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Monthly News Review is prepared by the Oklahoma Climatological Survey. Its purpose is to provide a summary of weather and climate news or related issues that may help guide policy-makers in the Oklahoma Weather Center. Along with weather, climate, environmental, and science issues, the review includes issues on the national and state agendas and events that affect major businesses in Oklahoma that bear some relation to demands for weather-related information. The summaries and any opinions expressed herein are those of the author, and in no way reflect positions of the Oklahoma Climatological Survey or the University of Oklahoma.

NATIONAL

Elections likely to change national political landscape (Oklahoman 10/28/2002) – With just days to go before the election, there is a likelihood of changes in both the U.S. Congress and in state legislatures. A shift of as few as three seats could change the majority party in state Senates in Arizona, Colorado, Illinois, Kentucky, Maine, Missouri, Nevada, New Hampshire, Oregon, Tennessee, Texas, Vermont, Washington, and Wisconsin. Similarly, potential House swings could occur in Michigan, North Carolina, Oklahoma, Oregon, Texas, and Washington. Nationally, term limits and redistricting are making long-held seats vulnerable. According to the National Conference of State Legislatures, more than 6,000 of the nation's 7,382 legislative seats are contested this year. On average, state legislative seats experience a 20% turnover during elections; this year already exceeds that just on the basis of incumbent retirements. In Oklahoma, a three-vote swing could give Republicans control of the state House for the first time since 1922.

Power runs out on Energy Bill (AP/Oklahoman 10/10/2002) – As the session winds down, negotiators find themselves at an impasse over electricity regulation. Early on in the negotiations, the Conference Members agreed to set aside the dispute over drilling in the Arctic National Wildlife Refuge and concentrate on salvaging the remainder of the bill. However, a dispute over the role of the Federal Energy Regulatory Commission (FERC) has stalled what little hopes of passage are left. The Senate version of the Energy Bill would remove limitations on large electric power holding companies, but would give additional consumer protection responsibilities to the FERC. House negotiators are opposed to increasing regulatory powers of FERC. In addition, a disputes over requirements pertaining to the use of ethanol, renewable energy sources, and responsibility for paying for new transmission lines have threatened to sink the bill.

Wildfire bill burns out (AP/Oklahoman 10/19/2002) – Last-ditch efforts at compromise legislation that would provide tools to combat wildfires appear to have failed. Representatives Peter DeFazio (D-OR), George Miller (D-CA), and Scot McInnis (R-CO) tried to get a bipartisan compromise bill focusing on wildfire prevention. The areas they represent have been hard-hit by wildfires this year, which burned more than 6.5 million acres this year. Environmentalists complain the legislation would limit public involvement in forest decisions by limiting judicial reviews and temporarily waive some environmental laws. Prospects were already dim for legislation this year, given that similar efforts in the Senate were already deadlocked. With the House adjourning until after the elections, passage of any such legislation is unlikely.

Clean Water hearing held (NRCS Legislative Summary 10/14/2002) – On October 8, the 30th anniversary of the enactment of the Clean Water Act, the Senate Environment and Public Works Committee held a hearing to review progress. Thomas Weber, NRCS Associate Chief, testified regarding his agency's success in dealing with non-point source pollution issues with regards to soil erosion and sedimentation, and highlighted elements of the Farm Bill to further enhance these efforts. Senator Jeffords stated that non-point source pollution is the next important focus for cleaner water.

Status of Legislation (newly added to report; action noted; legislation passed; legislation failed):

Appropriations Bills: As of November 4 (the time of this writing), appropriations bills have been passed for Defense and Military Construction. Appropriations Bills have been passed in the House for Interior, Legislative Branch, and Treasury/Postal. The Senate has passed an Appropriations Bill for Legislative Branch. All other agencies are operating under Continuing Resolutions (presently HJR 123) until November 22 or until agency appropriations bills are passed, whichever comes first.

HR 4: "Energy Policy Act of 2002" - In Conference; Conference sessions held on 6/27, 7/25, 9/12, 9/19, 9/25, 9/26, 10/2, and 10/3; expectations are that legislation will be considered in the 'lame duck' session after the elections.

HR 4754 / S 2528: "National Drought Preparedness Act of 2002" - Introduced 5/13/2002; Referred to House Transportation and Infrastructure, Agriculture, and Resources committees and Senate Committee on Environment and Public Works (5/16)

*** The Western Governors Association has asked for help in passing this legislation

H.R. 5310: "Emergency Farmer and Rancher Assistance Act of 2002" - Introduced 7/26/2002; Referred to House Committee on Agriculture (7/26); provides emergency livestock and crop loss assistance to agricultural producers.

S. 2830: "Emergency Agricultural Disaster Assistance Act of 2002" - Introduced 7/31/2002; Referred to Committee on Agriculture, Nutrition, and Forestry (7/31); provides emergency disaster assistance to agricultural producers.

HR 4900: "Weather Safety Act" - Introduced 6/6/2002; Referred to the House Committee on Science (6/6); establishes a National Climate Change Vulnerability and Resilience Program.

HR 64: "Strengthening Science at the Environmental Protection Agency Act" - Introduced 1/3/2001; passed by House (4/30/2002), now in Senate Committee on Environment and Public Works (5/1/2002); establishes the position of Deputy Administrator for Science and Technology and assigns a research mission to EPA: "Conducting, sponsoring, and evaluating environmental science and technology research shall be a central mission of the Agency."

HR 3908: "North American Wetlands Conservation Reauthorization Act" - Introduced 3/7/2002; passed by House (5/7/2002), Referred to Senate Committee on Environment and Public Works (5/8/2002), reported with amendments favorably 10/8/2002 and placed on Senate Legislative Calendar; reauthorizes the North American Wetlands Conservation Act.

