

REFERENCES CHAPTER 3 - SECTION I

Introduction

UNISDR, 2015. Sendai framework for disaster risk reduction 2015–2030. United Nations International Strategy for Disaster Reduction. http://www.wcdr.org/uploads/Sendai_Framework_for_Disaster_Risk_Reduction_2015-2030.pdf, [accessed 04 April 2016].

Woo G., 2010. Operational earthquake forecasting and risk management. *Seismological Research Letters* 81(5).

3.1 Geophysical risk: earthquakes

Akkar, S., Sucuoglu, H., Yakut, A., 2005. Displacement-based fragility functions for low- and mid-rise ordinary concrete buildings. *Earthquake Spectra* 21(4), 901-927.

Albini, P., Musson, R., Rovida, A., Locati, M., Gomez Capera, A., Vigano, D., 2014. The global earthquake history. *Earthquake Spectra* 30(2), 607–24.

Alcik, H., Ozel, O., Apaydin, N., Erdik, M., 2009. A study on warning algorithms for Istanbul earthquake early warning system. *Geophysical Research Letters* 36(5), L00B05.

Anhorn, J., Khazai, B., 2015. Open space suitability analysis for emergency shelter after an earthquake. *Natural Hazards and Earth System Sciences* 1 (2), 4263-4297.

Ansal, A., Akinci, A., Cultrera, G., Erdik, M., Pessina, V., Tonuk, G., Ameri, G., 2009. Loss estimation in Istanbul based on deterministic earthquake scenarios of the Marmara Sea region (Turkey). *Soil Dynamics and Earthquake Engineering* 29, 699–709.

ARISTOTLE, n.d. All Risk Integrated System Towards Trans-boundary holistic Early-warning. <http://aristotle.ingv.it>, [accessed 13 April, 2017].

ATC-13, 1985. Earthquake damage evaluation data for California. Applied Technology Council. Redwood City, CA, USA.

Basili, R., Tiberti, M.M., Kastelic, V., Romano, F., Piatanesi, A., Selva, J., Lorito, S., 2013. Integrating geologic fault data into tsunami hazard studies. *Natural Hazards Earth System Sciences* 13, 1025–1050.

Bazzurro, P., Cornell, C., 1999. Disaggregation of seismic hazard. *Bulletin of the Seismological Society of America* 89: 501-520.

Bendimerad, F., 2001. Loss estimation: a powerful tool for risk assessment and mitigation. *Soil Dynamics and Earthquake Engineering* 21 (5), 467-472.

Bilham, R., 2004. Earthquakes in India and the Himalaya: tectonics, geodesy and history. *Annals of Geophysics* 47 (2–3), 839-858.

Bird, P., 2003. An updated digital model of plate boundaries. *Geochemistry, Geophysics, Geosystems* 4 (3), 1027.

Bommer, J., Abrahamson, N., 2006. Why do modern probabilistic seismic-hazard analyses often lead to increased hazard estimates?. *Bulletin of the Seismological Society of America* 96 (6), 1967-1977.

Bommer, J., Douglas, J., Scherbaum, F., Cotton, F., Bungum, H., Fah, D., 2010. On the selection of ground-motion prediction equations for seismic hazard analysis. *Seismological Research Letters* 81, 783–793.

Bommer, J., Spence, R., Erdik, M., Tabuchi, S., Aydinoglu, N., Booth, E., Re, D., Pterken, D., 2002. Development of an Earthquake Loss Model for Turkish Catastrophe Insurance. *Journal of Seismology* 6, 431-446.

Brzev, S., Scawthorn, C., Charleson, A., Allen, L., Greene, M., Jaiswal, K., Silva, V., 2013. GEM Building Taxonomy Version 2.0, GEM Technical Report 2013-02 V1.0.0. GEM Foundation, Pavia, Italy. doi: 10.13117/GEM.EXP-MOD.TR2013.02.

Burton, C., Silva, V., 2015. Assessing Integrated Earthquake Risk in OpenQuake with an Application to Mainland Portugal Earthquake Spectra 32 (3), 1383-1403.

Calvi, G., Pinho, R., 2004. LESSLOSS — A European integrated project on risk mitigation for earthquakes and landslides. IUSS Press, Pavia, Italy.

Carreño, L., Cardona, O., Barbat, A., 2007. Urban seismic risk evaluation: a holistic approach *Natural Hazards*, 40, 137-172.

CIESIN, 2004. Global Rural-Urban Mapping Project (GRUMP) — Urban extents. Center for International Earth Science Information Network. <http://sedac.ciesin.columbia.edu/data/set/grump-v1-urban-extents> [Accessed 21 September, 2016].

Cornell, C., 1968. Engineering seismic risk analysis. *Bulletin of the Seismological Society of America* 58, 1583-1606.

Cotton, F., Scherbaum, F., Bommer, J., Bungum, H., 2006. Criteria for selecting and adjusting ground-motion models for specific target regions: application to central Europe and rock sites. *Journal of Seismology* 10, 137–156.

Crowley, H., Colombi, M., Silva, V., 2014. Epistemic uncertainty in fragility functions for European RC buildings. In: Ptilakis, K., Crowley, H., Kaynia, A.M. (Eds), SYNER-G: Typology definition and fragility functions for physical elements at seismic risk: buildings, lifelines, transportation networks and critical facilities, Springer, Dordrech, Netherlands, pp. 95-109.

Crowley, H., Miriam, C., Borzi, B., Faravelli, M., Onida, M., Lopez, M., Polli, D., Meroni, F., 2009. A comparison of seismic risk maps for Italy. *Bulletin of Earthquake Engineering* 7 (1), 149-180.

Crowley, H., Ozecebe, S., Spence, R., Foulser-Piggott, R., Erdik, M., Alten, K., 2012. Development of a European building inventory database. In: Proceedings of the 15th World Conference on Earthquake Engineering, Lisbon, Portugal.

D'Ayala, D., Meslem, A., Vamvatsikos, D., Porter, K., Rossetto, T., 2015. Guidelines for analytical vulnerability assessment of low/ mid-rise buildings, GEM Technical Report 2014-12. GEM Foundation, Pavia, Italy.

Danciu, L., Kale, O., Akkar, S., 2016. The 2014 Earthquake Model of the Middle East: ground motion model and uncertainties. *Bulletin of Earthquake Engineering*.

Delavaud, E., Cotton, F., Akkar, S., Scherbaum, F., Danciu, L., Beauval, C., Drouet, S., Douglas, J., Basili, R., Sandikkaya, M.A., Segou, M., Faccioli, E., Theodoulidis, N., 2012. Toward a ground-motion logic tree for probabilistic seismic hazard assessment in Europe. *Journal of Seismology* 16, 451–473.

Dolce, M., 2012. The Italian National Seismic Prevention Program. In: Proceedings of the 15th World Conference on Earthquake Engineering, Lisbon, Portugal.

