

# The unnatural trend in natural disasters

*Natural disaster declarations are on the rise in the Ninth District, and while weather is an important factor, it's likely not the only one*

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From floods to hurricanes to blizzards, natural calamities can threaten livelihoods and devastate entire regions. Unfortunately for many, natural disasters appear to be getting harder to avoid.

Since 1953, the number of disaster declarations—unique disaster events—issued each year has increased significantly, according to a recent report by

the Congressional Research Service (CRS). In the 1960s, there were about 18 major disaster declarations per year in the nation. But from 2000 to 2009, annual declarations reached 56, and 2011 was the busiest year on record, with 99 major disaster declarations.

Disaster declarations in the Ninth District closely follow the national trends. The number of major disaster declarations in the district more than doubled from an average of 2.6 per year

in the 1960s to well over five per year in the past decade, according to data from the Federal Emergency Management Agency (FEMA).

As a result, the number of disaster areas, which are declared by FEMA at the county level, also has been rising strongly, even if you ignore the comparatively small number of disaster-declared counties during the 1980s (see Chart 1, top panel). From the 1960s to the 2000s, the average number of disaster-declared counties in the Ninth District nearly tripled. This growth has been particularly prominent in the Dakotas and Montana, where disaster counts per year show a nearly sevenfold increase.

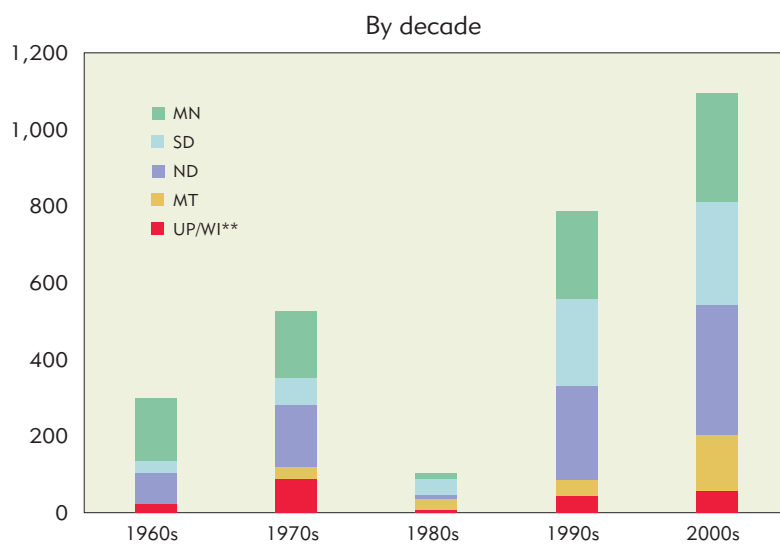
Disasters tend to be regional events; therefore, annual disaster counts in district states do not often coincide with those at the national level (see Chart 1, bottom panel). However, both national and district disaster counts follow a similar, rising trend line since the 1960s, though the rate of increase in disaster declarations is slightly higher at the national level.

Floods and severe storms are the biggest sources of FEMA declarations in the Ninth District, accounting for more than two-thirds of all disaster declarations. But each state has a unique disaster profile, based on geography and climate. More than half of FEMA declarations in Montana since 1953 are the result of fire, easily the largest share among district states (see Chart 2, bottom panel). South Dakota also has a high incidence of fire. In 2000, more than 1 million acres burned in the northern Rockies, and FEMA declared disaster areas in over 54 counties in Montana. Wildfire-related declarations have been recurring in Montana almost every year since then.