HR 5486: "Geologic Research Enhancement Act" - Introduced 9/26/2002; Referred to House Committee on Resources; Referred to Subcommittee on Water and Power on 10/2/2002; authorizes the Secretary of the Interior to cooperate with the High Plains Aquifer States to conduct a hydrogeologic characterization, mapping, modeling and monitoring program for the aquifer.

AGENCY NEWS

NOAA Science Advisory Board names four new members (NOAA 10/24/2002) – Four new members were appointed to serve a three-year term on NOAA's Science Advisory Board. The new members are:

- David Blaskovich, sales and marketing executive for International Business Machines, Inc., Poughkeepsie, N.Y.;
- Richard D. Rosen, vice president and chief scientist, Atmospheric and Environmental Research, Inc., Lexington, Mass.;
- John T. Snow, dean, College of Geosciences, the University of Oklahoma, Norman, Okla.; and
- Robert B. Gagosian, director and president, Woods Hole Oceanographic Institution, Woods Hole, Mass.

NOAA's Science Advisory Board, which provides advice to the NOAA administrator and agency leaders on strategies for research, education, and applications.

<http://www.publicaffairs.noaa.gov/releases2002/oct02/noaa02143.html>

NOAA seeks coastal conservation input (NOAA 10/28/2002) – NOAA has issued draft guidelines for its Coastal and Estuarine Land Conservation Program (CELCP) and is seeking public comment. THE program provides funding to coastal states for selected conservation projects. The draft guidelines establish eligibility, procedural, and programmatic requirements for participation. The draft is available at <http://www.ocrm.nos.noaa.gov/landconservation.html>. Public comments are requested by November 21, 2002.

<http://www.publicaffairs.noaa.gov/releases2002/oct02/noaa02144.html>

New climate information clearinghouse unveiled (NOAA 10/10/2002) – The U.S. Climate Change Science Program Office, created by merging the U.S. Global Change Research Program and the Climate Change Research Initiative, recently launched a new web site: <http://www.climatescience.gov>. The Program Office was designed to integrate credible climate science and information for aiding scientific research, observation and monitoring, and developing decision-support information for policymakers. The web site includes the Office's Strategic Plan and information on the Planning Workshop for Scientists and Stakeholders, scheduled for December 3-5 in Washington, D.C.

<http://www.publicaffairs.noaa.gov/releases2002/oct02/noaa02135.html>

NOAA unveils vision of a global observing system (NOAA 10/11/2002) – NOAA Administrator Vice Admiral Conrad Lautenbacher unveiled a vision of an integrated global observing system at the World Space Congress, a once-in-a-decade meeting held in Houston this past month. The vision includes five integral parts: efficient corporate organization, technology, transitioning research into operations, partnerships, and outreach and training. The goal is to couple advanced technology with local communities to improve weather and climate forecasts, ecosystem management, and reduce disaster losses from extreme climate events. He emphasized international partnerships to achieve these ends.

<http://www.publicaffairs.noaa.gov/releases2002/oct02/noaa02138.html>

NOAA honors cooperative weather observers (NOAA 10/23/2002) – Thirty-four cooperative weather observers were presented with the Thomas Jefferson and John Campanius Holm awards. The Thomas Jefferson award is presented for an extended record of quality observations, with many award winners having served more than fifty years. The Holm Award is presented for quality observation records. John Holm provided the earliest recorded weather observations in the United States, taken in 1644 and 1645.

<http://www.publicaffairs.noaa.gov/releases2002/oct02/noaa02142.html>

Search for Oklahoma State University president continues (Oklahoman 10/26/2002) – OSU regents will probably take several months before announcing a new president. The search committee is wrapping up recommendations, which will be forwarded to the regents. Gary Trennepohl, president of the OSU-Tulsa campus, is considered by many a frontrunner. James Halligan, current president, will remain in the presidency until the Regents make their selection.

Boren says Oklahoman needed for new chancellor (Oklahoman 10/31/2002) – As the State Regents for Higher Education met in special session to discuss the status of a search for a new Chancellor, OU President David Boren urged them to give special consideration to an Oklahoman. Boren stated that the current budget crisis requires someone “who understands the Oklahoma political setting and budget process” without time for on-the-job training. Among such Oklahomans, Boren mentioned Glen Johnson, former speaker of the Oklahoma House of Representatives and current president of Southeastern State University in Durant, and Tom Cole, currently in a race for the 4th Congressional District seat. Regent Joe Mayer, chairman of the search committee, expressed surprise at Boren’s involvement. He said that as the Regents are prohibited from involvement in “campus searches”, the selection process for a new Chancellor should be left to the Regents. Mayer noted: “His [Boren’s] football coach he didn’t have to be an Oklahoman.” Mayer hopes to announce a selection in early November.

STATE / LOCAL

Special session possible (Oklahoman 10/31/2002) – Governor Keating opened the door on a special session after the elections, provided that such session include newly-elected officials who will be inheriting the issues being considered. The session would center on a proposal by the Oklahoma Public Employees Association that would provide for early release and house arrest programs to ease prison crowding in state prisons. Prisoners in private prisons could be moved to state facilities to reduce corrections costs. In addition, they requested \$9 million from the state's Rainy Day fund to offset the need for employee furloughs. Keating is receptive to elements of the plan, provided that any prisoner released would undergo scrutiny of both adult and juvenile records and would not be released if a caseworker or district attorney objected.

