



**Jose Carlos Borrero. Ph.D.**

**Nationality:** USA, New Zealand

**Profession:** Oceanographic Consultant

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### **PRESENT POSITIONS:**

- Director, Senior Consultant, eCoast Ltd.
- Adjunct Assistant Research Professor, University of Southern California, Los Angeles, CA, USA

### **SPECIALISATION:**

Coastal engineering, processes, oceanography and hazards; tsunami hazards and analysis; hydrodynamic numerical modelling; design of coastal structures and impact assessment, multi-purpose reefs, environmental impact assessment, expert witness.

### **YEARS OF EXPERIENCE:**

- Consulting since 1998.

### **KEY QUALIFICATIONS:**

- Ph.D. Ocean and Coastal Engineering, University of Southern California, August 2002
- M.S. Ocean and Coastal Engineering, University of Southern California, May 1997
- B.S. Civil and Environmental Engineering, University of Southern California, December 1995
- B.S. Journalism, Telecommunications Production, University of Florida, May 1993

### **PROFESSIONAL MEMBERSHIPS:**

- Member Engineering New Zealand
- Member New Zealand Coastal Society (Technical Group of Engineering New Zealand)
- Member Geoscience Society of New Zealand.
- Associate Member World Association for Waterborne Transport Infrastructure (PIANC)
- Member of American Geophysical Union (AGU)
- Technical Advisor for the Surfbreak Protection Society (NZ) and Save the Waves Coalition

### **WORK HISTORY**

#### **2012-Present**

Director/Senior Consultant, eCoast Ltd.

#### **2010-2012**

Senior Consultant, ASR Ltd - Marine Consulting and Research

#### **2006-2009**

Manager, Coastal Science Group, ASR Ltd - Marine Consulting and Research

#### **2006-Present**

Adjunct Assistant Professor, University of Southern California.

### **SUMMARY OF PROFESSIONAL OUTPUT**

- 54 published articles in research journals (12 lead author) since 1997.
- 70+ technical and consulting reports since 2006
- 12 post-tsunami reconnaissance surveys (4 as team leader/principal scientist)
- 6 field investigations of near-shore hydrodynamics and/or instrument deployment
- 2 large scale hydraulic physical laboratory experiments
- 5 organized or co-organized international conferences
- 4 co-editorship conference proceedings volume

## PUBLICATIONS SUMMARY

### TECHNICAL AND CONSULTING REPORTS

#### 2021

**Borrero, J.**, Greer, D., 2021, Multi-Hazard Disaster Risk Assessment, Tongatapu, Tonga. Prepared for the Asian Development Bank.

#### 2020

**Borrero, J.** and O'Neill, S. (2018) Probabilistic Tsunami Inundation Assessment for Tauranga Harbour, Report in preparation for Bay of Plenty Regional Council.

Greer, D., McIntosh, R., **Borrero, J.** (2020), Whangārei Harbour Stormwater Dilution Modelling, Prepared for Northland Regional Council.

#### 2019

**Borrero, J.** (2019) Tsunami Inundation Assessment for the Firth of Thames, New Zealand, Report prepared for Waikato Regional Council, Feb 2019.

**Borrero, J.C.**, Lynett, P. and Son. S. (2019) Assessment of landslide tsunami hazard in Kitimat Arm, British Columbia. Report Prepared for Ausenco Engineers, Vancouver, BC, Canada, April 2019.

**Borrero, J.C.**, Mead, S.T. and O'Neill, S. (2019) Coastal Processes and Hazards Assessment, Lelepa Island, Vanuatu, Report prepared for Downer Engineering, May 2019.

**Borrero, J.C.**, Lynett, P. and Son. S. (2019) Assessment of tsunami hazard in the Sunda Strait, Indonesia. Prepared for Arup Consulting, London, United Kingdom, May 2019.

**Borrero, J.C.** (2019) Assessment of Tsunami Hazards in Northland Maritime Facilities. Project for New Zealand Ministry of Civil Defence and Emergency Management and Northland Regional Council, July 2019.

**Borrero, J.** and O'Neill, S. (2018) Probabilistic Tsunami Inundation Assessment Eastern Bay of Plenty, Report prepared for Bay of Plenty Regional Council. September 2019

**Borrero, J.C.** (2019) Oceanographic and Coastal Processes around Anonyme Island, Seychelles, Report prepared for Anonyme Estates Ltd. October 2019.