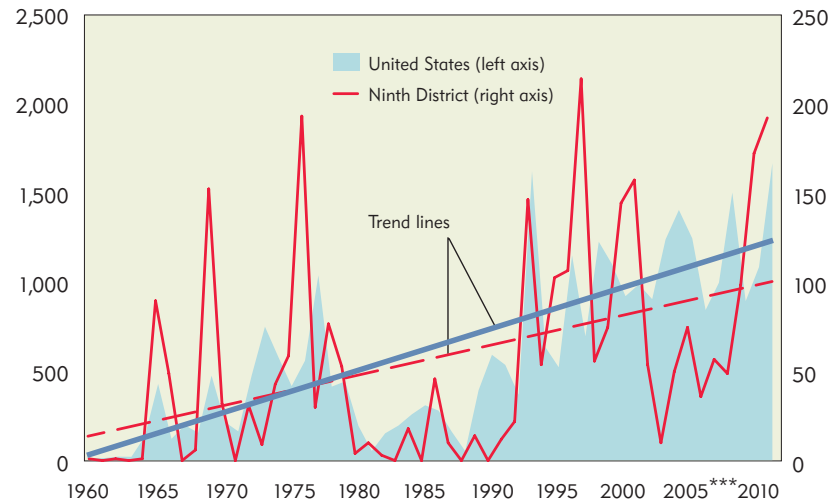
In terms of reported fatalities and injuries, tornadoes traditionally posed the highest risk to human life in district states, particularly if they hit densely populated areas. The tornadoes that tore through counties near Minneapolis-St. Paul in 1965 caused over 700 reported injuries and fatalities. However, injuries and deaths related to tornadoes have declined over time, from about 1.8 deaths and injuries per

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Chart 1  
Number of FEMA-declared counties (1960-2012\*)

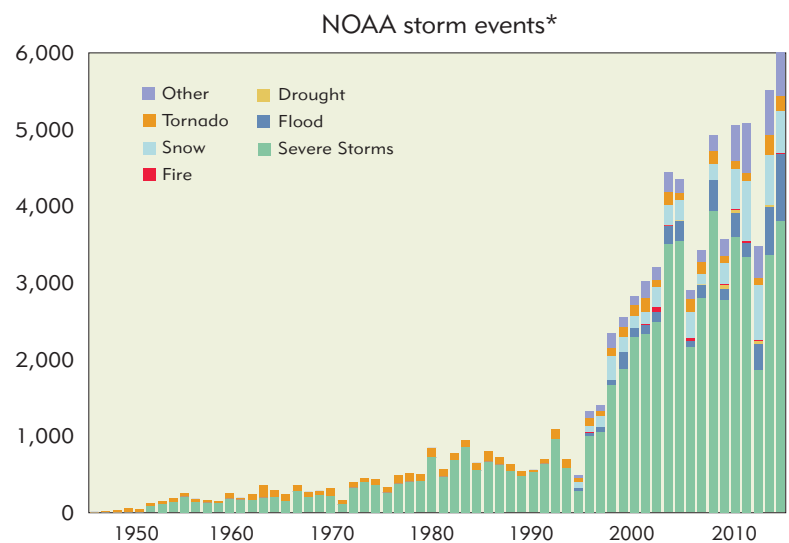


Trend

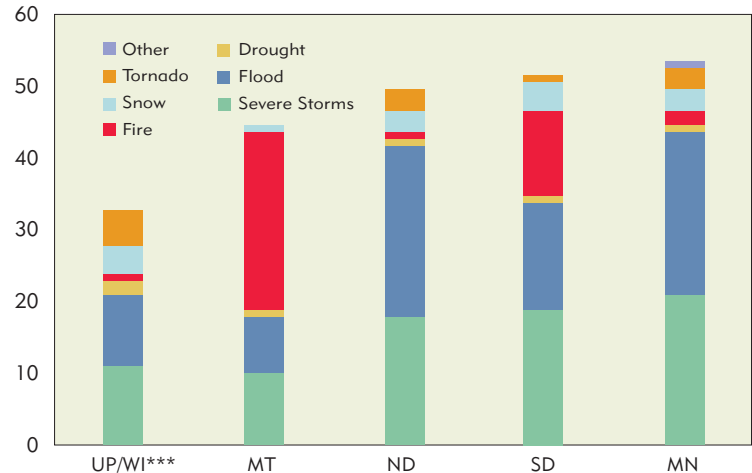


\* Data through May 2012  
\*\*Ninth District counties in the Upper Peninsula of Michigan and northwestern Wisconsin  
\*\*\*Excludes 1,870 counties declared for Katrina evacuation purposes in 2005  
Source: Federal Emergency Management Agency

