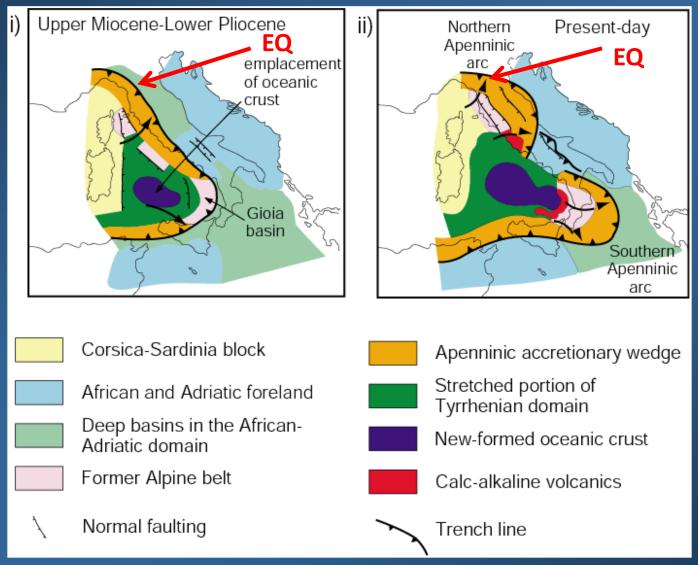






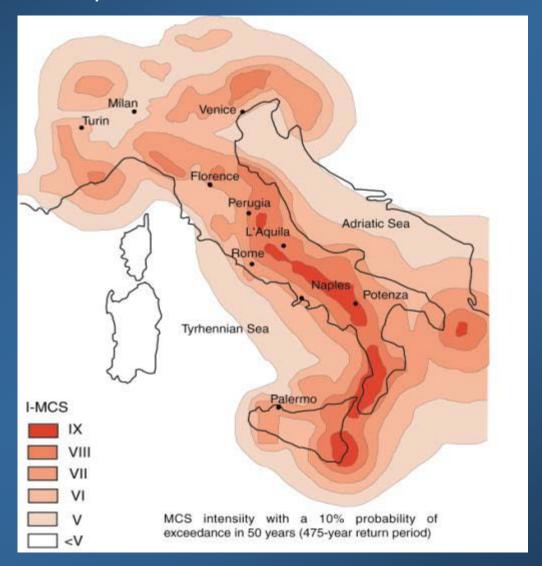
# **PRELIMINARY REPORT EMILIA ROMAGNA EARTHQUAKE SEQUENCE - ITALY** (Mw 5.9 – 20 MAY & Mw 5.8 – 29 MAY 2012) SEISMOTECTONIC DATA





