

# Report finds 241 near-collisions between pilots, drones

By **JOAN LOWY**  
Associated Press



Rick Bowmer/AP Photo/File

**A drone is demonstrated in Brigham City, Utah. Researchers say there have been at least 241 reports of close encounters between drones and manned aircraft that meet the government's definition of a near midair collision, including 28 in which pilots maneuvered to get out of the way. A report released Friday by Bard College's Center for the Study of the Drone in New York says 90 of the close encounters involved drones and commercial jets, the majority of which had the capacity to carry 50 people or more.**

do, Florida, 13; Houston, 12; Portland, Oregon, 12; Dallas/Fort Worth, 11; and Denver, 10.

The report is based on an analysis of government records detailing 921 incidents involving drones and manned aircraft between Dec. 17, 2013, and Sept. 12, 2015. Researchers cautioned that it's hard for pilots to judge their distance from another object when flying at high speeds.

The majority of the incidents, 64 percent, were sightings of drones in the vicinity

of other aircraft with no immediate threat of collision.

The FAA has previously released data on reports of drone sightings, but the Bard report is the first comprehensive analysis of the sightings by researchers outside the aviation community. Its findings are likely to fuel more debate over how much of a threat drones are to manned aircraft as the government struggles with how to reap the benefits of unmanned aircraft without undermining safety.

Reports of drones flying where they aren't supposed to have increased dramatically. In May 2014, 10 incidents were reported to the FAA; in May of this year, there were 100 incidents. The FAA confirmed to the report's authors that the trend has continued, with 127 incidents in September and 137 incidents in October.

"It's hard to say if or when there might be a drone crash, but certainly we've seen an increase in the number of reports and an increase in the

number of close counters," said Dan Gettinger, co-director of the drone center.

Government and industry officials have expressed concern that if a drone — much like a bird — is sucked into an aircraft engine, smashes a cockpit windshield or damages a critical aircraft surface area, it could cause an air crash.

"With sufficient speed, bird strikes have been known to penetrate the cockpit," the report said. "It's entirely possible, then, that a drone

could also break through into a cockpit, potentially causing serious harm to the pilots or other occupants."

Helicopter blades are considered especially vulnerable. Thirty-eight of the near collisions identified by researchers involved helicopters.

Aircraft engine manufacturers currently test the ability of engines to withstand bird strikes by firing dead birds at the engines at high velocities. The FAA hasn't yet said when it will require engine makers to conduct tests with drones, but officials have unofficially acknowledged they are working on the issue, the report said.

The report cited research by engineers at Virginia Polytechnic Institute and State University in Blacksburg, Virginia, that used data on bird strikes to create computer simulations of drones striking planes in order to identify the riskiest impact locations. They concluded that hobby drones weighing between 2 and 6 pounds "can potentially cause critical damage."

The FAA is in the process of finalizing rules for the use of commercial drones weighing less than 55 pounds. The agency is also expected to shortly issue rules requiring the registration of small drones, including those used by hobbyists, in an effort to help create a "culture of responsibility" among drone operators. The agency is trying to get the registration rules in place before Christmas.

# Now comes the tough part: The world's carbon diet starts

By **SETH BORENSTEIN**  
AP Science Writer



Amel Emric/AP Photo

**The sun sets behind a power plant powered by coal in the Bosnian town of Tuzla, 120 kms north of Sarajevo, Bosnia, Saturday. notforsale**

of the Potsdam Institute for Climate Impact Research in Germany.

Oh and by the way, the harder goal — limit warming by another half a degree Celsius (0.9 Fahrenheit) — is probably already impossible, said Joeri Rogelj at the International Institute for Applied Systems Analysis in Austria. Most likely the best the world can hope for is overshooting that temperature by a few tenths of a degree and then somehow slowly — over decades if not centuries — come back to the target temperature.

That may involve something called negative emissions. That's when the world — technology and nature combined — take out more carbon dioxide from the air

than humanity puts in. Nearly 90 percent of scenarios of how to establish a safer temperature in the world involves going backward on emissions, but it is also so far not very realistic, said Kevin Anderson, deputy director of the Tyndall Centre for Climate Change Research in Britain.

