

# **Air Innovations Conference**

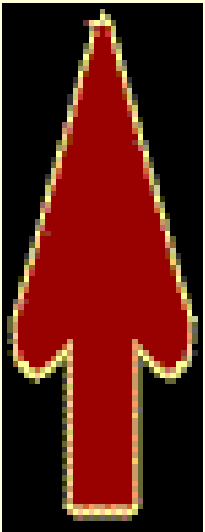


**September 2006**  
**Jeff Clark**

# U.S. POPULATION GROWTH

## A Denver a Year...

- U.S. Population tripled since World War I
- U.S. Population doubled since World War II
- U.S. adds about 2.5 million people/year (= Denver metro area)



# Lots of Mouths to Feed...

- **U.N. Projections for World Population Growth:**

– 1995	5.7 billion people
– 2010	7.0 billion people
– 2025	8.3 billion people
– 2050	9.3 billion people



## 10 New York Cities a Year...



- World adds 77 million people/ year
- 6 nations account for 1/2 of growth: India, China, Pakistan, Nigeria, Bangladesh and Indonesia
- By 2050 the 49 least-developed countries will triple in size from 668 million to 1.86 billion

# United Nations Food Projections

- To accommodate 8 billion people by 2025 & improve diets, world will have to double food production



- Moderate to severe **soil degradation affects 2 billion acres** of crop & grazing land (larger than U.S. and Mexico combined)

# United Nations Food Projections



- **70 percent** of world's fish/seafood stocks are over harvested (45%) or fished to capacity (25%)
- Oceanic fish catch: **19 million tons in 1950**  
**93 million tons in 1997**

# Competition for Resources...

- Grain required to fill a 25-gallon SUV gas tank with ethanol could feed one person for a year.
  - Lester Brown, Fortune Magazine, August 16, 2006



# Development vs. Farmland

- From 1982 to 2002, total U.S. land development increased by almost 50 percent, while total cropland acreage declined by about 12 percent. (USDA)





- **Sprawl claims 1.2 million acres of farmland each year in the U.S.** (American Farmland Trust)

