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FOCUS: The State Budget

The latest revenue projections show a $350 million shortfall for the state budget during Fiscal Year 2002 (FY02). According to the Oklahoma Office of State Finance, the $5.276 billion available for appropriation by the legislature in FY03 is $350.3 million less than the amount appropriated last year, excluding money from the Constitutional Reserve or "Rainy Day" fund (http://www.osf.state.ok.us/econ-nl.html). The shortfall has triggered competition over funding sources and created some novel approaches to increasing funds available for special projects.

Complicating the matter is the state income tax. Under tax reform legislation passed in 1998, the rate was cut to 6.75% and was scheduled to decline to 6.65% in FY03. A provision in the bill provides that should revenues decline from the previous year, the tax rate reverts to the original 7%. The State Equalization Board certified that revenues would be lower for FY03, triggering the provision for the first time since the legislation was enacted. Several lawsuits are pending related to the tax increase, citing improper delegation of authority and State Question 640 which prohibited tax increases without a 2/3 majority of legislators in both houses or approval by a majority of voters in an election.

Governor Keating proposed a plan that would shelter state agencies that account for 70% of the budget from cuts (Oklahoman 2/02/2002). The plan would exempt education at all levels, uniformed public safety functions, veterans programs and mental health from the budget reductions. Figures from early February, when the Governor released his budget, had a projected revenue shortfall of $262 million in the general operating budget. The Governor's plan would use $160 million from the Constitutional Reserve fund ("Rainy Day" fund), covering 60% of the shortfall. An additional $35 million in Rainy Day funds would be used for one-time capital projects, including $6.5 million for the Weather Center. Revised figures in late February placed the revenue shortfall at $350 million, meaning that agencies not covered by the exemptions would face budget cuts of 10-15% (Oklahoman 2/20/2002).

Under state law, in any year up to one-half of the Rainy Day fund may be appropriated by the legislature upon the declaration of an emergency by the governor. The other half may be accessed to maintain general reserve funds at the level of the previous fiscal years. The balance of the Rainy Day fund stands at $340.7 million. Half of that - $170.4 million – may be appropriated by the legislature with an emergency declaration by the governor. Of the remaining $170.3 million, the legislature may tap an additional $39.2 million to cover the General Reserve Fund portion of the shortfall (early February estimates; number may have increased in the late February revised estimates). In Governor Keating's budget, more than $195 million would be tapped from the rainy day fund.

The Rainy Day Fund is mentioned frequently as a source of new funds for the Weather Center in Norman and infrastructure needs at OSU for bioterrorism research. The Governor's budget included $6.5 million for the Weather Center, originating from the Rainy Day Fund. The state,

however, needs $17 million to match the federal appropriation of $22 million for construction of the Weather Center. OU President David Boren states that the Weather Center has "taken four years and every favor I could call … to get this." The Oklahoman, in a lead editorial (2/04/2002) called for a $15 million appropriation from the Rainy Day fund, stating "*No higher priority capital improvement project exists in the sate at this time.*" (italics in original). In an effort to find funding for both these initiatives (the OSU initiative seeks $20 million), very inventive solutions are being offered. In one recent plan, Senator Cal Hobson proposed tapping the States' Underground Tank Fund, used to clean up leaking underground oil tanks (Oklahoman 3/02/2002). Senator Hobson notes: "they're currently sitting on $19 million in the fund", but the fund administrator cites outstanding contracts that commit $17.5 million of the fund resources.

Given the shortages of revenue in FY03, one might think there would not be money for new projects. Wrong. The Oklahoma House of Representatives passed a bill to fully fund the health insurance plan for the state's teachers (Oklahoman 2/28/2002). The bill costs the state $133 million, but it is not clear where the funds will come from. As it stands now, the bill places the burden on district schools, nearly doubling their costs from the present plan. The bill also increases limits for "opt-out" payments to those who do not choose to enroll in the plan. A contentious debate about the plan will likely circulate for the remainder of the session.

Not do be outdone by the House, the Oklahoma Senate approved a bill that would provide a three-day sales tax holiday in Oklahoma, over the first weekend in August (Oklahoman 2/28/2002). The bill is designed to compete with a similar provision in Texas, which provides a tax-free period for purchase of school supplies (including clothing under $100). Estimates place the impact of the tax holiday at $3 million per year, cutting further into already-short revenues. Two similar bills are being considered in the House. Two earlier attempts at a sales-tax holiday were defeated in each of the last two legislative sessions.