Greer, S.D. and **Borrero, J.C.** (2019) Investigation of Factors Influencing the Rates of Input, Beaching and Re-Suspension of Plastic Debris in the Marine Environment – Project for The Ocean Clean-up Project Foundation, Netherlands.

#### 2018

**Borrero, J.C.** and Mead S. (2018) Assessment of Water Levels on Lake Taupo, New Zealand. Project for Waikato Regional Council, September 2018

Greer, D., O'Neill, S., **Borrero, J.**, (2018), Dynamics of Nearshore Plastic Pollution Part I: Literature and Data Review, Prepared for The Ocean Clean Up

**Borrero, J.C.** and Bosserelle, C (2018) Tsunami Inundation Assessment for the Gisborne District Council, Prepared for Gisborne District Council, June 2018.

#### 2017

**Borrero, J.** (2017) Response to Concerns Regarding the Numerical Modelling of Tsunami Inundation at Whitianga Area School, Report prepared for Waikato Regional Council, May 2017.

**Borrero, J.** and O'Neill, S. (2017) Probabilistic Tsunami Inundation Assessment for the Western Bay of Plenty, Report prepared for Bay of Plenty Regional Council, July 2017.

**Borrero, J.** (2017) ComMIT modelling for Real-time Tsunami Forecasting in New Zealand, Report prepared for GNS Science, New Zealand, September 2017.

**Borrero, J.** (2017) Establishing a Real-Time Tsunami Hazard Assessment Tool for the Canterbury Region, New Zealand, Report prepared for Environment Canterbury, September 2017.

Greer, D., Borrero, J. and McIntosh, R. (2017) Tsunami Hotspots: Analysis of New Zealand Tide Gauge Data, Report Prepared for NIWA, October 2017.

O'Neill, S. McIntosh, R., **Borrero, J.C.**, and Mead, S.T., Hydrodynamic Modelling of Northlands CFHZ's. Prepared for Northland Regional Council, October 2017.

**Borrero, J.** (2017) North East Point Mahé Island: Community Consultation on the Status of the Reef and Beach and Identification of Next Steps for Effective Management, Report prepared for UNDP Seychelles, December 2017.

## 2016

- Atkin, E., S. T. Mead, J. C. **Borrero**, D. J. Phillips and S. O'Neill, 2016. *Development of the Castlecliff Coastal Management Strategy*. Prepared for Whanganui District Council, July 2016.
- Borrero, J.C.** (2016) Hydrodynamic Modelling of Tsunami Waves at Abu Dhabi Offshore Oil Fields, Prepared for Ove Arup and Partners, London, September 2016.
- Borrero, J.C.** (2016) Numerical modelling of tsunami inundation in Whitianga and Mercury Bay, New Zealand, Prepared for Waikato Regional Council, October 2016.
- Borrero, J.C.**, Atkin, A., Greer, D., O'Neill, S. and Mead S. (2016) Coastal Processes Assessment of North East Point, Mahé, Seychelles, Prepared for UNDP Seychelles, November 2016.
- Borrero, J.C.**, Mead, S.T., Clarke, M., Klaus, R. and Persand, S. (2016) Coastal Adaptation Measures for Mon Choisy Beach, Republic of Mauritius: Final Design Report, Prepared for Ministry of Environment, Sustainable Development, Disaster and Beach Management.
- Borrero, J.C.**, Mead, S.T., Clarke, M., Klaus, R. and Persand, S. (2016) Coastal Adaptation Measures for Rivière des Galets, Republic of Mauritius: Final Design Report, Prepared for Ministry of Environment, Sustainable Development, Disaster and Beach Management.

