FAIRMODE management practices at Slovenian Environment Agency Part I: Pilot studies
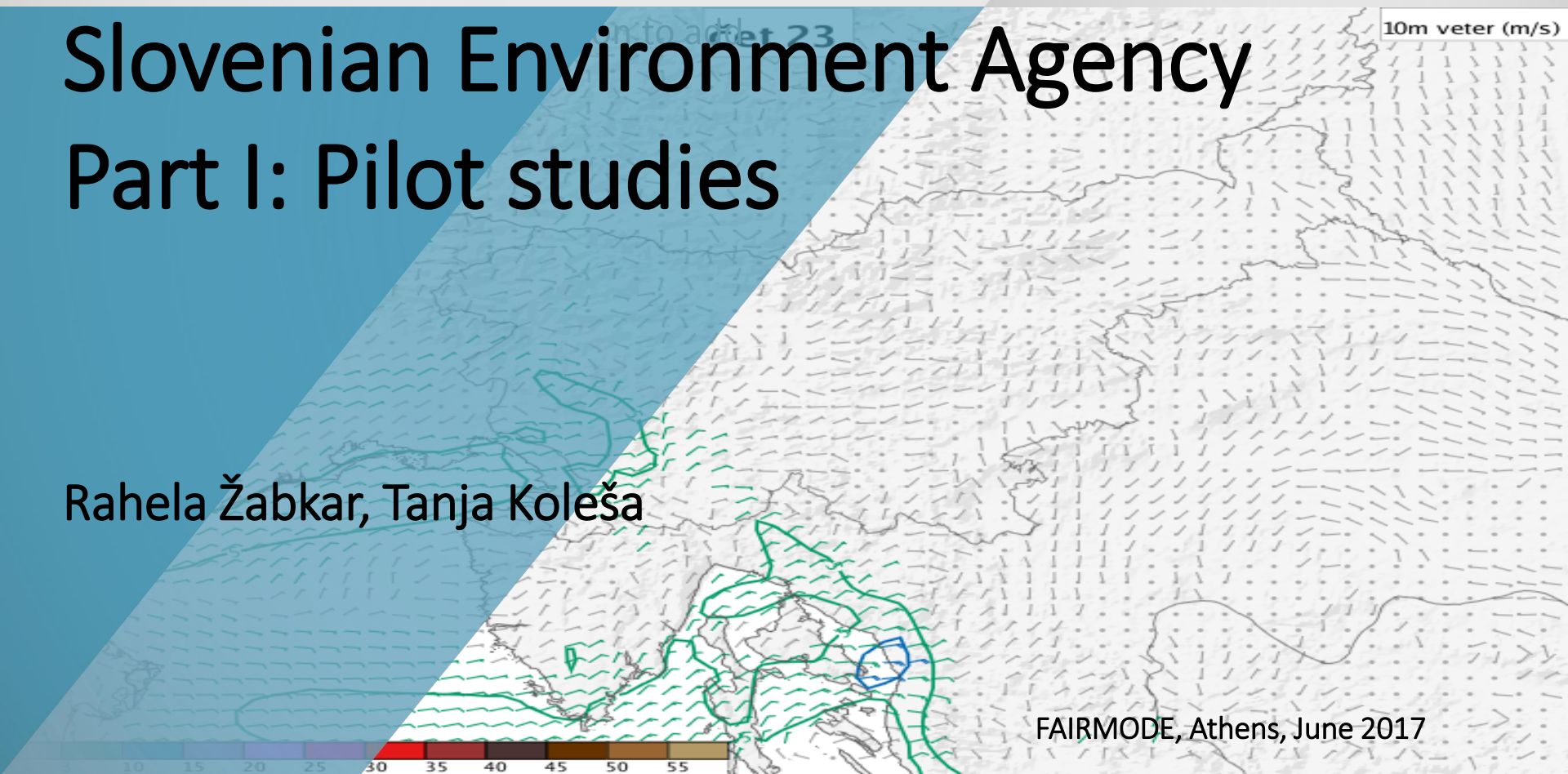
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FAIRMODE, Athens, June 2017

ARSO OKOLJE

10m veter (m/s)

Background and objectives

Slovenian Environment Agency (ARSO) is national meteorological organization focused on development and implementation of meteorological models (ALADIN/SI…)

Strong collaboration between AQ specialists, meteorologists, chemists, other experts -> great potential

