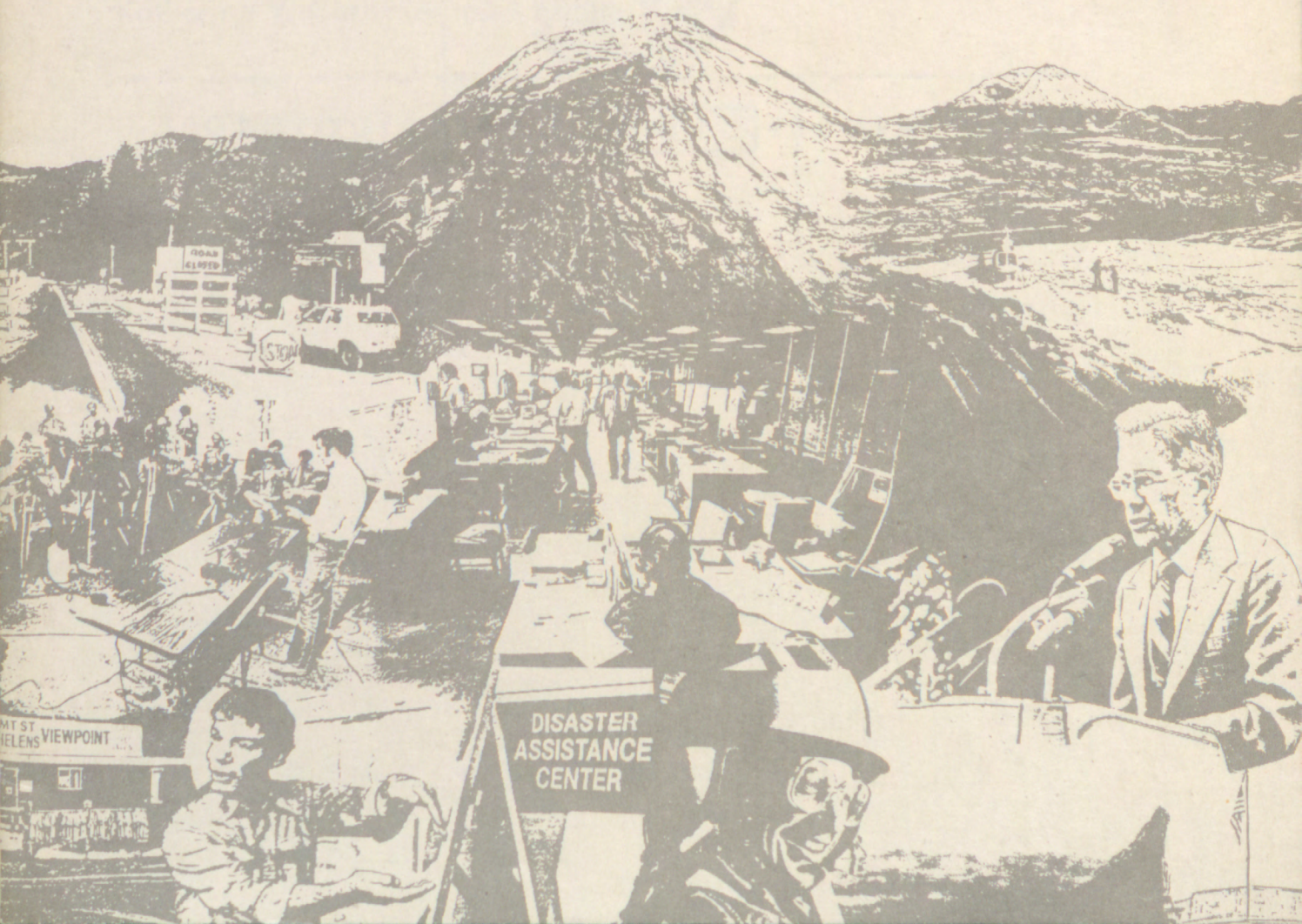


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Between Mount St. Helens and the World:

How the U.S. Geological Survey Provided News-Media Information on the 1980 Volcanic Eruptions

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By Peter D. Rowley, M. H. Hait, Jr., Donald R. Finley,
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ABSTRACT

The eruptions of Mount St. Helens volcano, Wash., constituted one of the major national and international news stories of 1980 and involved the U.S. Geological Survey in more news coverage than any other event in its history. Much of the information about the volcano came from monitoring and research by geologists, geophysicists, hydrologists, and other scientists of the U.S. Geological Survey. This scientific information was distributed to the public, through news media, by U.S. Geological Survey personnel. Key members of this group were Mount St. Helens hazards assessment scientists, monitoring scientists, and research scientists; public affairs officers; and the Information Scientist for Mount St. Helens. The Information Scientist, a geologist or geophysicist, assumed the major role of on-site (Vancouver, Wash.) news spokesman about a week after the main eruption of May 18. The Geological Survey released information through news conferences, interviews, news pools of reporters and cameramen on trips to the volcano, special television and radio appearances, news releases, and informal contacts with reporters. Members of the U.S. Forest Service, Federal Emergency Management Agency, State of Washington, and other government agencies cooperated extensively with the Geological Survey. By providing assistance to news representatives, the Geological Survey and these other agencies helped effect rapid dissemination of the background information and daily events of a highly complex story while limiting disruption to the scientific working team and minimizing dangers to reporters and scientists.

