

billion in losses and 86 fatalities. In 1998, a calm year according to experts, due to wind related storms there was more than \$5.5 billion in damages, and at least 186 fatalities.

The federal government invests \$5 million to develop and promote knowledge, practices, and policies that seek to reduce and where possible eliminate losses from wind related disasters. In contrast the federal government invests nearly \$100 million per year in reducing earthquake losses through the National Earthquake Hazards Reduction Program. A federal investment in Wind Hazard Reduction will pay significant dividends in lives saved and decreased property damage.

The Wind Hazard Reduction Caucus or "Big Wind" will develop a program to reduce loss of life and property by 75% by 2010. Damage can be substantially reduced through the development and implementation of an effective National Wind Hazard Reduction Program. This program will address better: design and construction methods and practices; emergency response; use of modern technology for early-warning systems; building codes enforcement; and public education and involvement programs.

We are focused on increasing the awareness of Members of Congress about the public safety and economic loss issues associated with wind, increasing public safety and decreasing the economic losses associated with tropical storms, thunderstorms, and tornadoes.

In my own hometown of Wichita, Kansas, a tornado rated F4 intensity, plowed through the suburb of Haysville on May 3, 1999. It was responsible for 6 deaths, 150 injuries and over 140 million dollars in damage.

Tornadoes are one of nature's most violent storms. In an average year, 800 tornadoes are reported across the United States, resulting in 80 deaths and over 1,500 injuries. A tornado is a violently rotating column of air extending from a thunderstorm to the ground. The most violent tornadoes are capable of tremendous destruction with wind speeds of 250 mph or more. Damage paths can be in excess of one mile wide and 50 miles long.

Through we still can not control the weather, with this caucus we will at least be able to do something about it. Thank you for coming to the kick-off reception for the Wind Hazard Reduction Caucus. I also want to thank the American Society of Civil Engineers especially Brian Pallasch and Martin Hight for their insight into the development of this caucus along with Jim Turner, Democratic staff of the Science Committee. Legislation is not created in a vacuum; Congressman Jones and I look forward to working with all of you in the months to come.

REMARKS BY REPRESENTATIVE WALTER JONES
(D-NC)

Thank you for your warm welcome. I am pleased to be a co-chair of the Wind Hazard Reduction Caucus, also known as Big Wind. My district and many other districts in North Carolina are extremely vulnerable to the hazards presented by windstorms. The most recent string of hurricanes to sweep the Eastern seaboard is testament to the severity of these storms.

In North Carolina alone, Hurricane Floyd took 48 lives, more than twice the total number of deaths along the entire eastern coast during the 1998 hurricane season. And it is predicted that the economic damages will reach well into the billions of dollars. Still we have yet to realize the full impact of these hurricanes, both financially and environmentally. For these reasons I am pleased to be part of the Big Wind Caucus. It is vitally important to increase awareness for public safety and decrease the enormous economic loss associated with wind hazards. I

look forward to working with Congressman Moore and the members of this caucus to increase public education and the use of effective prevention measures to deal with windstorms.

On that note, I would like to introduce my distinguished colleague and co-chair, Congressman Dennis Moore. He has first hand experience dealing with the devastation of wind hazards, as he represents a district frequently struck by tornadoes. I applaud his efforts and enthusiasm to make this Caucus a reality.

REMARKS BY MR. JAMES E. DAVIS

Good evening, and welcome to the Inaugural Event of the Congressional Wind Hazard Reduction Caucus. I am Jim Davis, Executive director of the American Society of Civil Engineers, one of the sponsors of tonight's event. We are very pleased to be working with the many Members of Congress, here tonight, on reducing the hazards associated with tornadoes, thunderstorms and hurricanes.

Representatives, Walter Jones Jr., of North Carolina and Dennis Moore of Kansas have taken the lead and created the bipartisan Wind Hazard Reduction Caucus of the U.S. House of Representatives. To support the Caucus efforts, ASCE will organize and lead a Wind Hazard Reduction Coalition of related professional societies, research organizations, industry groups and individual companies to leverage research and development activities. These groups to date include the following: Structural Engineering Institute of ASCE, American Iron and Steel Institute, American Portland Cement Alliance, Anderson Window Corporation, Applied Research Associates, Clemson University, International Code Council, and Texas Tech University.