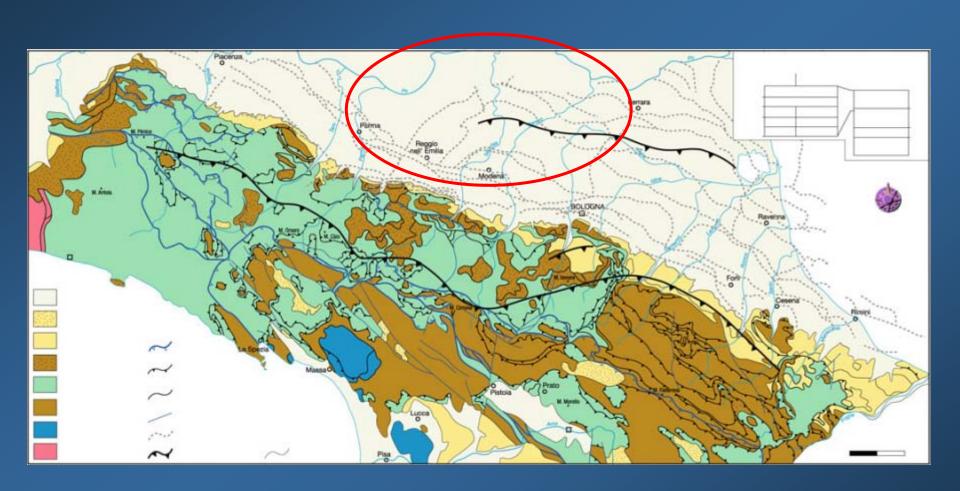


#### Seismic Hazard map



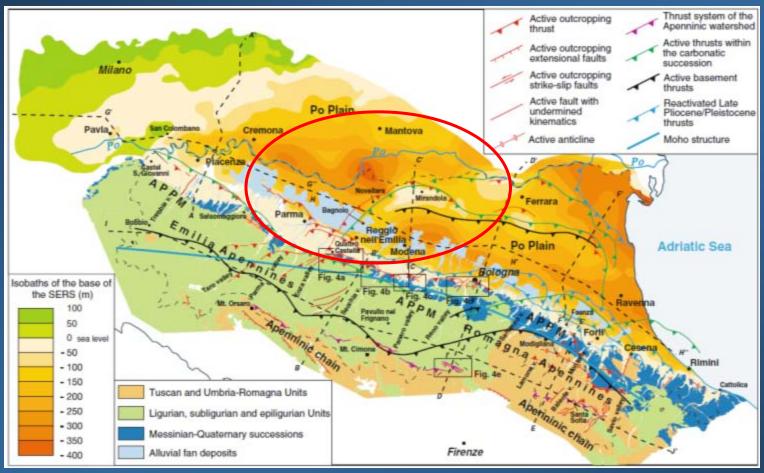
**GNDT – SNN, 2001** 





Tectonic scheme of the Northern Apennines (Pieri and Groppi 1981, Cerrina Feroni et al. 2002).

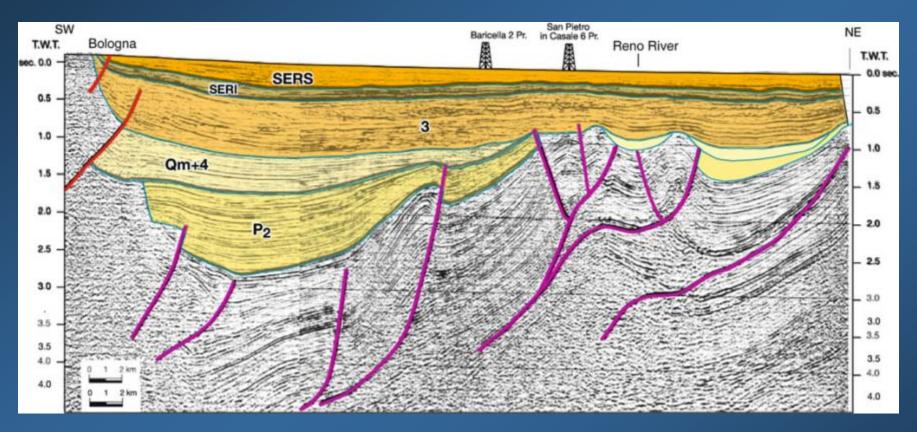




Recent and active structures of the Emilia-Romagna. Subsurface geology in the Po
Plain is illustrated as isobaths of the base of the Upper Emilia-Romagna System
(450,000 year). APPM: Apennines-Po Plain margin.

(Boccaletti, Corti & Martelli, 2011)



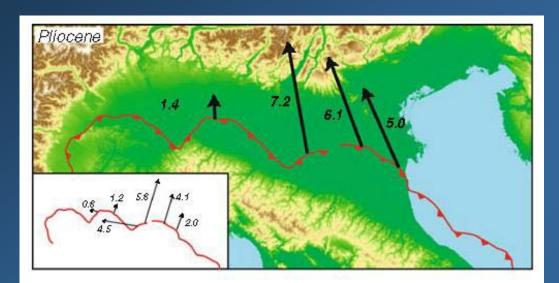


Example of interpreted seismic line (modified from RER and ENI-Agip 1998). Note that Middle Pleistocene and Late Pleistocene units (3: Imola Sands; SERI: Lower Emilia-Romagna Synthem; SERS: Upper Emilia-Romagna Synthem) are folded and faulted. P2: Late Pliocene; Qm: Lower Pleistocene marine sediments;

4: Yellow Sands (1–0.8 M year)

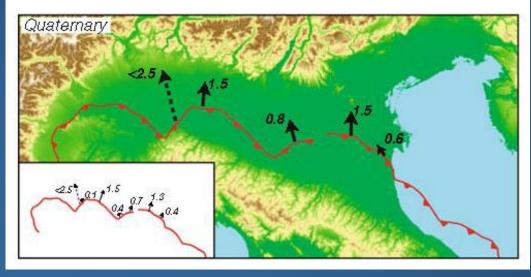
(Boccaletti, Corti & Martelli, 2011)



