INVENTORY OF DISASTER FIELD STUDIES
IN THE SOCIAL AND BEHAVIORAL SCIENCES
1919-1979*

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Acknowledgments

While almost all Disaster Research Center publications involve the work of many members of the Center, this volume is especially a collective product. More than a decade ago, the Center first thought about compiling an inventory of field studies of disasters. Thus, over the years dozens of disaster events were added to a draft inventory although the work was never put into any form for public use and distribution. Only with a project involving the parallel production of an Inventory of the Japanese Disaster Research Literature in the Social and the Behavioral Sciences, was it possible to bring this intended work to fruition.

Various graduate and undergraduate students through the years worked on compiling the information for this inventory. Especially to be singled out for their effort must be Lou Ann Galloway, Carol Smith Jankowski, Beth Rinard, Catherine Smith, and Martha Woodruff. The typing of the final manuscript and the supervision of its production was done in her usual competent manner by Connie Smith.
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Explantion of and Guide to the Inventory

In 1961 the Disaster Research Group of the National Academy of Sciences issued a monograph entitled, Field Studies of Disaster Behavior: An Inventory. That monograph was an attempt to provide in one source "a relatively complete list of the field studies on human behavior in disasters that have been conducted by behavioral scientists" (1961: 1). The list included 114 field studies of 103 events which had produced 121 reports.

In the two decades since that monograph there has been an acceleration in the number of field studies which have been undertaken. This reflects the flourishing of disaster research generally. The Academy inventory therefore is considerably out of date. Annotated bibliographies produced in the ensuring years have not had the same objective as an inventory; a gap in the disaster literature consequently exists. Researchers, planners, and others interested in research findings do not have one source which lists all field studies and identifies and locates pertinent publications for specific disaster situations.

While this report builds on the old Academy inventory, it is not merely an extension of that publication. It differs somewhat in both coverage and format. The end product is a result of a series of decisions we had to make in developing our new inventory. It lists and provides relevant information on disaster field studies in the social and behavioral sciences in English language sources and references for more than a sixty year period. The work on our inventory was accomplished as a part of a larger effort at the Disaster Research Center (DRC) which included the production of a companion volume, Inventory of the Japanese Disaster Research Literature in the Social and Behavioral Sciences.

For background purposes, we will note some of the questions addressed, problems faced, and limitations involved in producing our inventory. An original goal, to produce as complete a listing as possible of all known disaster field studies conducted anywhere by social and behavioral scientists, had to be modified. Certain rationale regarding subject and selection process, time frame, and format are now discussed.

First, for a variety of reasons, but mostly because they have rarely been systematically studied in the field by social and behavioral scientists, very diffuse and slowly developing types of disasters, such as famines, droughts and epidemics were excluded from listing consideration. Emphasis in our inventory is on relatively focalized and sudden types of disasters. While our decision excluded some recent studies and publications, it did not exclude in absolute terms very much of a social scientific nature. Much of the work on famines, for example, is of a historical nature, or deals with the topic from a very practical or operational rather than a social science point of view, as illustrated by the types of articles which appear on the topic of famine in the journal Disasters.
Second, we leave out in this first edition all non-English sources. All Japanese language material is presented in the companion inventory previously mentioned. However, while DRC has in its possession a considerable body of non-English sources (it probably has an almost complete set of empirical writings on disasters in Italian, French, and Swedish), translation problems as well as a known incomplete collection in some languages, led us to non-English references in this inventory.

Third, we include in the inventory only studies undertaken by social and behavioral scientists or done within an explicit social and behavioral science research framework. As such, we have left out of the inventory purely historical studies (e.g., Hilda Grieve, The Great Tide, 1959), as well as personal anecdotal accounts (e.g., as typically written by disaster victims), journalistic descriptions (e.g., Polk Laffoon, Tornado: The Killer Tornado That Blasted Xenia, 1975), and agency after action reports (e.g., Mattie Treadwell, Hurricane Carla, 1961). While some of these publications may be more research useful than some social science works, we were primarily interested in including in the inventory only relatively explicit social scientific contributions to the literature.

Social and behavioral sciences were interpreted as including the fields of anthropology, economics, geography, political science, psychology, sociology, and urban planning. Studies from medicine, psychiatry, social work, and marginal areas relevant to the social sciences were only included in the inventory if what they reported was primarily of a social science nature. Thus, medical studies which focus mostly on health and medical aspects of disasters rather than human and social aspects, were excluded from the inventory.

We also arbitrarily decided to systematically include only studies done up to and through 1979. In actuality some field studies done up to and through 1982 are included. It was not possible within our time constraints to insure total coverage after 1979, but we listed as many field studies as came to attention after that year. If the study by Samuel Prince of the Halifax, Nova Scotia, Canada ship harbor explosion which occurred in 1919 is taken as the first systematic social science field study in the disaster area, as it usually is, our inventory systematically includes all the field work done in the first sixty years of work in the area.

Our listings in the inventory are by the major disaster agent involved. For each listing, the full range of field research on any given disaster event is provided. The specific agent categories used are:

A. Earthquakes
B. Explosions and fires
C. Floods
D. Hurricanes, typhoons, and severe storms
E. Power system malfunctions
F. Snowstorms and blizzards
G. Tornadoes
H. Toxicological incidents
I. Transportation accidents
J. Tsunami
K. Volcanic eruptions
L. Miscellaneous and mixed
Again, this aspect of our listing was to a degree arbitrary; the major dimension of the disaster was used for assigning any given event. Thus, a train derailment which led to a dangerous toxic cloud, for example, is listed under toxicological incidents rather than transportation crashes. Explosions and fires, incidentally, are further subdivided into whether they involve building, forest-brush-grass, or other kinds of incidents. Similarly, floods are subdivided: dam, river, flash, or other kinds.

Studies of wartime and military situations, concentration camp behavior, civil disturbances and riots, terrorist activities, and similar conflicts are excluded from the inventory. In this we follow the distinction made in the disaster literature between consensus and dissensus crises and stress situations. We include only consensus kinds of events as disasters, as has become traditional in the disaster literature (for a discussion of the difference between consensus and dissensus types of events see E. L. Quarantelli, "Emergent Accommodation Groups: Beyond Current Collective Behavior Typologies" in Tomatsu Shibutani (ed.), Human Nature and Collective Behavior, 1970). Following a similar logic, field studies of civil defense tests are excluded from the inventory, in contrast to their inclusion along with some wartime studies in the National Academy of Sciences original inventory of Field Studies of Disaster Behavior in 1961.

Specific threat situations, however, resulting from standard disaster agents are included in the inventory as well as actual disaster events. They are included because researchers have found little differences in the two kinds of situations, primarily reflecting a sociological axiom that "if people define a situation as real, it is real insofar as consequences are concerned." On the other hand, none of the numerous studies dealing with disaster preparedness planning are in the inventory since they almost always are not event specific but simply involve discussions of general preparations for a possible disaster. Our interest was only in events with specific time/place parameters.

In our inventory, we otherwise provide a chronological listing of all disaster situations within each of the major disaster agents enumerated above. If an event involved two or more agents, it is listed by the major agent involved which usually but not always is how the event is traditionally identified (e.g., the 1906 San Francisco earthquake rather than fire). No cross-classification of disaster agents is provided.

In our inventory, the following information is provided for each event:

- Major agent involved
- Event name
- Date of occurrence
- Location of event
- A brief narrative on casualties and damages
  including if there was a federal declaration of disaster for events in the U.S.
- All known reports and publications from study
An event is listed as long as we had information that field work of some kind was undertaken even though no specific report or publication was issued. The undertaking of a field study means that some data were collected even if they still remain specifically unanalyzed. If there are no reports or publications from the study, the name of the organization or the researcher which did the study is included. While no event is listed unless some field work was done, all known reports or publications on that event are provided even if the particular study or data reported did not involve field research. Similarly, studies done long after the disaster event occurred are reported as long as they involved some kind of social science research.

Information provided here is as complete and accurate as we could establish. Some of the material presented, however, has to be approached with a certain amount of caution. For example, as experienced disaster researchers know, casualty figures are estimates at best. The number injured and the amount of property damage can differ by orders of magnitude of two or three depending on which source of information is used. We used those figures which we estimate are the most reliable.

We originally thought of listing the number of interviews obtained in each study, as was done in the original Academy inventory, but eventually rejected the idea because the results could be misleading especially for comparative purposes. For example, almost all interviews by DRC personnel are done face-to-face, involve in-depth probing and often last two to three hours. In contrast, there are studies where the interviews conducted were done over the phone, followed or used a checklist format and lasted no more than five minutes. For certain research purposes, the latter kind of data might be quite valid, but obviously not all interviews obtained in the different studies can be thought of as substantively equivalent.

Reports and publications cited under each event are listed first chronologically and then alphabetically by authors. In the case of non-article references, where known, the number of pages in the text is given. Identical texts which appear in two different sources are normally only listed once; however, somewhat different versions of the same paper or publication are given multiple listings because the additional material or interpretation might be relevant to users of the inventory.

A considerable effort was made to identify all relevant reports and publications. The list (especially before 1980) is probably close to being a complete list of social science references. A major attempt was made to identify writings in other than standard journals and publication outlets, as well as papers presented at major professional meetings. No item was listed in the inventory unless a copy existed in the DRC library or was thought to be available in some other specific location. More than 98 percent of the reports and publications cited were physically seen by the DRC staff who worked on the inventory.
Further editions of this inventory are planned. To allow for the insertion of additional entries in later versions, the pagination of the inventory itself is not consecutive but is alphabetically subdivided by disaster agent. Thus, all earthquake studies are listed on pages numbered A-1, A-2, A-3, etc.; all explosion and fire studies are listed on pages numbered B-1, B-2, B-3, etc.; and so on in each of the major disaster categories from A through L.

Great care has been taken to insure the accuracy of the information presented. Undoubtedly, however, there are errors of omission and commission. Users of this inventory are therefore asked to communicate with DRC upon the discovery of any errors so corrections can be made in future editions.
### SUMMARY TABLE

<table>
<thead>
<tr>
<th>Disaster Agent</th>
<th>Total # of Events Studied in the Field</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Earthquake</td>
<td>26</td>
</tr>
<tr>
<td>B. Explosion and Fire</td>
<td>48</td>
</tr>
<tr>
<td>C. Flood</td>
<td>89</td>
</tr>
<tr>
<td>D. Hurricane, Typhoon, and Severe Storm</td>
<td>33</td>
</tr>
<tr>
<td>E. Power System Malfunction</td>
<td>4</td>
</tr>
<tr>
<td>F. Snowstorm and Blizzard</td>
<td>13</td>
</tr>
<tr>
<td>G. Tornado</td>
<td>55</td>
</tr>
<tr>
<td>H. Toxicological Incident</td>
<td>35</td>
</tr>
<tr>
<td>I. Transportation Accident</td>
<td>27</td>
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<tr>
<td>J. Tsunami</td>
<td>4</td>
</tr>
<tr>
<td>K. Volcanic Eruption</td>
<td>6</td>
</tr>
<tr>
<td>L. Miscellaneous and Mixed</td>
<td>13</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>353</strong></td>
</tr>
</tbody>
</table>
AGENT: Earthquake
EVENT: San Francisco Earthquake and Fire
DATE: April 18, 1906
LOCATION: San Francisco, California, USA

DESCRIPTION:
The San Francisco earthquake and fire killed 498 people and injured 415 others. Hundreds of fires burned through the city when gas mains broke. The fires lasted for three days and two nights, covering five square miles of the city. Five hundred city blocks were gutted with 28,000 homes destroyed.

REPORTS AND PUBLICATIONS:

James, William

Douty, Christopher Morris

Bowden, Martyn J.

Douty, Christopher Morris

Douty, Christopher Morris

Haas, J. Eugene, Robert W. Kates, and Martyn J. Bowden
AGENT: Earthquake

EVENT: Earthquake at Hawkes Bay

DATE: September 2, 1931

LOCATION: Hawkes Bay, New Zealand

DESCRIPTION:

230 persons killed in largest earthquake ever to hit the country.

REPORTS AND PUBLICATIONS:


AGENT: Earthquake
EVENT: Earthquake in Northern India
DATE: January 15, 1934
LOCATION: Bihar, India
DESCRIPTION:
The earthquake in Northern India killed 9,040 people and injured many. Several North Bihar towns and districts were isolated for three to four days due to the destruction of communication systems.

REPORTS AND PUBLICATIONS:

Prasad, Jamuna

Prasad, Jamuna
AGENT: Earthquake

EVENT: Earthquake in Southern California

DATE: July 21, 1952

LOCATION: Kern County, California, USA

DESCRIPTION:

The earthquake centered on Tehachapi, California was the state's most violent tremor since the 1906 San Francisco quake. It destroyed or damaged 150 Tehachapi homes and was felt over a 100,000 square mile area. Fourteen persons were killed; 100 were injured. Property damage amounted to $60 million.

REPORTS AND PUBLICATIONS:

AGENT: Earthquake

EVENT: Bakersfield Earthquake

DATE: August 22, 1952

LOCATION: Bakersfield, California, USA

DESCRIPTION:
The Bakersfield earthquake killed two people and injured 32 others. Property damages were estimated at $20 million with damages extending over a 98 block area. The central business district sustained the heaviest destruction. The earthquake did not warrant official declaration of disaster.

REPORTS AND PUBLICATIONS:

Quarantelli, E. L.

AGENT: Earthquake
EVENT: Earthquake in Southern Italy
DATE: August 21, 1962
LOCATION: Avellino, Italy
DESCRIPTION:
The quakes were centered approximately 30 miles northeast of Naples and caused extensive damage to the Southern parts of Italy. The quakes killed a total of 17 people, two people from Avellino. Avellino damages were minimal as compared to those in other areas of Italy.

REPORTS AND PUBLICATIONS:
Moss, Leonard W.
AGENT: Earthquake
EVENT: Alaskan Earthquake
DATE: March 27, 1964
LOCATION: Anchorage and coastal villages, Alaska, USA
DESCRIPTION:

The Alaskan earthquake registered a magnitude of 8.4-8.6 on the Richter scale and lasted 3 to 4 minutes, affecting 50,000 square miles. The earthquake generated tsunami which were felt by the Alaskan coastal villages, and landslides which caused major damage in Anchorage. The quake killed 116 people in the state, with property damage estimated at $300 million. In Anchorage, hundreds of homes were destroyed as well as much of the central business district. Parts of Alaska were officially declared disaster areas and the state received $57 million in federal funding.

REPORTS AND PUBLICATIONS:

Bowman, Karl M.

Yutzy, Daniel
1964 Emergency operations in Anchorage hospitals after the 1964 earthquake. Paper presented at the Conference on Disaster Medical Care, Columbus, Ohio, October 18, 1964. 13 pp.

Dynes, Russell R., J. Eugene Haas, and E. L. Quarantelli

Anderson, William A.

Saroff, Jerome R.

Kunreuther, Howard and Elissandra Fiore
Davis, Nancy Yaw  

Haas, J. Eugene  

Weller, Jack M.  

Norton, Frank and J. Eugene Haas  

Yutzy, Daniel and J. Eugene Haas  

Wilson, Rodman and William Rader  

Adams, David S.  

Anderson, William A.  
1969  Disaster and Organizational Change: A Study of the Long-Term Consequences in Anchorage of the 1964 Alaska Earthquake. Columbus, Ohio: The Disaster Research Center, The Ohio State University. 89 pp.

Weller, Jack M.  

Dacy, Douglas C. and Howard Kunreuther  

Dynes, Russell R. and E. L. Quarantelli  

A-8a
Yutzy Daniel, William A. Anderson, and Russell R. Dynes

Anderson, William

Davis, Nancy Yaw

Davis, Nancy Yaw

McLuckie, Benjamin F.

Norton, Frank R. B. and J. Eugene Haas

Norton, R. B. And J. Eugene Haas

Yutzy, Daniel and J. Eugene Haas
Yutzy, Daniel and J. Eugene Haas

Adams, David, Robert Stalings, and Stephen Vargo

McLuckie, Benjamin F.

Quarantelli, E. L.

Haas, J. Eugene, Robert W. Kates, and Martyn J. Bowden

Ross, G. Alexander
AGENT: Earthquake
EVENT: Niigata Earthquake
DATE: June 16, 1964
LOCATION: Niigata, Japan

DESCRIPTION:
In Niigata, the combination of earthquake and the Shinano River overflow killed 13 persons and injured 315 others. Property damages were estimated at $26 billion yen, with 3,640 buildings destroyed and approximately 27,000 others severely damaged. Communication and transportation facilities into and out of the city were badly damaged.

REPORTS AND PUBLICATIONS:

Dynes, Russell R., J. Eugene Haas, and E. L. Quarantelli

Disaster Research Center

McLuckie, Benjamin F.

Abe, Kitao

Takuma, Taketoshi

McLuckie, Benjamin F.
McLuckie, Benjamin F.

Abe, Kitao

Takuma, Taketoshi
AGENT: Earthquake

EVENT: Earthquake in Northern Chile

DATE: March 28, 1965

LOCATION: Northern Areas, Chile

DESCRIPTION: The Chile earthquake occurred near Santiago and was felt in most of the northern half of the country. Property damage was estimated to be between $50-100 million. The earthquake left 18,000 people homeless and killed 394 people.

REPORTS AND PUBLICATIONS:

1965 The Chilean Earthquake. Research Memo #18. Columbus, Ohio: The Disaster Research Center, The Ohio State University.

Kennedy, Will C.

AGENT: Earthquake
EVENT: Earthquake in Central Greece
DATE: April 5, 1965
LOCATION: Megalopolis, Central Area, Greece
DESCRIPTION:
The earthquake in Central Greece killed 33 people and injured over 200 others, totally destroying 1,700 homes and damaging 7,000 more. The earthquake left 25,000 people homeless.

REPORTS AND PUBLICATIONS:
1965 The Earthquake in Greece. Research Memo #19. Columbus, Ohio: The Disaster Research Center, The Ohio State University. 2 pp.
AGENT: Earthquake

EVENT: Earthquake in El Salvador

DATE: May 3, 1965

LOCATION: San Salvador, El Salvador

DESCRIPTION:
The San Salvador earthquake killed 150 people and injured 500 others. An estimated 40,000 people were left homeless. Property damage has not been estimated.

REPORTS AND PUBLICATIONS:

AGENT: Earthquake

EVENT: Matsushiro Earthquake

DATE: August 3, 1965 to 1966

LOCATION: Matsushiro, Nagano, Japan

DESCRIPTION:

For more than a year Matsushiro experienced 462,781 quakes; thousands of which could be felt. As a result of the frequency of quakes, tourist trade suffered.

REPORTS AND PUBLICATIONS:

Takuma, Taketoshi

Takuma, Taketoshi
AGENT: Earthquake
EVENT: Sicilian Earthquake
DATE: January 14 - February 5, 1968
LOCATION: Western Sicily, Italy

DESCRIPTION:
A series of relatively moderate shocks of magnitudes 4.1 to 5.4 occurred at least 17 separate times in a 23 day period. Much physical damage was done with some villages all but completely destroyed. There were 260 known deaths directly attributable to the three most destructive earthquakes. At least 600 were injured, and an estimated 60,000 to 80,000 persons were made homeless when 18,000 dwelling units were destroyed or severely damaged.

REPORTS AND PUBLICATIONS:
Shipley, Margaret

Haas, J. Eugene and Robert S. Ayre

McLuckie, Benjamin F.

McLuckie, Benjamin F.

McLuckie, Benjamin F.
AGENT: Earthquake

EVENT: Ebino Earthquake

DATE: February 21, 1968

LOCATION: Ebino, Miyazaki, Japan

DESCRIPTION:
The Ebino earthquake killed three people and injured 45 others. Property damages were extensive, with 386 houses destroyed and 858 severely damaged.

REPORTS AND PUBLICATIONS:

Takuma, Taketoshi

Takuma, Taketoshi
AGENT: Earthquake

EVENT: Earthquake in Iran

DATE: August 31, 1968

LOCATION: Northeast Iran

DESCRIPTION:

The Iranian earthquake killed 10,000 people and left 100,000 homeless. It primarily affected Northeastern Iran.

REPORTS AND PUBLICATIONS:

*****

Disaster Research Center, 1968
AGENT: Earthquake
EVENT: Earthquake in Yugoslavia
DATE: October 1, 1969
LOCATION: Banja Luka, Yugoslavia
DESCRIPTION: The earthquake in Banja Luka killed 21 people, injured 1,100 others, destroyed 80% of the buildings in the central area, and left 65,000 people homeless.
REPORTS AND PUBLICATIONS:
*****
Disaster Research Center, 1969
AGENT: Earthquake

EVENT: Gediz Earthquake

DATE: March 28, 1970

LOCATION: Gediz, Turkey

DESCRIPTION:
A major earthquake of Richter magnitude 7.1 occurred in western Turkey, killing 1,086 persons, injuring 1,200 and causing $23 million in property loss. 9,528 dwellings were destroyed or heavily damaged; parts of Gediz were totally destroyed. All of the city was without water for several days. Structural damage occurred, due to the main shock and fires started with aftershocks short-circuited powerlines.

REPORTS AND PUBLICATIONS:


German, Aydin

Mitchell, William A.
1978  Environmental Disaster and Recovery: A Longitudinal Study of
      the 1970 Gediz Earthquake in Western Turkey, Final Report.

Mitchell, William A.
1978  Post disaster recovery after seven years: old and new Gediz.
      Paper presented to Association of American Geographers, New
      Orleans, Louisiana.

Mitchell, William A. and C. Taylor Barnes
1978  Change after an Earthquake Disaster in Western Anatolia. Colorado:
      Department of Geography, Economics, and Management, The U.S.
AGENT: Earthquake

EVENT: Callejon de Huaylas Earthquake

DATE: May 31, 1970

LOCATION: Huaraz, Callejon de Huaylas, Peru

DESCRIPTION:
The Callejon de Huaylas, a Peruvian Alpine Valley bounded by the 20,000 foot Cordillera Blanca mountains, experienced an earthquake in which an estimated 60,000 people perished. Ninety percent of Huaraz was leveled, killing 20,000 in that city. The earthquake lasted for approximately one minute.

REPORTS AND PUBLICATIONS:

Bode, Barbara

Oliver-Smith, Anthony

Rennie, Drummond

Dudasik, Stephen

Bode, Barbara

Oliver-Smith, Anthony

Oliver-Smith, Anthony

Janney, James, Minoru Masuda, and Thomas H. Holmes
Dudasik, Stephen W.

Oliver-Smith, Anthony

Oliver-Smith, Anthony

Osterling, Jorge P.

Dudasik, Stephen W.
AGENT: Earthquake
EVENT: Earthquake in Southern California
DATE: February 9, 1971
LOCATION: Los Angeles Area, California, USA

DESCRIPTION:
In Los Angeles an earthquake registering 6.5 on the Richter scale killed 62 people and injured over 1,000 others. The quake involved 200 square miles of the San Gabriel Mountains. Property damages were estimated at $500 million. Dam damage forced 79,000 people to evacuate their homes for four days. Parts of California were officially declared disaster areas and received $175 million in federal funding.

REPORTS AND PUBLICATIONS:

Blaufarb, H. and J. Levine

Bourque, Linda Brookover, Leo G. Reeder, Bertram H. Raven, D. Michael Walton and Andrew Cherlin

Bourque, Linda Brookover, Leo G. Reeder, Bertram H. Raven, D. Michael Walton and Andrew Cherlin

Hoyt, M. F. and B. H. Raven

Bourque, Linda Brookover, Andrew Cherlin and Leo G. Reeder

Freeling, William and Robert A. Stallings

Disaster Research Center, 1971
AGENT: Earthquake
EVENT: Managua Earthquake
DATE: December 23, 1972
LOCATION: Managua, Nicaragua
DESCRIPTION:
The first and largest of the three shocks to affect Managua registered a magnitude of 6.2 on the Richter scale and lasted approximately five to ten seconds. The death toll ranged from 4-6,000 lives lost with injuries imposed upon 4% of the population of 420,000. Seventy percent of the population was left homeless with property damage estimated at $4-600 million.

REPORTS AND PUBLICATIONS:
Kates, Robert W., J. Eugene Haas, Daniel J. Amaral, Robert A. Olson, Reyes Ramos, and Richard Olson

Coultrip, Raymond L.

Whittaker, Richard, Donald Fareed, Pedro Green, Patrick Barry, Alejandro Borge, and Raul Fletes-Barrios

Davis, Ian

Snarr, D. Neil and P. Leonard Brown

Ahearn, Frederick L.

Ahearn, Frederick L.

Chatterson, I.
Osario, I.  

Trainer, Patricia and Robert Bolin  

Kreimer, Alcira  

Haas, J. Eugene, Robert W. Kates, and Martyn J. Bowden  

Kreimer, Alcira  

Bolin, Robert and Patricia Trainer  

Bolton, Patricia Ann  

Ahearn, F. L.  
AGENT: Earthquake
EVENT: Lice Earthquake
DATE: September 6, 1975
LOCATION: Lice, Turkey
DESCRIPTION:
The death toll throughout the disaster area was 2,385; 3,339 persons were injured. All of the government and public buildings were destroyed, in addition to 33 houses and 314 commercial and official structures. Early reports of property damage was estimated at between seventeen and eighteen million dollars.

REPORTS AND PUBLICATIONS:

Mitchell, William A.
AGENT: Earthquake

EVENT: Guatemalan Earthquake

DATE: February 4, 1976

LOCATION: Guatemala City, Guatemala

DESCRIPTION:
The initial Guatemalan earthquake lasted for 39 seconds and registered 7.5 on the Richter scale. The quake killed 22,779 people and seriously injured 76,552. Property damages were estimated at $1 billion. More than 1 million people were left homeless.

