



THE OPEN-INNOVATION NETWORK FOR GEODATA-DRIVEN INNOVATION

by leveraging space data in particular, in Universities 2.0

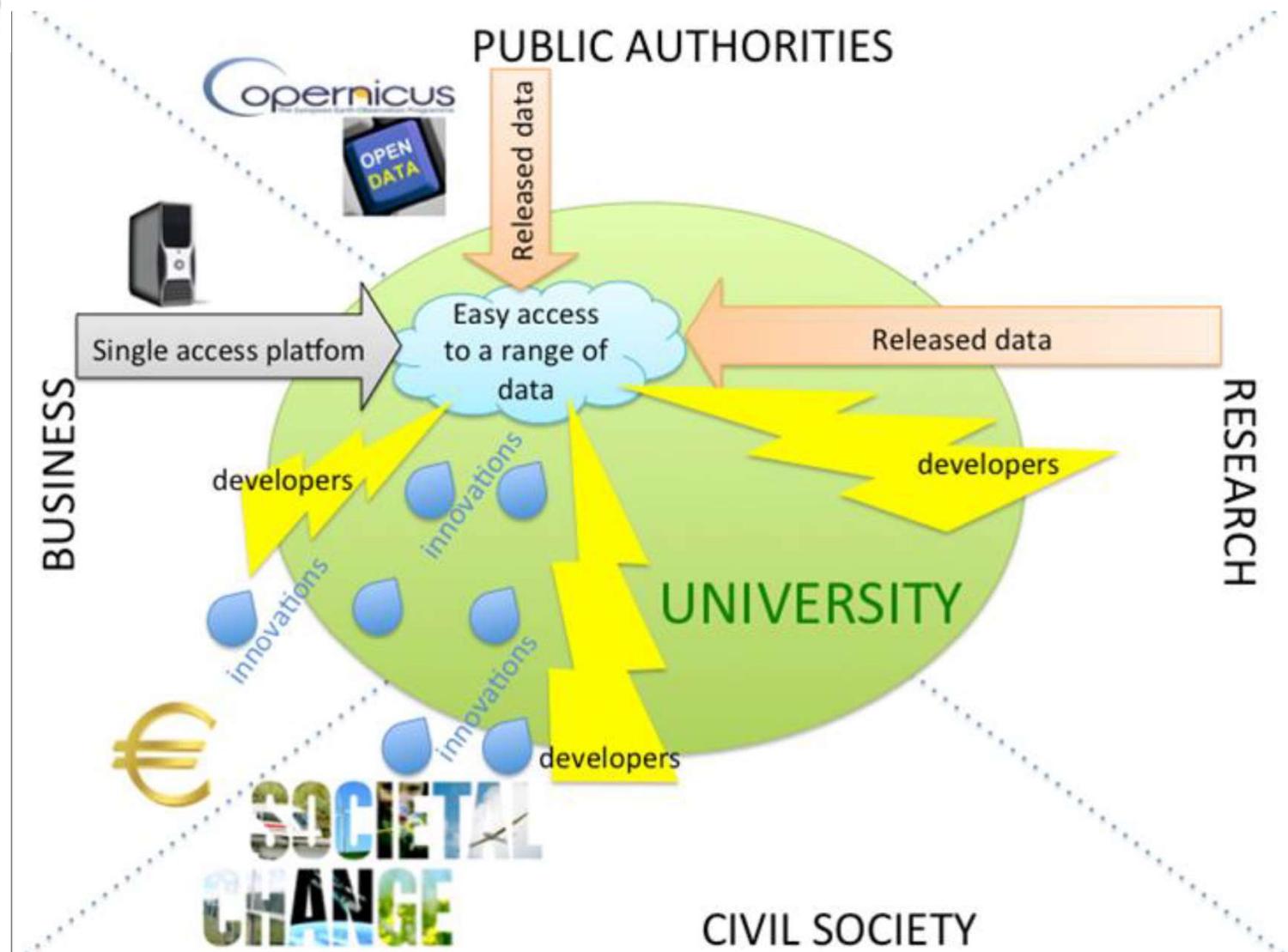
 2016 ~ 2019



The Fabspace 2.0 project received funding from the European Union's Horizon 2020 research and innovation programme under the grant agreement no. 693210



FAB SPACE 2.0





Lo scopo del Fabspace 2.0 è quello di diventare un facilitatore che permetta alle università di diventare centri di innovazione, “data-driven” e “open”, per la generazione di nuove iniziative imprenditoriali:

- Facilitare l’accesso ai dati e agli strumenti di elaborazione
- Verificare e supportare idee riguardanti applicazioni che utilizzano i dati
- Organizzare corsi e seminari sui dati
- Favorire iniziative imprenditoriale che nascono nelle Università
- Incrociare la domanda e l’offerta
- Promuovere iniziative di networking tra l’accademia e l’industria



