

Monitoring the wetlands area dynamics in the Southern Priaralie (March 2011)

The water areas in the Southern Priaralie in March 2011 were determined in the SIC ICWC by Roschenko E.M. (Fig. 1, Table 1).



Fig. 1. Water area dynamics in the Southern Priaralie (March 2011)

Table 1**Water areas (March 2011)**

| Water body | November 2 010 | March 2 011 |
|--|-----------------------|--------------------|
| Sudochie | 31228,13 | 37092,19 |
| Mejdurechenskoe | 10306,83 | 9129,81 |
| Rybachie | 5552,20 | 3794,98 |
| Muinakskoe | 4059,85 | 5182,66 |
| Djyltyrbas bounded by dam | 28222,64 | 13821,67 |
| Djyltyrbas (with the former right and left channels) | 14040,61 | 34609,06 |
| Dumalak | 3773,57 | 1506,72 |
| Makpalkol | 2060,68 | 811,85 |
| Mashan-Karadjar | 7566,20 | 5269,31 |
| Wetland to the south from Muinak | 3937,60 | 2065,57 |
| Wetlands along the bed of the Kazakhdarya river | 3616,17 | 2976,06 |
| Zakirkol lake | 819,02 | 546,38 |
| Total | 115183,5 | 102984,59 |

The satellite images processing to investigate seasonal dynamics of vegetation in the Southern Priaralie that is phenological observations consisting of assessment of seasonal dynamics of wetland areas, has been conducted by the SIC ICWC.

The growth stages of vegetation (phenological stages) of vegetation (budding, budbreak, foliage expansion, flowering, beginning of autumn, maturing, autumnal leaf falling, etc.) are being registered. In terms of phenological stages and natural-climatic conditions the spring season in the Priaralie can be divided on 4 sub-seasons, each of which is characterized by its own *phenological indicators* (seasonal changes of landscapes) - morphological indicators:

1 sub-season - snow melting; the ice cover of the water bodies is decreasing.

2 sub-season - the ice cover of the water bodies disappeared; soil is drying; grass is growing; trees and bushes are in the budding stage.

3 sub-season - beginning of the reed growing period; budding of bushes and trees; flowering of trees and bushes.

4 sub-season - as usually flowering of trees and bushes finished; the growing stage of reed.

According to the abovementioned sub-seasons the end of March can be attributed to 3 sub-season (Table 2). The wet territories are the shallow waters and wet soil; the territories (wetland areas) during the vegetative phenological phase (beginning of vegetation period) are determined.

Table 2

**The wet territories and the wetland areas during the vegetative phenological phase, ha
(March 2011)**

| Water body | Shallow waters | Wetlands | Wet soil |
|--|-----------------------|-----------------|-----------------|
| Sudochie | - | - | 29163,22 |
| Mejdurechenskoe | 7147,07 | - | - |
| Rybachie | 5616,79 | - | - |
| Muinakskoe | - | - | 7097,58 |
| Djyltyrbas bounded by dam | 15429,05 | - | 11456,12 |
| Djyltyrbas (with the former right and left channels) | 72167,33 | - | 37423,14 |
| Former Adjibay gulf | 929,08 | 12299,19 | - |
| Dumalak | 4216,24 | 2673,17 | - |
| Adjibay 2*) | 4414,63 | - | 19655,43 |
| Makpalkol | 1911,28 | 375,91 | 852,37 |
| Mashan-Karadjar | 5618,47 | 1873,21 | 3210,68 |
| Wetland to the south from Muinak | - | - | 6637,26 |
| Wetland to the north-west from Muinak | 162,29 | 3284,16 | - |
| Wetlands along the bed of the Kazakhdarya river | 1577,13 | 2784,36 | - |
| Zakirkol lake | - | 734,35 | - |
| Total | 103760,31 | 24024,35 | 104039,7 |

*)Adjibay 2 – Artificial structure to the north from the Rybachie and Muinakskoe reservoirs.