INTRODUCTION

Mount St. Helens captured immediate widespread public attention when, in March of 1980, it awakened after 123 years of dormancy. Not since the 1914 to 1917 eruptions of Lassen Peak in northern California had a volcano erupted in the conterminous United States. Unlike Lassen Peak, however, Mount St. Helens is located near major cities, such as Portland, Oreg., and Vancouver, Tacoma, and Seattle, Wash., so the eruptions had a large and keenly concerned local audience.

With the start of seismic activity in late March 1980, scientists began to arrive in Vancouver, Wash., where the scientific and emergency effort was coordinated. Most of these scientists were from the U.S. Geological Survey, which, under the Disaster Relief Act of 1974, is required to analyze geologic hazards and " * * to provide technical assistance to insure that timely and effective warning is provided." The Geological Survey immediately started a major effort of hazards assessment, monitoring, and research on the volcano (Miller and others, 1981). The primary role of the Geological Survey was to assess the current state of the volcano and to evaluate the nature of potential future eruptions to help save lives and prevent injuries. A Coordinator was responsible for the geologic program of monitoring and research on the mountain. At various times, the Coordinator was R. L. Christiansen, D. R. Crandell, D. R. Mullineaux, and D. W. Peterson (fig. 1); Peterson later became the permanent Scientist-in-Charge, taking over the duties of Coordinator. A Volcanic Hazards Assessment Coordinator analyzed potential hazards and notified government agencies, Geological Survey news spokesmen, and other key officials of impending dangers (Miller and others, 1981). The Volcanic Hazards Assessment Coordinators included D. R. Mullineaux, D. R. Crandell, C. D. Miller, and C. G. Newhall; Newhall in time became the permanent Volcanic Hazards Assessment Coordinator.

In the research on Mount St. Helens, geologists relied on expertise accumulated during earlier Geological Survey volcanological and volcanic hazards research on many of the volcanoes in the Cascade Range. This research included studies of Mount St. Helens itself, which had been recognized as the most active and ex-



Figure 1.—Donald W. Peterson, first Scientist-in-Charge of the David A. Johnston Cascades Volcano Observatory, Geological Survey, Vancouver, Wash., during dedication ceremonies of this new facility on May 18, 1982. Photograph by Lyn Topinka.

plosive volcano in the conterminous United States in the last several thousand years (Crandell and others, 1975). Two of the reports of this early research on Mount St. Helens (Crandell and others, 1975; Crandell and Mullineaux, 1978), in fact, predicted that Mount St. Helens would “* * * erupt again, perhaps before the end of the century.” When these two reports were published, Geological Survey public affairs officers F. H. Forrester and D. B. Kelly issued news releases about them, and the Director of the Geological Survey issued a Notice of Potential Hazards in 1978, all of which helped raise public awareness of Mount St. Helens’ potential danger.

In the same way that pre-1980 research on Mount St. Helens considerably helped scientists know what to expect in 1980, so will basic and applied research on the volcano since then provide even more information on future behavior of this volcano and others. Not surprisingly, Mount St. Helens has become the world’s most studied explosive volcano. These studies by scientists of the Geological Survey and many other organizations have and will result in published reports that no doubt will help save lives in future eruptions. Reports that have already been released include those by Lipman and Mullineaux (1981) and Foxworthy and Hill (1982).

As part of its overall responsibility, the Geological Survey needed to translate the scientific information on the volcano into language that could be understood by news reporters and a public that was generally unfamiliar with volcanoes. This translation was done principally by Geological Survey scientists and public affairs officers who met with reporters during news conferences, interviews, trips to the volcano with groups of reporters and cameramen, special television and radio appearances, and informal contacts, and through news releases issued by the Survey’s Public Affairs Office. Starting in late May of 1980, within a week after the disastrous eruption of May 18, full-time Information Scientists, who were all geologists or geophysicists with the Geological Survey, were assigned the main role of spokesmen in Vancouver for information about volcanic and scientific activity at Mount St. Helens. Throughout the period of seismic and eruptive activity, the Geological Survey received considerable cooperation and assistance from the U.S. Forest Service, Federal Emergency Management Agency (FEMA), the State of Washington, and other government agencies. These agencies concentrated especially on disseminating large amounts of information on nongeological topics.

This report describes the Geological Survey’s involvement with the news story of Mount St. Helens, written from the point of view of a small, enthusiastic, generally overworked group that was privileged to help describe and interpret this impressive event. Special emphasis is given in this report to the role of Information Scientist for Mount St. Helens, a position that was established to help satisfy the large number of requests for technical information about the volcano; this was the first time that the Geological Survey has used a scientist as a full-time news spokesman on a long-term basis.