- Douglas, J., 2010. Consistency of ground-motion predictions from the past four decades. *Bulletin of Earthquake Engineering* 8, 1515–1526.
- EFEHR, n.d. The European Facilities for Earthquake Hazard & Risk. www.efehr.org, [accessed 13 April, 2017].
- Erdik, M Durukal, E., 2008. Earthquake risk and its mitigation in Istanbul. *Natural Hazards* 44 (2), 181–197.
- Erdik, M., Aydinoglu, N., Fahjan, Y., Sesetyan, K., Demircioglu, M., Siyahi, B., Durukal, E., Ozbey, C., Biro, Y., Akman, H., Yuzugullu, O., 2003a. Earthquake risk assessment for Istanbul Metropolitan Area. *Earthquake Engineering and Engineering Vibration* 2 (1), 1–23.
- Erdik, M., Fahjan, Y., Orguz, O., AlcikH, Mert A, Gul M., 2003b. Istanbul Earthquake Rapid Response and the Early Warning System. *Bulletin of Earthquake Engineering* 1 (1), 157–163.
- Erduran, E., Lang, D., Lindholm, C., Toma-Danila, D., Balan, S., Ionescu, V., Aldea, A., Vacareanu, R., Neagu, C., 2012. Real-Time Earthquake Damage Assessment in the Romanian-Bulgarian Border Region. In: *Proceedings of the 15th World Conference on Earthquake Engineering*, Lisbon, Portugal.
- ERN-AL, 2009. Informe Técnico ERN-CAPRA-T1-3. Metodología de análisis probabilista del riesgo.
- ERSTA, 2010. Estudo do risco sísmico e de tsunamis do Algarve. Autoridade Nacional de Protecção Civil, Carnaxide, Portugal (in Portuguese).
- European Committee for Standardisation (CEN), 2005. EN 1998-1 Eurocode 8: Design of structures for earthquake resistance. Part 1: General rules, seismic actions and rules for buildings. European Committee for Standardization, Brussels, Belgium.
- FEMA, 2003. HAZUS-MH technical manual. Federal Emergency Management Agency, Washington, USA.
- Gamba, P., 2014. Global Exposure Database: scientific features. GEM Technical Report 2014-10. GEM Foundation, Pavia, Italy.
- Gardini, D., 1999. The Global Seismic Hazard Assessment Program (GSHAP) 1992–1999. *Annali di Geofisica* 42(6), :957–1230.
- Hancilar, U., Tuzun, C., Yenidogan, C. Erdik, M., 2010. ELER software—a new tool for urban earthquake loss assessment. *Natural Hazards and Earth Systems Sciences* 10, 2677–2696.
- Hoshiba, M., Kamigaichi, O., Saito, O., Tsukada, S., Hamada, N., 2008. Earthquake early warning starts nationwide in Japan. *EOS Transactions AGU* 89 (8), 73–74.
- Ioannou, I. , Rossetto, T., 2015. Empirical Fragility. In: Beer, M., Kougiumtzooglou, I.A., Patelli, E., Siu-Kui Au, I. (Eds.), *Encyclopedia of Earthquake Engineering*. Springer, Berlin Heidelberg, pp. 976–986.
- Jaiswal, K., Aspinall, W., Perkins, D., Wald, D., Porter, K., 2012. Use of expert judgement elicitation to estimate seismic vulnerability of selected building types. In: *Proceedings of the 15th World Conference on Earthquake Engineering*, Lisbon, Portugal.
- Jaiswal, K., Wald, D., Porter, K., 2010. A global building inventory for earthquake loss assessment and risk management. *Earthquake Spectra* 26(3), 731–748.
- Kale, O., Akkar, S., 2013. A new perspective for selecting and ranking ground-motion prediction equations (GMPEs): the euclidian distance-based ranking method. *Bulletin of the Seismological Society of America*, 103(2A):1069–1084.
- Kale, O., Akkar, S., Ansari, A., Hamzehloo, H., 2015). A ground-motion predictive model for Iran and Turkey for horizontal PGA, PGV and 5 %-damped response spectrum: investigation of possible regional effects. *Bulletin of the Seismological Society of America* 105, 963–980.
- Khazai, B., Bendimerad, F., 2011. Risk and resiliency indicators, EMI Topical Report 565 TR-1 03.
- Martínez Solares, J., López Arroyo, A., 2004. The great historical 1755 earthquake. Effects and damage in Spain. *Journal of Seismology* 8, 275–294.
- Martins, L., Silva, V., Marques, M., Crowley, H., Delgado ,R. (2016). Development and assessment of damage-to-loss models for moment-frame reinforced concrete buildings. *Earthquake Engineering and Structural Dynamics* 45 (5),797–817.
- McGuire, R., (1976). Fortran program for seismic risk analysis. U.S. Geological Survey Open-File Report 76–67. <https://pubs.usgs.gov/of/1976/0067/report.pdf> [accessed 04 April, 2016]
- McGuire, R., 2004. Seismic hazard and risk analysis. Earthquake Engineering Research Institute, Oakland, USA.
- Mendes-Victor, L., Oliveira, C., Pais, I., Teves-Costa, P., 1994. Earthquake damage scenarios in Lisbon for disaster preparedness. In: Tucker, B.E., Erdik, M. Hwang, C.N. (Eds). *Issues in urban earthquake risk*. Kluwer Academic Publishers, Dordrecht, The Netherlands; Boston, USA, pp. 265–289.
- Molina, S., Lang, D., Lindholm, C., 2010. SELENA: An open-source tool for seismic risk and loss assessment using a logic tree computation procedure. *Computers & Geosciences* 36, 257–269.
- Mouroux, P., Le Brun, B., 2006. Presentation of RISK-UE Project. *Bulletin of Earthquake Engineering* 4, 323–339.
- NERA, n.d. NERA: Network of European Research Infrastructures for Earthquake Risk Assessment and Mitigation. <http://www.nera-eu.org/>, [accessed 12 April, 2017].
- NGDC, n.d. Natural Hazards Data, Images and Education. NOAA's National Centers for Environmental Information (NCEI) (formerly the National Geophysical Data Center). <https://www.ngdc.noaa.gov/hazard/hazards.shtml>, [accessed 12 April, 2017].
- Oliveira, C., Roca, A., Goula, X., 2006. Assessing and managing earthquake risk: geo-scientific and engineering knowledge for earthquake risk mitigation — development tools, techniques. Springer, Dordrecht, Netherlands.
- Pagani, M., Monelli, D., Weatherill, G., Danciu, L., Crowley, H., Silva, V., Henshaw, P., Butler, L., Nastasi, M., Panzeri, L., Simionato, M., Vigano, D., 2014. OpenQuake Engine: An open hazard (and risk) software for the Global Earthquake Model. *Seismological Research Letters* 85 (3),692–702.
- Papadopoulos, G.A., Arvanitides, A. 1996. Earthquake risk assessment in Greece. In: Schenk, V., (Ed.), *Earthquake hazard and risk, advances in natural & technological hazards research*, Kluwer Academic Publishers, USA.
- Pesaresi, M., Ehrlich, D., Ferri, S., Florczyk, A., Freire, S., Halkia, M., Julea, A., Kemper, T., Soille, P., Syrris, V., 2016. Operating procedure for the production of the Global Human Settlement Layer from Landsat data of the epochs 1975, 1990, 2000, and 2014. Technical Report EUR 27741 EN, Joint Research Center, Luxembourg.
- Petersen, M., Moschetti, M., Powers, P., Mueller, C., Haller, K., Frankel, A., Field, N., Chen, R., Rukstales, K.S., Luco, N., Wheeler, R., Williams, R., Olsen, A., 2015. The 2014 United States National Seismic Hazard Model. *Earthquake Spectra* 31(S1), S1–S30.
- Pitilakis, K., Crowley, H., Kaynia, A., 2014. SYNER-G: typology definition and fragility functions for physical elements at seismic risk: buildings, lifelines, transportation networks and critical facilities. Springer, Dordrecht, Netherlands.

- Pittore, M., Wieland, M., Fleming, K., 2016. Perspectives on global dynamic exposure modelling for geo-risk assessment. *Natural Hazards*, 86 (S1), 7-30.
- Porter, K., Farokhnia, K., Vamvatsioks, V., Cho, I., 2014. Guidelines for analytical vulnerability assessment of high-rise buildings. GEM Technical Report 2014. GEM Foundation, Pavia, Italy.
- REAKT, n.d. Strategies and tools for real time earthquake Risk Reduction. www.reaktproject.eu, [accessed 13 April, 2017].
- Renault, P., 2014. Approach and challenges for the seismic hazard assessment of nuclear power plants: the Swiss Experience. *Bollettino di Geoscienza Teorica ed Applicata* 55(1), 149-164.
- Rossetto, T., D'Ayala, D., Ioannou, I., Meslem, A., 2014b. Evaluation of existing fragility curves. In: Pitilakis, K., Crowley, H. and Kaynia, A.M. (eds), *SYNER-G: Typology definition and fragility functions for physical elements at seismic risk: buildings, lifelines, transportation networks and critical facilities*, Springer, Dordrech, Netherlands, pp. 47-93.
- Rossetto, T., Ioannou, I., Grant, D., 2014a. Guidelines for empirical vulnerability assessment. GEM Technical Report 2014-11. GEM Foundation, Pavia, Italy.
- Rossetto, T., Ioannou, I., Grant, D., 2015. Existing Empirical Fragility and Vulnerability Functions: Compendium and Guide for Selection (GEM Technical Report). GEM Foundation, Pavia, Italy.
- SAFER, n.d. Seismic early warning for Europe. <http://www.amrcenter.com/SAFER/index.htm>, [accessed 13 April, 2017].
- Scherbaum, F., Delavaud, E., Riggelsen, C., 2009. Model selection in seismic hazard analysis: an informationtheoretic perspective. *Bulletin of the Seismological Society of America* 99 (6), 3234-3247.
- Sengezer, B Koç, E., 2005. A critical analysis of earthquakes and urban planning in Turkey. *Disasters* 29 (2), 171-194.
- SHARE, n.d. Seismic Hazard Harmonization in Europe . www.share-eu.org, [accessed 13 April, 2017].
- SHEEC, n.d. The SHARE European Earthquake Catalogue. www.emidius.eu/SHEEC, [accessed 13 April, 2017].
- Silva, V., 2016. Critical Issues on Probabilistic Earthquake Loss Assessment. *Journal of Earthquake Engineering* 20 (8), 1322-1341.
- Silva, V., Crowley, H., Bazzurro, P., 2015. Exploring Risk-targeted Hazard Maps for Europe. *Earthquake Spectra* 32 (2), 1165-1186.
- Silva, V., Crowley, H., Pagani, M., Monelli D, Pinho, R., 2014b. Development of the OpenQuake engine, the Global Earthquake Model's open-source software for seismic risk assessment. *Natural Hazards* 72 (3), 1409-1427.
- Silva, V., Crowley, H., Pinho, R., Varum, H., 2014a. Seismic Risk Assessment for mainland Portugal. *Bulletin of Earthquake Engineering* 13 (2), 429-457.
- Spence, R., 2004. Risk and regulation: can improved government action reduce the impacts of natural disasters?. *Building Research & Information* 32 (5).
- Storchak, D., Di Giacomo, D., Endgdahl, E., Harris, J., Bondár, I., Lee, W., Bormann, P., Villaseñor, A., 2015. The ISC-GEM Global Instrumental Earthquake Catalogue (1900 — 2009): Introduction. *Physics of the Earth and Planetary Interiors* 239: 48-63.
- Strasser, F., Abrahamson, N., Bommer, J., 2009). *Sigma: Issues, Insights, and Challenges*. *Seismological Research Letters* 80, 41-56.
- STREST, n.d. Harmonized approach to stress tests for critical infrastructures against natural hazards. www.strest-eu.org, [accessed 13 April, 2017].
- Wald, D., Earle, P., Allen, T., Jaiswal, K., Porter, K., Hearne, M., 2012. Development of the US Geological Survey's PAGER system (prompt assessment of global earthquakes for response). In: *Proceedings of the 14th World Conference on Earthquake Engineering*, Lisbon, Portugal.
- Weatherill, G, Pagani, M., Garcia, J., 2016. Exploring Earthquake Databases for the Creation of Magnitude-Homogeneous Catalogues: Tools for Application on a Regional and Global Scale. *Geophysical Journal International* 206 (3), 165-276.
- Wieland, M., Pittore, M., Parolai, S. Zschau, J. (2012). Remote sensing and omnidirectional imaging for efficient building inventory data capturing: application within the Earthquake Model Central Asia. In: *Proceedings of the IEEE IGARSS 2012*, Munich, Germany.
- Woessner, J., Danciu, L., Giardini, D., Crowley H, Cotton F, Grunthal G, SHARE Consortium (2015) The 2013 European seismic hazard model: key components and results. *Bulletin of Earthquake Engineering* 13 (12), 3553-3596.
- Wu, Y.-M. Kanamori, H., 2008. Development of an Earthquake Early Warning System Using Real-Time Strong Motion Signals. *Sensors* 8 (1), 1-9.
- Yepes, C., Silva, V., Rossetto, T., D'Ayala, D., Ioannou, I., Meslem, A., Crowley, H., 2016. The Global Earthquake Model Physical Vulnerability Database. *Earthquake Spectra* 32 (4), 2567-2585.
- Zafarani, H., Mousavi, M., 2014. Applicability of different ground-motion prediction models for northern Iran. *Natural Hazards*, 73 (3), 1199-1228.
- Zollo, A., Iannaccone, G., Lancieri, M., Cantore, L., Convertito, V., Emolo, A., Festa, G., Galovic, F., Vassallo, M., Martino, C., Satriano, C., Gasparini, P., 2009. The earthquake early warning system in Southern Italy: methodologies and performance evaluation. *Geophysical Research Letters*, 36 (5).

3.2 Geophysical risk: volcanic activity

- Acocella, V., Di Lorenzo, R., Newhall, C., Scandone, R., 2015. An overview of recent (1988 to 2014) caldera unrest: Knowledge and perspectives. *Reviews of Geophysics* 53, 896-955.
- Aiuppa, A., Burton, M., Caltabiano, T., Giudice, G., Guerrieri, S., Liuzzo, M., Mure, F., Salerno, G., 2010. Unusually large magmatic CO₂ gas emissions prior to a basaltic paroxysm. *Geophysical Research Letters* 37, L17303.
- Aiuppa, A., Moretti, R., Federico, C., Giudice, G., Guerrieri, S., Liuzzo, M., Papale, P., Shinohara, H., Valenza, M., 2007. Forecasting Etna eruption by real time evaluation of volcanic gas composition. *Geology* 35, 1115-1118.
- Aiuppa, A., Tamburello, G., Di Napoli, R., Cardellini, C., Chiodini, G., Giudice, G., Grassa, F., Pedone, M., 2013. First observations of the fumarolic gas output from a restless caldera: Implications for the current period of unrest (2005-2013) at Campi Flegrei. *Geochemistry Geophysics Geosystems* 14, 4153-4169.
- Aspinall, W., 2010. A route to more tractable expert advice. *Nature* 463: 294-295.

