

# Scientific Programme



## 8<sup>th</sup> International Symposium on Andean Geodynamics

Quito, September 24-26<sup>th</sup>, 2019

With the academic and financial support of:



Observatoire  
de la CÔTE d'AZUR



With the financial support of:



AMBASSADE DE FRANCE  
EN ÉQUATEUR



# The symposium at a glance

	September 24th	Salon I September 25th	September 26th	September 24th	Salon II September 25th	September 26th
<b>8h00-8h30</b>	Opening ceremony					
<b>8h30-8h45</b> <b>8h45-9h00</b> <b>9h00-9h15</b> <b>9h15-9h30</b> <b>9h30-9h45</b> <b>9h45-10h00</b>	Plenary session					
<b>10h00-10h30</b>	Coffee-break					
<b>10h30-11h15</b>	Keynote: V.A. Ramos	Keynote: P. Molnar	Keynote: S. Mahlburg Kay			
<b>11h15-11h30</b> <b>11h30-11h45</b> <b>11h45-12h00</b> <b>12h00-12h15</b>	Plenary session					
<b>12h15-14h00</b>	Lunch					
<b>14h00-14h15</b> <b>14h15-14h30</b> <b>14h30-14h45</b> <b>14h45-15h00</b> <b>15h00-15h15</b> <b>15h15-15h30</b>	Active Tectonics & Deformation I	Keynote: E. Calais Tectonics & Basins I	Magmatism	<b>14h00-14h15</b> <b>14h15-14h30</b> <b>14h30-14h45</b> <b>14h45-15h00</b> <b>15h00-15h15</b> <b>15h15-15h30</b>	Andean structure Volcanology II	Seismology I
<b>15h30-16h00</b>	Coffee-break					
<b>16h00-16h15</b> <b>16h15-16h30</b> <b>16h30-16h45</b> <b>16h45-17h00</b>	Active Tectonics & Deformation II	Tectonics & Basins II	Tectonics & Basins III	<b>16h00-16h15</b> <b>16h15-16h30</b> <b>16h30-16h45</b> <b>16h45-17h00</b>	Volcanology I	Volcanology III Seismology II
<b>17h00-18h30</b>	Poster session					
<b>18h30-19h00</b>	Closing ceremony					

## September 24<sup>th</sup>

08h00-08h30 Opening ceremony

### ***Salon I: Plenary session***

08h30-08h45 **L. Audin et al.** Ten years of multidisciplinary approaches to unveil the crustal active tectonics in Ecuador

08h45-09h00 **A. Alvarado et al.** Características de la deformación cortical en el Ecuador

09h00-09h15 **F.A. Audemard and H. Mora Páez.** Net northeast slip of the North Andes Sliver (NAS) along the Eastern Frontal Fault System (EFFS), northwestern South America (NW SA)

09h15-09h30 **S. Beck et al.** A tale of two modern flat slabs along the South America Convergent Margin

09h30-09h45 **B. Potin et al.** Tomography of Chile

09h45-10h00 **L. Giambiagi et al.** Contemporary stress field, crustal deformation, exhumation and sedimentation during the building of the Central Andes over the last 20 my: Advances in the Central Andean Stress Field Evolution Project

10h00-10h30 Coffee break

10h30-11h15 **Keynote. V.A. Ramos.** Fifty years of Plate Tectonics in the Andes: Past challenges and future perspectives

11h15-11h30 **R. Spikings et al.** The Permo-Triassic history of magmatic rocks of the Northern Andes (Colombia and Ecuador): supercontinent assembly and disassembly

11h30-11h45 **A. Cardona et al.** Clues on the Cenozoic orogenic growth of Southermost Colombian Andes

11h45-12h00 **G. Bayona et al.** Changes in relative motion between western oceanic plates and the NW corner of South-America: cases of Middle Jurassic and Middle Eocene

12h00-12h15 **S. Léon et al.** Late Cenozoic chronology and tectonic evolution of the northern Colombian forearc basin: Insights from a multidisciplinary approach