## 2015

- Borrero, J.C.** (2015) Observations and Modeling of Tsunami Inundation at Port Charles, Coromandel Peninsula, New Zealand, Prepared for Waikato Regional Council, January 2015.
- Borrero, J.C.**, Mead, S.T., Clarke, M., Klaus, R. and Persand, S. (2015) Coastal Adaptation Measures for Mon Choisy Beach, Republic of Mauritius: Detailed Technical Assessment, Prepared for Ministry of Environment, Sustainable Development, Disaster and Beach Management.
- Borrero, J.C.**, Mead, S.T., Clarke, M., Klaus, R. and Persand, S. (2015) Coastal Adaptation Measures for Rivière des Galets, Republic of Mauritius: Detailed Technical Assessment, Prepared for Ministry of Environment, Sustainable Development, Disaster and Beach Management.
- Borrero, J.C.**, Mead, S.T., Clarke, M., Klaus, R. and Persand, S. (2015) Coastal Adaptation Measures for Mon Choisy Beach, Republic of Mauritius: Options for Adaptation, Prepared for Ministry of Environment, Sustainable Development, Disaster and Beach Management.
- Borrero, J.C.**, Mead, S.T., Clarke, M., Klaus, R. and Persand, S. (2015) Coastal Adaptation Measures for Rivière des Galets, Republic of Mauritius: Options for Adaptation, Prepared for Ministry of Environment, Sustainable Development, Disaster and Beach Management.
- Clarke, M., **Borrero, J.C.**, Mead, S.T., , Klaus, R. and Persand, S. (2015) An Economic Valuation and Cost Benefit Analysis of Adaptation and Enhanced Ecosystem Resilience for Mon Choisy Beach, Prepared for Ministry of Environment, Sustainable Development, Disaster and Beach Management.
- Clarke, M., **Borrero, J.C.**, Mead, S.T., Klaus, R. and Persand, S. (2015) Cost Benefit Analysis for Adapting to Sea Level Rise: Protection or Managed Retreat in Rivière des Galets, Prepared for Ministry of Environment, Sustainable Development, Disaster and Beach Management.
- Borrero, J.C.** and Goring, D.G. (2015) Real-time Modeling and Assessment of Tsunami Waves in Lyttelton Port Generated by the September 17, 2015 Illapel Earthquake in Central Chile, Prepared for Lyttelton Port Company, September 20, 2015.
- Borrero, J.C.** (2015) Numerical modelling of tsunami effects at Port Waikato, Raglan and Aotea Waikato West Coast, New Zealand, Prepared for Waikato Regional Council, December 2015.
- Borrero, J.C.** (2015) Numerical modelling of tsunami inundation along the Kennedy Bay to Opito Bay coast, Coromandel Peninsula, New Zealand, New Zealand, Prepared for Waikato Regional Council, December 2015.

## 2014

- Mead, S. T., J. C. **Borrero**, D. Greer and D. Phillips, 2014. *Woja Causeway Project: Coastal Processes and Feasibility Study*. Report prepared for the Secretariat of Pacific Communities (SPC), specifically the Global Climate Change Alliance: Pacific Small Island States (GCCA:PSIS), February 2014.
- Borrero, J.** (2014) Omaha Beach Community: Tsunami Hazard Discussion and Site Visit, Report prepared for Omaha Beach Community, February 2014.
- Borrero, J.C.** and Goring, D.G. (2014) Real-time Modeling and Assessment of Tsunami Waves in Lyttelton Port Generated by the April 1, 2014 Earthquake in Northern Chile, Prepared for Lyttelton Port Company, April 12, 2014.

- Borrero, J.C.** (2014) Development of a Real-Time tsunami inundation assessment tool for Auckland, New Zealand, prepared for Auckland Council.
- Borrero, J.C.** (2014) Numerical modeling of Tsunami Inundation at Whangamata, Whiritoa and Port Charles, Coromandel Peninsula, New Zealand, Prepared for Waikato Regional Council, August 2014.
- Borrero, J.C.** (2014) Numerical Modelling of Tsunami Waves at Lelu Island, British Columbia, prepared for Ove Arup and Partners, London.
- Morris, B. and **Borrero, J.** (2014) Inundation of Whitianga town during the 1960 Chilean tsunami, Waikato Regional Council Technical Report 2014/65.
- Borrero, J.C.** (2014) Numerical Modelling of Tsunami Waves at Batangas Bay, Philippines, prepared for Ove Arup and Partners, London.