ACKNOWLEDGMENTS

We gratefully acknowledge the logistic support, direction, and assistance by many employees of FEMA and of the Gifford Pinchot National Forest (U.S. Forest Service), the two main agencies that assisted the Geological Survey in meeting the requests for geologic information. Special thanks go to Robert Stevens, P. S. Cogan, Joyce Routson, Kenneth Kohl, Joseph Sears, and Walter Conner of FEMA, and to J. L. Unterwegner, P. R. Stencamp, G. J. Theisen, Charlotte Martin, Barbara Johnson, Jerry Brown, Charles Caughlin, and the staff of the Emergency Coordination Center of the Forest Service. Members of other agencies, including those of the State of Washington, also generously supplied assistance. D. R. Nichols, R. I. Tilling, R. L. Wesson, J. F. Devine, D. B. Kelly, D. R. Finley, and E. G. King of the

Geological Survey saw the need for and helped the Scientist-in-Charge and the Volcanic Hazards Assessment Coordinator select the individuals rotating on the job of Information Scientist. M. R. Hill (also of San Francisco State University) helped in disseminating news in Vancouver during May and June. R. P. Noble, M. J. Reed, R. R. Mallis, K. J. Murata, and other workers made major contributions as Information Scientists. Even after the job of Information Scientist was created, news was disseminated also by scientists and Public Affairs Officers in Vancouver, Wash., Reston, Va., Denver, Colo., and Menlo Park, Calif.; these people and others worked long hours, especially during the hectic days just after the eruptions of March 27 and May 18. We are deeply grateful to the Geological Survey team in Vancouver and in Seattle and to the seismologists of the University of Washington for their constant support and their continual stream of data about volcanic activity; without the help of members of these groups, we would have had little news to report. We especially thank D. R. Mullineaux, R. L. Christiansen, D. W. Peterson, D. R. Crandell, D. R. Nichols, F. H. Forrester, C. D. Miller, R. W. Decker, E. T. Endo, S. D. Malone, C. S. Weaver, Christina Boyko, J. C. Stephens, W. T. Kinoshita, J. F. Devine, C. F. Shearer, W. A. Duffield, J. D. Unger, C. M. Nelson, M. P. Doukas, J. G. Rosenbaum, C. G. Newhall, K. A. McGee, Larry Hubbard, Betty Patterson, Diana Mullineaux, Bobbie Myers, and A. M. Kaplan. Anita Rivenburgh, Cella Ferguson, and Brenda Hait provided calm secretarial assistance at Vancouver during periods of frenzied activity. Dee Molenaar and Gerhard Wörner created drawings and paintings during May and early June that helped news representatives visualize the volcanic activity. We are grateful to W. R. Hansen, C. D. Miller, C. A. Wallace, D. R. Nichols, D. W. Peterson, D. R. Mullineaux, M. A. McCall, and J. A. Troll for assistance with this report.

HISTORY OF GEOLOGICAL SURVEY NEWS SERVICES AT MOUNT ST. HELENS

The Mount St. Helens news story began with a 4.2-magnitude earthquake under the mountain on March 20, 1980. As part of a routine Geological Survey program of reporting significant earthquakes worldwide, public affairs officer D. R. Finley (Denver), telephoned a news story of the earthquake to United Press International and Associated Press less than 2 hours after the event. Direct Geological Survey involvement began on March 21 with a telephone request for information from a member of the Forest Service and continued with numerous telephone conferences in the

following days between employees of the Geological Survey and several agencies. Public interest increased rapidly as earthquake activity continued and as scientists predicted volcanic eruptions. National news releases on the continuing activity were issued by the Public Affairs Office in Reston (written by D. B. Kelly and E. G. King on March 24 and March 25, respectively) in response to many information requests from news representatives to the Geological Survey's Public Affairs Offices in Reston, Va., Denver, Colo., and Menlo Park, Calif.

Geologist D. R. Mullineaux of the Geological Survey arrived at Vancouver on March 25 to provide technical assistance on Mount St. Helens to the Forest Service, State and local agencies, and the private sector. Other geologists, geophysicists, hydrologists, and other scientists of the Geological Survey began to arrive the next day to study the volcano (fig. 2). Many of the



Figure 2.—View of Coldwater 1 observation post on April 11, 1980. The northeastern side of Mount St. Helens, 12 km away, is dimly visible in the background. Compare this picture to figure 5, which shows the extent of damage after the eruption on May 23, 1980. Photograph by C. D. Miller.

arriving scientists came from the Geological Survey's Hawaiian Volcano Observatory, where they had gained experience with erupting volcanoes. Facilities and logistics for news distribution were initially provided by the U.S. Forest Service office in Vancouver, which administers Federal land on and around Mount St. Helens. Information about the volcano was released first at Vancouver through a Public Information Office at the Forest Service, which shortly thereafter operated 24 hours a day. The Forest Service has a well-established on-site system for responding to news coverage of emergencies. The Geological Survey Public Affairs Office, how-

ever, had no formal procedure for dealing with natural emergencies. It had only five staff members nationwide at that time, so it had to adjust quickly to the events at Mount St. Helens.

