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Tree-planting drones aim to cool a hot planet

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Flash Forest is one of several startups trying to restore forests with tree-planting drones. According to the Intergovernmental Panel on Climate Change, humans need to plant 1 billion hectares of trees to have any hope of limiting global temperature increase to 1.5 degrees Celsius. This equals a forest about the size of the U.S.

"I think that drones are absolutely necessary to hit the kind of targets that we're saying are necessary to achieve some of our carbon sequestration goals as a global society," said Flash Forest cofounder and chief strategy officer Angelique Ahlstrom, as reported in Fast Company. "When you look at the potential for drones, we plant 10 times faster than humans."

When beginning a new project, Flash Forest first uses mapping drones to determine the best places to plant trees based on soil type and existing plant life. Then the planting drones swoop in, precisely depositing special moisture-storing seed pods. The drones even have a pneumatic firing device they can deploy in difficult terrain like mangrove forests or steep hills. "It allows you to get into trickier areas that human planters can't," Ahlstrom said. The startup, which launched in early 2019, can already plant 10,000 to 20,000 seed pods per day.

Flash Forest matches the tree species with the environment — and what the environment might be like in the future. "We work with local seed banks and also take into account that the different changes that climate change brings with temperature rise, anticipating what the climate will be like in five to eight years when these trees are much older and have grown to a more mature stage, and how that will affect them," Ahlstrom explained.

The drones don't just drop the seedlings and desert them. Depending on the project, Flash Forest plans to check on the seedlings when they're a couple of months old, then a year or two, then three to five years old. If all works out well, the trees will take eventually take care of themselves and, by extension, us humans as they help to limit the global temperature rise.

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