### 2013

- Borrero, J.C.**, Titov, V.V. and Synolakis, C.E. Numerical Modeling of Tsunami Effects in Southern California from a Hypothetical *M*<sub>9.1</sub> Earthquake near the Alaska Peninsula, in Ross, S.L., and Jones, L.M., eds., The SAFRR (Science Application for Risk Reduction) Tsunami Scenario: U.S. Geological Survey Open-File Report 2013-1170, 136 p., <http://pubs.usgs.gov/of/2013/1170/d/>.
- Borrero, J.C.** and Mead, S.T. (2013) Water Levels on Lake Taupo and Implications on Foreshore Erosion, Prepared for Waikato Regional Council, Hamilton, New Zealand.
- Borrero, J.C.** (2013) Tsunami Hazard Assessment for Talara, Peru, Prepared for Langan Engineers.
- Borrero, J.C.** (2013) Modelling a Large Tsunamigenic Earthquake Source off the Gorrige Bank for Tsunami Impact at the Wylfa NPP, Wales, Prepared for Ove Arup and Partners, London.
- Borrero, J.C.**, Goring, D.G., Greer, S.D., Power, W.L. and Barberopoulou, A. (2013) Decision Making Tools for the Real-Time Assessment of Far-Field Tsunami Hazards in New Zealand Ports and Harbours Part 1: Background Information and Preliminary Analysis. Prepared for New Zealand Ministry of Business Innovation and Employment, December 20, 2013.

### 2012

- Borrero, J.C.** (2012) Tsunami Inundation Modelling: Whitianga, Tairua and Pauanui, Prepared for Waikato Regional Council, Hamilton, New Zealand, ISSN 2230-4363.
- Borrero, J.C.** (2012) Tsunami Hazard Analysis for Batangas Bay, Philippines, Prepared for Ove Arup and Associates, London, UK.
- Borrero, J.C.** (2012) Tsunami Inundation Modelling for Omaezaki Port, Japan, Prepared for Chevron USA, Richmond, CA.
- Lynett, P.J., **Borrero, J.C.** and Sangyoung, S. (2012) Numerical Simulations of Maritime Tsunami Hazards in Crescent City, CA, Prepared for California Emergency Management Agency.
- Borrero, J.C.** (2012) Tsunami Hazard Assessment for A Site in the UAE from Earthquakes along the Makran Subduction Zone, Prepared for Ove Arup and Associates, London.
- Borrero, J.C.** (2012) Numerical Modelling of Tsunami Waves at Kakinada, India, prepared for Ove Arup and Partners, London.
- Borrero, J.C.** and Greer, S.D. (2012) Spectral Characteristics of Numerically Modelled Tsunami Waves at Khor Fakkan, Fujairah, UAE, UAE, prepared for Ove Arup and Partners, London.
- Borrero, J.C. (ed.)** (2012) Field Survey Report of Tsunami Effects Caused by the August, 2012 Offshore El Salvador Earthquake, Prepared for United Nations Educational, Scientific and Cultural Organization (UNESCO) International Tsunami Information Center (ITIC), Honolulu, HI, 107 pp.
- Borrero, J.C.**, Atkin, E., Frazerhurst, J., Grant, D., Lebreton, L. (2012) New Kuta Beach Stabilization: Analysis and Assessment of Shore Protection and Coastal Management Options, prepared for PT Bali Pecatu Graha.
- Borrero, J.C.**, Atkin, E., Frazerhurst, J., Grant, D., Lebreton, L. (2012) New Kuta Beach Stabilization, Field Data Analysis and Hydrodynamic Numerical Modelling, prepared for PT Bali Pecatu Graha.

### 2011

- Borrero, J.C.**, Lebreton, L.C.-M, Greer, S.D., Mueller, H. and Csato, C. (2011) Plastic Pollution in the World Ocean: A Research Study into the Origin, Transport and Distribution of Floating Debris, Prepared for the Sea•thos Foundation, Venice, CA.

- Borrero, J.C.** (2011) Local Tsunami Source Models for Northern Chile, Prepared for Golder and Associates, Irvine CA.
- Borrero, J.C.** and S. D. Greer, (2011) Wheatstone LNG Terminal Tsunami Hazard Study, Prepared for Chevron Australia Pty. Ltd.
- Mead S.T., **Borrero, J.C.**, Grant, D., Lebreton, L., and Moores, A. (2011) Design of a Submerged Reef for Coastal Protection, Prepared for US Army Corps of Engineers, National Erosion Control Development and Demonstration Program, Ventura County Demonstration Site.
- Borrero, J.C.** and Grant, D. (2011) Oceanographic Analysis of Beran Island, Ainglaplap Atoll, Republic of the Marshall Islands, Prepared for B.V. Resorts LLC
- Borrero, J.C.**, (2011) Review of WYB0004 Seismic Hazard Assessment: Stage 2 Interim Tsunami Hazard Assessment Report, Prepared for Arup, London.

