



# *Italy-Florida collaboration on Water Science, Culture and Security*

*Perugia, Italy*

Università  
per Stranieri  
di Perugia

*November 9, 2017*

*Fernando Nardi  
Università per Stranieri di Perugia*



# *Water Resource Research and Documentation Center (WARREDOC)*

*Perugia, Italy*



<http://warredoc.unistrapg.it>



# WARREDOC

*Research*

*Advanced training and education*

*Capacity building and Disaster Risk Management*

*Applied Research, Technology and Knowledge Transfer*

*Hydrology and water resource management*

*Hydraulics and water-driven hazard modelling*

*Geographic Information System, EO monitoring and mapping*

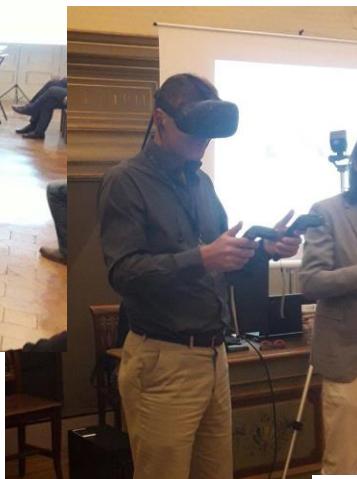
*Multidisciplinary water studies using digital media*

*Open/Big Data and Data Science*



## *Workshops and training*

*Hydroinformatics  
Digital mapping  
Open/Big Data*



## *Technology transfer*

*Startup  
Self-employment  
Digital careers*



<http://www.geosmartcampus.it/>



**#Watermanifesto**

**NUOVE FRONTIERE PER LA RICERCA, LA SOSTENIBILITÀ AMBIENTALE E LA COMUNICAZIONE NEL SETTORE DELL'ACQUA**

**ROMA, 6 GIUGNO 2017**

Sala Polifunzionale  
Presidenza del Consiglio dei Ministri  
via Santa Maria in Via, 37/A

CON LA PARTECIPAZIONE DI

[www.wateropenday.org/watermanifesto](http://www.wateropenday.org/watermanifesto)  
**#WaterManifesto #WaterOpenDay**  
Social Media Campaign

<http://www.wateropenday.org>



## *Communication and outreach*

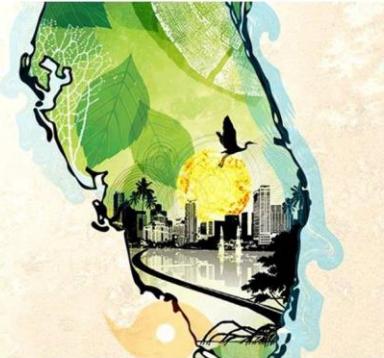
**#Watermanifesto**  
*Using social media and citizen science  
for WRM/DRR*



# FIU

FLORIDA  
INTERNATIONAL  
UNIVERSITY

## Miami-Florida Jean Monnet Center of Excellence European and Eurasian Studies Program



A Jean Monnet Project

## Living with Water in an Interconnected World

Friday, April 29, 2016 | 6:30 - 8:30 PM | Vizcaya Village Garage | 3250 S. Miami Ave. Miami, FL 33129

## Miami-Florida Jean Monnet Center of Excellence European and Eurasian Studies Program



## Water, Sustainability & Climate Change: The use and misuse of water resources

Monday, May 2, 2016 | 8:30 AM - 10:30 AM

Bank of America conference room (7th floor) | 701 Brickell Avenue – Miami, FL 33131