Mullineaux, in addition to other duties, became the chief spokesman for the Geological Survey at most of the first news conferences, all of which were coordinated by the Forest Service. With the first small steam eruption on March 27, public and news interest increased. Public Affairs Officer E. G. King arrived in Vancouver on March 28 to assist the Geological Survey scientific team with its contacts with news media. She coordinated the many demands for interviews and ensured Geological Survey representation at news conferences and other news activities. King, who was succeeded by Finley, returned to her duties in Menlo Park on April 1.

News conferences in Vancouver were first held in the Gifford Pinchot National Forest headquarters building. Spokesmen from the Forest Service, State of Washington, local agencies, public utilities, and other organizations gave out general information and answered questions on local matters at news conferences. Because attention was largely centered on when the volcano was likely to erupt and on assessments of potential volcanic hazards, Mullineaux, and later D. R. Crandell, R. L. Christiansen, and other Geological Survey scientists were often the main focus of interest. King and Finley, who served as the liaison between scientists at Mount St. Helens and those at regional headquarters of the Geological Survey, tried to ensure a flow of background information materials, including news releases, to support the overall effort.

By late March and early April, public interest about the volcano had increased to the point where the Public Affairs Offices of the Geological Survey and Forest Service were flooded by work. Requests to interview scientists were especially common, but not all requests could be granted because of their great number and because of the necessity for scientific studies. By early April, Finley and King had suggested that release of geologic information about the volcano needed to be streamlined and that a full-time geologic spokesman was needed. This proposal had the disadvantage of calling on technical people who had little experience dealing with news representatives and who were more authoritative in scientific research than in news dissemination. Technical expertise and credibility, however, were decided to be more important than any difficulty a scientist might experience in facing the news media.

Meanwhile, by this late March-early April period, hazards assessments resulting from the intensified

geological and geophysical research suggested future eruptions, and on March 26 (and later dates) the Geological Survey issued statements and news releases about the potential danger of eruptions (Miller and others, 1981). In late March, an outward bulging of the northern flank of the volcano was identified (fig. 3), and the Geological Survey suggested that bulging and attendant fracturing could signal added dangers, particularly if they continued. In response to all these statements, the Forest Service and State and local authorities evacuated most people near the mountain and re-



Figure 3.—View of the northern side of Mount St. Helens on May 4, 1980, showing the extreme fracturing of the bedrock due to the bulging of the flank. Photograph by C. D. Miller.

stricted travel in areas near the mountain, and officials of Pacific Power and Light Company lowered the water level of nearby Swift Reservoir to minimize the danger of flooding (Miller and others, 1981). However, it must be realized that scientific data can be interpreted in different ways; many scientists doubted that the early eruptive activity was a prelude to serious dangers. There was considerable public pressure to reopen the Spirit Lake recreation area and to relax other restrictions to access around Mount St. Helens. Despite the potential seriousness of the volcanic hazards, an influx of tourists fostered a holiday atmosphere during the month-long period prior to May 18. Some sightseers skirted roadblocks (fig. 4) to get on the mountain. Volcano souvenirs, such as humorous T-shirts, ash trays, and banners became popular sale items. The hazards assessments of the Geological Survey were to be proved largely correct by the events of the May 18 eruption, and the fact that the local authorities took the assessments seriously and took the precautions they did was a major factor in saving thousands of lives (Decker, 1981; Miller and others, 1981).

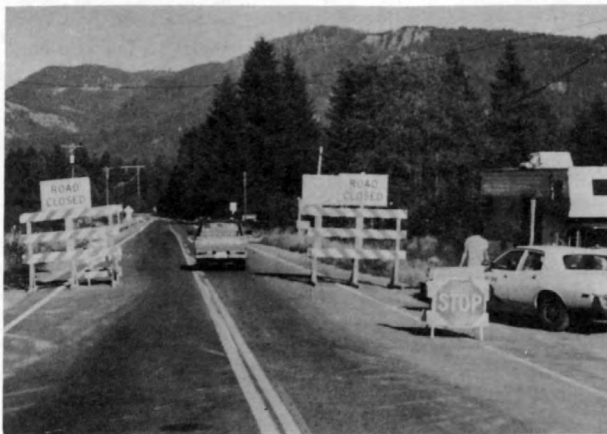


Figure 4.—Roadblock southwest of Cougar, Wash., September 1980, similar to roadblocks prior to May 18. Roadblocks along main highways such as this were regularly manned by a highway patrolman (car and camper on right). Photograph by Tau Rho Alpha.

Volcanic eruptions were few during middle to late April, hence the proposal to have a full-time scientist as spokesman was shelved as pressure for news subsided. After Finley returned to Denver on April 17, various Geological Survey scientists and Forest Service public information officials in Vancouver dealt with news requests until May 21, a full 3 days after the main blast. During this period leading up to the main eruption, small eruptions and strong seismic activity continued, and the volcanic crater increased in size. Much of the geologic research and public attention, however, was increasingly focused on the ominous bulging of the northern flank (fig. 3).