Lo Space Application Shop



FabSpace

📍 Via del Politecnico, 1
00133 Roma

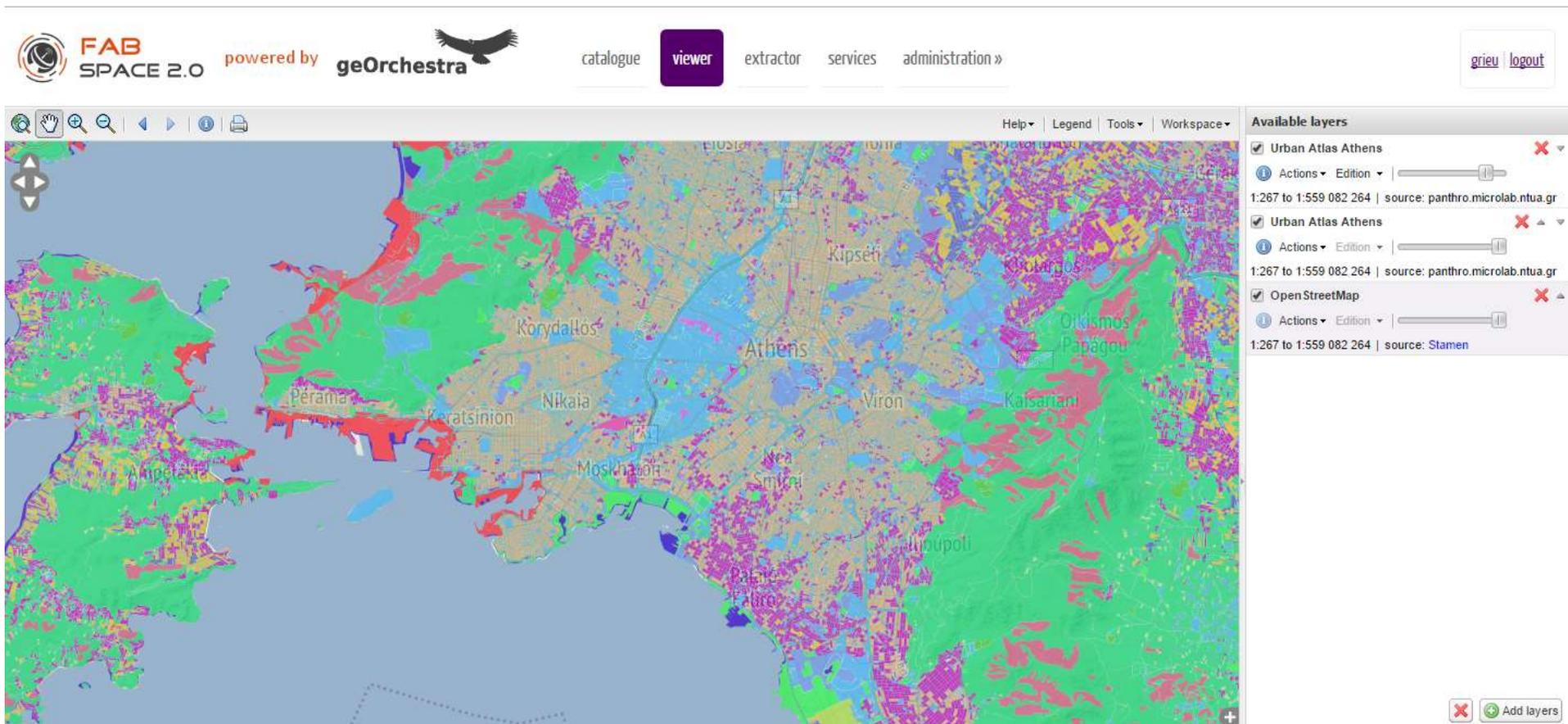
> ORARI E CONTATTI

- lun-ven 10-18
- solo il primo sabato del mese 10-14

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✉ info@fabspace.uniroma2.it

Caricamento, visualizzazione, elaborazione,
archiviazione dei dati, attraverso una
piattaforma sw dedicata



The screenshot displays the FAB SPACE 2.0 web interface. At the top left, the logo for FAB SPACE 2.0 is shown, along with the text "powered by geOrchestra". The navigation menu includes "catalogue", "viewer" (highlighted in purple), "extractor", "services", and "administration". On the right side of the header, there are links for "griev" and "logout".

The main area features a map of Athens, Greece, with various colored overlays representing different data layers. The map includes labels for several districts: Korydallós, Pérama, Keratsinion, Nikaia, Moskhato, Nea Smirni, Viron, Kipsoti, Kifissos, Kallithea, Kaisariani, and Marousi. The map is overlaid with a grid and various colored polygons in shades of green, red, blue, and purple.

On the right side, there is a panel titled "Available layers" with the following entries:

- Urban Atlas Athens (source: panthro.microlab.ntua.gr)
- Urban Atlas Athens (source: panthro.microlab.ntua.gr)
- OpenStreetMap (source: Stamen)

Each layer entry includes a scale of "1:267 to 1:559 082 264" and a "source" field. The panel also includes a "Legend" tab and a "Workspace" dropdown menu. At the bottom right of the map area, there is a button labeled "Add layers" with a plus sign icon.