# The Widening Divide:

**1.2 billion people undernourished and underweight**

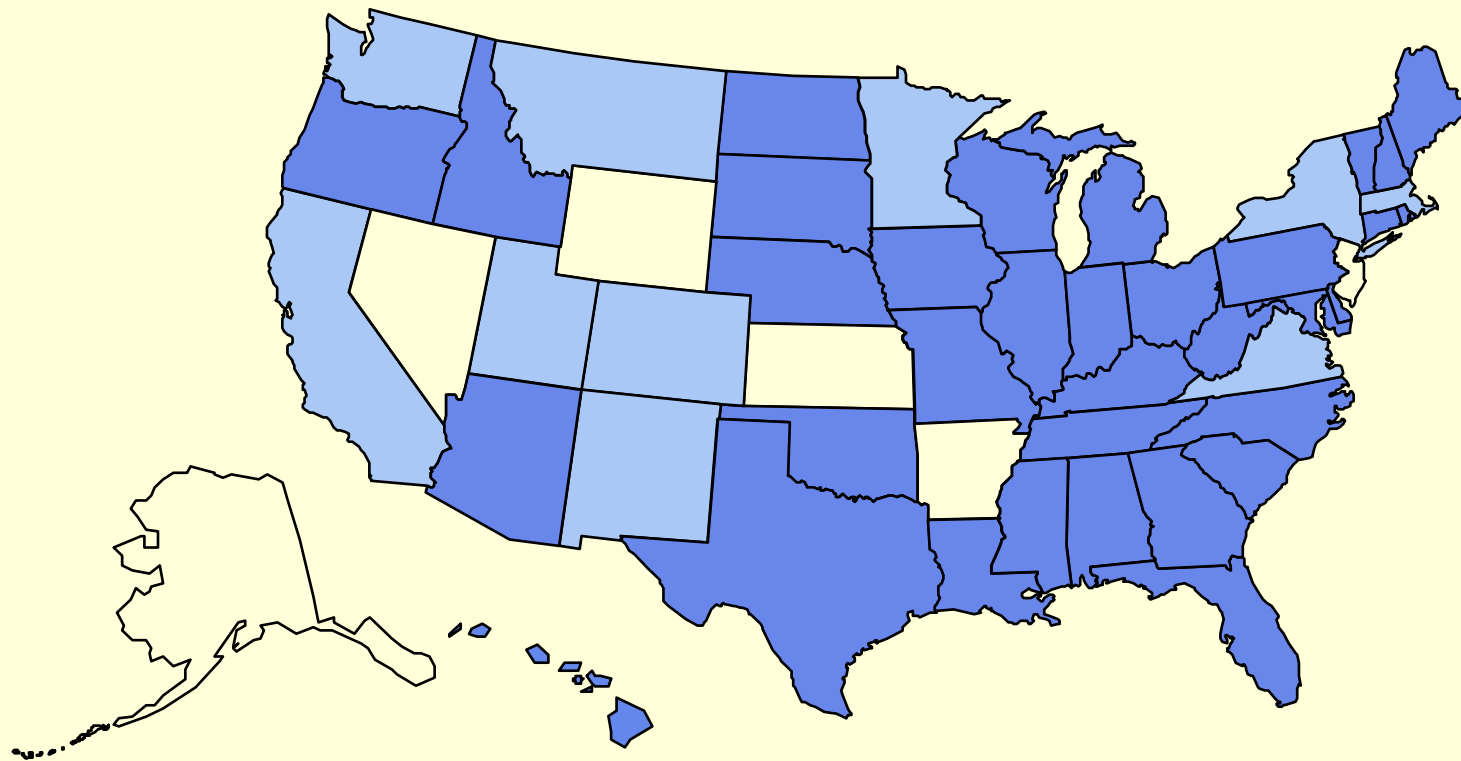


**– 1.2 billion people over-nourished and overweight; excessive caloric intake and exercise deprivation (World Health Organization)**

# Obesity Trends\* Among U.S. Adults

## BRFSS, 1990

(\*BMI  $\geq 30$ , or  $\sim 30$  lbs overweight for 5'4" woman)



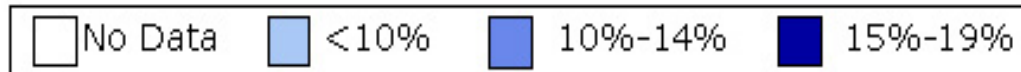
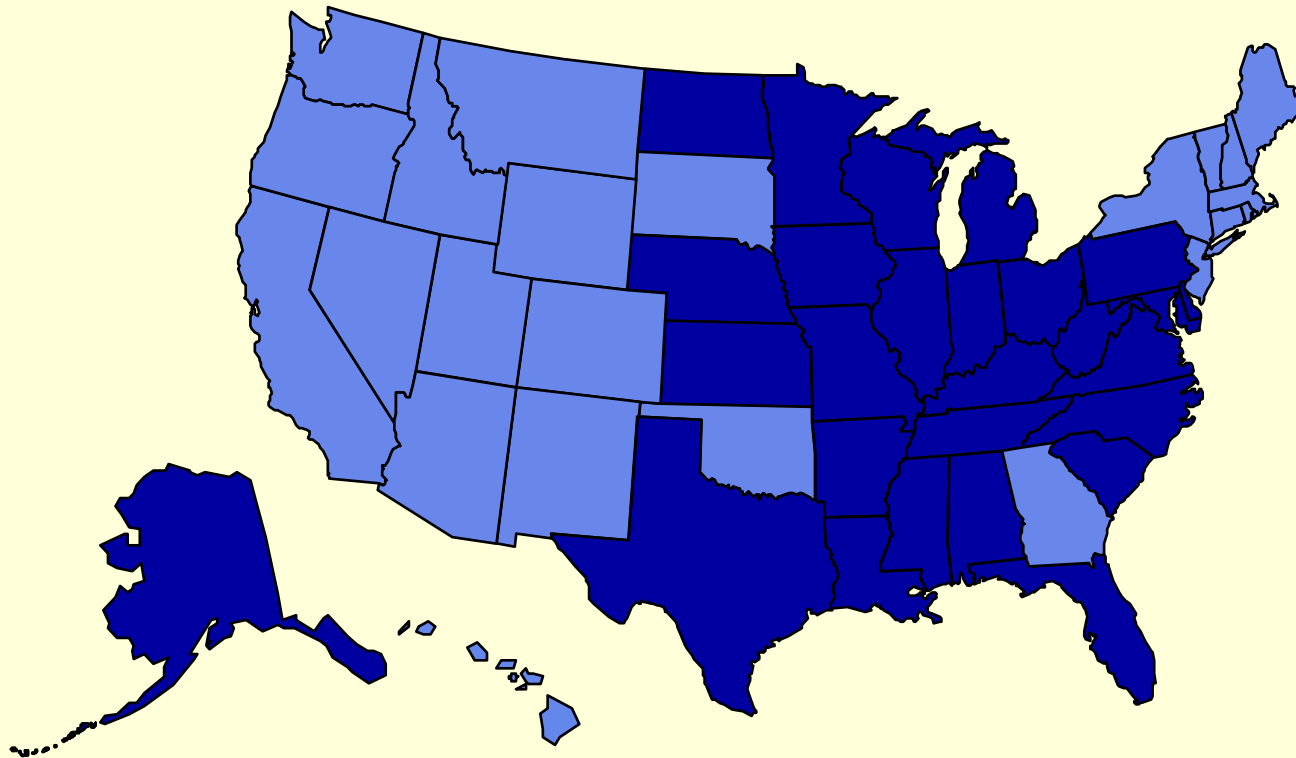
□ No Data    □ <10%    □ 10%-14%