Comments: FY03 looks to be a lean year, or not. For higher education, it looks like base funding will at least be stable, despite the heavy reliance upon the gross production tax on natural gas. Both legislative leaders and the Governor have taken higher education, along with other areas, off the board for budget cuts. It does mean that nobody is likely to get new money, which will make university budgets tight. But the designation isolates higher education from the more severe cuts faced by non-designated agencies. It also seems that the Weather Center will receive one-time funds, but may not have the full $17 million appropriated this year. With OSU asking for $21 million for their Center for Sensors and Sensor Technologies, it will be difficult to fulfill both requests. Lastly, these numbers are based on projections. With an apparently short-lived recession, growth may be greater than projected. Of course, when Conoco-Phillips moves to Texas, there will be another hole in the state budget. Bottom line is an expectation for several lean years for all state agencies.

Special thanks to Howard Johnson for suggesting this focus topic!

ADDENDUM: In "Web site helps weather watchers" (Vol. 2, Issue 2, Feb. 2002, Business / Technology) we reported on the new I-news (newsok.com) desktop application for monitoring weather conditions and providing alerts. The application is based upon the WxScope Plugin, developed by the Oklahoma Climatological Survey Software Development Group.

NATIONAL

Discretionary programs to be cut (Washington Times 2/05/2002) – Discretionary programs cuts under the fiscal year 2003 Bush budget. Most cuts are aimed at recent Congressional add-ins, including highway construction, water programs, and job training. Significant cuts include a 10% reduction in the Corps of Engineers budget, with a possible moratorium on new construction, a 7% decrease in the Department of Labor, and a $1.7 billion cut in new military construction. The NASA budget increases overall, but includes a $600 million cut on manned spaceflight. The Department of Commerce faces anywhere from a $14 million cut (Washington Post) to a $180 million increase (Washington Times). NOAA would receive an additional $93 million, particularly "to improve its storm forecasting", but would reduce the number of projects earmarked by Congress. It would also eliminate the Advanced Technology Program on the grounds the program often provides "unwarranted corporate subsidies." [Commentary: such programs are typically cut in the President's budget each year, only to be reinstated by Congress and called "pork" by the President.]

Defense, Health, and multi-agency initiatives fare well under Bush budget (New York Times 2/12/2002 [not their headline!]) – Overall scientific research and development would increase 8.3% to a record $111.8 billion in FY 2003, according to the Bush Administration's budget. Most of this increase is directed toward immediate needs such as anti-terrorism and health. The Defense Department research budget would increase by 10.9% to $5.4 billion, with most going to the Defense Advanced Research Projects Agency. The National Institutes of Health is the other big winner, slated to receive a 15.7% increase to $3.7 billion. Other agencies would be affected as follows:

- NASA: 5.3% increase in research budget; 1.4% increase overall;
- NSF: 5% increase overall; 3.6% increase to $3.7 billion, but most of increase comes from transfer of other science-related programs from other agencies (Commerce, Interior, EPA);
- EPA: 6.2% overall increase, but more than that directed to study homeland security;
- Energy: research budget declines 8% to $8.5 billion with most cuts coming in military programs, while Office of Science budget increases to match inflation;
- Agriculture: 9.3% decline to $2.1 billion;
- Commerce: 1.3% decline to $1.1 billion;
- Interior: 4.8% decline to $628 million, with USGS taking most cuts (7% decline to $542 million).

Multi-agency science initiatives fared better, with three programs targeted for substantial increases:

- Nanotechnology: 17.3% increase to $679 million;
- Networking and Information Technology Project (computing and software): 3% increase to $1.9 billion;
- Global Climate Change: 5% increase to $1.8 billion.

Energy Bill (AP 2/25/2002) – The U.S. Senate begins debate on the Energy Bill (S.517) on Tuesday, March 05, 2002. Debate is expected to take up to two weeks (note: the Senate is in Recess the week of March 24-29). The most controversial issues in the bill are the extent to which exploration and development of oil reserves in the Arctic National Wildlife Refuge (ANWR) will be allowed and the degree to which energy conservation measures will be

required. The House version of the bill would remove the Congressional ban on drilling in ANWR and provide $33.5 billion in tax breaks, mostly for production. The Senate Bill has no provision for ANWR drilling and directs most tax breaks and incentives toward conservation, renewable energy, and cleaner fuels.

