

EMRAS
Aquatic Working Group

**Suggestions for the future development of
the new EMRAS program**

November 2007

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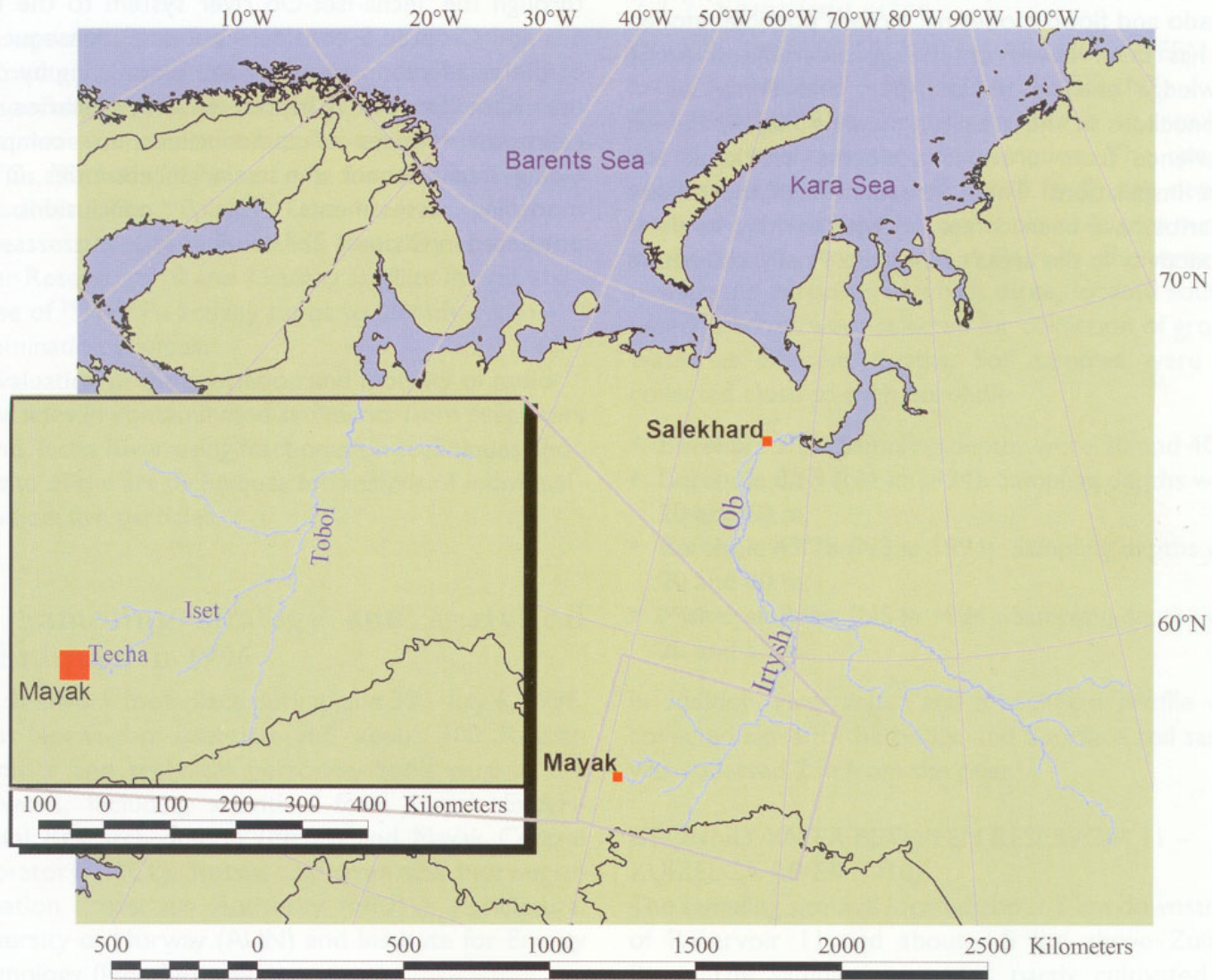
**Testing of aquatic radioecological models,
including the transfer of radionuclides in biota**