Source: Mokdad A H, et al. *J Am Med Assoc* 1999;282:16, 2001;286:10.

# Obesity Trends\* Among U.S. Adults

## BRFSS, 1995

(\*BMI  $\geq 30$ , or  $\sim 30$  lbs overweight for 5'4" woman)

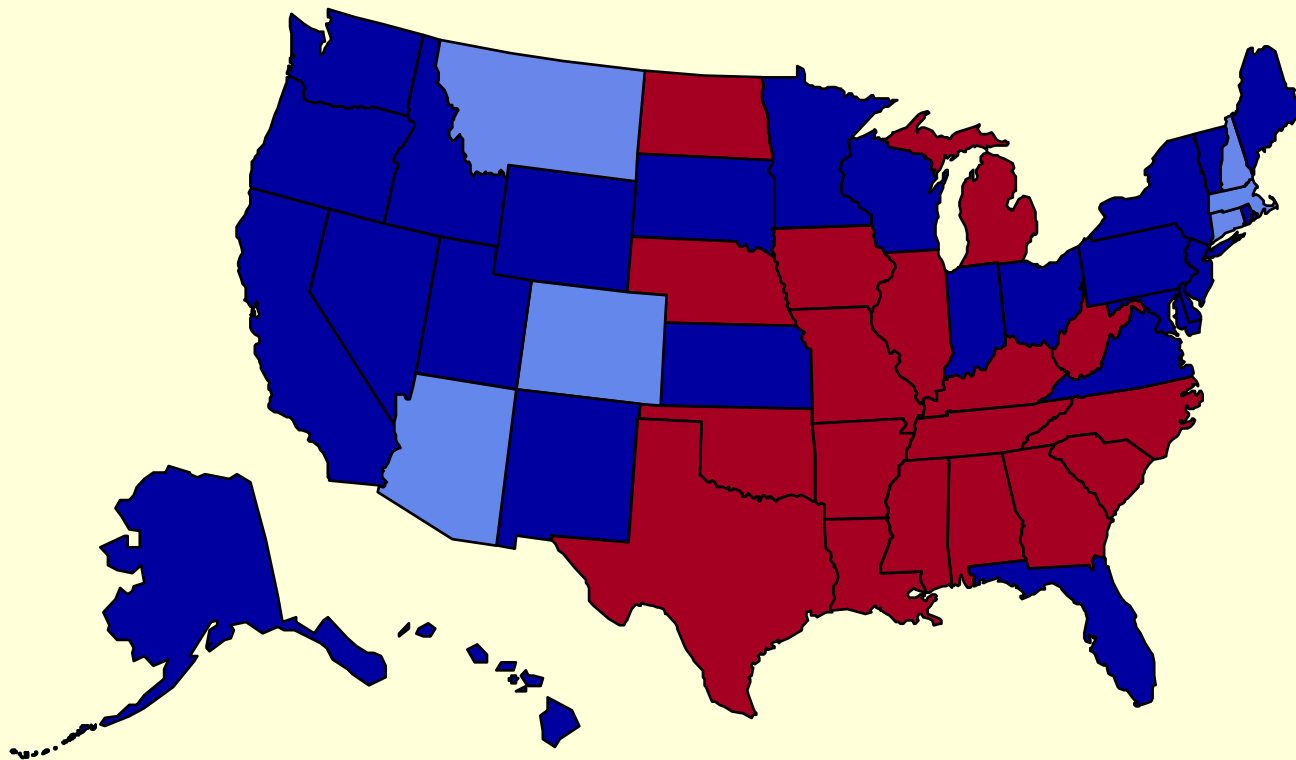


Source: Mokdad A H, et al. *J Am Med Assoc* 1999;282:16, 2001;286:10.