Chart 2  
Disasters in Ninth District states by category



FEMA declarations (1953-2012\*\*)



\*Severe storms include damaging thunderstorm winds, hail and lightning.  
\*\*Data through May 24, 2012 (excludes Katrina-related declarations)  
\*\*\*Ninth District counties in the Upper Peninsula of Michigan and northwestern Wisconsin  
Sources: Federal Emergency Management Agency; National Oceanic and Atmospheric Administration, Storm Events Database

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reported tornado during the 1970s to just 0.2 per tornado in the 2000s. The combined territory of the Upper Peninsula of Michigan and northwestern Wisconsin (roughly two-thirds the size of Minnesota) has comparatively fewer disasters, but a relatively large share of them are tornadoes.

The growing number of disasters appears to come from several sources. Most obviously, there has been an increase in the incidence of severe weather events as reported in the Storm Events Database by the National Oceanic and Atmospheric Administration, which catalogs severe weather incidents that resulted in fatalities, injuries or property/crop damage since 1950 (see Chart 2, top panel).

There are several other possible sources for the increase in disaster declarations, according to the CRS report. For example, the uptick in storm events is likely a function—to some unknown degree—of greater interest in and improved measurement of severe weather. The U.S. population also has roughly doubled since the 1950s, with the Ninth District population growing by about two-

**Whatever the source of disaster, the other notable trend is rising costs. Over the past decade, average FEMA grant amounts have skyrocketed.**

thirds, and developed acreage has correspondingly increased. As a result, severe weather events are more apt to affect people and property—triggering disaster declarations—today than in the past.

The report added that declarations might well be influenced by tight state budgets (which demonstrate financial need), the enhanced capabilities of professional state and local emergency services in identifying and quantifying disaster costs, and even “declaration creep”—the tendency of states to seek aid received by others for the same disaster, assisted by the political pressure generated by 24/7 news coverage.

Whatever the source of disaster, the other notable trend is rising costs. Over

the past decade, average FEMA grant amounts have skyrocketed (see Chart 3). The majority of these grants are allocated in response to severe storms and floods, which tend to affect a greater number of counties per occurrence. Floods in 2011 inundated 120 counties in the Dakotas and Minnesota and cost U.S. taxpayers \$436 million in public assistance grants and aid to individuals.

But the incidence of natural disasters is volatile and unpredictable, which is evident now; things have been rather quiet in the district, at least in some respects. Drought has gripped the district and much of the nation, and wildfires have been a problem in Montana and South Dakota. But lack of rain tends not to de-

stroy commercial or residential property; nor do wildfires because they usually occur in forested areas with comparatively sparse development. Through October 2012, FEMA had declared three major disasters in the district—two in response to severe storms and flooding in northern Minnesota and Wisconsin and one related to wildfires in Montana.

What happens in 2013 in terms of natural disasters is unknown, of course, but that’s apropos given their connection to the notoriously unpredictable weather in the Ninth District. **f**

**Late for more than just class: Student loan defaults rising**

No one needs reminders that it’s a tough job market out there. But more college grads are getting reminders every month when they have to make a payment—or, more accurately, fail to make a payment—on their student loans.

New data from the U.S. Department of Education show that student loan defaults are rising across the country and the Ninth District. District states have rates that are generally well below the national average; however, every state is following the national trend of steadily higher default rates. Montana and South Dakota saw particularly large increases in the two-year default rate of those entering repayment in fiscal year 2010.