- Aspinall, W.P., 2006. Structured elicitation of expert judgment for probabilistic hazard and risk assessment in volcanic eruptions. In: Mader, H.M., Coles, S. G., Connor, C.B., Connor, L.J. (Eds.), *Statistics in Volcanology*, Geological Society of London on behalf of IAVCEI, pp. 15–30.
- Auker, M., Sparks, R., Siebert, L., Croweller, H., Ewert, J., 2013. A statistical analysis of the global historical volcanic fatalities record. *Journal of Applied Volcanology* 2 (2), 1–24.
- Bagnardi, M., González, P.J., Hooper, A., 2016. High-resolution digital elevation model from tri-stereo Pleiades-1 satellite imagery for lava flow volume estimates at Fogo Volcano. *Geophysical Research Letters* 43, 6267–6275.
- Barclay, J., Haynes, K., Houghton, B., Johnston, D.M., 2015. Social processes and volcanic risk reduction. In: Sigurdsson, H., Houghton, B., McNutt, S., Rymer, H., Stix, J. (eds), *Encyclopedia of Volcanoes*. Academic Press, Amsterdam, Netherlands.
- Barclay, J., Haynes, K., Mitchell, T. O. M., Solana, C., Teeuw, R., Darnell, A., Croweller, H.S., Cole, P., Pyle, D., Lowe, C., Fearnley, C., 2014. Framing volcanic risk communication within disaster risk reduction: finding ways for the social and physical sciences to work together. In: Liverman, D., Pereira, C., Marker, B., (Eds.), *Communicating Environmental Geoscience*, Volume 305. Geological Society, London, UK, pp. 163–177.
- Bartolini, S., Bolós, X., Martí, J., Riera Pedra, E., Planaguma, L., 2015. Hazard assessment at the Quaternary La Garrotxa Volcanic Field (NE Iberia). *Natural Hazards* 78 (2), 1349–1367.
- Baxter, P. J., Aspinall, W.P., Neri, A., Zuccaro, G., Spence, R.J.S., Cioni, R., Woo, G., 2008. Emergency planning and mitigation at Vesuvius: A new evidence-based approach. *Journal of Volcanology and Geothermal Research* 178, 454–473.
- Baxter, P.J., Boyle, R., Cole, P., Neri, A., Spence, R., Zuccaro, G., 2005. The impacts of pyroclastic surges on buildings at the eruption of the Soufriere Hills volcano, Montserrat. *Bulletin of Volcanology* 67, 292–313.
- Bayarri, M.J., Berger, J.O., Calder, E.S., Patra, A.K., Pitman, E.B., Spiller, E.T., Wolpert, R.L., 2015. Probabilistic quantification of hazards: A methodology using small ensembles of physics based simulations and statistical surrogates. *International Journal for Uncertainty Quantification* 54, 297–325.
- Bebbington, M.S., Cronin S.J. 2010. Spatio-temporal hazard estimation in the Auckland volcanic field, New Zealand, with a new event-order model. *Bulletin of Volcanology*, 73, 55–72.
- Biass, S., Bonadonna, C., Di Traglia, F., Pistolesi, M., Rosi, M., Lestuzzi, P., 2016a. Probabilistic evaluation of the physical impact of future tephra fallout events for the Island of Vulcano, Italy. *Bulletin of Volcanology* 78, 37.
- Biass, S., Falcone, J.L., Bonadonna, C., Di Traglia, F., Pistolesi, M., Rosi, M., Lestuzzi, P., 2016b. Great Balls of Fire: A probabilistic approach to quantify the hazard related to ballistics — A case study at La Fossa volcano, Vulcano Island, Italy. *Journal of Volcanology and Geothermal Research* 325, 1–14.
- Biass, S., Scaini, C., Bonadonna, C., Folch, A., Smith, K., Höskuldsson, A., 2014. A multi-scale risk assessment for tephra fallout and airborne concentration from multiple Icelandic volcanoes - Part 1: Hazard assessment. *Natural Hazards and Earth System Sciences* 14, 2265–2287.
- Biggs, J., Anthony, E.Y., Ebinger, C.J. 2009. Multiple inflation and deflation events at Kenyan volcanoes, East African Rift. *Geology*, 37, 979–982.
- Biggs, J., Ebmeier, S.K., Aspinall, W.P., Lu, Z., Pritchard, M.E., Sparks, R.S.J., Mather, T.A., 2014. Global link between deformation and volcanic eruption quantified by satellite imagery. *Nature Communications* 5, 3471–3471.
- Bird, D.K., Gisladottir, G. and Dominey-Howes, D., 2010. Volcanic risk and tourism in southern Iceland: Implications for hazard, risk and emergency response education and training. *Journal of Volcanology and Geothermal Research*, 189, 33–48.
- Bird, P., 2003. An updated digital model of plate boundaries, *Geochemistry, Geophysics, Geosystems*, 4 (3), 1027.
- Birkmann, J., 2007. Risk and vulnerability indicators at different scales: applicability, usefulness and policy implications. *Environmental Hazards* 7, 20–31.
- Bonadonna C., Costa, A., 2012. Estimating the volume of tephra deposits: A new simple strategy, *Geology*, 40 (5), 415–418.
- Bonadonna, C., 2006. Probabilistic modelling of tephra dispersal. In: Mader, H., Cole, S., Connor C.B. (Eds.), *Statistics in volcanology*. IAVCEI Series Volume 1. Geological Society, London, UK, pp. 243–259.
- Bonadonna, C., Biass, S., Costa, A., 2015. Physical characterization of explosive volcanic eruptions based on tephra deposits: Propagation of uncertainties and sensitivity analysis. *Journal of Volcanology and Geothermal Research* 296, 80–100.
- Bonadonna, C., Folch, A., Loughlin, S. and Puempel, H., 2012. Future developments in modelling and monitoring of volcanic ash clouds: Outcomes from the first IAVCEI-WMO workshop on Ash Dispersal Forecast and Civil Aviation. *Bulletin of Volcanology* 74, 1–10.
- Boué, A., Lesage, P., Cortés, G., Valette, B., Reyes Dávila, G., Arámbula Mendoza, R., Budi Santoso, A., 2016. *Journal of Volcanology and Geothermal Research* 327, 622–633.
- Bretton R.J., Gottsman J.H., Aspinall W.P., Christie R.B., 2015. Implications of legal scrutiny processes (including the L'Aquila trial and other recent court cases) for future volcanic risk governance. *Journal of Applied Volcanology* 4 (1), 18.
- Brown, S.K., Croweller, H.S., Sparks, R.S.J., Cottrell E., Deligne, N.I., Ortiz Guerrero, N., Hobbs, L., Kiyosugi, K., Loughlin, S.C., Siebert, L., Takarada, S., 2014. Characterisation of the Quaternary eruption record: analysis of the Large Magnitude Explosive Volcanic Eruptions (LaMEVE) database. *Journal of Applied Volcanology* 3 (5), 22.
- Brown, S.K., Loughlin, S.C., Sparks, R.S.J., Vye-Brown, C., Barclay, J., Calder, E., Cottrell, E., Jolly, G., Komorowski, J.C., Mandeville, C., Newhall, C., Palma, J., Potter, S., Valentine, G., 2015. Global volcanic hazard and risk. In: Loughlin, S.C., Sparks, R.S.J., Brown, S.K., Jenkins, S.F., Vye-Brown, C., (eds), *Global Volcanic Hazards and Risk*. Cambridge University Press, Cambridge, pp. 81 – 173.
- Calder, E.S., Wagner, K. Ogburn, S.E. (2015). Volcanic hazard maps. In: Loughlin, S.C., Sparks, R.S.J., Brown, S.K., Jenkins, S.F., Vye-Brown, C. (eds), *Global Volcanic Hazards and Risk*. Cambridge University Press, Cambridge, UK.
- Cannavò, F., Camacho, A. G., González, P. J., Mattia, M., Puglisi, G. and Fernández, J., 2015. Real Time Tracking of Magmatic Intrusions by means of Ground Deformation Modeling during Volcanic Crises, *Scientific Reports* 5.
- Carlsen, H. K., Hauksdottir, A., Valdmarisdottir, U. A., Gíslason, T., Einarsdottir, G., Runolfsson, H., Briem, H., Finnbjornsdottir, R. G., Gudmundsson, S. and Kolbeinsson, T. B., 2012. Health effects following the Eyjafjallajökull volcanic eruption: a cohort study. *BMJ Open*, 2, e001851.
- Cashman, K.V., Stephen, R., Sparks, J., 2013. How volcanoes work: A 25 year perspective. *Bulletin of the Geological Society of*