12h15-14h00 Lunch

### ***Thematic sessions***

#### ***Salon I: Active tectonics and deformation I***

14h00-14h15 **S. Baize et al.** New data on active tectonics and earthquake geology of the Pallatanga Fault, Central Andes of Ecuador

- 14h15-14h30 **L. Astudillo et al.** Holocene deformation along the Liquiñe – Ofqui Fault Zone, southern Chile: Field observations, tephrochronological correlations and geomorphic analysis
- 14h30-14h45 **F. García et al.** Current crustal deformation in the Southern Andes from GPS: Active tectonics and volcanism associated to the seismic cycle
- 14h45-15h00 **J.-Y. Collot et al.** The Esmeraldas Canyon: a helpful marker of the Pliocene- Pleistocene tectonic deformation of the north Ecuador southwest Colombia convergent margin
- 15h00-15h15 **C. Martillo et al.** Deformation of the continental shelf of Ecuador during the Quaternary and consequences on coastal evolution
- 15h15-15h30 **M. Saillard et al.** MARACAS ANR project: MARine terraces along the northern Andean Coast as a proxy for seismic hazard ASsessment
- 15h30-16h00 Coffee break

### ***Salon I: Active tectonics and deformation II***

- 16h00-16h15 **J.C. Villegas-Lanza and J.M. Nocquet.** Crustal deformation in northern Peru Andes derived from GPS measurements
- 16h15-16h30 **F. Delgado et al.** What are the main factors that trigger the giant-landslides in the Peruvian western Andes? The Aricota giant-landslide case study
- 16h30-16h45 **B. Gérard et al.** Differential exhumation driven by Tectonic processes in the Abancay deflection (Peruvian Andes)
- 16h45-17h00 **X. Robert et al.** Evidence for a great Mw>7 Pre-Hispanic (AD 1300-1400) Crustal Earthquake in the Forearc of Peru
- 17h00-18h30 Poster session

### ***Salon II: Andean structure imaged by geophysical studies***

- 14h00-14h15 **M. Bianchi et al.** Effect of the Cold Nazca Slab on the Depth of the 660-km Discontinuity in South America
- 14h15-14h30 **E. Rodriguez et al.** Mantle Dynamics of the Andean Subduction Zone from Teleseismic S-Wave Tomography
- 14h30-14h45 **M. Muñoz.** The Pampean slab is not flat
- 14h45-15h00 **T. Habel et al.** Unraveling the contribution of the west mountain front to Andean mountain-building in North Chile (20°S)
- 15h00-15h15 **V. Sallares et al.** The complexity of the NE Ecuador subduction megathrust system revealed by joint 3D inversion of refraction and inter-plate reflection travel-times
- 15h15-15h30 **B. Valette et al.** Geometry of Moho, crustal seismicity and volcanic reservoir beneath Ecuador
- 15h30-16h00 Coffee break

## ***Salon II: Volcanology I***

- 16h00-16h15 **B. Bernard and D. Andrade.** Large volcanic debris avalanches in Ecuador
- 16h15-16h30 **J. Mariño et al.** Successive destabilization of a dome complex constructed on an extinct, hydrothermally altered volcano: The Tutupaca Volcano case study (Southern Perú)
- 16h30-16h45 **J.L. Le Pennec et al.** Identification of a major blast layer resolves debates on the source of avalanche breccias at Imbabura-Cubilche volcanoes, Ecuador
- 16h45-17h00 **M. Rivera et al.** The eruptive chronology of the Yucamane-Calientes compound volcano: a potentially active edifice of the Central Andes (Southern Peru)
- 17h00-18h30 Poster session