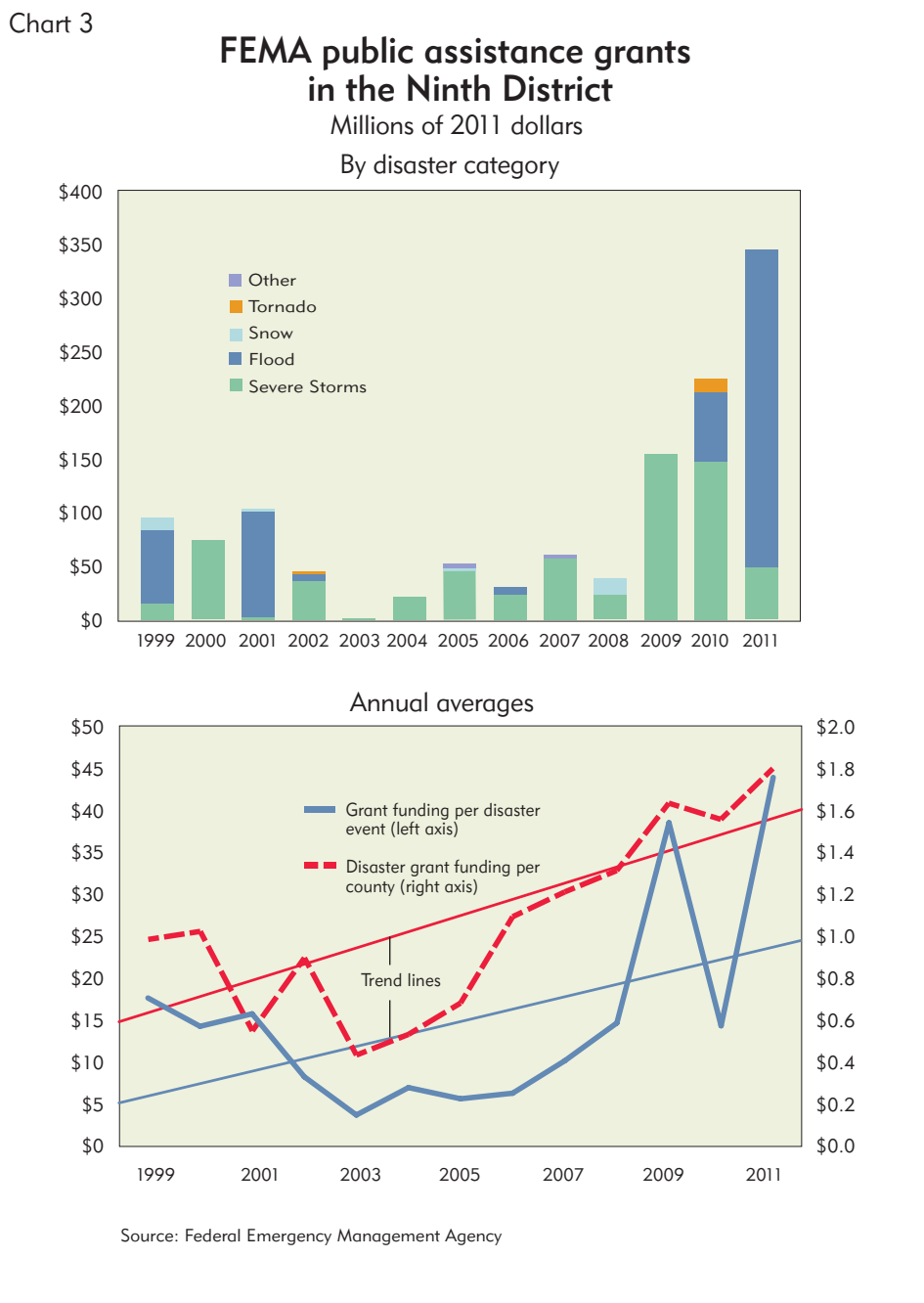
The student loan default rate measures those entering repayment in one federal fiscal year (Oct. 1 to Sept. 30) and defaulting by the end of the following fiscal year. Student loans are not in default until they are 270 days late. So, by the traditional two-year tracking

window, ex-students have just 12 to 24 months to fall more than nine months behind in loan repayments.

