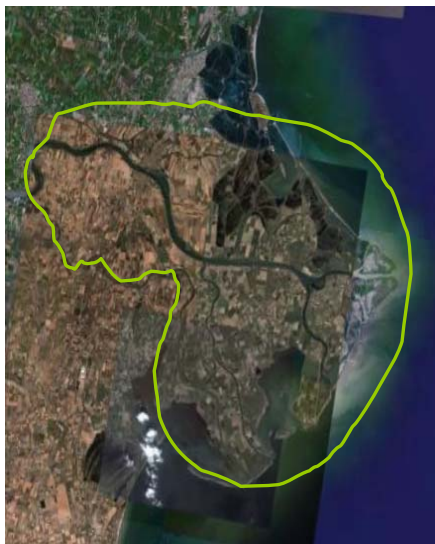


# Test-bed

# “Po River Delta”

(Italy – Veneto Region)





## Location of the test-bed

The test-bed is located in the Veneto Region, Province of Venezia and Rovigo, flat alluvial plain area more or less at mean sea level.

## Geographic description

The study area is completely flat including Po delta. Po is the longest Italian river and flows for 652 km. Po Delta area is just few metres high above sea level. Some coastal areas are located three metres below sea level. Municipalities which are interested in the Delta are: Adria, Ariano nel Polesine, Corsola, Loreo, Papozze, Porto Tolle, Porto Viro, Rosolina and Taglio di Po; total population: 73.596 inhabitants.

The environment of this area is the one we usually find in large rivers' deltas: no difference in ground level, rivers and canals often run across the land, you can frequently see banks, lagoons and fishing valleys controlled by roller gates (chiaviche-paratoie). The banks delimit golenas, exposed to frequent river floods. These are humid zones, frequently filled by banking woods, rich in fauna and home of a variety of bird species. They originated by abandoned quarries, by the so-called lanche (old river meanders) or by cases of expansions.

Some other characteristic environments of the area are brackish waters lagoons marked by scanni (sand dunes) towards the sea and by barene (sand or silt banks) towards the river. Sacche are another local typical environmental aspect, characterised by low level marshes. For the Po delta, the establishment of the Regional Park Authority in Veneto meant to have one more reason to become one of the largest and most interesting naturalistic areas in Italy. In 1997 the "Parco Regionale del Delta del Po" was founded; his main goals are:

- The conservation of the historical, naturalistic and cultural aspects of the territory,
- the promotion of the economic activities of this area and
- the improvement of the quality of life of the local communities.

## Relevance of test bed regarding MONITOR

Existing basic data: Air photos, satellite photos, geological maps, geomorphologic maps, interpretations of data are in progress.

## Main objectives of the analysis in the Test-bed

Evaluation, interpretation and comparison of subsidence rate estimated with different methods by applying for the first time the SAR technique

## Interfaces to the Project (Conflict Potentials)

The main threats of this territory derive from his location and the flat conformation of the land, in addition to geological and geomorphologic aspects. They are:

- Subsidence
- Salt-pain intrusion
- Flood Phenomena

## Previous Activities in the Test-bed

GPS, Laser Scanner, levelling measurements have been carried out.

## Planned Activities/Outputs

Acquisition of subsidence estimation rate by SAR analyses with Permanent Scatterers technique

## SWOT-analysis of the test-bed

<b>Strengths:</b>	<b>Weaknesses:</b>
<ul style="list-style-type: none"> <li>▪ Well preserved environment</li> <li>▪ The presence, since 1997, of the “Parco Regionale del Delta del Po” with the aims to conserve historical, natural and cultural aspects of the territory; promotion of the economic activities of this area; improvement of the quality of life of the local communities</li> <li>▪ Sustainable agriculture activities.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Subsidence</li> <li>▪ Salt-pain intrusion</li> <li>▪ Flood phenomena</li> </ul>
<b>Opportunities:</b>	<b>Threats:</b>
<ul style="list-style-type: none"> <li>▪ Promotion of tourism based on natural environment and presence of Po Delta Park</li> <li>▪ Improving of monitoring activities regarding subsidence phenomena such as:</li> <li>▪ Levelling measurements</li> <li>▪ GPS networks</li> <li>▪ Permanent Scatterers applied to SAR</li> <li>▪ Improving of salt-pain intrusion phenomena monitoring by: Periodic analysis and well electrical logs</li> </ul>	<ul style="list-style-type: none"> <li>▪ Prudery of rivers and channels. This situation leads to a increasing uplift of river beds which becomes hanging with respect of the surrounding countries moreover increasing subsidence phenomena</li> <li>▪ Pollution of surface waters as the result of the discharge of all the industries and plants in the Po plain</li> </ul>