# *Rome and Miami*

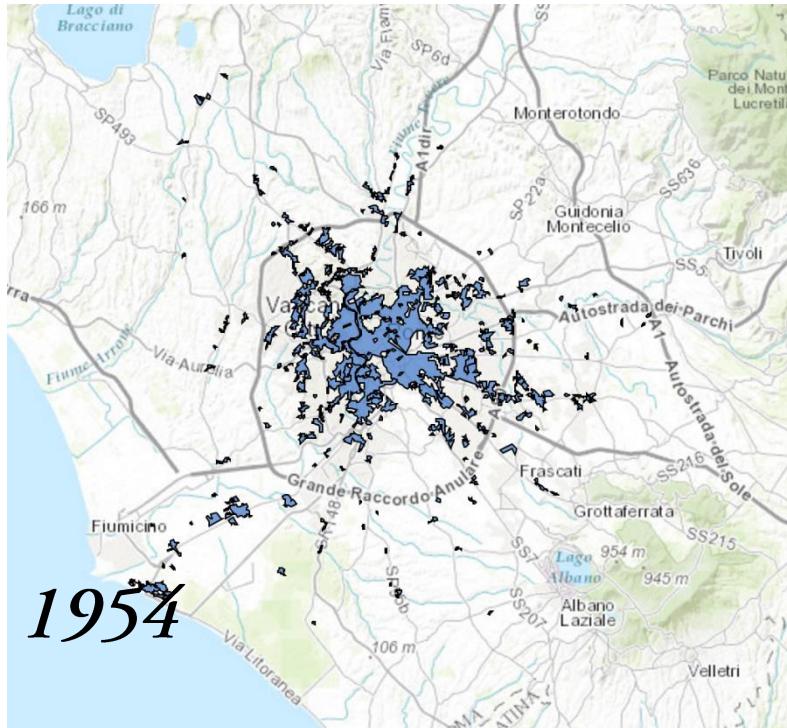
## *water management for the present and the future*

*Italy-Florida scientific and cultural exchange  
promoting solutions for global water challenges*

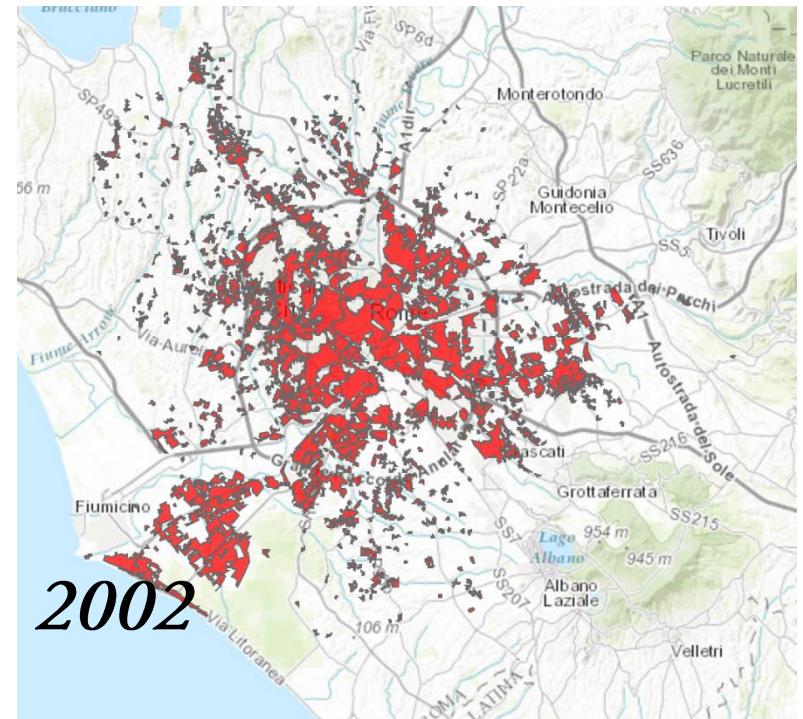
Università  
per Stranieri  
di Perugia



# City of Rome



Area	1 287,36 <sup>[2]</sup> <u>km<sup>2</sup></u>
Population	2 867 143 <sup>[3]</sup>
Density	2 227,15 ab./ <u>km<sup>2</sup></u>