Corsi e Seminari su dati satellitari e trasferimento tecnologico



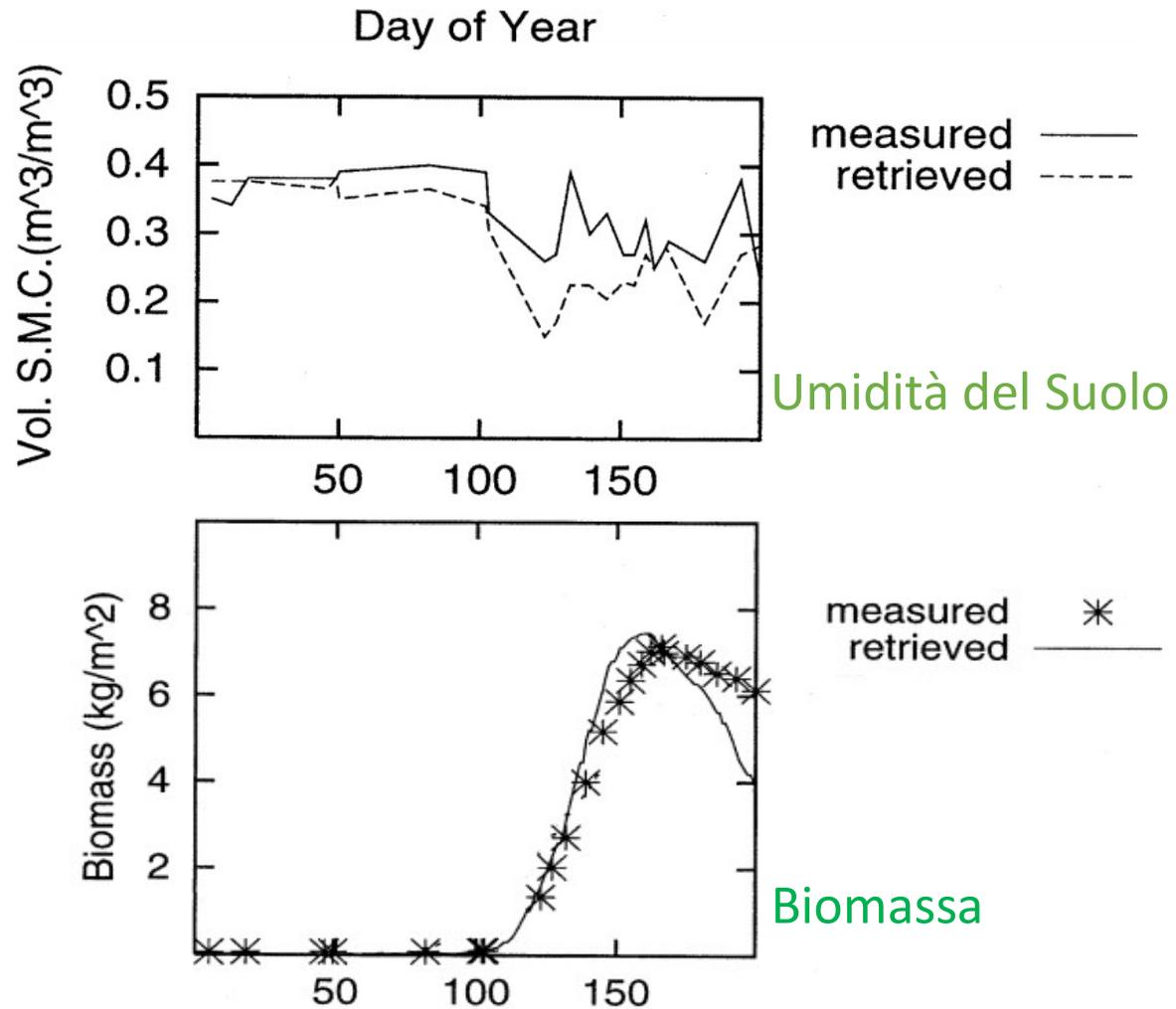
Applicazioni sviluppate presso Università «Tor Vergata»

Gruppo di Osservazione della Terra
(Schiavon, Guerriero, Ferrazzoli, Del Frate)
+ Dottorato in Geoinformazione