# Obesity Trends\* Among U.S. Adults

## BRFSS, 1999

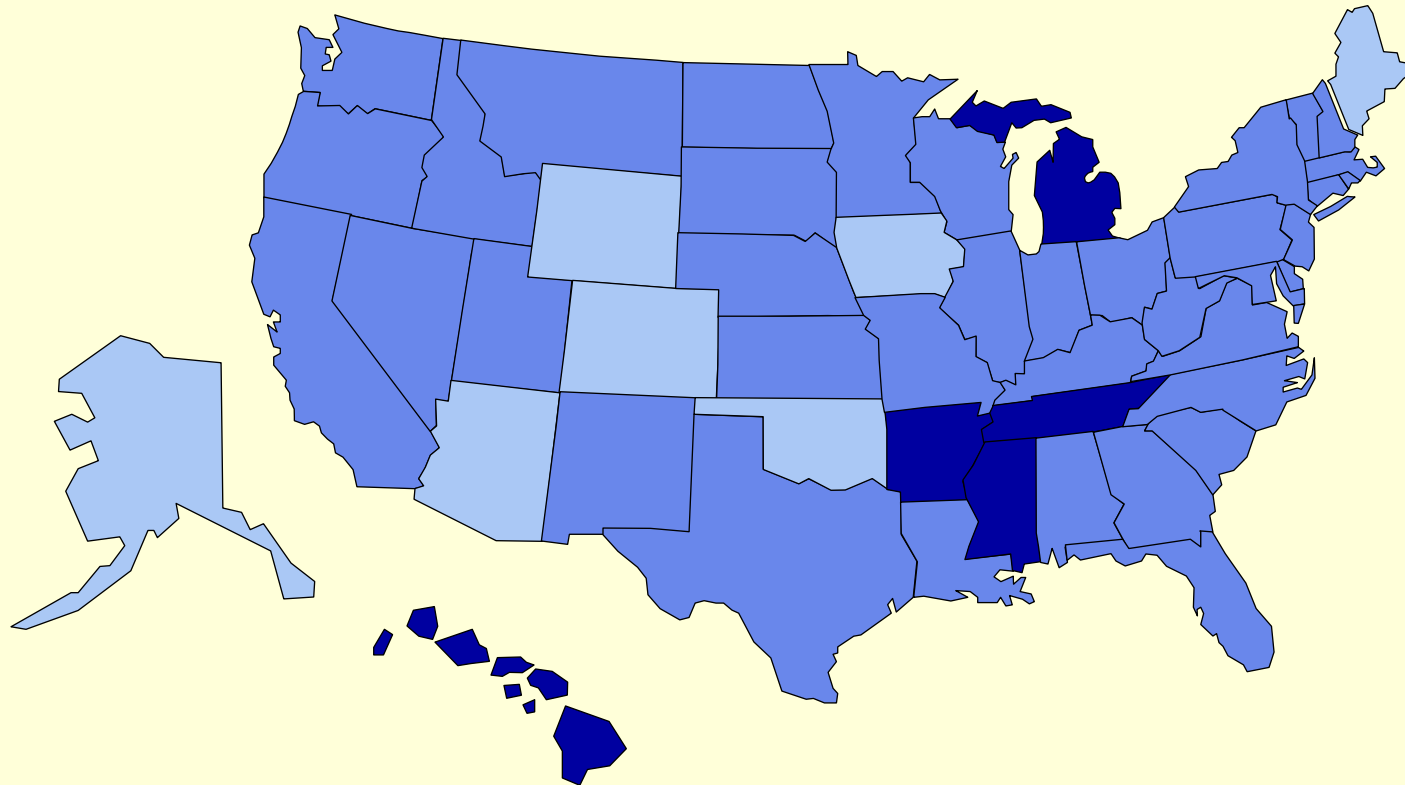
(\*BMI  $\geq 30$ , or  $\sim 30$  lbs overweight for 5'4" woman)



Source: Mokdad A H, et al. *J Am Med Assoc* 1999;282:16, 2001;286:10.