REPORTS AND PUBLICATIONS:

Carmack, R. M. and C. Cook

Davis, Ian

de Ville de Goyet, C. and E. Jeannee
1976 Epidemiological data on morbidity and mortality following the Guatemala earthquake. IRCS Medical Sciences 4: 212.

de Ville de Goyet, C. et al

Davis, Ian

Hingson, Luke L.

Kreimer, Alcira

Lechat, M. F.
de Ville de Goyet, C. and E. Jeannee

Olson, R. A. and R. S. Olson

Weymes, Hazel and Julius Holt

Glass, Roger I., Juan J. Urrutia, Simon Sibony, Harry Smith, Bertha Garcia, and Luis Rizzo

Spencer, Harrison, Arturo Romero, Roger A. Feldman, Carlos Campbell, Otto Zrissig, Eugene Boostrom, E. Croft Long

Mackay, Mary

Rogers, David L.

Taylor, Alan J.

Solomons, Noel W. and Nancy Butte

Romero, Arturo, Rodrigo Cobar, Karl A. Western, and Sergio Mayarga Lopez

Bates, Frederick L., W. Timothy Farrell, and JoAnn K. Glittenberg

Bates, Frederick L., W. Timothy Farrell, and JoAnn Glittenberg

A-23a
Bates, Frederick L., W. Timothy Farrell, and JoAnn K. Glittenberg
1979  Some changes in housing characteristics in Guatemala following
the February 1976 earthquake and their implications for future

Bates, Frederick L. and John C. Belcher
1980  Level of living and disasters: level of living following the
1976 Guatemalan earthquake. Substantive Report #5A, Guatemalan
Earthquake Study. University of Georgia. 27 pp.

Bates, Frederick L., W. Timothy Farrell, and JoAnn K. Glittenberg
1980  Changes in housing patterns in Guatemala associated with the
1976 earthquake as revealed by comparisons between damaged and
undamaged communities with a special examination of housing
values and their relationship to change. Substantive Report
#4, Guatemalan Earthquake Study. University of Georgia. 79 pp.

Bates, Frederick L., W. Timothy Farrell, and JoAnn K. Glittenberg
1980  Changes in level of living in Guatemala following the 1976
earthquake as revealed by comparisions between damaged and
undamaged communities. Substantive Report #5, Guatemalan
Earthquake Study. University of Georgia. 19 pp.
AGENT: Earthquake
EVENT: Friuli Earthquakes
DATE: March 6 and September 15, 1976
LOCATION: Friuli, Italy
DESCRIPTION:
In Friuli, 1,000 people died and many were injured when an earthquake rocked the area. Property damages were extensive, with 17,000 homes destroyed.

REPORTS AND PUBLICATIONS:

Cattarinussi, Bernardo

Angatti, Thomas

Barbina, Guido

Pelanda, Carlo

Hogg, Sarah Jane
AGENT: Earthquake
EVENT: Philippine Earthquake and Tsunami Disaster
DATE: August 17, 1976
LOCATION: Mindoro, Philippines

DESCRIPTION:
The damaging effects of the earthquake and tsunami caused an estimated 5,820 dead and missing persons. Approximately 85% of the dead and 65% of the injured were victims of the tsunami waves. More than 55,000 were left homeless; 10,000 houses were damaged.

REPORTS AND PUBLICATIONS:

Haas, J. Eugene
AGENT: Earthquake

EVENT: Izu Oshima Earthquake

DATE: January 14, 1978

LOCATION: Izu Peninsula, Japan

DESCRIPTION:
A major earthquake followed by aftershocks killed 13 persons and inflicted widespread property damage. In several areas, the water supply was disrupted and in another place cyanide flowed into several rivers.

REPORTS AND PUBLICATIONS:

Akimoto, Ritsuo and Hideaki Ohta

Institute for Future Technology
AGENT: Earthquake

EVENT: Tabas-E-Golshan Earthquake

DATE: September 16, 1978

LOCATION: Tabas-E-Golshan, Iran

DESCRIPTION:
The earthquake which shocked the Kharasson Province in east central Iran severely damaged 90 villages, slightly damaged 50 villages, and completely demolished the town of Tabas. Eleven thousand of 13,000 people were killed in this community. Total fatalities numbered 20,000. The earthquake destroyed over 15,000 housing units and 30 underground water canals.

REPORTS AND PUBLICATIONS:

Berberian, Manuel
B-EXPLOSION AND FIRE
AGENT: Explosion

EVENT: Mount Kembla Mine Explosion

DATE: July 31, 1902

LOCATION: Wollongong, Australia

DESCRIPTION:
The Mount Kembla mine explosion was caused by a fall of waste material which released a cloud of flammable matter which was ignited by a miner's lamp. The explosion blocked the main entrance and killed 96 of the 261 men that were in the mine at the time. One third of the village's male population over 14 years of age was killed.

REPORTS AND PUBLICATIONS:

Mitchell, Glenn and Stuart Piggin
AGENT: Explosion

EVENT: Halifax Harbor Munition Ship Explosion

DATE: December 6, 1917

LOCATION: Halifax, Nova Scotia, Canada

DESCRIPTION:
The Halifax munition ship explosion killed 2,000 people, injured 6,000 and left 10,000 homeless as it burned two and one-half square miles of the city.

REPORTS AND PUBLICATIONS:

Prince, Samuel Henry
AGENT: Fire - Building

EVENT: Cocoanut Grove Nightclub Fire

DATE: November 28, 1942

LOCATION: Boston, Massachusetts, USA

DESCRIPTION:
A fire in an overcrowded night club where there were perhaps 1,000 patrons, trapped a number of them, killing 489 and injuring 166 others. Many died from asphyxiation, some from the panic flight.

REPORTS AND PUBLICATIONS:

Faxon, N. W. and E. D. Churchill

Adler, Alexander

Cobb, Stanley and Erich Lindemann

Veltfort, Helene Rank and George E. Lee

Lindemann, Erich
AGENT: Explosion
EVENT: Texas City Explosion
DATE: April 16-17, 1947
LOCATION: Texas City, Texas, USA
DESCRIPTION:
The "Grandchamp," a tanker carrying ammonium nitrate, caught fire and exploded, causing a nearby Monsanto Plant to burn. Approximately 4,000 people were injured and 512 people were killed as a result of the two fires. Property damages were estimated at $76 million.

REPORTS AND PUBLICATIONS:
Logan, Leonard, Lewis Killian, and Wyatt Marrs
AGENT: Fire - Building

EVENT: Dormitory Fire

DATE: December 3, 1949

LOCATION: Norman, Oklahoma, USA

DESCRIPTION:
A fire broke out in a men's dormitory at the University of Oklahoma and killed three students.

REPORTS AND PUBLICATIONS:

Logan, Leonard, Lewis Killian, and Wyatt Marrs
1952 A Study of the Effects of Catastrophe on Social Disorganization.
AGENT: Explosion

EVENT: Ammunition Barge Explosion

DATE: May 19, 1950

LOCATION: South Amboy, New Jersey, USA

DESCRIPTION:

Barges loaded with 468 tons of ammunition blew up at the Pennsylvania Railroad Docks in South Amboy. Only 4 bodies out of 31 were recovered and more than 350 injuries were sustained. The explosion rained thousands of anti-personnel bombs on the town. Nearly every home in the town of 9,000 was damaged or destroyed, and windows were broken as far away as Brooklyn, 15 miles from the scene.

REPORTS AND PUBLICATIONS:

Green, J. B. And L. Logan
AGENT:  Explosion  

EVENT:  Industrial Plant Explosion  

DATE:  February 8, 1951  

LOCATION:  St. Paul, Minnesota, USA  

DESCRIPTION:  An explosion in the Minnesota Mining and Manufacturing Company plant killed 14 people and injured approximately 50 others. Damage to the plant alone was $1 million; windows were shattered in stores and factories within an 8-block radius of the explosion.

REPORTS AND PUBLICATIONS:  

AGENT: Fire
EVENT: Dormitory Fire
DATE: April 28, 1951
LOCATION: Maryville, Missouri, USA
DESCRIPTION:
An explosion set off a fire in a dormitory at a women's residence hall at Northwest Missouri College, and a few students were injured.

REPORTS AND PUBLICATIONS:
Logan, Leonard, Lewis Killian, and Wyatt Marrs
1952 A Study of the Effects of Catastrophe on Social Disorganization.
AGENT: Explosion and Fire

EVENT: Kansas City Fires from Floods

DATE: July 12-17, 1951

LOCATION: Kansas City, Missouri, USA

DESCRIPTION:

The Kansas floods, caused oil storage tanks to be thrown against high tension lines, resulting in explosions and fires which lasted for several days. Three people were killed and many were injured by the fires. Property damages were estimated at $1 million.

REPORTS AND PUBLICATIONS:

Killian, L. M.

University of Oklahoma Research Institute

Killian, L. M.
AGENT: Fire

EVENT: Forest Fire

DATE: September 20, 1951

LOCATION: Forks, Washington, USA

DESCRIPTION:
The Forks forest fire burned through 15,000 acres of timberland, resulting in over $1 million in property damages. The fire destroyed 19 homes, a tourist camp, and a lumber mill. There were no casualties.

REPORTS AND PUBLICATIONS:

Larsen, Otto N.
1954 Rumors in a disaster; observation of the rumors and concomitant factors in a disaster situation. Journal of Communication 4: 111-123.
AGENT: Explosion

EVENT: Brighton Gas Main Explosion

DATE: September 21, 1951

LOCATION: Brighton, New York, USA

DESCRIPTION:

Brighton, a Rochester, New York suburb, experienced a series of gas line explosions for a duration of two hours. Property damage was estimated at $1 million with 19 homes destroyed and 25 others damaged. The explosion killed three people and injured 30 others.

REPORTS AND PUBLICATIONS:

Quarantelli, E. L.


AGENT: Explosion

EVENT: Fireworks Plant Explosion

DATE: June 5, 1953

LOCATION: Houston, Texas, USA

DESCRIPTION:
An explosion in a fireworks plant killed four and injured 96 as well as damaging 30 homes in the neighborhood.

REPORTS AND PUBLICATIONS:

Killian, Lewis
AGENT: Explosions and Fire
EVENT: West Frankfort Mine Explosion
DATE: December 21, 1951
LOCATION: West Frankfort, Illinois, USA

DESCRIPTION:
The West Frankfort mine explosion killed 120 of the 218 men working the shift.

REPORTS AND PUBLICATIONS:

Gordon, Archer S. and Frank Raymon

Gordon, Archer S. and Frank Raymon

AGENT: Explosion
EVENT: Ship Explosion and Fires
DATE: May 26, 1954
LOCATION: U.S.S. Bennington, USA
DESCRIPTION:
An explosion and fire aboard the U.S. aircraft carrier Bennington killed 102 persons and injured 203.

REPORTS AND PUBLICATIONS:

*****
Committee on Disaster Studies, 1954
AGENT: Explosion
EVENT: Fireworks Plant Explosion
DATE: July 16, 1954
LOCATION: Chestertown, Maryland, USA

DESCRIPTION:
Eleven persons were killed during a series of explosions which occurred during a two-hour interval. Fire, in addition to the explosions, demolished 35 of the plant's 60 buildings. Scores of townspeople were injured by flying debris.

REPORTS AND PUBLICATIONS:
Rayner, Jeanette F.
AGENT: Fire - Building
EVENT: Arundel Park Hall Fire
DATE: January 29, 1956
LOCATION: Brooklyn, Maryland, USA
DESCRIPTION:
The Arundel Park Hall fire killed 11 persons and injured about 250 others. The hall had been rented for a church function and contained from 1,100 to 1,200 persons.

REPORTS AND PUBLICATIONS:

Bryan, John L.

Bryan, John L.
AGENT: Explosion and Fire
EVENT: Springhill Mine Explosion
DATE: November 1, 1956
LOCATION: SpringHill, Nova Scotia, Canada

DESCRIPTION:
The Springhill mine explosion and fire trapped and killed 36 men. Three bodies were removed from the debris and the remaining 88 men were rescued on November 5.

REPORTS AND PUBLICATIONS:
Weil, R. J. and F. A. Dunsworth
AGENT: Explosions and Fire
EVENT: Gasoline Tanker Explosion
DATE: March 7, 1957
LOCATION: Delaware River near Newcastle, Delaware, USA
DESCRIPTION: A gasoline tanker collided with a freighter, resulting in a series of explosions, killing 10 people and injuring several more.
REPORTS AND PUBLICATIONS:
AGENT: Explosion
EVENT: Roseburg Explosion
DATE: August 7, 1959
LOCATION: Roseburg, Oregon, USA
DESCRIPTION:
An explosion in Roseburg killed 13 people and injured 125 others. Property damages were estimated at $12 million, as the explosion leveled seven city blocks and damaged 28 others.

REPORTS AND PUBLICATIONS:

Greene, Mark R.

Greene, Mark R.
AGENT: Explosion and Fire
EVENT: Tanker Ship Fire
DATE: November 8, 1959
LOCATION: Houston, Texas, USA

DESCRIPTION:
Eight persons were killed when a fire started aboard the American Oil Company tanker ship, Amoco Virginia, as petroleum products were being loaded. Explosions followed immediately and spread the flames.

REPORTS AND PUBLICATIONS:

Moore, Harry E.
AGENT: Explosion
EVENT: Coliseum Explosion
DATE: October 31, 1963
LOCATION: Indianapolis, Indiana, USA

DESCRIPTION:
An explosion occurred in the state fairgrounds coliseum during a "Holiday on Ice" performance, killing 81 persons and injuring more than 400 others. The initial explosion was followed by a second explosion of lesser intensity and a small fire. Aside from burns, casualties resulted from uprooted chunks of concrete. There was no official declaration of disaster.

REPORTS AND PUBLICATIONS:

Drabek, Thomas E. and E. L. Quarantelli
1967 Scapegoats, Villains, and Disasters. Trans-action 4: 12-17.

Drabek, Thomas E.

Drabek, Thomas E. and E. L. Quarantelli

Adams, David, Robert Stallings, and Stephen Vargo

Ross, Alexander G.
AGENT: Fire - Building

EVENT: Nursing Home Fire

DATE: November 23, 1963

LOCATION: Fitchville, Ohio, USA

DESCRIPTION:

The Golden Age Nursing Home burned to the ground killing 63 of the 84 patients.

REPORTS AND PUBLICATIONS:

Anderson, William and E. L. Quarantelli
AGENT: Explosion

EVENT: Explosion in Chemical Plant

DATE: January 12, 1964

LOCATION: Attleboro, Massachusetts, USA

DESCRIPTION:
Toxic smoke from an explosion in the Thompson Chemical Plant caused the deaths of seven persons and injured 40 persons. Residents within a one-mile radius of the plant were evacuated due to threat of further explosions. Property damage was estimated at over $3 million.

REPORTS AND PUBLICATIONS:

Yutzy, Daniel
1964 Some Organizational Community Activities after an Explosion at the Thompson Chemical Company, Attleboro, Massachusetts. Research Note #2. Columbus, Ohio: The Disaster Research Center, The Ohio State University. 18 pp.

1964 The Attleboro, Massachusetts Explosion. Research Memo #6. Columbus, Ohio: The Disaster Research Center, The Ohio State University.
AGENT: Explosion
EVENT: Apartment House Explosion
DATE: March 1, 1965
LOCATION: Montreal, Quebec, Canada
DESCRIPTION: An apartment house outside of Montreal's city boundaries exploded killing 27 persons and injuring 29. The explosion destroyed totally the three-story building and damaged several surrounding buildings.
REPORTS AND PUBLICATIONS:
Adams, David
AGENT: Fire - Brush

EVENT: Hobart Bushfires

DATE: February 7, 1967

LOCATION: Hobart, Tasmania, Australia

DESCRIPTION:
Within 5 hours over one-half million acres burned, leaving 62 people dead, many injured, 1,085 homes destroyed and 2,500 people homeless.

REPORTS AND PUBLICATIONS:

Anderson, William A. and Robert Whitman

Wettenhall, R. L. and J. M. Power

Wettenhall, R. L.

Leivesley, Sally
1980 The social consequences of Australian disasters. Disasters 4: 30-37.
AGENT: Fire - Building

EVENT: Fire in the Cabaret Playtown in Tokyo

DATE: March 13, 1967

LOCATION: Tokyo, Japan

DESCRIPTION:
A nightclub fire killed 118 persons, 22 of them as a result of jumping from the building. There were only 61 survivors in the nightclub which was on the seventh floor of a department store. The fire never reached the club; victims died from carbon monoxide poisoning or a result of jumping.

REPORTS AND PUBLICATIONS:

Abe, Kitao
AGENT: Explosion

EVENT: Store Explosion Resulting in Fires

DATE: April 6, 1968

LOCATION: Richmond, Indiana, USA

DESCRIPTION: An explosion in a sporting goods store resulted in a fire which encompassed two city blocks of the downtown Richmond business district. The fire killed 41 and injured over 100 persons.

REPORTS AND PUBLICATIONS:

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The Disaster Research Center, 1968
AGENT: Explosion

EVENT: Lima Oil Pipeline Explosion

DATE: January 13, 1969

LOCATION: Lima, Ohio, USA

DESCRIPTION: An oil pipeline explosion forced 6,000 residents to evacuate their homes as small fires developed; however, these were quickly extinguished. Property damage was estimated at $185,000.

REPORTS AND PUBLICATIONS:

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The Disaster Research Center, 1969
AGENT: Explosion

EVENT: Railway Tank Car Explosion

DATE: January 25, 1969

LOCATION: Laurel, Mississippi, USA

DESCRIPTION:

Railway tank cars exploded killing two persons and injuring 35. Property damage was estimated at over $3 million; 54 residences were destroyed.

REPORTS AND PUBLICATIONS:

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The Disaster Research Center, 1969
AGENT: Fire - Brush

EVENT: Brush Fire in Southern California

DATE: October 1, 1970

LOCATION: Southern California, USA

DESCRIPTION:
A series of brush fires in Southern California killed 13 persons and injured over 350 others. Property damage was estimated at $200 million. Parts of Southern California were officially declared disaster areas and received $16 million in federal funding.

REPORTS AND PUBLICATIONS:

Forrest, Thomas Robert

Jensen, Carl

Forrest, Thomas Robert
AGENT: Explosion and Fire
EVENT: Sunshine Mine Fire
DATE: May 2, 1972
LOCATION: Kellogg, Idaho, USA

DESCRIPTION:
An explosion and a flash fire in a mine killed 91 miners, making it the worst disaster in the state's history.

REPORTS AND PUBLICATIONS:

Jarrett, Stanley M.
Alameda, California: Metal and Nonmetal Mine Health and Safety, Western District. 175 pp.

Harvey, Carol D.
1975 Initial responses to disaster: reaction to fire and flood.
AGENT: Fire - Building

EVENT: Great Chelsea Conflagration

DATE: October 14, 1973

LOCATION: Chelsea, Massachusetts, USA

DESCRIPTION:
This fire in Chelsea destroyed 18 city blocks, damaged 12 others and left property damage figures in the millions. No casualties resulted, however, five firemen were injured while trying to control the blaze. With official declaration of disaster, $1.5 million in federal funding was allocated.

REPORTS AND PUBLICATIONS:

AGENT: Fire - Forest Fire

EVENT: Chatauqua Fire

DATE: January 1975

LOCATION: Chatauqua (pseudonym), Ohio, USA

DESCRIPTION:
A blaze on a mountainside combined with winds ranging up to 130 miles per hour to threaten the community of Chatauqua. The residents were forced to evacuate when firefighters believed the blaze to be uncontainable. The winds shifted and died down, however, the fire was extinguished. There were no casualties and damage was minimal.

REPORTS AND PUBLICATIONS:

Wolf, Charlotte
AGENT: Explosion

EVENT: North Bay Explosion

DATE: January 8, 1975

LOCATION: North Bay, Ontario, Canada

DESCRIPTION:

The Barry Building of North Bay exploded at 3:30, killing 8 people and injuring 39. The two story office building reeked of gas throughout the day and occupants of the building as well as passersby commented on the smell, however, no official action was taken.

REPORTS AND PUBLICATIONS:

Scanlon, Joseph and Brian Taylor

Erickson, Bonnie H., T. A. Nosanchuk, Liviana Mostacci, and Christina Ford Dalrymple

Erickson, Bonnie H., T. A. Nosanchuk, Liviana Mostacci, and Christina Ford Dalrymple
1976 Responses to disaster: the urban bush telegraph in North Bay. Unpublished paper. 54 pp.

Erickson, Bonnie H., T. A. Nosanchuk, Liviana Mostacci, and Christina Ford Dalrymple
AGENT: Explosion

EVENT: Alberta TNT Explosion

DATE: April 21, 1975

LOCATION: Alberta, Canada

DESCRIPTION:
The accidental detonation of 3,000 pounds of nitroglycerine-based explosives claimed the lives of six men; three persons were seriously injured. Homes over a mile away were shaken by the blast and showering debris.

REPORTS AND PUBLICATIONS:

Ponting, J. Rick
AGENT: Explosion

EVENT: Chlorine Gas Explosion in Tank Car

DATE: December 14, 1975

LOCATION: Niagara Falls, New York, USA

DESCRIPTION:
Explosion of a tanker car containing chlorine gas released toxic fumes which killed six persons and injured 87. Property damage was primarily contained within the Hooker Chemical Plant, the location of the explosion.

REPORTS AND PUBLICATIONS:

Quarantelli, E. L.
AGENT: Explosion

EVENT: LaGuardia Airport Bombing

DATE: December 29, 1975

LOCATION: Queens, New York, USA

DESCRIPTION:

A bomb explosion in the TWA baggage claim area at the LaGuardia airport terminal killed 11 persons and injured 60 others.

REPORTS AND PUBLICATIONS:

Quarantelli, E. L.
AGENT: Explosion

EVENT: Gas Explosion in Hotel

DATE: January 10, 1976

LOCATION: Fremont, Nebraska, USA

DESCRIPTION:
A gas leak was the apparent cause of the explosion that ripped through the first and second floors of the Pathfinder Hotel, killing 20 persons and injuring 41.

REPORTS AND PUBLICATIONS:

Quarantelli, E. L.
AGENT: Fire - Building

EVENT: Fire in Nursing Home

DATE: January 30, 1976

LOCATION: Chicago, Illinois, USA

DESCRIPTION:
A one room fire in the Winecrest Nursing and Rest Home created dense smoke that killed 13 persons and injured 32 others. All resident victims of the fire suffered from smoke inhalation.

REPORTS AND PUBLICATIONS:

Quarantelli, E. L.
AGENT: Fire - Building

EVENT: Fort Garry Court Apartment Fire

DATE: February 2, 1976

LOCATION: Winnipeg, Manitoba, Canada

DESCRIPTION:

Five people died and two were injured as a result of the fire which devastated the Ft. Garry apartment complex. Many lost their possessions in the fire. Huge amounts of water used to fight the fire left their mark, as frigid weather conditions coated the building and rubble with ice.

REPORTS AND PUBLICATIONS:

Scanlon, Joseph and David Tait

Scanlon, Joseph
1979 Human behavior in a fatal apartment fire—research problems and findings. Fire Journal 73: 76-79, 122-123.
AGENT: Explosion and Fire

EVENT: Ammonia Tanker Explosion

DATE: May 11, 1976

LOCATION: Houston, Texas, USA

DESCRIPTION:
A tanker carrying liquid ammonia killed 5 people when it exploded after crashing off an overpass onto a freeway. Two hundred people were overcome by the resulting toxic fumes.

REPORTS AND PUBLICATIONS:

Quarantelli, E. L.
AGENT: Fire - Building

EVENT: The Great Sakata Fire

DATE: October 29, 1976

LOCATION: Nakamachi and Nibancho, Japan

DESCRIPTION:

A fire in a movie house spread to a department store and eventually burned 1,017 houses. While there was only one death, 746 people were injured.

REPORTS AND PUBLICATIONS:

Abe, Kitao
1976 The Psychological Analysis of the Evacuating Behavior at the Great Sakata fire. 36 pp.
AGENT: Explosion and Fire
EVENT: Queens Explosion
DATE: November 21, 1976
LOCATION: Queens, New York, USA
DESCRIPTION: An explosion at the Warner-Lambert Company killed one person and injured 55 others.
REPORTS AND PUBLICATIONS:
Quarantelli, E. L.
AGENT: Fire - Building

EVENT: Goulds Fire

DATE: December 26, 1976

LOCATION: Goulds, Newfoundland, Canada

DESCRIPTION:
A fire in a Goulds nursing home killed 21 persons.

REPORTS AND PUBLICATIONS:
Scanlon, Joseph with Darlene Harapiak and Mary Lou Tsario
1977 The Goulds fire emergency communications in Newfoundland.
Ottawa, Canada: Emergency Planning Canada. 28 pp.
AGENT: Fire - Building
EVENT: Beverly Hills Nightclub Fire
DATE: May 28, 1977
LOCATION: Southgate, Kentucky, USA

DESCRIPTION:
A fire in the Beverly Hills Supper Club killed 164 people and injured 100 others. Toxic fumes were responsible for the majority of deaths and injuries. The nightclub was completely destroyed with an estimated $2 million in damages.

REPORTS AND PUBLICATIONS:

Best, Richard L.

Hoyle, John D.

Lindy, Jacob, Jessica Murdaugh, Joanne Zaleski, and James Titchener

Swartz, J. A.

Green, B.

Quarantelli, E. L.
AGENT: Explosion and Fire
EVENT: Mansfield Plant Explosion
DATE: September 19, 1977
LOCATION: Mansfield, Ohio, USA

DESCRIPTION:
The Mansfield Plating Company was threatened by cyanide gas explosions when the plant caught fire. The gas did not explode, however, two neighboring plants were evacuated as well as 300-400 residents as a precautionary measure. Three people were injured as a result of the fire.

