"FALL 1998: AFTER THE STORM*"

* OR "IT NEVER RAINS IN CALIFORNIA?"

FALL CONFERENCE

SEPTEMBER 16-18, 1998
SACRAMENTO, CALIFORNIA

Full Conference Schedule

September 16 - Wednesday

Time	Event	Location
9:00 am- 5:00 pm	**REGISTRATION OPEN**	**Lobby Foyer**
9:00 am - 8:00 pm	**EXHIBIT AREA OPEN**	**Fresno Room**
1:00 pm - 5:00 pm	**WORKSHOP - HEC-HMS** -- Presented by James Doan, U.S. Army Corps of Engineers, Hydraulic Engineering Center. Updated discussion and demonstration of new HMS program.	**El Dorado Room**
1:00 pm - 5:00 pm	**WORKSHOP - STATE & FEDERAL REGULATORY AGENCIES -** A panel of representatives from the US Army Corps of Engineers, the EPA, the National Marine Fisheries Service, Calif. Department of Fish & Game, and the State Regional Water Quality Control Board. The format is an open discussion session between the audience and the panel. Moderated by Thomas D. Fayram, Santa Barbara County Flood Control and Water Conservation District.	**Diablo Room**
3:00 pm - 3:30 pm	**BREAK**	**Fresno Room**
5:30 pm - 8:00 pm	**ICEBREAKER SOCIAL - Hosted Pizza and Beer Bash!**	**Fresno Room**

September 17 - Thursday

Time	Event	Location
7:30 - 5:00 pm	**REGISTRATION**	**Lobby Foyer**
7:30 - 5:00 pm	**EXHIBIT AREA OPEN**	**Fresno Room**
7:30 - 8:00 am	**CONTINENTAL BREAKFAST**	**Fresno Room**

Time	Session	Room
8:00 - 8:30 am	**WELCOME** **Clark Farr**, outgoing FMA Chairman, **Laura Hromadka**, FMA Executive Director, **Mike Parker**, Fall 1998 Conference Technical Program Chairman.	El D... Diabl... Room
8:30 - 10:00 am	**OPENING PLENARY SESSION** - MODERATOR : CLARK FARR • **Ray Lenaburg**, FEMA Region IX - *"The State of the Region, After the Storm"* • **Maury Roos**, State of CA DWR - *"It Never Rains in California, it Pours!"* • **Thomas D. Fayram**, Santa Barbara County Flood Control, *"El Nino '98 - Local Government Perspective"* • **John Cox**, Sacramento Bee - *"El Nino, a Media Perspective"*	El Dorado/ Diablo Room
10:00 - 10:30 am	**Break**	Fresno Room
10:30 - 12:00 pm	**PLENARY SESSION** - MODERATOR : MICHAEL PARKER • **Massoud Rezakhani**, Michael Baker Jr., Inc. *"FEMA Map Revision Update"* • **Karl F. Mohr** - FEMA Community Outreach, *"Map Modernization Process"* • **Dr. Adnan A. Saad**, A&M Consultants, P.C., **Lisa Vomero Inouye**, A & M Engineering Consultants of California, *"Community Participation in the FIS Process: A New Way to Go"* • **Timothy Durbin**, Bookman Edmonston, *"Stream Water Quality Management - Santa Ynez River, CA."*	
12:00 -1:30 pm	**KEYNOTE LUNCHEON - SENATOR JAMES COSTA, 16th District, Author of SB 312, "Safe Drinking Water, Clean Water, and Flood Prevention Act"**	John Q's Ballroom
1:30 - 3:00 pm	**Session A-1 ; COMMUNITY RATING SYSTEM** - RON MIELNICKI AND ROB FLANNER, ISO, "CRS Update for 1999"	El Dorado Room
1:30 - 3:00 pm	**Session A-2 ; STATISTICS & COMPUTER MODELING** - MODERATOR: MARK FOREST **Alan Nestlinger, County of Orange EMA;** *"THE STORM OF THE CENTURY IN ORANGE COUNTY, CALIFORNIA"* **Thomas Burke, Phillip Williams & Associates, Ltd.** *"CALIBRATION OF A FLOODPLAIN MODEL TO EXISTING ALERT DATA"* **Dr. Theodore V. Hromadka, Exponent/Failure Analysis Associates,** *"A TEST OF RAINFALL DEPTH-DURATION STATISTICS"* **Dr. Robert Whitley, Univ. of California, Irvine;** *"CONFIDENCE INTERVALS FOR 100-YEAR FLOODS BY WAY OF A NEURAL NETWORK"*	Diablo Room