AQ modelling starts to evolve (mainly because of two projects)

Need to improve our knowledge and modelling tools for local scale dynamics in complex terrain (both meteorology and air quality)

Examples of need: regional and urban air quality management with the help of models, accidental events (Kemis fire), temperature forecast for the need of heating demands (temperature inversion development in model -> not exlusively AQ problem)

Geographical position of Slovenia in the lee of Alpine barrier…
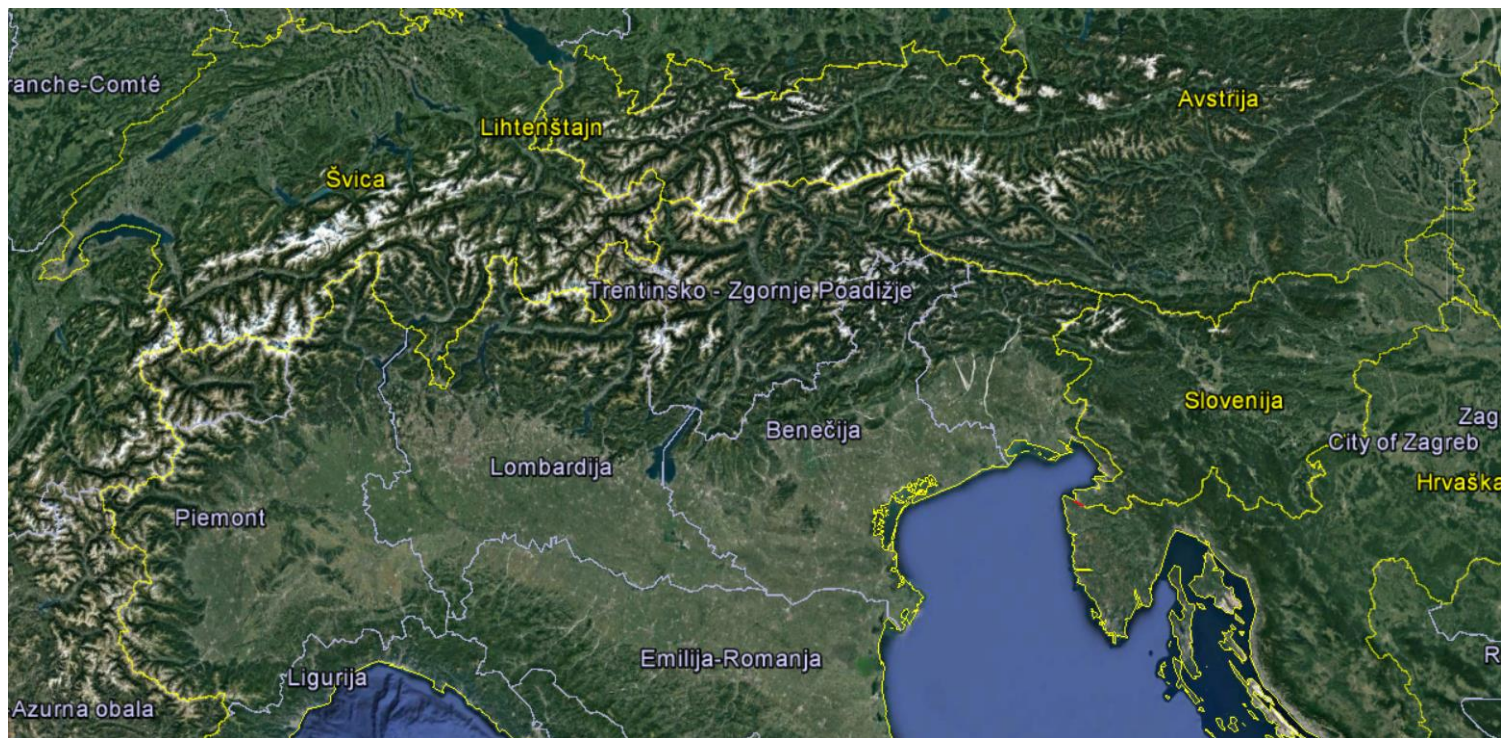
... contributes to the prevailing weak winds in combination with emission sources located in small valleys and basins.