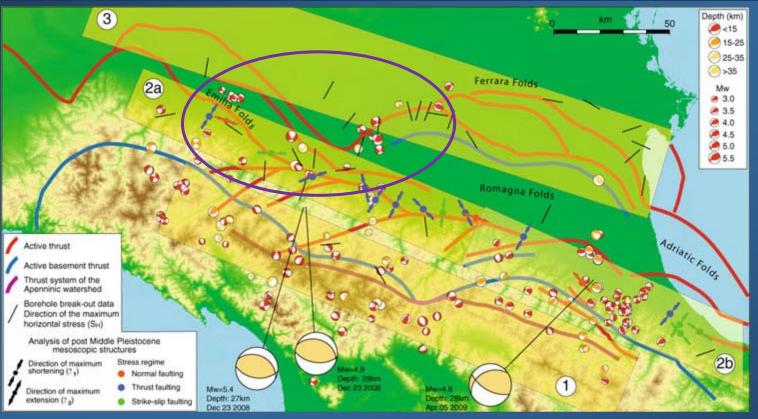


Pliocene and Quaternary slip rates calculated from the main structures from analysis of available seismic sections.

(Boccaletti, Corti & Martelli, 2011)



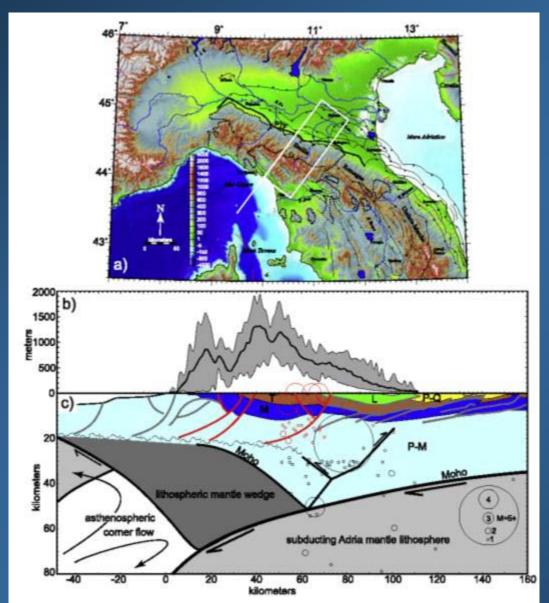




Summary of the recent and active structures of the external Northern Apennines with superimposed focal mechanism solutions (Boccaletti et al. 2004), stress fields from mesoscopic analysis (Ghiselli and Martelli 1997) and borehole breakout data (Mariucci and Muller 2003). Enlarged are three focal mechanisms of main events of the seismic sequences that effected the external Apennines on December 23, 2008, and April 5, 2009 (from INGV data, http://www.ingv.it). Numbers in circles indicate the main fault systems: (1) Apenninic chain; (2a) Apennines—Po Plain margin (North-Western sector); (2b) Apennines—Po Plain margin (South-Eastern sector); (3) buried Emilia and Ferrara Folds.

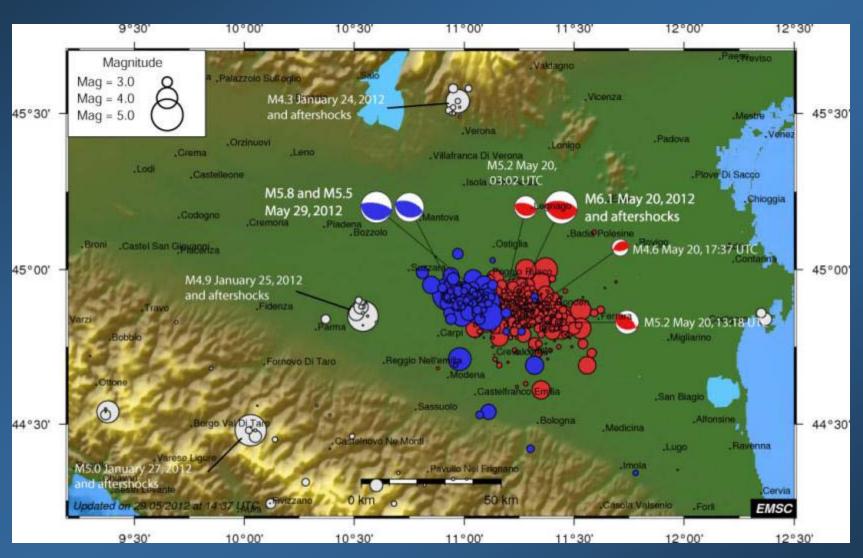
(Boccaletti, Corti & Martelli, 2011)



