Farmer data sourcing. The case study of the spatial soil information maps in South Tyrol.

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Nord-Italian region South Tyrol is Europe's largest apple growing area exporting ca. 15% in Europe and 2% world-wide. Vineyards represent ca. 1% of Italian production. In order to deliver high quality food, most of the farmers in South Tyrol follow sustainable farming practices. One of the key practice is the sustainable soil management, where farmers collect regularly (each 5 years) soil samples and send for analyses to improve cultivation management, yield and finally profitability. However, such data generally remain inaccessible.

On this regard, in South Tyrol, private interests and the public administration have established a long tradition of collaboration with the local farming industry. This has granted to the collection of large spatial and temporal database of soil analyses along all the cultivated areas. Thanks to this best practice, information on soil properties are centralized and geocoded. The large dataset consist mainly in soil information of texture, humus content, pH and microelements availability such as, K, Mg, Bor, Mn, Cu Zn. This data was finally spatialized by mean of geostatistical methods and several high-resolution digital maps were created.

In this contribution, we present the best practice where farmers data source soil information in South Tyrol. Show the capability of a large spatial-temporal geocoded soil dataset to reproduce detailed digital soil property maps and to assess long-term changes in soil properties. Finally, implication and potential application are discussed.