- America 125, 664-690.
- Charbonnier S.J., Germa A., Connor C.B., Gertisser R., Preece K., Komorowski J.C., Lavigne F., Dixon T. and Connor, L. undefined, 2013. Evaluation of the impact of the 2010 pyroclastic density currents at Merapi volcano from high-resolution satellite imagery, field investigations and numerical simulations. *Journal of Volcanology and Geothermal Research* 261 (295), 315.
- Chiodini, G., Caliro, S., De Martino, P., Avino, R., Gherardi, F., 2012. Early signals of new volcanic unrest at Campi Flegrei caldera? Insights from geochemical data and physical simulations. *Geology* 40, 943-946.
- Chiodini, G., Paonita, A., Aiuppa, A., Costa, A., Caliro S., De Martino, P., Acocella, V., Vandemeulebrouck, J., 2016. Magmas near the critical degassing pressure drive volcanic unrest towards a critical state. *Nature Communications* 7, 13712.
- Chiodini, G., Pappalardo, L., Aiuppa, A., and Caliro, S., 2015. The geological CO₂ degassing history of a long-lived caldera. *Geology* 43 (9), 767-770.
- Conde, V., Robidoux, P., Avar, G., Galle, B., Aiuppa, A., Muñóz, A., 2013. Measurements of SO₂ and CO₂ by combining DOAS, Multi-GAS and FTIR: study cases from Turrialba and Telica volcanoes. *International Journal of Earth Sciences* 103 (8), 2335-2347.
- Connor, C., Bebbington, M., Marzocchi, W., 2015. Probabilistic Volcanic Hazard Assessment. In: Sigurdsson, H., Houghton, B., McNutt, S., Rymer, H., Stix, S., (eds.), *Encyclopedia of Volcanoes*. Academic Press, Amsterdam, Netherlands, pp. 897-910.
- Connor, L. J., Connor, C. B., Meliksetian, K., Savov, I. 2012. Probabilistic approach to modelling lava flow inundation: a lava flow hazard assessment for a nuclear facility in Armenia. *Journal of Applied Volcanology*, 1, 3.
- Coppola, D., Laiolo, M., Cigolini, C., Delle Donne, D., Ripepe, M., 2015. Enhanced volcanic hot-spot detection using MODIS IR data: results from the MIROVA system. In: Harris, A.J.L., De Groeve, T., Garel, F., Carn, S.A. (Eds.), *Detecting, modelling and responding to effusive eruptions*. Geological Society, London, UK.
- Cottrell, E., 2014. Global Distribution of Active Volcanoes. In: Papale, P. (ed.) *Volcanic Hazards, Risks and Disasters*. Academic Press, pp. 1-18.
- Craig, H., Wilson, T., Stewart, C., Outes, V., Villarosa, G., Baxter, P., 2016. Impacts to agriculture and critical infrastructure in Argentina after ashfall from the 2011 eruption of the Cordón Caulle volcanic complex: an assessment of published damage and function thresholds. *Journal of Applied Volcanology* 5, 7.
- Cutter, S.L., 2013. Vulnerability. In: *Encyclopedia of Natural Hazards, Encyclopedia of Earth Sciences Series*. Springer-Verlag, Berlin, Heidelberg, Germany.
- De Natale, G., Troise, C., Pingue, F., Mastrolorenzo, G., Pappalardo, L., Battaglia, M., Boschi, E., 2006. The Campi Flegrei caldera: unrest mechanisms and hazards. In: Troise, C., De Natale, G., Kilburn, C.R.J. (eds.), *Mechanisms of Activity and Unrest at Large Calderas*. Geological Society, London, UK, pp. 25-45.
- Deligne, N.I., Coles, S.G., Sparks, R.S.J., 2010. Recurrence rates of large explosive volcanic eruptions. *Journal of Geophysical Research: Solid Earth* 115, B06203.
- Doyle, E. H., McClure, J., Johnston, D. M., Paton, D., 2014. Communicating likelihoods and probabilities in forecasts of volcanic eruptions. *Journal of Volcanology and Geothermal Research* 272, 1-15.
- Doyle, E. H., Paton, D. Johnston, D. M., 2015. Enhancing scientific response in a crisis: evidence-based approaches from emergency management in New Zealand. *Journal of Applied Volcanology* 4,1.
- Druitt, T. H., Edwards, L., Mellors, R. M., Pyle, D. M., Sparks, R. S. J., Lanphere, M., Davies, M., Barreiro, B., 1999. Santorini Volcano. Geological Society, London, UK.
- Elissondo, M., Baumann, V., Bonadonna, C., Pistolesi, M., Cioni, R., Bertagnini, A., Biass, S., Herrero, J-C., Gonzalez, R., 2016. Chronology and impact of the 2011 Cordón Caulle eruption, Chile. *Natural Hazards and Earth Systems Science* 16, 675-704.
- Engwell, S. L., Sparks, R. S. J., Aspinall, W. P., 2013. Quantifying uncertainties in the measurement of tephra fall thickness. *Journal of Applied Volcanology* 2 (1), 1-12.
- Falsaperla, S. and Neri, M., 2015. Seismic footprints of shallow dyke propagation at Etna, Italy, *Scientific Reports*, 5, 11908.
- Fearnley, C.J., 2013. Assigning a volcano alert level: negotiating uncertainty, risk, and complexity in decision-making processes. *Environment and Planning A*, 45, 1891-1911.
- Fee, D., Matoza, R.S., 2013. An overview of volcano infrasound: From Hawaiian to plinian, local to global. *Journal of Volcanology and Geothermal Research* 249, 123-130.
- Flower, V.J.B., Oommen, T., Carn, S.A., 2016. Improving global detection of volcanic eruptions using the Ozone Monitoring Instrument (OMI), *Atmospheric Measurement Techniques* 9, 5487-5498.
- Frey Mueller, J. T., Murray, J. B., Rymer, H., Locke, C. A., 2015, Ground deformation, Gravity and Magnetics, 1101-1123 In: Sigurdsson, H., Houghton, B., McNutt, S., Rymer, H. and Stix, S., (eds.), *Encyclopedia of Volcanoes*. Academic Press, USA.
- Gaillard, J. C., 2008. Alternative paradigms of volcanic risk perception: The case of Mt. Pinatubo in the Philippines. *Journal of Volcanology and Geothermal Research* 172, 315-328.
- Galderisi, A., Bonadonna, C., Delmonaco, G., Ferrara, F. F., Menoni, S., Ceudech, A., Biass, S., Frischknecht, C., Manzella, I., Minucci, G., Gregg, C., 2011. Vulnerability assessment and risk mitigation: the case of Vulcano Island, Italy. In: *Proceedings of the Second World Landslide Forum*, Rome.
- Gardner, C.A., Guffanti, M.C., 2006. U.S. Geological Survey's alert notification system for volcanic activity. *U.S. Geological Survey Fact Sheet* 2006-3139.
- Gislason, S. R., Stefansdóttir, G., Pfeffer, M. A., Barsotti, S., Johansson, Th, Galecka, I., Bali, E., Sigmarsson, O., Stefansson, A., Keller, N. S., Sigurdsson, A., Bergsson, B., Galle, B., Jacobo, V. C., Arellano, S., Aiuppa, A., Jonasdóttir, E. B., Eiríksdóttir, E. S., Jakobson, S., Gudfinnson, G. H., Halldorsson, S. A., Gunnarson, H., Haddadi, B., Jonsdóttir, I., Thordarson, T., Riishus, M., Hognadóttir, T., Durig, T., Pedersen, G. B.M., Hoskuldsson, A., Gudmundsson, M.T., 2015. Environmental pressure from the 2014-15 eruption of Bardarbunga volcano, Iceland. *Geochemical Perspectives Letters* 1.
- Gudmundsson, M.T., Jónsdóttir, K., Hooper, A., Holohan, E.P., Halldórsson, S.A., Ófeigsson, B.G., Cesca, S., Vogfjörð, K.S., Sigmundsson, F., Högnadóttir, T., Einarsson, P., Sigmarsson, O., Jarosch, A.H., Jónasson, K., Magnússon, E., Hreinsdóttir, S., Bagnardi, M., Parks, M.M., Hjörleifsdóttir, V., Pálsson, F., Walter, T.R., Schöpfer, M.P.J., Heimann S., Reynolds, H.I., Dumont, S., Bali, E., Gudfinnsson, G.H., Dahm, T., Roberts, M.J., Hensch, M., Belart, J.M.C., Spaans, K., Jakobsson, S., Gudmundsson, G.B., Fridriksdóttir, H.M., Drouin, V.,