Farm Bill passes Senate (Oklahoman 2/14/2002) – A farm bill passed the U.S. Senate, 58-40, on February 13. Democrats blame the Freedom to Farm bill passed in 1996 for the current lackluster performance of the agricultural sector, while Republicans claim that government subsidies distort the market, leading to overproduction. Both Oklahoma senators voted against the bill. Senator Inhofe cited a provision that would force landowners to lease or sell water rights to their state government for land in conservation programs. The bill includes a provision limiting payments to operations to $275,000 per year and limits those qualifying to average incomes of less than $2.5 million per year. In 2000, three businesses related to the Hitch family collected $1.2 million in crop subsidies. Nationally, 90% of production comes from 350,000 farms, with the remaining 1.6 million accounting for the last 10%.

Bush Administration seeks lower crop subsidies (AP 2/21/2002) – While not endorsing either the Senate or House version of the Farm Bill, the Bush Administration urged lawmakers to keep subsidies low, allowing the market to control production more than government subsidies. The report states that farmers would receive more than $15 billion in federal assistance this year. The USDA states that the farm economy is in "reasonably good shape", noting that no agricultural bank failed last year and there were only five that went under from 1994 to 2000. During a farm crisis in the mid-1980s, 60 to 70 agricultural banks failed each year.

Coordination needed on bioterrorism response (AP 2/05/2002) – Testimony before the Senate subcommittee on science, technology and space indicated that coordination of medical resources is lacking among first-responders. Should an event occur, cities would be left scrambling to find medical experts and advice on how to deal with the threat. Senator Wyden (D-OR) and the National Academy of Science propose "a broader link between government, scientists, business and academics." This would include a secure global databank of medical expertise on biological agents and an emergency plan practiced often, by local agencies and medical institutions that would respond to such an attack. [Commentary: OK-FIRST information-sharing could be adapted to medical information – training and a database of pathogens and responses. A proposal with people from the Health Sciences Center may have merit.]

Bush OKs Nevada nuclear disposal site (AP 2/16/2002) – President Bush approved Nevada's Yucca Mountain for disposal of radioactive waste from nuclear reactors. Nevada will file a protest, leaving the final decision to Congress. Nevada legislators and citizens are opposed to the site, citing concerns about leakage. The site is located 90 miles northwest of Las Vegas, one of the fastest growing urban areas in the country. Secretary of Energy Spencer Abraham recommended the site and said it is based upon sound science. A repository is needed to handle more than 40,000 tons of waste now kept at commercial reactors in 34 states and defense sites, which are near an estimated 161 million people. An additional 2,000 tons is accumulated each year. Even with the President's approval, the site is not likely to open before 2010.

AGENCY NEWS

NOAA budget more focused on stewardship (NOAA 2/04/2002) – The proposed FY03 budget for NOAA would redirect funds towards "national priorities" and eliminate duplicative programs. The total budget, $3.3 billion, is $45.4 million below 2002 funding levels. NOAA Administrator Conrad Lautenbacher says the budget supports NOAA's products and services that "provide environmental support to the domestic security and global competitiveness of the United States." Funding increases are directed toward NOAA fisheries, coastal conservation, climate research, improved warnings and forecasts, homeland security, and energy programs. Some specific 'targeted programs' increases include:

- $18 million to establish the U.S. Climate Change Research Initiative (CCRI) "to address areas of scientific uncertainty, identify research priorities, and foster continuous evaluation of management strategies and choices';
- $26 million for other climate initiatives, including $1.8 million for "improved climate data and information service", $5.4 million for NOAA laboratories, and additional funding for various observing systems and research in ecologically-sensitive regions;
- Nearly $16 million for weather warnings and public safety, including $1 million for the U.S. Weather Research Program, $1 million "to develop new tornado and severe weather forecasting", $2 million for prediction and hazard information processing and distribution, and $1.6 million for a "new generation of Web accessible climate information and statistics for use by the energy industry"; and
- $2 million to modernize the upper air radiosonde network.