Agricoltura e Foreste



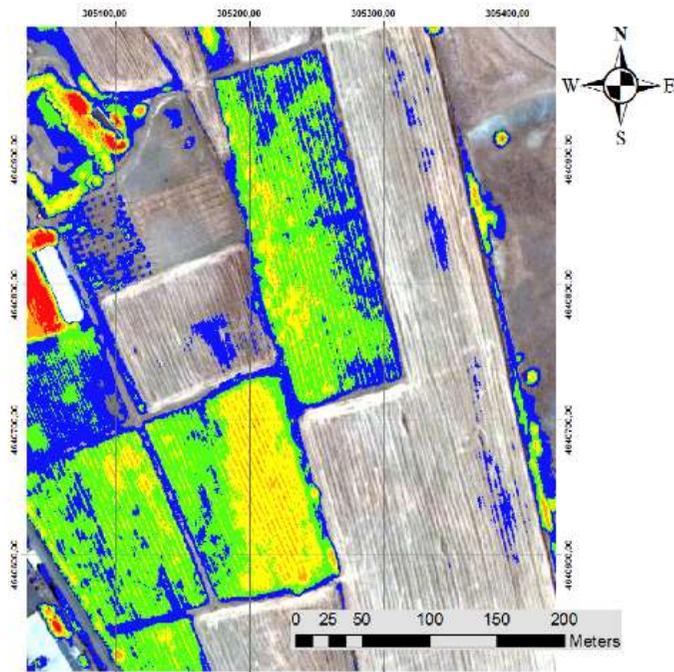
Stima di parametri di colture agricole



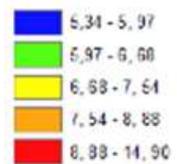
F. Del Frate et al., "Wheat cycle monitoring using radar data and a neural network trained by a model," *IEEE Transactions on Geoscience and Remote Sensing*, vol. 42, n. 1, 2004

Agricoltura di Precisione

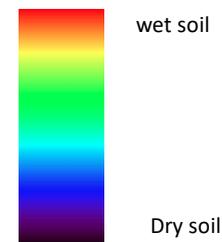
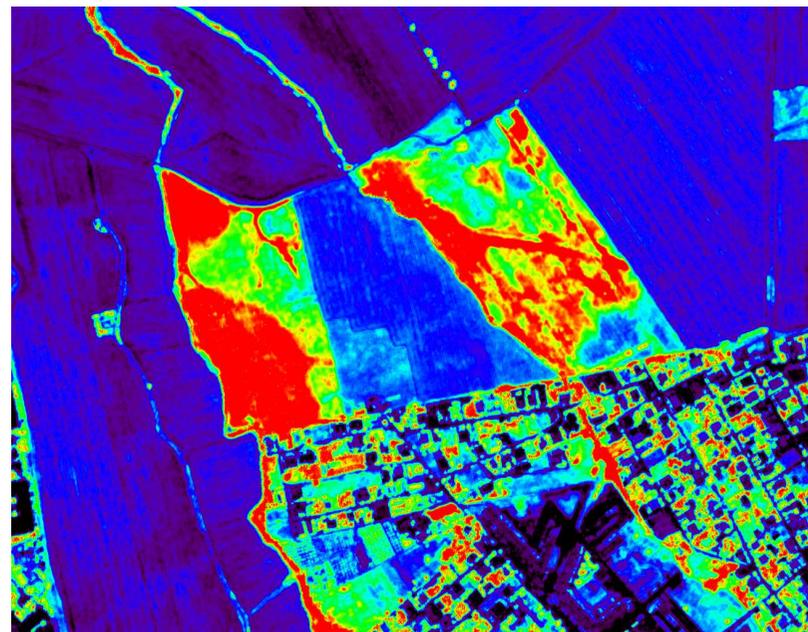
Tenore zuccherino



