODE	COMMUNITY	COMMUNITY CODE	FREQUENCY
Mississippi	28	Bolivar County	0011	115
	28	Cochoma County	0038	31
	28	Jackson, City of	0072	454
	28	Columbus, City of	0108	34
	28	Washington County	0177	64
	28	Lowndes County	0193	81
	28	Warren County	0198	387
	28	Issaquena County	0200	76
	28	Wilkinson County	0202	134
	28	Marion County	0230	33
	28	Tanica County	0236	113
	28	Petal, City of	0260	36
	28	Hancock County	5254	46
	28	Harrison County	5255	36
Missouri	29	Kansas City	0176	34
	29	Arnold, City of	0188	160
	29	St. Charles County	0315	917
	29	Portage Des Sioux, City of	0317	61
	29	Ste. Genevieve, City of	0325	100
	29	St. Louis County	0327	234
	29	Brentwood, City of	0338	50
	29	Fenton, City of	0350	49
	29	Florissant, City of	0352	51
	29	St. Louis, City of	0385	91
	29	University City, City of	0390	114
	29	Valley Park, City of	0391	36
	29	Cape Girardeau, City of	0458	57
	29	Jefferson County	0808	49
Montana	30	Miles City, City of	0014	60
	30	Valley County	0171	82
Nebraska	31	Douglas County	0073	66
	31	Valley, City of	0078	34
	31	Sarpy County	0190	105
New Hampshire	33	Hampton, Town of	0132	131
	33	Rye, Town of	0141	37
New Jersey	34	Garfield, City of	0037	47
	34	Lodi, Borough of	0047	137
	34	Downe, Township of	0167	38
	34	Nutley, Township of	0191	31
	34	Monmouth Beach, Borough of	0315	31
	34	Parsippany-Troy, Town of	0355	101
	34	Atlantic City, Town of	5278	34
	34	Denville, Township of	5292	48
	34	Lincoln Park, Borough of	5300	144
	34	Oakland, Borough of	5309	33
	34	Trenton, City of	5324	38
	34	Wayne, Township of	5327	302
34	Pompton Lakes, Borough of	5528	52	

STATE	STATE CODE	COMMUNITY	COMMUNITY CODE	FREQUENCY	
New York	36	Colesville, Town of	0042	45	
	36	Buffalo, City of	0230	79	
	36	West Seneca, Town of	0262	37	
	36	Freeport, Village of	0464	40	
	36	Hampstead, Town of	0467	228	
	36	Oyster Bay, Town of	0483	50	
	36	New York, City of	0497	5364	
	36	Charlestown, City of	0679	95	
	36	Orangetown, Town of	0686	77	
	36	Suffern, Village of	0694	37	
	36	Babylon, Town of		61	
	36	Rockland, Town of	0829	56	
	36	Harrison, Town of	0912	212	
	36	Larchmont, Village of	0915	39	
	36	Mamaroneck, Village of	0916	164	
	36	Mamaroneck, Town of	0917	132	
	36	New Rochelle, City of	0922	67	
	36	Rye, Town of	0930	65	
	36	Rye, City of	0931	148	
	36	Scarsdale, Village of	0932	53	
	36	White Plains, City of	0935	37	
	36	Yonkers, City of	0936	64	
	36	Seneca, Nation of Indians	1591	70	
	36	Brookhaven, Town of	5334	124	
	36	Hanover, Town of	5336	274	
	36	Islip, Town of	5337	118	
	36	Ramapo, Town of	5340	112	
	36	Southhampton, Town of	5342	9	
	36	Spring Valley, Village of	5344	83	
	36	Westhampton Beach, Village of	5345	53	
	North Carolina	37	Charlotte, City of	0159	31
	North Dakota	38	Valley City, City of	0002	48
		38	West Fargo, City of	0024	66
38		Grand Forks County	0033	64	
38		Mott, City of	0038	46	
38		Pembina, City of	0079	64	
38		Lisbon, City of	0091	33	
38		Walsh County	0135	395	
38		Grafton, City of	0137	141	
38		Barnes, Township of	0256	30	
38		Reed, Township of	0257	42	
38		Stanley, Township of	0258	56	
38		McKinney, Township of	0311	34	
38		Fargo, City of	5364	89	
38		Grand Forks, City of	5365	176	
38		Minot, City of	5367	102	
38		Ward County	5370	74	
Ohio		39	New Richmond, Village of	0071	54
	39	Hamilton County	0204	34	
	39	Cincinnati, City of	0210	104	
	39	East Lake, City of	0313	41	