[Note: interesting Weather Center opportunities in the climate data and information service, severe weather forecasting, information distribution, and Web-based information; these should be monitored closely]. (http://www.noaanews.noaa.gov/stories/s859.htm)
NOAA FY03 budget request: http://www.publicaffairs.noaa.gov/budget2003/

FEMA to train Citizen Corps volunteers (Washington Times 2/6/2002) – FEMA will recruit and train 400,000 Citizen Corps volunteers in medical care and other skills to prepare for terrorism attacks. The federal budget calls for $3.5 billion to be dispensed to local emergency agencies in support of the program. The program, which would be the largest federally led volunteer effort since World War II, will double the annual FEMA budget and move it into a more proactive position. Secretary Allbaugh said: "we have an opportunity to become the agency that FEMA can be." The new funds would be allocated as follows: $105 million to states for planning, $2 billion for equipment, $1.1 billion for training, and $245 million for disaster-preparation exercises. More than 75% of the funds would go to states and local governments.

Critics attack 'digital divide' cuts (AP 2/5/2002) – The 2003 federal budget would eliminate funding for the Department of Commerce's Technology Opportunities Program (TOP). The Bush administration points to rapid percentage growth of Internet access in poor and rural areas as a sign of the problem being solved, but critics show that the gap has actually increased since 1997. According to Tony Wilhelm of the Benton Foundation, the percentage gains cited "just means they're starting from so far back that any percentage looks impressive." Some of the eliminated programs are being consolidated to a $700 million state block grant program for technology grants, which are targeted to low-income school districts. The TOP budget was cut from 42.8 million to $15 million last year.

STATE / LOCAL

State to get $14 million from bioterrorism fund (Oklahoman 2/01/2002) – Oklahoma will share in a $1 billion appropriation to states for the purposes of training doctors, upgrading computers, preparing hospitals, and "other measures". Each state must submit a comprehensive plan by March 15 for improving its core public heath system. The state's Joint Homeland Security Task Force released a blueprint, which calls for a Cabinet-level position of Director of Homeland Security, a statewide communication system, and audit of essential systems, increased security at the Capitol, better monitoring of the food supply, and modifications o open records laws to keep vulnerability studies from becoming public. OSU President Halligan requested $20 million from the state's Rainy Day fund for infrastructure improvements to qualify for 4:1 matching federal funds.

Keating requests full federal payment for cleanup costs (Oklahoman 2/16/2002) – Governor Keating requested full coverage of debris cleanup and related costs from the federal government, citing the statewide economic crisis. Keating stated that the state's share of the costs would be $83 million. "FEMA is there for disasters and we think the federal government should pick up the costs," said Dan Mahoney, Keating's communications director. The federal government (Bush Administration) provided 100% coverage for debris-removal costs related to the Christmas 2000 ice storm (statement issued March 13, 2001).

Renewable Energy Bill killed in House (Oklahoman 2/13/2002) – House Bill 2376 (Rep. James Covey, D-Custer City, author) was killed in committee. Key components of the bill were a renewable portfolio standard – a mandate that utilities would purchase 8% of their energy from renewable sources by 2010 – and an Oklahoma Renewable Energy Trust Fund – a $0.0002 per kilowatt-hour surcharge on retail energy to accumulate up to $45 million to be used for education and development of renewable energy in Oklahoma. The bill was modeled largely after successful legislation in Texas, which will boost renewable energy (primarily wind) by over 2000 MW, accounting for 3% of total Texas energy production, by 2009. Initial expectations appeared positive, but last-minute lobbying by electric utilities led to its defeat. OG&E favors customer choice programs to allow individuals to select purchase of renewable energy sources. [Note: in other conversations I have had, it appears that the trust fund charge was the primary concern.]

BUSINESS / TECHNOLOGY

Increase in chip speed accelerating (New York Times 1/31/2002) – Moore's law predicts a doubling of chip performance every 18 months, a relationship that held true for more than three decades. Recent advances in chip design have shortened that time. At the International Solid State Circuits Conference in San Francisco, Intel announced a portion of a microprocessor that performed at 10 gigahertz at room temperature, beyond what was thought possible just a few years ago.

Warm weather contributes to low gas prices (Oklahoman 2/22/2002) – A mild winter contributed to an increase in oil supplies over previous years. According to Dennis O'Brien, Director of the Institute for Energy Economics and Policy at OU Sarkeys Energy Center, oil stocks are at their highest point in five years. He attributes that to a warm winter "thanks to an unscheduled appearance of the El Nino weather pattern." [Note: El Nino conditions are developing, but its effects would not be seen until next winter.] Competition between OPEC and other oil-producing countries (primarily Russia and its former territories), coupled with the warm winter, is expected to dampen the annual spring spike in gasoline prices. Experts predict increases 15-20 cents between March 15 and Memorial Day, much less than the 40-cent spike seen last year in Oklahoma.