A few years ago, Congress decided that window was too short, so it asked the Department of Education to extend the tracking window to three years. This was the first year that the agency officially released so-called three-year cohort default data (for the cohort group entering payment in fiscal year 2009). The data show a trend similar to the two-year default data, only worse, as should be expected given the longer tracking window. Again, students in district states performed better on loan repayments than the national average, but all saw rates increase rather significantly, with South Dakota’s rate topping 10 percent (see table).

For more background, detail and layman’s methodology on student loan defaults in Ninth District states, see the April 2012 articles, “College Finance 101: Not all their (de)fault?” and “The fine print on student default rates” online at minneapolisfed.org.

—Ronald A. Wirtz



	Two-year default rate		Three-year default rate	
	FY 2009	FY 2010	FY 2008*	FY 2009
MN	6.0%	6.9%	6.7%	9.0%
MT	3.5%	6.7%	3.7%	5.8%
ND	3.4%	4.1%	4.3%	5.1%
SD	6.5%	8.5%	7.4%	10.3%
WI	5.2%	6.0%	6.5%	8.0%
U.S.	8.8%	9.1%	13.8%	13.4%

\*First year that three-year default data were collected on trial basis, and the Department of Education considers these data unofficial.

## Minnesota farmland has bumper crop of \$\$\$

It's no secret that the farm economy has been robust for a considerable stretch. That persistent strength can be seen in the market value of farmland in Minnesota, especially when compared with other types of property, particularly residential, which is by far the state's largest

segment of so-called real property.

It's almost like agriculture didn't get the memo on the recession and slow recovery. Thanks mostly to steadily strong crop prices, farm property saw exceptional growth during the recession through 2010 (see Chart 1). The last two

years have been flatter—but still growing—in stark contrast with virtually all other real property. Like corn during a good growing season, farmland value as a share of all real property grew, from 16 percent in 2007 to 24 percent in 2012 (see Chart 2).  
—Ronald A. Wirtz

## Moderate rise in rail rates powers district coal

The Powder River Basin in southeastern Montana and northeastern Wyoming is by far the largest supplier of coal for U.S. power plants; the region provides almost half of the roughly 900 million tons burned annually to produce electricity. Low sulfur content is one reason why Powder River coal is popular. Another is low prices; huge surface mines produce coal for \$8 to \$15 per ton—less than one-sixth the price of coal mined in the Appalachian Mountains.

A recent government report shows that Powder River coal became an even better deal for power companies over the past decade, thanks in large part to only moderate increases in rail transportation costs.