<http://www.arcgis.com/home/item.html?id=4e6b10329f804c1c8c04aaa4898c206e>



# *The coastal sea/land interface*





# Flood hazard





# Flood hazard





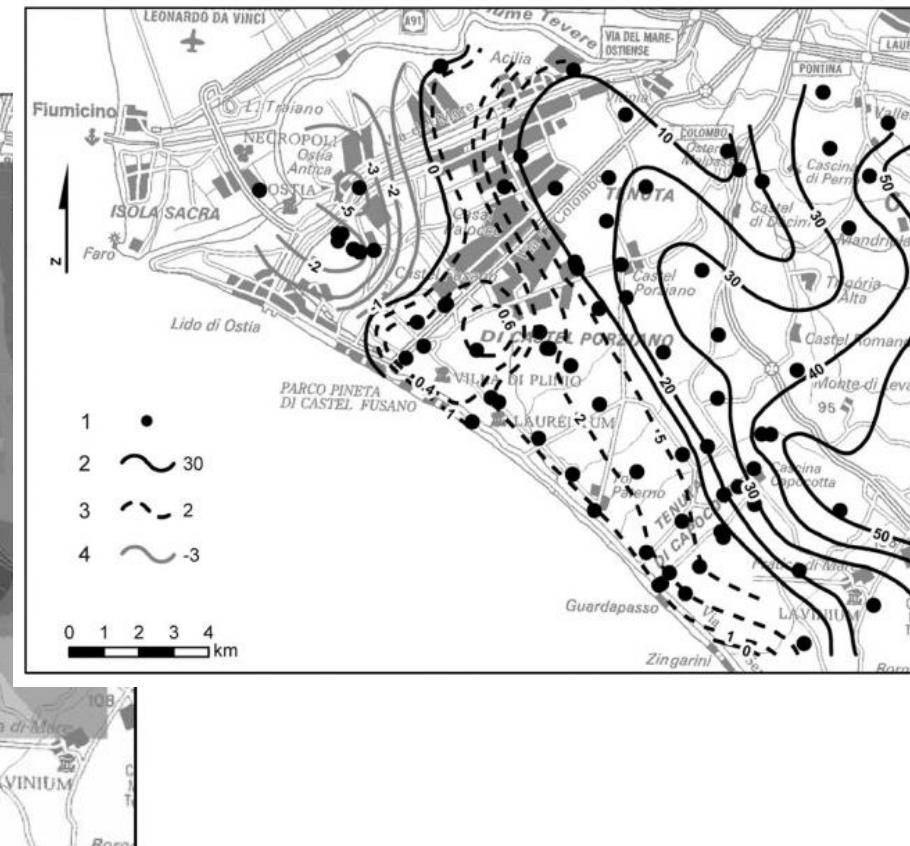
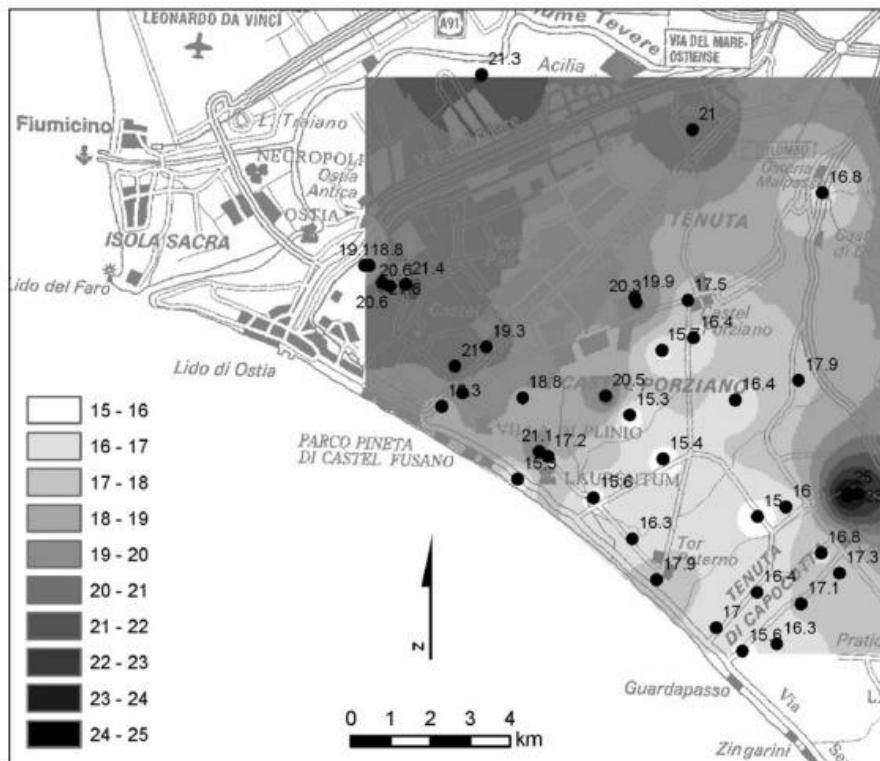
# *The coastal sea/land interface*