REPORTS AND PUBLICATIONS:

*****
The Disaster Research Center, 1977
AGENT: Flood - River
EVENT: Louisville Flood
DATE: January 24, 1937
LOCATION: Louisville, Kentucky, USA
DESCRIPTION:
Louisville was one of the worst hit regions along the Ohio River Valley, where a total of 200,000 persons evacuated their homes because of the river overflow.

REPORTS AND PUBLICATIONS:
Breaux, Gustave A.

Kutak, Robert I.
AGENT: Flood - River
EVENT: Flood in Illinois
DATE: 1942
LOCATION: Shawneetown, Illinois, USA
DESCRIPTION:
In a major flood, 1,700 were left homeless for six weeks. Property damage was at least $2 million.

REPORTS AND PUBLICATIONS:

James, R. W.

James, R. W.
AGENT: Flood - River
EVENT: Kansas-Missouri Floods
DATE: July 10-14, 1951
LOCATION: Eastern Kansas and Western Missouri, USA
DESCRIPTION: The Kansas-Missouri floods were a result of heavy rains that developed into a major disaster when the Kansas River crested on July 13. The floods killed 41 people and caused extensive property damage in Manhattan, Topeka, and Lawrence, Kansas. Kansas City's stockyards and industrial lowlands were inundated. Property damages were estimated at $750 million to $1 billion. Parts of Kansas and Missouri were officially declared disaster areas and received $17 million in federal funding.

REPORTS AND PUBLICATIONS:

Kelly, Huburt, Jr.

Menninger, W. C.
AGENT: Flood - River
EVENT: Northeast Oklahoma Flood
DATE: July 10-17, 1951
LOCATION: Miami, Oklahoma, USA

DESCRIPTION:
No casualties resulted from the Neosha River flood. Adequate preparation and evacuation kept damage at a minimum. Miami was not officially declared a disaster area.

REPORTS AND PUBLICATIONS:
Hudeman, Bradford B.
AGENT: Flood - Other

EVENT: English Floods

DATE: February 1, 1953

LOCATION: Southeastern Coast of England

DESCRIPTION:
North Sea storms and high spring tides inundated the southeastern coast of England, killing 307 people. Approximately 250,000 acres were flooded.

REPORTS AND PUBLICATIONS:

Balloch, J. C.

Balloch, J. C.

Balloch, J. C.

Logan, Leonard

Young, Michael

Young, Michael

Young, Michael

Spiegel, J. P.
AGENT: Flood - Other

EVENT: Holland Floods

DATE: February 1, 1953

LOCATION: Southwest Netherlands

DESCRIPTION:
North Sea storms and high spring tides inundated 1,500 square miles or one-sixth of Holland, killing 1,783 people. The floods forced 70,000 people to evacuate their homes. Property damages were estimated at $260 million.

REPORTS AND PUBLICATIONS:

Balloch, J. C.

Hauerda, J. L.
1953 The social results of the flood. Maandblad voor de Volksgezondheid 8: 185-206.

Keur, Dorothy

Ludwig, Harvey F.

Gijsbers, J. H.

Ludwig, Harvey F.

Courtney, D., J. C. Balloch, H. F. Ludwig, and Elizabeth Bowen
Ellemers, J. E.

Lammers, C. J.

Nauta, L. W. and P. J. van Strien

van Dijk, K. and J. Pilger
AGENT: Flood - River
EVENT: Rio Grande River Flood in Mexico
DATE: June 27-30, 1954
LOCATION: Piedras Negras, Mexico
DESCRIPTION:
The Rio Grande River crested at 37.6 feet above the flood stage in Piedras Negras, inundating 85 percent of the city, killing 130 people and injuring 4,000 others. Property damage was extensive with 1,350 buildings destroyed and another 2,850 damaged.

REPORTS AND PUBLICATIONS:
Clifford, Roy A.

Clifford, Roy A.

Clifford, Roy A.

Loomis, Charles P. and W. H. Form
AGENT: Flood - River

EVENT: Rio Grande River Flood in the U.S.

DATE: June 27-30, 1954

LOCATION: Eagle Pass, Texas, USA

DESCRIPTION:
In Eagle Pass, 360 people were injured, 55 buildings destroyed and another 325 damaged when the Rio Grande River inundated 55 percent of the town. There were no casualties in the community. However, the flood involved much of the southwestern parts of Texas and parts of Mexico where loss of life and property damages were greater. Parts of the state of Texas were officially declared disaster areas and Texas received $877,500 in federal funding.

REPORTS AND PUBLICATIONS:

Clifford, Roy A.

Clifford, Roy A.

Clifford, Roy A.

Loomis, Charles P. and W. H. Form
AGENT: Flood - River
EVENT: Farmington Flood
DATE: August 18, 1955
LOCATION: Farmington, Connecticut, USA

DESCRIPTION:
In Connecticut, 6,000 persons were evacuated, 691 homes were destroyed and 10,455 were damaged as a result of flooding. The flooding was due to 14 inches of rainfall within a period of 36 hours. In Farmington, over 300 families were evacuated, 130 homes were destroyed and 240 were damaged. Parts of the state of Connecticut were officially declared disaster areas and received $1 million in federal funding.

REPORTS AND PUBLICATIONS:
Klausner, Samuel Z. and Harry V. Kincaid
AGENT: Flood - Dam

EVENT: Port Jervis False Dam Burst Report

DATE: August 19, 1955

LOCATION: Port Jervis, New York, USA

DESCRIPTION:
Officials estimated that between 2,500 and 3,000 persons evacuated as a result of a false report of a dam burst. No casualties or destruction occurred, and Port Jervis was not officially declared a disaster area.

REPORTS AND PUBLICATIONS:

AGENT: Flood - Other
EVENT: Tampico Hurricane Floods
DATE: September 30, 1955
LOCATION: Tampico, Mexico
DESCRIPTION:
Three hurricanes hit Tampico in September, killing 3,000 people and injuring many others. The first occurred on the fourth and caused the evacuation of thousands of persons from the lower parts of the city. The second occurred on the 19th of September, and struck the city directly, crippling it for several days. The third occurred on September 30. Although it did not hit the city directly, massive flooding completely isolated Tampico from the rest of the nation. Approximately 60,000 of the 114,000 inhabitants were left homeless, with 4,800 homes destroyed and 6,500 severely damaged.

REPORTS AND PUBLICATIONS:
DeHoyos, Arturo
AGENT: Flood - Dam

EVENT: Norwalk Flood

DATE: October 15-16, 1955

LOCATION: Norwalk, Connecticut, USA

DESCRIPTION:

In Norwalk, a succession of dams collapsed after a heavy rainfall of 13 inches. The flooding resulted in four deaths and extensively damaged parts of Connecticut, with losses estimated at $8 million. Parts of the state were previously under federal declaration of disaster due to a hurricane and torrential rains and floods in August. The state received $1 million in federal funding.

REPORTS AND PUBLICATIONS:

Weisman, Seymour S.
AGENT: Flood - Dam
EVENT: Threat of Dam Burst
DATE: October 16, 1955
LOCATION: Schenectady, New York, USA

DESCRIPTION:
Summer torrential rains and floods brought threat of a dam burst in Schenectady. However, the structure held and little actual damage occurred. Official declaration of disaster was not warranted.

REPORTS AND PUBLICATIONS:
AGENT: Flood - River
EVENT: California Flood
DATE: December 19-23, 1955
LOCATION: Yuba City, California, USA
DESCRIPTION:
Floods due to heavy rain and snow caused extensive damage to several Northwestern and Central states, killing 61 persons and injuring 3,227, destroying 633 buildings, and damaging another 2,475. In California 39 persons were killed, with Yuba City experiencing the heaviest loss of life. Parts of California, Oregon, and Nevada were officially declared disaster areas, and California received $7,666,293 in federal funding.

REPORTS AND PUBLICATIONS:

Blum, Richard H. and Bertrand Klass

Stiles, William W.
AGENT: Flood - River
EVENT: Trinity River Flood
DATE: Winter, 1955-1956
LOCATION: Hupa Reservation, Northwest California, USA
DESCRIPTION: One person was killed and several were injured when the Trinity River overflowed, destroying homes and trailers. The Hupa Reservation was not officially declared a disaster area.
REPORTS AND PUBLICATIONS:
Bushnell, John H.
AGENT: Flood - River

EVENT: River Flood in Dallas

DATE: April 19-27, 1957

LOCATION: Dallas, Texas, USA

DESCRIPTION:
A series of tornadoes, rain storms, and resulting floods affected Dallas, Ft. Worth, and other cities in Texas, killing eleven persons. Federal disaster declaration was affirmed as a result of the April 2 tornado.

REPORTS AND PUBLICATIONS:

Moore, H. E. and H. J. Friedsam
1958 Formal and informal social systems in a disaster situation.
AGENT: Flood - River

EVENT: Floods in Mexico and the U.S.

DATE: September, 1958

LOCATION: Abram, Texas and Reynosa, Mexico

DESCRIPTION: Concurrent flooding in Texas and Mexico

REPORTS AND PUBLICATIONS:

*****
Arturo de Hoyos, et al., 1958
AGENT: Flood - River
EVENT: Texas Floods
DATE: November, 1960
LOCATION: Central Texas, USA
DESCRIPTION:
A series of floods killed four people and injured 34.

REPORTS AND PUBLICATIONS:

*****
Wiley Mangum and Harry Moore, 1960
AGENT:  Flood - River
EVENT:  Flood on the Rio Grande
DATE:  November, 1960
LOCATION:  Villa (pseudonym), Lower Texas Valley, USA
DESCRIPTION:  While there were no casualties, a flood forced evacuation of many in a small town.

REPORTS AND PUBLICATIONS:

Stoddard, Ellwyn
AGENT: Flood - Dam

EVENT: Dam Collapse

DATE: July 12, 1961

LOCATION: Panshet, Poona, India

DESCRIPTION: In Poona, 750 homes were destroyed and 1,650 were damaged when the earthen embankment of the Panshet Dam collapsed, forcing 10,000 families to evacuate.

REPORTS AND PUBLICATIONS:

Pundalik, V. G. and Smt. Sunanda Patwardhan

Grimshaw, Allen D.

Grimshaw, Allen D.

Grimshaw, Allen D.

Brahme, Sulabha and Prakesh Gole
AGENT: Flood - Dam

EVENT: Overflow of Vaiont Dam

DATE: October 9, 1963

LOCATION: Longarone, N. E. Italy

DESCRIPTION:
In the village of Longarone approximately 2,000 people were killed and a few were injured when the Vaiont Dam overflowed, almost completely destroying the village and nearby hamlets. The flood resulted in almost total destruction for almost two miles across the valley and about four miles along its length. Hundreds of homes and factories were destroyed, as were several bridges and miles of railroad tracks.

REPORTS AND PUBLICATIONS:

Quarantelli, E. L. and J. Eugene Haas

Quarantelli, E. L.

Quarantelli, E. L.
AGENT: Flood - Dam

EVENT: Baldwin Hills Dam Break

DATE: December 14, 1963

LOCATION: Los Angeles, California, USA

DESCRIPTION:

The Baldwin Hills dam break caused the deaths of four persons and extensive destruction in a one-square mile residential area, destroying 64 homes and forcing hundreds of Baldwin Hills residents to evacuate. Property damages were estimated at $10 million. Baldwin Hills was officially declared a disaster area and received $1.6 million in federal funding.

REPORTS AND PUBLICATIONS:

Anderson, William
1964 The Baldwin Hills, California dam disaster. Research Note #5. Columbus, Ohio: The Disaster Research Center, The Ohio State University. 19 pp.

1964 The Baldwin Hills, California Dam Break. Research Memo #5. Columbus, Ohio: The Disaster Research Center, The Ohio State University.
AGENT: Flood - River
EVENT: Flood Threat in Cincinnati
DATE: March 11, 1964
LOCATION: Cincinnati, Ohio, USA
DESCRIPTION: Heavy rains in the Ohio River Valley brought flood threats to Cincinnati, causing 870 people to be evacuated. There were no casualties reported in the city, and the rains caused minimal damage. Parts of the state of Ohio were officially declared disaster areas and received $575,108 in federal funding.

REPORTS AND PUBLICATIONS:

1964 Flood at Cincinnati, Ohio. Research Memo #7. Columbus, Ohio: The Disaster Research Center, The Ohio State University.

Anderson, William

Parr, Arnold

Parr, Arnold

Parr, Arnold
AGENT: Flood - River
EVENT: Great Falls Flood
DATE: June 9, 1964
LOCATION: Great Falls, Montana, USA
DESCRIPTION:
Evacuation efforts in the Great Falls area of Montana began on June 8, 1964. No casualties and few injuries resulted from the Missouri River overflow occurring on June 9. Property damage was estimated at $16.5 million. Parts of the state of Montana were officially declared disaster areas and received $7.8 million in federal funding.

REPORTS AND PUBLICATIONS:

Yutzy, Daniel
1964 Authority, jurisdiction, and technical competence: interorganizational relationships at Great Falls, Montana during the flood of June 8-10, 1964. Research Note #7. Columbus, Ohio: The Disaster Research Center, The Ohio State University. 22 pp.
AGENT: Flood - River
EVENT: Rio Grande Flood
DATE: September 25, 1964
LOCATION: Laredo, Texas, USA
DESCRIPTION:
The Rio Grande River crested at 36 feet above the flood stage, causing minimal damage at its peaking point in Laredo, flooding only four homes. Approximately 2,500 people evacuated, however, no casualties or injuries occurred.

REPORTS AND PUBLICATIONS:
Hundley, James
1965 Some research questions and planning implications raised by observations made at a flood threat in Laredo, Texas and Nuevo Laredo, Mexico, September 25, 1964. Research Report #12. Columbus, Ohio: The Disaster Research Center, The Ohio State University. 14 pp.
AGENT: Flood - River
EVENT: Rio Grande Flood
DATE: September 26, 1964
LOCATION: Neuvo Laredo, Mexico

DESCRIPTION:
In Laredo, minimal property damage resulted from the rains which threatened a Rio Grande flood. Four homes in the outlying areas were destroyed. There was no official declaration of disaster.

REPORTS AND PUBLICATIONS:

Hundley, James
1965 Some research questions and planning implications raised by observations made at a flood threat in Laredo, Texas and Nuevo Laredo, Mexico, September 25, 1964. Research Report #12. Columbus, Ohio: The Disaster Research Center, The Ohio State University. 15 pp.

1965 Rio Grande Flood Threat, Texas and Mexico. Research Memo #10. Columbus, Ohio: The Disaster Research Center, The Ohio State University.
AGENT: Flood - River

EVENT: Northern California Floods

DATE: December 21, 1964

LOCATION: Northern California, USA

DESCRIPTION:
Throughout California, Oregon, Washington, and Idaho; 45 people were killed and 2,000 injured. The property damage amounted to $1 billion. With official declaration of disaster, $56.7 million in federal funding was allotted to the four states. Northern California was most affected and received $37.6 million.

REPORTS AND PUBLICATIONS:

*****
The Disaster Research Center, 1964
AGENT: Flood - Flash

EVENT: Trinity River Flash Flood

DATE: Winter, 1964-1965

LOCATION: Hupa Reservation, Northwestern California, USA

DESCRIPTION:
Flash flooding of lowland areas on the Hupa Indian Reservation resulted in no casualties or injuries. Minimal property damage and highway washouts occurred. Official declaration of disaster was not warranted.

REPORTS AND PUBLICATIONS:

Bushnell, John H.
AGENT: Flood - River
EVENT: Mankato Flood
DATE: April 9, 1965
LOCATION: Mankato, Minnesota, USA
DESCRIPTION:
Many North Central Plain states were involved in a series of floods and tornadoes that killed 31 persons and injured 1,269. Damages were extensive, with the destruction of 388 dwellings and another 2,828 damaged. In Mankato 7,500 persons were forced to evacuate when the Mississippi River crested at 29.07 feet above flood stage. Estimated damages for the community were $5.5 million. Parts of Minnesota were officially declared disaster areas and received $9,588,776 in federal funding.

REPORTS AND PUBLICATIONS:

1965 Floods and Tornadoes in Northern Midwest. Research Memo #20. Columbus, Ohio: The Disaster Research Center, The Ohio State University.

Weller, Jack M. and Dennis Wenger
AGENT: Flood - River

EVENT: St. Paul Flood

DATE: April 16, 1965

LOCATION: St. Paul, Minnesota, USA

DESCRIPTION:
Many North Central Plain states were involved in a series of floods and tornadoes that killed 31 persons and injured 1,269. Damages were extensive, with the destruction of 388 dwellings and another 2,828 damaged. The Mississippi River crested at 26.2 feet above flood stage in St. Paul and was the major source of destruction in Minnesota. Estimated state-wide damage amounted to $80 million, and parts of Minnesota were officially declared disaster areas. Minnesota was the only state granted federal aid and received $9.6 million.

REPORTS AND PUBLICATIONS:

1965 Flooding and Tornadoes in Northern Midwest, April 1965. Research Memo #20. Columbus, Ohio: The Disaster Research Center, The Ohio State University.

Boggins, Mary Merritt
AGENT: Flood - River

EVENT: Colorado Flood

DATE: June 16, 1965

LOCATION: Central and Southern Colorado, USA

DESCRIPTION: Two streams of flood waters from the Palmer Lake Area resulted in flooding over most of Central and Southern Colorado, killing 24 persons and injuring 622. Property damage was estimated at $500 million, with 1,715 homes and businesses damaged or destroyed. Parts of Colorado were officially declared disaster areas and received $19.7 million in federal funding.

REPORTS AND PUBLICATIONS:


Borger, Larry J.

Stephenson, John

Drabek, Thomas E. and Keith S. Boggs

Drabek, Thomas E.

McLuckie, Benjamin F.

Drabek, Thomas E. and John S. Stephenson III

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McLuckie, Benjamin F. and Robert G. Whitman
1971 A Study of Warning and Response in Ten Colorado Communities
During the Floods of June, 1965. Working Paper #40. Columbus,
Ohio: The Disaster Research Center, The Ohio State University.
65 pp.

McLuckie, Benjamin F.
1975 Centralization and natural disaster response: A preliminary

Drabek, Thomas E. and William H. Key
1975 The Impact of Disaster on Primary Group Linkages. Paper present-
at the 1975 Annual Meeting of the American Sociological Associa-
tion, San Francisco.

McLuckie, Benjamin F.
1977 Italy, Japan, and the United States: Effects of Centralization
on Disaster Response. Historical and Comparative Disasters Seri-
s #1. Columbus, Ohio: The Disaster Research Center, The Ohio
State University. 130 pp.

Worth, Marti F. and Benjamin P. McLuckie
1977 Get to High Ground! The Warning Process in the Colorado Floods,
June 1965. Historical and Comparative Disaster Series #3.
Columbus, Ohio: The Disaster Research Center, The Ohio State
University. 76 pp.
AGENT: Flood - River

EVENT: Red River Valley Flood

DATE: April 5, 1966

LOCATION: Grand Forks, North Dakota, USA

DESCRIPTION:
One person was killed and 1,500 were forced to evacuate their homes. Property damage amounted to $10 million. With official declaration of disaster, $1 million was allotted in federal funding.

REPORTS AND PUBLICATIONS:

1966 Red River Valley Flood. Research Memo #27. Columbus, Ohio: The Disaster Research Center, The Ohio State University. 3 pp.
AGENT: Flood - River

EVENT: Arno River Flood

DATE: November 4, 1966

LOCATION: Florence and Northern Italy

DESCRIPTION:
In Northern Italy 116 people were killed and many injured when the Po, Adige, and Arno Rivers overflowed their banks. The flood waters affected one-third of the country and caused $1.6 billion in property damages. In Florence, many famous works of art were damaged or destroyed by the flood waters.

REPORTS AND PUBLICATIONS:

Koff, Stephen P.

McLuckie, Benjamin F.

McLuckie, Benjamin F.

McLuckie, Benjamin F.
AGENT: Flood - River

EVENT: Fairbanks Flood

DATE: August 15, 1967

LOCATION: Fairbanks, Alaska, USA

DESCRIPTION:
The Chena River overflow caused the deaths of five persons, injured some, and forced the evacuation of 16,000 residents. Property damages were estimated at $200 million. Fairbanks was officially declared a disaster area and received $7.3 million in federal funding.

REPORTS AND PUBLICATIONS:

Warheit, George J.
1968 The Impact of Major Emergencies on the Functional Integration of Four American Communities. Ph.D. dissertation (Sociology) The Ohio State University. 270 pp.

Parr, Arnold R.

Parr, Arnold R.

Weller, Jack

Parr, Arnold

Warheit, George J.

Quarantelli, E. L.
Dynes, Russell R. and E. L. Quarantelli

Dynes, Russell R. and E. L. Quarantelli
AGENT: Flood - River
EVENT: Taunton Flood
DATE: March 21, 1968
LOCATION: Taunton, Massachusetts, USA
DESCRIPTION:
No casualties resulted from the flood, however, hundreds of people were evacuated from their homes. Property damage amounted to $2.5 million. No official declaration of disaster was made.

REPORTS AND PUBLICATIONS:

*****
The Disaster Research Center, 1968
AGENT: Flood - River
EVENT: Hocking County Flood
DATE: June 4, 1968
LOCATION: Athens/Hocking County, Ohio, USA
DESCRIPTION: Three people died, and few were injured when 4.3 inches of rain fell in a period of 24 hours, causing the Hocking River to overflow. Ohio University students were forced to evacuate their dormitories. Property damage amounted to $8.8 million. With official declaration of disaster, $1 million was allotted in federal funding.

REPORTS AND PUBLICATIONS:

1968 The Athens, Ohio Flood. Research Memo #32. Columbus, Ohio: The Disaster Research Center, The Ohio State University. 2 pp.
AGENT: Flood - Other
EVENT: Bristol Floods
DATE: July 10, 1968
LOCATION: Bristol, England

DESCRIPTION:
In a matter of twelve hours, rain fell and flooded 3,000 houses, shops, and other properties. The peak of the rainfall coincided with a high spring tide which blocked the outflow into the river. The water spread over extensive low-lying areas in the southern part of the city.

REPORTS AND PUBLICATIONS:

Bennet, Glia
AGENT: Flood - Dam

EVENT: Flood in Waterloo

DATE: July 17, 1968

LOCATION: Waterloo, Iowa, USA

DESCRIPTION:
No casualties resulted from a dam bursting due to heavy rains. Nine to fifteen inches of rain forced several hundred persons to evacuate their homes for the night. Approximately 500 homes were damaged. Waterloo was not officially declared a disaster area.

REPORTS AND PUBLICATIONS:

1968 Waterloo, Iowa Flood. Research Memo #33. Columbus, Ohio: The Disaster Research Center, The Ohio State University. 3pp.
AGENT: Flood - Other
EVENT: South African Flood
DATE: September 1, 1968
LOCATION: Port Elizabeth, South Africa

DESCRIPTION:
During the monsoon, 22 inches of rain fell on Port Elizabeth in a 24 hour period. The ensuing flood killed eight people, injured many, and caused extensive property damage.

REPORTS AND PUBLICATIONS:

Strumpfer, D. J. W.
AGENT: Flood - River
EVENT: Flood in Northwestern Italy
DATE: November 4, 1968
LOCATION: Northwest Italy

DESCRIPTION:
Widespread flooding in Northwestern Italy resulted in the deaths of approximately 74-93 persons and caused massive property damages throughout the area. Eighty factories were damaged, 20 of which were totally destroyed.

REPORTS AND PUBLICATIONS:

McLuckie, Benjamin F.

McLuckie, Benjamin F.

McLuckie, Benjamin F.
AGENT: Flood - Other
EVENT: California Flood, Mud-slides
DATE: January 23, 1969
LOCATION: Los Angeles, California, USA
DESCRIPTION:
Torrential rains spawned by a Pacific storm swept across the state of California for nine days, severely damaging parts of the state. The combined agents of flood and mud-slide killed 91 persons, left 9,000 homeless, and caused $35 million in property damages. In Los Angeles, property damages were estimated at $5 million. Parts of the state of California were officially declared disaster areas and received $113.4 million in federal funding.

REPORTS AND PUBLICATIONS:
Parr, Arnold Richard

Parr, Arnold Richard

Brouillette, John R.

Parr, Arnold Richard
AGENT: Flood - Other

EVENT: Glendora Floods, Mud-slides

DATE: January 24, 1969

LOCATION: Glendora, California, USA

DESCRIPTION:
Torrential rains, spawned by a Pacific storm, swept across the state of California for nine days, severely damaging parts of the state. The combined agents of flood and mud-slides killed 91 persons, left 9,000 homeless, and caused $35 million in property damages. In Glendora, property damages were estimated at $837,905; 201 homes were destroyed or severely damaged. Parts of the state of California were officially declared disaster areas and received $113.4 million in federal funding.

REPORTS AND PUBLICATIONS:
Parr, Arnold Richard

Parr, Arnold Richard

1969 Flood and Slides in Southern California. Research Memo #34. Columbus, Ohio: The Disaster Research Center, The Ohio State University.

Brouillette, John R.

Parr, Arnold Richard
AGENT: Flood - River
EVENT: Threat of Flood in Manitoba
DATE: April 5, 1969
LOCATION: Winnipeg, Manitoba, Canada
DESCRIPTION: Manitoba communities along the Red River were threatened by flood, however, the river did not overflow.

REPORTS AND PUBLICATIONS:

Parr, Arnold
AGENT: Flood - River

EVENT: Threat of St. Paul Flood

DATE: April 10, 1969

LOCATION: St. Paul, Minnesota, USA

DESCRIPTION:
In St. Paul, it was predicted that the crests of the Mississippi and Minnesota Rivers would meet; consequently, flooding was expected to occur. Precautionary measures were taken, such as sandbagging, flood wall extensions and evacuation of some towns. However, no flooding occurred. Official declaration of disaster was not warranted.