Again, thank you all for being here, and we look forward to working with all of you to increase Congressional awareness of the public safety and economic loss issues associated with tornadoes, hurricanes, tropical storms and thunderstorms, and to develop and implement an effective National Wind Hazard Reduction Program.

TRIBUTE TO THE LATE JOHN VOELKER

HON. SCOTT McINNIS

OF COLORADO

IN THE HOUSE OF REPRESENTATIVES

Wednesday, November 3, 1999

Mr. McINNIS. Mr. Speaker, I wanted to ask that we all pause for a moment to remember a man who will live forever in the hearts of all that knew him and many that didn't. John Voelker was a man who stood out to those around him. Friends remember him as a man who gave selflessly to the community. But, most of all, he enjoyed his family and friends. His wife, Louise, and two sons brought him endless joy. He was known as a good and upright man.

People enjoyed working with him. He had many new ideas, he was willing to work hard and was regarded as a first class person in everything he did. Mr. Voelker was a civic leader. He presented new and innovative ideas for ways to make the community a better place. Recently, he had taken on a pet project which would have connected low-income residents to LEAP, a state program which helps them pay for utilities. Charity was his passion. For thirty or so years he has been involved in everything from the local civic

boards to environmental groups which fought for preservation and deregulation.

Tragically, when John Voelker was on his way to Egypt for a sightseeing trip, his plane EgyptAir flight 990 crashed just off the coast of Massachusetts.

John Voelker is someone who will be missed by many. His friends and family will miss the man that they all enjoyed spending time with. The rest of us will miss the man who exemplified the selfless dignity that so few truly possess. It is with this, Mr. Speaker, that we say goodbye to a great American. He will be greatly missed.

EMPOWERMENT ZONES/ENTERPRISE COMMUNITIES ENHANCEMENT ACT

HON. EARL POMEROY

OF NORTH DAKOTA

IN THE HOUSE OF REPRESENTATIVES

Wednesday, November 3, 1999

Mr. POMEROY. Mr. Speaker, I rise today to indicate my intent to cosponsor H.R. 2170, the Empowerment Zones and Enterprise Communities Enhancement Act of 1999. The bill is an important step toward fulfilling the promise made to areas designated as Round II Empowerment Zones and Enterprise Communities.

I strongly support the concept of Empowerment Zones/Enterprise Communities. Empowerment Zones and Enterprise Communities are designed to reverse the downward economic trends in urban and rural areas alike. Through the utilization of tax credits and social service credits, designated areas are able to undertake initiatives to spur long-term economic revitalization. In my state of North Dakota, the Griggs/Steele Empowerment Zone in eastern North Dakota was designated last year as a Round II Empowerment Zone. At that time, a commitment was made by the federal government to assist this area and others in creating jobs and economic opportunity. However, Round II Empowerment Zones and Enterprise Communities have yet to be fully funded, and as a result, these designated areas have been unable to reach their fullest potential.

I believe we have the responsibility to fulfill the commitment by fully funding Round II Empowerment Zones and Enterprise Communities. Even though I have concerns about the differences in funding levels between rural and urban Empowerment Zones, I believe we must move forward to provide these areas with the needed assistance to accomplish economic revitalization. However, I hope that as this legislation moves forward we can address the differences in funding between rural and urban areas to ensure each area is provided with the resources necessary to accomplish the economic revitalization the federal government promised.

LACK OF SLEEP CAN KILL

HON. ZOE LOFGREN

OF CALIFORNIA

IN THE HOUSE OF REPRESENTATIVES

Wednesday, November 3, 1999

Ms. LOFGREN. Mr. Speaker, while physicians and patients now pay attention to the

adverse health impacts of poor nutrition and inadequate exercise, too few people pay attention to the harm that can result from inadequate sleep.

Sleep scientists have linked such ailments as high blood pressure, cardiovascular disease, and brain damage to inadequate sleep. We are all aware that drivers who fall asleep at the wheel can kill; not enough of us realize that inadequate sleep can cause severe physical ailments. The article "Can't Sleep," published in the summer 1998 edition of *Stanford Today*, outlines the severity of that threat. It should be read by every physician and patient in America.