## *Pollution*

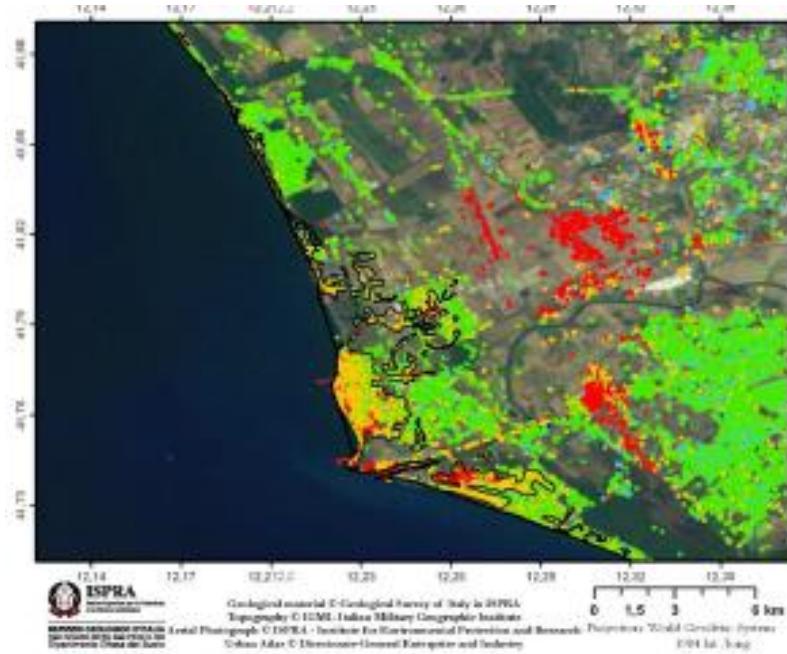


# Salt water intrusion



Capelli G., Mazza R., Papicchio C. / Giornale di Geologia Applicata 5 (2007) 13-28