REPORTS AND PUBLICATIONS:

Brouillette, John R. and E. L. Quarantelli


Brouillette, John R. and E. L. Quarantelli
AGENT: Flood - River
EVENT: Iowa Flood
DATE: April 11, 1969
LOCATION: Sioux City, Iowa, USA

DESCRIPTION:
No casualties and minimal property damage occurred when the Big Sioux River crested at 11.7 feet above flood stage. During the emergency period, 41 families were forced to evacuate; however, the dikes held and little flooding occurred. Sioux City was not officially declared a disaster area.

REPORTS AND PUBLICATIONS:

Brouillette, John R.

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AGENT: Flood - River

EVENT: South Dakota Flood

DATE: April 12, 1969

LOCATION: Sioux Falls, South Dakota, USA

DESCRIPTION: No casualties and minimal property damage occurred when the Big Sioux River crested at 19.73 feet above flood stage. During the emergency period, 50 families were forced to evacuate; however, the dikes held, and little flooding occurred. Sioux Falls was not officially declared a disaster area.

REPORTS AND PUBLICATIONS:

Parr, Arnold R.

Parr, Arnold R.


Brouillette, John R.

Parr, Arnold R.
AGENT: Flood - River

EVENT: Minot Flood

DATE: April 14, 1969

LOCATION: Minot, North Dakota, USA

DESCRIPTION: More than $3 million in property damages resulted from flooding which lasted over a six week period, leaving 2,000 homeless and damaging 200 homes. Minot was officially declared a disaster area and received $3.8 million in federal funding.

REPORTS AND PUBLICATIONS:

Parr, Arnold R.

Parr, Arnold R.


Brouillette, John R.

Parr, Arnold R.
AGENT: Flood - River

EVENT: Spring Floods

DATE: April 20, 1969

LOCATION: Fargo, North Dakota, USA

DESCRIPTION:
Due to extensive preparations undertaken in anticipation of flooding, there were no casualties in Fargo as a result of the massive spring floods. The state of North Dakota experienced extensive property damage, was officially declared a disaster and received federal funding of $3.785 million.

REPORTS AND PUBLICATIONS:

AGENT: Flood - River
EVENT: Spring Floods
DATE: April 22, 1969
LOCATION: Grand Forks, North Dakota, USA
DESCRIPTION:

Due to extensive preparations undertaken in anticipation of massive flooding, Grand Forks suffered no casualties. The state of North Dakota experienced extensive property damage and was officially declared a disaster area, receiving $3.8 million in federal funding.

REPORTS AND PUBLICATIONS:

AGENT: Flood - Other

EVENT: July 5 Flooding

DATE: July 5, 1969

LOCATION: Ashland, Ohio, USA

DESCRIPTION:
No casualties occurred in Ashland; however, property damage amounted to $1.9 million. Official declaration of disaster for the state of Ohio resulted in an allotment of $6 million in federal funding. Many northern Ohio communities were damaged by the floods resulting from area storms.

REPORTS AND PUBLICATIONS:

*****
The Disaster Research Center, 1969
AGENT: Flood - Other
EVENT: July 5 Flooding
DATE: July 5, 1969
LOCATION: Norwalk, Ohio, USA
DESCRIPTION:
No casualties occurred in Norwalk; however, property damage amounted to $857,000. With official declaration of disaster, $6 million in federal funding was allotted to the state of Ohio. Many northern Ohio communities were damaged by the floods resulting from area storms.

REPORTS AND PUBLICATIONS:

*****
The Disaster Research Center, 1969
AGENT: Flood - Other

EVENT: July 5 Flooding

DATE: July 5, 1969

LOCATION: Wooster, Ohio, USA

DESCRIPTION:
As a result of storms, there were floods in many Northern Ohio communities. In Wooster, 11 people were killed and a few were injured. Official declaration of disaster throughout parts of the state of Ohio resulted in federal funding of $6.1 million.

REPORTS AND PUBLICATIONS:

*****
The Disaster Research Center, 1969
AGENT: Flood - River

EVENT: Southeast Pennsylvania Floods

DATE: September 16, 1971

LOCATION: Chester, Pennsylvania, USA

DESCRIPTION: Twelve persons died and 450 were left homeless when Chester Creek overflowed as a result of flooding in Southeast Pennsylvania. Property damage amounted to $17 million, and with official declaration of disaster, the state received $500,000 in federal funding.

REPORTS AND PUBLICATIONS:

Forrest, Thomas Robert

Forrest, Thomas Robert
AGENT: Flood - Dam

EVENT: Buffalo Creek Flood

DATE: February 26, 1972

LOCATION: Buffalo Creek, West Virginia, USA

DESCRIPTION:
The Buffalo Mining Company, Dam Three, collapsed as a result of heavy rains and flooded an 18 mile strip of the Buffalo Creek Valley. Fourteen mining communities were flooded, 124 people were killed, and 1,100 were injured. Property damage was estimated at $50 million; 546 homes were destroyed and another 538 were damaged. Of 5,000 area residents, 4,000 were left homeless. Parts of the state of West Virginia were officially declared disaster areas and received $6 million in federal funding.

REPORTS AND PUBLICATIONS:

Kearney, Michael

Harshbarger, Dwight

Church, June S.
1974 The Buffalo Creek disaster: extent and range of emotional and/or behavioral problems. Omega 5: 61-64.

Michael, Vaughn

Titchener, James L.

Erikson, Kai T.
Erikson, Kai T.

Erikson, Kai T.

Lifton, Robert Jay and Eric Olson

Newman, C. Janet

Rangell, Leo

Titchener, James L. and Frederic T. Kapp

Gleser, Goldine C., Bonnie L. Green, and Carolyn N. Winget
1978  Quantifying interview data on psychic impairment of disaster survivors. Journal of Nervous and Mental Disease 166: 209-216.

Gleser, Goldine C., Bonnie Green, and Carolyn Winget
AGENT: Flood - Other

EVENT: New Braunfels Flooding

DATE: May 11, 1972

LOCATION: New Braunfels, Texas, USA

DESCRIPTION:
The New Braunfels tornado resulted in flooding, causing the deaths of 15 persons and injuring 150 others. Property damage was estimated at about $1.5 million. New Braunfels was officially declared a disaster area, and the state of Texas received $2.3 million in federal funding.

REPORTS AND PUBLICATIONS:

Waxman, Jerry

Waxman, Jerry
AGENT: Flood - Dam

EVENT: Rapid City Flood

DATE: June 9, 1972

LOCATION: Rapid City, South Dakota, USA

DESCRIPTION:
Heavy rains in the Black Hills initially caused flooding in Rapid City; however, a second wave of destruction came when Canyon Lake Dam collapsed under the pressure of one foot of rain, sprawling water into Rapid Creek. Damage was extensive along a 30 mile long, half a mile wide area. 237 persons were killed and 5,000 persons were left homeless. Property damage was estimated at $100 million. Parts of the state of South Dakota were officially declared disaster areas and received $23 million in federal funding.

REPORTS AND PUBLICATIONS:

Mileti, Dennis Stephen and E. M. Beck  

Mileti, Dennis Stephen  

Waxman, Jerry  

Waxman, Jerry  

Hershiser, Marvin  

Mileti, Dennis Stephen  

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Bolin, Robert

Hall, Philip S. and Patrick W. Landreth

Mileti, Dennis Stephen and E. M. Beck

Bolin, Robert

Bolin, Robert

Hutton, Janice R.

Hershiser, Marvin, R. and E. L. Quarantelli

Trainer, Patricia and Robert Bolin

Haas, J. Eugene, Robert W. Kates, and Martyn J. Bowden

Bolin, Robert and Patricia Trainer
AGENT: Flood - River
EVENT: Richmond Flood
DATE: June 22, 1972
LOCATION: Richmond, Virginia, USA

DESCRIPTION:
In Virginia, floods affected 2/3 of the state, causing $160 million in property damage and 17 deaths. The James River overflowed, inundating 1/6 of the city of Richmond and triggering an evacuation of 200 blocks of the commercial-business district of the downtown area, however, no casualties resulted in the city. Flooding of the city's water-works caused an urgent problem due to lack of drinking water. Parts of the state of Virginia were officially declared disaster areas and received $20.2 million in federal funding.

REPORTS AND PUBLICATIONS:
Bardo, John W.
1977 Organizational Response to Disaster. Preliminary Paper #43. Columbus, Ohio: The Disaster Research Center, The Ohio State University. 32 pp.

Bardo, John W.
AGENT: Flood - River
EVENT: Floods from Tropical Storm Agnes
DATE: June 25, 1972
LOCATION: Lebanon, Pennsylvania, USA
DESCRIPTION:
Heavy rains from Hurricane Agnes resulted in flooding, causing hundreds to evacuate their homes. No casualties resulted; however, 50 homes were destroyed. Parts of Pennsylvania were officially declared disaster areas and received $356,928,822 in federal funding.

REPORTS AND PUBLICATIONS:

*****
The Disaster Research Center, 1972
AGENT: Flood - River
EVENT: Floods from Tropical Storm Agnes
DATE: June 26, 1972
LOCATION: Wilkes-Barre and the Wyoming Valley, Pennsylvania, USA
DESCRIPTION: The rains of Hurricane Agnes caused flooding across six states (New York, New Jersey, Pennsylvania, West Virginia, Virginia, and Maryland), resulting in nearly $2 billion in property damages. In Wilkes-Barre, these heavy rains which resulted in flooding throughout the Wyoming Valley killed four persons, left 30,000 homeless, and caused over $1 billion in property damages. Parts of Pennsylvania were officially declared disaster areas and received $356 million in federal funding.

REPORTS AND PUBLICATIONS:


Birnbaum F., J. Coplon, and Scharff

Mussari, Anthony J.

Richard, Wayne C.

Ross, G. Alexander and Martin Smith

Blanshan, Sue A.

Heffron, Edward T.

Knaus, Ronald L.

Okura, K. Patrick

Wolensky, Robert P.

Dynes, Russell R. and E. L. Quarantelli

Poulshock, S. Walter and Elias S. Cohen
Kafriessen, Steven R., Edward F. Heffron, and Jack Zusman

Blanshan, Sue A.

Hoye, R. Nicholas

Melick, Mary Evans

Wolensky, Robert P.

Wright, Joseph E.

Cohen, Elias S. and S. Walter Poulshock

Heffron, Edward

Martin, Roy Newman

Martin, Roy Newman
Vinso, Joseph D.

Wolensky, Robert P.

Wolensky, Robert P.
1977  How do community officials respond to major catastrophes? Disasters 1: 272-274.

Wolensky, Robert P.

Cohen, Elias and S. Walter Poulshock

Dynes, Russell R. and E. L. Quarantelli
1977  Helping Behavior in Large Scale Disasters: A Social Organizational Approach. Columbus, Ohio: The Disaster Research Center, The Ohio State University. 17 pp.

Smith, Robert A., Clarence C. Traum, and Lorna H. Poole
1977  The provision of primary care during a period of natural disaster or large scale emergency. Mass Emergencies 2: 19-23.

Blanshan, Sue A.

Logue, James Nicholas

Melick, Mary Evans

Mussari, Anthony J.
Wolensky, Robert P.  

Wright, Joseph  

Wolensky, Robert P.  

Logue, James, Holger Hansen, and Elmer Struening  

Logue, James and Holger Hansen  

Melick, Mary Evans and James Logue  

Logue, James N., Mary Melick, and Elmer Struening  

Wolensky, Robert P. and Edward J. Miller  

Quarantelli, E. L.  
AGENT: Flood - River

EVENT: Floods from Tropical Storm Agnes

DATE: June 27, 1972

LOCATION: Harrisburg, Pennsylvania, USA

DESCRIPTION:
The rains of Hurricane Agnes caused flooding across six states (New York, New Jersey, Pennsylvania, West Virginia, Virginia, and Maryland) resulting in nearly $2 billion in property damages. Flooding throughout the Wyoming Valley killed two persons in Harrisburg and caused $2.5 billion in property damages. Parts of Pennsylvania were officially declared disaster areas and received $3.56 million in federal funding.

REPORTS AND PUBLICATIONS:

Waxman, Jerry

Waxman, Jerry
AGENT: Flood - River
EVENT: Floods from Tropical Storm Agnes
DATE: June 28, 1972
LOCATION: Corning, New York, USA
DESCRIPTION:
The rains of Hurricane Agnes caused flooding across six states (New York, New Jersey, Pennsylvania, West Virginia, Virginia, and Maryland) resulting in nearly $2 billion in property damages. In Corning 25 people were killed and 100,000 evacuated from their homes as a result of floods which caused $165 million in property damages. Parts of New York were officially declared disaster areas and received $98 million in federal funding.

REPORTS AND PUBLICATIONS:

Corning Area Survey Center

Waxman, Jerry

Waxman, Jerry

Coward, E. Walter, Jr. and Donald E. Lifton

Kliman, Ann S.

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AGENT: Flood - River  
EVENT: Mississippi River Flood  
DATE: April 29, 1973  
LOCATION: St. Louis, Missouri, USA  
DESCRIPTION:  
The Mississippi River rose above flood stage for over 70 days, causing the evacuation of 38,920 people in a seven state area including Missouri. Ten casualties resulted from the flood, however, $420 million in property damages was estimated in the seven state area. Parts of Missouri were officially declared disaster areas and received $17.8 million in federal funding.  

REPORTS AND PUBLICATIONS:  
Hershiser, Marvin and Daniel Bobb  
1973 The St. Louis flood: some observations on warning and pre-impact disaster response. Working Paper #52. Columbus, Ohio: The Disaster Research Center, The Ohio State University. 7 pp.
AGENT: Flood - River

EVENT: Missouri Flood

DATE: April 30, 1973

LOCATION: Missouri, USA

DESCRIPTION:
Of Missouri's 114 counties, 90 were affected by damaging flood waters. Property damage was estimated at $11.5 million for the state. Eight deaths were attributed to the floods and over 3,000 families were left homeless. Parts of the state of Missouri were declared disaster areas and received $17.8 million in federal funding.

REPORTS AND PUBLICATIONS:

Penick, E. C., S. W. Larcen, and B. J. Powell

Penick, E. C., S. W. Larcen and B. J. Powell

Brownstone, Jane, Elizabeth C. Penick, Stephen W. Larcen, Barbara J. Powell, and Ann F. Nord
AGENT: Flood - River

EVENT: Southwestern Ontario Floods

DATE: May 1, 1973

LOCATION: Fredericton, Ontario, Canada

DESCRIPTION:

The Saint John River overflow caused the evacuation of 500 persons from their homes and resulted in the death of one person. Property damages were assessed at about $10.3 million.

REPORTS AND PUBLICATIONS:

Kueneman, Rodney

Kueneman, Rodney
AGENT: Flood - River
EVENT: Idaho Flood
DATE: January 1974
LOCATION: Silver Valley, Northern Idaho, USA
DESCRIPTION: Overflow of the Coeur d'Alene River caused the evacuation of nearly 800 families in Silver Valley. Few injuries resulted, and damages were minimal. Silver Valley was not officially declared a disaster area.

REPORTS AND PUBLICATIONS:

Harvey, Carol D.

Harvey, Carol D.
AGENT: Flood - River

EVENT: Brisbane Floods

DATE: January 29, 1974

LOCATION: Brisbane, Queensland, Australia

DESCRIPTION:
The Brisbane River reached its peak on January 29, flooding the city of Brisbane. The extensive rainfall was a result of Cyclone Wanda. The flood killed 12 people in the Brisbane region and partially or wholly inundated 6,700 homes.

REPORTS AND PUBLICATIONS:

Shart, Patricia

Abrahams, M. J., J. Price, F. A. Whitlock, and G. Williams

Leivesley, Sally
1980 The social consequences of Australian disasters. Disasters 4: 30-37.
AGENT: Flood - River

EVENT: Threat of Missouri Flood

DATE: February 27, 1974

LOCATION: Missouri, USA

DESCRIPTION: Missouri communities along the Mississippi River were threatened by flood; however, the river did not overflow.

REPORTS AND PUBLICATIONS:

*****
The Disaster Research Center, 1974
AGENT: Flood - River
EVENT: Threat of Mississippi River Flood
DATE: February 25, 1974
LOCATION: Arkansas, USA
DESCRIPTION:
Arkansas communities along the Mississippi River were threatened by flood which did not occur.
REPORTS AND PUBLICATIONS:
*****
The Disaster Research Center, 1974
AGENT: Flood - River

EVENT: Mississippi River Flood

DATE: March 1, 1974

LOCATION: Vicksburg, Mississippi, USA

DESCRIPTION: Mississippi communities along the Mississippi River were threatened by flood; however, the river did not overflow.

REPORTS AND PUBLICATIONS:

*****

The Disaster Research Center, 1974
AGENT: Flood - River

EVENT: Manitoba Flood

DATE: April 21, 1974

LOCATION: Winnipeg, Manitoba, Canada

DESCRIPTION:
In Winnipeg, preparatory measures were taken to evacuate several hundred persons when the rivers of the Red River Valley Basin approached cresting levels. There were no casualties, however, highways were blocked or washing away and hundreds of homes were flooded.

REPORTS AND PUBLICATIONS:

AGENT:    Flood - River

EVENT:     Ontario Flood

DATE:      May 17, 1974

LOCATION:  Cambridge, Kitchener, Brantford, Southwest Ontario, Canada

DESCRIPTION:

Hundreds of people were evacuated from their homes when the Grand River crested and flooded many parts of southwest Ontario. There were no casualties, however, property damage was extensive and was estimated at $10 million.

REPORTS AND PUBLICATIONS:

Kueneman, Rodney M.

Kueneman, Rodney M. and John A. Hannigan
AGENT: Flood - River
EVENT: Queensland Flood
DATE: February 11, 1976
LOCATION: Beaudesert, Queensland, Australia
DESCRIPTION: No casualties resulted from the Queensland flood which occurred in the lower Logan River, however, area residents were evacuated. Between 50 and 100 homes were flooded.

REPORTS AND PUBLICATIONS:
AGENT: Flood - River
EVENT: Minot Flood
DATE: April 15, 1976
LOCATION: Minot, North Dakota, USA
DESCRIPTION: Approximately 12,000 people were evacuated when the Souris River flooded for the fifth time in seven years.
REPORTS AND PUBLICATIONS:

*****
The Disaster Research Center, 1976
AGENT: Flood - Dam
EVENT: Teton Dam Flood
DATE: June 5, 1976
LOCATION: Southeastern Idaho, USA

DESCRIPTION:
The dam began leaking three and one-half hours before it burst, giving the surrounding communities little warning of the impending event. The break released 80 billion gallons of water along an 80 mile path, killing 11 people, hospitalizing 13 others, and causing $1 billion in property losses. Approximately 80,000 people were forced to evacuate their homes in four counties. The aftermath left 40,000 people homeless and completely inundated 300 square miles of farm land. Aerial surveys indicated that 450 farms, 700 homes, and 200 businesses were damaged or destroyed. Parts of Idaho were officially declared disaster areas and received $44 million in federal funding.

REPORTS AND PUBLICATIONS:

Hall, P. S. and W. Landreth

Gurney, Patrick J.

Huerta, Faye, Robert L. Horton, and Leonard Kovit

Huerta, Faye and Robert Horton

Golec, Judith Anne
AGENT: Flood - Flash
EVENT: Big Thompson Flood
DATE: July 31, 1976
LOCATION: Loveland, Colorado, USA

DESCRIPTION:
The 25 mile long Big Thompson Canyon experienced extensive flooding, killing 139 people and injuring 88 others. Rain fell on the canyon for four and a half hours, causing the river to crest 10-18 feet above normal. In the days following the initial rainfall, 25.8 million gallons of water poured into the canyon daily, resulting in the evacuation of 1,900-2,600 people. Parts of Colorado were officially declared disaster areas and received $8 million in federal funding.

REPORTS AND PUBLICATIONS:
Blanshan, Sue A.
1977 Disaster Body Handling. Preliminary Paper #44. Columbus, Ohio: The Disaster Research Center, The Ohio State University. 15 pp.

Blanshan, Sue A.

Gruntfest, Eve C.

Miller, Judith Ann

Muller, Larry A. and Patrick F. Mulhern

Kimball, Edith Hill

Gruntfest, Eve C., Heidi and Guy Burgass, Harold C. Cochrone, Lois Steinluck, and Marilyn Stropes
McComb, David

Burgass, Heidi, Guy M. Burgass, and Thomas E. Drabek
AGENT: Flood - River

EVENT: Winter Thaw Flood Threat

DATE: Winter-Spring, 1976-1977

LOCATION: Pittsburgh, Pennsylvania, USA

DESCRIPTION:
The unusually severe winter of 1976-1977 brought anticipation of flooding in the Pittsburgh area where the Allegheny, Monongahela and Ohio Rivers merge. The flooding did not actualize and did not warrant official declaration of disaster.

REPORTS AND PUBLICATIONS:
Nehnevajs, Jiri and Henry Wong
AGENT: Flood - River
EVENT: Charleston Flood
DATE: January 17, 1977
LOCATION: Charleston, Missouri, USA
DESCRIPTION: Flooding in Charleston was minimal with loss limited to property and crop damage.

REPORTS AND PUBLICATIONS:
AGENT: Flood - River

EVENT: Harlan Flood

DATE: April 6, 1977

LOCATION: Harlan County, Kentucky, USA

DESCRIPTION:
Heavy rains caused widespread, severe flooding in several Southeastern Kentucky and Southwestern Virginia communities. In Harlan, Kentucky, five people were killed, 20 were injured, and 2,500 people were evacuated as a result of the floods. Seventy percent of the businesses in Harlan were inundated. Property damages in Eastern Kentucky were estimated at $100 million. Parts of Kentucky were officially declared disaster areas and received $28 million in federal funding.

REPORTS AND PUBLICATIONS:

1977 Flood, Rural MH Services. Field Reports #54, 54a, 54b. Columbus, Ohio: The Disaster Research Center, The Ohio State University.
AGENT: Flood - River

EVENT: Southeastern West Virginia Floods

DATE: April 7, 1977

LOCATION: Southeastern West Virginia, USA

DESCRIPTION:
The Southeastern West Virginia floods killed 19 people and left hundreds homeless with property damages estimated in the millions. Few injuries were attributable to the flood due to a slow rise of water. Parts of West Virginia were officially declared disaster areas and received $12 million in federal funding.

REPORTS AND PUBLICATIONS:

1977: Floods, Southeastern West Virginia. Field Report #55. Columbus, Ohio: The Disaster Research Center, The Ohio State University.
AGENT: Flood - River
EVENT: Virginia Floods
DATE: April 9, 1977
LOCATION: Southwestern Virginia, USA
DESCRIPTION:
Heavy rains caused widespread, severe flooding in several Southeastern Kentucky and Southwestern Virginia communities. Southwestern portions of Virginia were severely damaged with 1,300 residences and 1,010 businesses destroyed. No deaths resulted from flooding in Southwestern Virginia, however 4,274 families were evacuated as a precautionary measure. Parts of Virginia were officially declared disaster areas and received $7 million in federal funding.

REPORTS AND PUBLICATIONS:

*****
The Disaster Research Center, 1977
AGENT: Flood - Dam
EVENT: Johnstown Flood
DATE: July 20, 1977
LOCATION: Johnstown, Pennsylvania, USA

DESCRIPTION:
The Laurel Run Dam, northwest of Johnstown, received 12 inches of rain and gave way as a result of the pressure, killing 73 people. Fifty thousand people were evacuated as a precautionary measure. Property damages were estimated at $200 million with 412 homes and 276 businesses destroyed. Parts of Pennsylvania were officially declared disaster areas; estimated federal funding to be received was $112,596,533.

REPORTS AND PUBLICATIONS:
1977 Flood, Johnstown. Field Reports 59, 59a, 59b, and 59c. Columbus, Ohio: The Disaster Research Center, The Ohio State University.
AGENT: Flood - Flash

EVENT: Kansas City Flash Floods

DATE: September 12, 1977

LOCATION: Kansas City, Missouri, USA

DESCRIPTION:
In Kansas City, sudden onset of flood waters caused 25 deaths and $62 million in property damages. Approximately 12 inches of rain fell within a two-day period, causing Brush Creek to become a wall of water estimated at times to be 22 feet high. This and other overflowing tributaries resulted in the evacuation of 2,600 people.

REPORTS AND PUBLICATIONS:
1977 Flash Floods, Kansas City, Missouri. Field Report #60. Columbus, Ohio: The Disaster Research Center, The Ohio State University.
AGENT: Flood - Dam

EVENT: Toccoa Dam Break

DATE: November 6, 1977

LOCATION: Toccoa, Georgia, USA

DESCRIPTION:
The Kelly Barnes Reservoir dam was at overflow stage after three days of rain. The dam eroded and gave way. Eighty acres of water descended on the college community below, killing 38 people and causing an estimated $2.5 million in property damages.

REPORTS AND PUBLICATIONS:

1977 Dam Break, Toccoa, Georgia. Field Reports #63 and 63a. Columbus, Ohio: The Disaster Research Center, The Ohio State University.
AGENT: Flood - River

EVENT: Four River Floods

DATE: 1977-1978

LOCATION: Two unidentified communities in the Midwest, one in the Northwest and one in the West, USA

DESCRIPTION:
Four small communities underwent flooding of at least moderate magnitude. Only one person was killed, but in the most affected locality, 700 households evacuated.

REPORTS AND PUBLICATIONS:

AGENT: Flood - River

EVENT: Grand Forks Flood

DATE: April 11, 1978

LOCATION: Grand Forks, North Dakota and East Grand Forks, Minnesota, USA

DESCRIPTION:
Rural areas surrounding the Grand Forks region were impacted heavily when the Red River overflowed its banks. The two cities and bordering rural areas were declared Federal Disasters. The estimated damage toll was $11 million.

REPORTS AND PUBLICATIONS:

Drabek, Thomas E.