Budget woes likely to continue (Oklahoman 10/6/2002) – Alexander Holmes, former state finance director, recently characterized the national economy as “walking pneumonia”. He expects it to remain anemic for the next twelve months or so. This means that revenue projections, which are due to the state Board of Equalization in December, are likely to remain down for the next fiscal year, keeping state agencies budgets flat – at best. Nationally, 46 states faced a \$36.1 billion budget shortfall in fiscal year 2002. That figure is expected to grow to \$57.4 billion this fiscal year. Income tax revenues are especially down, driven by a lack of capital gains taxes as the stock market bubble burst.

September figures not encouraging (Oklahoman 10/16/2002) – The first quarter of Fiscal Year 2003 ended with revenues 13% below projections and 11.5% below revenues for the preceding year's first quarter. The total budget shortfall for the year so far is \$149 million. Three of the four major sources of revenue – income tax, sales tax, and gross production tax – were below collections for the comparable period the previous year. Motor vehicle taxes were up 1.3%, but still 7.7% below the estimate. Income tax, which accounts for nearly half the state budget revenues, was 15.9% below the previous year's first-quarter collections. Higher natural gas prices don't seem to be helping much at this point; the September gross production tax revenues were 37.7% below September 2001 and 42.2% below projections for the month. Despite the poor figures for September, the state finance office announced that it would not increase the 6.02% budget cut already planned.

Six million dollar gift to OU announced (Oklahoman 10/30/2002) – Vintage Petroleum Chairman Charles Stephenson donated \$6 million to the University of Oklahoma to be used toward construction of the university's new research park on the Norman campus. The funds, along with \$15 million in revenue bonds and other gifts, will be used for construction of a 93,600-square-foot multipurpose research facility, to be housed near the new National Weather Center. Groundbreaking for the research facility is expected next summer.

Production investment jumps 400% (Oklahoman 10/29/2002) – More than \$209 million in new manufacturing investment was made in Oklahoma during the third quarter of 2002, an increase of almost 400% from the third quarter of 2001. The investment will create nearly 1100 new jobs over the next three years. New facilities include a Huber Engineered Wood facility in Broken Bow, and Imation plant in Weatherford, an Elite Trailer Manufacturing plant in Oklahoma City and a Hydrotex Partners Facility in Tulsa. The service sector also made some impressive gains, with five companies announcing \$75 million investments in the last quarter, adding another 945 jobs to the Oklahoma economy over the next three years. Economists caution that the growth does not necessarily translate into economic recovery, although it does help Oklahoma to continue “muddling along” until expected large-scale economic recovery effects take hold.

Oklahoma City ranked best bet for small business (Oklahoman 10/15/2002) – Entrepreneur Magazine ranked Oklahoma City at the top of its list of “Best Bets for Small Business Growth”. The index used by the magazine takes into account entrepreneurial activity (number of businesses that are 5 years old or younger), economic growth, small business growth, and bankruptcy rates. Others in the top 5 included Milwaukee, WI, Boston, Washington, and Houston. For overall entrepreneurship, Oklahoma City ranked 34, up from number 40 in 2001. Washington and Dallas led that list. The Greater Oklahoma City Chamber of Commerce attributes the business growth to a low cost of living and affordable housing.

Oklahoma City ranked seventh major market in South (Oklahoman 10/11/2002) – Southern Business and Development magazine ranked Oklahoma City’s economic development as the seventh most successful of Southern cities over the past decade. Thirty-four markets were ranked, with populations ranging from 750,000 to 1.99 million. The top ten included: Hampton Roads VA, Richmond VA, Charlotte NC, Memphis TN, Orlando FL, Austin TX, Oklahoma City, Jacksonville FL, San Antonio TX, and Nashville TN. Aviation, tourism, oil and gas, biomedicine, and medical research are several sectors driving the ranking. The magazine also cites the city’s skilled and highly productive labor pool and relationship with Tinker Air Force Base. The ranking is important because the South and Southeast are among the most competitive areas for economic development.

OSU Extension holds county ‘listening sessions’ (Oklahoman 10/6/2002) – Oklahoma State University’s Cooperative Extension is hosting a series of ‘listening sessions’ for each of Oklahoma’s 77 counties. The sessions are being held through December. In a recent session Greer County, longtime residents cited economic development as the most critical issue affecting their community. Without good jobs, the county’s brightest students are going elsewhere. Of 46 valedictorians and salutatorians in the last 20 years, only three now live in the county. Farming no longer supplies a sufficient income to make ends meet, requiring farming families to have at least two jobs. Other local issues were expressed, related to the Quartz Mountain Lodge and Lake Lugert. After the listening sessions are complete, issue-impact teams will be formed to help communities develop specific plans of actions.

BUSINESS / ECONOMY

Fed finds economy still sluggish (AP/Oklahoman 10/24/2002) – A recent review of the economy shows that businesses have a pessimistic outlook on the remainder of the year. The Fed's report, issued eight times each year, lead some to believe that the Fed will cut interest rates at its November 6 meeting. Interest rates are presently at a 40-year low, but have not changed since December. Concerns of war, terrorism, the declining stock market, the West Coast docks shutdown, and uncertainty surrounding the upcoming elections have tempered earlier hopes of recovery. Other reports indicate that consumer confidence dipped to its lowest level since 1993, leading to fears of a double-dip recession.

OG&E rate settlement (Oklahoman 10/12/2002) – OG&E, the Corporation Commission, and the state's Attorney General Office reached an agreement on OG&E's rates, announced just prior to hearings by a Corporation Commission Administrative Law Judge. The settlement results in a \$150 million rate and fuel cost cut over the next three years, dropping the average homeowner's bill by about \$30 per year. The settlement is a combination of a rate cut plus changes in fuel source contracts that will decrease the costs of acquiring energy sources. To allow OG&E to compensate for losses from the January 2002 ice storm, the company will be allowed to sell energy outside of its service area. The process began when OG&E requested a \$26 million rate increase. The state Attorney General's office consumer division instead advocated a \$92 million cut, and the Corporation Commission staff recommended a \$43 million cut.