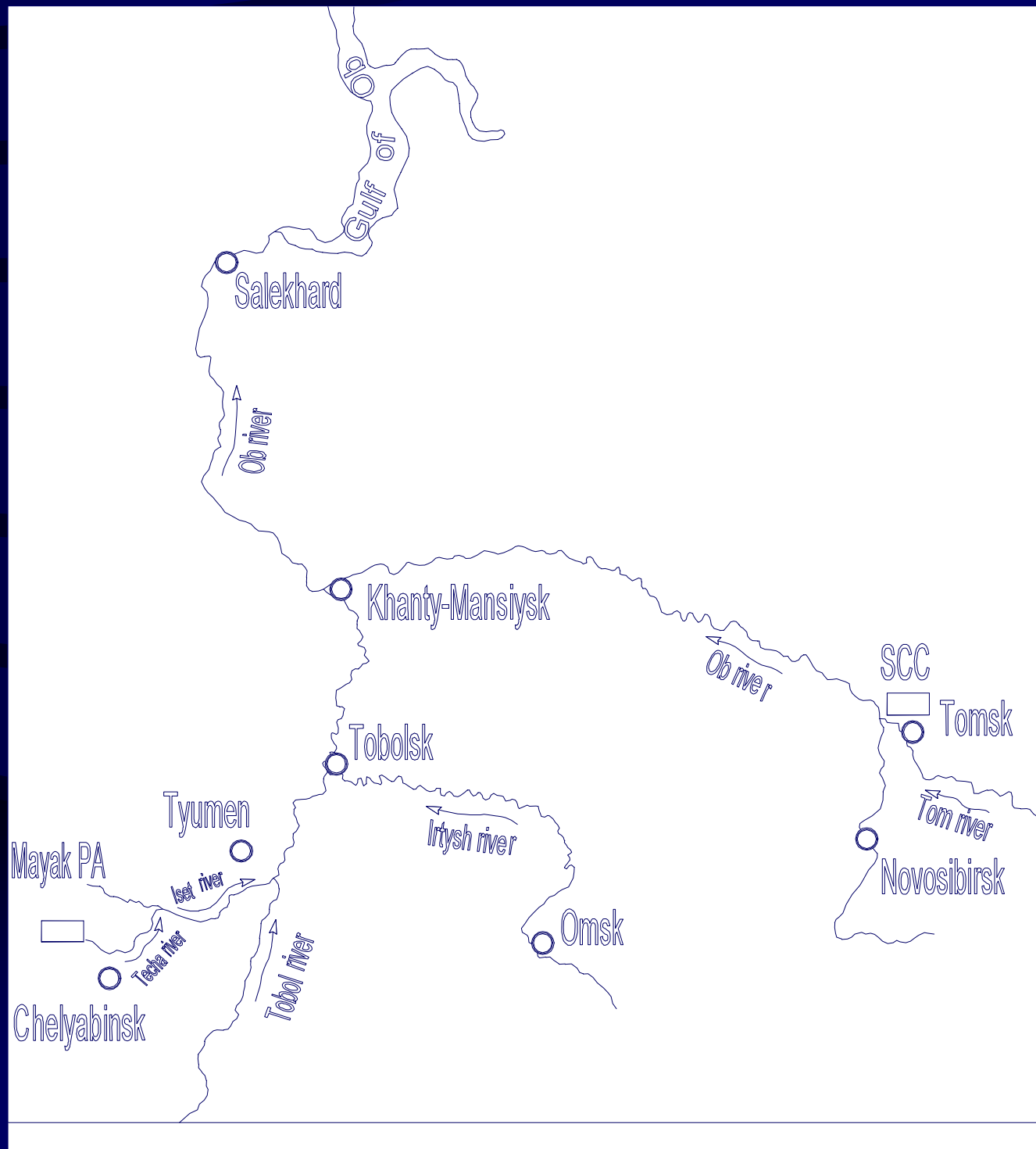
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The following opportunities are suggested for the future development of the Scenarios for testing of aquatic radioecological models:

Include biota contamination as additional endpoints for radioecological model testing (fish, aquatic plants, molluscs) in the rivers.

Extend the boundaries of the hydrological system up to 1600 km under consideration: Techa – Iset – Tobol – Irtysh – Ob Rivers (endpoints: ^{90}Sr , ^{137}Cs , ^3H , Pu in water, bottom sediments and river biota).





Development of the Scenario for testing the decision making systems in concern with remediation measures applied to rehabilitate the ecosystem of contaminated river system.

The Scenario will be based on data for remediation actions applied to the river which included construction of dams, retaining reservoirs and bypass canals in the upper reaches of the river.

The endpoints of the Scenario will include model predictions of the effectiveness of specific remediation actions.

The effectiveness of remediation to local critical groups is assessed by comparison of annual doses to the representatives of these groups before and after the remediation action.