Another Visit
With
The Orange County
100-year
Storm Rainfall Data

T. Hromadka   R. Whitley

- Is the number of 3-hour 100-year exceedances, in 25 years, consistent with the definition of 100-year events?

- If there are a large number of sites, there are probably a few with 25 years of record, that "seem" to contain too many 100-year events.

- Events at various sites are correlated:
  A 100-year event at one site may also occur at another site.

- In Orange County, the 8 severe storms experienced in 25 years, produced coverages of 2.6%, 3.1%, 3.8%, 6.5%, 17.7%, 20.0%, and 21.9%.

- Interpret coverage as the probability that each storm would produce an exceedance at a randomly chosen site; then the expected number of exceedances observed at this hypothetical site is:

$$.026 + .031 + .038 + .065 + .177 + .200 + .219 = .823$$

- Probability of occurrence is :

$$\frac{0.823}{25} = 0.03292$$

or, a return frequency of 30.37 years.

- Is the hypothetical number of events so unlikely that p = 0.01 (100-year storm) can be rejected?

- The probability (1 or more events in 25 years), at $p = 0.01$, is:

$$1 - (0.99)^{25} = 0.222$$

(Note: 1 event used, not 0.823)

- Thus, if p is 0.01, then about 22% of the time, we would experience what has occurred.