- Dürrig, T., Aðalgeirsdóttir, G., Riishuus, M.S., Pedersen, G.B.M., Van Boeckel, T., Oddsson, B., Pfeffer, M.A., Barsotti, S., Bergsson, B., Donovan, A., Burton, M.R., Aiuppa, A., 2016. Gradual caldera collapse at Bárðarbunga volcano, Iceland, regulated by lateral magma outflow. *Science* 353(6296), aaf8988.
- Gudmundsson, M.T., Thordarson, T., Höskuldsson, A., Larsen, G., Björnsson, H., Prata, F., Oddson, B., Magnusson, E., Hognadóttir, T., Petersen, G., Hayward, C. L., Stevenson, J. A., Jonsdóttir, I., 2012. Ash generation and distribution from April-May 2010 eruption of Eyjafjallajökull, Iceland. *Scientific Reports* 2 (572), 1-12.
- Guffanti, M., Casadevall, T.J., Budding, K., 2010. Encounters of aircraft with volcanic ash clouds: a compilation of known incidents, 1953-2009. *US Geological Survey Data Series* 545, 12- 12.
- Harris, A., Dehn, J., Patrick, M., Calvari, S., Ripepe, M., and Lodato, L., 2005. Lava effusion rates from hand-held thermal infrared imagery; an example from the June 2003 effusive activity at Stromboli. *Bulletin of Volcanology*, 68 (2), 107-117.
- Harris, A.J.L., De Groeve, T., Garel, F. Carn, S. E. (eds), 2016. *Detecting, Modelling and Responding to Effusive Eruptions*. Geological Society, London, UK.
- Hartley, M. E., Morgan, D. J., MacLennan, J., Edmonds, M., Thordarson, T., 2016. Tracking timescales of short-term precursors to large basaltic fissure eruptions through Fe-Mg diffusion in olivine. *Earth and Planetary Science Letters* 439, 58-70.
- Hasegawa, Y., Sugai, A., Hayashi, Yo., Hayashi, Yu., Saito, S., Shimbori, T., 2015. Improvements of volcanic ash fall forecasts issued by the Japan Meteorological Agency. *Journal of Applied Volcanology Society and Volcanoes* 4(2).
- Hayes, J., Wilson, T.M., Deligne, N.I., Cole, J., Hughes, M., 2017. A model to assess tephra clean-up requirements in urban environments. *Journal of Applied Volcanology* 6,1.
- Haynes, K., Barclay, J., Pidgeon, N., 2008a. The issue of trust and its influence on risk communication during a volcanic crisis. *Bulletin of Volcanology* 70, 605-621.
- Haynes, K., Barclay, J., Pidgeon, N., 2008b. Whose reality counts? Factors affecting the perception of volcanic risk. *Journal of Volcanology and Geothermal Research* 172, 259- 272.
- Haynes, K., Barclay, J., Pidgeon, N., 2007. Volcanic hazard communication using maps: an evaluation of their effectiveness. *Bulletin of Volcanology* 70, 123-138.
- Hernández, P.A., Pérez, N.M., Varekamp, J.C., Henriquez, B., Hernández, A., Barrancos, J., Padrón, E., Calvo, D., Melián, G., 2007. Crater Lake Temperature Changes of the 2005 Eruption of Santa Ana Volcano, El Salvador, Central America. *Pure and Applied Geophysics* 164, 2507-2522.
- Hicks, A. and Few, R., 2015. Trajectories of social vulnerability during the Soufriere Hills Volcanic crisis, *Journal of Applied Volcanology* 4, 10.
- Hicks, A., Barclay, J., Mark, D. F., Loughlin, S., 2012. Tristan da Cunha: Constraining eruptive behaviour using the ⁴⁰Ar/³⁹Ar dating technique. *Geology* 40, 723-726.
- Hicks, A., Barclay, J., Simmons, P., Loughlin, S., 2014. An interdisciplinary approach to volcanic risk reduction under conditions of uncertainty: a case study of Tristan da Cunha. *Natural Hazards and Earth System Sciences* 14, 1871-1887.
- Hincks, T. K., Komorowski, J.-C., Sparks, S. R., Aspinall, W. P. 2014. Retrospective analysis of uncertain eruption precursors at La Soufrière volcano, Guadeloupe, 1975-77: volcanic hazard assessment using a Bayesian Belief Network approach. *Journal of Applied Volcanology* 3, 1-26.
- Horwell, C. and Baxter, P. J., 2006. The respiratory health hazards of volcanic ash: a review for volcanic risk mitigation. *Bulletin of Volcanology* 69, 1-24.
- IAVCEI Subcommittee for Crisis Protocols, 1999. Professional conduct of scientists during volcanic crises. *Bulletin of Volcanology* 60, 323-334.
- Ilyinskaya, E., Larsen, G., Gudmundsson, M.T., 2015. The Catalogue of Icelandic Eruptions.
- IMO, 2016. Monitoring of Hekla. Icelandic met office. <http://en.vedur.is/about-imo/news/monitoring-hekla>, [accessed 13 April, 2017].
- IMO, n.d. Volcanic gas detected. Icelandic met office <http://en.vedur.is/pollution-and-radiation/volcanic-gas/>, [accessed 13 April, 2017].
- INGV, n.d. INGV Sezione di Catania. Osservatorio Etno. <http://www.ct.ingv.it/it/simulazione-dispersione-ceneri.html>, [accessed 13 April, 2017].
- Integrated Research on Disaster Risk, 2011. *Forensic Investigations of Disasters: The FORIN Project*. Integrated Research on Disaster Risk Programme, Beijing, China.
- Jenkins, S. F., Phillips, J. C., Price, R., Feloy, K., Baxter, P. J., Hadmoko D. S., de Bézal, E., 2015b. Developing building-damage scales for lahars: application to Merapi volcano, Indonesia. *Bulletin of Volcanology* 77, 75.
- Jenkins, S., Magill, C., McAneney, J., Blong, R., 2012. Regional ash fall hazard I: a probabilistic assessment methodology. *Bulletin of Volcanology* 74, 1699-1712.
- Jenkins, S.F., Spence, R.J.S., Fonseca, J.F.B. D., Solidum, R.U., Wilson, T.M., 2014. Volcanic risk assessment: Quantifying physical vulnerability in the built environment. *Journal of Volcanology and Geothermal Research* 276, 105-20
- Jenkins, S.F., Wilson, T., Magill, C., Miller, V., Stewart, C., Blong, R., Marzocchi, W., Boulton, M., Bonadonna, C. and Costa, A., 2015a. Volcanic ash fall hazard and risk. In: Loughlin, S.C., Sparks, R.S.J., Brown, S.K, Jenkins, S.F., Vye-Brown, C. (Eds), *Global Volcanic Hazards and Risk*. Cambridge University Press, Cambridge, UK.
- Johnson, J. B. and Ripepe, M., 2011. Volcano infrasound: A review. *Journal of Volcanology and Geothermal Research* 206, 61-69.
- Jones, R., Manville, V., Andrade D., 2015 Probabilistic analysis of rainfall triggered lahar initiation at Tungurahua Volcano. *Bulletin of Volcanology* 77, 68.
- Kristmansdóttir, H., Björnsson, A., Pálsson, S., Sveinbjörnsdóttir, A.E., 1999. The impact of the 1996 subglacial eruption in Vatnajökull on the river Jökulsá á Fjöllum, North Iceland. *Journal of Volcanology and Geothermal Research* 92(3-4), 359-372.
- Lamb, O.D., De Angelis, S., Lavalée, Y., 2015. Using infrasound to constrain ash plume rise. *Journal of Applied Volcanology* 4, 20.
- Lechner, P., Tupper, A., Guffanti, M., Loughlin, S., Casadevall, T., 2017. Volcanic ash and aviation — the challenges of real-time, global communication of a natural hazard. *Advances in Volcanology*. Springer Berlin Heidelberg, 1-14
- Lindsay, J., Marzocchi, W., Jolly, G., Constantinescu, R., Selva, J., Sandri, L., 2010. Towards real-time eruption forecasting in the

- Auckland Volcanic Field: application of BET_EF during the New Zealand National Disaster Exercise 'Ruaumoko'. *Bulletin of Volcanology* 72, 185.
- Lindsay, J.M, Marzocchi, W., Jolly, G, Constantinescu, R., Selva, J., Sandri, L., 2010. Towards real-time eruption forecasting in the Auckland volcanic field: application of BET_EF during the New Zealand national disaster Exercise 'Ruaumoko'. *Bulletin of Volcanology* 2, 185–204.
- Loughlin, S., Baxter, P., Aspinall, W., Darroux, B., Harford, C. and Miller, A., 2002. Eyewitness accounts of the 25 June 1997 pyroclastic flows and surges at Soufrière Hills Volcano, Montserrat, and implications for disaster mitigation. In: Druitt, T.H., and Kokelaar, B.P. (eds.), *The Eruption of Soufriere Hills Volcano, Montserrat, from 1995 to 1999*. Geological Society, London, UK, *Memoirs* 21, 211-230.
- Macedonio, A., Costa, A. Folch, A., 2008. Ash fallout scenarios at Vesuvius: Numerical simulations and implications for hazard assessment. *Journal of Volcanology and Geothermal Research* 178, 366–377.
- Magill, C., Wilson, T., Okada, T., (2013). Observations of tephra fall impacts from the 2011 Shinmoedake eruption, Japan. *Earth, Planets and Space* 65, 677–698.
- Marchetti, E., Innocenti, L., Olivieri, G., Lacanna, G., Ripepe, M., 2016. Long-range infrasound monitoring of eruptive volcanoes. *Geophysical Research Abstracts*, 18, EGU2016-13157. EGU General Assembly 2016.
- Martí, J., Aspinall, W. P., Sobradelo, R., Felpeto, A., Geyer, A., Ortiz, R., Baxter, P., Cole, P., Pacheco, J., Blanco, M. J., Lopez, C., 2008. A long-term volcanic hazard event tree for Teide-Pico Viejo stratovolcanoes (Tenerife, Canary Islands). *Journal of Volcanology and Geothermal Research* 178, 543-552.
- Marzano, F. S., Picciotti, A., Di Fabio, S., Montopoli, M., Mereu, L., Degruyter, W., Bonadonna, C. and Ripepe, M., 2016. Near-Real-Time Detection of Tephra Eruption Onset and Mass Flow Rate Using Microwave Weather Radar and Infrasonic Arrays. *IEEE Transactions on Geoscience and Remote Sensing*.
- Marzano, F., Picciotti, E., Montopoli, M. Vulpiani, G., 2013. Inside Volcanic Clouds: Remote Sensing of Ash Plumes Using Microwave Weather Radars. *Bulletin of the American Meteorological Society* 94, 1567-1586.
- Marzocchi W., Newhall C., Woo, G., 2012. The Scientific Management of Volcanic Crises. *Journal of Volcanology & Geothermal Research* 247-248, 181-189.
- Marzocchi, W, Sandri L, Selva, J., 2008. BET_EF: a probabilistic tool for long- and short-term eruption forecasting. *Bulletin of Volcanology* 70, 623–632.
- Marzocchi, W. and Bebbington, M. S., 2012. Probabilistic eruption forecasting at short and long time scales. *Bulletin of Volcanology* 74, 1777-1805.
- Marzocchi, W., Neri, A., Newhall, C. G. and Papale, P., 2007. Probabilistic volcanic hazard and risk assessment, *Eos Transactions, AGU*, 88 (32), 318.
- McNutt, S. Thompson, G., Johnson, J. and Fee, D., 2015. Seismic and infrasonic monitoring. *Encyclopedia of Volcanoes*, Edition 2nd, Chapter 63, Elsevier, pp.1071-1099.
- Menoni, S., Molinari, D., Parker, D., Ballio, F., Tapsell, S., 2012. Assessing multifaceted vulnerability and resilience in order to design risk-mitigation strategies. *Natural Hazards* 64, 2057-2082.
- Mothes, P.A., Yepes, H. A., Hall, M. L., Ramon, P.A., Steele, A. L. and Ruiz, M.C., 2015. The scientific-community interface over the fifteen-year eruptive episode of Tungurahua Volcano, Ecuador. *Journal of Applied Volcanology* 4,9.
- Nadeau, P.A., Palma, J.L., Waite, G.P., 2011. Linking volcanic tremor, degassing and eruption dynamics via SO₂ imaging. *Geophysical Research Letters* 38, L01304.
- Newhall, C. and Hoblitt, R., 2002. Constructing event trees for volcanic crises. *Bulletin of Volcanology* 64, 3-20.
- Newhall, C. G., Self, S., 1982. The volcanic explosivity index (VEI) an estimate of explosive magnitude for historical volcanism. *Journal of Geophysical Research* 87, 1231-1231.
- Newhall, C.G., Hendley II, J.W., Stauffer, P.H., 1997. Benefits of volcano monitoring far outweigh costs — the case of Mount Pinatubo, *Fact Sheet* 115-97.
- Ogburn, S.E., Loughlin, S.C., Calder, E. S., 2015. The association of lava dome growth with major explosive activity (VEI>4): Dome-Haz, a global dataset. *Bulletin of Volcanology* 77, 40.
- Oppenheimer, C.M.M., Fischer, T. and Scaillet, B., 2013. Volcanic degassing: process and impact. *Treatise on Geochemistry* 4, 111-179.
- Orsi, G., Di Vito, M., Isaia R., 2004. Volcanic hazard assessment at the restless Campi Flegrei caldera. *Bulletin of Volcanology* 66, 514-530.
- Pallister, J. and McNutt, S. R., 2015. Synthesis of Volcano Monitoring, In: Sigurdsson, H., Houghton, B., McNutt, S., Rymer, H. And Stix, J. (Eds), *The Encyclopedia of Volcanoes*, Elsevier, 1424pp.
- Pallister, J. and Surono, 2015. Forecasting the November 2010 eruption of Merapi, Indonesia. In: Loughlin, S.C., Sparks, R.S.J., Brown, S.K., Jenkins, S.F., Vye-Brown, C. (eds), *Global Volcanic Hazards and Risk*. Cambridge University Press, Cambridge, UK.
- Pankhurst, M. J., Dobson, K. J., Morgan, D. J., Loughlin, S. C., Thordarson, Th., Lee, P. D. and Courtois, L., 2014. Monitoring the magmas fuelling volcanic eruption in near-real-time using X-ray micro-computed tomography. *Journal of Petrology* 55 (3), 671-684.
- Papadopoulos, G.A., Orfanogiannaki, K., 2005. Long-term prediction of the next eruption in Thera volcano from conditional probability estimates. In: Fytikas M., Vougioukalakis, G.E., (eds.), *The South Aegean Volcanic Arc*. Elsevier, pp. 211–216.
- Parks, M.M., Moore, J. D.P., Papanikolaou, X., Biggs, J., Mather, T.A., Pyle, D. M., Raptakis, C., Paradissis, D., Hooper, A., Parsons, B., Nomikou, P., 2015. From quiescence to unrest: 20 years of satellite geodetic measurements at Santorini volcano, Greece, *Journal of Geothermal Research B: Solid Earth* 120(2), 1309-1328.
- Phillipson, G., Sobradelo, R., Gottsmann, J., 2013. Global volcanic unrest in the 21st century: an analysis of the first decade. *Journal of Volcanology and Geothermal Research* 264, 183- 196.
- Potter, S. H., Jolly, G. E., Neall, V. E., Johnston, D. M., Scott, B. J., 2014. Communicating the status of volcanic activity: revising New Zealand's volcanic alert level system. *Journal of Applied Volcanology* 3, 1-16.
- Pyle, D. 2015. Sizes of Volcanic Eruptions. In: Sigurdsson, H., Houghton, B., McNutt, S., Rymer, H. and Stix, J. *The Encyclopedia of Volcanoes*, 2nd Edition, 257-264.