## **September 25<sup>th</sup>**

### ***Salon I: Plenary session***

- 08h30-08h45 **A. Folguera et al.** Review and update about the late Triassic to Jurassic tectonics through the transition zone between the southern Central and Patagonian Andes
- 08h45-09h00 **F. Bechis et al.** Tectonic evolution of the North Patagonian Andes, from the exhumed crystalline rocks to the foreland basin
- 09h00-09h15 **L. Fennell et al.** Eocene to modern topographic evolution of an Andean retroarc foreland basin (35°S) from stable isotope paleoaltimetry: implications for tectonic and geodynamic models
- 09h15-09h30 **L. Sagripanti et al.** On the occurrence of Quaternary upper-plate deformation in the Southern Central Andes (36°- 38°S): interaction between mantle dynamics and tectonics?
- 09h30-09h45 **E. Echaurren et al.** Double-vergent orogenesis in north Patagonia: different mechanisms of Andean deformation
- 09h45-10h00 **G.M. Gianni et al.** Cretaceous orogeny, arc shifting and foreland dynamic subsidence linked to the Nalé flat-subduction event in Southern South America
- 10h00-10h30 Coffee break
- 10h30-11h15 **Keynote: P. Molnar.** Crustal shortening and removal of mantle lithosphere in the geodynamics of the Andes
- 11h15-11h30 **J. Suriano et al.** Cenozoic synorogenic deposits in the Southern Central Andes: a key to understanding the causes and consequences of orogenic building
- 11h30-11h45 **D. Carrizo and J. Fuentes.** The role of the Interplay between deep and shallow crustal structures in the metallogenic architecture of Central Andes: renewing the paradigm

- 11h45-12h00 **P. Baby et al.** Thrust tectonics, crustal thickening, hydrocarbon and ore deposits in northern Central Andes
- 12h00-12h15 **M. Roddaz et al.** Provenance constraints on the Cretaceous-Cenozoic drainage evolution of the Amazon basin
- 12h15-14h00 Lunch
- 14h00-14h45 **Keynote: E. Calais.** Seismic hazard and risk assessment based on the Haiti experience

### **Thematic sessions**

#### **Salon I: Tectonics & Basins I**

- 14h45-15h00 **M.J. Hernández Salazar et al.** Evolution of the Ecuadorian shelf fore-arc basins during the Neogene
- 15h00-15h15 **J.N. Proust et al.** Importance of seamounts subduction on frontal erosion of active margins. Example of the large submarine landslides of the Ayampe region of the Ecuadorian margin
- 15h15-15h30 **C. Witt et al.** Evolution of the Northern Andes Cenozoic magmatic arc as recorded in the forearc detrital record
- 15h30-16h00 Coffee break

#### **Salon I: Tectonics & Basins II**

- 16h00-16h15 **A. Encinas et al.** Tectonosedimentary evolution of the Coastal Cordillera of south-central Chile during the Neogene
- 16h15-16h30 **M.C. Genge et al.** Meso-Cenozoic exhumation of Patagonia between latitudes 40 and 45 °S constrained by low-temperature thermochronometry
- 16h30-16h45 **B. Aguirre Urreta et al.** The Neuquén Basin of west-central Argentina: an exceptional Andean setting in Mesozoic times
- 16h45-17h00 **M. Lupi et al.** Crustal Structure and tectonic deformation of the Southern Central Andes between 33°S and 38°S
- 17h00-18h30 Poster session

#### **Salon II: Volcanology II**

- 14h45-15h00 **M.C. Ruiz et al.** Changes in anisotropy directions at volcanoes in the Ecuadorean Andes
- 15h00-15h15 **P. Ramón et al.** Twenty years of the Tungurahua Volcano Observatory during the 1999-2016 eruptive period
- 15h15-15h30 **Piispa et al.** Paleo- and rock-magnetic record of the Imbabura volcanic units: Implications for the tectonomagmatic evolution of

the volcano and for the Earth's magnetic field at equatorial latitudes

15h30-16h00 Coffee break

### ***Salon II: Volcanology III***

16h00-16h15 **J. Battaglia et al.** Autopsy of the January 2010 eruptive phase of Tungurahua volcano (Ecuador) through coupling of seismo-acoustic and SO<sub>2</sub> recordings with ash characteristics

16h15-16h30 **H.E. Gaunt et al.** The July 14th, 2013 vulcanian explosion at Tungurahua Volcano: Pre-explosive conduit conditions

