

## CCLI's 2011 Action Project Cool the Climate



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Cool the Climate *means* cooling the heated politics and misinformation about global warming // We must focus instead on the scientific facts about human induced climate change, **on what New Mexico stands to lose back-tracking in denial**, and on what we will gain by acting sensibly to solve the problem  
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## The Impacts of Climate Change in New Mexico

As politics about global warming heat up so does New Mexico. The state is already 1.8 degrees warmer than it was three decades ago.<sup>1</sup> However, this is nothing compared to the impending increase of 8 degrees in the next century unless a significant reduction in greenhouse gases (GHG's) occurs.<sup>2</sup> The scientists are already forecasting the devastating impact this shift in New Mexico's climate will have economics, environment and health.

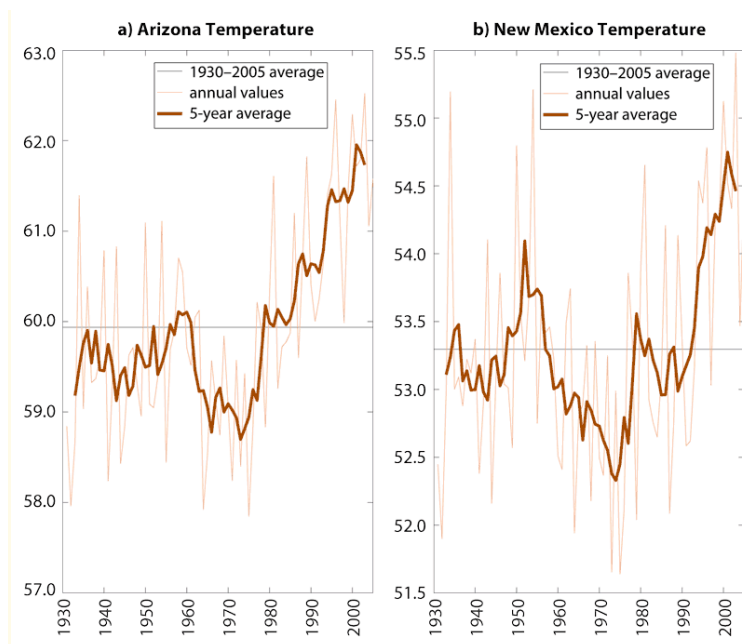
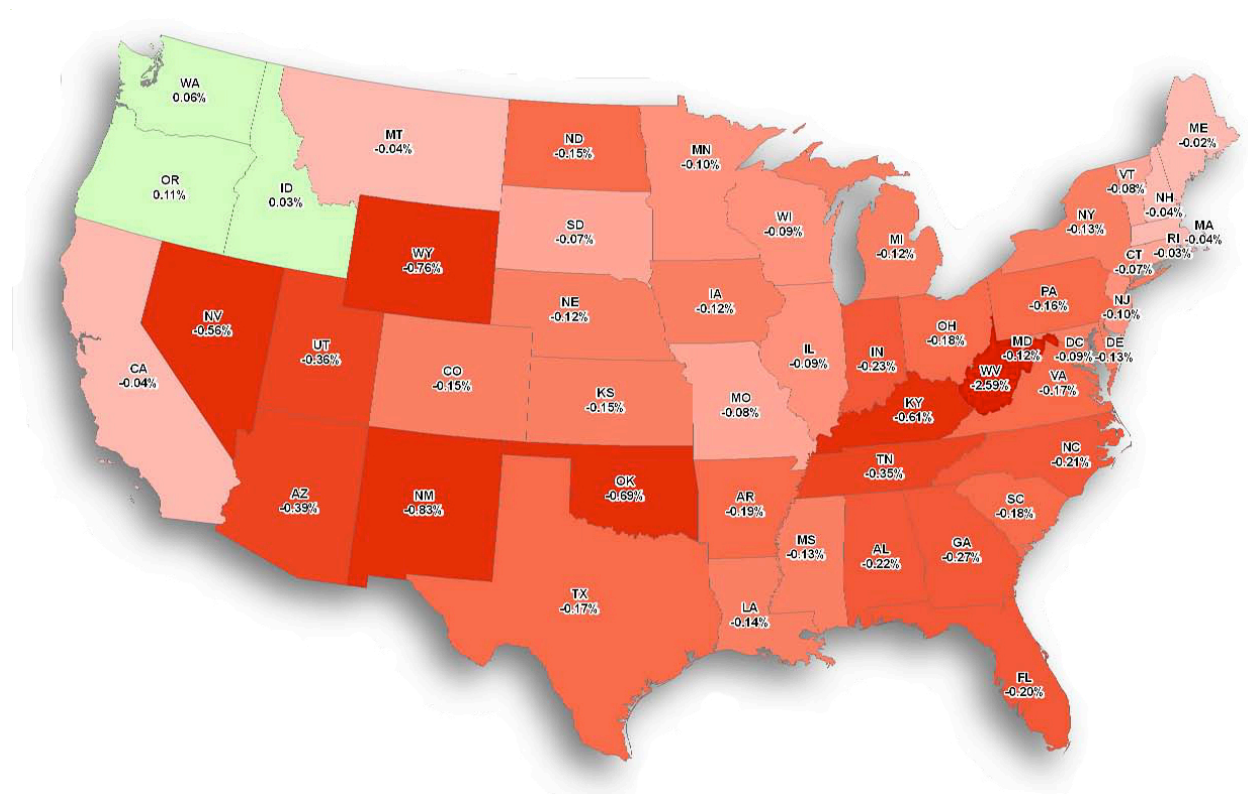


