Republic of Serbia
Ministry of Environment and Spatial Planning

What an EIA Expert Should Do to Start Adaptation to Climate Change

Mićun Stanić, Dept. of Environmental Iimpact Assessment

Steps to be taken during an environmental impact assessment

→*Raise Awareness*

→*Adapt the Project Design*

→*Include Extra Measures*

Raise Awareness

Usually, the part of an Assessment on Climate is elaborated superficially with old data.

The period used is almost always from 1960-1990.

<u>1st step: get a new period of data from the year 1980 to as close as possible to 2010</u>

Raise Awareness

People are usually unaware of existing trends in temperatures and other climate data.

They should draw the trend to be aware that it is happening in their own back yard.

<u>2nd step: always get a trend of the temperat. data</u>

Adapt the Project Design

In every Assessment the usual statement on the mutual influence of climate-project is:

There is no interaction!!

<u>3rd step: evaluate the influence of future climate change on the project:</u>

Adapt the Project Design

→for the design period of the project (usually 2025-2030)

→calculate the trend in question and check if there is possible influence

Adapt the Project Design

example A

- for a reservoir, trends for discharges and temperatures should have been calculated
- if these trends were not included during project design and if the trends are significant, then the elements of the project should be adapted
- a rise in temp would cause an increase in evaporation and a decrease in water flows, which in turn would result in a decrease in the calculated water volume

Adapt the Project Design

example B

for a reservoir for artificial snow in a ski resort, the trend in the snow cover and normally the trend in temperatures should have been calculated

if the trend for snow showed significant decrease the elements of the project should be adapted

Include Extra Measures

4th step: use parts of the project in question or other sources nearby to mitigate impacts of climate change

example C

The Sava-Danube Navigation Canal

The Sava-Danube Navigation Canal

Republic of Croatia notified Republic of Serbia that it has completed the design of The Danube-Sava Waterway Canal (Espoo Convention)

we, the Serbian side agreed to take part in the EIA process

the Assessment was forwarded to Serbia and an evaluation was made

The Sava-Danube Navigation Canal

it is completely on Croat territory

but has possible impacts on the downstream sections of the Danube and Sava river on the territory of the Republic of Serbia as well as on a small river Bosut which lies between the two big rivers

an interesting feature in the Assessment is that it showed that water flows have decreasing trends; however further investigation was abandoned

The Meeting

a mutual meeting of experts was held in Beograd in February 2010, during which the Croat and Serbian side came to terms on the final outlook of the EIA

an interesting point of discussion was about possible decreases in water flows on the rivers that are connected by the canal

at first it seemed that an investigation may not be necessary, due to the fact that it was already agreed that there will be no abstraction of water below 235 m3/sec on the Sava river (biologic minimum)

The Meeting

later it was agreed that changes in river flows in the future may be expected, hinting it will probably be in loss of water

we (Serbian side) pointed out that during extreme low flows the whole ecosystem is endangered:

example of the Tisa river in 2003 when we had an emergency situation

The Meeting

due to high temperatures and very low flows we had a situation that the fish were endangered (oxygen)

the Serbian side asked the Hungarian to release water from the Kishkere dam in order to save the situation