The cataclysmic May 18 eruption occurred at 8:32 a.m., when the bulging northern flank finally failed. An area of more than 210 square miles was devastated (fig. 5), and more than 60 persons died or are missing and presumed dead. The tragedy was made more personal for us by the loss of one of the Survey's own members, geologist David A. Johnston. No longer was Mount St. Helens only of local interest, nor was its story merely a scientific curiosity. Rescuing survivors, enforcing access restrictions, preventing panic, and supplying information to the public remained large tasks for government agencies at all levels (Foxworthy and Hill, 1982). Public requests for hazards information greatly increased, and news about the eruption was featured on national radio and television news programs and moved back onto the front pages of newspapers and magazines. Much of this information was focused on damage, floods, loss of life, and rescue and recovery operations, rather than on Geological Survey activities.



Figure 5.—View of Coldwater I observation post on May 23, 1980, after the catastrophic eruption. Note the gaping amphitheater of Mount St. Helens in the background. Most of the visible area has been devastated. The roof of an automobile, in which photographer Reid Blackburn died, protrudes through new directed-blast and air-fall deposits. Photograph by C. D. Miller.

Nonetheless, there was a great need for factual scientific data about the volcano in order to quell confusion, apprehension, fear, and even panic, and to counteract false rumors.

Finley returned to Vancouver on May 18, and he and other members of the Geological Survey and Forest Service continued their efforts to disseminate news, but they again received more requests from media representatives for interviews with scientists than they could accommodate. The need for a geologist as an Information Scientist was certain. The first Information Scientist for Mount St. Helens was geologist M. H. "Tim" Hait, Jr. (fig. 6), who arrived on May 20. There were some misgivings about the establishment of this new position by some news representatives because of their concern that media representatives would no longer have access to the scientists with whom they had become familiar. These misgivings were dispelled because these scientists remained available for interviews, and Hait himself soon established a good rapport with reporters.

After the catastrophic eruption of May 18, President Carter declared the Mount St. Helens region a disaster area. This made Federal aid available through FEMA, under the Region 12 Director, Robert Stevens. On May 23, the Disaster Information Center of FEMA sent specialists in communications and journalism to Vancouver (Cogan and Lodato, 1981). These FEMA information personnel, who soon numbered more than a dozen, were under the local direction of Phil Cogan, FEMA Region 10 Public Affairs Officer. They coordinated and facilitated efforts by the Geological Survey and other



Figure 6.—Geologist M. H. "Tim" Hait, Jr., making a point as Information Scientist at a news conference in late May 1980, at the information center, Vancouver, Wash. Photograph by Walter Conner, FEMA.

agencies to get information to news organizations and to the public. They also set up a central information center into which information personnel of the Geological Survey and other agencies involved at Mount St. Helens moved. This resulted in a greater sense of teamwork. Information officers of FEMA and other agencies handled most routine calls about the volcano from news representatives, whereas the Information Scientist and public affairs officers handled requests for detailed scientific information about the volcano; detailed in-depth interviews with scientists also were provided as time permitted.

The FEMA information center occupied part of a long, unfinished room (fig. 7) on the third floor of a bank building in Vancouver, Wash. Here the Information Scientist, the Public Affairs Officer, other Geological Survey personnel, and a secretary worked alongside several FEMA secretaries, 10 or more FEMA information officers, and employees from the Forest Service, Army Corps of Engineers, Small Business Administration, State of Washington, and other agencies. Kenneth Kohl of FEMA administered recording and transmitting equipment used to make daily news reports that radio stations could pick up over the telephone. FEMA teletype machines, computerized word processors, and a photographic department filled other parts of the room. A nearby bullpen contained chairs, telephones, and a conference table for reporters.

Further major explosive eruptions of Mount St. Helens took place on May 25, June 12, July 22, August 7, and October 16–18, 1980. These eruptions generally were progressively smaller, and the intervals between



Figure 7.—A slack period during June 1980 in the unfinished office area of the information center, where workers from various agencies answered telephones and met with representatives of news media. View looks over the head of Phillip S. Cogan down the two rows of desks, usually occupied by workers. The Geological Survey Information Scientist had a desk at the far left end of the room. FEMA Region 12 Director Robert Stevens walks up the aisle toward Cogan. Photograph by Walter Conner, FEMA.

them generally were progressively longer. The major effort to disseminate information continued 24 hours a day until the middle of the summer, when public interest began to wane. By the fall only one FEMA information officer and the Geological Survey Information Scientist remained, and they moved into small offices in a mobile-home trailer near the Gifford Pinchot National Forest building in Vancouver. By the end of December 1980, the volcanic activity at Mount St. Helens had changed from explosive eruptions to the relatively quiet building of a volcanic dome. The need for assistance from FEMA to cope with disaster conditions became much less, so FEMA turned over operation of the information center to the Forest Service. Since 1980, the Information Scientist has continued to work with a Forest Service public information officer to supply information on current volcano monitoring and area restrictions and has continued to provide news interviews and to give talks to local public and technical groups.