- The data makes one suspicious, but not confident, that the true return frequency is less than 100 years.
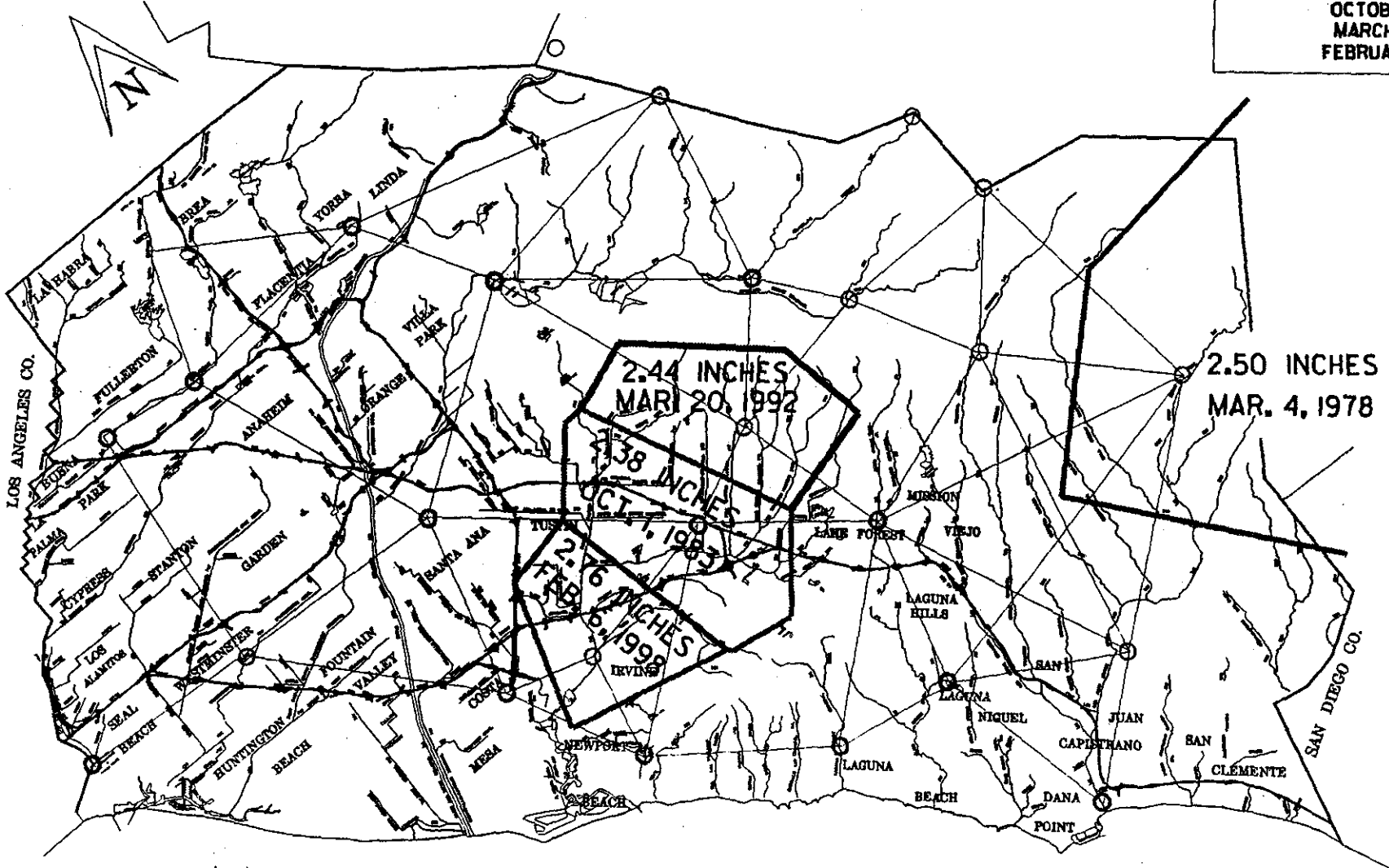
SAN BERNARDINO CO.

RIVERSIDE CO.

THIESSEN POLYGON
MAXIMUM THREE-HOUR RAINFALL
FOR THE FOLLOWING DATES:

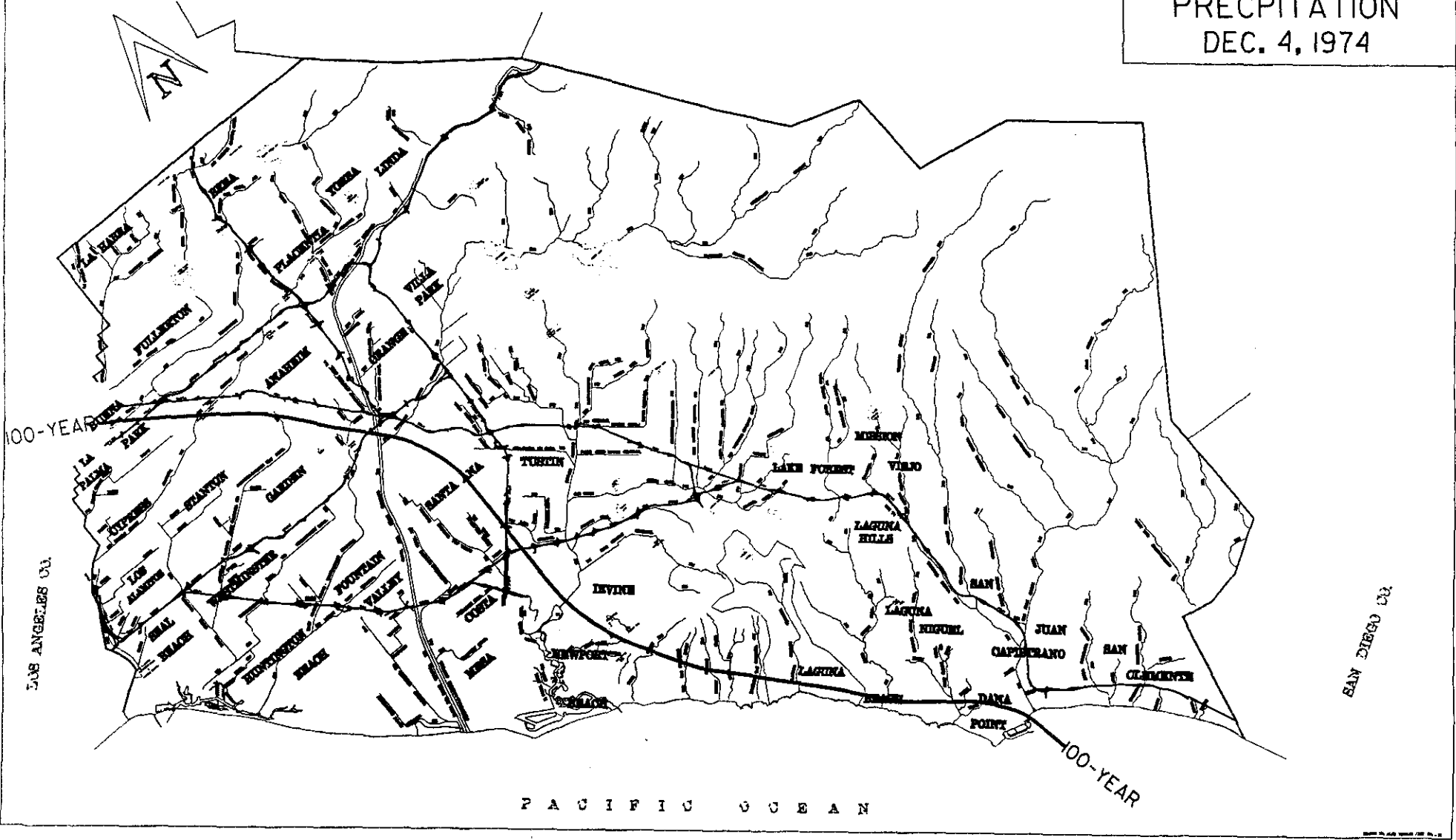MARCH 4, 1978
OCTOBER 1, 1983
MARCH 20, 1992
FEBRUARY 6, 1998

2.44 INCHES
MAR. 20, 1992

2.50 INCHES
MAR. 4, 1978

1.38 INCHES
OCT. 1, 1983

2.46 INCHES
FEB. 6, 1998

PACIFIC OCEAN

SAN BERNARDINO CO.

RIVERSIDE CO.

LOS ANGELES CO.

SAN DIEGO CO.