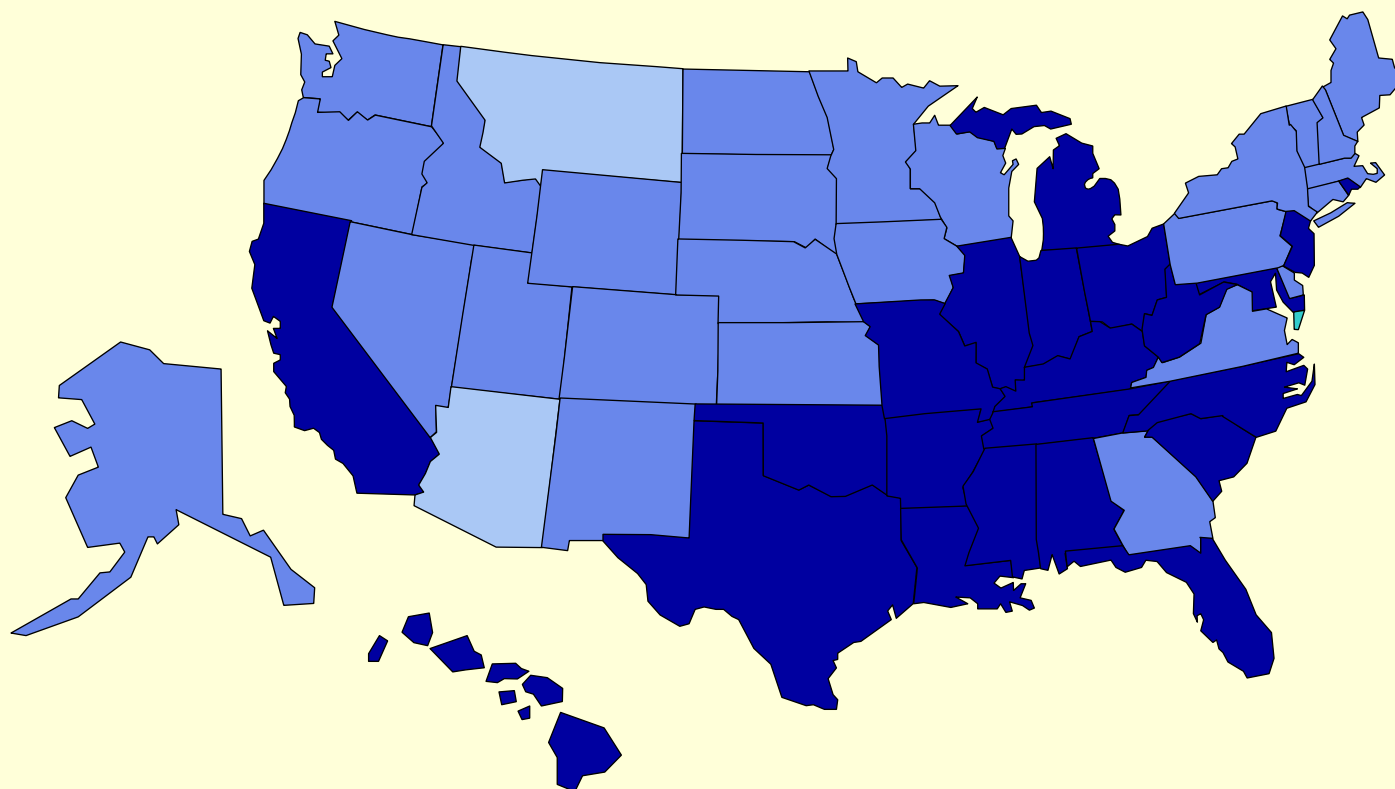
# Diabetes and Gestational Diabetes Trends Among Adults in the U.S., BRFSS 1993-94



No Data  <4%  4%-6%  6%-8%  8%-10%  >10%

Mokdad AH, Ford ES, Bowman BA, et al. Prevalence of obesity, diabetes, and other obesity-related health risk factors, 2001. JAMA 2003 Jan 1;289(1).