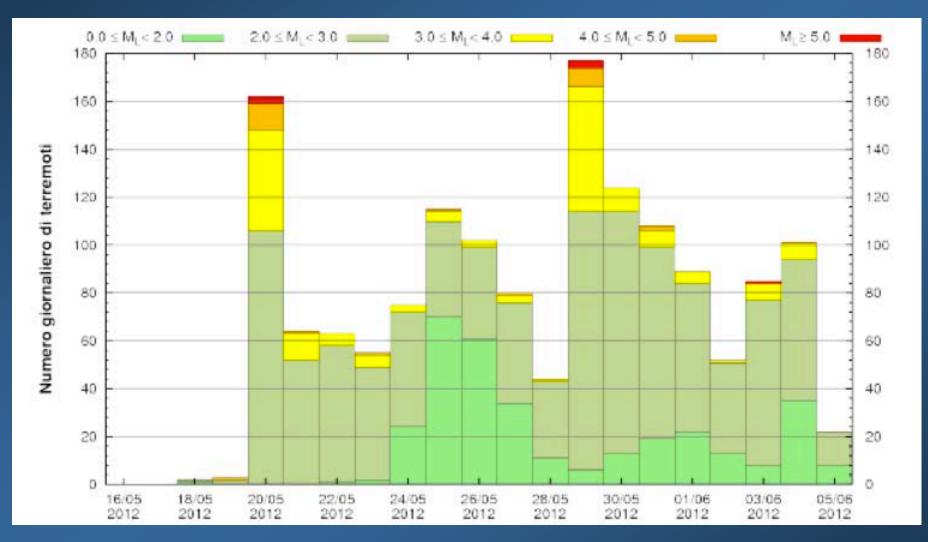


Picotti & Pazzaglia, 2008



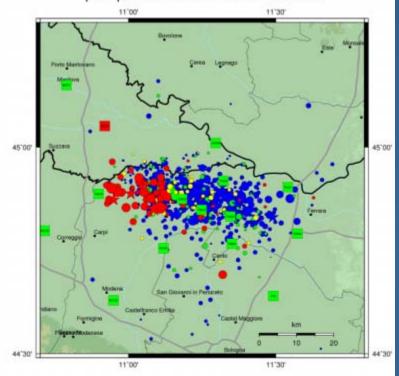






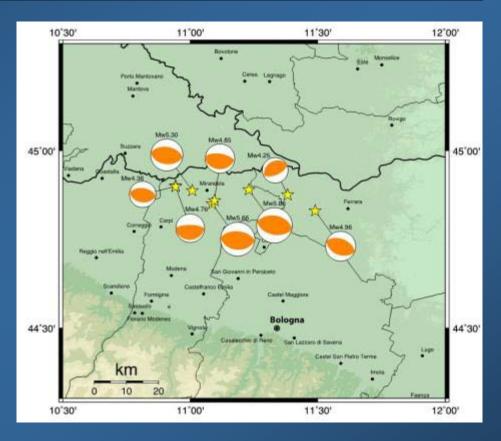


#### Mappa Epicentrale della Sequenza Sismica in Emilia per il periodo 16–05–2012 : 29–05–2012



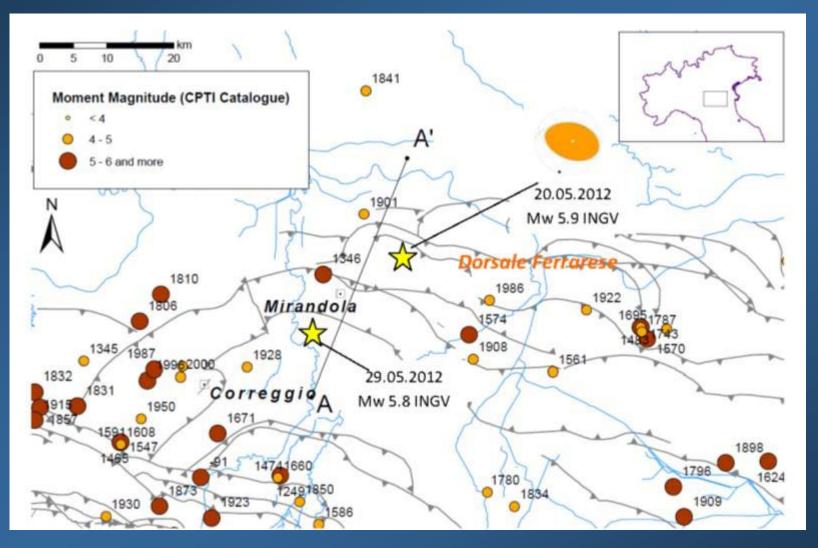
#### Aggiornata al 2012-05-29,12:05:51 UTC, numero di eventi 834





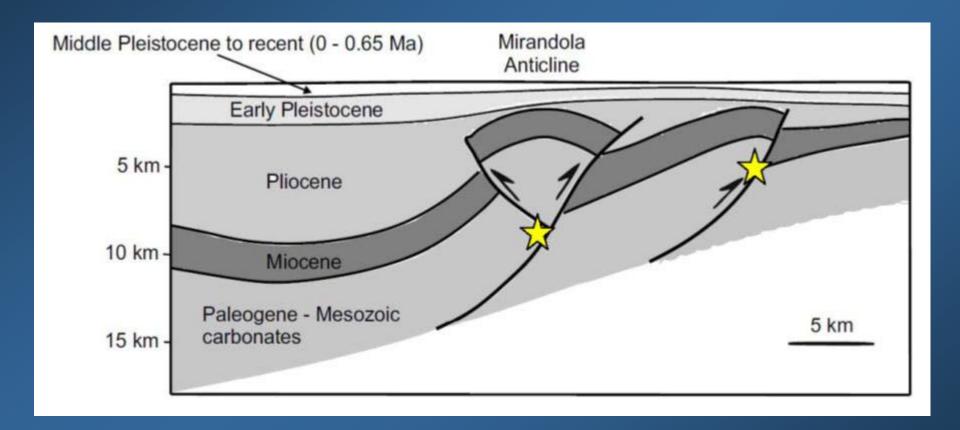