Drabek, Thomas E., Jessica Eagerton, Paul Munson, and Donald Q. Brodie

Drabek, Thomas E., Jessica Eagerton, Paul Munson, and Donald Q. Brodie

Drabek, Thomas E., Donald Q. Brodie, Jessica Eagerton, and Paul Munson
AGENT: Flood - Flash

EVENT: Flash Flood, Bandera County

DATE: August 1, 1978

LOCATION: San Antonio, Texas, USA

DESCRIPTION:
In one twelve-hour period, more than twenty-one inches of rain fell, swelling the Medina River basin in Bandera County. A muddy, 50 foot wall of water rampaged through the countryside, uprooting trees and destroying houses. Fourteen lives were lost, 15 million dollars in property was lost, including 200 houses.

REPORTS AND PUBLICATIONS:

Kilijanik, Thomas S.
AGENT: Flood - Other
EVENT: Terrace Floods
DATE: October-November 1978
LOCATION: Terrace, British Columbia, Canada

DESCRIPTION:
Unseasonal warm weather, high winds and excessive rainfall resulted in floods which killed two, isolated a number of communities, and did much economic damage.

REPORTS AND PUBLICATIONS:

Scanlon, Joseph

Scanlon, Joseph
AGENT: Flood - River

EVENT: Pearl River Flood

DATE: April 11-18, 1979

LOCATION: Jackson, Mississippi, USA

DESCRIPTION:

The Pearl River crested 25 feet over the 18 feet flood stage level and gave the city its worst flood disaster. Over 2,000 residences were flooded and over 6,500 persons had to be evacuated. Property damage was over $168 million. There was a federal declaration of disaster.

REPORTS AND PUBLICATIONS:

Anderson, Dan R. and Maurice Weinrobe
D-HURRICANE, TYPHOON, AND SEVERE STORM
AGENT: Typhoon

EVENT: Typhoons in the Pacific

DATE: November 2 and 10, 1947

LOCATION: Yap, Western Caroline Islands

DESCRIPTION: Two typhoons struck Yap about a week apart. No one was killed and only a few were injured, but housing damage was considerable.

REPORTS AND PUBLICATIONS:

Schneider, David M.
AGENT: Typhoon
EVENT: Typhoon in the Pacific
DATE: December 23, 1947
LOCATION: Yap, Western Caroline Islands
DESCRIPTION:
About 40 days after two typhoons struck Yap, it was struck again but with minimum casualties.

REPORTS AND PUBLICATIONS:

Schneider, David M.
AGENT: Typhoon
EVENT: Typhoon in the Pacific
DATE: January 13, 1948
LOCATION: Yap, Western Caroline Islands
DESCRIPTION: This was the last of a series of four typhoons which hit Yap in about a two month period.

REPORTS AND PUBLICATIONS:

Schneider, David M.
AGENT: Severe Storm

EVENT: Heavy Rains Resulting in Landslides

DATE: June 13, 1950

LOCATION: Darjeeling, India

DESCRIPTION:
Landslides were set off by 32 inches of rain over a three day period. About 150 people were killed in the district, 30 in the town itself. Over 100 were injured, and 2,000 were rendered homeless. About 200 houses were damaged.

REPORTS AND PUBLICATIONS:

Sinha, D.
AGENT: Hurricane

EVENT: Polynesian Hurricane

DATE: January 26, 1952

LOCATION: Tikopia, Solomon Islands, Polynesia

DESCRIPTION:

This hurricane resulted in no fatalities, but was very destructive economically. The hurricane destroyed essential coconut and breadfruit crops which led to famine and political unrest on the island.

REPORTS AND PUBLICATIONS:

Spillius, James

Firth, Raymond
AGENT: Typhoon

EVENT: Typhoon in the South Pacific

DATE: February 2, 1953

LOCATION: Tikopia, Solomon Islands, Polynesia

DESCRIPTION: A typhoon led to various areas being flooded, and 50% of the crops being damaged.

REPORTS AND PUBLICATIONS:

Spillius, James
AGENT: Hurricane

EVENT: Hurricane Barbara Threat

DATE: August 14, 1953

LOCATION: Ocean City, Maryland, USA

DESCRIPTION:
The threatening forces of hurricane Barbara led to the evacuation of Ocean City residents. No casualties occurred as a result of the hurricane.

REPORTS AND PUBLICATIONS:

AGENT: Hurricane

EVENT: Hurricane Florence Threat

DATE: September 25, 1953

LOCATION: Panama City, Florida, USA

DESCRIPTION:

Hurricane Florence threatened Panama City and resulted in the evacuation of 10,000 people. Damages to the city, however, were minimal.

REPORTS AND PUBLICATIONS:

Killian, Lewis M.
AGENT: Hurricane
EVENT: Hurricane Carol
DATE: August 31, 1954
LOCATION: Portsmouth, New Hampshire, USA
DESCRIPTION:
Hurricane Carol lashed the coasts of Middle Atlantic and New England states on August 31 and dissipated its force in Quebec. Winds ranged up to 100 miles per hour. The storm killed 43 people in New England. Parts of the New England states were officially declared disaster areas and received $6.5 million in federal funding.

REPORTS AND PUBLICATIONS:

Prell, Arthur Ely

Prell, Arthur E. and I. E. Reed
AGENT: Hurricane

EVENT: Hurricane Edna

DATE: September 11, 1954

LOCATION: Portsmouth, New Hampshire, USA

DESCRIPTION:
Hurricane Edna struck Portsmouth only 12 days after the town felt the forces of Hurricane Carol. The eye of the storm passed over the town, striking with full force, however, no casualties resulted.

REPORTS AND PUBLICATIONS:

Prell, Arthur E.

Prell, Arthur E. and I. E. Reed
AGENT: Hurricane

EVENT: Hurricane Audrey

DATE: June 27, 1957

LOCATION: Cameron Parish, Louisiana, USA

DESCRIPTION: Hurricane Audrey struck the coastal areas of Louisiana and Texas, killing 500-550 people and injuring many. Property damages were estimated at $15 million for both states. In Cameron, approximately 400 people were killed, 800 homes were destroyed or damaged and 2,500 people were evacuated. Parts of Louisiana were officially declared disaster areas and received $3 million in federal funding.

REPORTS AND PUBLICATIONS:


Knifian, Fred B. and Martin Wright  
1963 Disaster and reconstruction in Cameron Parish. Louisiana  

1963 The Social and Psychological Consequences of a Natural Disaster:  
A Longitudinal Study of Hurricane Audrey. Washington, D. C.:  
Disaster Research Group, National Academy of Sciences. 68 pp.
AGENT: Typhoon

EVENT: Typhoon Ophelia

DATE: November 30, 1960

LOCATION: Ulithi, Caroline Islands, Micronesia

DESCRIPTION: Typhoon Ophelia killed two people and injured five others in the Caroline Islands. The storm demolished ½ of the buildings in Ulithi and severely damaged the island’s crops.

REPORTS AND PUBLICATIONS:

Lessa, William A.
AGENT: Hurricane
EVENT: Hurricane Carla
DATE: September 11, 1961
LOCATION: Texas and Louisiana, USA

DESCRIPTION:
Hurricane Carla struck Louisiana and Texas, killing 46 people. The hurricane came as no surprise, as the residents had been warned for weeks, and an estimated 350,000 evacuated their homes. Property damages were estimated at $431 million. Agricultural damages alone amounted to $60 million. Parts of Texas were officially declared disaster areas and received $14 million in federal funding.

REPORTS AND PUBLICATIONS:

Huff, Millicent and H. Baily Carroll

Moore, Harry E.

Moore, Harry E.

Dacy, Douglas C. and Howard Kunreuther

Baker, Earl J.
AGENT: Severe Storm
EVENT: Northwestern Storm
DATE: October 12, 1962
LOCATION: Portland, Oregon, USA
DESCRIPTION: Gale force winds and rains struck the Pacific Coast area, killing 46 people in Portland and injuring many others. Property damages for all of Oregon were estimated at $170 million. The storm did not warrant official declaration of disaster.

REPORTS AND PUBLICATIONS:
Crawshaw, Ralph
AGENT: Hurricane
EVENT: Hurricane Cindy
DATE: September 16, 1963
LOCATION: Jefferson and Orange Counties, Texas, USA

DESCRIPTION:
Hurricane Cindy struck Texas, resulting in heavy property damage but no casualties. Jefferson and Orange Counties received 15 inches of rainfall with property damages estimated at $10 million. Approximately 700 people were evacuated and some 4,000 persons were left homeless.

REPORTS AND PUBLICATIONS:
*****
The Disaster Research Center, 1963
AGENT: Hurricane
EVENT: Hurricane Cleo
DATE: August 27, 1964
LOCATION: Miami, Florida, USA

DESCRIPTION:
Several states were affected by Hurricane Cleo, with Florida suffering the heaviest losses; there were three deaths and 1,018 injuries. Property damage was estimated at over $100 million. Miami particularly suffered extensive damage, with some 2,000 buildings destroyed or damaged. Cleo was the first hurricane to hit the area since 1950. Florida was the only state granted federal aid and received $2.3 million.

REPORTS AND PUBLICATIONS:

*****
The Disaster Research Center, 1964
AGENT: Hurricane

EVENT: Hurricane Dora

DATE: September 10, 1964

LOCATION: Jacksonville, Florida, USA

DESCRIPTION:
Hurricane Dora affected Northeastern Florida and Southern Georgia, destroying or damaging 11,354 homes and buildings and killing five people. In Florida alone, two people were killed and 1,489 were injured by the hurricane. For the first time on record, inland areas, normally subjected to minimal hurricane damages, felt the full force of Hurricane Dora's winds. Property damage for the state was estimated at $200 million. Parts of Florida and Georgia received $8.2 million and Georgia received $2 million in federal funding.

REPORTS AND PUBLICATIONS:

1964 Hurricane Dora. Research Memo #12. Columbus, Ohio: The Disaster Research Center, The Ohio State University.
AGENT: Hurricane

EVENT: Hurricane Hilda, Subsequent Tornadoes

DATE: October 3, 1964

LOCATION: New Orleans, Louisiana, USA

DESCRIPTION:
Several tornadoes spawned by Hurricane Hilda killed 39 people and injured 391 in Louisiana. Coastal areas suffered the heaviest losses, with property damage estimated at $75 million. The extent of destruction entailed: 137 homes destroyed; 19,331 homes damaged; and 248 small businesses destroyed or damaged. Parts of the state of Louisiana were officially declared disaster areas and received $2.65 million in federal funding.

REPORTS AND PUBLICATIONS:

1964 Hurricane Hilda. Research Memo #15. Columbus, Ohio: The Disaster Research Center, The Ohio State University.
AGENT: Hurricane
EVENT: Hurricane Betsy, Subsequent Floods
DATE: September 10, 1965
LOCATION: New Orleans, Louisiana, USA

DESCRIPTION:
Hurricane Betsy and subsequent rains and floods killed 67 persons, injured 860, and caused $1 billion in property damages throughout the Gulf State area (Florida, Alabama, Louisiana, and Mississippi). In New Orleans, 17 persons were killed, 550 injured and property damages were estimated at $100 million. The storm damaged or destroyed 18,000 homes. Parts of Louisiana were officially declared disaster areas and received $38.5 million in federal funding. In Miami, seven people were killed and property damage was $139 million. Parts of Florida were officially declared disaster areas and received $1 million dollars in federal funding.

REPORTS AND PUBLICATIONS:
Otten, Henry
1965 Betsy and all that—the dependent variable. New Orleans: Tulane University, School of Social Work.

Connell, Michael L.

Lloyd, Gary A.

Siporin, Mark

Abney, Glenn F. and Larry B. Hill
1966 Natural disasters as a political variable: the effect of a hurricane on an urban election. The American Political Science Review 60: 974-981.

Warheit, George-Jay
1968 The Impact of Major Emergencies on the Functional Integration of Four American Communities. Ph.D. dissertation (Sociology) The Ohio State University. 270 pp.
Adams, David

Forrest, Thomas R.

McLuckie, Benjamin F.

McLuckie, Benjamin F.

Quarantelli, E. L.

Dynes, Russell R. and E. L. Quarantelli

Forrest, Thomas R.
AGENT: Typhoon
EVENT: Typhoon Ida, Subsequent Floods
DATE: September 25, 1966
LOCATION: Ashiwada Village, Yamanashi, Japan
DESCRIPTION: Landslides and floods, an after effect of Typhoon Ida, killed 222 people and injured 301. Property damage was extensive, with 579 buildings destroyed and 978 buildings damaged.
REPORTS AND PUBLICATIONS:
McLuckie, Benjamin F.

McLuckie, Benjamin F.

McLuckie, Benjamin F.
AGENT: Typhoon
EVENT: Typhoon Billie
DATE: July 9, 1967
LOCATION: Hiroshima, Japan
DESCRIPTION:
Typhoon Billie struck Hiroshima killing 159 people and injuring 231. Damage was severe, totally destroying 352 buildings and damaging or destroying 8,282 homes.

REPORTS AND PUBLICATIONS:
McLuckie, Benjamin F.

McLuckie, Benjamin F.

McLuckie, Benjamin F.
AGENT: Hurricane

EVENT: Hurricane Beulah

DATE: September 21, 1967

LOCATION: Southern Texas, USA

DESCRIPTION:

In Southern Texas, Hurricane Beulah caused major flooding and spawned 155 tornadoes, killing 15 people and injuring several. Destruction was extensive, affecting 23 counties. Property damage was estimated at $500 million. Parts of the state of Texas were officially declared disaster areas and received $10 million in federal funding.

REPORTS AND PUBLICATIONS:

*****

The Disaster Research Center, 1967
AGENT: Hurricane

EVENT: Hurricane Camille

DATE: August 17, 1969

LOCATION: New Orleans, Louisiana, USA

DESCRIPTION:

Hurricane Camille killed 216 people in Mississippi and Southeast Louisiana, causing an estimated $1 billion in property losses. In New Orleans, Camille destroyed 5,238 homes and damaged 11,667 others. Transportation facilities such as highways, bridges, railways, and waterways were severely damaged. Crops and timberland were destroyed and livestock losses were great. Approximately 5,000 cattle drowned. Parts of Louisiana were officially declared disaster areas and the state received $15 million in federal funding.

REPORTS AND PUBLICATIONS:

Dynes, Russell R.

Dynes, Russell R.

McLuckie, Benjamin F.

Wilkinson, Kenneth P. and Peggy Ross

McLuckie, Benjamin F.

McLuckie, Benjamin F.
Baker, Earl J.
AGENT: Hurricane
EVENT: Hurricane Celia
DATE: August 3, 1970
LOCATION: Corpus Christi, Texas, USA
DESCRIPTION:
Hurricane Celia killed 13 persons and injured many others when it struck Corpus Christi, Texas. Property damages were estimated at $500 million, with 9,000 homes destroyed and 5,500 damaged. Parts of Texas were officially declared disaster areas and received $36 million in federal funding.

REPORTS AND PUBLICATIONS:

Schaffer, Ruth C. and Earl Cook

Laube, Jerri
AGENT: Hurricane

EVENT: Hurricane Fifi

DATE: September 18, 1974

LOCATION: Northern Coast of Honduras

DESCRIPTION: According to the Honduran government, 8,000 persons died as a result of torrential rains; 100,000 were made homeless. Extensive damage to public buildings, roads, crops, and livestock amounted to $540 million.

REPORTS AND PUBLICATIONS:

Brown, E. Leonard and D. Neil Snarr

Brown E. Leonard and D. Neil Snarr

Brown, E. Leonard and D. Neil Snarr

Brown, E. Leonard and D. Neil Snarr

Brown, E. Leonard and D. Neil Snarr
AGENT: Severe Storm

EVENT: Sydney Severe Storm

DATE: October 20, 1974

LOCATION: Sydney, Nova Scotia, Canada

DESCRIPTION:
The Sydney big storm came with little warning and resulted in a half dozen serious injuries, however, no fatalities occurred. Most injuries were from flying debris due to winds gusting at hurricane force. Communications systems were seriously disrupted by the high winds.

REPORTS AND PUBLICATIONS:

Jefferson, Jim and Joseph Scanlon

Scanlon, Joseph

Scanlon, Joseph and Jim Jefferson

Scanlon, Joseph

Scanlon, Joseph
AGENT: Hurricane
EVENT: Darwin Cyclone
DATE: December 25, 1974
LOCATION: Darwin, Australia

DESCRIPTION:
Cyclone Tracy killed 49 people and injured 1,012 when it struck Darwin on Christmas Eve. Most of Darwin's 23,000 residents were evacuated. Property damage was estimated at $500 million with 8,000 homes and over half the business district destroyed.

REPORTS AND PUBLICATIONS:

Parker, Gordon

Western, John S. and Gordon Milne

Haas, J. Eugene, Harold Cochrane, and Donald Eddy

Milne, Gordon

Milne, Gordon

Parker, Gordon

Haas, J. Eugene, Harold C. Cochrane, and Donald G. Eddy

Scanlon, Joseph

Leivesley, Sally 1980 The social consequences of Australian disasters. Disasters 4: 30-37.
AGENT: Severe Storm
EVENT: Australian Hailstorm
DATE: January 10, 1976
LOCATION: Toowoomba, Queensland, Australia
DESCRIPTION:
Half of the city was hit by a violent hailstorm. Two hundred people were injured. Damage to 5,000 houses and other property amounted to $25 million. A secondary disaster agent in the form of cyclonic rains lasted for six weeks after the initial hailstorm.

REPORTS AND PUBLICATIONS:
Leivesley, Sally

Leivesley, Sally
AGENT: Hurricane

EVENT: Hurricane Eloise

DATE: September 23, 1975

LOCATION: Panama City, Fort Walton Beach, Florida, USA

DESCRIPTION:

Thousands were evacuated when Hurricane Eloise struck the Florida Pan-handle, severely damaging a 55 mile strip between Fort Walton Beach and Panama City. More than 500 businesses were destroyed or damaged with property damage estimated at $200 million. The maximum sustained wind speed was 125 m.p.h. with storm tides and waves as high as 18 feet. Ninety injuries were reported and four deaths were indirectly attributed to the hurricane. Official declaration of disaster resulted in federal funding of over $5 million.

REPORTS AND PUBLICATIONS:

Baker, Earl J.

Baker, Earl J., John C. Brigham, J. Anthony Paredes, and Donald D. Smith

Shaws, E. W.

Windham, G. O., E. I. Posey, P. J. Ross, and B. G. Spencer

Baker, Earl J.

*****
The Disaster Research Center, 1976
AGENT: Severe Storm

EVENT: Port Alice Landslide from Heavy Rains

DATE: November 12, 1975

LOCATION: Port Alice, British Columbia, Canada

DESCRIPTION:

Heavy rains in November resulted in tons of mud and water to accumulate on a mountainside near the town of Port Alice. Several mudslides resulted, however, no casualties were reported.

REPORTS AND PUBLICATIONS:

Scanlon, Joseph, Jim Jefferson, and Debbie Sproat

Scanlon, Joseph, Jim Jefferson, and Debbie Sproat
AGENT: Hurricane
EVENT: Hurricane Anita
DATE: September, 1977
LOCATION: South Texas coast, USA

DESCRIPTION:
Hurricane Anita threatened but did not hit most of the lower Texas coast before going into Mexico. A hurricane watch led to evacuation in a number of Texas communities.

REPORTS AND PUBLICATIONS:

AGENT: Hurricane

EVENT: Hurricane David

DATE: September 4, 1979

LOCATION: Eastern Florida, USA

DESCRIPTION:
Hurricane David hit the eastern coast of Florida after going through the Caribbean. Thousands were evacuated but there were few casualties, although it had killed hundreds further south.

REPORTS AND PUBLICATIONS:

*****
The Disaster Research Center, 1979
AGENT: Hurricane

EVENT: Hurricane Allen

DATE: August, 1980

LOCATION: South Texas, USA and Jamaica and St. Lucia

DESCRIPTION:

The hurricane cut through the Caribbean doing extensive damage. It did little damage in the United States, but nearly a half million people may have evacuated.

REPORTS AND PUBLICATIONS:

Oliver, J. and D. H. Trollope
E-POWER SYSTEM MALFUNCTION

E-1
AGENT: Power System Malfunction

EVENT: Atomic Laboratory Explosion

DATE: July 2, 1956

LOCATION: Bayside, New York, USA

DESCRIPTION:
An explosion destroyed parts of the metallurgy atomic research center of the Sylvania Electric Products Company in Bayside, (Queens) New York. One person was killed and three were seriously injured. Property damage was estimated at $125,000.

REPORTS AND PUBLICATIONS:

Eisenbud, Merrill

National Analysts Inc.
AGENT: Power System Malfunction
EVENT: Atomic Plant Explosion
DATE: November 13, 1963
LOCATION: San Antonio, Texas, USA
DESCRIPTION:
When an explosion occurred in an atomic plant near San Antonio, three injuries and no fatalities were reported. Damage to the town was minimal. However, many windows were shattered. A cloud appearing to have "fallout" potential caused some alarm, but it gradually dissipated and drifted from San Antonio.

REPORTS AND PUBLICATIONS:

Haas, J. Eugene
AGENT: Power System Malfunction
EVENT: Northeastern Power Blackout
DATE: November 9, 1965
LOCATION: New York, New York, USA
DESCRIPTION:
A power failure in Northeastern parts of the U.S. and Southeastern parts of Canada affected 30 million people living in a geographical area of 80 thousand square miles. The time span of the power failure ranged from a few minutes to 13 1/2 hours. The power failure had minimal direct effect in relation to casualties and property damage.

REPORTS AND PUBLICATIONS:

Nash, George and Patricia Nash

Sweetser, Dorrian Apple

Hodge, Robert, Paul Siegel, and Angela Lane

Zucker, R. A., M. Manosevitz, and R. I. Lanyon

Udry, J. Richard

James, William H.

*****
The Disaster Research Center, 1965
AGENT: Power System Malfunction

EVENT: Three Mile Island Nuclear Plant Accident

DATE: March 28, 1979

LOCATION: Middletown, Pennsylvania, USA

DESCRIPTION:
Malfunction in nuclear plant led to a series of complications which created perceived threat of a major catastrophe. While there were no casualties, or property damage outside the plant, great stress occurred and substantial, informal mass evacuation took place.

REPORTS AND PUBLICATIONS:

Barlett, Glen S.
1979 Reaction of Adolescents to the Three Mile Island Nuclear Plant Emergency. Hershey, Pennsylvania: Department of Pediatrics and Behavioral Science, Hershey Medical Center.

Flynn, Cynthia

Flynn, C. B.

Kraybill, Donald

Kraybill, Donald

Smith, Martin

Flynn, C. B. and J. A. Chalmers
Sandman, Peter M. and Mary Paden

Brunn, Stanley, James Johnson, Jr., and Donald Zeigler

Barnes, Kent et al
1979 Responses of Impacted Populations to the Three Mile Island Nuclear Reactor Accident: An Initial Assessment. New Brunswick, New Jersey: Graduate Program in Geography, Rutgers University.

Bechtel, D. R. et al

Dohrenwend, Bruce et al

Morell, Jonathan A. and George Spivack

Bromet, Evelyn et al

Houts, Peter S. et al

Houts, Peter S. et al

Walsh, Edward J.

Bromet, Evelyn and Leslie Dunn
F-SNOWSTORM AND BLIZZARD
AGENT: Snowstorm and Blizzard

EVENT: Blizzards in Colorado

DATE: February and April 1957

LOCATION: Sedalia and Trickston, Colorado, USA

DESCRIPTION:
Several blizzards resulted in people being isolated but no casualties.

REPORTS AND PUBLICATIONS:

Mischel, W.
AGENT: Snowstorm and Blizzard

EVENT: Northeastern Snowstorm

DATE: March 19-21, 1958

LOCATION: Morgantown, Pennsylvania, USA

DESCRIPTION:
In Morgantown, heavy snows caused approximately 800 motorists to be stranded in a turnpike restaurant for about 36 hours. One person died of a heart attack.

REPORTS AND PUBLICATIONS:

Fritz, C. E., Jeannette F. Rayner, and S. L. Guskin
AGENT: Snowstorm and Blizzard

EVENT: Great Snowstorm

DATE: January 26-27, 1967

LOCATION: Chicago, Illinois, USA

DESCRIPTION:

In Chicago, 23 inches of snow fell in a 29 hour period, disrupting the daily routine of millions. There were no injuries or fatalities directly related to the snowstorm. The blizzard did not warrant official declaration of disaster.

REPORTS AND PUBLICATIONS:

Brouillette, John and James Ross

Brouillette, John and James Ross
AGENT: Snowstorm and Blizzard

EVENT: Kennedy Airport Snow-In

DATE: February 10, 1969

LOCATION: Kennedy International Airport, New York, USA

DESCRIPTION:
In New York, a snowstorm stranded 6,000 people in the Kennedy International Airport for several days.

REPORTS AND PUBLICATIONS:

AGENT: Snowstorm and Blizzard

EVENT: Blizzard in Southeastern Canada

DATE: January 26-27, 1971

LOCATION: London, Ontario, Canada

DESCRIPTION:
The Southeastern Canadian blizzard involved snow accumulation of 24 inches with drifts up to 12 feet. Wind gusts of 100 miles per hour and temperatures of 15 degrees below zero fahrenheit were recorded. The blizzard caused one death and resulted in few injuries.

REPORTS AND PUBLICATIONS:

Singer, Benjamin D. and Lyndsay Green
AGENT: Snowstorm and Blizzard

EVENT: Heavy Snows in South Carolina

DATE: February 10-12, 1973

LOCATION: Columbia, South Carolina, USA

DESCRIPTION:

In South Carolina, heavy snow fell for several days, stranding motorists and isolating small villages around the state. In Columbia, over 16 inches of snow fell over a two day period, affecting transportation in and around the city. No casualties occurred, and property damage was minimal. Official declaration of disaster was not warranted.