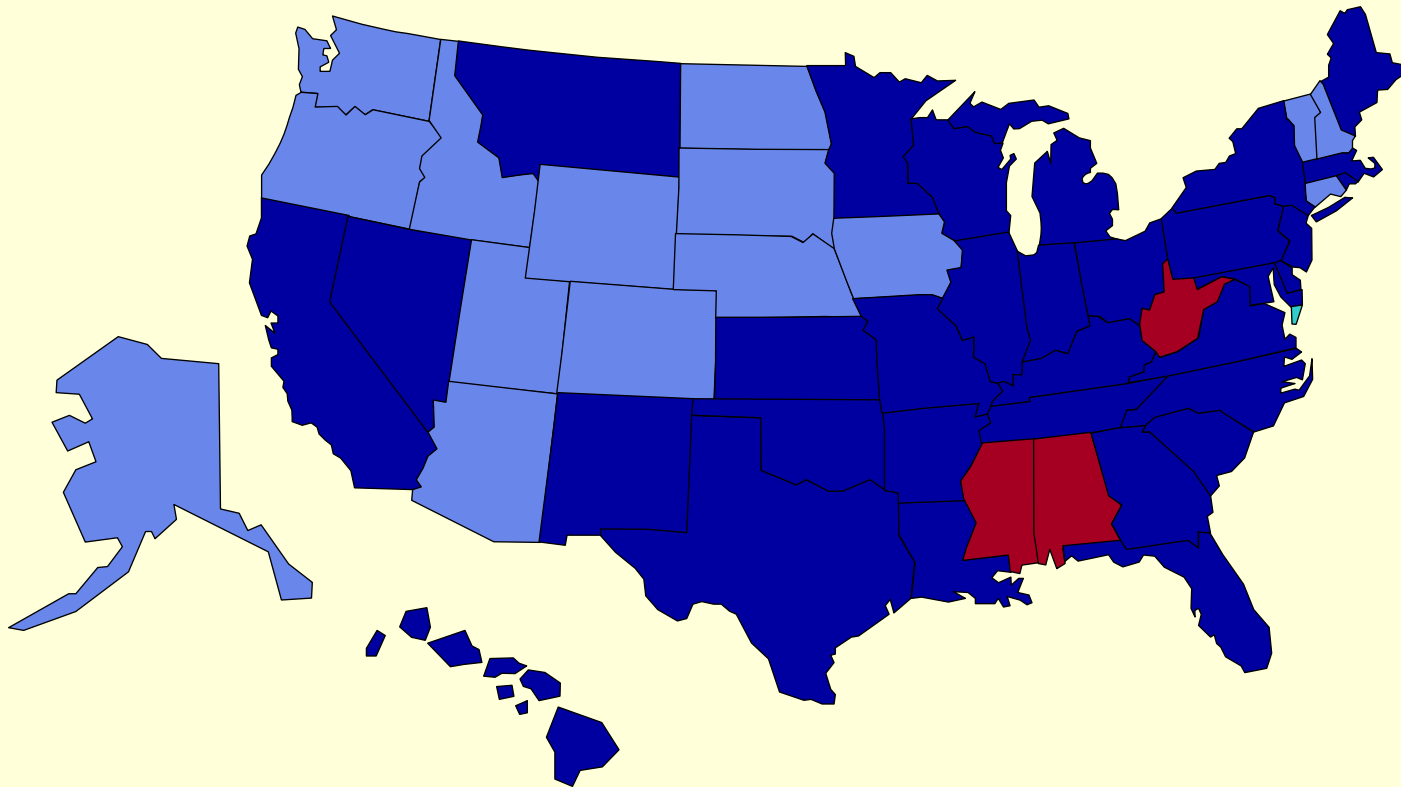
## Diabetes and Gestational Diabetes Trends Among Adults in the U.S., BRFSS 1997-98



No Data  <4%  4%-6%  6%-8%  8%-10%  >10%

Mokdad AH, Ford ES, Bowman BA, et al. Prevalence of obesity, diabetes, and other obesity-related health risk factors, 2001. JAMA 2003 Jan 1;289(1).

# Diabetes and Gestational Diabetes Trends Among Adults in the U.S., BRFSS 1999



No Data  <4%  4%-6%  6%-8%  8%-10%  >10%

Mokdad AH, Ford ES, Bowman BA, et al. Prevalence of obesity, diabetes, and other obesity-related health risk factors, 2001. JAMA 2003 Jan 1;289(1).