The new Scenarios can be connected with the Biota Working Group and tasks of environmental protection, dealing with the assessments of doses and radiation risk to biota.

Scientific and information support:

Results of environmental monitoring and radioecological studies in 2004-2008 in framework of ISTC Projects N 2558 and 3547.

Potential modelers:

Scientists from
France,
Italy,
Netherlands,
Spain,
Sweden,
Ukraine,
USA,
Russia, and others.

Some photos from the Techa-Iset-
Tobol-Irtysh-Ob river system
(made in 2004-2005)



Techa river (20 km
upstream the
confluence with the
Iset river)



Iset river (10 km
upstream the
confluence with the
Tobol river)



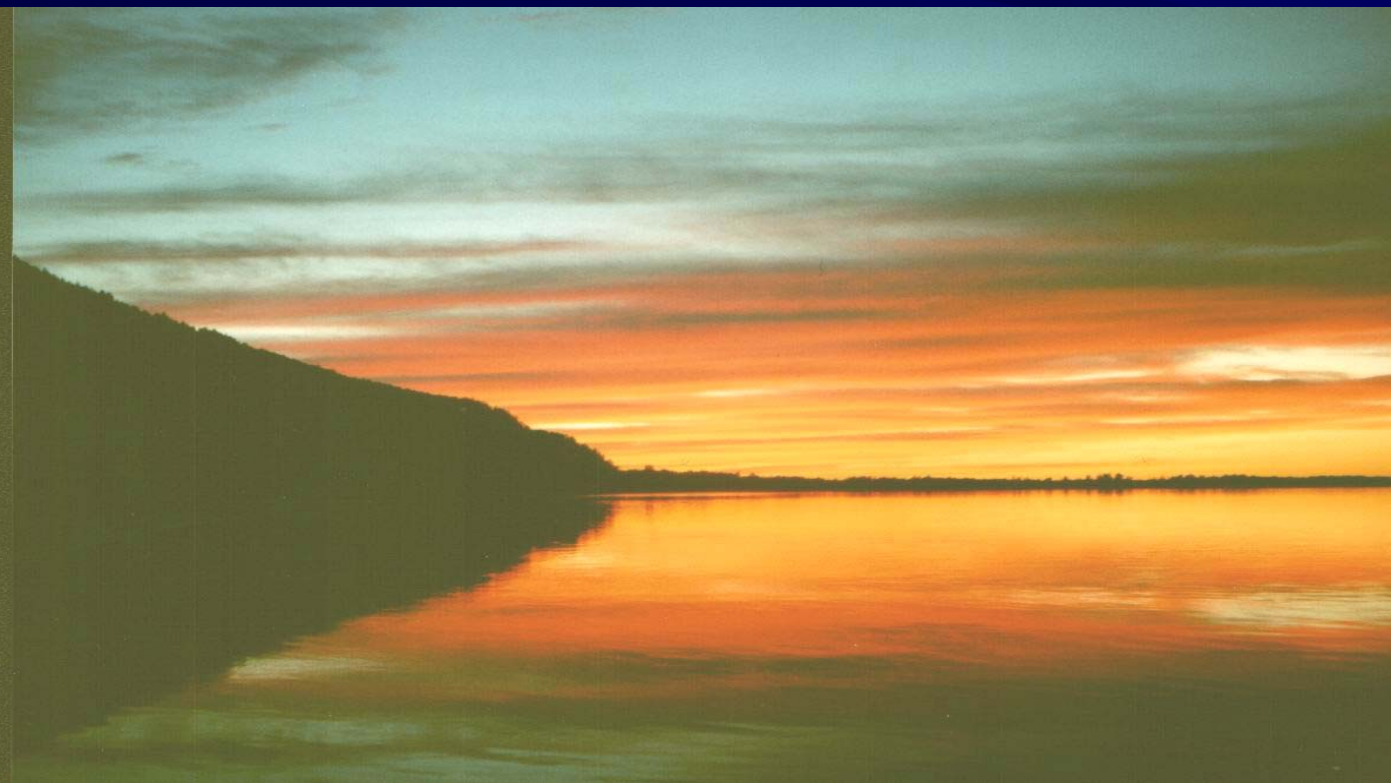
Tobol river
(30 km downstream
the confluence with
the Iset river)



Irtysh river (5 km
upstream the
confluence with the
Tobol river)



Ob river (near the
confluence with the
Irtysh river)



The Irtysh river,
at sunset.