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## **ARGENTINA**

# **Climate changes threaten agriculture**

## **Odd weather patterns and natural phenomena have Argentine officials worried about global warming.**

**By Eliana Raszewski**

**Bloomberg News**

The Argentina coast guard was astonished to find icebergs floating along the Atlantic coast.

"It's the first time icebergs of such size reached Buenos Aires," said Miguel Angel Reyes, 44, chief of maritime traffic at the coast guard. "The police escorted the icebergs until they were out of the danger zone."

For scientists, the icebergs' migration underscored how global warming is disrupting weather patterns and threatening agriculture. The coast guard rerouted ships after the pair of icebergs measuring 250 meters (820 feet) long and 30 meters high broke off from the melting Antarctic ice cap in early January and drifted 2,700 miles north. A month later, two more icebergs headed up the coast.

"The higher temperatures are causing this," said Juan Carlos Leiva, 56, a geophysicist at the Argentine Institute of Snow and Glaciers in Mendoza, in the foothills of the Andes. "The situation has gotten worse."

The implications are worrisome for farming-dependent countries such as Argentina, the world's third-largest exporter of beef, corn and soybeans. Rising temperatures prompt flooding in some areas and dry up rivers in others, said Vicente Barros, a climatology professor at the University of Buenos Aires.

## **EVAPORATION**

Warmer weather is evaporating water from rivers in northern Argentina at a faster pace than in previous years, curbing hydroelectric power and cutting the water supply to crops, Barros said. It's also bringing more rain to the central provinces of Cordoba, Santa Fe and Buenos Aires, flooding fields of soybeans, wheat and corn, he said.

Wire fences jut out of some lakes in the area, showing that the land had been arable before it was engulfed in recent years. Flooding has left some of Argentina's main

roadways under water, including Route 7, a 1,000-kilometer highway that runs from the country's western border with Chile to the Atlantic Ocean in the east.

"The flooding has forced us to redesign routes," said Carlos Avellaneda, 49, a manager in Empresa de Transporte Don Pedro SRL in Buenos Aires, which has more than 500 cargo trucks. "We thought it would be for a short period of time, but it has been almost six years."

Global warming is a phenomenon some scientists say is caused by human-generated emission of greenhouse gases that gather in the atmosphere and prevent heat from escaping.

Sea- and land-surface temperatures from January to November last year averaged 0.48 degree Celsius (0.9 degree Fahrenheit) more than the global mean temperature in the three decades from 1961 to 1990, according to the Exeter, England-based Hadley Centre for Climate Prediction and Research.

The Geneva-based Intergovernmental Panel on Climate Change forecasts that global temperatures will rise as much as 5.8 degrees Celsius by 2100.

Antonio Pirillo, a 68-year-old dairy farmer, said stretches of Route 7 are under about 2 ½ feet of water near his farm in Villa Saboya, a town on the pampas of central Argentina, after heavy rains caused nearby Lake La Picasa to overflow years ago, flooding 40,000 hectares of land.

Pirillo said his land was ruined even though town officials pumped off the water, because the salt left behind burned the grass' roots so it wouldn't grow. He said he had to rent other pasture to graze his 120 cows for three years until he restored enough grass on his land to feed them.

### **'WASTED LAND'**

"Land underwater is wasted land, and that's very sad," Pirillo said. "Farming is the engine that drives the economy in this country, but farmland is not taken care of and protected."

Agriculture generates 12 percent of Argentina's \$152 billion gross domestic product. In the U.S., agriculture makes up just 1.2 percent of GDP.

"Increased rains, stronger storms and higher levels of rivers and seas are affecting the soil and the harvests that these commodity-export economies are based on," said Juan Carlos Villalonga, 45, director in Argentina of the ecological group Greenpeace.

President Bush's administration is among governments that question how much humans are contributing to global warming. Argentine President Néstor Kirchner's government, in a Health Ministry statement Feb. 14, said human-generated emission of greenhouse gases is leading to global warming. He urged companies to use cleaner fuels.

Rising temperatures are melting glaciers in the south of Argentina, one of the country's biggest tourist attractions.

Warmer weather also caused a surge in thunderstorms and downpours in Argentina. In the 20-year period from 1980 to 2000, "heavy rains" increased sevenfold from the period of 1950 to 1970, Barros said.

When those rains caused Lake La Picasa to overflow in 1999, Carlos Bertolino's soybean fields were ruined, costing him about \$150,000. About 130 hectares of his 220-hectare land was covered with water.

While the water receded, salt ruined the soil, as it did to Pirillo's land, prompting Bertolino to give up farming for cattle breeding. He sells the animals while they're calves because his grass isn't good enough to fatten them up.

Barros said that Argentine lakes such as La Picasa will flood again as temperatures keep rising. Bertolino said that risk has wiped out the value of land that once sold for \$6,000 a hectare.

"Who would be interested in buying land that may be flooded again?" he asked.

*Bloomberg writer Heather Walsh contributed to this report.*