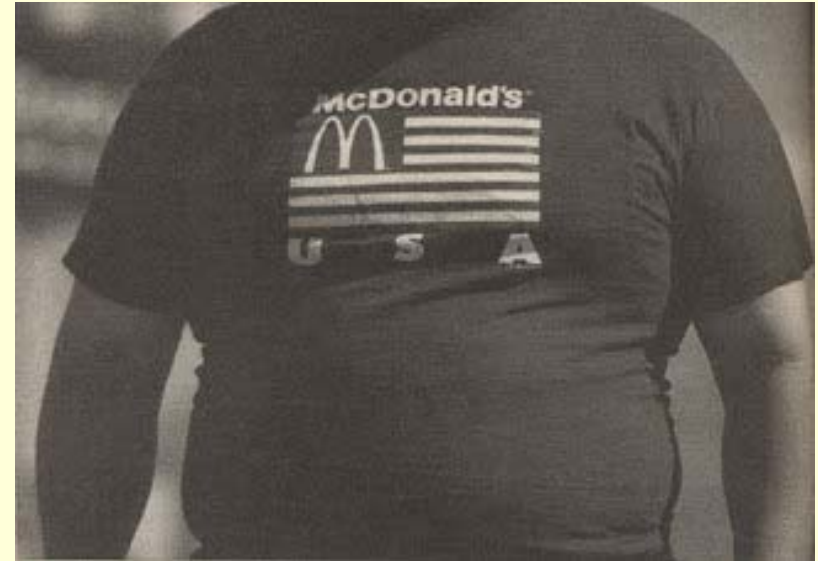


# Urban Sprawl, Physical Activity, Obesity, and Morbidity

Those living in sprawling counties were likely to walk less ( $p=.004$ ), weigh more ( $p<.001$ ), and have a greater prevalence of hypertension ( $p=.018$ ) than those living in compact counties.” (average six pound difference)

Ewing R et al: American Journal of Health Promotion  
18 (1) Sept/Oct 2003

# We're Number 1!



- **5.75 acres to sustain an average person on earth;**
- **twice as much to support a European;**
- **4 times as much to support an American**
  - National Academy of Sciences

# **Other Nations Want What We Have ...**

## **Global Atmospheric CO2 levels**

- 270 ppm -- Industrial Revolution Began
- 381 ppm – In 2005
- U.S. has over 4 % of world's population; accounts for 25 % of energy use



# You Might as Well face it -- You're addicted to Oil...



Thursday, August 31, 2006

**Greenwire**  
THE LEADER IN ENERGY & ENVIRONMENTAL POLICY NEWS

## Quote of the day

"That's a pretty strong statement for a guy from Texas to make."

— President Bush, on his declaration that America is addicted to oil.

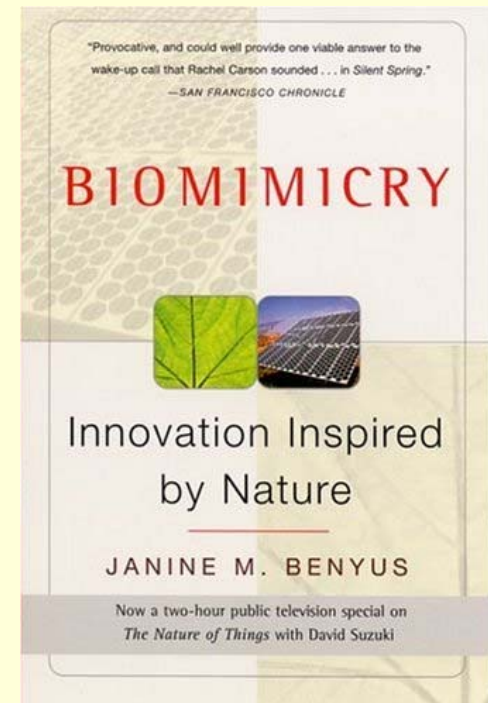
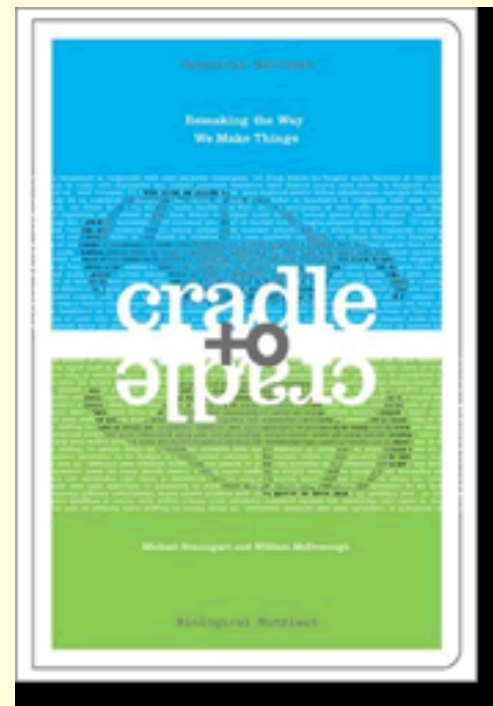
# Oil...

