



Online System for Irrigation Decision Support in Slovenia

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Reasons why?

Rapid and extreme climate and weather variations impact all economic branches:

- human health,
- air quality,
- water availability and quality,
- ecosystems,
- tourism,
- disease development,
- agricultural production.



The role of climate and weather information in agriculture and water resources

- increasing demand of agricultural community having access to weather and climate data



- an ever-growing reliance on internet – accessible climate data and products to support agriculture (drought monitoring, water management, plant protection,...)



- definition of potential customer and their special needs



type of information

time of delivery

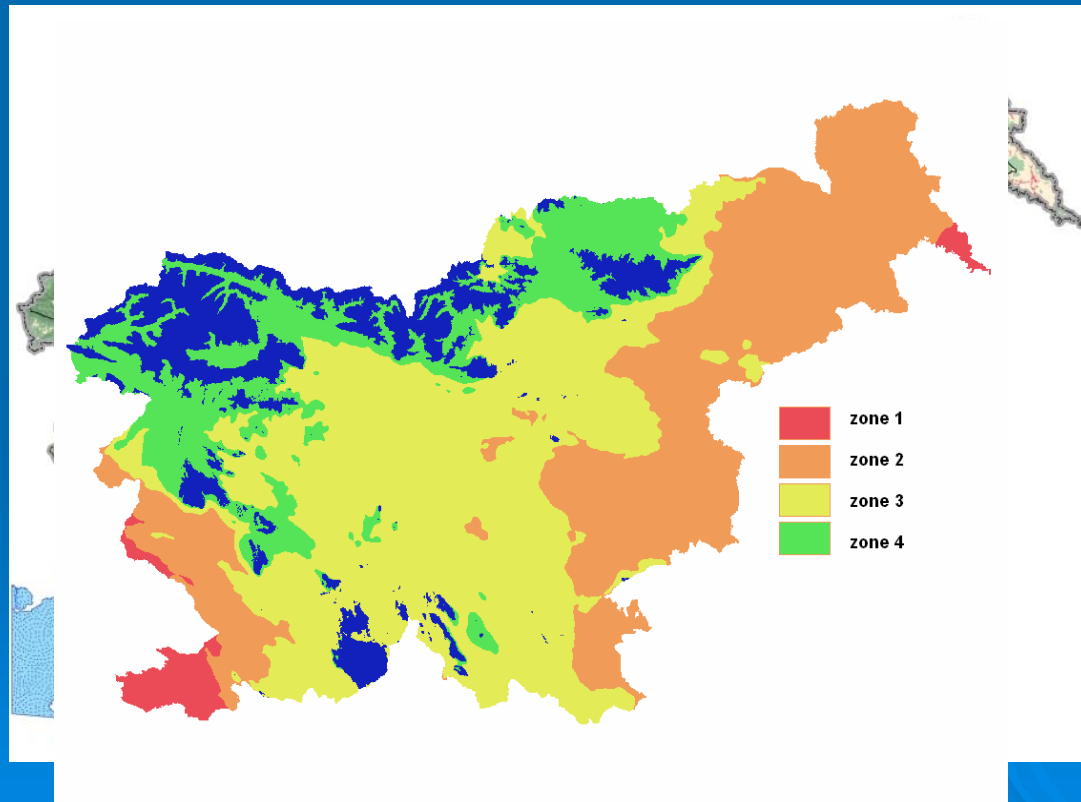
manner of dissemination:

- network
- databases
- internet and mobile application

Case study : Irrigation support system

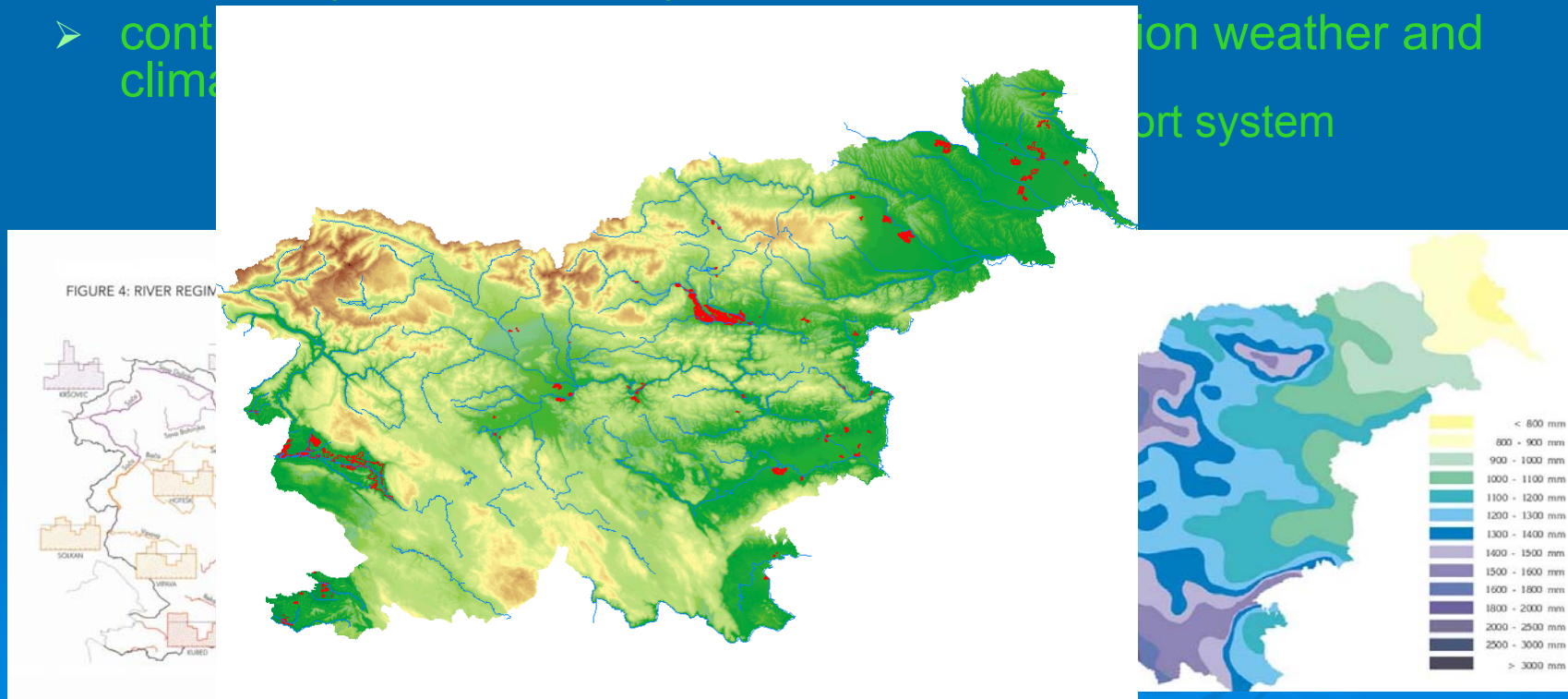
FACTS

Differences in precipitation amount between north-western and eastern Slovenia are significant and cause damage to agriculture



Rationalisation and optimization of water use and irrigation in Slovenia

- combination of low water level in river regime and precipitation amount impact on low water availability in warm part of the year – drought pressure,
- irrigation areas defined by National program of irrigation in Slovenia (update in 2004)
- cont... on weather and climate... ort system