### 2010

- Borrero, J.C.**, (2010) Borth Reef: Physical Modelling Study of Coastal Protection and Surfability, Prepared for Royal Haskoning, Peterborough, UK
- Borrero, J.C.**, Lebreton, L., Oldman, J. (2010), Assessment of Submerged Reefs for Coastal Protection in Port Phillip Bay, Report prepared for the Department of Sustainability and Environment, Victoria, Australia
- Borrero, J.C.**, Lebreton, L., Mead, S. and Frazerhurst, J. (2010), “Re-Imagining the Folkestone Shore” Report prepared for Folkestone Re-Development Group. February, 2010.
- Mead, S., **Borrero, J.C.**, Lebreton, L., Grant, D., “Scoping Study of the New Zealand West Coast Physical Marine Environment”, Report Prepared for Golder and Associates, New Zealand.
- Borrero, J. C.**, and S. T. Mead, 2010. *Borth Reef: Surfing Assessment Study*. Prepared for Ceredigion County Council, August 2010

### 2009

- Borrero, J.C.**, Mead, S., Campbell, A.(2009) “Borth Multipurpose Reef: Final Design Note” Prepared for Royal Haskoning, December 2009.
- Borrero, J.C.** and Mead, S.T. (2009) “La Roche Percée: Review of a Proposed Beach Renourishment Plan” Prepared for CAPSE-Nord, Noumea, April 2009.
- Borrero, J.C.**, Mead, S.T and LeBreton, L. (2009) “La Roche Percée [New Caledonia]: Hydrodynamic Analysis of the Littoral Environment, Design of a Multi-Purpose Erosion Control Structure” Prepared for CAPSE-Nord, Noumea, March 2009.
- Borrero, J.C.**, Harrison, S. and Mead, T. (2009) Uitoé Bay, New Caledonia Field Data Collection and Hydrodynamic Analysis of Proposed Channel Configurations, Prepared for CAPSE-Nord, Noumea, May 2009
- Borrero, J.C.** (2009) Stability Assessment for Submerged Reef Breakwaters constructed from Large Sand Filled Geotextile Containers.
- Borrero, J.C.**, Mead, T., Harrison, S. (2009) Weather and Sea Conditions Leading Up to the Grounding of the San Cuvier 27th July 2008
- Frazerhurst, J. **Borrero, J.C.**, Mead S., Harrison, S. (2009) Tidal and Wave Energy Resource Study – Victoria. Prepared for: SKM Consultants, July 2009.
- Mead S. T., J. C. **Borrero** and S. Harrison, 2009. *Design and Assessment of Physical Effects of Multi-Purpose Reefs for Beach Sand Retention at Orewa Beach*. Orewa Beach Reef Charitable Trust/Rodney District Council, August, 2009.

### 2008

- Black, K. P., .S. T. Mead, J. C. **Borrero** and J. Frazerhurst, 2008. *Development of a Clean Sandy Beach and Marine Infrastructure for Cornish Bay Resort, Mauritius*. Report prepared for Arup Sigma, October 2008.
- Mead, S. T., and J. C. **Borrero**, 2008. *Bathymetry Survey of Tauranga Harbour*. Report for URS New Zealand Ltd, August 2008.
- Harrison, S., **Borrero, J.C.** and Black, K.P. (2008) “Extreme Water Levels at the Powlett River Mouth” Prepared for GHD, Australia, July 2008.

- Borrero, J. C.**, Mead, S.T., Black, K.T., Bosserelle, C. and Healy, T. (2008). "Matakana Island [New Zealand] Access Numerical Modelling & Assessment" Prepared for the Pritchard Group, June 2008.
- Borrero, J.C.** (2008) "Historical Assessment of Tsunamis Affecting the Southern Coast of the Dominican Republic" Prepared for Sandwell Engineering, Vancouver, Canada, May 2008.
- Borrero, J. C.**, S. T. Mead, K. P. Black and C. Bosserelle, 2008. *Matakana Island Numerical Modelling*. Prepared for the Pritchard Group, April 2008.
- Mead, S. T., Black, K.P., **Borrero, J.C.**, Bosserelle, C. and Bou, A. (2008) "Design and Assessment of Physical Effects of Multi-Purpose Reef for Beach Sand Retention at Orewa Beach [New Zealand]" Prepared for the Orewa Beach Reef Trust and Rodney District Council, March 2008.