REPORTS AND PUBLICATIONS:

Ponting, J. Rick and E. L. Quarantelli
AGENT: Snowstorm and Blizzard
EVENT: Heavy Snows in Iowa
DATE: April 9-11, 1973
LOCATION: Des Moines, Iowa, USA

DESCRIPTION:
Heavy snows in Des Moines halted activity and caused a general paralysis of all transportation for two days. Thirteen inches of snowfall and 50 mile per hour winds resulted in eight to twenty foot snow drifts, however, there were no fatalities. Official declaration of disaster was not warranted.

REPORTS AND PUBLICATIONS:
Smith, Martin and John Bardo
AGENT: Snowstorm and Blizzard

EVENT: St. John's Blizzard

DATE: March 11, 1974

LOCATION: St. John's, Newfoundland, Canada

DESCRIPTION:
The St. John's blizzard resulted in 20.5 inches of snow and wind gusts of 60-70 miles per hour. However, the original weather forecast called for five to eight inches of snow and strong winds. There were no casualties, but streets and highways were blocked, immobilizing the area.

REPORTS AND PUBLICATIONS:

Scanlon, T. Joseph

Scanlon, Joseph and Brian Taylor
AGENT: Snowstorm and Blizzard

EVENT: Toowoomba Hailstorm

DATE: January 10, 1976

LOCATION: Toowoomba, Queensland, Australia

DESCRIPTION: A hailstorm hit Toowoomba, Australia without warning, injuring 200 people but killed no one. Thousands of windows were smashed during the 15 minute storm and approximately 5,500 dwellings were damaged. Property damages were estimated at $25 million.

REPORTS AND PUBLICATIONS:

Leivesley, Sally

Leivesley, Sally
AGENT: Snowstorm and Blizzard

EVENT: Bowling Green Snowstorm

DATE: December 1976

LOCATION: Bowling Green, Ohio, USA

DESCRIPTION:
The winter of 1976-1977 was the most severe winter in the Bowling Green, Ohio, area in over 200 years. Common occurrences were: loss of home heating and energy sources, loss of communication, loss of income, individuals living stranded, or combinations of these problems.

REPORTS AND PUBLICATIONS:

Neal, David Miller

Neal, David M., Joseph Perry, and Randolph Hawkins
AGENT: Snowstorm and Blizzard

EVENT: Watertown Snowstorm

DATE: January 28-February 1, 1977

LOCATION: Watertown, New York, USA

DESCRIPTION:
No deaths occurred as a result of the New York snowstorm which began on January 28 and lasted until February 1. In Watertown, roads were blocked by 12 foot drifts, a result of 68 inches of snow fall in that area. The town was immobilized and travel was prohibited for one week. Many persons were stranded or isolated for approximately two weeks. Parts of New York were officially declared disaster areas and received $34 million in federal funding.

REPORTS AND PUBLICATIONS:

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The Disaster Research Center, 1977
AGENT: Snowstorm and Blizzard

EVENT: Niagara Blizzard

DATE: January 28-February 4, 1977

LOCATION: Niagara Region, Ontario, Canada

DESCRIPTION:
No casualties occurred when a blizzard struck the Niagara region of Ontario, however, many persons were stranded on highways and in their homes. The combination of snow and strong winds blocked roads for eight days. Industrial and agricultural losses resulted.

REPORTS AND PUBLICATIONS:

Scanlon, Joseph and Brian Taylor
1977 Two Tales of a Snowstorm: How the Blizzard of January 1977 Affected the Niagara Region of Ontario. Ottawa, Canada: Emergency Communications Research Unit, School of Journalism, Carleton University. 45 pp.
AGENT: Snowstorm and Blizzard

EVENT: Buffalo Blizzard

DATE: January 28-February 14, 1977

LOCATION: Buffalo, New York, USA

DESCRIPTION:
The blizzard struck on January 28 and lasted for 17 days, immobilizing the city. Many were stranded in their cars, causing 28 deaths. Buffalo received 153 inches of snow for the winter period; the city normally receives an average of 44 inches. Parts of New York were officially declared disaster areas and received $34 million in federal funding.

REPORTS AND PUBLICATIONS:

1977 Great Snow Fall, Buffalo, New York. Field Report #47. Columbus, Ohio: The Disaster Research Center, The Ohio State University.

Cryns, Arthur G.

Cryns, Arthur G. and Raymond T. Conjeski
G-TORNADO
AGENT: Tornado
EVENT: Tornado in Oklahoma
DATE: April 12, 1945
LOCATION: Antlers, Oklahoma, USA
DESCRIPTION: A tornado killed 68 and injured 169 in a small town.
REPORTS AND PUBLICATIONS:
Logan, Leonard, Lewis M. Killian, and Wyatt Marrs
1952 A Study of the Effect of Catastrophe on Social Disorganization.
AGENT: Tornado
EVENT: Tornado in Oklahoma
DATE: April 9, 1947
LOCATION: Woodward, Oklahoma, USA
DESCRIPTION: A tornado killed 95 persons and injured nearly 500.

REPORTS AND PUBLICATIONS:
Logan, Leonard, Lewis M. Killian, and Wyatt Marrs
1952 A Study of the Effect of Catastrophe on Social Disorganization.
AGENT: Tornado

EVENT: Southwestern Tornadoes

DATE: April 28, 1950

LOCATION: Holdenville, Oklahoma, USA

DESCRIPTION:
A series of tornadoes killed 12 persons in Oklahoma and West Texas. Holdenville was the hardest hit with 5 persons killed and 28 others injured. The tornado destroyed or damaged 215 homes but did not warrant official declaration of disaster.

REPORTS AND PUBLICATIONS:
Logan, Leonard, Lewis M. Killian, and Wyatt Marrs
1952 A Study of the Effect of Catastrophe on Social Disorganization.
AGENT: Tornado

EVENT: Tornado in Oklahoma

DATE: September 15, 1950

LOCATION: Sasakwa, Oklahoma, USA

DESCRIPTION:

Five persons were injured in a tornado.

REPORTS AND PUBLICATIONS:

Logan, Leonard, Lewis M. Killian, and Wyatt Marrs
1952 A Study of the Effect of Catastrophe on Social Disorganization.
AGENT:  Tornado  
EVENT:  Tornado in Oklahoma  
DATE:  April 5, 1951  
LOCATION:  Rural Oklahoma, USA  
DESCRIPTION:  A tornado hit three rural schools, but only three were injured.  
REPORTS AND PUBLICATIONS:  
Logan, Leonard, Lewis M. Killian, and Wyatt Marrs  
1952  A Study of the Effect of Catastrophe on Social Disorganization. 
AGENT: Tornado

EVENT: Tornado in Oklahoma

DATE: June 8, 1951

LOCATION: Colony, Oklahoma, USA

DESCRIPTION:
In a tornado, none were killed but two schools and 15 houses were destroyed.

REPORTS AND PUBLICATIONS:

AGENT: Tornado

EVENT: Tornado in Oklahoma

DATE: June 8, 1951

LOCATION: Corn, Oklahoma, USA

DESCRIPTION:
While none were killed or injured, a tornado damaged or destroyed several dozen houses, a church, and an old peoples' home.

REPORTS AND PUBLICATIONS:

AGENT: Tornado
EVENT: Tornado in Minnesota
DATE: June 19, 1951
LOCATION: Minneapolis, Minnesota, USA
DESCRIPTION:
Several tornadoes killed one and injured a few people.
REPORTS AND PUBLICATIONS:
AGENT: Tornado
EVENT: Arkansas Tornado
DATE: March 21, 1952
LOCATION: Northeastern Arkansas, USA
DESCRIPTION: The Arkansas tornadoes were part of a series which hit six states, killing 239 people, injuring 1,202 others, and destroying or damaging 2,300 homes. White County, Arkansas was severely hit, with 49 people killed, 675 injured, over 400 homes demolished and nearly 600 damaged. Official declaration of disaster resulted in federal funding of $700,000.

REPORTS AND PUBLICATIONS:

Rayner, J. F. 1952 Disaster Investigation III: Arkansas Tornadoes. College Park, Maryland: Disaster Study Project, University of Maryland.


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AGENT: Tornado

EVENT: Warner-Robins Tornado

DATE: April 30, 1953

LOCATION: Warner-Robins, Georgia, USA

DESCRIPTION:
The Warner-Robins tornado killed 19 people and injured 450 others. Property damage was estimated at $20 million, with 365 homes destroyed and $12 million damage to government property.

REPORTS AND PUBLICATIONS:

Killian, Lewis M. and Jeannette F. Rayner

Killian, Lewis M. and Jeannette F. Rayner
AGENT: Tornado
EVENT: Waco Tornado
DATE: May 11, 1953
LOCATION: Waco, Texas, USA
DESCRIPTION:
The widely separated Texas tornadoes of May 11, 1953 killed 114 persons and injured 600. Over 1,000 were left homeless when the tornado destroyed 125 homes and damaged 750. The business district of Waco, the town most damaged, had 198 commercial buildings destroyed and another 445 damaged. Total property damage amounted to $52 million. Texas was officially declared a disaster area and received $365,000 in federal funding.

REPORTS AND PUBLICATIONS:

Rayner, Jeannette F.

Brannen, Ted R.

Crawford, Fred R.
1954 Communities in Crisis. Austin, Texas: Department of Sociology, University of Texas. 8 pp.

Crawford, Fred R.
1954 Operation of Public Law 875 in the Waco-San Angelo, Texas Disasters. Austin, Texas: Department of Sociology, University of Texas. 22 pp.

Crawford, Fred R.
1954 Where Did the Victims Eat? Austin, Texas: Department of Sociology, University of Texas. 3 pp.

Moore, Harry E.
1954 Communities in crisis: two come back from disaster. Alcalde 43: 45-49.

Moore, Harry E.
Crawford, Fred R. and H. E. Moore  
1954 Waco-San Angelo Disaster Study: First Annual Report.  
Austin, Texas: Department of Sociology, University of Texas.  
242 pp.

Moore, Harry E. and Fred R. Crawford  
1955 Waco-San Angelo Disaster Study: Report on Second Year's  
Work. Austin, Texas: Department of Sociology, University of  
Texas. 333 pp.

Williams, Ewell R.  
1956 A Study of Letters to the Editor of the Waco Times-Herald and  
News Tribune Following the Tornado of May, 1953. M. A. thesis  
(Sociology) The University of Texas.

Crawford, Fred R.  
1957 Patterns of Family Readjustments to Tornado Disasters: A  
Sociological Case Study. Ph.D. dissertation (Sociology) University  
of Texas. 346 pp.

Crawford, Fred R. and Harry E. Moore  
1957 Relocation of disaster-displaced families. Sociology and  
Social Research 41: 264-269.

Moore, Harry E.  
1958 Some emotional concomitants of disaster. Mental Hygiene 42:  
45-50.

Moore, Harry E.  
1958 Tornadoes over Texas. Austin, Texas: University of Texas  
Press. 334 pp.

Rayner, Jeannette F.  

Moore, Harry E. and H. J. Friedsman  
1959 Reported emotional stress following a disaster. Social Forces  
38: 135-139.

Crane, Billy  
1960 Intergovernmental Relations in Disaster Relief in Texas. Ph.D.  
dissertation, University of Texas. 331 pp.

White, Meda Miller  
1962 Role Conflict in Disasters: Not Family but Familiarity First.  
Academy of Sciences. 53 pp.

Layman, Marvin  
1965 Differential Reaction to Stress: The Social-psychological  
effects of Disaster. Ph.D. dissertation (Sociology) The University  
of Texas. 176 pp.

G-12a
Dacy, Douglas C. and Howard Kunreuther
AGENT: Tornado
EVENT: San Angelo Tornado
DATE: May 11, 1953
LOCATION: San Angelo, Texas, USA

DESCRIPTION:
One of the cities struck by the Texas tornadoes of May 11, 1953 was San Angelo, where 11 people were killed and 150 injured. 320 homes were destroyed and 197 were damaged, leaving 1,200 people homeless. Property damage amounted to over $3 million. Texas was officially declared a disaster and received $365,000 in federal funding.

REPORTS AND PUBLICATIONS:

Crawford, F. R.
1954 Operation of Public Law 875 in the Waco-San Angelo, Texas Disasters. Austin, Texas: Department of Sociology, University of Texas. 22 pp.

Crawford, F. R.
1954 Where Did the Victims Eat? Austin, Texas: Department of Sociology, University of Texas. 3 pp.

Moore, H. E.
1954 Interim Report on Waco-San Angelo, Texas Disasters. Austin, Texas: Department of Sociology, University of Texas. 4 pp.

Crawford, F. R. and H. E. Moore
1954 Waco-San Angelo Disaster Study--First Annual Report. Austin, Texas: Department of Sociology, University of Texas. 242 pp.

Moore, H. E. and F. R. Crawford
1955 Waco-San Angelo Disaster Study: Report on Second Year's Work. Austin, Texas: Department of Sociology, University of Texas. 333 pp.

Crawford, F. R.

Crawford, F. R. and H. E. Moore
1957 Relocation of disaster-displaced families. Sociology and Social Research 41: 264-269.
Moore, H. E.

Moore, H. E.

Moore, H. E. and H. J. Friedsam
1959  Reported emotional stress following a disaster. Social Forces 38: 135-139.
AGENT: Tornado

EVENT: Flint-Beecher Tornadoes

DATE: June 8, 1953

LOCATION: Flint-Beecher, Michigan, USA

DESCRIPTION:
A series of tornadoes struck separated sections of the United States on the 8th and 9th of June, with the Flint-Beecher area the hardest hit. The Flint-Beecher tornadoes killed 116 people and injured 811 others. Property damages were extensive, with 390 buildings destroyed and 276 others damaged. Over 1,500 people were left homeless. Parts of Michigan were officially declared disaster areas and received $140,900 in federal funding.

REPORTS AND PUBLICATIONS:

Form, W. H., G. P. Stone, and C. M. Westie

Form, W. H., S. Nosow, G. P. Stone, and C. M. Westie

Rosow, Irving E.

Nall, Elizabeth W.
1956 The Influence of Crisis in the Modification of Social Organization.

Form, W. H., S. Nosow, G. P. Stone, and C. M. Westie

Form, W. H., C. P. Loomis et al

Form, W. H. and S. Nosow
White, Meda Miller

Rosow, Irving E.

Rosow, Irving E.
1977 Authority in Emergencies: Four Tornado Communities in 1953. Historical and Comparative Disaster Series #2. Columbus, Ohio: The Disaster Research Center, The Ohio State University. 217 pp.
AGENT: Tornado

EVENT: Worcester Tornado

DATE: June 9, 1953

LOCATION: Worcester, Massachusetts, USA

DESCRIPTION:
The Worcester tornado killed 94 people and injured 490 others and caused $52 million in property damages. Approximately 12,000 people were left homeless, with 1,250 dwellings damaged. Parts of Massachusetts were officially declared disaster areas and received $500,000 in federal funding.

REPORTS AND PUBLICATIONS:

Raker, John

Brodsky, C. M., J. F. Muldoon, and Regina F. Herzfeld

Rosow, Irving

Powell, J. W.

Bakst, H. J. R. L. Berg, F. D. Forster, and J. W. Raker

Wallace, Anthony F. C.
White, Meda Miller

Rosow, Irving

Rosow, Irving
1977  Authority in Emergencies: Four Tornado Communities in 1953. Historical and Comparative Disaster Series #2. Columbus, Ohio: The Disaster Research Center, The Ohio State University. 217 pp.
AGENT: Tornado
EVENT: Vicksburg Tornado
DATE: December 5, 1953
LOCATION: Vicksburg, Mississippi, USA

DESCRIPTION:
Thirty-eight people were killed and 385 others were injured when a tornado hit the business district of Vicksburg, destroying a movie theatre with many children in attendance. Parts of Mississippi were officially declared disaster areas and received $117,023 in federal funding.

REPORTS AND PUBLICATIONS:

Bloch, D. A., E. Silber, and Stewart Perry

Perry, S. E., E. Silber, and D. A. Bloch

Silber, E., S. E. Perry, and D. A. Bloch
AGENT: Tornado

EVENT: Tornado in Texas

DATE: June 7, 1954

LOCATION: San Angelo, Texas

DESCRIPTION:
A tornado injured two people and did 2.4 million dollars worth of damage.

REPORTS AND PUBLICATIONS:

Moore, Harry E. and F. R. Crawford

Crawford, F. R.
1957 Patterns of Family Readjustments to Tornado Disasters: A Sociological Case Study. Ph.D. dissertation (Sociology) University of Texas.
AGENT: Tornado

EVENT: Tornado in Northwestern Mississippi

DATE: February 1, 1955

LOCATION: Tunica and Desota Counties, Mississippi, USA

DESCRIPTION: At least 31 persons were killed and 100 injured in tornadoes in Eastern Arkansas, Northwestern Mississippi, and Northern Alabama. The tornadoes struck two rural schoolhouses, killing a number of children who were in class at the time.

REPORTS AND PUBLICATIONS:

Perry, Helen S. and Stuart E. Perry
AGENT: Tornado
EVENT: Udall Tornado
DATE: May 25, 1955
LOCATION: Udall, Kansas, USA
DESCRIPTION:
The Udall tornado killed 79 people and injured 270 others, destroying 135 homes and 22 businesses in its path. Parts of Kansas were officially declared disaster areas and received $288,991 in federal funding.
REPORTS AND PUBLICATIONS:
AGENT: Tornado
EVENT: Grand Rapids Tornado
DATE: April 3, 1956
LOCATION: Grand Rapids, Michigan, USA

DESCRIPTION:
Several states experienced tornadoes and severe storms, with Michigan being hardest hit. Seventeen people were left dead and 262 others were injured. Property damages were estimated at $15 million. Parts of Michigan were officially declared disaster areas and received $135,000 in federal funding.

REPORTS AND PUBLICATIONS:

Davis, Robert C.
AGENT: Tornado
EVENT: Dallas Tornado
DATE: April 2, 1957
LOCATION: Dallas, Texas, USA
DESCRIPTION:
The Dallas tornado cut a 21 mile path through the city, killing 10 people and injuring 183 others. Property damages were estimated at $4 million, with 155 buildings destroyed and 463 damaged.

REPORTS AND PUBLICATIONS:
Friedsam, H. J. 

Fogleman, Morris J.

Moore, H. E. and H. J. Friedsam

Moore, H. E. and H. J. Friedsam
1959 Reported emotional distress following a disaster. Social Forces 38: 135-139.

Raker, J. W. and H. J. Friedsam
AGENT: Tornado
EVENT: Kansas City Tornado
DATE: May 20, 1957
LOCATION: Kansas City, Missouri, USA

DESCRIPTION:
The Kansas City tornado was one of a series to touch down in the midwestern states. In Kansas City, 31 people were killed and 200 were injured. The tornado destroyed 350 homes and damaged another 400. Parts of the state of Missouri were officially declared disaster areas and received $2 million in federal funding.

REPORTS AND PUBLICATIONS:

New, Peter Kong-Ming

New, Peter Kong-Ming and I. Deutscher
AGENT: Tornado

EVENT: Tornado and Hailstorm

DATE: April 3, 1961

LOCATION: South Rampur, East Pakistan

DESCRIPTION: A tornado and hailstorm resulted in casualties and property damage.

REPORTS AND PUBLICATIONS:


AGENT: Tornado

EVENT: Portland Tornado

DATE: October 12, 1962

LOCATION: Portland, Oregon, USA

DESCRIPTION:
An extratropical cyclone of unprecedented violence struck the Portland area; 46 died. Winds were estimated to be gusting at 116 m.p.h. The total material destruction was estimated at $170,000,000. The path of the storm was declared a federal disaster area.

REPORTS AND PUBLICATIONS:

Shaw, Ralph Craw
AGENT: Tornado
EVENT: Palm Sunday Tornadoes
DATE: April 11, 1965
LOCATION: Northern Indiana, USA

DESCRIPTION:
Thirty-seven tornadoes affected a six state area (Arkansas, Michigan, Ohio, Illinois, Indiana, Wisconsin), killing 266 people and injuring 3,261. Property damage for the six states was estimated at over $200 million. In Northern Indiana, 18 counties were severely damaged by 11 tornadoes destroying 1,250 homes, 221 house trailers, 143 businesses and 1,055 farm buildings. Property damage in Indiana was estimated at $176 million.

REPORTS AND PUBLICATIONS:

1965   Floods and Tornadoes in Northern Midwest. Research Memo #20. Columbus, Ohio: The Disaster Research Center, The Ohio State University. 3 pp.


Brouillette, John R.
AGENT: Tornado

EVENT: Minneapolis Tornado

DATE: May 6, 1965

LOCATION: Minneapolis, Minnesota, USA

DESCRIPTION:
The Minneapolis tornado killed 13 people, injured approximately 500 others and left 4,000 homeless. Property damage was estimated at $50 million. At that time, Minnesota, still under disaster declaration from flooding in April of 1965, was receiving a federal allocation of $9 million. An additional $431,000 was allocated to the state.

REPORTS AND PUBLICATIONS:

Adams, David


Boggins, Mary Merritt
AGENT: Tornado
EVENT: Jackson Tornado
DATE: March 3, 1966
LOCATION: Jackson, Mississippi, USA
DESCRIPTION: The Jackson tornado killed 53 people, injured 500 others, and destroyed a shopping center and factory complex. The tornado, one of a series, touched down in Mississippi and Alabama, killing a total of 58 people. Property damage for the state of Mississippi was estimated at $12 million. Official declaration of disaster was not warranted.

REPORTS AND PUBLICATIONS:

Kennedy, Will

AGENT: Tornado
EVENT: Tampa Tornado
DATE: April 4, 1966
LOCATION: Tampa, Florida, USA

DESCRIPTION:
The Tampa tornado killed 10 people and injured approximately 1,300. The tornado caused $29 million in property damages, destroying over 300 homes. It did not warrant official declaration of disaster.

REPORTS AND PUBLICATIONS:
1966 Tampa, Florida Tornado. Research Memo #28. Columbus, Ohio: The Disaster Research Center, The Ohio State University.
AGENT: Tornado
EVENT: Topeka Tornado
DATE: June 8, 1966
LOCATION: Topeka, Kansas, USA

DESCRIPTION:
The Topeka tornado killed 117 and injured 550 people. The
tornado was one of several which touched ground in central
Kansas that day. In Topeka, 800 homes were totally destroyed,
800 were severely damaged and over 400 received minor damage.
The tornado affected an area eight miles long and four to eight
blocks wide. Parts of Kansas were officially declared disaster
areas and the state received $3.7 million in federal funds.

REPORTS AND PUBLICATIONS:

1966  Topeka, Kansas Tornado. Research Memo #29. Columbus, Ohio:
The Disaster Research Center, The Ohio State University.

Stallings, Robert
1967  A Description and Analysis of the Warning Systems in the Topeka,
Kansas Tornado of June 8, 1966. Research Report #20. Columbus,
Ohio: The Disaster Research Center, The Ohio State University.
24 pp.

Tootle, Barbara
1968  Organizational Adaptation to Disaster: A Case Study of the Topeka,
Kansas Police Department. M.A. thesis (Sociology) The Ohio
State University. 136 pp.

Zurcher, Louis A.
1968  Social-psychological functions of ephemeral roles: a disaster

Parr, Arnold Richard
1969  A Brief View on the Adequacy and Inadequacy of Disaster Plans
Columbus, Ohio: The Disaster Research Center, The Ohio State
University. 10 pp.

Parr, Arnold
1969  Group Emergence under Stress: A Study of Collective Behavior
during the Emergency Period of Community Crises. Ph.D.
dissertation (Sociology) The Ohio State University. 275 pp.

Parr, Arnold
1970  Organizational response to community crises and group emergence.

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Adams, David, Robert Stallings, and Stephen Vargo

Zurcher, Louis A., William H. Kay, and James B. Taylor

Anderson, William A.
1972 DRC studies of organizational change. Pp. 74-89 in Report on Japan-United States Seminar on Organizational and Community Responses to Disaster. Columbus, Ohio: The Disaster Research Center.

Drabek, Thomas E. and William H. Key

Drabek, Thomas E., William H. Key, Patricia E. Erickson, and Juanita L. Crowe

Drabek, Thomas E., William H. Key, Patricia E. Erickson, and Juanita L. Crowe

Drabek, Thomas E., William H. Key, Patricia E. Erickson, and Juanita L. Crowe

Drabek, Thomas E., William H. Key, Patricia E. Erickson, and Juanita L. Crowe

Erickson, Patricia E., Thomas E. Drabek, William H. Key, and Juanita L. Crowe

Drabek, Thomas E. and William H. Key

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Drabek, Thomas E. and William H. Key  

Drabek, Thomas E., William Key, Patricia Erickson, and Juanita Crowe  

Quarantelli, E. L.  

Sterling, Joyce, Thomas E. Drabek, and William H. Key  

Ross, G. Alexander  
AGENT: Tornado
EVENT: Belmond, Iowa Tornado
DATE: October 14, 1966
LOCATION: Belmond, Iowa, USA
DESCRIPTION:
The Belmond tornado killed 6 people and injured 150-200 others. Property damage was estimated at $7.5 million with 76 businesses and 119 homes destroyed and 468 homes damaged. Official declaration of disaster was not warranted.

REPORTS AND PUBLICATIONS:
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The Disaster Research Center, 1966
AGENT: Tornado
EVENT: Oak Lawn Tornado
DATE: April 21, 1967
LOCATION: Oak Lawn, Chicago, Illinois, USA

DESCRIPTION:
In Oak Lawn, 55 people were killed and 964 were injured when a tornado severely damaged the Chicago suburb. Northern Illinois also felt the impact of the tornado with 383 homes destroyed and 371 damaged. Parts of Illinois were officially declared disaster areas and received $1 million in federal funding.

REPORTS AND PUBLICATIONS:

1967 The Oak Lawn, Chicago Tornado. Research Memo #31. Columbus, Ohio: The Disaster Research Center, The Ohio State University. 8 pp.

Stallings, Robert A.