Modeling airline schedules (UniSci 3/05/2002) - A team composed of researchers from the University of Florida, the Massachusetts Institute of Technology and United Airlines created a mathematical model that helps the airline identify the most profitable assignment of planes to flight legs and determine through connections between flights. The model, which relies on complex algorithms, is predicted to save the airline as much as $25 million annually and improve customer satisfaction once it is fully implemented. [Comments: does it include weather as a factor?]
(http://unisci.com/stories/20021/0305025.htm)

WEATHER

El Nino developing (NOAA 2/05/2002) – NOAA scientists say an El Nino episode is likely to develop within the next three months. "NOAA's definition of El Niño includes persistent (two-to-three months) enhanced precipitation along the equator near the International Date Line and warmer-than-normal sea-surface temperatures (exceeding +0.5° C) extending from the international date line to the South American coast." It is too early to estimate the strength of the episode. Monthly updates are available from the Climate Prediction Center, http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/.
(http://www.noaanews.noaa.gov/stories/s860.htm)

Drought continues in the Northeast (NOAA 1/28/2002) – the continuing drought has contributed to a low snowpack and reservoir water storage, which will likely lead to water supply problems this spring across the northeastern United States. The region experienced its second-driest October-December period on record, and Maine had its driest year on record. NOAA's Winter/Early Spring Flood Potential Outlook (http://www.erh.noaa.gov/er/nerfc/) was begun in response to severe flooding across the northeast in 1996.
(http://www.noaanews.noaa.gov/stories/s855.htm)

November – January warmest on record (NOAA 2/21/2002) – The National Climatic Data Center said that November 2001 – January 2002 was the warmest such period in the 123-year surface record. The previous record was established during the 1999-2000 period. Much above-average warmth stretched from Montana to Oklahoma to the East Coast. Twenty-three states had their warmest or second warmest such period on record. Precipitation averaged near-normal, but drought conditions extended from southern Georgia to Maine, NCDC reports. Drought also persisted in the inter-mountain west, but the coastal ranges received above-normal snowfall. [Note: According to Howard Johnson and Gary McManus, Oklahoma's November-January period ranked as the 10th warmest among 110 years of records.]
(http://www.noaanews.noaa.gov/stories/s869.htm)

Winter 2001-2002 warmest on record for Northeast US (UniSci 2/25/2002) – With just a few days remaining in February, climatologists at the Northeast Regional Climate Center are projecting this past winter to be the warmest on record for the region. Keith Eggleston, Senior Climatologist, says that while temperatures have been warmer than normal, this is not necessarily part of a larger, global-warming trend. Similar warm winters also occurred in the Northeast in the 1930s. He attributes this winter's high temperatures to a remarkably stable jet stream configuration located north of the region, preventing many cold-air intrusions from the area. (http://unisci.com/stories/20021/0225021.htm)

CLIMATE

Bush proposes global warming plan (AP 2/15/2002) – The President proposed a plan to curtail accumulation of greenhouse gasses by providing incentives for companies to cut emissions, supporting development of alternative forms of energy, improving conservation, and developing technology. A companion proposal would limit noxious emissions from power plants, including sulfur dioxide, nitrogen oxide, and mercury. The "clear skies" initiative uses a "cap and trade" program and the global change initiative focuses upon developing new technology and getting it to the marketplace. The President, in announcing the plans, cited $4.5 billion in his budget dedicated to addressing climate change, more than any other nation's commitment, and an increase of $700 million from the previous year. The budget includes nearly one billion dollars for research and development of energy conservation technologies and renewable energy. The budget also includes $220 million for USAID for development of cleaner technology and $25 million for climate observation systems in the developing world. The President's remarks and plans are available on the White House website at:
http://www.whitehouse.gov/news/releases/2002/02/print/20020214-5.html

Pacific Ocean currents slow (NOAA 2/6/2002) – The flow of cool water, traveling hundreds of feet below the surface from the mid-latitudes toward the equator, has slowed during the last 25 years, according to researchers at NOAA's Pacific Marine Environmental Laboratory and the University of Washington. Researchers Michael McPhaden and Dongxiao Zhang, whose findings appeared in the February 7 issue of Nature, documented a decreased circulation in the Pacific. The result is decreased upwelling along the equator, which is manifested in higher sea-surface temperatures, weakened trade winds, and decreased release of carbon dioxide. The warming, about 1.4 degrees Fahrenheit since the mid-1970s, may contribute to more frequent and stronger El Nino episodes. It is not clear if the warming is due to greenhouse gases or part of the Pacific Decadal Oscillation, which has a roughly 50-year cycle.
(http://www.noaanews.noaa.gov/stories/s861.htm)