16h30-16h45 **I. Molina et al.** Explosive activity of the Tungurahua volcano, Ecuador, inferred from acoustic and seismic waveforms analyses the temporal evolution of the source

16h45-17h00 **P.B. Palacios et al.** Seismo-acoustics of paroxysmal eruptions of Tungurahua volcano

17h00-18h30 Poster session

## **September 26<sup>th</sup>**

### ***Salon I: Plenary session***

08h30-08h45 **A. Egüez et al.** Potential mineral, zones and epochs involved in the metallogenic map of Ecuador

08h45-09h00 **R. Riquelme et al.** Geomorphological and climatic constraints on the supergene processes in the Atacama Desert

09h00-09h15 **V. Oliveros et al.** Reappraisal of the Andean subduction initiation: trenchward arc migration during the Rhaetian in the SW Gondwana Margin

09h15-09h30 **P. Samaniego et al.** The temporal evolution of the Ecuadorian volcanic arc during the last 1 Ma

09h30-09h45 **S. Hidalgo et al.** Evolution of the 2015 Cotopaxi eruption revealed by combined geochemical & seismic observations

09h45-10h00 **G. Monsalve et al.** Is there a Nazca flat-slab beneath Northern Colombia? compilation of seismological evidence

10h00-10h30 Coffee break

10h30-11h15 **Keynote: S. Mahlburg Kay.** Magmatic processes and chemistry in the Late Cretaceous to Recent Andes

11h15-11h30 **H. Agurto-Detzel et al.** Ridge subduction and afterslip control aftershock distribution of the 2016 Mw 7.8 Ecuador earthquake

11h30-11h45 **P.A. Mothes et al.** Heterogeneous Post-Seismic Deformation 3 years after the 2016 Mw 7.8 Pedernales Earthquake, Ecuador

- 11h45-12h00 **J.M. Nocquet et al.** Slow slip events along the Ecuador subduction zone: an overview
- 12h00-12h15 **A. Tassara et al.** Connecting megathrust earthquake cycle, crustal deformation and volcanism along the Southern Andes
- 12h15-14h00 Lunch

### **Thematic sessions**

#### **Salon I: Magmatism**

- 14h00-14h15 **S.B. Iannelli et al.** The passage of the Farallon-Aluk spreading ridge along the Andean margin
- 14h15-14h30 **M.I. Marín-Cerón et al.** Late northern Andean Cenozoic to recent magmatism: A geochronological, petrographical and geochemical review
- 14h30-14h45 **M.A. Ancellin et al.** Insights in Ecuadorian magma sources: from whole-rock geographical trends to single mineral isotope compositions
- 14h45-15h00 **D.F. Narvaez et al.** Olivine-hosted melt inclusion compositions support subducting slab melting under Ecuadorian volcanoes
- 15h00-15h15 **D. Jaldín et al.** There was a tectonomagmatic cycle during the Miocene which controlled the volcanism and a local collapse of the western Puna (24.5°-26.5°S)?
- 15h15-15h30 **J. Bastias et al.** Triassic magmatism of Antarctic Peninsula and its implications for the southern Gondwanan margin: a revised tectonic evolution
- 15h30-16h00 Coffee break

#### **Salon I: Tectonics & Basins III**

- 16h00-16h15 **A. Kammer.** Structural framework of a Northandean Cretaceous subduction cycle
- 16h15-16h30 **M.A. Bermudez et al.** Differential exhumation along the southern termination of the Bucaramanga fault discriminated by detrital and quantitative thermochronology
- 16h30-16h45 **A. Lemgruber-Travy et al.** Maturity, hydrocarbon generation and migration in North Peruvian Forearc System – Insights from an unstructured petroleum system modelling
- 16h45-17h00 **J. Julve et al.** Role of thermo-mechanical regime in the geometry of crustal detachment levels
- 17h00-18h30 Poster session