Stallings, Robert A.
AGENT: Tornado

EVENT: Jonesboro Tornado

DATE: May 15, 1968

LOCATION: Jonesboro, Arkansas, USA

DESCRIPTION: The Jonesboro tornado killed 34 people and injured approximately 300 others. Property damage was estimated at $8 million with 164 homes, several businesses, and one school destroyed. Parts of Arkansas were officially declared disaster areas and received $250,000 in federal funding.

REPORTS AND PUBLICATIONS:

Brouillette, John

Parr, Arnold Richard

Parr, Arnold Richard

Parr, Arnold Richard
AGENT: Tornado
EVENT: Kettering Tornado
DATE: May 8, 1969
LOCATION: Kettering, Ohio, USA

DESCRIPTION:

The Kettering tornado destroyed 13 homes and severely damaged 163, leaving 300 people homeless. There were no casualties, but 25 people were injured. Property damage was estimated at $734,600. Official declaration of disaster was not warranted.

REPORTS AND PUBLICATIONS:

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The Disaster Research Center, 1969
AGENT: Tornado

EVENT: Salina Tornado

DATE: June 22, 1969

LOCATION: Salina, Kansas, USA

DESCRIPTION:
No one was killed, but 83 people were injured and 26 houses and 17 buildings were destroyed. Property damage amounted to $8 million. Official declaration of disaster resulted in federal funding of $900,000.

REPORTS AND PUBLICATIONS:

Parr, Arnold

Parr, Arnold

Parr, Arnold
AGENT: Tornado/Storms

EVENT: July 4 Northern Ohio Tornadoes

DATE: July 4, 1969

LOCATION: Northern Ohio, USA

DESCRIPTION: Tornadoes, storms, and subsequent flooding drove thousands from their homes and killed 39 people. Property damage amounted to $30 million. Official declaration of disaster resulted in federal funding of $6 million.

REPORTS AND PUBLICATIONS:

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The Disaster Research Center, 1969
AGENT: Tornado
EVENT: Cincinnati Tornado
DATE: August 9, 1969
LOCATION: Cincinnati, Ohio, USA

DESCRIPTION:
The Cincinnati tornado killed four people and injured 264. The tornado left 1,000 homeless with property losses estimated at $15 million. The tornado did not warrant official declaration of disaster.

REPORTS AND PUBLICATIONS:

*****
The Disaster Research Center, 1969
AGENT: Tornado
EVENT: Texas Tornado
DATE: May 11, 1970
LOCATION: Lubbock, Texas, USA

DESCRIPTION:
On the night of May 11, 1970 tornadoes occurred in Wisconsin, Iowa, Kansas, Ohio, and Texas. The most massive tornado formed over Lubbock, Texas. The Lubbock tornado killed 26 people and injured 2,000. The tornado devastated the community along an 8½-mile path, causing $135 million in property damage. More than 10,000 buildings were damaged or destroyed by the tornado. Parts of Texas were officially declared disaster areas and the state received $6 million in federal funding.

REPORTS AND PUBLICATIONS:

Burke, James Carroll

Dynes, Russell R. and Lynn D. Nelson

Minnis, Mhyra S. and A. Perry McWilliams
1971 Tornado: The Voice of the People in Disaster and After, a Study in Residential Integration. Lubbock, Texas: Texas Tech University. 188 pp.

Whitehead, Carlton J., Brian K. Lambert, and Joseph E. Minor
1971 A City's Response to Disaster. Lubbock, Texas: Department of Business Administration, Texas Tech University. 83 pp.

Minor, Joseph E., Brian K. Lambert, and John Wittman, Jr.

Nelson, Lynn D.

Dynes, Russell R., and E. L. Quarantelli
Nelson, Lynn D. and Russell R. Dynes

Quarantelli, E. L.

Dynes, Russell R. and E. L. Quarantelli
AGENT: Tornado

EVENT: Sudbury Storm

DATE: August 20, 1970

LOCATION: Sudbury, Ontario, Canada

DESCRIPTION: In Sudbury a severe storm, with winds recorded as high as 90 m.p.h., killed four persons and injured approximately 200. The storm was part of a line of thunderstorms moving across a narrow 60-mile path of Northern Ontario. Property damages were estimated at $5 million, with commercial and residential sections severely damaged.

REPORTS AND PUBLICATIONS:

1970 The Sudbury, Ontario Tornado. Research Memo #36. Columbus, Ohio: The Disaster Research Center, The Ohio State University. 3 pp.
AGENT: Tornado
EVENT: Joplin Tornado
DATE: May 11, 1973
LOCATION: Joplin, Missouri, USA

DESCRIPTION:
In the spring of 1973, Joplin, Missouri was struck by a tornado that killed two people. Eighty-seven were hospitalized as a result of injuries incurred. Approximately 24,000 people suffered property damage.

REPORTS AND PUBLICATIONS:
Penick, E. C., S. W. Larson, and B. J. Powell

Penick, Elizabeth C., Barbara J. Powell, and William C. Sieck
AGENT: Tornado
EVENT: Jonesboro Tornado
DATE: May 27, 1973
LOCATION: Jonesboro, Arkansas, USA

DESCRIPTION:
The Jonesboro tornado killed 3 persons and injured 253 others. Property damage was estimated at $41 million, with 1,308 homes destroyed and 1,267 others damaged. Parts of Arkansas were officially declared disaster areas and received $1.4 million in federal funding.

REPORTS AND PUBLICATIONS:
Kueneman, Rodney, Martin Smith, Verta Taylor, and Jerry Waxman
AGENT: Tornado

EVENT: Monticello Tornado

DATE: April 3, 1974

LOCATION: Monticello, Indiana, USA

DESCRIPTION:

Two tornadoes touched down in Monticello killing nine persons. Property damages were estimated at $200 million with 40 businesses and 227 homes destroyed while many others were seriously damaged. Monticello, officially declared a disaster area, was allotted $11 million in federal funding.

REPORTS AND PUBLICATIONS:

Zarle, Thomas H., Don M. Hartsough, and Donald R. Ottinger

Bowman, Sue

Zarle, Thomas H.

*****

The Disaster Research Center, 1977
AGENT: Tornado

EVENT: Xenia Tornado

DATE: April 3, 1974

LOCATION: Xenia, Ohio, USA

DESCRIPTION:

The Xenia tornado was one in a series of over 100 tornadoes affecting 11 states on the third of April. The path of this tornado was 16 miles long, 1,100 feet wide, with winds estimated at 300 miles per hour. Thirty-five persons were killed and 1,000 others injured. Property damage was estimated at $75 million with 2,659 homes destroyed and 2,757 homes damaged. Parts of Ohio were officially declared disaster areas and received $19 million in federal funding.

REPORTS AND PUBLICATIONS:

Laube, Jerri
1974 Response of the Health Care Worker to Family-Community Role Conflict in Disaster and the Psychological Consequences of Resolution. Ph.D. dissertation (Health Sciences) Texas Women's University. 91 pp.

Laube, Jerri M.
1974 Response of the Health Care Worker to Family-Community Role Conflict in Disaster and the Psychological Consequences of Resolution. Ph.D. dissertation (Nursing) Texas Women's University. 91 pp.

Ross, G. Alexander

Taylor, Jack D.
1974 The Xenia Public Schools and Tornado Disaster. Columbus, Ohio: Ohio Department of Education.

Taylor, Jack D.

Quarantelli, E. L. and Russell R. Dynes
Dynes, Russell R. and E. L. Quarantelli

Burgy, Robert E.

Hannigan, John A.

Ross, G. Alexander

Taylor, Verta A.

Taylor, Verta, G. Alexander Ross, and E. L. Quarantelli
1976 Delivery of Mental Health Services in Disasters: The Xenia Tornado and Some Implications. Columbus, Ohio: The Disaster Research Center, The Ohio State University. 328 pp.

Quarantelli, E. L.

Smith, Martin

Taylor, Verta

Francaviglia, Richard

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Smith, Martin H.

Wright, Joseph E.

Quarantelli, E. L.

*****
Jeanne Ballantine, Billy Jo Franklin, and Phyllis Brown, 1974
AGENT: Tornado

EVENT: Cincinnati Tornado

DATE: April 4, 1974

LOCATION: Cincinnati, Ohio, USA

DESCRIPTION:
The tornado which struck a new Cincinnati subdivision killed five persons and injured 207 others. Property damage was confined to the immediate area of the subdivision. There was an official declaration of disaster.

REPORTS AND PUBLICATIONS:

*****
The Disaster Research Center, 1974
AGENT: Tornado
EVENT: Brandenburg Tornado
DATE: April 5, 1974
LOCATION: Brandenburg, Kentucky, USA
DESCRIPTION:
The tornado killed 71 people in Kentucky, 32 of whom were residents of Brandenburg, which was almost totally destroyed. 150 were injured in the town of 1,700. Property damages in Brandenburg were estimated at $7 million. Parts of Kentucky were officially declared disaster areas and received $14 million in federal funding.

REPORTS AND PUBLICATIONS:

*****
The Disaster Research Center, 1974
AGENT: Tornado

EVENT: Windsor, Ontario Tornado

DATE: April 6, 1974

LOCATION: Windsor, Ontario, Canada

DESCRIPTION:

The Windsor tornado was part of a massive tornado swarm that existed in the area on the fifth and sixth of April. The tornado killed eight people and injured several. A curling rink was completely destroyed and a shopping mall suffered heavy damages.

REPORTS AND PUBLICATIONS:

Kueneman, Rodney M. and G. Alexander Ross

AGENT: Tornado
EVENT: Omaha Tornado
DATE: May 6, 1975
LOCATION: Omaha, Nebraska, USA
DESCRIPTION:

The Omaha tornado killed three people and injured 200-300 when it severely damaged a residential district. Property damages were estimated at $156-176 million, with 109 businesses, one school and 287 homes destroyed. One hospital and 650 homes were severely damaged. Parts of Nebraska were officially declared disaster areas and received $3 million in federal funding.

REPORTS AND PUBLICATIONS:

Farber, Ajon F.

Ross, G. Alexander

Kara, Gail
1977 Adjustment to Disaster Impact. M.A. thesis (Sociology) University of Nebraska at Omaha.

McIntire, Matilda S. and Esmaul Sadeghi

Bell, Bill

Bell, Bill D., Gail Kara, and Constance Batterson

Rosenberg, Steven A., Paul Fire, and Gay Robinson
AGENT: Tornado
EVENT: Canton, Illinois Tornado
DATE: July 23, 1975
LOCATION: Canton, Illinois, USA

DESCRIPTION:
The Canton tornado caused extensive damage to the downtown business district and a mobile home trailer park: 55 dwellings and 77 mobile homes were destroyed, 415 homes damaged, three persons were killed and 59 were injured. Parts of the state of Illinois were officially declared disaster areas and received $861,418 in federal funding.

REPORTS AND PUBLICATIONS:

Ross, G. Alexander

Quarantelli, E. L.
AGENT: Tornado

EVENT: Cabot Tornado

DATE: March 29, 1976

LOCATION: Cabot, Arkansas, USA

DESCRIPTION: The Cabot tornado, striking a trailer park and demolishing the business district of Cabot, killed 5 people and injured 54. Property damage was estimated at $10 million with 300 homes and 50 businesses destroyed. With official declaration of disaster, Arkansas received $549,000 in federal funding.

REPORTS AND PUBLICATIONS:

Quarantelli, E. L.
AGENT: Tornado
EVENT: Canton Tornado
DATE: March 30, 1976
LOCATION: Canton, Mississippi, USA

DESCRIPTION:
The Canton tornado killed five persons and injured 150. Its path covered an area 40 miles long and three-fourths of a mile wide. Property damages were estimated at over $1 million, with 55 homes destroyed and 115 damaged. Parts of Mississippi were officially declared disaster areas and received $168,882 in federal funding.

REPORTS AND PUBLICATIONS:
Quarantelli, E. L.
AGENT: Toxicological Incident

EVENT: Phosphorous Fumes and Fire

DATE: March 22, 1979

LOCATION: Gettysburg, Pennsylvania, USA

DESCRIPTION:
A tractor-trailer carrying a mixture of red and yellow phosphorous erupted into flames. The cause of the explosion was believed to be the result of a brake dysfunction which precipitated a fire around the rear tandem wheels of the trailer. Secondary explosions and toxic fumes forced the evacuation of all residents within a two-block radius of the site.

REPORTS AND PUBLICATIONS:

Gray, Jane

Quarantelli, E. L.
1981 Sociobehavioral Responses to Chemical Hazards: Preparations for and Responses to Acute Chemical Emergencies at the Local Community Level. Final Project Report #28. Columbus, Ohio: The Disaster Research Center, The Ohio State University. 133 pp.
AGENT: Toxicological Incident

EVENT: Plant Explosion and Toxic Cloud

DATE: March 7, 1979

LOCATION: Crystal City, Texas, USA

DESCRIPTION:
A facility containing agricultural chemicals caught on fire and precipitated subsequent explosions. Smoke and gaseous fumes enveloped the area for several hours. Property and inventory losses were estimated at $150,000. About 6,000 residents were evacuated.

REPORTS AND PUBLICATIONS:

Quarantelli, E. L.
1981 Sociobehavioral Responses to Chemical Hazards: Preparations for and Responses to Acute Chemical Emergencies at the Local Community Level. Final Project Report #28. Columbus, Ohio: The Disaster Research Center, The Ohio State University. 133 pp.
AGENT: Toxicological Incident
EVENT: Train Derailment and Fire
DATE: February 10, 1979
LOCATION: Ridgway, Pennsylvania, USA

DESCRIPTION:
Nine cars carrying crude oil derailed as the result of the loss of a wheel. A punctured tank car spilled crude oil through a residential district. Heat from the axle caused a combustion of the flowing oil. No deaths or injuries occurred, but property losses were significant. Approximately 100 persons evacuated the area until the fire was contained.

REPORTS AND PUBLICATIONS:

Quarantelli, E. L.
1981 Sociobehavioral Responses to Chemical Hazards: Preparations for and Responses to Acute Chemical Emergencies at the Local Community Level. Final Project Report #28. Columbus, Ohio: The Disaster Research Center, The Ohio State University. 133 pp.
AGENT: Toxicological Incident

EVENT: Tank Explosion and Fire

DATE: May 30, 1978

LOCATION: Texas City, Texas, USA

DESCRIPTION:
A series of explosions severely damaged a refining company in the center of an industrial complex. Six people were killed and twenty others were injured. Two railroad tank cars containing tetraethyl lead also exploded. Approximately 10% of the refinery was destroyed. Contingent property and the inhabitants were threatened.

REPORTS AND PUBLICATIONS:

Quarantelli, E. L. 1981 Sociobehavioral Responses to Chemical Hazards: Preparations for and Responses to Acute Chemical Emergencies at the Local Community Level. Final Project Report #28. Columbus, Ohio: The Disaster Research Center, The Ohio State University. 133 pp.
AGENT: Toxicological Incident

EVENT: Propane Tank Car Explosion

DATE: February 24, 1978

LOCATION: Waverly, Tennessee, USA

DESCRIPTION:
A derailed tank car containing liquified petroleum gas ruptured. The ensuing fire killed 16 persons, injured 43 others, and did $1,800,000 worth of damage.

REPORTS AND PUBLICATIONS:

Quarantelli, E. L. 1981 Sociobehavioral Responses to Chemical Hazards: Preparations for and Responses to Acute Chemical Emergencies at the Local Community Level. Final Project Report #28. Columbus, Ohio: The Disaster Research Center, The Ohio State University. 133 pp.
AGENT: Toxicological Incident

EVENT: Carbon Monoxide Leak

DATE: January 28, 1977

LOCATION: Opelika, Alabama, USA

DESCRIPTION:
A high concentration of carbon monoxide gas, emitted from 28-30 fork-lift trucks, resulted in the hospitalization of 29 people and treatment of 67 others. No one was seriously injured and only those in the immediate area were affected.

REPORTS AND PUBLICATIONS:

Quarantelli, E. L.
AGENT: Toxicological Incident
EVENT: TCDD Release
DATE: July 10, 1976
LOCATION: Seveso, Italy

DESCRIPTION:
An explosion at a chemical factory released a cloud of vapor which contaminated the surrounding area. The vapor consisted of sodium trichlorophenate and an extremely toxic by-product, tetrachlorodibenzo-p-dioxin (TCDD). Thirty people were hospitalized for symptoms of burns and poisoning; 730 individuals were evacuated from the area most severely contaminated.

REPORTS AND PUBLICATIONS:

Hay, Alastair

Hay, Alastair
AGENT: Toxicological Incident
EVENT: Hydrogen Sulphide Gas Leak
DATE: October 2, 1973
LOCATION: Camrose, Alberta, Canada

DESCRIPTION:
An oil well emitted hydrogen sulphide gas and caused the evacuation of several thousand people in Camrose. The gas leak endangered nearby farmers, villagers, and a small city.

REPORTS AND PUBLICATIONS:

Ponting, J. Rick
AGENT: Toxicological Incident

EVENT: Chlorine Leak Threat

DATE: April 1, 1972

LOCATION: Louisville, Kentucky, USA

DESCRIPTION:

The possibility of a chlorine gas leak prompted the evacuation of 4,000 persons along the Ohio River Valley near Louisville. The source of the threat was a runaway barge containing 640 tons of liquid chlorine that had wedged itself against a dam on the river. The barge was stabilized and residents returned to their homes; no one was injured.

REPORTS AND PUBLICATIONS:

Fitzpatrick, John S. and Jerry J. Waxman
AGENT: Toxicological Incident

EVENT: Ammonia Vapor Exposure

DATE: August 1, 1961

LOCATION: Peoria Suburbs, Illinois, USA

DESCRIPTION:
A cloud of anhydrous ammonia spread over Peoria, affecting 40 persons but killing no one. As a precautionary measure, 13,000 people were forced to evacuate. The leak was a result of a ruptured pipe used to discharge the substance from a barge.

REPORTS AND PUBLICATIONS:

Albert, Michael B. and Louis Segaloff
AGENT:       Toxicological Incident
EVENT:       Toxic Gas
DATE:        August 12, 1960
LOCATION:    "Bayview" (small Southern town)
DESCRIPTION:
             No one was killed but 64 persons were affected when an
             unknown toxic gas drifted into the town of about 5,000 people
             probably from one of the chemical plants in the area.
REPORTS AND PUBLICATIONS:

Hesbacher, P. T. and Louis Segaloff
1961       The Bayview Gas Scare (Task Stagger). Philadelphia, Pennsylvania:
            Institute for Cooperative Research, University of Pennsylvania.
            26 pp.
AGENT: Toxicological Incident
EVENT: Chlorine Gas Leak
DATE: July 23, 1953
LOCATION: Edgewood, Maryland, USA

DESCRIPTION:

No one was killed or seriously injured when chlorine gas leaked from a vent line at the Diamond Alkali Plant. Gas concentration, however, forced most area residents to evacuate. The plant was located on the Edgewood Post of the Army Chemical Corps.

REPORTS AND PUBLICATIONS:

Rayner, Jeannette
AGENT: Toxicological Incident

EVENT: Carbon Monoxide Asphyxiatiion Incident

DATE: December 8, 1952

LOCATION: Chicago, Illinois, USA

DESCRIPTION:
A carbon monoxide gas leak in the wholesale and industrial area near Chicago's Loop resulted in medical treatment for 30 persons affected by the fumes. No fatalities resulted.

REPORTS AND PUBLICATIONS:

National Opinion Research Center

National Opinion Research Center
AGENT: Toxicological Incident

EVENT: Methyl Alcohol Poisoning

DATE: October 21-28, 1951

LOCATION: Atlanta, Georgia, USA

DESCRIPTION: This incident of methyl alcohol poisoning killed 39 people, blinded 9 others and resulted in the hospitalization of over 200 others.

REPORTS AND PUBLICATIONS:

Bennett, Ivan  

Powell, J. W.  

Powell, J. W.  
1953 A Poison Liquor Episode in Atlanta, Georgia. College Park, Maryland: Department of Psychiatry, University of Maryland. 16 pp.
AGENT: Tornado

EVENT: Cheyenne Tornado

DATE: July 16, 1979

LOCATION: Cheyenne, Wyoming, USA

DESCRIPTION:

The northern edge of Cheyenne was struck by a moderately destructive tornado which destroyed or badly damaged over 400 homes. Approximately 48 persons were seriously injured; one child died as a result of the event.

REPORTS AND PUBLICATIONS:

Drabek, Thomas E.

AGENT: Tornado
EVENT: Wichita Falls Tornado
DATE: April 10, 1979
LOCATION: Wichita Falls, Texas, USA

DESCRIPTION:
The Wichita Falls tornado was ranked at four on the Fujita scale of tornado strength, placing it among the severest 3% of all tornadoes in the United States. Forty-seven persons were killed; 171 injured required hospitalization; 1,700 injured required some kind of medical attention. More than 3,000 homes in an eleven square mile area were devastated. Wichita Falls was declared a disaster area.

REPORTS AND PUBLICATIONS:

**Bolin, Robert**
1979 The Impact of Disaster Aid Progress on Long-term Family Recovery. Las Cruces, New Mexico: Department of Sociology, New Mexico State University.

**Bolin, Robert**
1979 Study of elderly victims of the Wichita Falls tornado. Fargo, North Dakota: Department of Sociology, North Dakota State University. 1 pp.

**Kilijanik, Thomas S.**
1980 The Emergence of Interorganizational Communication Networks Following Natural Disasters. Ph.D. dissertation (Sociology) University of Denver.

**Kilijanik, Thomas S.**

**Adams, Christopher R., Thomas E. Drabek, Thomas S. Kilijanik, and Harriet L. Tamminga**
1980 The Organization of Search and Rescue Efforts Following the Wichita Falls, Texas Tornado. Denver, Colorado: Department of Sociology, University of Denver. 23 pp.

**Glass, Roger I., Robert B. Craven, Dennis J. Bergman, Barbara Stall, Neil Harowitz, Peter Kerndt, and Joe Winkle**
AGENT:  Tornado
EVENT:  Birmingham Tornado
DATE:  April 4, 1977
LOCATION:  Birmingham, Alabama, USA

DESCRIPTION:
The Birmingham tornado killed 24 people and injured 260-270 others. The tornado cut a path approximately 12 miles long and 3/4 of a mile wide, destroying 15-20 homes and damaging over 100 more. Although property damage was estimated in the millions, the area did not warrant official declaration of disaster.

REPORTS AND PUBLICATIONS:
AGENT: Tornado
EVENT: Lemont Tornado
DATE: June 13, 1976
LOCATION: Lemont, Illinois, USA

DESCRIPTION:
The Lemont tornado killed 2 people and injured 35 when it touched down in a residential area of the town. Property damages were estimated at $6 million with 87 homes destroyed and 82 damaged. Parts of Illinois were officially declared disaster areas and received $1 million in federal funding.

REPORTS AND PUBLICATIONS:
Quarantelli, E. L.
AGENT: Toxicological Incident

EVENT: Fertilizer Plant Fire

DATE: May 1, 1979

LOCATION: Atlanta, Ohio, USA

DESCRIPTION:
A fire which completely enveloped a fertilizer plant in flames spread to canisters of liquid fertilizer stored in the building. The canisters subsequently exploded, sending fireballs nearly 108 feet into the air. Nearly all of Atlanta's residents were forced to evacuate because of spreading smoke and toxic fumes. The company's losses were estimated at $400,000.

REPORTS AND PUBLICATIONS:

Quarantelli, E. L.
1981 Sociobehavioral Responses to Chemical Hazards: Preparations for and Responses to Acute Chemical Emergencies at the Local Community Level. Final Project Report #28. Columbus, Ohio: The Disaster Research Center, The Ohio State University. 133 pp.
AGENT: Toxicological Incident
EVENT: Chemical Explosion and Fire
DATE: May 14, 1979
LOCATION: Harvey, Louisiana, USA

DESCRIPTION:
A large tank containing ethyl alcohol ignited and exploded within a chemical manufacturing and storage facility. No serious casualties occurred as a result of the incident, yet six fire personnel were treated at the emergency room of a nearby hospital for minor eye irritation.

REPORTS AND PUBLICATIONS:

Quarantelli, E. L.
1981 Sociobehavioral Responses to Chemical Hazards: Preparations for and Responses to Acute Chemical Emergencies at the Local Community Level. Final Project Report #28. Columbus, Ohio: The Disaster Research Center, The Ohio State University. 133 pp.
AGENT: Toxicological Incident
EVENT: Fertilizer Plant Fire
DATE: June 17, 1979
LOCATION: Jacksonville, Florida, USA

DESCRIPTION:
A chemical plant fire resulted in the loss of two-thirds of the plant's capacity. Buildings affected were a total loss. Forty-five persons were treated for smoke and toxic fume inhalation. Evacuation estimates range from 2,000 to 5,000 in the affected area of the city.

REPORTS AND PUBLICATIONS:
Quarantelli, E. L.
1981 Sociobehavioral Responses to Chemical Hazards: Preparations for and Responses to Acute Chemical Emergencies at the Local Community Level. Final Project Report #28. Columbus, Ohio: The Disaster Research Center, The Ohio State University. 133 pp.
AGENT: Toxicological Incident

EVENT: Chemical Plant Fire

DATE: July 5, 1979

LOCATION: Memphis, Tennessee, USA

DESCRIPTION:
An explosion occurred in a chemical company which stores and manufactures herbicides and pesticides. The explosion and fire caused the release of toxicological substances into the air, forming a toxic cloud. Approximately 3,000 people were evacuated from a 1-mile area. Damage to the plant was estimated at $2.5-3.5 million. Civilian and fire personnel injuries were primarily caused by toxic fumes.

