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SUMMARY

© **B. S. Zhikharevich, T. K. Pribyshin.** Spreading of strategic planning in the cities of Russia: 1997—2013.

After 1997, when the first Saint-Petersburg strategic plan was approved, other Russian cities started to develop their plans of socio-economic development. In the article the history of long-term strategic planning in big cities, biggest cities and million-strong cities, is presented and analyzed. The research is based on the data of 130 documents.

© **A. S. Viktorov.** Stochastic model of the dynamical equilibrium in development of the morphological structure of a landscape.

One of the important directions of studying the development of morphological structures is the study of conditions for the state of dynamical equilibrium. The article shows that one of the mechanics of occurrence of dynamical equilibrium in the development of a landscape's morphological structure might be concerned with the progression of quasi-periodical landscape-forming processes. The relations of dynamic and static parameters of morphological structures were derived for such landscapes; these relations allow prediction of the time of nearest activation of the concerned processes. For the landscapes with spread of quasi-periodical landscape-forming processes the possibility of deriving the information on its dynamics by the short series of observation is shown.

© **S. Yu. Grishin.** Impact of Shiveluch volcano eruption (Kamchatka) on the vegetation cover.

Shiveluch volcano is the most northern, very large, one of the most active volcanoes of Kamchatka. Powerful and occasionally giant (by the output volume) eruptions have a strong, and at times catastrophic influence on the ecosystems of the surrounding area. To a great degree the destructive action impacts on the vegetation cover, the most sensitive component of the ecosystems. The article analyzes the main forms of influence on the vegetation cover by the example of three major eruptions that occurred in recent semicentenary, and also the range of damage and prospects of vegetation recovery. The data was received during the field works held on the volcano during the period of 1978—2012. The vegetation of the sout-

hern slope of the volcano was studied, since due to the structure of the volcano, the most intensive influence on the vegetation takes place exactly here. The analysis of the air and space imagery of various years allowed the study of widespread changes of the vegetation and landscapes occurring as a result of the eruptions.

© **M. E. Melnikov, T. E. Sedysheva, G. V. Agapova, V. M. Anokhin.** Peculiarities of geomorphological structure of guyots of Magellanic Mountains (Pacific Ocean).

We made the areal multibeam bathymetric survey for all guyots of Magellanic Mountains during the eight cruises of RV Gelendzhik from 2000 to 2010. The result revealed a number of peculiarities of the geomorphological structure of Megellanic Mountains. In the chain of the mountains according to the structural-morphological features we detect two units: the Eastern and the Western. Guyots of the Western part are characterized by a simple morphology, guyots of the Eastern part have a more complex morphology, in particular, the high degree of complications by the satellite buildings. The surfaces of guyots of the Magellanic Mountains are complicated by diverse mesoforms, including areal (satellite buildings, volcanic structures, terraces) and linear (spurs, ridges, ravines, cliffs). Surfaces of guyot slopes are generally characterized by denudation genesis, but some parts of the slopes clearly are of tectonic genesis and are possibly related to the tectonic activity that caused the collapse in those areas.

© **A. A. Bobkov, R. I. May, E. I. Lazareva, V. A. Spiridonov.** Geomorphological features of coasts and oceanological regime of creek part of the Ambarnaya Inlet (Kola Peninsula).

The data obtained between 19 and 27 August, 2011 in the creek part of Ambarnaya Inlet are put in a basis of the publication. One of the aims of expedition was the investigation of its shore which goes under a water surface and forms specific conditions for spreading of hydrobionts in sublittoral ecosystems of two reservoirs partially isolated from the sea — lakes Linyalampi and Sisyayarvi. Assessment of a contribution of tidal components in variability of abiotic factors was the second task. Investigation of the coast was carried out on fiducial points with GPS reference. For an estimation of variability of oceanological conditions in the lake Sisyayarvi at a depth of 6 m the Priliv-2D mareograph was installed.

Results of the geological-geomorphological survey of coast line of both lakes are generalized on the map characterizing the relief elements up to the level of facies.

Relative isolation of both lakes doesn't mean that their regime is out of action of tidal movements — through narrow and shallow straits a tidal wave, being strongly transformed, gets consistently into lakes Linyalampi and Sisyayarvi. The sea level in Sisyayarvi is compared to the precalculated one in Liinakhamari (inlet of Pechenga). In the inlet of Pechenga the mid-extreme tide reaches 153 cm, and in Sisyayarvi comes up to 72 cm. It means that a tidal wave, moving ahead from Ambarnaya inlet through two shallow passages, decreases more than twice. Time of approach of high water in Sisyayarvi is late for more than an hour and a half concerning the moment of establishment of maximum tidal level in Liinakhamari.

Harmonic analysis of mareograph's data showed that in a spectrum of fluctuations daily, semidiurnal, 1/3-daily, 1/4-daily, 1/6-dailyand 1/8-daily harmonics are expressed. The semidiurnal wave has the greatest amplitude (28.7 cm).

Sea level fluctuations well correspond to the moments of activization and weakening of a tidal stream coming from the Barents Sea. Floating measurements showed that the tidal current has the greatest strength by the entrance to the lake Linyalampi (speed in inflow of 0.7—1.2 m/s on the 1st crossing section and 0.4—0.6 m/s on the second one). At the outflow on 2nd throat average speeds of the current are about 0.4, maximum is 1.5 m/s; on the 1st maximum is 2.3 m/s. Time of approach of high and low waters in the 2nd «ladle» practically coincides with the moments of reverse of the tidal stream in both throats.

© **A. A. Fedotova, M. V. Loskutova.** Veliko-Anadol forestry and development of forest experimentation in Russia (1840s—beginning of 1890s).

The attempts of the Russian state administration in the XIX century to improve the climate of the southern steppe provinces through artificial afforestation are discussed. The efforts made in a government of Veliko-Anadol steppe forestry (now the Don region, Ukraine) are closely intertwined with the discussions on the climate impact of deforestation — a debate that took place in Europe since the XVIII century and are evaluated by historians as crucial for the emergence of the modern environmental consciousness. The main focus is made on changing the nature of observations of the habitat-forming influence of forests, produced in Veliko-Anadol forestry, reflecting the broader transformation of standard geographic and biological research in the XIX century.

© **S. A. Kondratyev, V. I. Ulichev, N. V. Viktorova.** Assessment of the background nutrient removal the Gulf of Finland catchment.

Assessment of the natural removal of nutrients from the Gulf of Finland catchment was made in two different ways: according to field observations at the catchments with minimal anthropogenic impact and according to the results of calculations with the use of deterministic model of nutrient loading. Received complementary results do not contradict each other.