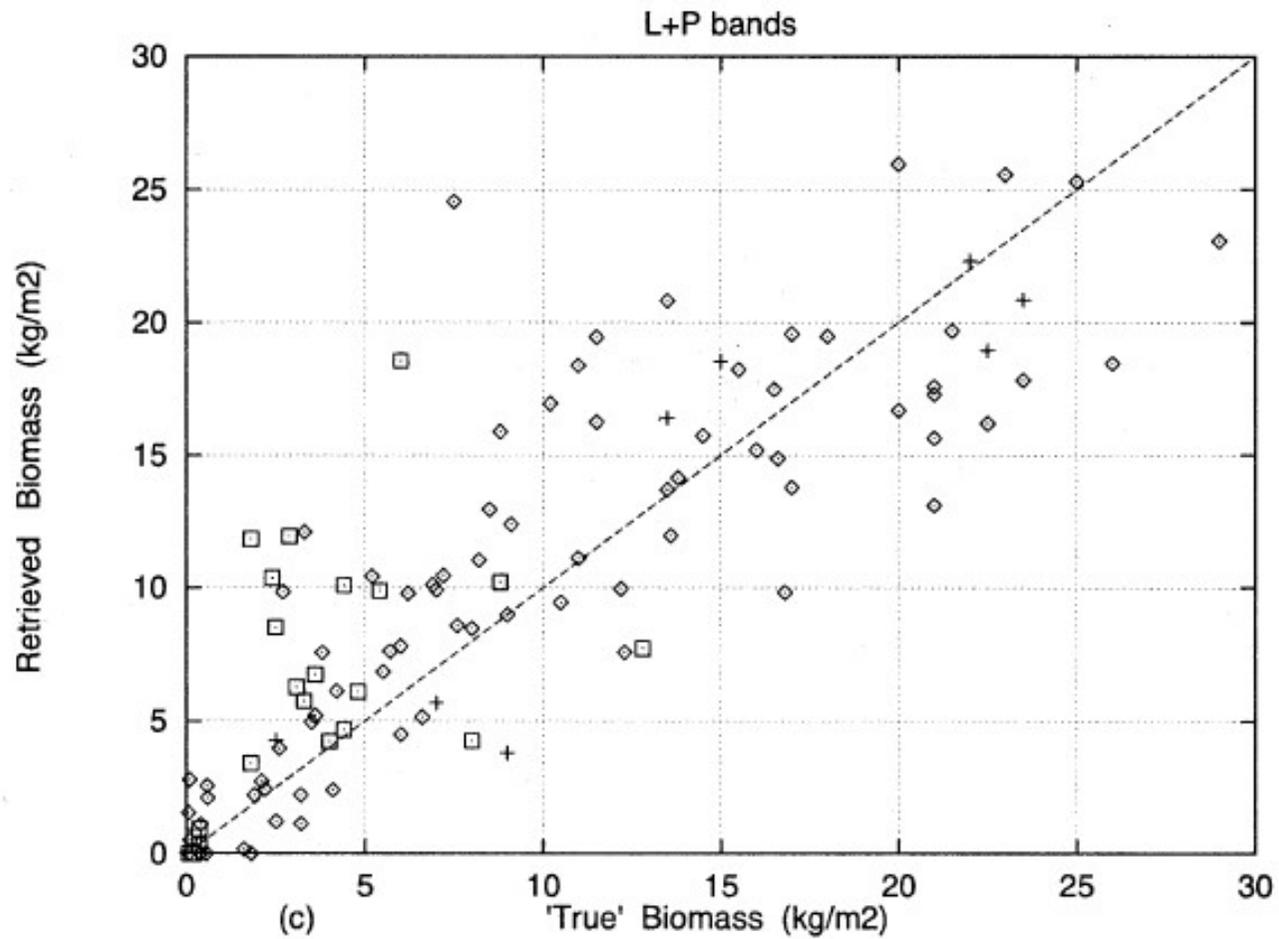
Indice di Brix



Mappa dello stress idrico



Stima della biomassa forestale



(Diamonds) Conifer stands. (Squares) Poplar. (Crosses) Mangrove.

F. Del Frate and D. Solimini, "On a neural network algorithm for retrieving forest biomass from SAR data," *IEEE Transactions on Geoscience and Remote Sensing*, vol. 42, n. 1, 2004

Monitoraggio del Territorio e delle Aree Urbane



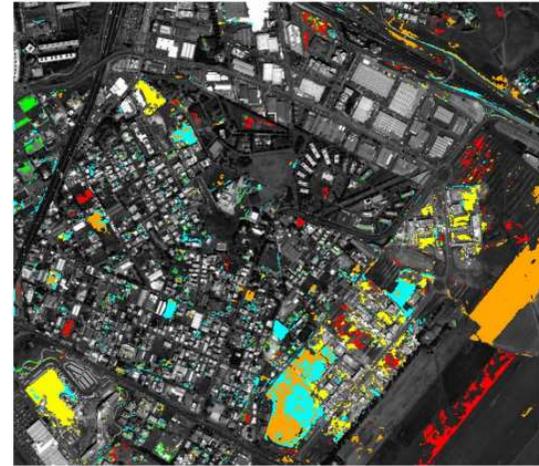
Rilevamento Automatico di Cambiamenti nel Territorio