- EIA projects that world oil demand will increase from **78 million barrels/day in 2002** to **118 million barrels/day by 2025**
- **Global Peak Production**  
**2010? 2035?**



# Sustainability

## The Future of the Environmental Movement





World Business Council for  
Sustainable Development



## Sustainability

**... Development that meets the needs  
of the present without  
compromising the ability of future  
generations to meet their own  
needs...**

Ecomagination



# We Know How to Succeed...



**OZONE LAYER: Montreal Protocol working as planned, scientists say**

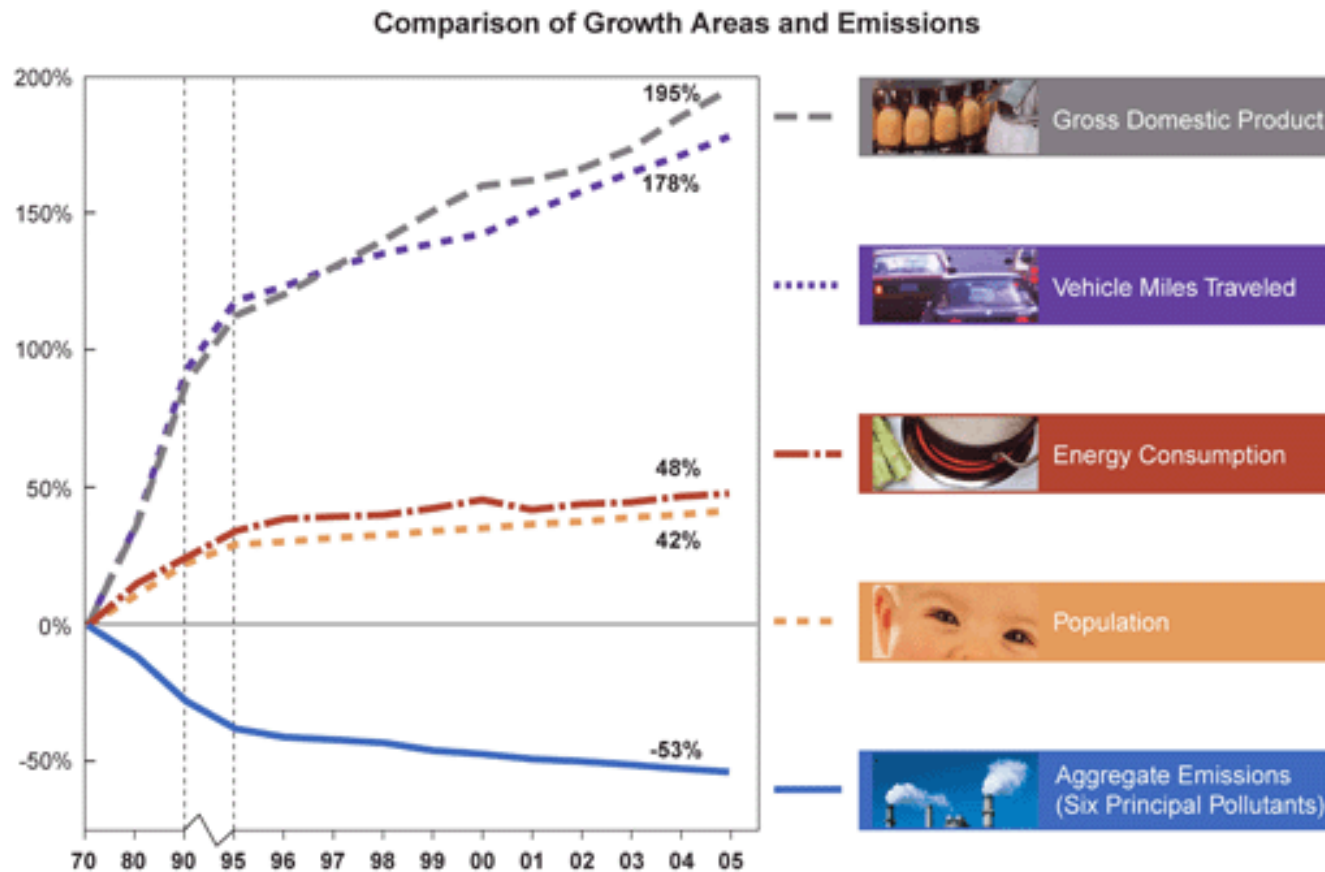


**USA Air Cleanest Ever Since 1970**



**Air Pollution: Allowance Trading Offers an Opportunity to Reduce Emissions at Less Cost**

# We Know How to Succeed...



# **Air Innovations Conference**



**David Cole**

**Donna Rogers**

**Melissa McCullough**

# U.N. Water-Related Statistics

- U.N. Projects a **6-fold Increase** in People Living in Water Stressed Countries by 2025

Year

# of People

2000

**508 Million**

2025

**3 Billion**



# Rainforests

- **National Academy of Sciences estimates 50 million acres of rain forest lost each year – equal to land mass of England, Wales and Scotland**