Malaria outbreak can't be blamed on global warming (UniSci 2/25/2002) - Recent increases in malaria in the East African Highlands cannot be attributed to global warming, researchers at the Department of Zoology at Oxford University have shown. Earlier speculation was that increasing temperatures were related to mosquito populations, but the researchers found no evidence to support such warming. Instead, they say, increasing mosquito populations are related to resistance to anti-malarial drugs. Dr. Simon Hay said, "We hope these findings will help focus attention back to the real and immediate problem of anti-malarial drug resistance, rather than potential future problems that climate change may bring."
(http://unisci.com/stories/20021/0222025.htm)

ENVIRONMENT

Water decision flawed (Washington Times 2/05/2002) – The National Academy of Science found "no sound scientific basis" that high water levels were needed in Klamath Lake and River in Oregon & California in order to protect endangered species last summer. Federal agencies shut off irrigation water to local farms during a regional drought in 2001, generating a standoff between local farmers and armed federal authorities. The shutoff led to more than 20 bankruptcies of area farms and ranches. The NAS review was conducted at the request of the Secretary of the Interior.

Charter forests (Washington Post 2/06/2002) – The Bush administration wants Congress to approve a plan for "charter forests," a new category of federal forest land that would be managed locally. Some Democrats and conservationists said they worry the plan is an attempt to circumvent environmental protections.

Polluted skies cause asthma in children (Washington Post 2/04/2002) – A decade-long Los Angeles study showed that smog and ozone contribute to asthma in active children. The study followed children in twelve regional communities – six relatively clean and six dirty. The study found a higher incidence of asthma in active children in the "dirty" communities, documenting for the first time that smog and ozone not only cause asthma attacks, but are responsible for causing the disease as well. Active children – those playing sports such as soccer, basketball, baseball, tennis and swimming – over a five year period were more likely to develop asthma in polluted cities, after controlling for other factors. This study has implications for clean air laws as well as regulating outdoor sports on high-pollution days.

Water sale restrictions bill (Oklahoman 2/08/2002) – The state House Environment and Natural Resources Committee passed a measured that would require a comprehensive study before any sale of Oklahoma water to Texas could occur. Co-authors Reps. Debby Blackburn (D-Oklahoma City) and Clay Pope (D-Loyal) want a study similar to the one conducted to develop a soil conservation plan after the dust bowl. The measure has the support of the Oklahoma Farm Bureau, the Sierra Club, the Family Farm Alliance, and the Oklahoma Wildlife Federation, all of whom oppose sale of water to Texas.

Water sources protection bill (Oklahoman 2/12/2002) – the state House Agricultural and Rural Development Committee voted to send House Bill 2349 (Rep. Mark Liotta, R-Tulsa, author) to the floor. The bill prohibits construction of chicken feeding centers within a 100-year flood plain, within 300 feet of state-owned waters, within the watershed of a surface public water supply, or within 1 ½ miles of any designated scenic river, public drinking water well, or OWRB-specified Outstanding Resource Waters. The bill also includes restrictions on application of poultry waste as a fertilizer within similar watersheds.

National Academy of Sciences urges close monitoring of biotech crops (AP 2/21/2002) – A study by the National Academy of Science notes no negative environmental effects from genetically modified crops, but urges close monitoring and external consultation when changing regulations. Fred Gould, lead author, notes the system is functioning well and the suggestions are primarily closing a few loopholes. http://www.nationalacademies.org/

NASA tracking program for West Nile Virus (NASA 2/05/2002) – NASA announced it is funding a study that uses satellite-derived temperature and vegetation data to track likely habitats for the West Nile Virus-carrying mosquito populations. The study combines the satellite data with bird migration routes and pinpointed disease reports to develop seasonal 'disease vectors.' The study is led by David Rogers, Professor of Ecology at Oxford University in the United Kingdom and a member of the International Research Partnership for Infectious Diseases (INTREPID) group, based at NASA's Goddard Space Flight Center. Study participants hope to apply the technique to malaria, dengue fever, Lyme disease, influenza and even asthma. (http://www.gsfc.nasa.gov/news-release/releases/2002/02-029.htm)

Stormy Weather And the Pleasures Of Humility
By Marsha Ackermann
(From New York Times Op-Ed, January 8, 2002)

Americans have a long history as weather wimps. If it is our manifest destiny to live in a nation of climatic extremes, it is likewise our manifest duty to resist them. To city dwellers, even rain can be perceived as an affront, both personal and civic. More extreme events, like the seven feet of snow that afflicted long-suffering Buffalo over Christmas, and the ice and snow recently glazing unprepared climes like Atlanta and the Carolinas, evoke mingled feelings of dread and farce.