Williams looks at more layoffs (AP/Oklahoman 10/15/2002) – Williams Cos. in Tulsa has continued selling assets and downsizing to reduce debt. Nearly 900 people have been let go since the beginning of the year, but another 5,000 jobs remain at-risk if all planned asset sales and cost reductions are completed. Many of the assets in the Energy Services unit are being sold as the unit is being eliminated. New business units in gas gathering and exploration and production will be formed. The Energy Marketing and Trading Unit recorded a \$497 million loss in the second quarter of this year. Despite the sales of several major assets, Williams remains the country's second-largest interstate gas pipeline operator.

Dynegy halts energy trading (AP/Oklahoman 10/17/2002) – Dynegy, Inc., which once considered a buyout of Enron, announced that it will wind down its energy-trading contracts in the coming months. Instead, the company will focus on power generation, natural gas liquids, regulated energy delivery, and communications. The company, like many of those in the energy-trading business, has been hampered by credit rating problems and low stock prices. El Paso Corp., UBS Warburg Energy, and Reliant Resources have scaled back in recent months, and Oklahoma-based Williams Cos. is seeking a buyer for its energy trading operation. Aquilla earlier announced it would abandon trading. Dynegy stock continues to sell for about one dollar, down from a 52-week high of \$47.20.

Bioenergy feasibility study (Oklahoman 10/24/2002) – The Oklahoma Farmers Union cooperative received a @231,000 grant from the U.S. Department of Agriculture to study the feasibility of a bioenergy facility to potentially be located in northwest Oklahoma. The Sustainable Energy LLC plant would convert about 12 million bushels of grain sorghum and barley to ethanol and livestock feed.

Higher heating costs anticipated (AP/Oklahoman 10/8/2002) – Despite expectations of a relatively mild winter, heating costs, especially in the Northeast, are expected to increase substantially over costs a year ago. A mild winter is forecast for much of the northern states, but will probably not be as warm as last winter, which gave homeowners a break on heating costs. Higher oil prices and low supplies threaten to push prices to near levels seen in 2000-2001. Heating oil supplies are near the low end of the normal seasonal range. An outbreak of cold air could send prices soaring. In contrast, natural gas supplies were at an 11-year high for this time of year. Nonetheless, prices for natural gas should also increase over levels from last year. Analysts expect average household heating oil costs to average \$934 for the winter and natural gas costs to average \$710. This compares to \$643 and \$596, respectively, last winter and nearly \$1,000 and \$945, respectively, two years ago.

Which to believe? These two articles appeared in the Oklahoman, one week apart...both written by the same journalist!

Natural gas prices expected to remain stable (Oklahoman 10/25/2002) – A team of University of Oklahoma researchers told an energy industry group to expect prices to hover between \$3.80 and \$4 per thousand cubic feet this winter. The team, from the Energy Weather Project in the Institute of Energy Economics at OU, said an outlook for a mild winter and high storage would keep prices steady. Peter Lamb, OU Meteorology Professor, said that El Nino conditions would contribute to a warm winter.

Gas price index driven higher by cool weather (Oklahoman 11/1/2002) – Cool autumn weather and declining natural gas production drove the price of natural gas to \$4.15 per thousand cubic feet, an increase of nearly a dollar over October's price index. Gas producers cite the possibility of a severe winter that could drive prices upward. If forecasts for a mild winter hold, analysts expect natural gas to stay in the range of \$4 to \$4.50, but if the winter turns cold, gas prices could rise to the \$5 to \$6 range, still less than the \$10 peak during the winter of 2000-2001.

Utah company plans hydroelectric plants in Oklahoma (Oklahoman 10/12/2002) – Symbiotics LLC of Logan, Utah, has applied for permits to operate hydroelectric generation plants at 11 locations in Oklahoma, part of 250 sites nationwide for which the company has applied for permits. The permits allow the company three years to complete licensing. Typically, about 10 percent of those receiving a preliminary permit are actually licensed. Sites in Oklahoma include Lake Wister, Oologah Lake, W.D. Mayo Loca and Dam on the Arkansas River, Great Salt Plains, Lake Hulah, Skiatook Lake, Lake Altus-Lugert, Spavinaw Creek in Mayes County, Sardis Lake, Lake Hugo, and Rock Creek at the Lake of the Arbuckles. The generation facilities would be run-of-river projects, meaning they do not rely upon stored water as a source. Most would have a capacity of about one Megawatt, although the Oologah project could be ten times that capacity.

WEATHER

Pacific Northwest looks forward to dry, warm winter (NOAA 10/9/2002) – The Climate Prediction Center said the Pacific Northwest should have a drier and warmer-than-normal winter due to the effects of El Nino, although they caution that the impacts will likely be less than during the 1997-98 event. The moderate-strength El Nino is expected to suppress storm activity in the Northwest, although significant storms and flooding are still a possibility. Drier-than-normal conditions are also expected throughout the northern Rockies and Ohio Valley states, with wetter-than-normal conditions along the southern tier of states. Above-normal temperatures are expected across the northern tier of the United States.

<http://www.publicaffairs.noaa.gov/releases2002/oct02/noaa02r219.html>

Oklahoma farm welcomes cattle from drought-stricken areas (Oklahoman 10/31/2002) – An old ranch near Morris has come alive again with cattle from drought-ravaged areas of Colorado and Nebraska. The Griffin ranch, once home to one of the largest Hereford herds in the country, has welcomed 500 head from the two states. At its height, the Griffin ranch was 12,000 acres with 3,800 head of cattle. Today it is 3,800 acres and has been inactive for several years. Martha Griffin, whose family now runs local food and television businesses, was looking for a way to get back into ranching. Under the deal's arrangements, the ranchers in Nebraska and Colorado will pay between 55 cents and one dollar per day per cow-calve unit, saving the ranchers from having to liquidate their herds. The cattle will stay at the Griffin ranch for at least one year, giving time for the other pastures to recover.