Figure 1. Southwest temperatures have been rising, above. Since 1976, the average annual temperature increased by 2.5 degrees Fahrenheit in Arizona a) and 1.8 degrees Fahrenheit in New Mexico b), or 0.8 degrees and 0.6 degrees Fahrenheit a decade, respectively. Data was averaged from the respective states' climate divisions by Ben Crawford, CLIMAS.

### Economic Setbacks

The rising climate will have drastic and adverse affects on New Mexico's already stunted economy. Models show that the New Mexico's GDP will decrease by 0.83%. This is the second largest GDP decrease of any state in the country.<sup>3</sup>

#### Percent Change in GDP (2010-2050), by State: 1% Simulation<sup>4</sup>



Human induced climate changes are anticipated to lead to a 0.55% decrease in population.<sup>5</sup>

The agriculture and outdoor recreation industries will be undermined by the severe climate change. It is estimated that increase temperatures in New Mexico could reduce wheat harvests by 10-30% and sorghum by 7-9%.<sup>6</sup> The number of farmed acres could diminish by 20-25%.<sup>7</sup> The direct economic loss to the agriculture industry will be \$100 million and another \$200 million in indirect losses.<sup>8</sup>

The outdoor recreation and tourism industry will also be affected by the acute environmental transformations. Winter and water revenues will drastically decline as warmer temperatures significantly reduce snowfall and water levels.<sup>9</sup> Hunting and fishing profits will

also decrease as the number of animals is significantly diminished. The impending temperature increase is expected to reduce trout habitat by 50-100%.<sup>10</sup>

Currently, hunting, fishing & wildlife tourism is a \$1.1 billion industry for New Mexico.<sup>11</sup> The combination of a decrease in wildlife for hunting and fishing with the burning and closure of forests will significantly weaken the tourism industry. Studies show that this will cause a loss of \$288 million in revenue for the recreation industry.<sup>12</sup> The cost to fight forest fires and to repair the homes damaged by them will cost \$488 million.<sup>13</sup>

### **Environmental Threats**

A climate change of this magnitude will affect every aspect of New Mexico's ecosystem. As the temperature heats up in New Mexico there will longer and more frequent heat waves in the summer and warmer winters. This will lead to more participation falling as rain and less as snow. Snowpacks will melt faster leading to drier riverbeds during the longer and hotter summers in the future. Premature spring runoff is already occurring is seven day earlier than previous years.<sup>14</sup> It is projected that runoff water will decrease in New Mexico by 60% by 2040; currently, 50-80% of the New Mexico's freshwater supply originates from snowpack.<sup>15</sup>

Forests in New Mexico are also endangered due to the decrease in lack of water as riverbeds dry up, droughts intensify, and forest fires become more severe. Increased destruction of piñon and ponderosa pines from bark beetles will occur with the water shortage. As the number of dead trees increases so does the risk of forest fires.<sup>16</sup> 3.5 million acres of southwest forest were already devoured by barkbeetles from 2001-2003.<sup>17</sup>

There has also been a 59% decline in Sagebrush ecosystems in western states.<sup>18</sup> Sagebrush habitats, the largest in the US, once covered 150 million acres, almost half of the west.<sup>19</sup> This loss can not be overstated and threatens New Mexican wildlife including Pronghorn sheep, sage grouse and mule deer.<sup>20</sup> Other important threatened species in New Mexico are the Rio Grande Cutthroat Trout, Jemez Mountains Salamander, and Goat Peak Pika.<sup>21</sup>

### **Health Complications**

Climate change will cause many health issues in New Mexico during the next century. As the temperature rises, summers become longer and hotter, and heat waves become more frequent and intense, heat related sickness and death will also increase. The increased temperatures will also cause a rise in pollen and allergies. Ground level ozone will increase with warmer weather increasing asthma and chronic lung disease risks. There are already three districts where ground ozone levels nearly exceed federal standards: Bernalillo County, Rio Rancho, and Sunland Park.<sup>22</sup> The increase in forest fires dust storms will cause further respiratory problems.