[From *Stanford Today*, July/Aug. 1998]

CAN'T SLEEP—ONE OF AMERICA'S LEADING SLEEP EXPERTS REVEALS SHOCKING FACTS ABOUT YOUR SLEEPLESS NIGHTS

(By Chris Vaughan)

It was 1972, and the pediatricians at Stanford Hospital were stumped. Raymond S., an 11-year-old boy with an array of odd symptoms, had been referred to Stanford because his doctors in the East Bay didn't know what to do. Raymond's blood pressure was so dangerously—and inexplicably—high that the 6th-grader was in danger of damage to his internal organs. Because the boy was also pathologically sleepy during the day, he was sent over to the Stanford Sleep Disorders Clinic, the first and only one of its kind in the world then.

The clinic directors—Drs. William Dement and Christian Guilleminault—diagnosed the boy's disorder as a condition they had only recently named: sleep apnea. As Raymond slept, he would literally stop breathing for anywhere between 30 and 60 seconds at a time, they found. Worse still, this would happen hundreds of times each night. When the boy stopped breathing, his brain would panic, interpreting his body's action as suffocation. The result: His blood pressure shot up, his heart pounded, and he awoke just enough to begin breathing again, but still not enough to remember the incident in the morning. Hence his excruciating daytime drowsiness. Raymond was always sleepy because he was not getting any real sleep at night.

None of the pediatricians consulted would buy the sleep clinic's diagnosis. Raymond's condition grew worse. When the boy started showing signs of heart and kidney failure, his skeptical doctors finally allowed sleep clinic physicians to cut a breathing hole in the boy's throat. The difference was fast: The boy's blood pressure dropped and his overall condition improved dramatically.

Dement would have counted this as a victory, except that the boy's primary physicians still refused to acknowledge the problem. After a few months, they wanted to close up the hole. "They still didn't understand that the hole was saving his life," Dement said. Raymond kept the breathing hole and Dement kept in touch with him for a few years. Eventually Dement lost track of him, but he expects that current practices must have allowed Raymond to have the hole closed and to use alternate therapies.

Since then Americans have learned a lot more about the importance of sleep and dangers of sleep disorders to the nation's health. Since the discovery of Rapid Eye Movement (REM) sleep 45 years ago, Dement, 69, has played a part in nearly every major development in sleep research and has attracted star students and researchers, and the money to fund their work. Former Stanford students and fellows have spread the gospel and started their own clinics and research centers around the world. Before Congress and corporations, and on national radio and tele-

vision talk shows, Dement has brought an unwavering message: "Sleep disorders are killing people, and yet they are tremendously under-diagnosed."

In a report for the House Subcommittee on Health and Environment last year, he declared that sleep disorders represent one of the nation's most serious health problems, and that the need for sleep research is virtually ignored.

The numbers are stunning. More than half of Americans have suffered from a sleep disorder at some time, accordingly to a survey ordered last year by the National Sleep Foundation in Washington, D.C. Approximately 30 percent of adult Americans suffer from moderate to severe sleep disorders, and less than 5 percent are diagnosed and treated. More than 18 million people—7 percent of the population—stop breathing or struggle for breath in their sleep more than five times every hour. In the worst cases, sleepers stop breathing more than 30 times each hour, often for more than a minute. Under these conditions the heart can stop beating for 10 or 15 seconds at a time, and blood oxygen can drop to about one-fifth of normal, equivalent to that of a climber at the summit of Mt. Everest. Patients with such severe apnea can get cardiovascular disease and brain damage.

One would think that such a prevalent and dangerous disorder would receive a lot of attention and be treated aggressively. Yet Dement says that when he used a computer to scan 10 million coded patient records, he found a total of only 72 patients who were diagnosed with apnea. "I couldn't believe it," Dement says. "So I hired people to read over 11,000 written patient records." They found not one diagnosed sleep problem.

Apnea is only one of many sleep problems that are unrecognized or ignored. Sleep specialists estimate that physicians detect only about 2 percent of all sleep disorders, and most people have basic misconceptions about the mechanics of their own sleep. Put it in another context and the danger is clear. "It's almost as if no one had ever heard of diabetes," Dement says. "What if we didn't know that the blindness, nerve damage and other health problems in one part of the population were due to one treatable disease?"