- Ragona, M., Hannstein, F. and Mazzocchi, M., 2011. The impact of volcanic ash crisis on the European Airline industry. In: Alemanno, A., (ed.), *Governing Disasters: The Challenges of Emergency Risk regulations*. Edward Elgar Publishing, Cheltenham, UK/Northampton, USA.
- Ricci T., Nave R., Barberi F., 2013. Vesuvio civil protection exercise MESIMEX: survey on volcanic risk perception. *Annals of Geophysics* 56(4), S0452.
- Richter, N., Favalli, M., de Zeeuw-van Dalfsen, E., Fornaciari, A., Fernandes, R., Pérez, N. M., Levy, J., Victória, S. S., Walter, T. R., 2016. Lava flow hazard at Fogo Volcano, Cabo Verde, before and after the 2014-15 eruption. *Natural Hazards and Earth System Science* 16, 1925-1951.
- Ripepe, M., Bonadonna, C., Folch, A., Delle Donne, D., Lacanna, G., Marchetti, E., Höskuldsson, A., 2013. Ash-plume dynamics and eruption source parameters by infrasound and thermal imagery: the 2010 Eyjafjallajökull eruption. *Earth and Planetary Science Letters* 366, 112-121.
- Roberts, M. J., Linde, A. T., Vogfjord, K. S., Sacks, S., 2011. Forecasting Eruptions of Hekla Volcano, Iceland, using Borehole Strain Observations. *Geophysical Research Abstracts* 13, EGU2011-14208.
- Saltogiani, V., Stiros, S. C., Newman, A. V., Flanagan, K., Moschas, F., 2014. Time-space modeling of the dynamics of Santorini volcano (Greece) during the 2011-2012 unrest. *Journal of Geophysical Research: Solid Earth* 119, 8517-8537
- Savov, I., Meliksetian, K., Connor, C., Karakhanian, A., Sugden, P., Navasardyan, G., Halama, R., Ishizuka, O., Connor, L., Karapetian, S., 2016. Evolution of Pleistocene to Holocene eruptions in the Lesser Caucasus Mts: Insights from geology, petrology, geochemistry and geochronology. *Geophysical Research Abstracts* 18, EGU2016-6377.
- Scandone, R., Arganese, G., Galdi, F., 1993. The evaluation of volcanic risk in the Vesuvian area. *Journal of Volcanology and Geothermal Research* 58, 263-271.
- Schmidt, A., Leadbetter, S., Theys, N., Carboni, E., Witham, C. S., Stevenson, J. A., Birch, C. E., Thordarson, Th., Turnock, S., Barsotti, S., Delaney, L., eng, W., Grainger, R. G., Hort, M. C., Hoskuldsson, A., Ialongo, I., Ilyinskaya, E., Johansson, Th., Kenny, P., Mather, T. A., Richards, N. A. D., Shepherd, J., 2015. Satellite detection, long-range transport, and air quality impacts of volcanic sulphur dioxide from the 2014-2015 flood lava eruption at Bardarbunga (Iceland). *Journal of Geothermal Research: Atmospheres*,
- Schmidt, A., Ostro, B., Carslaw, K. S., Wilson, M., Thordarson, T., Mann, G. W. and Simmons, A. J., 2011. Excess mortality in Europe following a future Laki-style Icelandic eruption. *Proceedings of the National Academy of Sciences* 108, 15710-15715.
- Scientific advisory board of the Icelandic civil protection, 2015. Volcanic activity in the Bardarbunga system. http://en.vedur.is/media/jar/Factsheet_Bardarbunga_20150127.pdf, [accessed 13 April, 2017].
- Segall, P. 2013. Volcano deformation and eruption forecasting. *Geological Society, Special Publications* 380, 85-106.
- Selva, J., Costa, A., Marzocchi, W., Sandri, L., 2010. BET_VH: Exploring the influence of natural uncertainties on long-term hazard from tephra fallout at Campi Flegrei (Italy). *Bulletin of Volcanology* 72, 717.
- Selva, J., Marzocchi, W., Sandri, L., Costa, A. 2015. Operational Short-term Volcanic Hazard Analysis: Methods and Perspectives. In: Papale (Ed), *Volcanic Hazards, Risks and Disasters*, 233-260.
- Selva, J., Orsi, G., Di Vito, M. A., Marzocchi, W., Sandri, L., 2012. Probability hazard map for future vent opening at the Campi Flegrei caldera, Italy. *Bulletin of Volcanology*, 74, 497-510.
- Siebert, L., Cottrell, E., Venzke, E., Andrews, B., 2015. Earth's volcanoes and Their Eruptions: An Overview. In: Sigurdsson, H., Houghton, B., Rymer, H., Stix, J., McNutt, (Eds.). *Encyclopedia of Volcanoes*, Academic Press.
- Siebert, L., Simkin, T. and Kimberley, P., 2010. *Volcanoes of the World*, 3rd edn, University of California Press, Berkeley, USA.
- Sigmundsson, F., Hooper, A., Hreinsdottir, S., Vojfjord, K.S., Ofeigsson, B.G., Heimisson, E.R., Dumont, S., Parks, M., Spaans, K., Gudmundsson, G.B., Drouin, V., Arnadottir, T., Jonsdottir, K., Gudmundson, M.T., Hognadottir, T., Fridriksdottir, H.M., Hensch, M., Einarsson, P., Magnússon, E., Samsonov, S., Brandsdottir, B., White, R.S., Agustsdottir, T., Greenfield, T., Green, R.G., 2015. Segmented lateral dyke growth in a rifting event at Bardarbunga volcanic system, Iceland. *Nature* 517, 191-195.
- Sigmundsson, F., Hreinsdottir, A., Hooper, A., Arnadottir, T., Pedersen, R., Roberts, M. J., Oskarsson, N., Auriac, A., Decriem, J., Einarsson, P., Geirsson, H., Hensch, M., Ofeigsson, B. G., Sturkell, E., Sveinbjornsson, H., Feigi, K. L., 2010. Intrusion triggering of the 2010 Eyjafjallajökull explosive eruption. *Nature* 468, 426-430.
- Silva, C., Viveiros, F., Ferreira, T., Gaspar, J.L., Allard, P., 2015. Diffuse soil emanations of radon and hazard implications at Furnas Volcano, São Miguel Island (Azores). *Geological Society London, Memoirs* 44, 197-211.
- Smithsonian Institution, 2013. *Volcanoes of the World 4.0*. <http://www.volcano.si.edu> [accessed 06 April, 2016]
- Solana, M. C., Kilburn, C.R.J. and Rolandi, G., 2008. Communicating eruption and hazard forecasts on Vesuvius, Southern Italy. *Journal of Volcanology and Geothermal Research* 172, 308- 314.
- Spaans, K., Hooper, A., 2016. InSAR processing for volcano monitoring and other near-real time applications, *Journal of Geophysical Research Solid Earth* 121 (4), 2947-2960.
- Sparks, R.S.J., 2003. Forecasting volcanic eruptions. *Earth and Planetary Science Letters* 210, 1-15.
- Sparks, R.S.J., Aspinall, W.P., Crossweller, H.S. and Hincks, T.K., 2013. Risk and uncertainty assessment of volcanic hazards. In: Rougier, J., Sparks, R. S. J., Hill, L., (Eds.). *Risk and Uncertainty Assessment for Natural Hazards*. Cambridge University Press, Cambridge, UK, 364-397.
- Sparks, R.S.J., Biggs, J. and Neuberg, J., 2012. Monitoring volcanoes. *Science*, 335, 1310-1311.
- Sparks, R.S.J., Cashman, K.V., 2017. Dynamic Magma Systems: Implications for Forecasting Volcanic Activity. *Elements* 13, 35-40.
- Spence, R., Kelman, I., Baxter, P., Zuccaro, G. and Petrazzuoli, S., 2005. Residential building and occupant vulnerability to tephra fall. *Natural Hazards and Earth System Science* 5, 477-494.
- Stevenson, J.A., Loughlin, S.C., Font, A., Fuller, G. W., MacLeod, A., Oliver, I.W., Jackson, B., Horwell, C.J., Thordarson, T., Dawson, I., 2013. UK monitoring and deposition of tephra from the May 2011 eruption of Grímsvötn, Iceland. *Journal of Applied Volcanology* 2, 3.
- Stone, J., Barclay, J., Simmons, P., Cole, P. D., Loughlin, S. C., Ramon, P., Mothes, P., 2014. Risk reduction through community-based monitoring: the vigias of Tungurahua, Ecuador. *Journal of Applied Volcanology* 3, 11.
- Surono, Jousset, P., Pallister, J., Boichu, M., Buongiorno, M. F., Budisantoso, A., Costa, F., Andreastuti, S., Prata, F., Schneider, D., Clar-