Cool, wet October threatens peanut crop (Oklahoman 11/1/2002) – The third coolest and 17th wettest October on record threatens to delay the peanut harvest to the point where freeze damage could decimate the crop. Wheat farmers, who were hurt by a long drought in northwest Oklahoma, welcome the rain, but unless it dries out soon, peanut farmers will not be able to complete their harvest. Usually the peanut harvest is winding down by late October, but the wet weather this year has delayed harvest to the point that only one third of the crop has been harvested. So far, the prime peanut regions in the state have not experienced a freeze.

Three radars observe hurricane Lili (Oklahoman 10/8/2002) – Three mobile radars were deployed along the Louisiana coast as Hurricane Lili came ashore. Mike Biggerstaff's SMART radar and Josh Wurman's two Dopplers on Wheels recorded data as Lili, a category two hurricane, hit the state. Biggerstaff said they collected "several hours of interesting data" that will take some time to analyze.

CLIMATE

Adapting to change (NY Times 11/3/2002) – In the latest round of international climate talks, held in New Delhi, government officials focused on steps that could be taken to help nations adapt to climate impacts instead of just mitigating the warming. The approach represents a major departure for policy-makers, who have long focused on mitigation. The shifting perspective is attributed to a series of devastating weather-related disasters this year as well as a growing recognition of climate changes already underway, which would be largely irreversible even if mitigation measures were implemented immediately. The adaptation approach is similar to that advocated by the Bush administration as well as many developing countries.

Poor nations demand climate compensation (New Scientist 11/1/2002) – At the annual meeting of Kyoto signatories, poorer nations rejected calls to limit their own emissions and demanded that richer countries provide financial assistance to help poorer nations adapt to climate changes caused by greenhouse gasses. The nations demanded compensation for floods, storms, and droughts, which they claim are triggered by global warming.

<http://www.newscientist.com/news/news.jsp?id=ns99992998>

Tree farms won't halt climate change (New Scientist 10/28/2002) – CarboEurope, a research program on the carbon budget, found that the Kyoto protocol's assumption that planting forests would reduce carbon dioxide is false. The group found that soil in the forests would actually release more carbon than growing trees absorb in the first ten years. Clearing ground for forest planting releases rotting organic matter in the soil, producing a surge of carbon dioxide into the atmosphere. Some forests planted on wet, peaty soils would never be capable of absorbing as much carbon dioxide as would be released from their planting. The group recommends conserving old forests as a better policy option. Countries such as Italy are counting on planting forests as a means to meeting their emission reduction targets.

<http://www.newscientist.com/news/news.jsp?id=ns99992958>

Landcover changes major factor in climate change (NASA 10/1/2002) – A new NASA-funded study shows that land surface changes may have a greater impact on climate than do the combined effects of greenhouse gasses. Land surface changes, including urban sprawl, deforestation, reforestation, and agricultural and irrigation practices, redistribute heat and alter regional surface temperatures, precipitation, and large-scale atmospheric circulation. Roger Pielke, Sr., lead author of the study, notes that landcover changes over the last 300 years may have already altered the climate more than the radiative effects of doubling carbon dioxide. Land-use changes in the tropics could dwarf the effects of El Nino, because most cumulus cloud development occurs over land and the area affected is much greater than the comparable ocean area affected by El Nino. The paper was published in a recent issue of the Philosophical Transactions of the Royal Society of London. To read the paper, see <http://blue.atmos.colostate.edu/newsreleases/index.shtml>.

<http://www.gsfc.nasa.gov/news-release/releases/2002/02-142.htm>

ENVIRONMENT

Pipeline demand growing (Oklahoman 10/16/2002) – Development of a pipeline from the Arbuckle-Simpson aquifer in and around Ada to towns in Canadian County is moving forward. Earlier this year, the Central Oklahoma Water Resource Authority, which represents towns in Canadian County, contracted with PESA LLC to build a \$200 million pipeline to the aquifer. The pipeline is intended to provide water both for water supply and to meet new EPA requirements set to go into effect in 2006. Since the initial announcement, other communities, including Chickasha and Kingfisher, have expressed interest in the pipeline. Of those signed up so far, Yukon would consume the most water at 4.7 million gallons per day. Mustang and Piedmont would also take in more than a million gallons per day, while El Reno, Okarche, and Union City have signed up for 100,000 gallons per day.

Pipeline meeting postponed (Oklahoman 10/1/2002) – A meeting in Wayne, scheduled for September 30, was postponed due to a traffic accident. A hearing was scheduled by the Oklahoma Water Resources Board to hear input on the PESA LLC plan to build a pipeline from the Arbuckle-Simpson aquifer to Canadian County. Earlier in the day, former Oklahoma Supreme Court Justice Don Barnes, who was hired by the Board as a hearing examiner, was involved in a traffic accident and was unable to attend the meeting. The meeting was rescheduled for October 29. About 200 opponents of the plan were present at the meeting.

Professor questions water-sale law (Oklahoman 10/10/2002) – Gary Allison, professor at the University of Tulsa's law college, noted that the Oklahoma prohibition on out-of-state water sales may not withstand legal scrutiny. Last session, the legislature passed a law that prohibits cross-border sales of water without legislative approval and another setting a three-year moratorium on sales until a comprehensive study is completed. Other U.S. Supreme Court cases suggest that such restrictions may violate the Interstate Commerce Clause of the U.S. Constitution, which finds water as a commodity subject to the clause. The Court did allow limitations in the case of a water shortage in the originating state.