Hundreds of sleep-disorders sufferers have testified in Congress for the National Commission on Sleep Disorders Research about the shambles made of their lives from apnea, narcolepsy (sudden attacks of sleep and paralysis), insomnia and restless legs syndrome—an infuriatingly frustrating syndrome in which people can't fall asleep because they must constantly stretch their legs. Statistics from a study by the government's National Transportation Safety Board show that sleep deprivation contributes to approximately 72,000 accidents on the roadways each year. The total cost of drowsy driving amounts to \$12.4 million a year. The study also established that sleep deprivation was a major cause of the grounding of the *Exxon Valdez* oil tanker in Alaska.

Even without a diagnosis, many people are sleep deprived and never know it. Over millions of years, our bodies have evolved to awaken and to sleep with the rise and fall of the sun. But the invention of electric lights has given us an artificial sun and provided a basis for our busy 24-hour society. As a result, people now get about 20 percent less sleep than they did a century ago. No wonder we're sleepy. A study by the National Sleep Foundation reveals that 64 percent of people in the United States sleep fewer than the recommended 8 hours a night, while 32 percent sleep fewer than 6 hours a night. Not surprisingly, sleep deprivation is extremely high among the nation's college students.

Society has been slow to recognize sleep disorders because of major misconceptions

about what sleep exactly is. People traditionally considered sleep a time when the body and brain simply turned off. Physicians thought that nothing happened in sleep; that sleep could not be a source of health problems.

Overturning such scientific and popular misconceptions about sleep has been a major activity for Dement, his colleagues and students since the start of the era of modern sleep research in 1953. In that year, University of Chicago physiologist Nathaniel Kleitman and graduate student Eugene Aserinsky discovered that the body and brain do not shut down during sleep. Instead, they experience periods of rapid eye movement. Dement joined Kleitman's lab shortly after and helped demonstrate that intense brain activity and dreaming accompanied these REM periods of the sleeper. After completing his medical degree, Dement carried on his own research at the Mount Sinai Medical Center in New York where he took the next step, demonstrating that everyone has REM sleep.

By the time Dement moved to Stanford in 1962, he was working on a seemingly rare sort of epilepsy—called narcolepsy—that caused people to feel weak in the knees, collapse or fall instantly asleep when they laughed or got otherwise excited. These narcoleptic patients could even find themselves dreaming while awake, unable to tell which images were real and which were dreams. Dement had come across only five such patients in New York. But when he placed an advertisement in the *San Francisco Chronicle* describing narcolepsy's symptoms and asking for people to call if they fit that description, he found 50 new patients.

In 1965, sleep apnea had been described in a few obese patients by French researchers, but the discovery had been practically ignored because no one realized that the disorder could be so severe, or that slender people could suffer from it. The disorder was called Pickwickian syndrome after "Joe, the fat boy," a lad in Dickens' *The Pickwick Papers* who could fall asleep standing up.

Apnea occurs when the muscles relax during sleep, narrowing the throat where the back of the tongue is anchored. As air is pulled into the lungs, the suction collapses the throat and halts breathing. "When straws were made of paper, I used to say it was like trying to suck a milkshake through a wet straw," Dement says, laughing about his antiquated illustration. "Students now have grown up with plastic straws, and they don't know what I'm talking about."

If the air passage is almost closed off, breathing results in loud snoring as the throat tissue vibrates. Loud snoring (i.e., easily heard through a wall or closed door) is a danger sign that someone has apnea or soon might get it. Apnea is especially debilitating because it deprives the sleeper of the most important phases of sleep—REM sleep and deep non-REM sleep—when the muscles are most relaxed.

Although tracheostomy (a hole in the throat) used to be the only treatment for apnea, there are now a number of treatments, including surgery to trim throat tissue, and machines that provide positive pressure in the airway to keep it open during sleep. A new technique has just received approval from the Food and Drug Administration: zapping the throat with a carefully calibrated dose of microwaves to painlessly shrink the tissue and open the airway.

Research at the Stanford Sleep Center eventually led to the isolation of a gene for narcolepsy in dogs that experts expect will help in the search for a human gene. In 1972, sleep experts realized that when people complained about being sleep during the day, it was their sleep that should be examined. The

Stanford Sleep Clinic was opened to diagnose and treat sleep problems.

Dement's terminology is probably his most famous contribution to public awareness of sleep disorders. "Gentlemen," he declared before a House committee in 1985, "the national sleep debt is more important than the national monetary debt." He estimates that sleep disorders cost the economy \$100 billion a year in lost productivity.