- isse, L., Humaida, H., Sumarti, S., Bignami, C., Griswold, J., Carn, S., Oppenheimer, C. & Lavigne, F., 2012. The 2010 explosive eruption of Java's Merapi volcano-A '100-year' event. *Journal of Volcanology and Geothermal Research* 241-242, 121-135.
- Suzuki, Y., Nagai, M., Maeno, F., Yasuda, A., Hokanishi, N., Shimano, T., Ichihara, M., Kaneko, T., Nakada, S., 2013. Precursory activity and evolution of the 2011 eruption of Shinmoe-dake in Kirishima volcano — insights from ash samples. *Earth Planets Space* 65, 591-607.
- Sword Daniels, V.L., Twigg, J., Loughlin, S.C., 2015. Time for change? Applying an inductive timeline tool for a retrospective study of disaster recovery in Montserrat, West Indies. *International Journal of Disaster Risk Reduction* 12, 125-133
- Sword-Daniels, V., 2011. Living with volcanic risk: The consequences of, and response to, ongoing volcanic ashfall from a social infrastructure systems perspective on Montserrat. *New Zealand Journal of Psychology* 40, 131-138.
- Sword-Daniels, V., Wilson, T. M., Sargeant, S., Rossetto, T., Twigg, J., Johnston, D. M., Loughlin, S. C., Cole, P. D., 2014. Consequences of long-term volcanic activity for essential services in Montserrat: challenges, adaptations and resilience. In: Wadge, G., Robertson, R.E.A., Voight, B., (eds.), *The Eruption of Soufrière Hills Volcano, Montserrat from 2000 to 2010*. Geological Society, London, UK, *Memoirs* 39, pp. 471-488.
- Thordarson, T. and Larsen, G. 2007. Volcanism in Iceland in historical time: Volcano types, eruption styles and eruptive history. *Journal of Geodynamics* 43, 118-152.
- Thordarson, T. and Self, S., 2003. Atmospheric and environmental effects of the 1783-1784 Laki eruption: a review and reassessment. *Journal of Geophysical Research: Atmospheres* (1984-2012) 108, AAC-7.
- Thorkelsson, B., 2012. The 2010 Eyjafjallajökull Eruption, Iceland: Report to ICAO. Icelandic Meteorological Office.
- Ulivieri G., Ripepe M., Marchetti, E., 2013. Infrasound reveals transition to oscillatory discharge regime during lava fountaining: implication for early warning. *Geophysical Research Letters* 40(12), 3008-3013.
- USGS, 2015. Volcano Hazards Program. Ash Cloud Simulations - What if Mount St. Helens Produced an Explosive Eruption Today?. https://volcanoes.usgs.gov/volcanoes/st_helens/monitoring_ash_cloud.html, [accessed 13 April, 2017].
- Venezky, D. Y. and Newhall, C.G., 2007, WOVODat design document; the schema, table descriptions, and create table statements for the database of worldwide volcanic unrest (WOVODat Version 1.0): U.S. Geological Survey Open File Report 2007-1117. <http://pubs.usgs.gov/of/2007/1117/>, [accessed 06 April, 2016].
- Villagran de Leon, J. C., 2012. Early warning principles and systems. In: Wisner, B., Gaillard, J. C. and Kelman, I. (Eds.), *The Routledge Handbook of Hazards and Disaster Risk Reduction*. Routledge, London, UK, 481-492.
- Voight, B., 1990. The 1985 Nevado del Ruiz volcano catastrophe: anatomy and retrospection. *Journal of Volcanology and Geothermal Research* 42, 151-188.
- Voight, B., Calvache, M. L., Minard V., Hall, L., Monsalve, M. L., 2013. The tragic 13 November 1985 eruption of Nevado del Ruiz Volcano, Colombia: the worst can happen. In: Bobrowsky, P. (ed.), *Encyclopedia of Natural Hazards*. Springer, Dordrecht, Netherlands.
- Voight, B., Sparks, R.S.J., Miller, A.D., Stewart, R.C., Hoblitt, R.P., Clarke, A., Ewart, J., Aspinall, W.P., Baptie, B., Calder, E.S., Cole, P., Druitt, T.H., Hartford, C., Herd, R.A., Jacksomn, P., Lejeune, A.M., Lockhart, A.B., Loughlin, S.C., Luckett, R., Lynch, L., Norton, G.E., Robertson, R., Watson, I.M., Watts, R. & Young, S.R., 1999. Magma Flow Instability and Cyclic Activity at Soufriere Hills Volcano, Montserrat, British West Indies. *Science* 283.5405, 1138-1142.
- Wadge, G. and Aspinall, W., 2014b. A review of volcanic hazard and risk assessments at the Soufrière Hills Volcano, Montserrat from 1997 to 2011. In: Wadge, G., Robertson, R., Voight, B. *The Eruption of Soufriere Hills Volcano, Montserrat, from 2000 to 2010*, Geological Society Memoirs, Vol. 39. Geological Society of London, London.
- Wadge, G., Voight, B., Sparks, R.S.J., Cole, P., Loughlin, S.C., 2014a. An overview of the eruption of Soufriere Hills Volcano from 2000-2010. In: Wadge, G., Robertson, R., Voight, B. *The Eruption of Soufriere Hills Volcano, Montserrat, from 2000 to 2010*. Geological Society Memoirs 39. Geological Society, London, 1-40.
- Wallace, K., Snedigar, S., Cameron, C. 2015. 'Is Ash Falling?', an online ashfall reporting tool in support of improved ashfall warnings and investigations of ashfall processes. *Journal of Applied Volcanology* 4, 8.
- Widiwijayanti, C., Costa, F., Nang, T. Z. W., Tan, K., Newhall, C., Ratdomopurbo, A., 2015. Recent development of WOVODat – The global volcano unrest database as a resource to improve eruption forecasts. In: G-EVER Promotion Team (Eds.). 2015 International Workshop on Earthquake and Volcanic Hazards and Risks in Asia-Pacific Region. G-EVER Consortium and Geological survey of Japan, National Institute of Advanced Industrial Science and Technology, Japan.
- Wilson, G., Wilson, T.M., Deligne, N.I., Cole, J.W., 2014. Volcanic hazard impacts to critical infrastructure: A review. *Journal of Volcanology and Geothermal Research* 286, 148-182.
- Wilson, T. M., Stewart, C., Bickerton, H., Baxter, P. J., Outes, V., Villarosa, G., Rovere, E., 2013. Impacts of the June 2011 Puyehue Cordón-Caulle volcanic complex eruption on urban infrastructure, agriculture and public health. *GNS Science Report* 2012/20.
- Wilson, T., Cole, J., Stewart, C., Cronin, S. and Johnston, D., 2011. Ash storms: impacts of wind-remobilised 889 volcanic ash on rural communities and agriculture following the 1991 Hudson eruption, southern 890 Patagonia, Chile. *Bulletin of Volcanology* 73(3), 223-239.
- Winson, A.E.G., Costa, F., Newhall, C.G., Woo, G., 2014. An analysis of the issuance of volcanic alert levels during volcanic crises. *Journal of Applied Volcanology* 3, 14.
- Wisner, B., Gaillard, J., Kelman, I. (eds.) 2012. *The Handbook of Hazards and Disaster Risk Reduction*, Routledge, Oxford.
- Witham, C., Oppenheimer, C., Horwell, C. J., 2005. Volcanic ash-leachates: a review and recommendations for sampling methods. *Journal of Volcanology and Geothermal Research* 41, 299-326.
- Woo, G. 2014. Cost-benefit analysis in volcanic risk, 289-300. In: Papale, P. (ed.) *Volcanic Hazards, Risks and Disasters*. Elsevier, 532pp.
- Zuccaro, G., Cacace, F., Spence, R. J. S. and Baxter, P. J., 2008. Impact of explosive eruption scenarios at Vesuvius. *Journal of Volcanology and Geothermal Research* 178, 416-453.
- Zuccaro, G., De Gregorio, D., Baxter, P., 2014. Human and Structural Vulnerability to Volcanic Processes, 261-188. In: Papale, P. *Volcanic Hazards, Risks and Disasters*. Elsevier, 532pp.