Instituto Nazionale di Geofisica e Vulcanologia, 2012





(Berlusconi, Livio, Ferrario, Gambillara & Michetti, 2012)



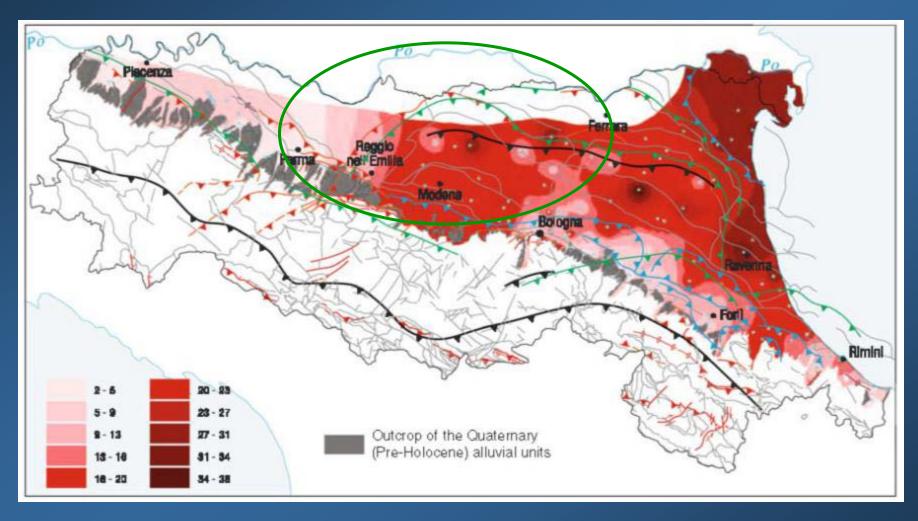


(Berlusconi, Livio, Ferrario, Gambillara & Michetti, 2012)









Depth of the base of the Holocene (map legend indicates depths in meters from the surface). (Boccaletti, Corti & Martelli, 2011)





