In the late 1970s, Dement and Stanford researcher Mary Carskadon (now a professor at Brown University) discovered a way to quantify sleepiness. They developed the multiple sleep latency test, still the standard in the field, which proved that sleepiness increased as sleep was curtailed. If they were surprised to find that the body kept track of each hour of sleep missed, they were astonished to realize that the only way to pay back this "sleep debt" and alleviate daytime sleepiness was to get exactly that many hours of extra sleep on subsequent nights.

In addition, we are tremendously bad judges of our own sleep debt's size. A study by Thomas Roth, director of the Henry Ford Sleep Disorders Center at the Henry Ford Hospital in Detroit, revealed that even among average people who are pathologically drowsy, as sleepy as those with narcolepsy, most do not think they have a problem with daytime sleepiness.

Despite advances in the field Dement worries over the inability of general practitioners to recognize and diagnose sleep problems—even among those close to home. Dement tells of a time when he became so frustrated by the lack of referrals from Stanford doctors that he walked into a waiting room at the hospital and offered people sitting there the chance to get a free sleep test worth \$1,000. Of the five who accepted, three turned out to have apnea.

Although surveys show that the public is more aware of sleep disorders, they are still tremendously under-diagnosed. Dement is currently studying how primary care doctors recognize and treat sleep disorders in small towns. He still gets shocked by the results: Practically zero cases of apnea were diagnosed by the physicians, although further investigation has shown that one in five patients had apnea. "I had one doctor who had 200 patients with apnea, and he didn't even know it," says Dement with exasperation. "There are 200,000 more doctors like him out there."

The most recent data are even more shocking: 80 percent of those diagnosed with apnea in the survey town of Moscow, Idaho, have a very severe form that usually leads to death from heart attack or stroke within 10 years. "I almost couldn't believe the data myself, but it is solid," Dement says.

"I don't like medical malpractice suits," Dement says with anger, "but some day, some smart lawyer is going to realize all these people are dying because of an obvious, but missed, diagnosis, and is going to make a fortune in wrongful death cases. The signs are so obvious, a 6-year-old could make a diagnosis."

NOISY IS THE NIGHT

(By Lisa Sonne)

Hi, my name is Lisa, and I am married to an apneac.

Don't think I'm unhappy. Victor is a great guy—a Stanford man, smart, funny, kind, a wonderful husband and friend . . . and he did warn me. But for the first six months of our marriage, we have been taking life "one night at a time."

Every evening, we settle in as newlyweds for our sweet dreams. But then the snoring starts. In order to sleep, I create Walter Mitty-like scenarios. My husband is Paul

Bunyan—with a power saw—and he's turning already-felled trees into boards for Habitat for Humanity, or my husband is a dentist with an intermittent drill helping the mouths of needy children. I fall asleep with a smile on my face.

Then, his snoring stops with an eerie, breath-defying silence, and I bolt awake in emergency mode with adrenaline pumping. I watch helplessly as he begins his nightly ritual of raspy gasping and groping for air with his whole chest heaving. Just when I'm ready to shake him to make him breathe, he inhales a huge gulp of air and goes back to snoring. I lie there awake, waiting for the next frightening silence.

Apneacs usually don't wake up enough to be cognizant of their body's betrayal, but those sleeping next to them often do. And both have been snatched away from deep rest and finished dreams. I took Dr. Dement's "Sleep and Dreams" class years ago and remember the dangers of sleep deprivation and REM robbery. In the battle against exhaustion, naps have become acts of survival for us, not lazy indulgences or luxuriant escapes.

Fortunately, my apneac is not in denial. He is tired of being tired, and says he is "willing to do anything to be better in bed." Determined to move beyond apnea, Victor endured laser surgery in the spring of 1997 to reduce soft tissue in his palate that may have been obstructing his night breathing. He then underwent three separate rounds with an experimental procedure called somnoplasty. But in March 1998, another sleep study revealed quantitatively that Victor's apnea had gotten worse. One hundred eighty-four times during the night, his breathing was obstructed enough to disrupt his sleep and threaten the supply of oxygen to his brain. And his was only a "moderate" case. My heart goes out to the apneac and spouse of a "serious" case.