STATE	STATE CODE	COMMUNITY	COMMUNITY CODE	FREQUENCY
Oklahoma	40	Oklahoma City, City of	5378	63
	40	Tulsa, City of	5381	133
Pennsylvania	42	Pittsburgh, City of	0063	33
	42	Johnstown, City of	0231	64
	42	North Coventry, Township of	0283	59
	42	Londonderry, Township of	0383	38
	42	Manor Township (Lancaster)	0557	38
	42	West Lampeter, Township of	0566	34
	42	Lebanon, City of	0573	209
	42	Allentown, City of	0585	49
	42	Plymouth Township (Luzerne County)	0623	44
	42	Shickshinny, Borough of	0626	71
	42	Muncy, Borough of	0649	36
	42	Old Lycoming, Township of	0652	32
	42	Pottstown, Borough of	0649	42
	42	West Norrinton, Township of	0711	85
	42	Philadelphia, City of	0757	32
	42	Heller, Township of	0927	32
	42	Wrightsville, Borough of	0943	42
	42	Lower Windsor, Township of	1187	69
	42	Northeast, Township of	1368	40
	Rhode Island	44	Barrington, Town of	5392
44		Warwick, City of	5409	64
South Dakota	46	Aberdeen, Town of	0007	112
Tennessee	47	Nashville, City of	0007	112
	47	Davidson County	0015	42
	47	Lauderdale County	0333	30
Texas	48	San Antonio, City of	0045	38
	48	Pearland, City of	0077	145
	48	Hardin County	0284	64
	48	Harris County	0287	792
	48	Deer Park, City of	0291	81
	48	Houston, City of	0296	679
	48	Humble, City of	0297	40
	48	Pasadena, City of	0307	201
	48	Jefferson County	0385	33
	48	Montgomery County	0483	939
	48	Conroe, City of	0484	77
	48	Orange County	0510	35
	48	Vidor, City of	0514	45
	48	Alvin, City of	5451	450
	48	Baytown, City of	5456	238
	48	Beaumont, City of	5457	268
	48	Brazoria County	5458	683
	48	Clear Lake City, City of	5460	37
	48	Clear Lake Shore, City of	5461	85
	48	Freeport, City of	5467	156

STATE	STATE CODE	COMMUNITY	COMMUNITY CODE	FREQUENCY
Texas	48	Friendswood, City of	5468	480
(Cont.)	48	Galveston County	5470	756
	48	Grand Prairie, City of	5472	40
	48	Graves, City of	5475	32
	48	Hitchcock, City of	5479	31
	48	Kemah, City of	5481	66
	48	La Porte, City of	5487	68
	48	League City, City of	5488	300
	48	Matagorda County	5589	90
	48	Nassau Bay, City of	5491	104
	48	Port Arthur, City of	5499	116
	48	Seabrook, City of	5507	77
	48	Shoreacres, City of	5510	73
	48	Taylor Lake, Village of	5513	38
	48	Webster, City of	5516	35
Virginia	51	Norfolk, City of	0104	53
	51	Roanoke, City of	0130	73
	51	Salem, City of	0141	66
	51	Richlands, City of	0163	35
	51	Poquoson, City of	0183	35
	51	Roanoke County	0190	31
	51	Hampton, City of	5527	42
	51	Virginia Beach, City of	5531	49
West Virginia	54	Boone County	0007	71
	54	Cabell County	0016	42
	54	Molton, Town of	0019	33
	54	Clarksburg, City of	0056	73
	54	Kanawha County	0070	68
	54	Weston, City of	0087	49
	54	McDowell County	0114	95
	54	Mingo County	0133	95
	54	Wheeling, City of	0152	74
	54	Wayne County	0200	55
	54	Wood County	0213	42
	54	Logan County	5536	420
Wisconsin	55	Jefferson County	0191	72
	56	Puerto Rico, Commonwealth of	0000	64

Davis, Stuart A.

User's guide to the Federal Insurance Administration's 1978-1979 flood claims file for computation of depth-damage relationships / by Stuart A. Davis (Institute for Water Resources, U.S. Army Corps of Engineers).-- [Fort Belvoir, Va. : Institute for Water Resources ; Springfield, Va. : NTIS [distributor]], 1981.

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2. Floods--Economic aspects--United States. 3. Federal Insurance Administration--Information services.. 4. Information storage and retrieval systems--Insurance, Flood. I. United States. Army. Institute for Water Resources. II. Title. III. Series.

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