N

100-YEAR

100-YEAR

LA HABRA

BREA

YORBA LINDA

PLACENTIA

VILLA PARK

FULLERTON

ANAHEIM

ORANGE

YORBA PARK

LA PALMA

CYPRESS

STANTON

GARDEN

SANTA ANA

TUSTIN

LAKE FOREST

MISSION VIEJO

LOS ALAMITOS

WESTMINSTER

FOUNTAIN VALLEY

COSTA MESA

IRVINE

LAGUNA HILLS

SEAL BEACH

HUNTINGTON BEACH

MESA

NEWPORT

LAGUNA

LAGUNA MIGUEL

SAN

JUAN CAPISTRANO

SAN CLEMENTE

SEACROSS

BEACH

DANA POINT

PACIFIC OCEAN

ISOFREQUENCY MAP
MAXIMUM 3-HOUR
PRECIPITATION
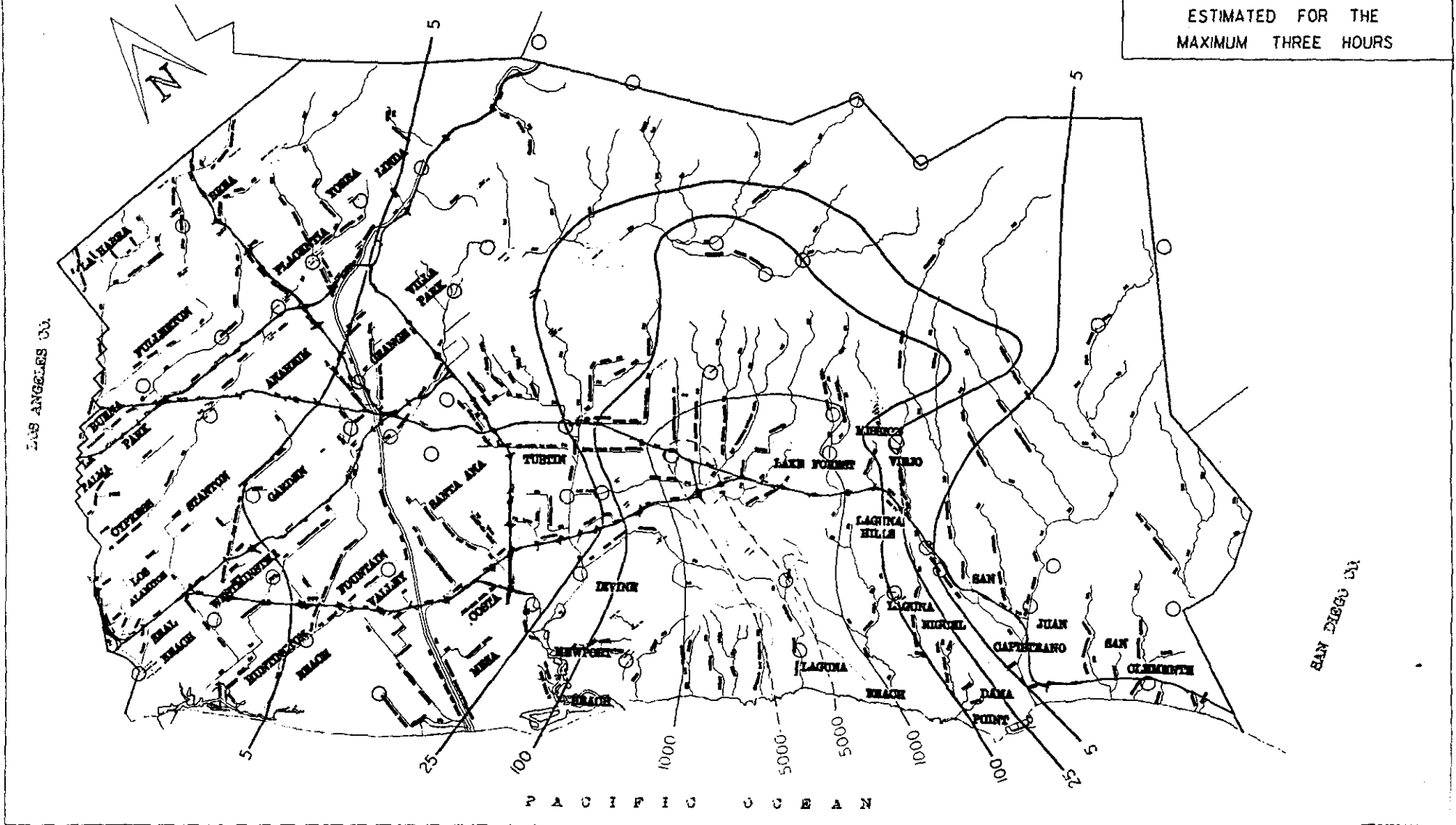MARCH 1, 1983
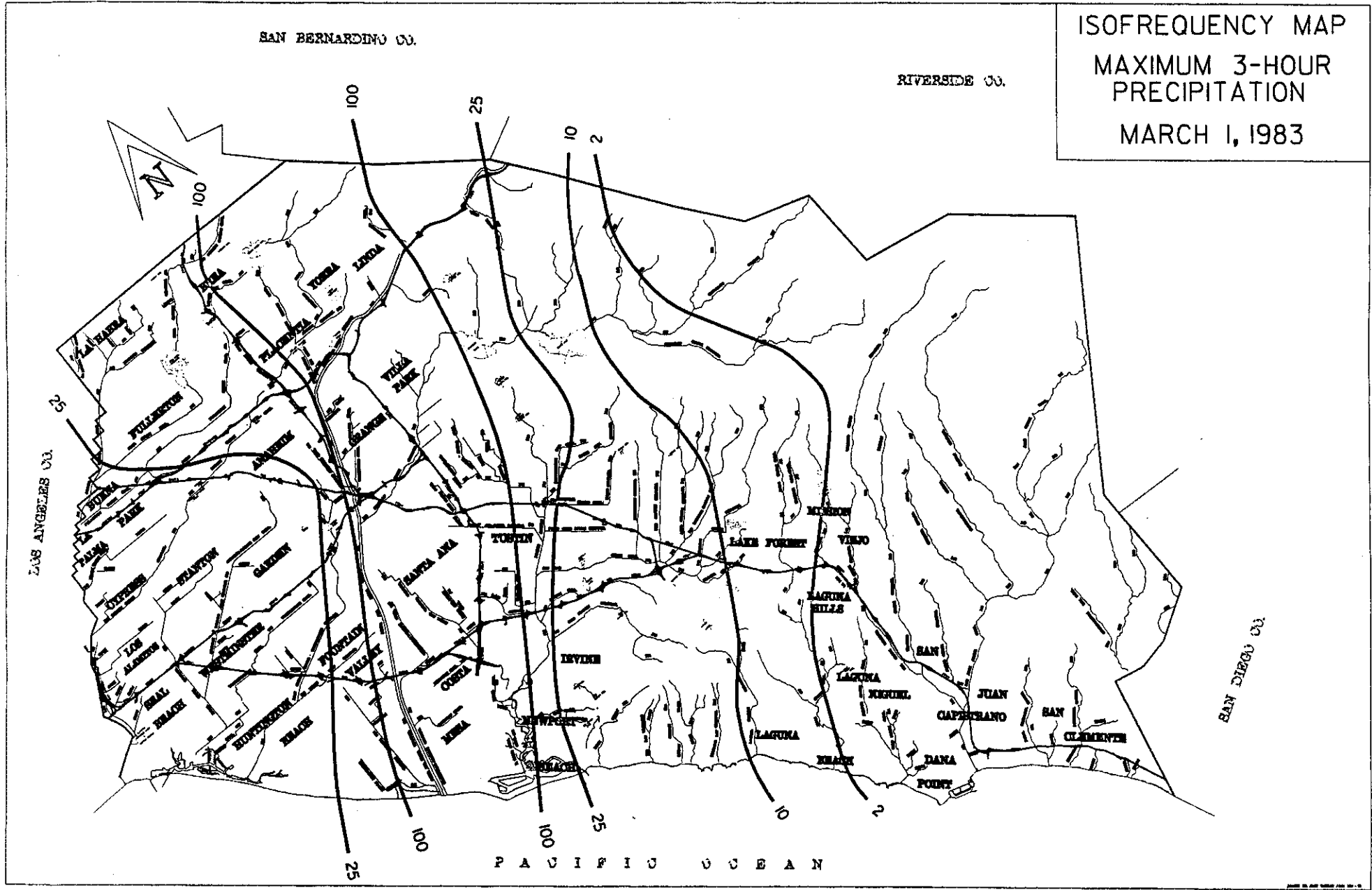
ISOFREQUENCY MAP
DECEMBER 6, 1997

RETURN PERIOD IN YEARS
ESTIMATED FOR THE
MAXIMUM THREE HOURS

ISOFREQUENCY MAP
JANUARY 4, 1995
3-HOUR DURATION
ENDING at 5:15 PM