THE JOB OF INFORMATION SCIENTIST

The duty of the Information Scientist is to present information to the public, through news representatives and by other means, in a timely way and in understandable language. He or she is the prime Geological Survey news-media contact in Vancouver, thereby leaving the research scientists free to pursue their work. The Information Scientist works in cooperation with the Pub-

lic Affairs Office and under the direction of the Scientist-in-Charge.

Most of the research scientists who served as Information Scientists would have preferred the simple hazards of field work to the awesome battery of microphones, cameras, and poised pencils each day. Nonetheless, all soon developed a common philosophy for the job: a desire to inform and teach the public about geology in general, and about Mount St. Helens in particular. Public education included evaluating present and past research data about Mount St. Helens and other explosive-type volcanoes, and presenting these evaluations in terms that would be meaningful to news representatives and the public. The Information Scientist had to remember that the public was unlikely to understand strange new words and complicated concepts that lacked easy explanations, and that reporters and their editors faced tight deadlines and had to report information in a much different way from scientists. Answers to questions by reporters generally required qualification—something the non-scientist often found frustrating and difficult to understand. The Information Scientists tried to confine their presentations to carefully checked facts or reasonable scientific interpretations; they avoided preaching, suggesting policy, or proposing restrictions or controls on public access to the mountain.

Before and after a full-time Information Scientist was assigned, many geologists (for example, D. R. Mullineaux, D. R. Crandell, R. L. Christiansen, D. W. Peterson, C. D. Miller, R. P. Hoblitt, and J. G. Rosenbaum) and Public Affairs Officers (for example, E. G. King on March 27–April 2; D. R. Finley on April 1–17, May 18–June 3, and other times) handled news spokesman duties in Vancouver on a part time or rotating schedule. M. R. Hill, a geologist and former Public Affairs Officer in Menlo Park, was called back to duty in Vancouver for a time during May to help with news requests. M. H. Hait, Jr. served as Information Scientist from May 21 to June 10, June 19 to August 5, and August 8 to 11. He was succeeded in 1980 by P. D. Rowley (June 9 to 22, August 7), J. M. Buchanan-Banks (August 8 to September 6), R. P. Noble (September 6 to September 14, September 23 to 30), M. J. Reed (September 15 to 22, October 1 to 15), S. L. Russell-Robinson (October 15 to December 1), R. R. Mallis (December 1–13), and K. J. Murata (December 13 to 31). Since 1980, K. J. Murata, R. R. Mallis, S. L. Russell-Robinson, S. R. Brantley, and especially K. V. Cashman (fig. 8) have rotated the duties of the job.

The daily schedule of the Information Scientist began early. First the Information Scientist checked the seismograms, tiltmeter charts, and other data recorded



Figure 8.—Geologist Katherine V. Cashman en route by helicopter to Mount St. Helens during her tour as Information Scientist in 1981 and 1982. Photograph by T. J. Casadevall.

on strip charts in Vancouver from instruments deployed on or near Mount St. Helens so as to review events of the previous night. Then a telephone call was made to obtain the latest information on earthquake activity from the seismological laboratory of the University of Washington in Seattle, where University of Washington and Geological Survey seismologists monitored and analyzed incoming data from a broad seismic net throughout the day and night. Most information, however, came from the geologists, geophysicists, and hydrologists working at the volcano. Because these scientists were usually in the field during the day, they had to be contacted individually at night or early morning or in group review sessions; during most of 1980, these sessions were held two to three times a week to summarize data that had come to light since the last meeting.

Participating in news conferences (fig. 9) organized by FEMA was one of the principal jobs of the Information Scientist. During late May and most of June, news conferences were scheduled at 9:00 a.m. every day. During times of eruption or other noteworthy events, additional news conferences were held as needed—as many as one every 3 hours. As volcanic activity and citizen interest waned, first the Sunday news conference and then the one on Saturday were cancelled; by late summer 1980, regular news conferences were held only on Fridays. A typical news conference lasted about an hour, and the events since the previous conference were summarized by spokesmen for the Forest Service, FEMA, State of Washington, and other organizations, as well as by the Geological Survey Information Scientist.

Part of the information given by the Information Scientist came from the daily update, which was a one



Figure 9.—Typical news conference in late May 1980 at the information center, Vancouver, Wash., in which Information Scientist M. H. Hait, Jr. is answering questions. Photograph by Walter Conner, FEMA.

or two paragraph summary of volcanic activity prepared mostly by the Coordinator or Scientist-in-Charge each morning and reproduced for distribution at the news conference. The Information Scientist often also presented discussions about new scientific discoveries, new experiments, new equipment, or geologic concepts. Occasionally one or more of the field geologists, geophysicists, or hydrologists would describe their activities and what they had discovered. At one time or another, many of the scientists working on the volcano attended news conferences as participating or rotating Information Scientists.