# Subsidence and sinkholes



Entire Area  
PROM\_Roma\_007

PROM ERS Roma

Velocity

- 0.45 - -0.0
- 0.39 - -1
- 0.09 - 1
- 1.81 - 3
- 3.01 - 9.47

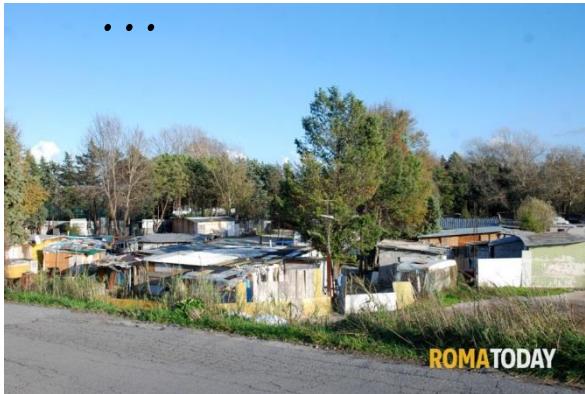


Geohazard information project [Pangeo](#) partner



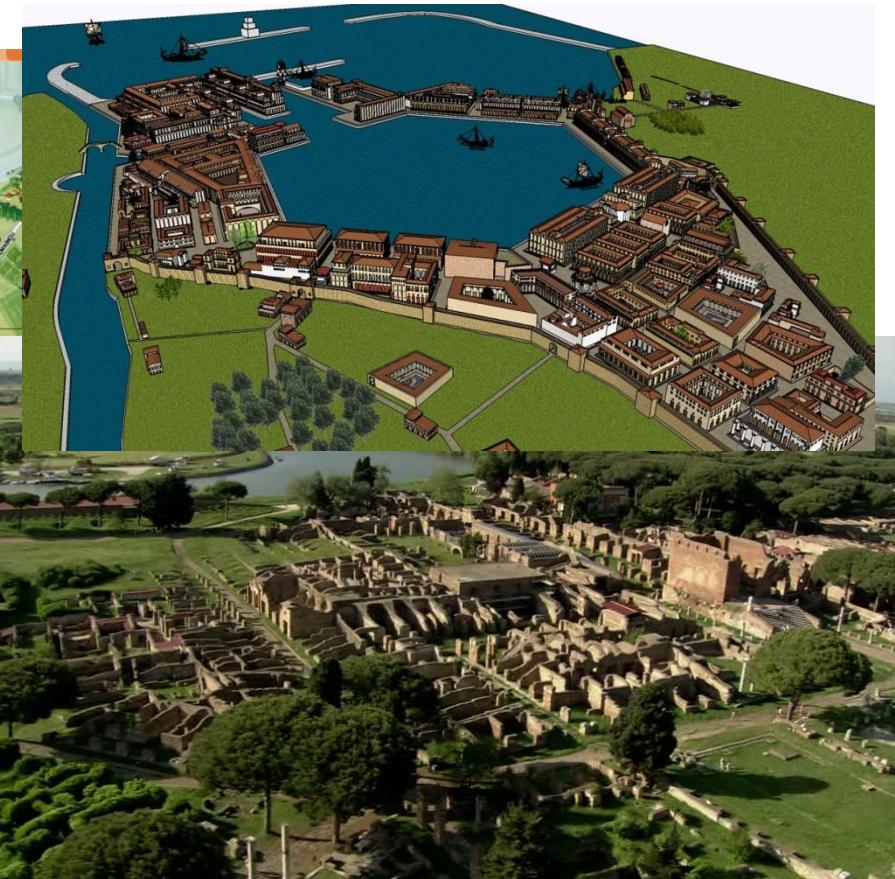
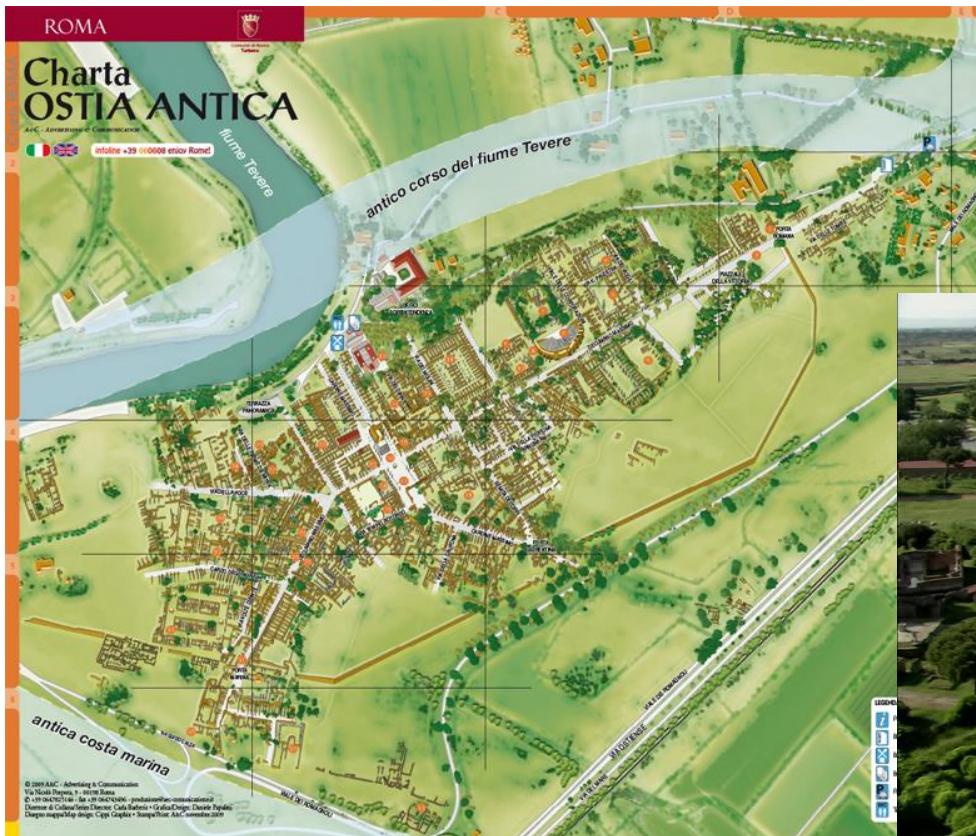
# *Fluvial and Costal zone hazard*