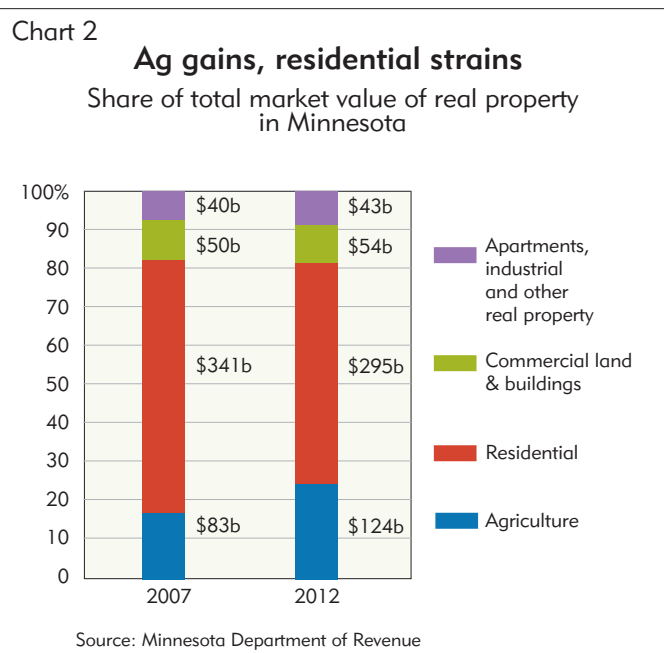
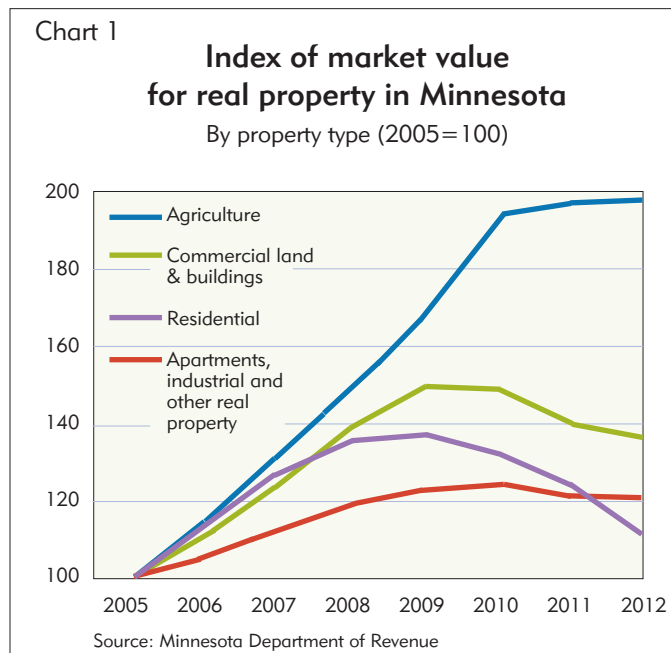
Trains carry more than 70 percent of U.S. coal used to generate electricity, so changes in rail rates can have a big impact on the total cost of coal delivered to power plants. That's especially true for Powder River coal, hauled in long unit trains over hundreds of miles; transportation accounts for more than half of the total delivered cost of coal from the region.

The U.S. Energy Information Administration tracked rail shipment prices to power plants from 2001 to 2010 and found substantial differences among the six major U.S. coal basins. EIA analysts found that, adjusted for inflation, rail transport rates for Powder River coal increased less than those for coal from other coal-producing regions. Powder River carriage rates rose less than 2 percent annually over the nine-year period, although they rose faster from 2009 to 2010.

However, average increases in rail rates between Powder River mines and specific states varied widely. For example, rates for shipping Wyoming coal to Minnesota power plants increased 7 percent annually, while costs for Wyoming coal headed to Wisconsin plants rose only 3 percent per year.

In addition, EIA found that rising mining costs in other parts of the country have made Powder River coal more cost competitive nationally. From 2007 to 2010, average delivered prices for district coal increased 22 percent—less than half of the price hike for coal from mines in Kentucky and West Virginia. As a result, Powder River producers have made inroads into Midwest and southeastern markets once predominantly served by central Appalachian coal.

—Phil Davies



## Local governance has a home in the Ninth District

Minnesota and some other Midwestern states are widely regarded for good governance. Maybe that comes with practice, because Minnesota and other Ninth District states practice a lot of governance.

Despite having just 4.4 percent of the country's population, five Ninth District states—Minnesota, Montana, the Dakotas and Wisconsin—have more than thrice that share (14.2 percent) of local government units in the country, about 12,600 in all, according to the U.S. Census Bureau.

A good deal of that share stems from a preponderance of town and township units that govern the rural expanses that dominate much of the district and have few if any paid employees. Indeed, only 20 states recognize these geographically small units of government. But at every jurisdiction, the share of local governments in the district is more than double its share of total population (see Chart 1).

Nationwide, there is a unit of local government of some type for about every 3,500 people. Minnesota has the most units of local government in the district,

with about 3,600, or one for roughly every 1,500 people. With 2,700 local governments, North Dakota has a local government unit for every 260 people.

Since 2007, most states have seen the number of local units decline, mostly as rural townships get annexed onto cities, or two similar units of government merge into a single larger unit. But among district states by 2012, there was a net gain thanks almost exclusively to Minnesota's increase of 106 units, many of them special district governments for things like watershed management and other special purposes (see Chart 2).

—Ronald A. Wirtz

