28. STATE NETWORK OF GROUNDWATER MONITORING POINTS

FAIRWAY partner: Matjaž Glavan (UL, SI), Case study leader Katarina Kresnik, Andrej Jamšek (KGZ Maribor, SI)

Brief description	
Policy makers and water managers (Ministry, Environmental Agency) accept their decisions based on the state approved water quality monitoring network. Measured values and their trends over the years serve as one of the base indicators for actions in introducing new measures or of success of in the past introduced measures. Temporal scale of state monitoring one to twice per year. Monthly, daily or weekly monitoring scale (depends on conditions) is performed by drinking water suppliers (water companies).	
Contaminants covered (e.g. nitrate, pesticides etc.)	N, P, pesticides
Intended end users (e.g. farmer, water quality manager, policy maker)	Policy makers, water managers
Level of expertise and/or training required	Moderate training and expertise to understand monitoring results. However to be able to decide on measures to be implemented high level expertise and deep understanding of the local water system and agricultural practices is required.
Geographical resolution (e.g. field, catchment, national)	Water body/ catchment scale.
Temporal resolution (e.g. daily, annual, long-term).	Annually (State) Monthly, weekly, daily (Water company)
Real-time component (e.g. live weather data, soil moisture data feeds etc.)	Some stations are automatic with daily or hourly data.
Number and type of mitigation measures included	None
Platform (e.g. paper-based tool, phone app, bespoke software).	Paper-based tool. http://www.arso.gov.si/en/water/reports%20and%20publications/ http://www.arso.gov.si/vode/podatki/
Frequency of updates	State monitoring network is stable however it has to be confirmed by Ministry every year, depending on financial resources. Water companies have to follow water quality in active wells on regular basis.
Cost/availability	Free.
Number of users or number of copies distributed/ downloaded/purchased	Not known.
Links to demo material and other relevant information (e.g. user guides).	Open source – Web available. Paper-based tool. http://www.arso.gov.si/en/water/reports%20and%20publications/ http://www.arso.gov.si/vode/podatki/
Additional comments	In lack of other tools, capable of modelling agri-environmental measures, this is still preferred way of making conclusions and new decisions. Monitoring results are most often coupled with Eurostat/OECD results to accept new decisions.

State network of groundwater monitoring points **FAIRWAY partner: Matjaž Glavan (UL, SI), Case study leader Katarina Kresnik, Andrej Jamšek (KGZ Maribor, SI)**	
Input data required to run the DST	Location of monitoring points from certain surface water of groundwater body.
Outputs (including links to water quality and economic or financial aspects)	Concentration of nitrate and phosphorus. Concentration of pesticides. Concentration of heavy metals, volatile compounds, drug residues
Age/provenance of supporting data used to develop the DST	- Professional research and scientific knowledge was used to develop this paper tool. http://www.arso.gov.si/en/water/reports%20and%20publications/ http://www.arso.gov.si/vode/podatki/
Country-specific calibration or data requirements (including restrictions on use)	No.
Details of validation and testing	No special details. Results are validated with repeated sampling.
Date developed/released (or planned release date)	Not available
Author/developer names and affiliations	Slovenian Environmental Agency
Member state(s) where developed	Slovenia
Member State(s) where currently used	Slovenia
Key publication references (including url)	http://www.arso.gov.si/en/water/reports%20and%20publications/ http://www.arso.gov.si/vode/podatki/

State network of groundwater monitoring points

FAIRWAY partner: Matjaž Glavan (UL, SI), Case study leader Katarina Kresnik, Andrej Jamšek (KGZ Maribor, SI)

Any other useful information (e.g. screenshots of DST input/outputs

Network of groundwater monitoring stations (in red circle case study of Dravsko polje)