## 2007

- Borrero, J.C.** and Mead, S.T. (2007) "Channel Sedimentation at Gisborne prior to the Grounding of the Jodi F. Millennium Prepared for TT Club c/- Langley Twigg Lawyers, October 2007.
- Borrero, J. C.**, Mead, S.T., Black, K.T. and Bosserelle, C. (2007). "Matakana Island [New Zealand] Data Collection Report" Prepared for the Pritchard Group, September 2007.
- Mead S. T., **J. C. Borrero**, K. P. Black and J. Frazerhurst, (2006) "Multipurpose Reefs for Port Elizabeth South Africa: Detailed Design Report for Multipurpose Reefs at 4 locations in Port Elizabeth, South Africa" Prepared for Africoast Engineers, November 2007.
- Black, K.P., Mathew, J., and **Borrero, J.C.** (2007) "Southern Pipeline Estuarine and Hydrodynamic Physical Process Assessments" prepared for URS, New Zealand and Tauranga City Council, August 2007.
- Mead, S.T., **Borrero, J.C.**, Black, K.P. and Frazerhurst, J. (2007) "Investigations into the Development of Multi-Purpose Reefs at Las Rosadas [Mexico] for Beach Access and Amenity Enhancement" Prepared for Costa Chamela Corporation, May 2007.
- Borrero, J.C.**, Raichlen F., and Yeh, H., (2007) "Third Party Review of Samoa Town (Humboldt County, CA) Master Plan Tsunami Vulnerability Report", prepared for GeoEngineers, February 2007.

## 2006

- Mead, S. T., J. C. **Borrero**, K. P. Black and J. Frazerhurst, 2006. *Multi-Purpose Reefs at Wells Estate Beach: Feasibility Study*. Report Prepared for AfriCoast Engineers, November 2006.
- Borrero, J. C.**, S. T. Mead, K. P. Black and J. Frazerhurst, 2006. *Multi-Purpose Reefs at Pollok Beach: Feasibility Study*. Report Prepared for AfriCoast Engineers, September 2006.
- Haggitt T. and S. T., Mead, 2006. *Te Whanganui-a-Hei Marine Reserve Biological Monitoring Programme: May-June 2006 Survey*. Prepared for the Department of Conservation, Waikato Conservancy, August 2006.
- Borrero, J. C.**, Mead, S. T., Black, K. P. and Frazerhurst, J. (2006) "Feasibility and Design Study for a Multi-Purpose Reef in Long Branch, New Jersey" Prepared for Surfers' Environmental Alliance and the State of New Jersey Department of Environmental Protection, July 2006.
- Mead, S. T., Black, K. P., **Borrero, J.C.**, Frazerhurst, J., Anderson, D., Phillips, D.J. and Kramer, M (2006). "St Francis Bay Beach Project: Feasibility Study. Investigations into the Application of Multi-Purpose Reefs at St Francis Beach for Coastal Protection and Amenity Enhancement." Prepared for the St Francis Bay Beach Reef Trust, June 2006.
- Borrero, J.C.**, L. Dengler, B. Uslu, C.E. Synolakis (2006) "Numerical Modeling of Tsunamis Effects at Marine Oil Terminals in San Francisco Bay", Prepared for California State Lands Commission, Marine Facilities Division, [http://www.slc.ca.gov/division\\_pages/MFD/MOTEMS.html](http://www.slc.ca.gov/division_pages/MFD/MOTEMS.html) June 2006.
- Mead, S. T., Black, K. P., J. C. **Borrero**, J. Frazerhurst, D. Anderson, D. J. Phillips and M. Kramer, 2006. *St Francis Bay Beach Project: Feasibility Study*. Prepared for the St Francis Bay Beach Reef Trust, May 2006.

## 2003

- Legg, M.R., **J.C. Borrero**, C.E. Synolakis (2003) Evaluate Tsunami Risk to Southern California Coastal Cities, 2002 EERI/FEMA NEHRP Professional Fellowship. Submitted January 2003.

