Climate change hampering world food production, scientists say

February 16 2015

A peasant looks for good corn during harvest of a drought-affected crop in La Tuna community in Madriz, 200 km from Managua, on November 17, 2014

The acceleration climate change and its impact on agricultural production means that profound societal changes will be needed in coming decades to feed the world's growing population, researchers at an annual science conference said.

According to scientists, food production will have to be doubled over the

next 35 years to feed a global population of nine billion people in 2050, compared with seven billion today.

Feeding the world "is going to take some changes in terms of minimizing climate disruption," said Jerry Hatfield, director at the National Laboratory for Agriculture and the Environment.

Rainfall volatility, increased drought and rising temperatures affect crop yields, which means action must be taken, he said during a talk Sunday at the annual meeting of the American Association for the Advancement of Science.

"If you look at production from 2000 to 2050, we basically have to produce the same amount of food as we produced in the last 500 years" he said.

But globally, land usage levels and productivity will continue to degrade the soil, he added.

"If you look at the future projection for the Midwest, we have high confidence that temperatures will increase by quite a bit," Kenneth Kunkel, a climatologist at the US National Oceanic and Atmospheric Administration, said of the country's central grain-producing region.

Kunkel studied the impact of global warming on corn in the American Midwest where the biggest threat to food security is drought.

The area is likely to see worse drought in the 21st century than anything it witnessed in the last millennium, which poses a threat to the region's inhabitants, scientists said Thursday, on the first day of the conference in San Jose, California.

Climate change is happening so fast that humans will soon face an

unprecedented situation, Kunkel said.

But James Gerber, an agricultural expert at the University of Minnesota, said that reducing consumption waste and decreasing consumption of red meat could help.

Reducing the size of herds decreases their environmental impact, which includes substantial methane emissions, a potent greenhouse gas.

Gerber said scientists had identified "trends that are a little bit concerning" such as a global decrease in the grain reserves that provide society with an important safety net.

He also expressed concern that the majority of grain production is concentrated in areas vulnerable to global warming.

And he didn't rule out greater use of GMOs as part of the solution.

Paul Ehrlich, president of the Center for Conservation Biology at Stanford University, said the problem calls for a "real social and cultural change over the entire planet."

"If we had a thousand years to solve it, I would be very relaxed, but we may have 10 or 20 years," he said.