- *Water resource availability*
- *Water quality (Pollution)*
- *Subsidence*
- *Flood risk*
- *Storm surge (sea level rise)*
- *Drainage (channels and sewers)*



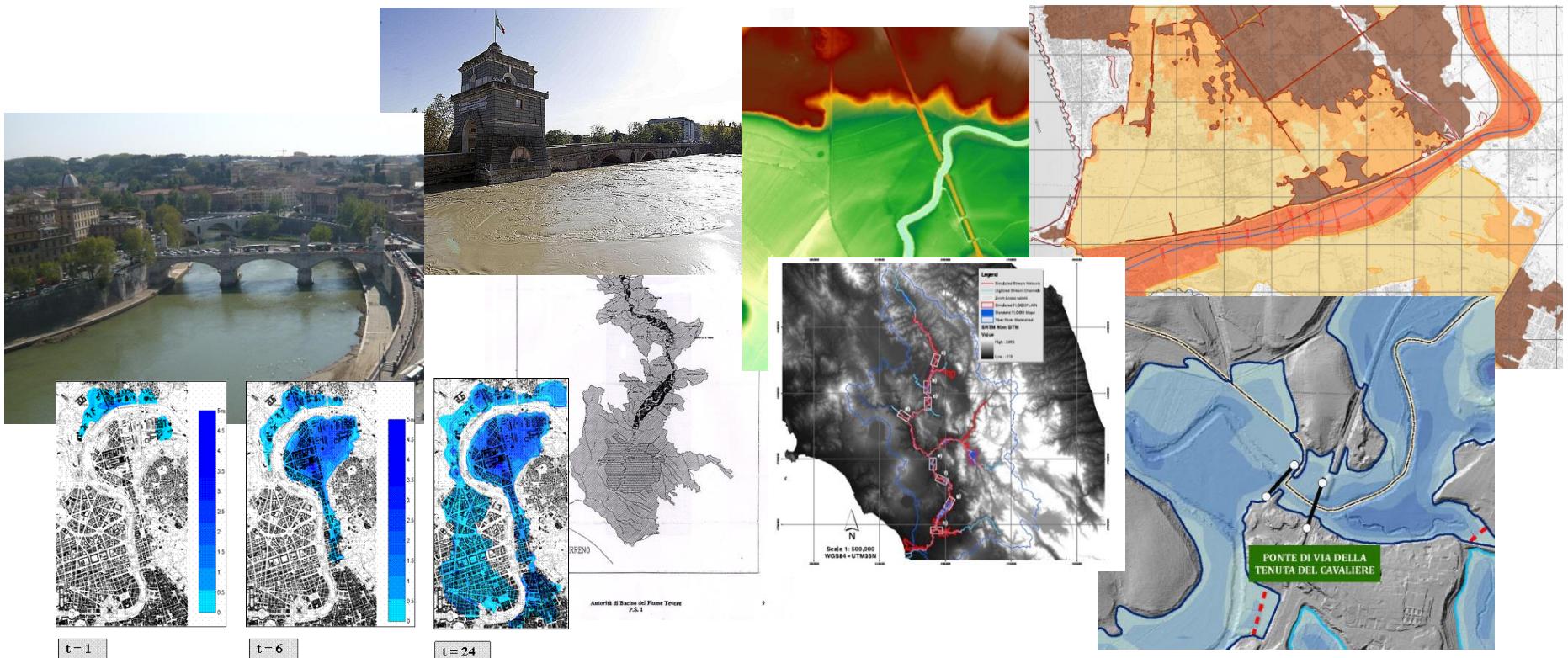


# Archeological sites preservation and valorization



# Archeological sites and water/flood risk management

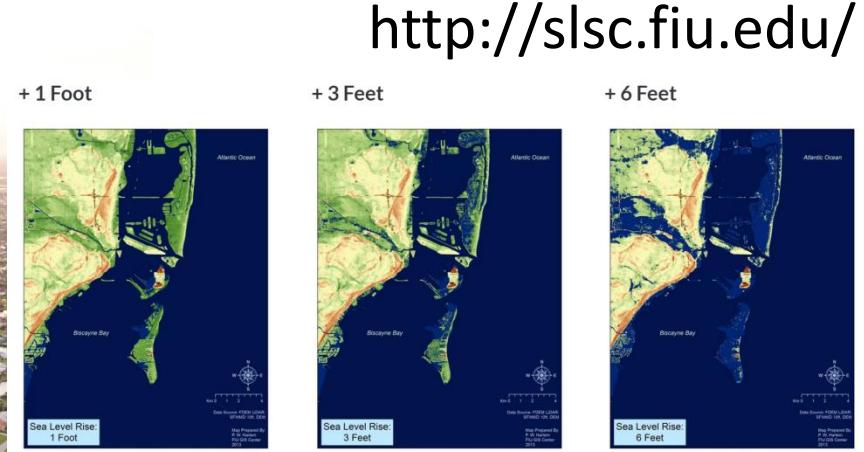
30+ years of Tiber river hydrologic and hydraulic studies