Negative emissions involve more forests, maybe seeding the oceans, and possibly technology that sucks carbon out of the air and stores it underground somehow. More biomass or forests require enormous land areas and direct capture of carbon from air is expensive, but with a serious sustained research effort costs can probably be brought below \$100 per metric ton, said engineering and policy

professor Granger Morgan of Carnegie Mellon University.

Leading up to the Paris Agreement, nearly every nation formed an individual action plan to cut or at least slow the growth of carbon pollution over the next decade or so. Richer nations that have already developed, like the United States, Europe and Japan, pledged to cut now. Developing nations that say they need fossil fuels to pull themselves out poverty pledged to slow the rate of growth for now, and to cut later.

"The EU and U.S. are all on Slim-Fast," said Paul Bledsoe, a former Clinton administration climate official. "China's still hitting fast food, but will have to stop soon."

China, the world's top car-

bon polluter, will eventually have to make the biggest cuts. Overall, for the world to hit its new target, global carbon dioxide emissions will have to peak by 2030, maybe earlier, and then fall to near-zero, experts said. Those levels have been generally rising since the industrial revolution. A new study suggests emissions may have fallen slightly this year, but that may be a blip.

Without any efforts to limit global warming, the world would have warmed by 3.5 degrees Celsius (6.3 degrees Fahrenheit) from now by 2100, according to Climate Interactive. But China's submitted plan alone would cut that projected warming by 1.3 degrees, according to Climate Interactive. The U.S. plan

trims about six tenths of a degree of the projected warming without a global deal.

And while China is now the No. 1 carbon dioxide polluter with more than a quarter of the world's emissions, carbon dioxide stays in the air for at least a century, so historical emissions are important. Since 1870, the U.S. is responsible for 18 percent of the world's carbon pollution, compared to 13 percent for China.

That all sounds good, but the goals the nations have set aren't enough. Taken together, they would still allow temperatures to rise 2.5 degrees Celsius (4.5 degrees Fahrenheit) by the end of the century from now, so to reach the goals agreed on this weekend countries will need to do more, Climate Interactive found.

Another climate modeling group, Climate Action Tracker, is slightly more optimistic, but still finds the nations' plans would miss the goal of limiting temperature rise to one more degree. It says the current proposals would allow a rise of 1.7 degrees Celsius (1.25 degrees Fahrenheit).

Countries agreed Saturday to take another look at their goals every five years.

"Clearly countries must be exercising their low-carbon muscles more," said Rachel Cleetus, climate policy manager for the Union of Concern Scientists.

French President Francois Hollande took the first step as he praised the Paris Agreement. He said France would ratchet up its goals and efforts earlier than required and challenged other nations to do the same.

"The world starts tomorrow" U.N. Secretary General Ban Ki-moon told climate negotiators.

He said that Saturday.

## Oregon's vacancy rate was nation's lowest

The Associated Press

PORTLAND — New data from the U.S. Census Bureau shows that Oregon's rental vacancy rate was the lowest in the country last year.

The Oregonian reports that Oregon had a 3.6 percent vacancy rate in 2014, down from 4.4 percent in 2013. That year, Oregon ranked fifth in the nation.

The numbers are a reflection of Oregon's growing population, which reached 4 million people this year.

The new state data put Oregon above California, which had the nation's second lowest vacancy rate at 3.9 percent.

Massachusetts, Vermont and Washington state rounded out the top five with 4 percent, 4.1 percent and 4.2 percent vacancy rates, respectively.

## Samples: 'That's what I love about the job is every day is different'

Continued from Page 1A

"It is great for us because he understands from the contractor's perspective," Hansen said.

Now on the inspection side, Samples said, he knows it can be hard for a contractor when an inspector comes to a site.

"Everything I write down costs the contractor money regardless of how small it is," he said. "So you have to

be aware of that."

Since starting last month, Samples has been busy spending his days out on the field. Most of his days are spent inspecting private residences. In one day, he could have to travel to a dozen locations between Arch Cape, Cannon Beach, Seaside and Cullaby Lake.

"That's what I love about the job is every day is different," he said.

— Kyle Spurr

**KAST**  
1370 AM  
NEWS TALK FOR THE COAST

Providing live and local news coverage every day

You could see it tonight, read about it tomorrow or hear it live NOW!