

# ENABLING COMMUNITIES IN THE ARAL SEA BASIN TO COMBAT LAND AND WATER RESOURCE DEGRADATION THROUGH THE CREATION OF 'BRIGHT' SPOTS

## Bi-annual report on Year 2007

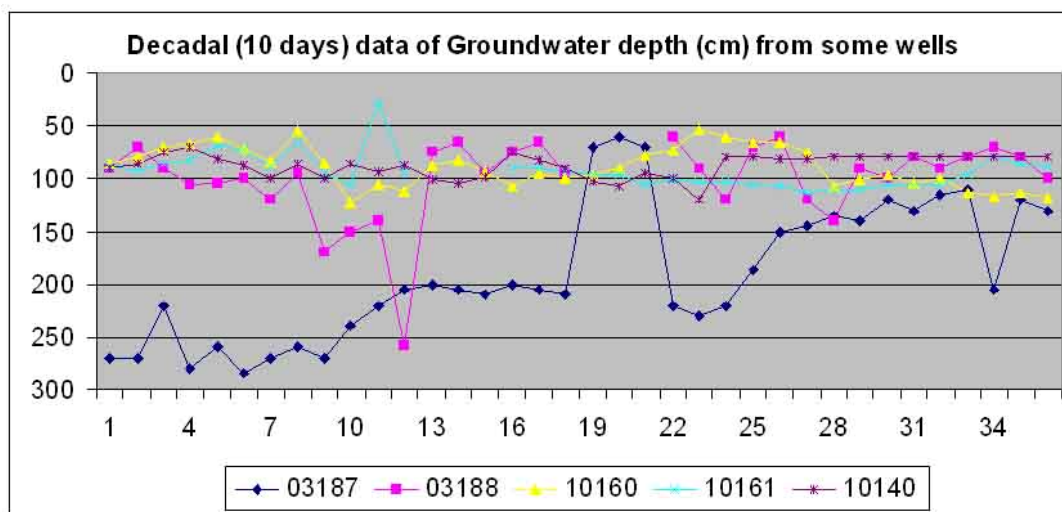
### Component 2.5

#### Assessing salinity using RS/GIS and basin-wide water-salt management

During first half of 2007, there was continued the activity on ground truth data collection. The main direction of investigation was to collect the data on Groundwater depth decadal (10 days) changes from the observation wells inside the Bayaut district of Syrdarya province.

- The scanned hard copy of thematic map with location of observation wells was georeferenced and GIS layer of wells location was created by manual digitizing;
- The decadal data for each observation well (from Hydro-Melioration Expedition of Syrdarya province) was converted from Excel to DBF format and linked to the created GIS layer;
- By using of IDW (Inverse Distance to Weight) method were created the raster layer of decadal, absolute minimum and maximum groundwater depths for Bayaut district.

On the chart have shown the decadal data of Groundwater depth from some observation wells:



The preliminary analysis of these data have shown, that:

- there are no a specific decades with shallow groundwater ( $< 1$  m);
- the data must be accurately verified before its processing

Next pictures have demonstrated for Bayaut district the soil salinity gradation from Remote Sensing on 1998-2001 years and the absolute minimum groundwater depths from decadal data, 2006. The areas inside two farms (Galaba and U.Yusupova), located at the western part of

Bayaut district have shallow Groundwater depth, and it is can be the reason of secondary (not natural) soil salinity.

It is planned further to analyze the multi-annual (2001-2006) Groundwater depth changes for Bayaut district to understand the spatial regularity of shallow Groundwater.