2002



2003



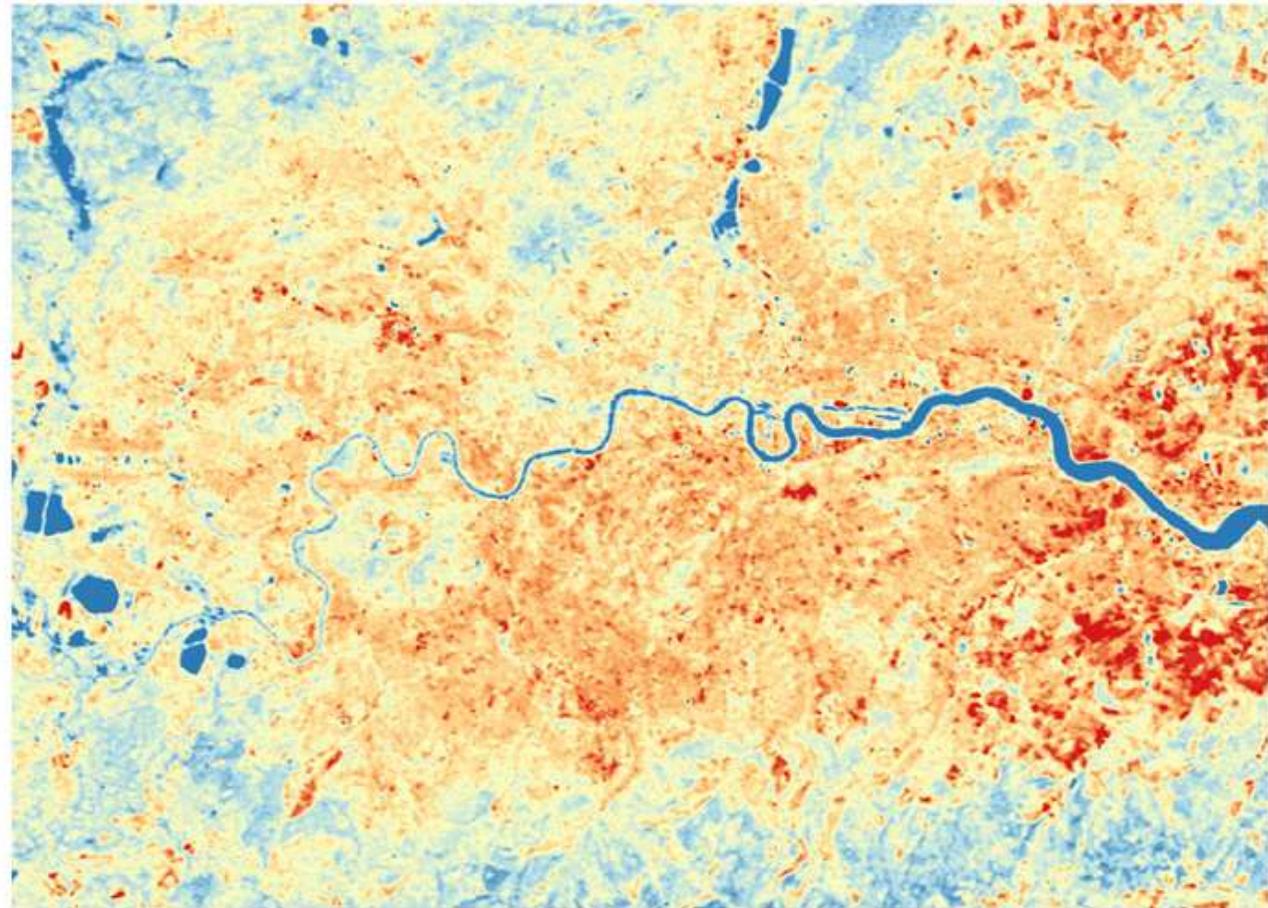
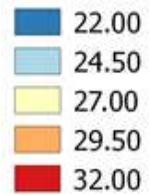
	2003		
2002	Vegetation	Man-made	Soil
Vegetation	Gray	Cyan	Orange
Man-made	Green	Gray	White
Soil	Red	Yellow	Gray

F. Pacifici, F. Del Frate, C. Solimini, W.J. Emery, "An Innovative Neural-Net Method to Detect Temporal Changes in High-Resolution Optical Satellite Imagery", *IEEE Transactions on Geoscience and Remote Sensing*, vol. 45, n. 9, 2007

Monitoraggio Isole di Calore Urbane

Legend

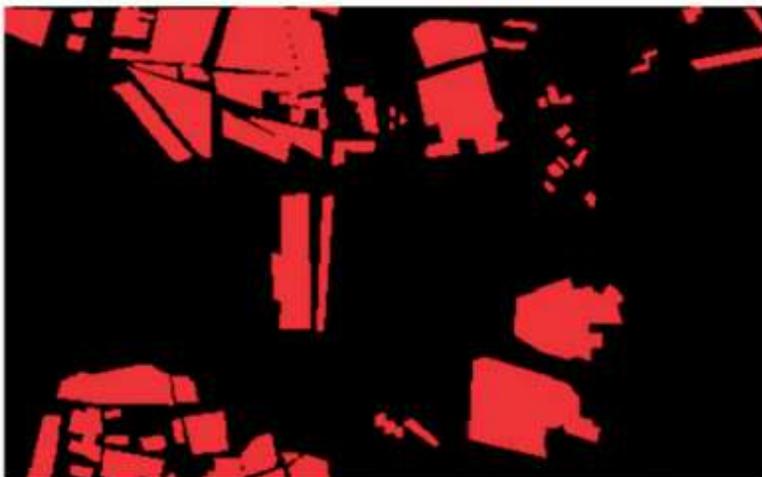
Land Surface Temperature (C)



LONRA

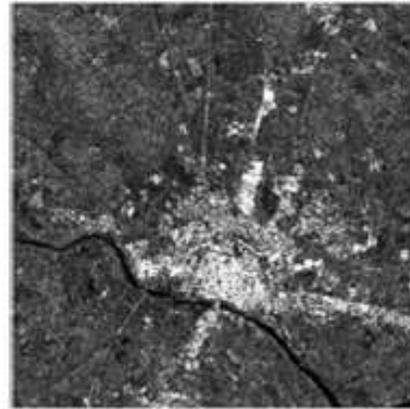
Mitraka, Z. et al., "Urban surface temperature time series estimation at local scale by spatial-spectral unmixing of satellite observations," *Remote Sensing*, April 2015, 7(4),