# *Rome and Miami*

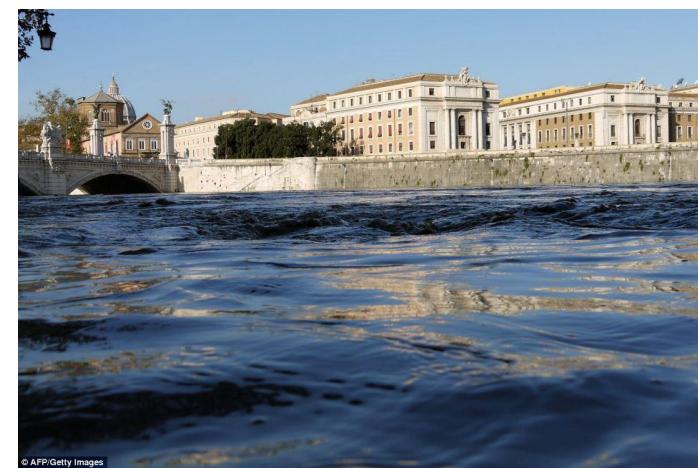
## *Managing water for the present and the future*



<http://slsc.fiu.edu/>



# *Rome and Miami Managing water for the present and the future*





<http://warredoc.unistrapg.it>  
[http://www.wasup-lab.org /](http://www.wasup-lab.org/)

[fernando.nardi@unistrapg.it](mailto:fernando.nardi@unistrapg.it)  
[@fnardi](https://twitter.com/fnardi)