Following the news conference, the Information Scientist returned to the information center for the rest of the day and, after being fortified by coffee, the evening. There the main task was to answer or return telephone calls from news representatives. The pace was usually frantic. Most telephone calls to the Information Scientist came from radio and television stations, news wire services, newspapers, and magazines. The calls from radio stations were largely for taped interviews over the telephone. Occasionally, technical questions came from concerned citizens, geologists, or professors. Requests or questions that came by letter also had to be answered. Most information requests, whether by telephone or letter, were for the latest information about the volcano, but many others were for background information, photographs, and talks to local groups. Rumors of new eruptions, resulting from noises or ash clouds emanating from the volcano, were often received by telephone and had to be investigated by the Information Scientist. During the winter of

1980–81, threats of winter and spring flooding and other hydrologic hazards captured public attention, and Area Hydrologist Larry Hubbard of the Geological Survey was detailed to assist the Information Scientist and other scientists. Routine questions and requests during the spring and summer of 1981 were handled by the information officers of FEMA, the Forest Service, or other agencies. These officers were kept up to date by short information summaries prepared by the FEMA update editor from data provided by the Information Scientist and other scientists at Vancouver and the University of Washington as well as by employees of the Forest Service and other agencies. This update was compiled as frequently as every 15 minutes.

The Information Scientist spent many evenings talking to town or county meetings, clubs, government agencies, schools, and other community organizations. It was also partly the Information Scientist's responsibility to tape radio or television question and answer shows. The Scientist-in-Charge, the Volcanic Hazards Assessment Coordinator, and many other scientists, as well as public affairs officers, also gave talks to organizations, gave interviews to news representatives, and taped radio or television interviews.

Although much of the news-media attention was focused on the Geological Survey personnel in Vancouver, similar efforts to provide information were being conducted by scientists and public affairs officers at other Geological Survey centers. In addition to answering the barrage of telephone inquiries and requests for interviews that increased during each eruption, these offices also provided other news-media services. For example, more than 40 news releases and photographic captions describing various aspects of the eruptions were issued to news media across the nation.

PROBLEMS

A difference in philosophy and training or a temporary lapse in communication between the Geological Survey spokesmen and news representatives resulted in some minor misunderstandings between the two groups. The misunderstandings led to some published misquotes and to some statements taken out of context by the news media. Most of these problems were unintentional; they resulted from editorial or printing mistakes or from misinformation given in haste by scientists or other spokesmen.

Some news stories were blown out of proportion to their importance, and public fears were heightened instead of allayed. Prior to the eruption of May 18, for example, false rumors of lava flows moving down various flanks of the mountain were occasionally reported

by so-called eyewitnesses; these rumors were dispelled by scientists. In late May and early June, minor inflation of the southern and southwestern flanks of the volcano, indicated by tiltmeter, was misinterpreted by some reporters to mean that a bulge, similar to the one on the northern flank that preceded the May 18 eruption, was forming. Also, in early June a major news story arose from the theory, advanced by a few scientists, that Earth tides trigger eruptions and from the coincidence of a high tide with Friday the 13th. No correlation was found between tides and eruptions at Mount St. Helens. A droll comment by the Information Scientist, several days before June 13, that "If the volcano erupts on June 13, it will set science back 10 years" was widely reported in the same light-hearted manner. Fortunately for science, the June 12 eruption preceded that traditional day of superstition—albeit by only a few hours.

Journalistic license created one story, amusing in retrospect, after the Information Scientist commented, at a morning news conference in late June, that "the mountain is still in a lull." Unknown to him, low-level harmonic tremor started shortly after the comment was uttered. The next day a local headline read, "Lull? Mountain rumbles as geologist speaks!"

The controversy over access to the mountain was more serious. On the one hand, the Forest Service and Washington State sought to restrict access to the volcano so as to prevent death and injury by volcanic eruptions or accidents and to minimize danger in cluttered airspace. On the other hand, reporters wanted access to the mountain to get information and news stories, and to interview scientists at work; many private citizens wanted access to their homes and places of work and to view the disaster area. Unrestricted access of all these people would have put their lives in danger, not to mention distracting scientists who worked long hours under demanding conditions. Yet some access appeared justifiable to satisfy the public's need for information. One solution was to arrange news pools, in which groups of reporters, photographers, and camera crews were escorted to the volcano by the Information Scientist or Public Affairs Officer. News-media personnel in the pools paid for the cost of such trips, and shared their notes, tapes, and films with others when they returned from the mountain. The first pool, organized by Finley, was on April 7; it consisted of a caravan of vehicles driven to the Spirit Lake and Timberline parking lot area. After the eruption of May 18 destroyed most of the roads near the volcano, pools were more difficult to arrange because helicopters were the only feasible means of access to the mountain. Access restrictions were especially severe between May 18 and the middle of June because of the poor weather and

because of uncertainty about eruption premonitors. Before as well as after May 18, the use of pools was unsatisfactory to some news media representatives because they wanted their own personnel on the mountain. Newspaper and magazine reporters had a particular dislike of using pooled information; eventually they participated in lotteries for the few seats available on helicopters.

An especially difficult problem for the Geological Survey was whether or not to report preliminary information based on sketchy field data. Spokesmen tried to verify field observations before releasing information, but bad weather or hazardous conditions commonly prevented confirmation. Consequently, errors were made, as when the probable presence of a volcanic dome was reported in late May. On a more humorous note, one Information Scientist reported during a radio interview late at night on June 12 that he smelled a sulfur dioxide odor coming from the volcano; in fact, the odor was coming from a local pulpwood mill. Several times in September and October, overinterpretation by scientists of data on volumes and emission rates of gas from the volcano led to premature speculation that the volcano might be ready to erupt again.

