Butenya river
Butenya basin, Ukraine

Basin characteristics
River Basin / River Basin (according EU-WFD)
Operation (from...to...)
Gauge coordinates / Gauge datum:
Catchment area:
Elevation range:
Basin type:
Climatic parameters:
(mean precipitation, temperature and others)
Land use:
Hydrogeology:
(Type of aquifers, hydraulic conductivity)
Characteristic water discharges:
(Q1, Q8, Q9, Q10)

Mean hydrograph / Pardé flow regime

Special basin characteristics
(hydrogeology, lakes, reservoirs etc.)

Instrumentation and data

<table>
<thead>
<tr>
<th>Measured hydrological parameters</th>
<th>Measuring period</th>
<th>Temporal resolution</th>
<th>Number of stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface flow</td>
<td>1949 – cont.</td>
<td>Daily</td>
<td>2 – 6</td>
</tr>
<tr>
<td>Water level</td>
<td>1949 – cont.</td>
<td>Daily</td>
<td>2 at 8 &amp; 20 h</td>
</tr>
<tr>
<td>Precipitation</td>
<td>1949 – cont.</td>
<td>Daily</td>
<td>2 at 9 &amp; 21 h</td>
</tr>
<tr>
<td>Underground water level</td>
<td>1948 – 1986</td>
<td>5 &amp; 10 time in month</td>
<td>7 – 30</td>
</tr>
<tr>
<td>Air temp., humidity, wind</td>
<td>1949 – cont.</td>
<td>1955 – cont.</td>
<td>8 time in day</td>
</tr>
<tr>
<td>Soil humidity</td>
<td>1949 – 1986</td>
<td></td>
<td>3 time in month</td>
</tr>
<tr>
<td>Soil evaporation</td>
<td>1948 – 1986</td>
<td>Daily (May-Nov)</td>
<td>1</td>
</tr>
</tbody>
</table>

Main scientific results
1. The information about the conditions of the forming of the maximum, minimum, seasonal and mean annual runoff from the small catchments areas of the forest and steppe zones of Ukraine were received.
2. The significant influence of the local factors on forming the values of the runoff on small river basins was revealed.
3. The results of the observations for the humidity and the waters equivalent in snow and ground-soil on the forest and steppe catchments showed the differences in the supply of water on the different forms of the relief, the irregularity of the distribution of the waters on the catchments.
4. The methods of the calculation of the supply of the productive water in the surface layer of the ground and the intensities of the water yield from the snow were also designed.
5. The supplies of the water in the underlying surface of forest were calculated. It allowed to revising the forming of the water balance on the small river basins.
6. The conditions of the forming of the maximum discharges were researched, the structure and the determination of the parameters of the limiting intensity formula for the conditions when the characteristics of the decivity of the small catchments area the vastly differ the other from the other were revised.
7. The research of the processes of the sorption of water in the soil, of the infiltration abilities the different ground-soils, the detentions of water in the soil and the determinations of the general losses depending on the preceding conditions, of the processes the water erosion were carried out the experimental researches in the conditions of the experimental sprinkling of the runoff-plots.
8. The experimental studies of the migration of the radioactive substances after the Chernobyl accident were made. It was allowed to improve and develop the complex of the methods for the estimation of the structure and dynamics of dissolved in water Caesium-137 removing with water runoff.
9. The antierosion stability of the soil in the Butenya river basin with the using of the experimental sprinkling method and the GIS-technology also was researched.

Key references for the basin

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Map of the research basin

Legend
- Hydrology scheme
- underground water level pumping
- rainfall plot
- measurement
- soil evaporation
- runoff
- vegetation & flooding soil pumping

Applied models
1. Balance methods
2. GIS PCRaster

Special basin characteristics
(hydrogeology, lakes, reservoirs etc.)

Scheme the runoff-plots in the basin of the Butenya river

Resources
Measuring
Monitoring
Applied models
Animals

Special basin characteristics
(hydrogeology, lakes, reservoirs etc.)

Scheme the runoff-plots in the basin of the Butenya river