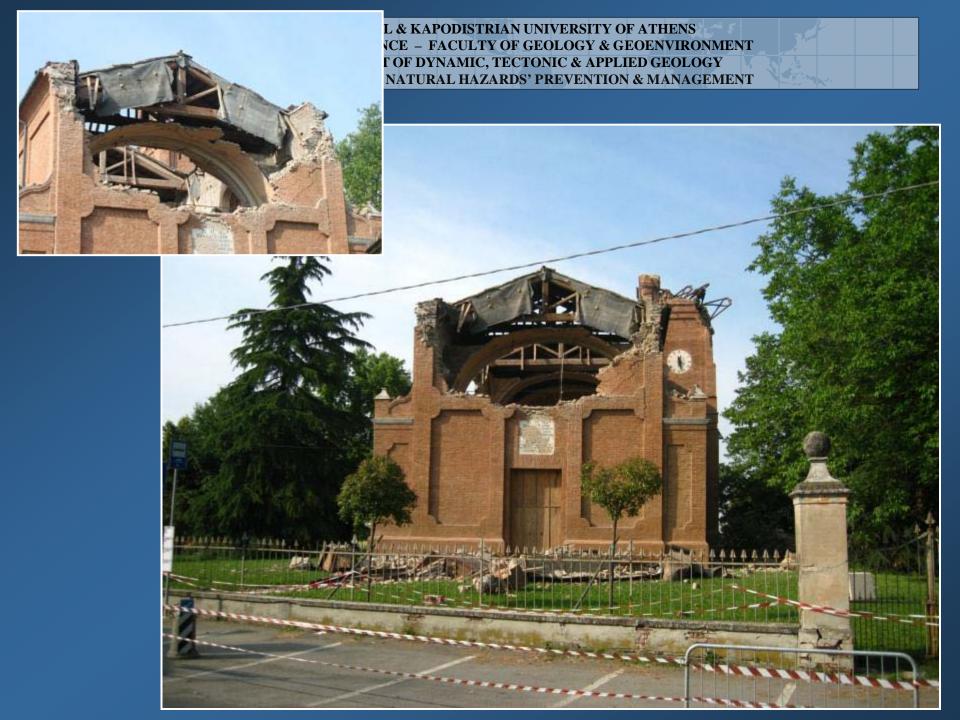




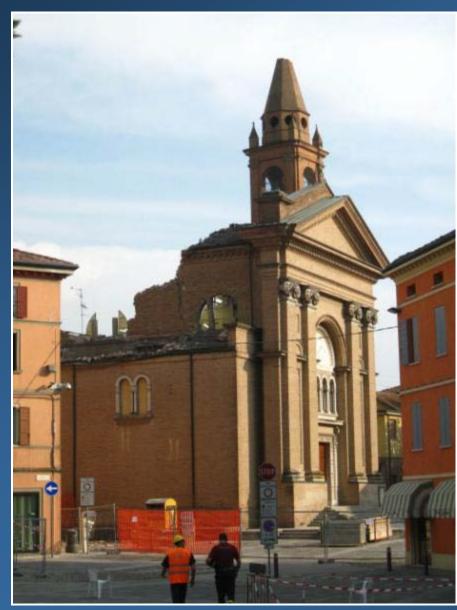
N UNIVERSITY OF ATHENS
F GEOLOGY & GEOENVIRONMENT
CTONIC & APPLIED GEOLOGY
DS' PREVENTION & MANAGEMENT

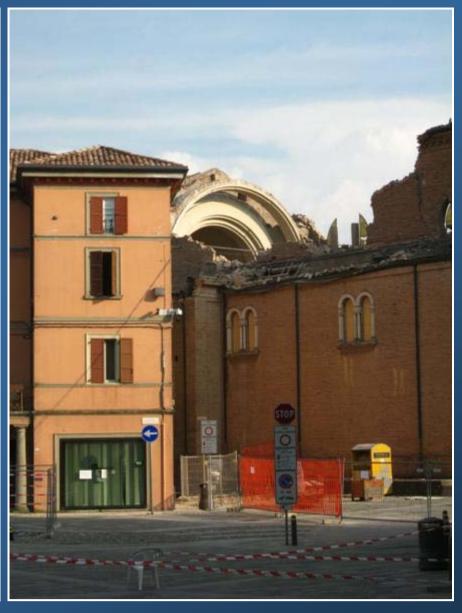
























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