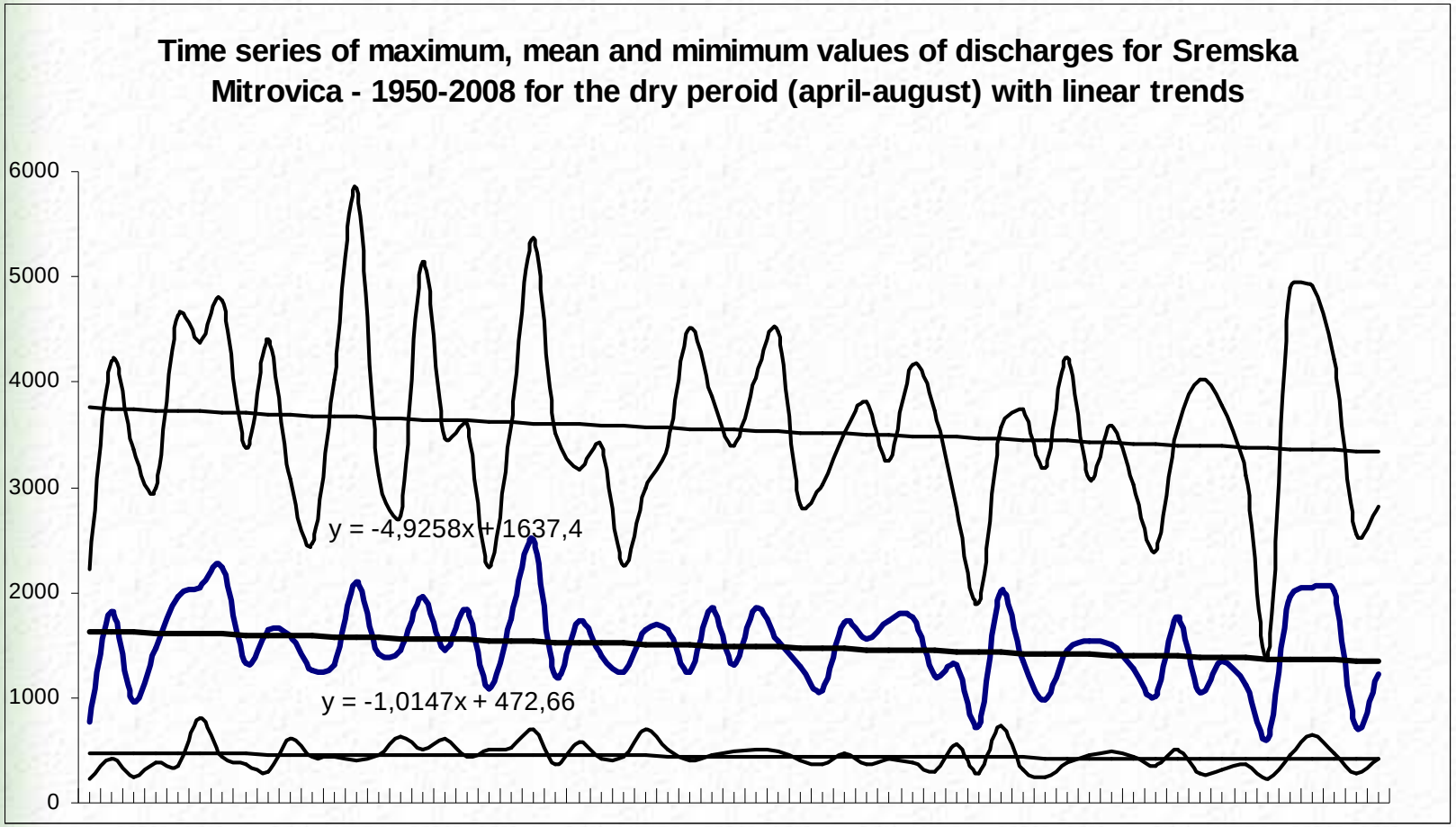
which they did after rain fell in the basin

