



Russian Topographic Maps and Cloud-Based Technology

OE Watch Commentary: The accompanying excerpted article from *Izvestia* discusses Russian plans to provide greater access of geospatial information by means of cloud-based technology. According to *Izvestia*, currently only the staffs of military districts, armies, and divisions have access to such information, but in the future this information will be directly accessible by lower level formations, including forward deployed reconnaissance units. Of particular interest, the article mentions the use of the Apsheronsk-2015 [Апшеронска-2015] system that is capable of producing 3D maps that ‘will be especially useful in the development and conduct of large-scale combat operations’. **End OE Watch Commentary (Bartles)**



Commander personal tablet PC.

Source: Vitaly Kuzmin, <https://www.vitalykuzmin.net/Military/MAKS-2013/i-bVdcKHb/A, CCA NC-ND 4.0>

“The Defense Ministry is currently engaged in the creation of an online topographic repository. It will store maps of all scales, as well as 3D terrain models. The staffs of military districts, armies, and divisions now have immediate access to such information. But in the near future, soldiers of reconnaissance groups in enemy rear will also have access to it...”

Source: Aleksey Ramm and Bogdan Stepovoy, “Облачные атласы: в армии создается топографическое онлайн-хранилище (Cloud Atlases: Russian Army Creates Online Topographic Repository),” *Izvestia* Online, 7 April 2020. <https://iz.ru/994729/aleksei-ramm-bogdan-stepovoi/oblachnye-atlasy-v-armii-sozdaetsia-topograficheskoe-onlain-khranilishche>

Cloud Atlases: Russian Army Creates Online Topographic Repository

The Russian servicemen will have “cloud atlases” at their disposal. The Defense Ministry is currently engaged in the creation of an online topographic repository. It will store maps of all scales, as well as 3D terrain models. The staffs of military districts, armies, and divisions now have immediate access to such information. But in the near future, soldiers of reconnaissance groups in enemy rear will also have access to it...

Per Viktor Murakhovskiy, the chief editor of the *Arsenal Otechestva* magazine, in modern conditions, it is impossible to conduct troops command and control, as well as to plan operations without relevant maps. “A map is a commander’s main working tool,” the expert believes. “Establishing precise areas and boundaries that the troops must occupy can only be done with a map. When planning actions, determining one’s deployment location is the first thing an officer or a general should perform. All further steps originate from this. A verbal description of the terrain will not suffice here, as the probability of an error that may lead to the loss of control is very high. New technologies will help the commanders to acquire maps almost immediately, significantly improving troops controllability.

With the advent of electronic repositories, it will no longer be necessary to print out maps for all occasions, store them in warehouses, and deliver them in truckloads to the troops when needed, the military expert Oleg Zheltonozko believes. “Now, having arrived at a new location, the commander will immediately receive a map in electronic form and determine his positioning on terrain,” the specialist explained. “If necessary, it will be possible to print the maps in needed number of copies even in field conditions -- such possibility is now available. The army has received compact equipment, allowing to do this fast when needed...

In order for the troops to be able to use the most up-to-date topographic information in field conditions, the Apsheronsk-2015 [Апшеронска-2015] automated system of ultra-precise electronic maps and 3D models of the terrain was deployed...Optical, infrared, laser, and radar sensor data is used in creating and updating electronic maps and 3D models. As a rule, these sensors are installed on reconnaissance satellites, combat aircraft, UAVs, and ships.

Thanks to their operations, an officer can see a detailed and accurate digital map on the screen of a special tablet or laptop. The 3D models provide an opportunity to assess the terrain topography and take its peculiarities into consideration when conducting combat operations. In particular, they help determine the most convenient directions of advance or possible threat directions, and where to expect an enemy strike. It also makes it possible to home in artillery and aviation to targets.

The main advantage of the Apsheronsk-2015 is the rapid creation of a modern reliable, accurate, and readable digital information. In order to organize the coordination of interbranch troop groupings and the successful work of staffs, this system can generate 3D layouts of terrain -- they will be especially useful in the development and conduct of large-scale combat operations.

Geospatial information systems are also being used today in the preparation of military operations. They make it possible to provide staffs and commanders with relevant, constantly updated digital maps.