A series of doctors in New York recommended major surgery to further reduce his soft palate, but their predictions for success ranged from a high of 80 percent to a low of 50 percent. How can you decide what to do when your brain is sleep impaired? I wonder if "no rest for the weary" was coined by an apneac. I suggested that Victor try getting some uninterrupted dream time with a CPAP machine. It uses continuous positive airway pressure (CPAP) to force air into your lungs through a face mask while you sleep. This was not the paraphernalia we had imagined during the honeymoon phase of our lives. But sometimes the route to "good dreams" takes a surprising turn.

For me, the CPAP machine's loud hum was a lullaby compared to the usual snoring and gulping, but for my spouse, wearing the mask "is like standing up in a convertible going 80 miles an hour with your mouth open." Exhausted from the apnea, he was able to fall asleep under the air assault, and it worked—for a while. The continuing blast hurt his sinuses and he would rip the mask off in his sleep. Clearly this was not a long-term solution for us.

So, at last, in our quest for deep sleep, we came to Stanford's renowned pioneer in sleep surgery, Dr. Nelson Powell. He spent two hours with us, conducted tests, asked and answered a wide range of questions. We learned that we are part of an unrecognized epidemic. Powell thinks that sleep disorders may be the cause of depression, impotence and accidents for tens of thousands of people. And then there are the spouses. He said motor response tests actually found the spouse worse off than the apneac. Friends of mine started sharing their nocturnal woes (years of spouses sleeping in separate rooms) and diurnal daze (nap fantasies and chronic exhaustion).

We're ready to end this nightmare. My husband is scheduled for surgery at Stanford: Moving his tongue forward to enlarge his airway may be the solution. He should be out of the hospital in two days. Then, when we settle in for sweet dreams—we may finally be able to finish them!

We look at it this way: We spend one-third of our lives (eight of every 24 hours) sleeping . . . or trying to. We hope to be married at least 45 years. That means 15 years of our future will be spent in bed together. We don't want to have to wait until we die to rest in peace.

LET SLEEPING DOGS LIE

Why do we sleep? Believe it or not, the question remains an enigma. Part of the answer, though, may rest with a brood of Dobermans at Stanford University. These dogs are generally energetic and friendly, but if they get excited about special food or a new toy they flop to the ground, completely paralyzed. They suffer from narcolepsy. Their narcoleptic attacks last just minutes, and then they rise as if nothing had happened.

"A normal dog can eat a dish of food in a few minutes, but it might take a narcoleptic dog an hour because he keeps collapsing," says researcher Emmanuel Mignot. The dogs are not hurt or suffering, merely afflicted by cataplexy, a paralysis or muscle weakness that is part of the narcolepsy syndrome. The dogs can fall asleep briefly during this cataplectic attack, or they can remain conscious but unable to move.

Narcolepsy is the only sleeping disorder known to arise from a glitch in a primary sleep mechanism. By looking at the disorder in dogs, scientists hope to discover how the brain puts itself to sleep and what sleep does for the body in humans with narcolepsy. Recently, Mignot isolated the gene for narcolepsy—*canarc-1*—in these dogs and found that it is a variant of a normal immunoglobulin gene. Immunoglobulins are proteins that the immune system creates to scavenge invading microbes. At this point, researchers don't know why an immune gene causes sleep attacks. Mignot and colleagues speculate that narcolepsy may be an autoimmune disorder, like lupus or multiple sclerosis. But narcoleptic dogs and people lack other signs that usually accompany autoimmune disorders.

A more tantalizing possibility is that normal sleep is somehow related to the operation of the immune system.

Mignot and his colleagues are now using their work with the dogs and other research to search for a human gene for narcolepsy. Mignot feels he will have it soon, in six months to two years, and hopes that the discovery will clarify what causes narcolepsy and suggest a possible cure.

50TH ANNIVERSARY OF RAC

HON. GEORGE RADANOVICH

OF CALIFORNIA

IN THE HOUSE OF REPRESENTATIVES

Wednesday, November 3, 1999

Mr. RADANOVICH. Mr. Speaker, I rise today to pay tribute to the Raisin Administrative Committee, RAC, for 50 years of service. The California raisin industry members remember trying times after World War II.

During the war, the raisin industry had been given the opportunity to introduce California raisins overseas when the agriculture industry was called upon to produce a plentiful food and fiber supply not only for the United States, but for our allies.