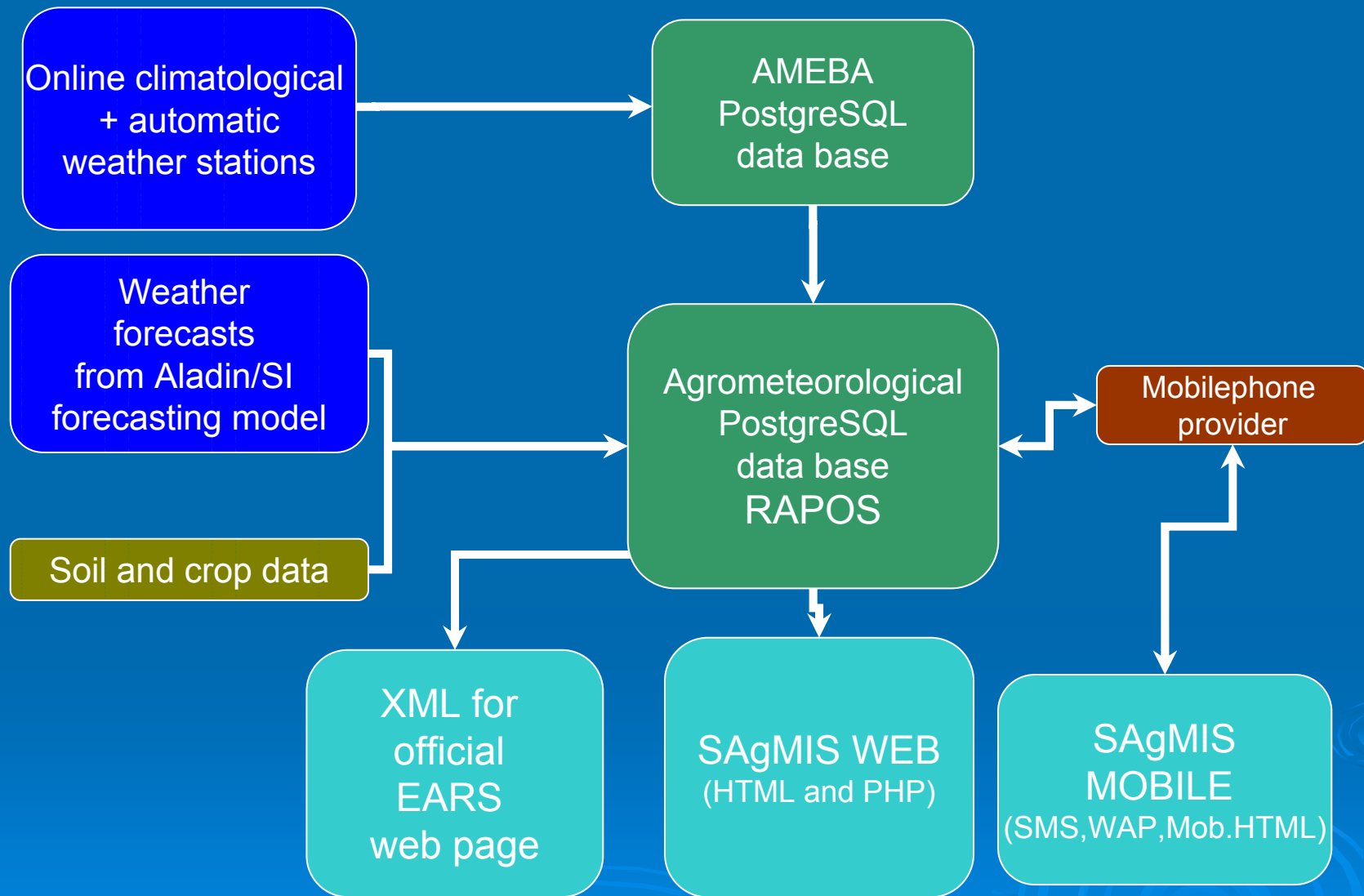


Slovenian Agrometeorological Information System (SAgMIS)

Cronology:

- in 1994 Slovenian Irrigation model IRRFIB was established (not online)
- in 1996 first agrometeorological information via TV media - teletext were shown
- in 1997 agrometeorological data on Met Office page were disseminated
- in 2003 new structure and additional agmet information were distributed via EARS web page
- in July 2004 a complex agrometeorological information system with major emphasis to irrigation decision support was developed

SAgMIS structure and data flow



SAgMIS

SAgMIS WEB

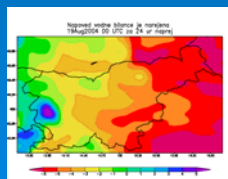
- HTML: interface
- PHP: reading from data base
- GRADS in GRASS: displaying surface data

SAgMIS mobile

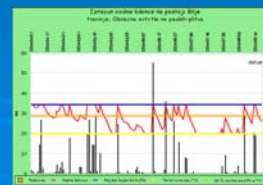
Water balance (RR-ETP)