Identificazione di Edifici tramite Immagini SAR



F. Del Frate, D. Latini, C. Pratola, F. Palazzo, "PCNN for automatic segmentation and information extraction from X-band SAR imagery," *International Journal of Image and Data Fusion*, DOI:10.1080/19479832.2012.713398, 2012

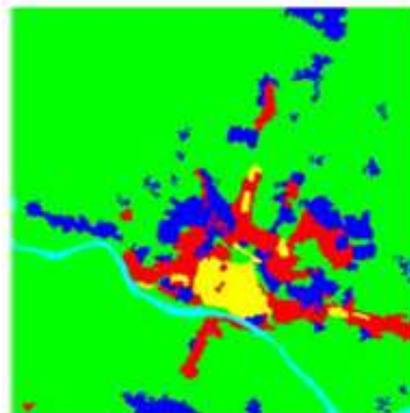
Classificazione tramite fusione di dati radar e multispettrali



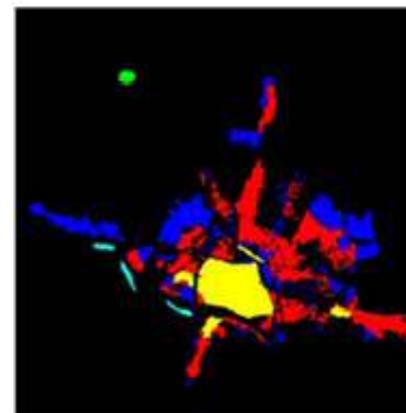
(a)



(b)



(c)



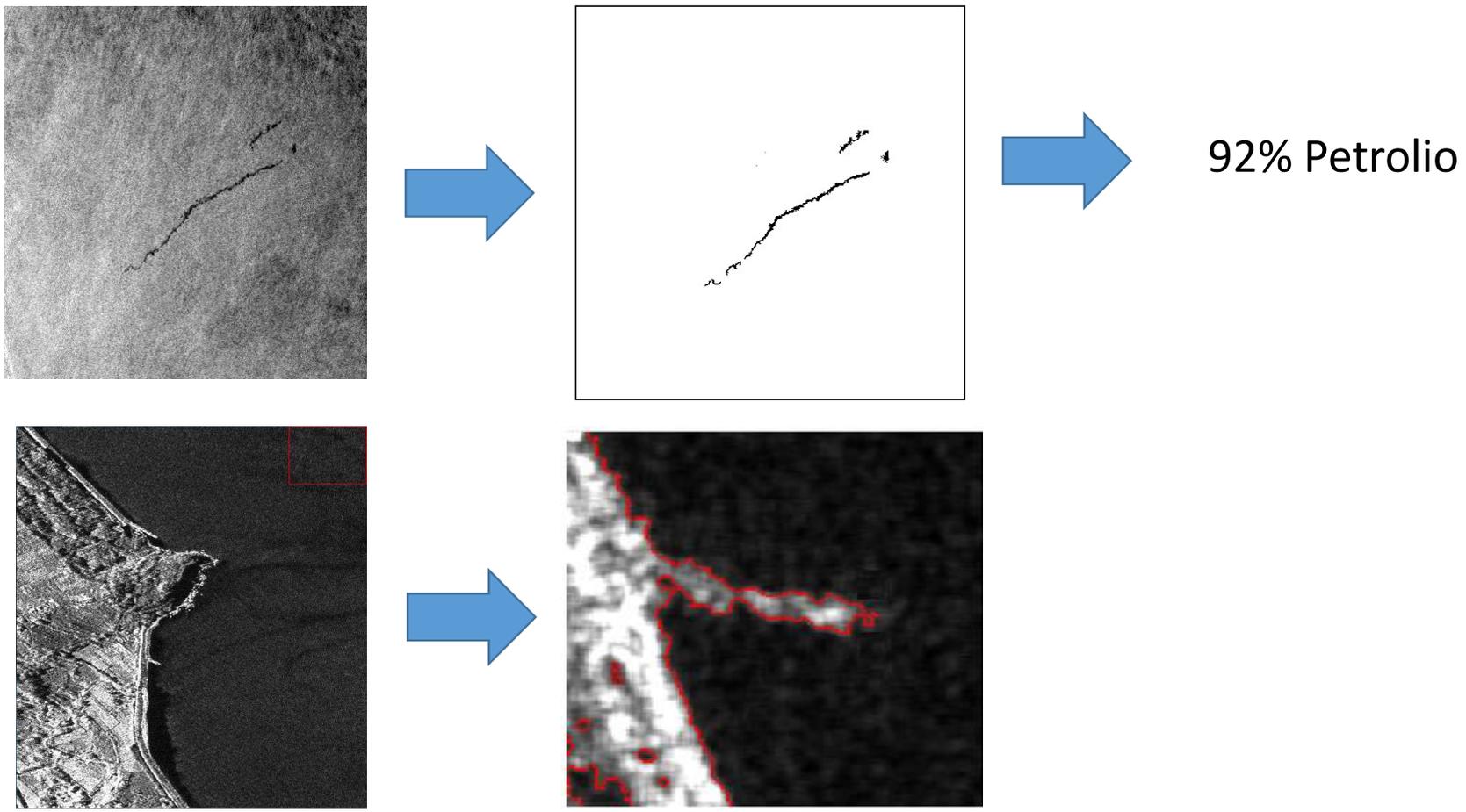
(d)