Oklahoma drafts consent decree for scenic rivers (Oklahoman 10/17/2002) – Oklahoma officials offered a consent decree to Arkansas that would limit liability for damages caused by poultry litter and move cleanup forward. The decree would bar lawsuits against poultry producers for ten years, but would require those producers to pay the costs of litter removal throughout the watershed. In addition, the decree would limit municipal sewage discharges to 1 milligram per liter phosphorus and reform industrial discharge waste permitting procedures. Long-term litter control and monitoring procedures would also be required. Arkansas' counter-proposal (Oklahoman 10/29/2002) pledges 'cooperation' in removal of excess litter and development of alternative uses of litter, but falls short of the strict commitments in the Oklahoma draft.

Arkansas admits excess chicken litter (AP/Oklahoman 10/26/2002) – Officials with the Arkansas Department of Environmental Quality and Arkansas Soil and Water Conservation Commission released findings of a study on chicken litter. The study shows that only about half the chicken litter produced annually can be absorbed in fields, leaving nearly 80,000 tons of litter producing excess nutrients that run off into area streams.

OWRB Director says Oklahoma actions made progress possible (Oklahoman 10/10/2002) – Oklahoma Water Resource Board’s Executive Director Duane Smith said that without unilateral action by Oklahoma in setting pollution limits for Eastern Oklahoma rivers, Arkansas would never have come to the table with the detailed proposals now being discussed. Smith noted that many of the practices now being proposed by Arkansas are similar to those used to control pollution sources within Oklahoma. Smith also noted that despite the multi-jurisdictional nature of water quality and administration, the system in Oklahoma works. Tribal leaders tend to follow state standards on water quality; the main issue is making sure their voices are present in water usage and quality discussions.

Tar Creek costs rising (Oklahoman 10/17/2002) – The EPA is poised to spend another \$46 million to clean up the Tar Creek area Superfund site, after already spending \$86 million to clean up abandoned lead mines in northeast Oklahoma. About 75 million tons of chat – mining waste – remains in the area. The \$46 million would include \$25 million for yard remediation, \$18 million for chat removal, and the remainder for studies and plans to address hazards. Earlier this year, the state appropriated \$4 million towards cleanup costs. Work is expected to begin November 1. Residents argue that yard cleanup will not solve the problems; they advocate a government buyout of the town of Picher and transforming the area into wetlands, at an estimated cost of \$250 million. Children in Picher and neighboring communities have elevated blood-lead levels, which is why immediate action on cleaning up yards is being taken, even as the long-term study progresses.

World’s largest marine reserve created (New Scientist 10/9/2002) – Australia has created the world’s largest marine reserve, located in the sub-Antarctic waters of the Heard and McDonald Islands. The islands have no known species directly introduced by humans. Heard Island is home to Australia’s only active volcano. Its steep shoreline has prevented human encroachment and allowed penguins and seals to thrive.

<http://www.newscientist.com/news/news.jsp?id=ns99992904>

Seven species added to extinction list (New Scientist 10/8/2002) – The International Union for Conservation of Nature has added 124 species to its high-risk categories. The number of Critically Endangered, Endangered, or Vulnerable species now stands at 11,167. Seven species have become extinct or extinct in the wild since the last survey was completed in 2002. Factors that contribute to a heightened risk include a high rate of decline, limited geographical range, or low population. A major update of the list is planned for 2004. One of those most threatened is the Iberian Lynx from Spain and Portugal, which has suffered from a loss of habitat. It could become the first wild cat species to become extinct in the last 2000 years.

<http://www.newscientist.com/news/news.jsp?id=ns99992888>

Reports of Mauna Loa eruption risk exaggerated (U.S. Geological Survey 10/17/2002) – Recent media stories reported that Mauna Loa, in Hawaii, could erupt with little warning, threatening homes in Hilo and resorts in Kona. The following statement from the USGS is an illustrative example of media amplification of a relatively innocuous threat:

“Various media reports over the past several days greatly exaggerate the Mauna Loa situation. On September 29, we issued a report in our weekly Volcano Watch series, viewable at http://hvo.wr.usgs.gov/volcanowatch/2002/02_09_26.html, explaining that Mauna Loa has started to inflate. The situation today is exactly as described in that report. Nothing has changed, and there is no reason to envision “devastation without much warning,” as one story put it. The inflation will likely, but not certainly, culminate in an eruption, but it is impossible to say when that eruption might take place, where it might take place, how large it might be, how long it might last, or whether it might send lava into populated areas. It is well to remember that the past two eruptions of Mauna Loa, in 1975 and 1984, did no damage, but that the 1950 eruption did destroy property in parts of South Kona. It is also well to remember that Mauna Loa is not an explosive volcano, and that there have been no fatalities from any of the 33 Mauna Loa eruptions since 1843, when written records start. The September 29th report was fairly covered by Hawai`i’s media. It was not until a press release was issued by Stanford University (a scientist at Stanford has loaned auxiliary equipment for our use to monitor Mauna Loa) at the end of last week that the national media became interested, and subsequent stories have blown the situation far out of proportion. Paraphrased comments made by an HVO scientist have been packaged in a doom-and-gloom context to make an unnecessarily alarming, splashy story. Unfortunately, some local media have even picked up on these exaggerated accounts. We recommend that you read our report mentioned above and disregard the misleading and inflammatory recent statements. As we stated in that report, “we will report any significant changes as they take place via both the media and our web

The text of both press releases are reproduced at the end of this summary. [*Editors Comment: Note Stanford’s Press Release use of the words “destructive potential”, “spewing lava”, “hazardous”, “inundate”, “history of destruction” and “without much warning.” These kinds of statements will attract media attention and get coverage for a story, but can also lead to the ‘cry wolf’ syndrome.*]

<http://wwwhvo.wr.usgs.gov/maunaloa/>.