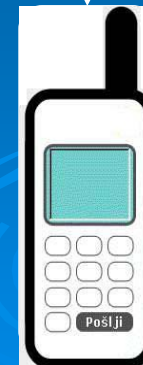
Forecast WB:
24 hours
48 hours
7 days



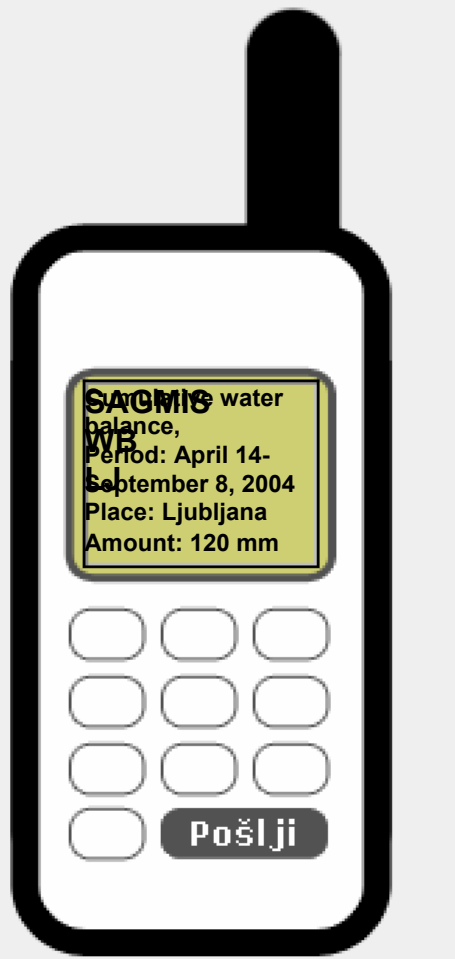
IRRFIB: irrigation support model



Mobitel SMS center



SAgMIS mobile SMS on demand



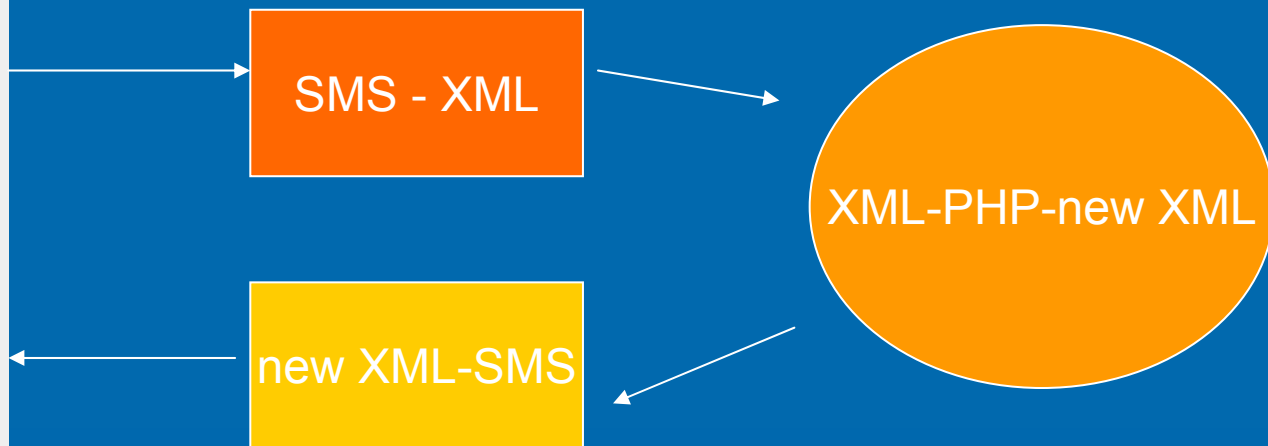
Mobil server
(MOBITEL)

SMS - XML

new XML-SMS

SAGMIS server
(EARS)

XML-PHP-new XML



Conclusions (TO DO)

Technical development of the system:

- improving HTML interface,
- including other meteorological applications (radar and satellite data,...),
- adding more accurate soil and crop data,
- combining other agrometeorological data (crop yield, plant disease forecasts,..).

Organizational development of the system:

- collaborating with different domestic and foreign institutions to improve modern way of agricultural production
- make a vast agrometeorological information system for more ecologically oriented daily agriculture practice