(a) Immagine SAR (b) immagine multispettrale (c) mappa di classificazione
(d) mappa di verità

Mare e Atmosfera

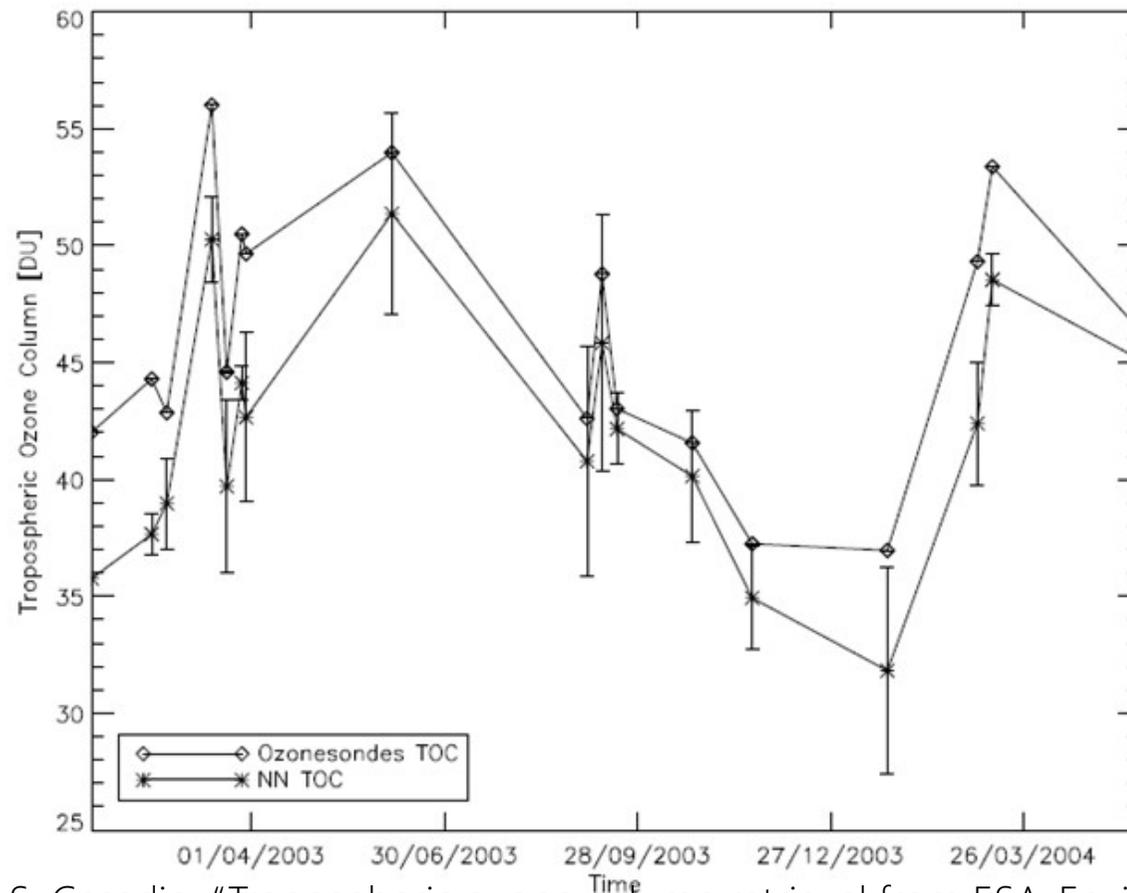


Applicazioni Marine con Dati SAR



F. Palazzo, D. Latini; V. [Baiocchi, V.](#), F. Del Frate, F. Giannone, D. Dominici, S. Remondiere, "An application of COSMO-SkyMed to coastal erosion studies," *European Journal of Remote Sensing*, vol.45, n. 2, 2012

Monitoraggio della qualità dell'aria: stima della concentrazione di ozono troposferico



P. Sellitto, F. Del Frate, D. Solimini, S. Casadio, "Tropospheric ozone column retrieval from ESA-Envisat SCIAMACHY nadir UV/VIS radiance measurements by means of a neural network algorithm," *IEEE Transactions on Geoscience and Remote Sensing*, vol. 50, n. 3, 2012

Integrazione dati satellitari e rilevamenti da drone



- Monitoraggio continuo e costante
- Controllo totale sull'acquisizione (data, ora, rilievi durante le fasi fenologiche più delicate, ripetitività negli anni)
- Rapidità di acquisizione
- Risoluzione centimetrica del dato
- Misure non distruttive e mirate

Payloads:



Camere multispettrali (R,G,B, Red Edge, Near IR)



Camere TIR (LWIR) per indagini termografiche