Was it ever so? In the waning years of America's Gilded Age, East Coast urbanites reacted to the deadly Great Plains Blizzard of 1888 with condescending shrugs. What else would we expect in the Dakota wilderness, a place untamed by modern technology? The simple folk who lived in such places might be admirably brave, but they were also, as are Buffalonians today, at once absurd and pathetic.

The developed East's sense of cultural superiority took a severe blow when, on March 12, 1888, a freak spring snowstorm buried New York City and environs in almost two feet of snow, whipped into mountains by fierce winds. The Blizzard of 1888 stopped the Empire City dead in its streetcar tracks and its crazy quilt of pole-mounted telephone and telegraph wires. In a town whose assumptions of status and class were topsy-turvy by nature, black men rescued white ladies from elevated rail lines and Italian immigrant snow shovelers became, if not actual heroes, at least wildly appreciated. Roscoe Conkling, a former United States senator, fell ill and died after being dug out of a deep drift.

What good is technology, we seem to believe, if we cannot prevent natural forces from interfering with human purposes and disrupting the accustomed social order? The idea of acquiescing to, or even enjoying, blizzards, heat waves and all of our climate's other insults is at the very least un-American. So we overheat and overcool, greeting the first warm day of summer with a sweaty sense of grievance and the first frost with teeth-chattering complaints. After just a day or two confined by drifts or a driving ban in our TV/VCR/DVD/CD/Internet-equipped residences, we perceive ourselves as victims of a cabin fever as dire as what our ancestors of 1888 suffered in their Nebraska sod huts.

Certainly, people are killed by weather, and it is also obvious that too many Americans live in houses, apartments or shacks devoid of electronics and sometimes also of heat, water and food. But the sense of outrage we direct at bad weather is surely an arrogant and ultimately useless response. After all, so many of the dangers of winter, in particular, are self-inflicted: shoveling driveways to get to obstructed highways; driving those icy roads to places that should be closed; showing up at the office, thanks to the S.U.V.'s in rarely-used four-wheel drive mode, for the sake of being able to brag about our dedication and obstinacy. As Bernard Mergen points out in his recent book, "Snow in America", widespread use of automobiles helped to turn snow from a welcome interlude into a public nuisance.

But wait! Some recent developments hint that we may yet be able to strike a balance between seeking maximum control of our own daily lives and understanding the limits of human control. Perhaps our long romance with our own invincibility and our sense of the crucial importance of our every movement and desire are both, if not over, at least undergoing reconsideration.

Just a few months ago, National Weather Service scientists announced that they had recalculated the wind chill factor, first developed in 1945 and mainly used in recent years by television weathermongers to exaggerate the dramatic possibilities of winter cold. The new chart is much less scary and does not seem to show up so often in TV weather forecasts. So far, the corresponding heat index of temperature in relation to humidity has not undergone a similar revision.

A few days ago, a former Buffalonian who survived the region's endlessly bad winter of 1977 recalled in the Times letters column the ethereal and out-of-time beauty in a silenced, enshrouded town. And last week, the Associated Press reported, an Atlanta woman delightedly exchanged snowball volleys with her 4-year-old as snow and ice fell around them.

We are awash in weather. Hundreds of newspapers have imitated USA Today's pioneering multicolor weather page introduced in 1982. The Weather Channel is compulsive viewing for many, and innumerable Web sites assure that weather is all around us, even indoors. Surrounded by our technologies and inventions, it may be true that we are ripe for humility, or at least a deeper appreciation of forces wilier and stronger than individual humans or nations can ever be. If that day is here, or on its way, we may not need a weatherman to know that the wind is going to blow, whether we like it or not.

Marsha Ackermann teaches American history at Eastern Michigan University and is author of the forthcoming "Cool Comfort: American's Romance with Air-Conditioning."