SCIENCE & TECHNOLOGY

Federal project to create Peer-to-Peer network (New Scientist 10/1/2002) – An NSF grant to MIT, the University of California at Berkley, and three other institutions aims to develop a new method for serving information on the Internet. The Infrastructure for Resilient Internet Systems (IRIS) will use a Peer-to-Peer (P2P) methodology, similar to Gnutella and Kazaa, in which data are stored on multiple machines with no centralized server. This will limit the ability for hackers to crash systems with Denial of Service attacks. The system is being designed to accommodate future growth in information sharing.

<http://www.newscientist.com/news/news.jsp?id=ns99992861>

New air turbulence detection systems being developed (Oklahoman 10/3/2002) – NASA is testing new designs to improve detection of air turbulence, the leading cause of in-flight injuries on commercial air carriers. The new system is based on LIDAR, and is expected to be available for practical use in six to eight years. Tests of detection systems are being performed at Oklahoma City's Mike Monroney Aeronautical Center.

New technology used to reduce hog farm odors (Oklahoman 10/27/2002) – Seaboard-owned Dorman Farms, the site of numerous fines and contests over pollution abatement issues, has agreed to install new technology that should reduce odors associated with hog farms. The new device uses 'air dam technology' to filter air-borne dust particles and gasses from fans at the farms. It then forces the air upward to be dispersed. In addition, other technology is being used to combat odor problems associated with lagoons, such as the use of a scrubber-burner system.

MAUNA LOA – FACT OR FICTION?

From USGS Volcano Watch

September 26, 2002

http://hvo.wr.usgs.gov/volcanowatch/2002/02_09_26.html

A weekly feature provided by scientists at the Hawaiian Volcano Observatory.

What's happening at Mauna Loa?

Mauna Loa has gone 18.5 years without eruption--the second longest dry spell since detailed records begin in 1843. The longest period without eruption lasted 25 years, between 1950 and 1975. Clearly the past 52 years have been much less active than the previous 107.

Following its latest eruption, in March-April 1984, the volcano continued to inflate, quickly at first but then more slowly. By the early 1990s, the level of inflation had nearly reached that before 1984. This alone is an unreliable measure of the readiness for any volcano to erupt, because volcanoes change internally over time so that the basis of comparison also changes. The continued inflation, however, did make people wonder if the next eruption was to be sooner rather than later.

By 1994, however, the inflation had ceased, and the summit actually began to deflate. The rate of deflation was small but steady, continuing right up to May of this year. The pattern of slow deflation changed rather abruptly in mid-May. In fact, our best estimate is that the pattern changed on Mother's Day, the same day that Kilauea's currently active lava flow started.

Since then, the summit area of Mauna Loa has been slowly swelling and stretching. Distances across the summit caldera are lengthening at a rate of 5-6 cm (2-2.5 inches) per year. That means that, as of today, the caldera has widened about 2 cm (0.8 inches) since May 12. This is small stuff, indeed, but it does mark a noticeable, perhaps notable, change from the pattern of the preceding 9 years. The GPS measurements also show that the summit area is getting slightly higher, consistent with swelling.

These measurements are made with sophisticated GPS equipment that uses satellite orbits and signals to locate receivers on earth. This is acknowledged as the best means to track small changes in shape of the earth's surface. Could there be some error in this complicated method that we are overlooking, something that happened with the satellite orbits, for example?

To test that possibility, we have used a completely independent means to measure ground deformation--an old-fashioned, unsophisticated, non-electronic way to measure ground tilt. This method--called dry tilt in Hawai'i and tilt-leveling, spirit-level tilt, or single-setup leveling elsewhere--uses standard surveying techniques to measure elevations of bench marks in a small area. If the elevations change from one survey to the next, the ground has tilted.

To make a long story short, the dry tilt measurements at the summit of Mauna Loa confirm the GPS results, though with less precision. The summit area is indeed swelling, slowly but measurably.

We then extended the measurement of existing GPS stations farther out on the flanks of the volcano to see if those parts of the volcano are also moving. The measurements show that the swelling is affecting more of the volcano than just the summit. In particular, the upper part of the southeast flank is showing outward movement.

You might think that this slow, slight swelling would be accompanied by increased seismicity. Well, that is not the case. Rocks bend before they break. That is an oversimplified way to say that slow swelling will likely not be accompanied by an increase in number or size of earthquakes.

Before the latest two eruptions, there were large increases in both numbers of earthquakes and the amount of energy released by these earthquakes. Though we must be cautious in saying that such an increase will definitely precede the next eruption, that is a reasonable expectation. On that basis alone, we see no reason to say that an eruption will take place any time soon—that is, in the next few weeks.

The small changes indicated by GPS measurements could have gone unseen in the past, when the instrumentation was less precise and the data were acquired infrequently rather than daily. There could have been several such spurts of swelling that we were unable to measure long before the 1975 and 1984 eruptions. And, such spurts may even be routine.

The overall story is a bit muddy because of what has happened since the 1984 eruption. The changed pattern—from swelling for the first 9 years to slight deflation for the next 9 years to very slight inflation now—is more difficult to interpret than one steady inflation.

With the help of Stanford University, HVO has already added one new GPS station on Mauna Loa and plans to install more GPS and electronic borehole tilt stations in the next few months. The seismic coverage is good and able to detect any increase in seismicity that might take place. We will report any significant changes as they take place via both the media and our web site (hvo.wr.usgs.gov); updates will be on the web site by the time you read this article.

