

## Scientists: 'Ecological Armageddon' -- Flying, Pollinating Insects Disappearing

by Jessica Corbett via jaxie - CommonDreams *Friday, Oct 20 2017, 6:06am*

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A new [study](#) published Wednesday, revealing populations of flying insects like bees and butterflies plunged more than 75 percent in German nature preserves over the past 27 years, has scientists calling for further research into probable causes such as climate change and pesticide use, and raising alarms about a potential "ecological Armageddon."



"Insects make up about two thirds of all life on Earth," [noted](#) report co-author Dave Goulson, a professor at Sussex University in the United Kingdom.

"We appear to be making vast tracts of land inhospitable to most forms of life, and are currently on course for ecological Armageddon," he said. "On current trajectory, our grandchildren will inherit a profoundly impoverished world."

Goulson was part of a team of European scientists who studied population levels in 63 nature reserves across Germany from 1989 to 2016 by setting up malaise traps that captured more than 1,500 samples of flying insects.

They tracked the rapid decline across 96 unique location-year combinations in Germany, which is "representative of Western European low-altitude nature protection areas embedded in a human-dominated landscape," as they wrote in the peer-reviewed study, [published](#) in the journal PLOS ONE.

"This is the first study that looked into the total biomass of flying insects and it confirms our worries," co-author Caspar Hallmann, from the Radboud University in The Netherlands, [told](#) BBC. "This confirms what everybody's been having as a gut feeling."

"The fact that flying insects are decreasing at such a high rate in such a large area is an alarming discovery," said project leader Hans de Kroon, also from Radboud University. "As entire ecosystems are dependent on insects for food and as pollinators, it places the decline of insect eating birds and mammals in a new context. We can barely imagine what would happen if this downward trend continues unabated."

"We don't know exactly what the causes are," said de Kroon, but he noted that "in the modern agricultural landscape, for insects it's a hostile environment."

"And the decline there has been well documented," he added. "The big surprise is that it is also happening in adjacent nature reserves."

"The decline in insect biomass, being evident throughout the growing season, and irrespective of habitat type or landscape configuration, suggests large-scale factors must be involved," the team wrote.

While noting they had not "exhaustively analyzed the climatic variables" that may have impacted populations, such as "prolonged droughts, or lack of sunshine especially in low temperatures," they also suggested "agricultural intensification (e.g. pesticide usage, year-round tillage, increased use of fertilizers and frequency of agronomic measures) that we could not incorporate in our analyses, may form a plausible cause."

The study fuels mounting concerns about how flying insects, particularly pollinators such as bees, are affected by climate change as well as chemicals used in agriculture and other industries. A study [published](#) earlier this month revealed researchers found neonicotinoid pesticides—which have been [linked](#) to bee harm and broader ecological damage—in the majority of honey samples collected from around the world.

Despite calls from scientists, pesticide opponents, and biodiversity advocates to impose tougher restrictions on neonicotinoids, and the Environmental Protection Agency even acknowledging that neonics are harmful to bees, U.S. regulators have bowed to the [chemical industry](#). The European Commission, meanwhile, issued a temporary ban on three key neonicotinoids in 2013, and is currently [engaged](#) in an intense debate over whether to extend restrictions.

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