REPORTS AND PUBLICATIONS:

Gray, Jane

Quarantelli, E. L.
1981 Sociobehavioral Responses to Chemical Hazards: Preparations for and Responses to Acute Chemical Emergencies at the Local Community Level. Final Project Report #28. Columbus, Ohio: The Disaster Research Center, The Ohio State University. 133 pp.
AGENT: Toxicological Incident

EVENT: Sulfur Fire and Toxic Cloud

DATE: August 25, 1979

LOCATION: Orchard, Texas, USA

DESCRIPTION:
No serious casualties occurred as a result of a fire at an abandoned sulfur mine. Four individuals were treated for respiratory distress. Property losses existed in the form of crop damage caused by a sulfur cloud which dissipated the following day.

REPORTS AND PUBLICATIONS:

Quarantelli, E. L.
1981 Sociobehavioral Responses to Chemical Hazards: Preparations for and Responses to Acute Chemical Emergencies at the Local Community Level. Final Project Report #28. Columbus, Ohio: The Disaster Research Center, The Ohio State University. 133 pp.
AGENT: Toxicological Incident
EVENT: Propane Tank Car Derailment
DATE: September 25, 1979
LOCATION: Everett, Washington, USA
DESCRIPTION:
Nine cars of a freight train derailed near the end of the Hewitt tunnel. One car, filled with liquified propane gas overturned. There were no major injuries or destruction as a result of the incident.

REPORTS AND PUBLICATIONS:
Quarantelli, E. L.
1981 Sociobehavioral Responses to Chemical Hazards: Preparations for and Responses to Acute Chemical Emergencies at the Local Community Level. Final Project Report #28. Columbus, Ohio: The Disaster Research Center, The Ohio State University. 133 pp.
AGENT: Toxicological Incident

EVENT: Chlorine Gas Threat

DATE: November 11, 1979

LOCATION: Mississauga, Canada

DESCRIPTION:
A Canadian Pacific Railroad's train of 110 cars, 40 of which carried butane, propane, styrene, propylene, toluene, and chlorine, developed a wheel assembly problem. The wheel assembly malfunction caused a derailment of 25 cars. A series of explosions followed the derailment. The chlorine tanker was one of the derailed cars and leaked gas. Local responders evacuated 220,000 residents, 3 hospitals, and several nursing homes. Less than a dozen injuries resulted; no deaths were reported. Estimates of total damages incurred includes losses of 25 railroad cars, track, roadbed, as well as loss of income to those evacuated from the area.

REPORTS AND PUBLICATIONS:

Whyte, Anne

Scanlon, Joseph and Massey Padgham

Gray, Jane

Quarantelli, E. L.
1981 Sociobehavioral Responses to Chemical Hazards: Preparations for and Responses to Acute Chemical Emergencies at the Local Community Level. Final Project Report #28. Columbus, Ohio: The Disaster Research Center, The Ohio State University. 133 pp.
I-TRANSPORTATION ACCIDENT
AGENT: Transportation Accident
EVENT: Airshow Plane Crash
DATE: September 15, 1951
LOCATION: Flagler, Colorado, USA
DESCRIPTION:
An airshow plane crashed into a crowd of spectators, killing 21 persons, 13 of whom were children. Approximately 30 persons were injured.
RE flashed AND PUBLICATIONS:
Krauss, I.
AGENT: Transportation Accident

EVENT: Elizabeth Plane Crash #1

DATE: December 16, 1951

LOCATION: Elizabeth, New Jersey, USA

DESCRIPTION:

The December 16, 1951 Elizabeth, New Jersey plane crash was the first of three plane crashes to occur in Elizabeth within a two month time period. As a result of this crash, 56 passengers were killed and one Elizabeth resident was injured.

REPORTS AND PUBLICATIONS:

Bucher, Rue

Powell, John W.
1954 An Introduction to the Natural History of Disaster. Baltimore, Maryland: Psychiatric Institute, University of Maryland. 162 pp.

Fritz, C. E. and E. S. Marks


Bucher, Rue
AGENT: Transportation Accident

EVENT: Elizabeth Plane Crash #2

DATE: January 22, 1952

LOCATION: Elizabeth, New Jersey, USA

DESCRIPTION:
The January 22, 1952 Elizabeth, New Jersey plane crash was the second of three plane crashes to occur in Elizabeth within a two month time period. The plane crashed into an apartment house, killing seven residents and 23 of its passengers.

REPORTS AND PUBLICATIONS:

Bucher, Rue

Powell, John W.
1954 An Introduction to the Natural History of Disaster. Baltimore, Maryland: Psychiatric Institute, University of Maryland. 162 pp.

Fritz, C. E. and E. S. Marks

Bucher, Rue
AGENT: Transportation Accident
EVENT: Elizabeth Plane Crash #3
DATE: February 11, 1952
LOCATION: Elizabeth, New Jersey, USA

DESCRIPTION:
The February 11, 1952 Elizabeth, New Jersey plane crash was the third of three plane crashes to occur in Elizabeth within a two month time period. The plane crashed into an apartment house, injuring 43 persons, killing four residents, and 27 passengers and crew members.

REPORTS AND PUBLICATIONS:

Quarantelli, E. L.

Bucher, Rue

Powell, John W.
1954 An Introduction to the Natural History of Disaster. Baltimore, Maryland: Psychiatric Institute, University of Maryland. 162 pp.

Fritz, C. E. and E. S. Marks

Bucher, Rue
AGENT: Transportation Accident

EVENT: Commuter Train Crash

DATE: October 8, 1952

LOCATION: Northwest London, England

DESCRIPTION:
Two express trains crashed into a commuter local, killing 98 people and injuring 200. The crash occurred during the morning rush hour at the Narrow and Wealdstone Station, 11 miles northwest of London.

REPORTS AND PUBLICATIONS:

Braswell, Colonel L. R.
1953 U.S. Air Force assistance after the Harrow train wreck.
AGENT: Transportation Accident
EVENT: School Bus Fire
DATE: March 1, 1955
LOCATION: Silver Spring, Maryland, USA
DESCRIPTION:
A school bus caught fire but there were no injuries.

REPORTS AND PUBLICATIONS:

Rayner, Jeannette
AGENT: Transportation Accident
EVENT: Andrea Doria Ship Disaster
DATE: July 25, 1956
LOCATION: Off the coast of Nantucket Island, Massachusetts, USA
DESCRIPTION: Off the coast of Nantucket Island, the Swedish liner Stockholm smashed into the starboard side of the Italian liner, Andrea Doria, resulting in one of the worst disasters in maritime history. Fifty-two persons were killed, 1,654 were saved by rescue ships.
REPORTS AND PUBLICATIONS:
Friedman, Paul and Louis Linn
1957 Some psychiatric notes on the Andrea Doria disaster.
AGENT: Transportation Accident
EVENT: Airplane Crash
DATE: December 1, 1959
LOCATION: Williamsport, Pennsylvania, USA
DESCRIPTION:
Bad weather conditions caused an Allegheny Airlines twin-engine plane to crash into a mountainside during an attempted landing. The crash resulted in the deaths of 25 of the 26 passengers and crew members.

REPORTS AND PUBLICATIONS:

Sonder, Otto L., Jr.

Sonder, Otto L., Jr.
AGENT: Transportation Accident
EVENT: Airplane Crash
DATE: December 8, 1963
LOCATION: Elkton, Maryland, USA
DESCRIPTION:
A PanAm jet bound for Philadelphia crashed into a Maryland cornfield, killing 82 passengers.
REPORTS AND PUBLICATIONS:
AGENT: Transportation Accident

EVENT: Wichita Plane Crash

DATE: January 16, 1965

LOCATION: Wichita, Kansas, USA

DESCRIPTION:

An Air Force KC-135 tanker plunged into a heavily populated neighborhood in Wichita, killing 29 people and injuring many.

REPORTS AND PUBLICATIONS:

Cotter, Cornelius P.
AGENT: Transportation Accident
EVENT: Plane Crash
DATE: November 8, 1965
LOCATION: Greater Cincinnati Airport, Kentucky, USA
DESCRIPTION:
A Boeing 727 crashed into a hill near the Greater Cincinnati Airport killing 58 persons.
REPORTS AND PUBLICATIONS:
*****
The Disaster Research Center, 1965
AGENT: Transportation Accident
EVENT: Ammunition Train Derailment
DATE: August 14, 1968
LOCATION: Urbanna, Ohio, USA
DESCRIPTION:
The possibility of explosion following the derailment of an ammunition train prompted the evacuation of 4,000 persons from their homes; however, the explosion did not occur. There were no casualties and damage was limited to the train and track.

REPORTS AND PUBLICATIONS:
*****
The Disaster Research Center, 1968
AGENT: Transportation Accident

EVENT: Airplane Crash

DATE: October 25, 1968

LOCATION: Lebanon, New Hampshire, USA

DESCRIPTION:
A Northeast plane flight with 42 persons crashed into a mountainside killing 32 persons.

REPORTS AND PUBLICATIONS:

Vosburg, Robert L.
AGENT: Transportation Accident
EVENT: Airplane Crash
DATE: October 25, 1968
LOCATION: Lebanon, New Hampshire, USA
DESCRIPTION:
A plane crashed en route from Boston to Lebanon, New Hampshire, killing 32 people and injuring the 10 survivors.

REPORTS AND PUBLICATIONS:

Pine, Vanderlyn R.

Pine, Vanderlyn R.
1969 Social organizations in disaster. The Director 39: 3-5.

Pine, Vanderlyn R.

Pine, Vanderlyn R.
AGENT: Transportation Accident

EVENT: School Bus/Train Accident

DATE: March 24, 1972

LOCATION: Pomona, New York, USA

DESCRIPTION:

Five persons were killed and 47 injured when a school bus carrying 52 teenagers collided with an 82-car freight train at an unguarded crossing. Both the bus and train were severely damaged as a result of the accident.

REPORTS AND PUBLICATIONS:

Grossman, Leona  

Tuckman, Alan J.  
AGENT: Transportation Accident

EVENT: Train Crash

DATE: October 30, 1972

LOCATION: Chicago, Illinois, USA

DESCRIPTION:
A commuter train rear-end collision resulted in 74 deaths and 290 injuries.

REPORTS AND PUBLICATIONS:

Grossman, L.

AGENT: Transportation Accident
EVENT: Plane Crash
DATE: December, 1972
LOCATION: Chicago, Illinois, USA
DESCRIPTION:
A plane crash at Chicago's Midway Airport injured nine people, however, no fatalities resulted.

REPORTS AND PUBLICATIONS:

*****
M. A. Moulthrop et al., 1972
AGENT: Transportation Accident

EVENT: Boston Subway Car Collision

DATE: August 1, 1975

LOCATION: Boston, Massachusetts, USA

DESCRIPTION:
Three trains collided in a tunnel near the Charles Street Station at Boston's M.B.T.A. (the rapid transit system). Although no one was killed, approximately 140 persons were injured.

REPORTS AND PUBLICATIONS:

Quarantelli, E. L.
AGENT: Transportation Accident

EVENT: Bus Wreck

DATE: August 15, 1975

LOCATION: Tiffin, Ohio, USA

DESCRIPTION:
A chartered bus carrying a group of senior citizens overturned on State Route 67, south of Milmore, Ohio, killing one person and injuring 45.

REPORTS AND PUBLICATIONS:

Quarantelli, E. L.
AGENT:        Transportation Accident
EVENT:        Multiple Car Pile-up
DATE:         January 2, 1976
LOCATION:     Syracuse, New York, USA

DESCRIPTION:
Hazardous road conditions due to freezing rain resulted in a 52 motor vehicle pile-up. No one was killed; 55 persons were injured.

REPORTS AND PUBLICATIONS:

Quarantelli, E. L.
AGENT: Transportation Accident
EVENT: Chicago Commuter Train Crash
DATE: January 9, 1976
LOCATION: Chicago, Illinois, USA

DESCRIPTION:
While making a station stop, a parked commuter train was struck by another commuter train. An estimated 600 commuters were involved in the accident. One person was killed and 381 persons were injured.

REPORTS AND PUBLICATIONS:
Quarantelli, E. L.
AGENT: Transportation Accident

EVENT: Plane Crash in St. Thomas

DATE: April 27, 1976

LOCATION: St. Thomas, Virgin Islands, USA

DESCRIPTION:

An American Airlines 727 overshot the runway and crashed into a service station while attempting to land at the Truman Airport. The crash and resulting explosion killed 37 of the 88 passengers aboard the plane and injured 57.

REPORTS AND PUBLICATIONS:

Quarantelli, E. L.
AGENT: Transportation Accident
EVENT: Philadelphia Plane Crash
DATE: June 23, 1976
LOCATION: Philadelphia, Pennsylvania, USA
DESCRIPTION:
No fatalities resulted when an Allegheny Airlines plane skidded upon landing at the Philadelphia International Airport. All of the 99 passengers and four crew members were injured.

REPORTS AND PUBLICATIONS:

Quarantelli, E. L.
AGENT: Transportation Accident

EVENT: Birmingham Train Wreck

DATE: January 16, 1977

LOCATION: Birmingham, Alabama, USA

DESCRIPTION:
No fatalities resulted from the derailment of a passenger train in Birmingham. As a precautionary measure, 149 people were sent to hospitals, however, only two were hospitalized.

REPORTS AND PUBLICATIONS:

Quarantelli, E. L.
AGENT: Transportation Accident

EVENT: Chicago Train Crash

DATE: February 4, 1977

LOCATION: Chicago, Illinois, USA

DESCRIPTION:
Eleven people were killed and 183 were injured when a Chicago Transit Authority train struck the rear of another train, causing four cars to fall from the elevated rail structure. Property damage was estimated at $1.2 million.

REPORTS AND PUBLICATIONS:
Quarantelli, E. L.
AGENT: Transportation Accident
EVENT: Atlanta Plane Crash
DATE: April 4, 1977
LOCATION: Atlanta, Georgia, USA

DESCRIPTION:

A Southern Airlines DC-9 exploded and killed 70 people when the pilot attempted to make an emergency landing on Highway 92. The explosion occurred when the plane hit a car and gas pumps. The eight passengers in the car were killed. Severe burns caused the hospitalization of 23 people.

REPORTS AND PUBLICATIONS:

Quarantelli, E. L.
AGENT: Transportation Accident

EVENT: Plane Crash

DATE: November 28, 1979

LOCATION: Antarctica

DESCRIPTION:
A DC-10 plane from New Zealand taking tourists on a trip over the Ross Sea area in the Antarctica crashed and killed 237 passengers and 20 crew members. A major effort was made to recover and bring back all the bodies to New Zealand.

REPORTS AND PUBLICATIONS:

Taylor, A. J. W. and A. G. Frazer
1981 Psychological Sequelae of Operation Overdue Following the DC-10 Aircrash in Antarctica. Wellington, New Zealand: Department of Psychology, Victoria University of Wellington. 72 pp.
AGENT: Tsunami
EVENT: Hawaii Tsunami
DATE: May 23, 1960
LOCATION: Hilo, Hawaii, USA

DESCRIPTION:
Tsunami from a Chilean earthquake spread through the Pacific Ocean affecting western United States coasts, as well as Japanese and Hawaiian islands. In Hilo, Hawaii, 61 people were killed and 300 others were injured. Property damage was estimated at $20 million with over 500 homes and businesses destroyed. Parts of Hawaii were officially declared disaster areas and received $972,508 in federal funding.

REPORTS AND PUBLICATIONS:

Bonk, W. J., R. Lachman, and M. Tatsuoka

Lachman, R., M. Tatsuoka, and W. J. Bonk
AGENT: Tsunami

EVENT: Crescent City Tsunami

DATE: March 27, 1964

LOCATION: Crescent City, California, USA

DESCRIPTION:

In Crescent City, 29 city blocks were affected by a tsunami that killed 11 persons and injured 24. Damage to business and harbor areas of the town was extensive, however, injuries and casualties were minimal because the wave struck after business hours. The state of California received $1.25 million in federal funding following official declaration of disaster.

REPORTS AND PUBLICATIONS:

Yutzy, Daniel
1964 Aesop 1964, Contingencies Affecting the Issuing of Public Disaster Warnings at Crescent City, California. Research Note #4. Columbus, Ohio: The Disaster Research Center, The Ohio State University. 8 pp.

Anderson, William A.

Anderson, William A.
1969 Disaster warning and communication processes in two communities. The Journal of Communication 19: 92-104

Anderson, William A.
AGENT: Tsunami
EVENT: Tsunami Threat
DATE: February 3, 1965
LOCATION: Crescent City, California, USA
DESCRIPTION:
Crescent City was threatened by a tsunami, forcing the evacuation of 1500 people. No casualties or damage occurred as a result of the threat.

REPORTS AND PUBLICATIONS:
Anderson, William A.

Anderson, William A.
1965 Seismic sea wave warning in Crescent City, California and Hilo, Hawaii. Research Report #13. Columbus, Ohio: The Disaster Research Center, The Ohio State University. 27 pp.

Anderson, William A.

Anderson, William A.
AGENT: Tsunami

EVENT: Sitka Tsunami

DATE: July 30, 1972

LOCATION: Sitka, Alaska, USA

DESCRIPTION:
No deaths or injuries resulted from the Sitka tsunami. The duration of the tremors were short but severe, with $9,000 estimated property damages.

REPORTS AND PUBLICATIONS:

Haas, J. Eugene and Patricia B. Trainer
K-VOLCANIC ERUPTION
AGENT: Volcanic Eruption

EVENT: Mt. Lamington Eruption

DATE: January 21, 1951

LOCATION: Mt. Lamington, New Guinea

DESCRIPTION:
A volcanic eruption killed about 4,000 and forced another 5,000 to evacuate.

REPORTS AND PUBLICATIONS:

Belshaw, C. S.

Keesing, F. M.
AGENT: Volcanic Eruption  
EVENT: Kapoho Volcano  
DATE: January 13 - February 7, 1960  
LOCATION: Kapoho, Hawaii, USA  
DESCRIPTION: The volcanic eruption in Kapoho completely destroyed the village, however, the 250 inhabitants had evacuated before the lava engulfed the village and did several million dollars in damages.  
REPORTS AND PUBLICATIONS:  
Lachman, Roy and William J. Bonk  
Lachman, Roy and William J. Bonk  
1960 Research on behavior and beliefs during the current volcanic eruption, evacuation, and destruction of Kapoho, Hawaii. Unpublished manuscript.
AGENT: Volcanic Eruption
EVENT: Tristan da Cunha Volcano
DATE: October 8, 1961
LOCATION: Tristan da Cunha, South Atlantic
DESCRIPTION:
Lava flooded into the village of Tristan da Cunha, a British island, and forced 260 islanders to evacuate. Only one home was damaged; however, fields were buried and the fishing industry, one factory, and two docks were destroyed.

REPORTS AND PUBLICATIONS:

AGENT: Volcanic Eruption
EVENT: Taal Volcano
DATE: September 28, 1965
LOCATION: Tagaytay, Batangas, Philippines
DESCRIPTION:
The eruption caused 50 million meters of rocks, mud and ashes to bury and destroy several communities in Tagaytay. Many people were injured and 200-300 people were killed. Approximately 1,300 families were left homeless.

REPORTS AND PUBLICATIONS:
Carroll, John J. and Salvador A. Parco
AGENT: Volcanic Eruption
EVENT: Mt. Usu Eruption
DATE: August 1977
LOCATION: Hokkaido, Japan

DESCRIPTION:
In early August 1977 Mt. Usu erupted threatening small towns around it and damaged farms, orchards, and pastures on the southern and eastern sides of the mountains. While there were no casualties, thousands were evacuated, some for about a month.

REPORTS AND PUBLICATIONS:

Hirose, Hirotada

Hirose, Hirotada

Hirose, Hirotada
AGENT: Volcanic Eruption
EVENT: Mt. St. Helens Eruption
DATE: May 18, lesser eruptions May 25, June 12, 1980
LOCATION: Southwest Washington, USA
DESCRIPTION:
In the first eruption, 34 were killed (plus 26 missing). Timber and summer homes were destroyed in a 150 square mile area north of the mountain. Subsequent flooding of the Cowztz River resulting from volcanic ash destroyed major highways, bridges, and homes. The volcanic ash cloud covered much of eastern Washington and Idaho. The total losses in the state from all the eruptions approximated $860 million. There was a federal declaration of disaster.

REPORTS AND PUBLICATIONS:
Sorensen, John H.

Kartez, J. D. and W. J. Kelly

Pennebaker, James W. and Darren Newtson

Dillman, D. A., M. L. Schwalbe, and J. Short

Greene, Marjorie, Ronald W. Perry, and Michael Lindell

Perry, Ronald W., Marjorie Greene, and Michael Lindell

Murphy, Shirley A.
Drabek, Thomas E. et al.

Warrick, Richard A. et al.

Leik, Robert A., Sheila A. Leik, Knut Ekker, and Gregory A. Gifford
L-MISCELLANEOUS AND MIXED
AGENT: Miscellaneous and Mixed

EVENT: Tube Shelter Disaster

DATE: March 3, 1943

LOCATION: London, England

DESCRIPTION:
During an airraid alert, a large number of people began to arrive at a tube shelter and entered by a flight of stairs. A woman in the front line stumbled and fell; others began to fall. Within seconds, the pile of bodies was three to four feet high. 161 people were killed instantly; 12 more died in a hospital as a result of asphyxia.

REPORTS AND PUBLICATIONS:

Simpson, Keith
1943 Mass asphyxia—medical aspects of the tube shelter disaster.
AGENT: Miscellaneous and Mixed

EVENT: Ship Fire, Flash Flood, 2 Apartment House Fires

DATE: 1949-1950

LOCATION: Canada

DESCRIPTION: No details about the events are available.

REPORTS AND PUBLICATIONS:

Tyhurst, J. S.

Tyhurst, J. S.
AGENT: Miscellaneous and Mixed
EVENT: Porch Collapse
DATE: June 17, 1951
LOCATION: Chicago, Illinois, USA

DESCRIPTION:
During a religious ceremony party, a porch on a second floor on which many people were partying gave way killing one person and injuring nine.

REPORTS AND PUBLICATIONS:

AGENT: Miscellaneous and Mixed

EVENT: Rabies Outbreak

DATE: March, 1952

LOCATION: Eastern Pennsylvania, USA

DESCRIPTION:

In Pennsylvania, one person died as a result of a rabies bite. Several children were also bitten, but none died. Much concern spread about the threat.

REPORTS AND PUBLICATIONS:

Diggory, James C.
1956 Some consequences of proximity to a disease threat.
Sociometry 19: 47-53.
AGENT: Miscellaneous and Mixed

EVENT: Bleacher Collapse

DATE: March 6, 1952

LOCATION: Baltimore, Maryland, USA

DESCRIPTION: Five to ten people were injured when a section of bleachers collapsed at the National Guard Armory during an Ice Show. No fatalities resulted.

REPORTS AND PUBLICATIONS:

AGENT: Miscellaneous and Mixed

EVENT: Typhoid Epidemic Threat

DATE: August, 1955

LOCATION: Winsted, Connecticut, USA

DESCRIPTION:
In Winsted, the threat of a typhoid epidemic was reported to have resulted from the overflow of the Mad River.

REPORTS AND PUBLICATIONS:

Rayner, Jeannette F.

Rosenstock, I. M.
AGENT: Miscellaneous and Mixed

EVENT: Springhill Mine Cave-In

DATE: October 23, 1958

LOCATION: Springhill, Nova Scotia, Canada

DESCRIPTION:
As a result of an underground earth shift, 75 miners were killed. Eighty-one persons were rescued within 24 hours and 19 were later recovered.

REPORTS AND PUBLICATIONS:

Beach, H. D. and Rex A. Lucas

Lucas, R. A. and H. D. Beach

Lucas, R. A.

Lucas, R. A.

Lucas, R. A.
AGENT: Miscellaneous and Mixed

EVENT: Food Poisoning Incident

DATE: August 1959

LOCATION: Gabriel (pseudonym), USA

DESCRIPTION:

While none died, 1,100 people were effected by food poisoning.

REPORTS AND PUBLICATIONS:

AGENT: Miscellaneous and Mixed

EVENT: Avalanche

DATE: January 11, 1962

LOCATION: Ranrahira, Peru

DESCRIPTION: An avalanche destroyed a town and killed about 2,000 people.

REPORTS AND PUBLICATIONS:

Bradfield, Stillman
AGENT: Miscellaneous and Mixed

EVENT: Coal Slurry Avalanche

DATE: October 21, 1966

LOCATION: Aberfan/Merthyr Vale, Wales

DESCRIPTION:
An avalanche of coal slurry killed a total of 144 people and engulfed the village primary school, where it killed 116 children.

REPORTS AND PUBLICATIONS:

Miller, Joan

Jones, Erastus

Williams, R. M. and C. Murray Parkes
AGENT: Miscellaneous and Mixed

EVENT: Erosion Threat

DATE: March 18, 1973

LOCATION: Essex County, Ontario, Canada

DESCRIPTION: Essex County was threatened by lake shore erosion. There were no casualties or property losses reported.

REPORTS AND PUBLICATIONS:

Kueneman, Rodney and J. Rick Ponting
Columbus, Ohio: The Disaster Research Center, The Ohio State University. 17 pp.
AGENT: Miscellaneous and Mixed

EVENT: Erosion Threat

DATE: March 19, 1973

LOCATION: Toronto Area, Ontario, Canada

DESCRIPTION:

The Toronto area was threatened by lake shore erosion. There were no casualties or property losses reported.

REPORTS AND PUBLICATIONS:

Kueneman, Rodney and J. Rick Ponting
AGENT: Miscellaneous and Mixed

EVENT: Landslide

DATE: November 30, 1977

LOCATION: Tuve, Gothenburg, Sweden

DESCRIPTION:
A landslide in a suburb of Gothenburg totally destroyed 65 houses, and at least 600 individuals living in approximately 200 houses were affected. Nine persons were killed and an additional 17 houses had to be permanently evacuated besides those destroyed.

REPORTS AND PUBLICATIONS:

Lundgran, Claes

Bjorklund, Birgitta

Hultaker, Orjan

Syren, Sverker