Eruption Update

Eruptive activity of Kilauea Volcano continued unabated at the Pu`u `O`o vent during the past week. Molten lava is flowing near the end of the Chain of Craters road, and the National Park Service is allowing visitors to get up close to the action where it is safe. The new ocean entry at Middle Highcastle between the older West Highcastle and Highcastle entries has developed a delta that measures 570 m (1,870 ft) along the coastline and extends 50 m (165 ft) beyond the old shoreline. We have received a disturbing report from a late night viewer of stupid people going beyond the boundary of the safe viewing area and on to the unstable bench of the active Wilipe`a ocean entry. Shortly after leaving the bench, the area collapsed into the sea!

No earthquakes were reported felt during the week ending on September 26.

Hawaii's Mauna Loa volcano is beginning to stir, new data reveal

BY MARK SHWARTZ, Stanford Report, October 15, 2002

(<http://news-service.stanford.edu/news/october16/maunaloa-1016.html>)

Mauna Loa -- Hawaii's biggest and potentially most destructive volcano -- is showing signs of life again nearly two decades after its last eruption.

Mauna Loa volcano last erupted on March 25, 1984. The next day, massive lava fountains erupted on the volcano's northeast rift zone about 11 miles from the original outbreak point.

Recent geophysical data collected on the surface of the 13,500-foot volcano revealed that Mauna Loa's summit caldera has begun to swell and stretch at a rate of 2 to 2.5 inches a year, according to scientists from the U.S. Geological Survey (USGS) and Stanford University. Surface inflation can be a precursor of a volcanic eruption, the scientists warn.

"Inflation means that magma is accumulating below the surface, but at this point we don't have the kinds of sophisticated models that would be required to tell us if or when an eruption will occur," said Paul Segall, a professor of geophysics at Stanford who has collaborated with USGS volcanologists in Hawaii since 1990.

Located on the Big Island of Hawaii, Mauna Loa -- or "Long Mountain" in Hawaiian -- is the largest volcano in the world. Its last eruption occurred in spring 1984 -- a violent three-week event that produced fast-moving lava flows that came within 4 miles of the city of Hilo. The volcano has remained silent for the past 18 years -- in sharp contrast to its neighbor, Kilauea, which has been erupting continuously since January 1983.

Oblique shaded-relief map of the five volcanoes that built the Island of Hawai'i. Mauna Loa encompasses 51 percent of the island's surface area; its most recent eruption was in 1984.

"After the 1984 eruption, Mauna Loa went through nearly a decade of inflation, followed by almost 10 years of deflation," said Peter Cervelli, a geophysicist with the Hawaiian Volcano Observatory (HVO).

The deflationary period abruptly ended around Mother's Day, May 12, when HVO's global positioning system (GPS) network revealed that the summit had begun to rise and swell. May 12 was the same day that Kilauea's most recent active lava flow began -- a discovery that scientists say is far from coincidental.

"This clearly indicates that there is a connection between the two magma systems," Segall noted. "That's the great thing about Hawaii: It's so incredibly active that just about every year we learn something new."

GPS stations

HVO maintains several GPS stations on Mauna Loa that continuously record their positions using information transmitted from orbiting satellites. The around-the-clock satellite data allow scientists to measure how far the GPS stations have moved -- and thus determine if the volcano is

expanding or contracting. Cervelli, who earned his doctorate at Stanford last year, said the university has loaned HVO eight additional GPS stations to monitor the volcano. Because of the remote mountaintop location, each instrument can cost up to \$20,000 to install. Segall's research on the Big Island is funded through a National Science Foundation grant.

This satellite GPS station on Kilauea volcano is one of eight Stanford instruments being deployed by USGS for service on 13,500-foot Mauna Loa. To reach the summit, David Okita and other USGS contract pilots must transport each station by helicopter -- a costly and somewhat risky procedure.

"Until recently, Stanford's research in Hawaii has been primarily on Kilauea, but when Mauna Loa started to show renewed activity in late spring, Paul [Segall] agreed to lend us four of his continuous GPS receivers," Cervelli explained. "We are holding four more Stanford instruments in reserve to be deployed as conditions warrant."

Cervelli and his USGS colleagues will work with Segall to interpret the new GPS data as they become available.

"We see this as an opportunity to watch the volcano evolve through an entire eruptive period -- from early awakening to actual eruption," Cervelli said. "If the recent activity does culminate in an eruption, this will be the first time that a Mauna Loa eruption is imaged with precise clarity. Without Stanford's help, this would not be possible."

History of destruction

Mauna Loa has erupted 33 times since 1843, spewing out enough lava to cover 40 percent of the Big Island. The most destructive eruption in recorded history occurred in 1950, when lava raced to the sea at speeds up to 5 miles an hour -- destroying homes, businesses, roads and ranches along the way.

Despite the volcano's destructive potential, the USGS estimates that more than \$2.3 billion has been invested in new construction along Mauna Loa's slopes since the 1984 eruption.

"Mauna Loa is capable of erupting huge volumes of lava in a relatively short period of time, and the flows can reach great distances," Segall observed. "It presents a more significant safety hazard than Kilauea."

Cervelli echoed that concern: "There has been a substantial amount of development on what has historically been the most hazardous part of Mauna Loa -- its southwest rift zone above South Point. Though lava flows can reach Hilo on the eastern side of the island and the Gold Coast resorts of Kona in the west, flows are much more likely to inundate the subdivisions in the southwest rift zone -- and possibly without much warning."

Increased earthquake activity is another indication that magma is rising to the surface. "Seismicity does seem to be picking up," Cervelli noted, "but at this point we are not issuing a public warning. Instead, we are asking that the people of Hawaii remind themselves that they live among the world's most active volcanoes."