3.3 Geophysical risk: tsunamis

- Annunziato, A., 2015. The Inexpensive device for Sea level Measurements. *Science of Tsunami Hazards* 34(4), 199-211.
- ASTARTE, 2013. Assessment, Strategy And Risk Reduction for Tsunamis in Europe. <http://www.astarte-project.eu/index.php/astarte-home.html>, [accessed 15 April, 2017].
- Babeyko, A. Y., Hoechner, A., Sobolev, S. V., 2010. Source modeling and inversion with near real-time GPS: a GITWS perspective for Indonesia. *Natural Hazards and Earth Systems Sciences* 10(7), 1617-1627.
- Basili, R., Tiberti, M. M., Kastelic, V., Romano, F., Piatanesi, A., Selva, J., Lorito, S., 2013. Integrating geologic fault data into tsunami hazard studies. *Natural Hazards and Earth Systems Sciences* 13, 1025-1050.
- Blewitt, G., Kreemer, C., Hammond, W. C., Plag, H.-P., Stein, S., Okal, E., 2006. Rapid determination of earthquake magnitude using GPS for tsunami warning systems. *Geophysical Research Letters* 33(11), 11309.
- Burbidge D., Cummins P.R., Mleczo R., Thio, H.K., 2008. A Probabilistic Tsunami Hazard Assessment for Western Australia, *Pure and Applied Geophysics* 165, 2059.
- Davies G., Griffin J., Løvholt, F., Glymsdal, S., Harbitz, C., Thio, H.K., Lorito, S., Basili, R., Selva, J., Geist E., Baptista M.A. 2017. A global probabilistic tsunami hazard assessment from earthquake sources. Geological Society, London, Special Publications 456.
- EIDA, 2017. European Integrated Data Archive. ORFEUS EPOS. European Plate Observing System. <http://www.orfeus-eu.org/data/eida/>, [accessed 14 April 2017].
- EUREF, 2011. EUREF Permanent Network (EPN). http://www.euref.eu/euref_epn.html, [accessed 14 April 2017].
- Falck, C., Ramatschi, M., Subarya, C., Bartsch, M., Merx, A., Hoeberechts, J., Schmidt, G., 2010. Near real-time GPS applications for tsunami early warning systems. *Natural Hazards and Earth Systems Sciences* 10(2), 181-189.
- Geist, E. L., Parsons, T., 2006. Probabilistic Analysis of Tsunami Hazards. *Natural Hazards* 37, 277-314.
- Geller, R. J., 2011. Shake up time for Japanese seismology. *Nature* 472, 407-409.
- Grezio, A., Marzocchi, W., Sandri, L., Gasparini, P., 2010. A Bayesian procedure for Probabilistic Tsunami Hazard Assessment. *Natural Hazards* 53, 159-174.
- GTM, n.d. Global tsunami model. www.globaltsunamimodel.org, [accessed 16 April, 2017].
- Hoehner, A., Ge, M., Babeyko, A. Y., Sobolev, S.V., 2013. Instant tsunami early warning based on real-time GPS — Tohoku 2011 case study. *Natural Hazards and Earth Systems Sciences* 13(5), 1285-1292.
- Howe, B. M., Aucan, J., Tilmann, F., 2016. Submarine cable systems for future societal needs. *Eos, Transactions American Geophysical Union*, 97.
- IOC, 1998. Post-tsunami survey field guide, 1st edn, Intergovernmental Oceanographic Commission Manuals and Guides 37, Unesco.
- Kagan, Y. Y., Jackson, D. D., 2013. Tohoku Earthquake: A Surprise?. *Bulletin of the Seismological Society of America* 103, 1181-1194.
- Kanamori, H., 1977. The energy release in great earthquakes. *Journal of Geophysical Research*, 82, 2981-2987.
- Lomax, A., Michelini, A., 2009a. Mwpd: A Duration-Amplitude Procedure for Rapid Determination of Earthquake Magnitude and Tsunamigenic Potential from P Waveforms. *Geophysical Journal International* 176, 200-214.
- Lomax, A., Michelini, A., 2009b. Tsunami early warning using earthquake rupture duration. *Geophysical Research Letters* 36, L09306.
- Lorito S., Selva J., Basili, R., Romano F., Tiberti, M. M., Piatanesi, A., 2015. Probabilistic hazard for seismically induced tsunamis: accuracy and feasibility of inundation maps. *Geophysical Journal International* 200 (1), 574-588.
- Lorito, S., Romano, F., Lay, T., 2015. Tsunamigenic earthquakes (2004-2013): Source processes from data inversion. In: Meyers, R. (ed.), *Encyclopedia of Complexity and Systems Science*. Springer Science+Business Media, New York, USA.
- Lorito, S., Tiberti, M.M., Basili, R., Piatanesi, A., Valensise, G., 2008. Earthquake-generated tsunamis in the Mediterranean Sea: scenarios of potential threats to Southern Italy. *Journal of Geophysical Research* 113, B01301.
- Løvholt, F., Griffin, J., Salgado-Gálvez, M., 2015. Tsunami hazard and risk assessment at a global scale. In: Meyers, R. (ed.), *Encyclopedia of Complexity and Systems Science*. Springer Science+Business Media, New York, USA.
- Melgar, D., Allen, R. M., Riquelme, S., Geng, J., Bravo, F., Baez, J.C., Parra, H., Barrientos, S., Fang, P., Bock, Y., Bevis, M., Caccamise, D. J., Vigny, C., Moreno, M., Smalley, R., 2016. Local tsunami warnings: Perspectives from recent large events. *Geophysical Research Letters* 43 (3), 1109—1117.
- Michelini, A., Charalampakis, M., 2016. Working Group 2: Seismic and Geophysical measurements Report on intersessional activities. 13th session of the ICG for the Tsunami Early Warning and Mitigation System in the NEAM region (ICG/NEAMTWS-XIII), Bucharest, Romania, 26-28 September 2016. http://ioc-unesco.org/index.php?option=com_oe&task=viewDocumentRecord&docID=17804, [accessed 15 April, 2017].
- Miller, D., 1960. Giant waves in Lituya Bay Alaska. *USGS Professional Paper* 354-C, 51-83.
- Moustopolou, V., Nicol, A., Begg, J., Oncken, O., Moreno, M., 2015. Clusters of mega earthquakes on upper plate faults control the Eastern Mediterranean hazard. *Geophysical Research Letters* 42 (23), 10282-10289.
- Münch, U., Rudloff, A., Lauterjung, J., 2011. Postface 'The GITWS Project — results, summary and outlook'. *Natural Hazards and Earth System Sciences* 11, 765-769.
- NEAMWAVE12, 2012. NEAM Press Release 04 December 2012, Successful first test of Tsunami Warning System for the North Atlantic and Mediterranean. International Tsunami Information Center: http://itic.ioc-unesco.org/index.php?com_content&view=category&id=2105&Itemid=2421, [accessed 15 April, 2017].
- NEAMWAVE14, 2014. Exercise NEAMWave14: NEAMWave14 successfully undertaken. International Tsunami Information Center. http://itic.ioc-unesco.org/index.php?option=com_content&view=category&layout=blog&id=2161&Itemid=2609, [accessed 15 April, 2017].
- NGDC/WDS, n.d. National Geophysical Data Center / World Data Service: Global Historical Tsunami Database. National Geophysical Data Center, NOAA. https://www.ngdc.noaa.gov/hazard/tsu_db.shtml, [accessed 14 April, 2017].
- Ohta, Y., Kobayashi, T., Tushima, H., Miura, S., Hino, R., Takasu, T., Fujimoto, H., Iinuma, T., Tachibana, K., Demachi, T., Sato, T., Ohzo-

- no, M., Umino, N., 2012. Quasi real-time fault model estimation for near-field tsunamis forecasting based on RTK-GPS analysis: Application to the 2011 Tohoku-Oki earthquake (Mw 9.0). *Journal of Geophysical Research: Solid Earth*, 117, B02311.
- Omira, R., Matias, L., Baptista, M. A., 2016. Developing an Event-Tree Probabilistic Tsunami Inundation Model for NE Atlantic Coasts: Application to a Case Study. *Pure and Applied Geophysics* 173 (12), 3775-3794.
- Papadopoulos G. A., Gràcia, E., Urgeles, R., Sallares, V., De Martini, P. M., Pantosti, D., González, M., Yalciner, A. C., Mascle, J., Sakellariou, D., Salamon, A., Tinti, S., Karastathis, V., Fokaefs, A., Camerlenghi, A., Novikova, T., Papageorgiou, A., 2014. Historical and pre-historical tsunamis in the Mediterranean and its connected seas: Geological signatures, generation mechanisms and coastal impacts. *Marine Geology*, 354, 81-109.
- Papadopoulos, G. A. and Imamura, F., 2001. A proposal for a new tsunami intensity scale. In: *Proceedings of the International Tsunami Symposium 2001, Seattle, Session 5, paper 5-1, pp. 569-577.*
- Papadopoulos, G. A., 2015. *Tsunamis in the European-Mediterranean Region: From Historical Record to Risk Mitigation.* Elsevier, Amsterdam, Netherlands.
- Polet, J., Kanamori, H., 2009. Tsunami earthquakes. In: Meyers, A. (ed.), *Encyclopedia of Complexity and Systems Science.* Springer, New York, USA.
- Power, W., Wang, X., Lane, E. M., Gillibrand, P. A., 2013. A Probabilistic Tsunami Hazard Study of the Auckland Region, Part I: Propagation Modelling and Tsunami Hazard Assessment at the Shoreline. *Pure and Applied Geophysics* 170 (9-10), 1621-1634.
- Richter, C.F., 1935. An instrumental earthquake scale. *Bulletin of the Seismological Society of America* 25, 1-32.
- Rudloff, A., Lauterjung, J., Münch, U., Tinti, S., 2009. Preface 'The GITWS Project (German-Indonesian Tsunami Early Warning System). *Natural Hazards and Earth Systems Sciences* 9, 1381-1382.
- Schindelé, F., 1998. Tsunami warning in near field for the two large 1996 Peru earthquakes. In: *Proceedings of the International Conference on Tsunamis, Paris, France.*
- Schindelé, F., Gailler, A., Hébert, H., Loevenbruck, A., Gutierrez, E., Monnier, A., Roudil, P., Reymond, D., Rivera, L., 2015. Implementation and challenges of the tsunami warning system in the western Mediterranean. *Pure and Applied Geophysics*, 172 (3-4), 821 -833.
- Selva, J., Tonini, R., Molinari, I., Tiberti, M. M., Romano, F., Grezio, A., Melini, D., Piatanesi, A., Basili, R., Lorito, S., 2016. Quantification of source uncertainties in Seismic Probabilistic Tsunami Hazard Analysis (SPTHA). *Geophysics Journal International* 205(3), 1780-1803.
- Shearer, P., Bürgmann, R., 2010. Lessons learned from the 2004 Sumatra-Andaman megathrust rupture. *Annual Review of Earth and Planetary Sciences* 38, p. 103-131.
- Sieberg, A., (1927). *Geologische, physikalische und angewandte Erdbebenkunde.* Verlag von Gustav Fischer, Jena (in German).
- Sobolev, S.V. Babeyko, A.Y., Wang, R., Hoehner, A., Galas, R., Rothacher, M., Sein, D. V., Schröter, J., Lauterjung, J., Subarya, C., 2007. Tsunami early warning using GPS-Shield arrays. *Journal of Geophysical Research: Solid Earth* 112(B8), B08415.
- Song, Y.T., 2007. Detecting tsunami genesis and scales directly from coastal GPS stations. *Geophysics Research Letters* 34, L19602.
- Sørensen, M. B., Spada, M., Babeyko, A., Wiemer, S., Grünthal, G., 2012. Probabilistic tsunami hazard in the Mediterranean Sea. *Journal of Geophysics Research* 117, B01305.
- Synolakis, C. E., 2011. Tsunamis: When will we learn? *Newsweek Magazine.*
- Synolakis, C., Kánoğlu, U., 2015. The Fukushima accident was preventable. *Philosophical Transaction Royal Society AilTrans. R. Soc. A* 373, 20140379.
- Tinti, S., Armigliato, A., 2003. The use of scenarios to evaluate the tsunami impact in southern Italy. *Marine Geology* 199(3), 221-243.
- Tinti, S., Armigliato, A., Pagnoni, G., Zaniboni, F., 2005. Scenarios of giant tsunamis of tectonic origin in the Mediterranean. *ISET Journal of Earthquake Technology* 42(4), 171-188.
- Tonini, R., Armigliato, A., Pagnoni, G., Zaniboni, F., Tinti, S., 2011. Tsunami hazard for the city of Catania, eastern Sicily, Italy, assessed by means of Worst-case Credible Tsunami Scenario Analysis (WCTSA). *Natural Hazards and Earth Systems Sciences* 11, 1217-1232.
- TSUMAPS-NEAM, n.d. Probabilistic Tsunami Hazard maps for the NEAM region. <http://www.tsumaps-neam.eu>, [accessed 16 April, 2017].
- UNESCO/IOC, 2017. Sea level station monitoring facility. <http://ioc-sealevelmonitoring.org/>, [accessed 15 April 2017].
- UNISDR, 2013. Global assessment report on disaster risk reduction — from shared risk to shared value: the business case for disaster risk reduction. UNISDR, Geneva, Switzerland.
- UNISDR, 2015a. Global assessment report on disaster risk reduction — making development sustainable: the future of disaster risk management. UNISDR, Geneva, Switzerland.
- UNISDR, 2015b. Sendai framework for disaster risk reduction 2015–2030. United Nations International Strategy for Disaster Reduction. http://www.wcdrr.org/uploads/Sendai_Framework_for_Disaster_Risk_Reduction_2015-2030.pdf, [accessed 04 April 2016].
- UNISDR/CRED, 2016. Tsunami Disaster Risk: Past impacts and projections. United Nations Office for Disaster Risk Reduction (UNISDR), Centre for Research on the Epidemiology of Disasters (CRED). (http://www.preventionweb.net/files/50825_credtsunami08.pdf, [accessed 14 April 2017].
- Webcritech, n.d. <http://webcritech.jrc.ec.europa.eu>, [accessed 15 April 2017].