## 2002

**Borrero, J.C.**, Cho, S., Gordon, S., Moore, J., Richardson, H.W. and Synolakis, C.E. (2002) "Natural Disasters and California: The Regional Economic Cost of a Tsunami Wave Generated by the Palos Verdes Slide," Final Report to the USC Zumberge Research and Innovation Fund, August, 2002.

## 2001

**Borrero, J.C.** (2001, 2002) "Pratte's Reef Quarterly Monitoring Reports", 2001 and 2002. 8 reports Prepared for The Surfrider Foundation, San Clemente, CA. September 2001 – October 2002.

## PEER REVIEWED PUBLICATIONS IN RESEARCH JOURNALS

### 2021

Popovich, B., Wotherspoon, L. and **Borrero, J.** (2012) An assessment of subduction zone-generated tsunami hazards in New Zealand Ports, Natural Hazards <https://doi.org/10.1007/s11069-021-04578-z>.

### 2020

**Borrero, J.C.** Solihuddin, T., Fritz, H., Lynett, P., Prasetya G. et al. (2020) Field Survey and Numerical Modelling of the November 22, 2018 Anak Krakatau Tsunami, Pure and Applied Geophysics, <https://doi.org/10.1007/s00024-020-02515-y>.

### 2019

Thomas, K.-L., Kaiser, L., Campbell, E., Johnston, D., Campbell, H., Solomon, R., King, D., Jack, H., **Borrero, J.**, Northern, A. and Callan, J. (2019) Disaster memorial events for increasing awareness and preparedness: Commemorating the 150th anniversary of the 1868 Arica tsunami, Aotearoa-New Zealand, Australian Journal of Emergency Management, Accepted for Publication.

**Borrero, J.C.** O'Day, C. and Rifai, J. (2019) Application of Rip Curl SearchGPS Watch Data for Analyzing Surf Breaks, Journal of Coastal Research, SI 87 DOI: 10.2112/SI87-006.

### 2017

Lane, E., **Borrero, J.**, Whitaker, C., Bind, J., Chagué-Goff, C., Goff, J., Goring, D., Hoyle, J., Mueller, C., Power, W., Reid, C., Williams, J. and Williams, S. (2017) Effects of inundation by the 14th November, 2016 Kaikōura tsunami on Banks Peninsula, Canterbury, New Zealand, Pure and Applied Geophysics, DOI 10.1007/s00024-017-1534-x

Power, W., Clark, K., Ngaru-King, D., Howarth, J., **Borrero, J.**, Lane, E., Goff, J., Chague-Goff, C., Williams, J., Reid, C., Whittaker, C., Mueller, C., Williams, S., Goring, D., Hughes, M., Hoyle, J., Bind, J., Strong, D., Lichtfield, N., and Benson, A. (2017) , Tsunami runup observations from the 14 November 2016 M7.8 Kaikōura earthquake, New Zealand, Pure and Applied Geophysics, DOI 10.1007/s00024-017-1566-2.

### 2015

**Borrero, J.C.**, Lynett, P.J. and Kalligeris, N. (2015) Tsunami Currents in Ports, Philosophical Transactions of the Royal Society A ,373: 20140372. <http://dx.doi.org/10.1098/rsta.2014.0372>

**Borrero, J.C.**, Goring, D.G. (2015) South American Tsunamis in Lyttelton Harbor, New Zealand, Pure and Applied Geophysics, 10.1007/s00024-014-1026-1

### 2014

**Borrero, J.C.**, Goring, D.G., Greer, S.D. and Power, W.L. (2014) Tsunami Hazards in New Zealand Ports, Pure and Applied Geophysics, 10.1007/s00024-014-0987-4

Erikson, M., Lebreton, L., Carson, H., Thiel, M., Moore, C., **Borrero, J.C.**, Galgani, F., Ryan, P. and Reisser, J. (2014) Plastic Pollution in the World's Oceans: More than 5 Trillion Plastic Pieces Weighing over 250,000 Tons Afloat at Sea, PLoS ONE 9(12): e111913. doi:10.1371/journal.pone.0111913.