The Meeting

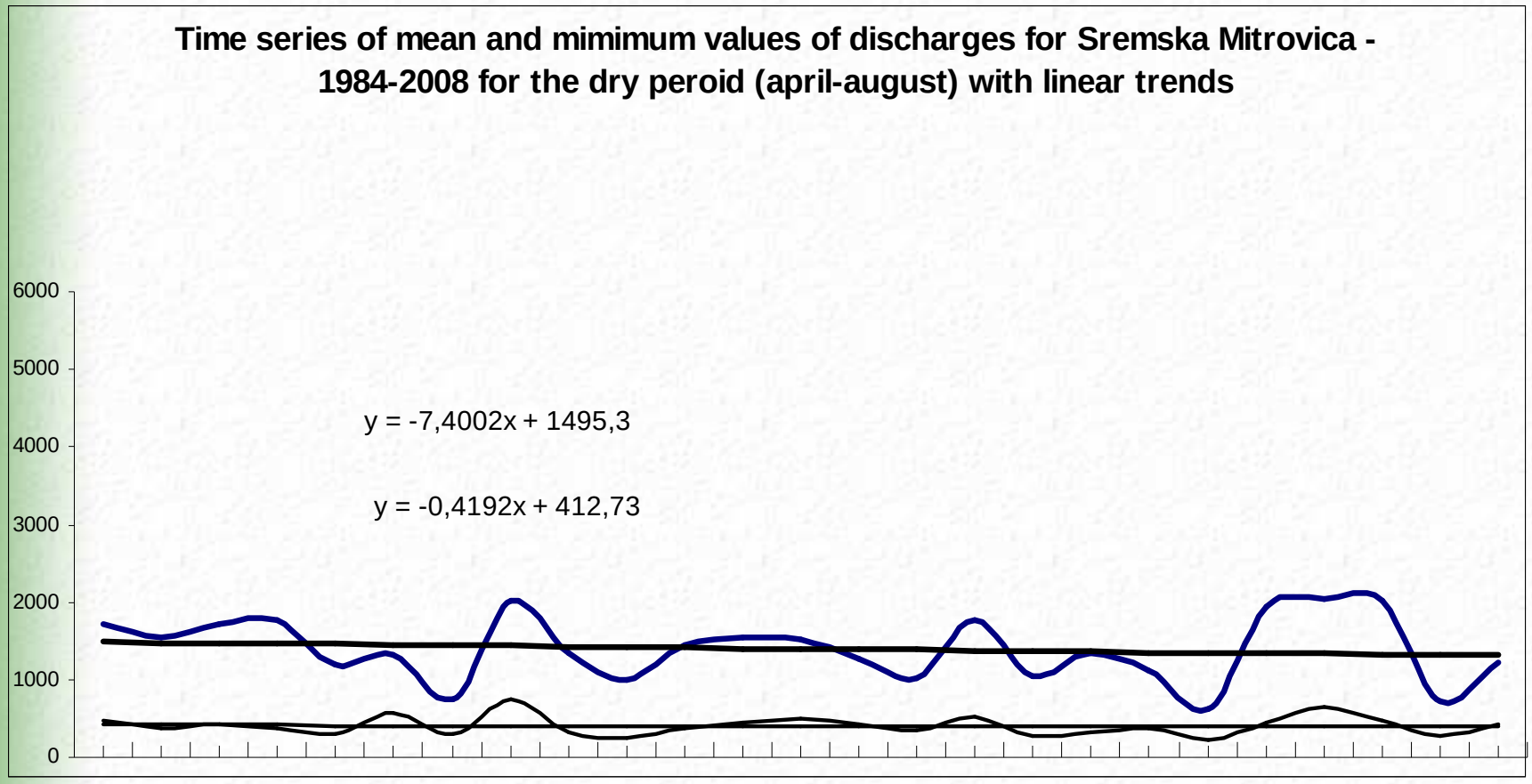
it was agreed to further investigate the trends and if they should be persistent, that is dropping, get together and make a plan to mitigate this.