Climate change will also increase the threat of infectious disease in New Mexico. The warmer temperature will significantly increase mosquito transmitted diseases including West Nile virus, dengue fever, malaria, and western equine encephalitis.<sup>23</sup> Rodent carried diseases like the Hantavirus and plague will also be more prevalent.<sup>24</sup>

The task of obstructing and even reversing climate change is a Herculean task but not impossible. If enough progress is done now the lowest temp increase could be only be 6 degrees instead of the 8.6 that's predicted.<sup>25</sup> Hotter summers and winters. Less snowfall and earlier spring runoff. More severe droughts and heat waves. Businesses crippled and a rise in unemployment . Intense wildfires. Loss of plant and animal species. Greatly increased health threats. We must work rapidly and prudently to rectify these threats.

## Endnotes

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<sup>1</sup> <http://www.climas.arizona.edu/feature-articles/april-2007>

<sup>2</sup> <http://www.nature.org/wherewework/northamerica/states/newmexico/press/press4181.html>

<sup>3</sup> "Estimates of the Long-Term U.S. Economic Impacts of Global Climate Change-Induced Drought" p. 59.

<sup>4</sup> Ibid. p. 59

<sup>5</sup> Ibid. p 61

<sup>6</sup> "Global Warming and New Mexico" <http://www.nwf.org/Global-Warming/~media/PDFs/Global%20Warming/Global%20Warming%20State%20Fact%20Sheets/NewMexico.ashx>

<sup>7</sup> Ibid.

<sup>8</sup> <http://www.nature.org/wherewework/northamerica/states/newmexico/press/press4181.html>

<sup>9</sup> "Potential Effects of Climate Change on New Mexico" p. 29

[http://www.nmenv.state.nm.us/aqb/cc/Potential\\_Effects\\_Climate\\_Change\\_NM.pdf](http://www.nmenv.state.nm.us/aqb/cc/Potential_Effects_Climate_Change_NM.pdf)

<sup>10</sup> Ibid.

<sup>11</sup> "Target Global Warming in New Mexico" <http://www.tribalclimate.org/PDFsNewMexico/Resource-GWNMFactsheet.pdf>

<sup>12</sup> <http://www.nature.org/wherewework/northamerica/states/newmexico/press/press4181.html>

<sup>13</sup> <http://www.nature.org/wherewework/northamerica/states/newmexico/press/press4181.html>

<sup>14</sup> <http://www.nature.org/wherewework/northamerica/states/newmexico/press/press4181.html>

<sup>15</sup> "Climate Change and Health in New Mexico,"

<http://chge.med.harvard.edu/programs/policy/factsheets/Climate%20Change%20and%20Health%20in%20New%20Mexico.pdf>

<sup>16</sup> "Potential Effects of Climate Change on New Mexico" p. 27.

[http://www.nmenv.state.nm.us/aqb/cc/Potential\\_Effects\\_Climate\\_Change\\_NM.pdf](http://www.nmenv.state.nm.us/aqb/cc/Potential_Effects_Climate_Change_NM.pdf)

<sup>17</sup> <http://www.climas.arizona.edu/feature-articles/april-2007>

<sup>18</sup> "Target Global Warming in New Mexico" <http://www.tribalclimate.org/PDFsNewMexico/Resource-GWNMFactsheet.pdf>

<sup>19</sup> <http://www.fs.fed.us/pnw/science/scifi91.pdf>

<sup>20</sup> "Target Global Warming in New Mexico" <http://www.tribalclimate.org/PDFsNewMexico/Resource-GWNMFactsheet.pdf>

<sup>21</sup> <http://www.nature.org/wherewework/northamerica/states/newmexico/press/press4181.html>

<sup>22</sup> "Potential Effects of Climate Change on New Mexico" p. 30

[http://www.nmenv.state.nm.us/aqb/cc/Potential\\_Effects\\_Climate\\_Change\\_NM.pdf](http://www.nmenv.state.nm.us/aqb/cc/Potential_Effects_Climate_Change_NM.pdf)

<sup>23</sup> Ibid. p. 32

<sup>24</sup> Ibid. p. 33

<sup>25</sup> <http://www.nature.org/wherewework/northamerica/states/newmexico/press/press4181.html>