Delays in releasing stories also were a problem, as when information on an earthquake and aftershock sequence at Mount Hood in July was withheld while the data were being analyzed and interpreted and other government officials were being notified. During this delay, some news reporters discovered part of the story before it was officially released. Such delays, necessary or not, occasionally contributed to the reporting of "half stories"; spokesmen soon learned that "the 6-o'clock news must go on whether the Geological Survey is ready or not."

The high volume of work, especially during an eruption, led to backlogs in returning phone calls, arranging interviews, and planning news conferences. At these times, priority was given to news wire services, national television and radio networks, news magazines, and other news media designed to reach large audiences. Additional geologists also were pressed into service at such times. When an Information Scientist became exhausted by the hectic schedule—a problem that befell many other members of the Geological Survey investigation team and of other government agencies and news organizations as well—another scientist was rotated into the job. Although such rotations were necessary, they caused a lack of continuity to the job. The new Information Scientist had to establish his or her own rapport with reporters.

During the fall of 1980, as the Information Office shortened its hours of operation to a normal working

day, reporters shifted their evening inquiries to the seismological laboratory of the University of Washington in Seattle or to the Forest Service in Vancouver, both of which were staffed 24 hours a day. Both of these offices were only marginally aware of day-to-day volcanic activity and Geological Survey field activities, so at times they contradicted the information given out by the Information Scientist. To help solve this problem, both groups were provided summaries of daily events before the Information Center closed. Furthermore, better guidelines were drawn up concerning what information each group should release.

CONCLUSIONS

The news story of Mount St. Helens held high public interest throughout the Pacific Northwest, the Nation, and many parts of the world for much of 1980. For news representatives, especially in the Washington-Oregon area, the story was an unprecedented and phenomenal event. Cataclysmic and photogenic, the volcanic activity became one of the top 10 international news stories of 1980 according to polls by the Associated Press and United Press International.

Even though the Geological Survey did not have formal contingency plans for dealing with such emergencies, it responded quickly and effectively, not only in monitoring the mountain scientifically and in assessing the volcanic hazards, but also in keeping the public informed and in handling the crush of news attention and the scores of news personnel covering the story. Much of the information about the volcano was released by working geologists of the Geological Survey who were not experienced with news media. Nonetheless, the partnership of these geologists with the staff of the Geological Survey's Public Affairs Office worked smoothly and harmoniously in providing assistance and cooperation to news representatives, and most requests for information by news representatives were provided promptly.

One result of the public's fascination with Mount St. Helens was that the Geological Survey received more news coverage on its activities at the volcano than it had on any other event since it was established in 1879. Most of the news coverage presented the Geological Survey in a favorable light and demonstrated its credibility with news media and the public. Despite the hectic pace of scientific research, news coverage, and volcanic activity, there were no fatalities or major injuries to anyone after May 18. Generally the news was covered rapidly and accurately—remarkable feats, perhaps, considering the technical nature of the story, the physical hazards commonly involved, and the constant deadlines faced by news representatives. News coverage was a cooperative effort between dedicated people of the Geological Survey, Forest Service, Federal Emergency Management Agency, news media, and other organizations.

REFERENCES CITED

- Cogan, Phil, and Lodato, Paul, 1981, "She's blowing again! Return to headquarters!" Disaster Information Center at work: P R Casebook, v. 2, no. 1, pp. 11-15.
- Crandell, D. R., and Mullineaux, D. R., 1978, Potential hazards from future eruptions of Mount St. Helens volcano, Washington: U.S. Geological Survey Bulletin 1383-C, 26 p.
- Crandell, D. R., Mullineaux, D. R., and Rubin, Meyer, 1975, Mount St. Helens volcano—Recent and future behavior: *Science*, v. 187, no. 4175, p. 438-441.
- Decker, R. W., 1981, The 1980 activity—A case study in volcanic eruption forecasting, in Lipman, P. W., and Mullineaux, D. R., eds., *The 1980 eruptions of Mount St. Helens*, Washington: U.S. Geological Survey Professional Paper 1250, p. 815-820.
- Foxworthy, B. L., and Hill, Mary, 1982, Volcanic eruptions of 1980 at Mount St. Helens—The first 100 days: U.S. Geological Survey Professional Paper 1249, 124 p.
- Lipman, P. W., and Mullineaux, D. R., eds., 1981, *The 1980 eruptions of Mount St. Helens*, Washington: U.S. Geological Survey Professional Paper 1250, 844 p.
- Miller, C. D., Mullineaux, D. R., and Crandell, D. R., 1981, Hazards assessments at Mount St. Helens, in Lipman, P. W., and Mullineaux, D. R., eds., *The 1980 eruptions of Mount St. Helens*, Washington: U.S. Geological Survey Professional Paper 1250, p. 789-802.

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