National monitoring network
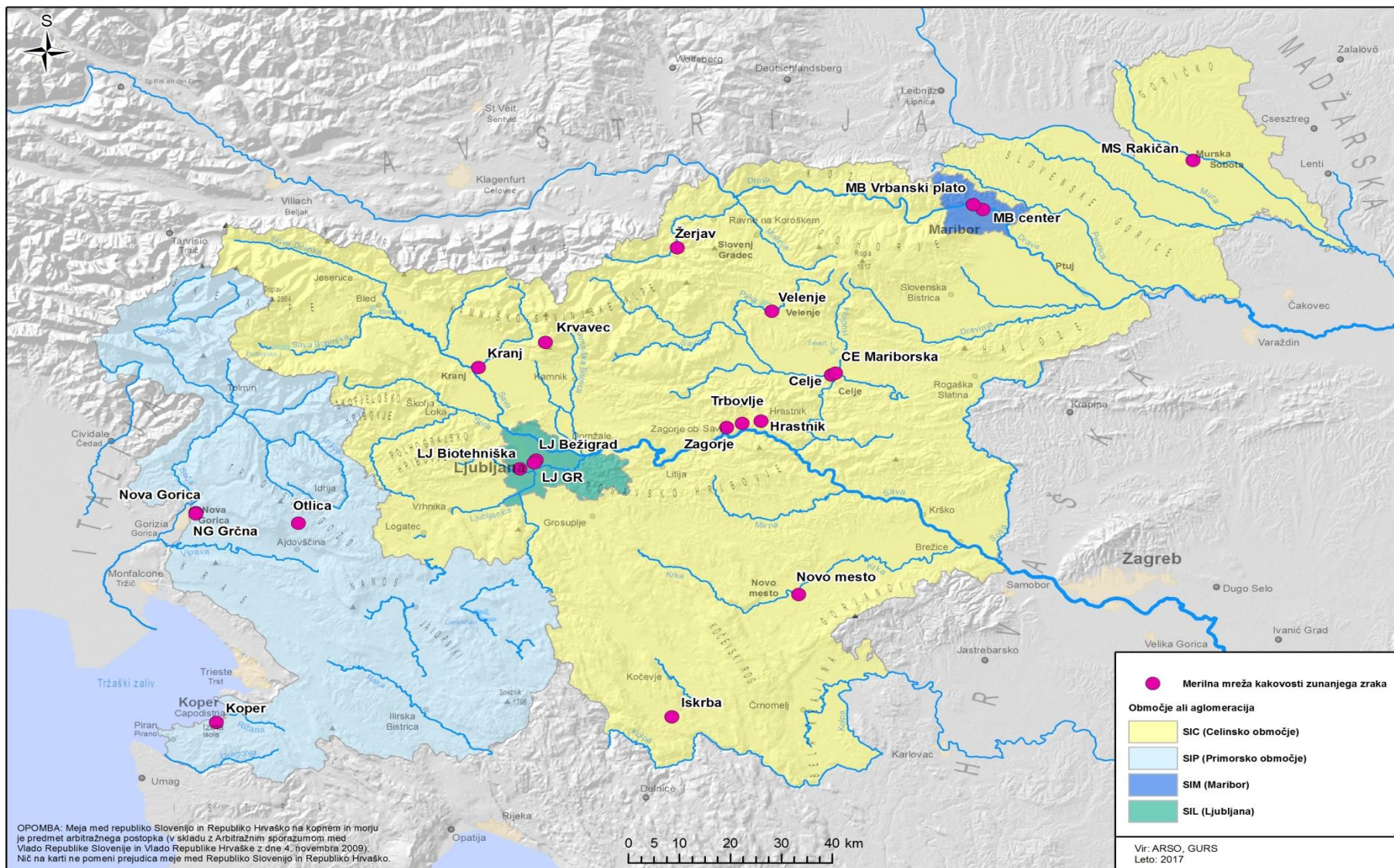
Quick answers to questions (1)

WG1:

Did you work with MQO? With the deltaTool? Not yet, plan is to do that before FAIRMODE plenary meeting in 2018.