Lynett, P.J., **Borrero, J.C.**, Son, S., Wilson, R.W. and Miller, K. (2014) Assessment of the tsunami-induced current hazard, Geophysical Research Letters, DOI: 10.1002/2013GL058680



- Borrero, J.C.**, Kalligeris, N., Lynett, P.J., Fritz, H.M., Newman, A.V. and Convers, J.A. (2014) Observations and Modeling of the August 27, 2012 Earthquake and Tsunami affecting El Salvador and Nicaragua, *Pure and Applied Geophysics*, DOI 10.1007/s00024-014-0782-2
- Admire, A. R., Dengler, L., Crawford, G., Uslu, B., **Borrero, J.C.**, Greer, S. and Wilson, R. (2014) Observed and Modeled Currents from the Tohoku-oki, Japan and other Recent Tsunamis in Northern California, *Pure and Applied Geophysics*, 10.1007/s00024-014-0797-8.
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### **FIELD STUDIES AND DATA COLLECTION**

**Instrument Deployment, Retrieval and Bathymetric Surveys** – February, 2019, Lelepa Island, Vanuatu.

**Tsunami Field Survey** – Team member, reconnaissance survey of the December, 2018 Krakatoa, Indonesia Volcanic eruption, landslide and tsunami.

**Tsunami Field Survey** – Team member, reconnaissance survey of the November, 2016 Earthquake and tsunami in New Zealand (November 2016).

**Instrument Deployment, Retrieval and Site Surveys** –North East Point, Mahe Island, Seychelles (January, 2016, September 2016).

**Instrument Deployment, Retrieval and Bathymetric Surveys** – Mon Choisy and Rivere des Galets, Mauritius. Programming and deployment of Aquadopp current meters and pressure sensors (September, 2014).

**Tsunami Field Survey** – Team leader, reconnaissance survey of the August, 2012 Earthquake and tsunami in the El Salvador.

**Tsunami Field Survey** – Team leader, reconnaissance survey of the October 25, 2010 Earthquake and tsunami in the Mentawai Islands, Sumatra, Indonesia.

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**Tsunami Field Survey** of the September 2007 Earthquake and Tsunami in Bengkulu, Sumatra, Indonesia (September 2007).

**Instrument Retrieval** – Chamela Bay, Mexcio. SCUBA retrieval of Aquadopp Current meter and frame (March, 2007).

**Tsunami Field Survey** of the March 28, 2005 Earthquake and Tsunami in Nias, Sumatra, Indonesia (April 2005).

**Tsunami Field Survey** of the December 26, 2004 Earthquake and Tsunami in Aceh, Sumatra, Indonesia. Includes extensive surveys of Banda Aceh (January 2005, March 2005, April 2005)

**Tsunami Field Survey** of the December 26, 2004 Earthquake and Tsunami Along the Northeast Coast of Somalia (March 2005).

**Field Survey** of tsunami deposits from the September 1992 Nicaraguan tsunami (March 2003).

**Tsunami field survey** – Leader of the International Tsunami Survey Team (ITST) after the September 9, 2002 earthquake and tsunami in Wewak Papua New Guinea (September 2002).

**Tsunami field survey** – Member of the International Tsunami Survey Team (ITST) after the June, 2001 Tsunami in Camaná, Peru (June 2001).

**Bathymetric Surveying and Monitoring** – Regular profiling and collection of high-resolution bathymetry offshore of Dockweiler State Beach, El Segundo, CA. Project is in conjunction with the construction of an artificial surfing reef (2001/2002).

**Tsunami field survey** – Member of the International Tsunami Survey Team (ITST) after the September, 1999 Tsunami on Fatu Hiva Island in French Polynesia.

**Tsunami field survey** - Joined the ITST after the August, 1999 Izmit Bay, Turkey Earthquake and Tsunami.

**Tsunami field survey** - Joined the ITST after the July 17,1998 Papua New Guinea Tsunami and Earthquake.

**Tsunami field survey** - Joined the ITST after the February 17,1996 Biak, Irian Jaya, Indonesia Tsunami.

**Tsunami field survey** - Led USC's expedition to Manzanillo Mexico after tsunami and earthquake of October 1995.

**Field Investigation** - Participated in a joint USC/ US Army Corps of Engineers survey to Nicaragua to perform detailed mapping of nearshore bathymetry for use in numerical models, March 1995.

**Technical Advisory Committee** – Junior member of advisory committee overseeing design and construction of Pratte's Reef, America's first artificial surfing reef, El Segundo, California (1999-2000).