for now we have come this far in this case

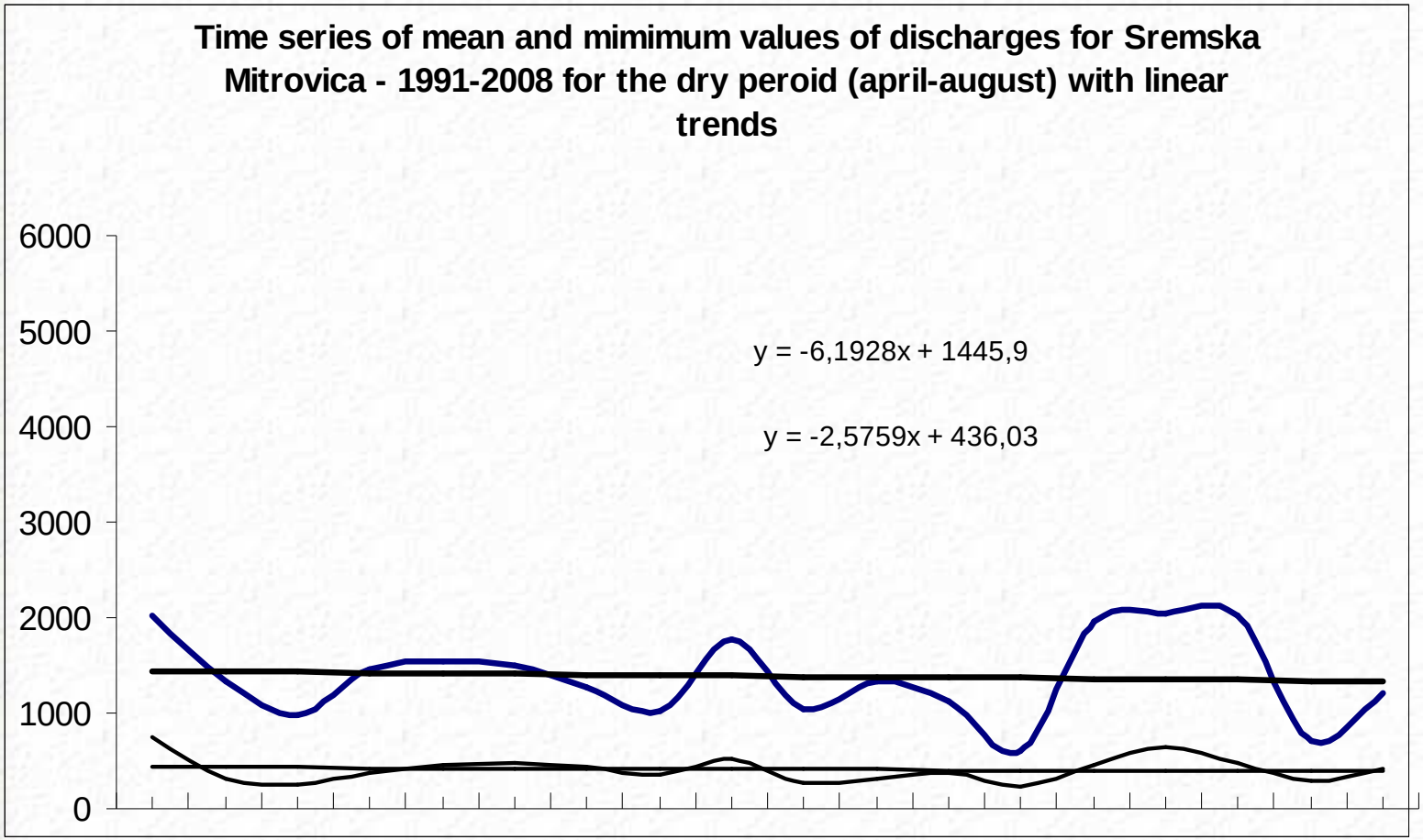
The Trends


Time series of maximum, mean and mimimum values of discharges for Sremska Mitrovica - 1950-2008 for the dry peroid (april-august) with linear trends
6000
5000
4000
3000
2000
1000
0
y = -4,9258x + 1637,4
y = -1,0147x + 472,66

The Trends


Time series of mean and mimimum values of discharges for Sremska Mitrovica - 1984-2008 for the dry peroid (april-august) with linear trends
6000
5000
4000
3000
2000
1000
0
y = -7,4002x + 1495,3
y = -0,4192x + 412,73

The Trends


Time series of mean and mimimum values of discharges for Sremska Mitrovica - 1991-2008 for the dry peroid (april-august) with linear trends
6000
5000
4000
3000
2000
1000
0
y = -6,1928x + 1445,9
y = -2,5759x + 436,03

The Trends

While waiting for the real trends we analyzed them for Sremska Mitrovica where we have good data.

It is not completely correct – SM is 170 km downstream from the connection of the canal.

The trends for the period April-August all show decreasing trends.

Include Extra Measures

If we go a step further, the future canal would be the best tool for the mitigation:

→the Danube is has a larger quantity of water

→so it could be used for raising the minimums of the Sava river

It is something still to be agreed upon.