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The Changing Shapes of Air Power

Drones are playing an increasingly important role in the American military. Only 10 years ago, the Pentagon had about 50 drones; now there are 7,000 drones in its inventory, ranging in size from large blimps to tiny Hummingbirds. Here are 10 drones currently on the battlefield or on the drawing board. | [Related Article](#)




AEROSTAT
200 ft. long
65 ft. across the hull

Aerostats are tethered fabric balloons filled with helium that float 15,000 feet in the air from a single cable. They can lift 1,200 pounds, including a camera that pans 360 degrees for constant real-time surveillance. They are used extensively on the Afghanistan-Pakistan border and above Kabul, where one of them is anchored at Bala Hissar, an ancient fortress. Their virtue is that they can stay aloft for months at a time, carrying a heavy load of intelligence equipment. Their shortcoming is that they cannot be moved rapidly for new assignments.




GLOBAL HAWK
44 ft. long
116 ft. wingspan

Sometimes described as a "flying albino whale," the Global Hawk is the largest flying drone. Although linked to humans on the ground, Global Hawks fly mostly on their own, guided by GPS coordinates they download from satellites. They were deployed over Afghanistan in 2001, providing commanders with battlefield images. The Global Hawk flies higher than the Predator and can stay up longer — for almost two days.




X-47B
38 ft. long
62 ft. wingspan

The Navy's prototype combat drone, and the first combat drone able to take off from an aircraft carrier and land on it. Its first test flight (29 minutes) was on Feb. 7, 2011.




REAPER
36 ft. long
66 ft. wingspan

The largest armed drone. Called a "hunter-killer" aircraft, the Reaper can detect humans and can fire Hellfire air-to-surface missiles. It will soon replace the better-known Predator.




PREDATOR
27 ft. long
55 ft. wingspan

The Predator is the Cessna-size workhorse that has dominated remotely piloted flight since the Sept. 11, 2001, attacks. The Pentagon has 169 Predators in its inventory.




FIRE SCOUT
24 ft. long
27.5 ft. rotor diameter

The Fire Scout is designed to take off and land vertically. Last summer the operators of a Fire Scout drone lost control of it in the airspace over Washington, D.C.




SHADOW
11.3 ft. long
14 ft. wingspan

The little sister to the Predator, the Shadow is launched by a catapult, rather than from a runway. The drone is used by Army and Marine forces in the field. The United States recently sold a number to Pakistan.




RAVEN
3 ft. long
4.5 ft. wingspan

The Raven, which weighs just five pounds, is launched into the air by tossing it like a football. It is carried by ground units in the field that need quick awareness of what may be around a corner.



HUMMINGBIRD
4 in. long
6.5 in wingspan

The prototype remote-controlled Hummingbird has a tiny camera in its belly and weighs less than two-thirds of an ounce. Propelled only by its flapping wings, it can fly at speeds up to 11 miles per hour, hover and perch on a windowsill.



INSECT SWARMS

The drones of the future. Researchers say there could be swarms of dragonfly-size drones — or smaller — by 2030.

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Sources: Department of Defense; Northrop Grumman; "Wired for War: The Robotics Revolution and Conflict in the 21st Century," by P.W. Singer

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