

Some aspects of providing meteorological information for unmanned aerial vehicles under war conditions

An unmanned aerial vehicle (UAV) is an aircraft designed to fly without a pilot on board, the flight control and control of which is carried out by an appropriate program or with the help of a special control station located behind the aircraft.

An unmanned aircraft complex (unmanned aircraft system) is an unmanned aircraft, remote piloting points (ground control stations), necessary control and control lines and other elements specified in the approved design of the type of this complex. This complex can include several unmanned aerial vehicles.

According to the NATO standard (STANAG 4670), military UAVs are divided into three classes and seven categories, depending on their flight height and range.

Class	Category	Normal Employment	Normal Operating Altitude	Normal Mission Radius	Primary Supported Commander	Example Platform	Наявність вітчизняного БпАК
Class III (> 600 kg)	Strike/Combat*	Strategic/National	Up to 65,000 ft	Unlimited (BLOS)	Theatre	Reaper	●
	HALE	Strategic/National	Up to 65,000 ft	Unlimited (BLOS)	Theatre	Global Hawk	●
	MALE	Operational/Theatre	Up to 45,000 ft MSL	Unlimited (BLOS)	JTF	Heron	●
Class II (150 kg - 600 kg)	Tactical	Tactical Formation	Up to 18,000 ft AGL	200 km (LOS)	Brigade	Hermes 450	●
Class I (< 150 kg)	Small (>15 kg)	Tactical Unit	Up to 5,000 ft AGL	50 km (LOS)	Battalion, Regiment	Scan Eagle	●
	Mini (<15 kg)	Tactical Subunit (manual or hand launch)	Up to 3,000 ft AGL	Up to 25 km (LOS)	Company, Platoon, Squad	Skylark	●
	Micro ** (<66 J)	Tactical Subunit (manual or hand launch)	Up to 200 ft AGL	Up to 5 km (LOS)	Platoon, Squad	Black Widow	●



Examples of UAVs produced and used in Turkey, the USA and NATO countries

Meteorological phenomena influenced by UAVs:

- *Fog;
- *Icing;
- *Turbulence;
- Atmospheric fronts;
- Thunderstorms.



At the same time, each of these values affects the following flight technical characteristics of the aircraft:

- flight speed;
- maximum permissible flight height;
- fuel consumption;
- run-up length;
- mileage.

Based on meteorological data, qualified drone operators and drone system specialists are being created for reconnaissance and offensive operations and artillery fire correction