Did you contribute to the Composite Mapping tool for concentrations? Yes.
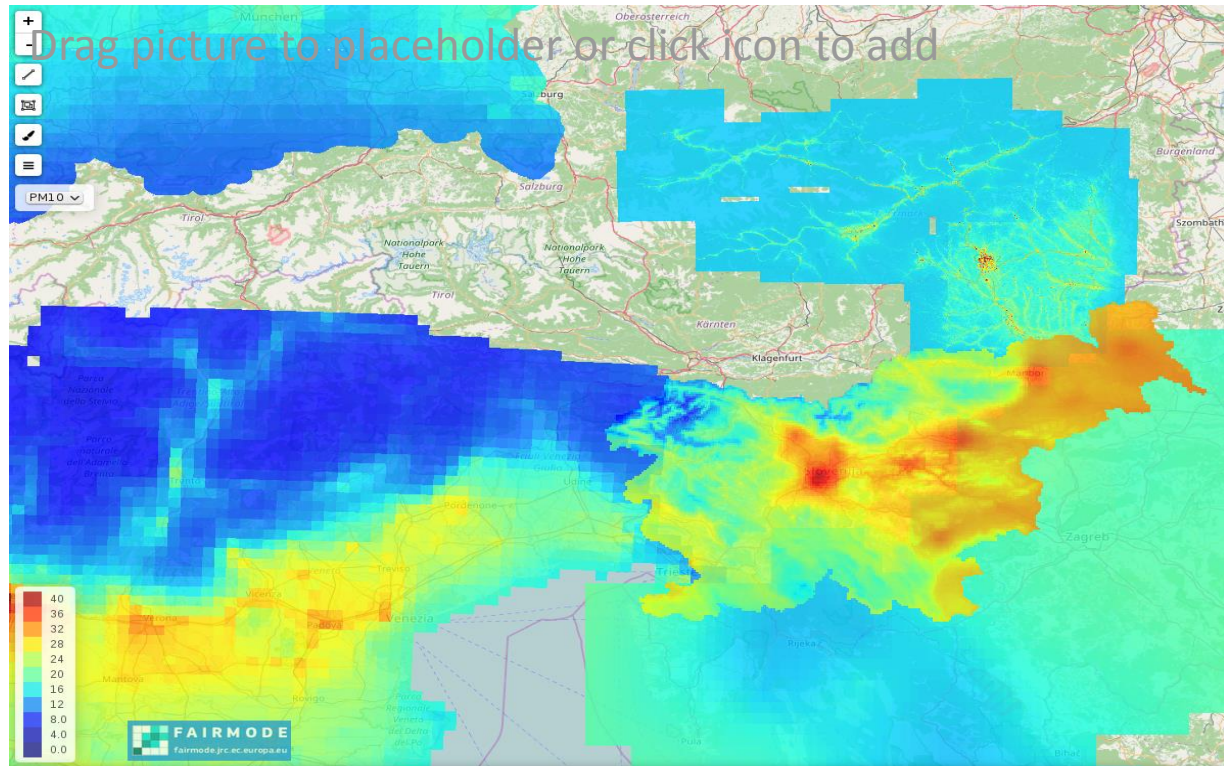
Quick answers to questions (2)

WG2:

What about emissions? Did you benchmark your inventory with top-down ones?

No, will be set as one of the priorities before the next FAIRMODE meeting.

Did you contribute to Composite Mapping tool for emissions? We prepared the emissions in appropriate format and are now ready for the upload.

WG3:

What about source apportionment? Do you already apply SA in your domain? We use PMF receptor model. In near future we plan to apply also source apportionment by CAMx model.

Quick answers to questions (3)

WG4:

What about planning? Did you use planning indicators? And SHERPA?
We quickly tested SHERPA. We participate in LIFE –IP PREPAIR project, one of the goals is to study the feasibility of using SHERPA and RIAT+ in Slovenia.
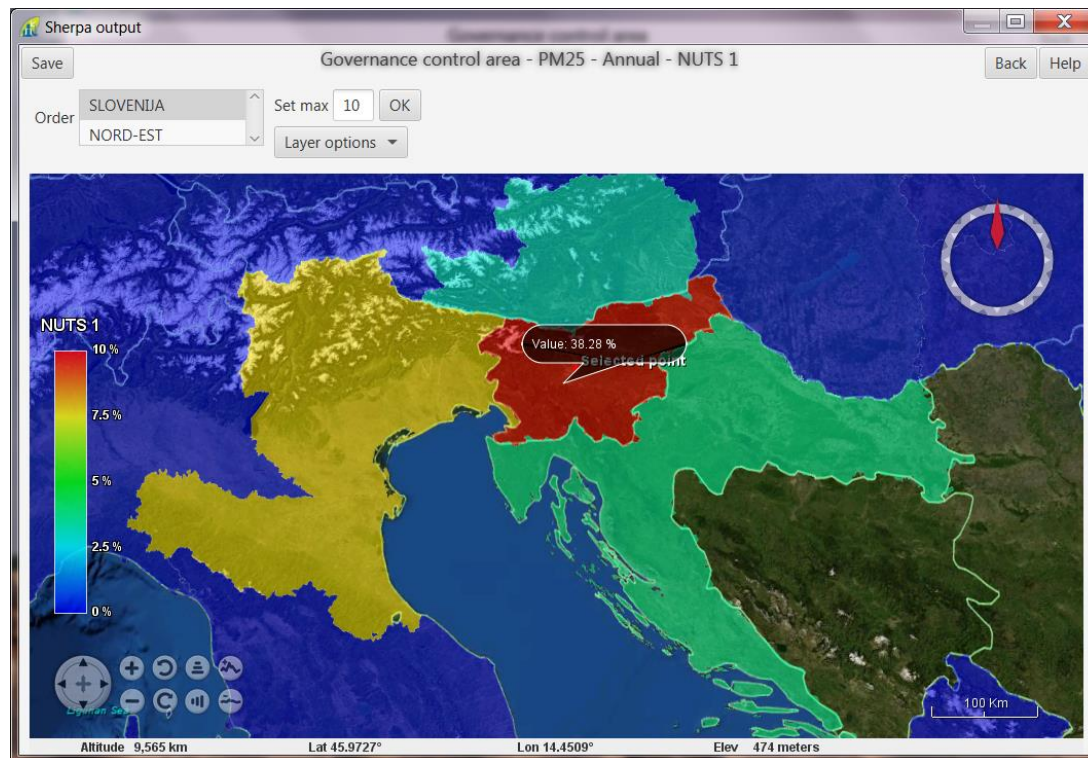
Quick answers to questions (4)

Our expectations on this activity:

•Support, improvement and guidance through the efficient use of modelling for air quality management practices and reporting

•Slovenian Environment Agency could contribute by combined knowledge of different experts and motivation to improve the understanding and tools for AQ modelling in complex terrain

•We are interested to get support not only with tools for yearly calculations, but also with tools , that could be used for episodes

Quick answers to questions (5)

The pollutant on which we would like to work: PM$_{10}$

(note red values in PM$_{10}$ and O$_3$ in results for year 2016)

Merilno mesto	Delci PM$_{10}$ leto Cp ($\mu g/m^3$)	Delci PM$_{10}$ 24 ur >MV	Delci PM$_{2.5}$ leto Cp ($\mu g/m^3$)	Ozon O$_3$ 1 ura >OV	Ozon O$_3$ 8 ur >CV	Dušikov dioksid NO$_2$ leto Cp ($\mu g/m^3$)	Dušikov dioksid NO$_2$ 1 ura >MV	Dušikovi oksidi NO$_x$ leto Cp ($\mu g/m^3$)	Žveplov dioksid SO$_2$ leto Cp ($\mu g/m^3$)	Žveplov dioksid SO$_2$ zima Cp ($\mu g/m^3$)	Žveplov dioksid SO$_2$ 1 ura >MV	Žveplov dioksid SO$_2$ 24 ur >MV	Ogljikov monoksid CO 8 ur Cmax (mg/m^3)	Benzen C$_6$H$_6$ leto Cp ($\mu g/m^3$)
LJ Bežigrad	24	36		0	13	29	0	58	6	6	0	0	3	1,9
LJ Biotehniška f.	27	40	25											
MB Center	27	43	23			27	0	62					2	1,4
MB Vrbanski plato			21	0	7									
Kranj	23	27												
Novo mesto	26	41												
Celje	32	53		0	7	22	0	44	6	7	0	0		
Trbovlje	26	38		0	5	18	0	37	7	8	0	0	3	
Hrastnik	22	25		0	5				6	6	0	0		
Zagorje	29	48		0	1	24	0	50	5	5	0	0		
MS Rakičan	26	42		0	7	12	0	20						
Nova Gorica	21	15		0	34	24	0	45						
Koper	19	11		0	51	15	0	22						
Krvavec				0	57								0,4	
Velenje	19	10												
Žerjav	23	19												
Iskrba	11	0	10	0	14	2	0							
Otlica				0	31									