## ***Salon II: Seismology I***

- 14h00-14h15 ***M. Vallée et al.*** Multiple seismological observations of the prompt elastogravity signals highlight their potential for earthquake monitoring
- 14h15-14h30 ***B. Delouis et al.*** Implementation of routine automated FMNEAR waveform inversion for focal mechanisms in Ecuador
- 14h30-14h45 ***B. Marcaillou et al.*** Does regional-scaled vigorous fluid fluxes reconcile thermal segmentation and interplate coupling variations at the Ecuadorian subduction zone?
- 14h45-15h00 ***M. Reigner et al.*** Seismic evidences for complex caulting through the Gulf of Guayaquil, Ecuador
- 15h00-15h15 ***D.E. Portner et al.*** A new, comprehensive model for the geometry of the Nazca slab down to 1,200 km depth derived from teleseismic P-wave tomography and earthquake data
- 15h15-15h30 ***F. Courboux et al.*** Are subduction earthquakes a threat for Quito, capital of Ecuador, located ~170 km from the coast?
- 15h30-16h00 Coffee break

## ***Salon II: Seismology II***

- 16h00-16h15 ***F. Rolandone et al.*** 2.5 years of spatio-temporal postseismic deformation from GPS following the 2016 Mw 7.8 Pedernales earthquake
- 16h15-16h30 ***A. Meltzer et al.*** Structural Control on Seismicity and Slip Behavior: Insights from 3D Tomography of the 2016 Mw 7.8 Pedernales Ecuador Earthquake Sequence
- 16h30-16h45 ***C. Chalumeau et al.*** Repeating aftershocks of the 2016 Mw 7.8 Pedernales (Ecuador) earthquake highlight interactions between afterslip and seismicity
- 16h45-17h00 ***S- León-Ríos et al.*** 3D seismic tomography and seismotectonics of the Ecuadorian margin inferred from the 2016 Mw 7.8 Pedernales aftershock sequence
- 17h00-18h30 Poster session
- 18h30-19h00 Closing ceremony

## **Poster sessions**

**September 24<sup>th</sup>**

### **Active tectonics and deformation**

- **H. Mora-Páez and P. Mothes.** GNSS geodetic networks in Colombia and Ecuador: a tool to understand the North Western corner of South America
- **S. Lizarazo et al.** Three dimensional GPS velocities and strain rate distribution in Colombia
- **M. Saillard et al.** MARACAS ANR project: MARine terraces along the northern Andean Coast as a proxy for seismic hazard Assessment
- **A. Albornoz et al.** Structural model of the basement and its relationship with the Holocene activity of Antuco Volcano, Biobío Region, Chile
- **L. Rosell et al.** Active tectonics around the Cusco City, Perú: Record of earthquakes in the last 14,000 years, from paleoseismological data
- **C. Peña and A. Tassara.** Structural model of the basement and its link with the volcanic activity of the Mocho-Choshuenco Volcanic Complex, Southern Andes, Chile
- **C. Cabello and A. Tassara.** Basement structure underneath the southern volcanic zone of the Andes: Linking tectonics and volcanism
- **J. Jacay.** Geological aspects of paleoseismicity and archeoseismology in the Rimac Valley, Lima-Perú
- **S. Perroud and G. De Pascale.** Preliminary remote mapping reveals recent strike-slip motion along the southern Liquiñe-Ofqui Fault, Chile
- **D. Saqui et al.** New data and updated interpretation of the Billecocha Fault System, using geomorphological and geophysical evidence, Imbabura Province, Ecuador
- **L. Jagoe.** Neotectonic and morphometric analysis of the Guañacos fold and thrust belt
- **A. Astort et al.** Domuyo deformation source from InSAR and Gravimetric data
- **A. Cabré et al.** Contribution of coherence-loss InSAR time series to map erosion in arid catchments of the Atacama Desert
- **A. Combey et al.** Archaeoseismology in the Inka Sacred Valley and in the Cuzco region, an interdisciplinary approach for past seismic impacts characterization on Cultural Heritage as a new marker for paleoevents?
- **P. A. Espín Bedón et al.** Deformation monitoring from Synthetic Aperture Radar Interferometry (INSAR) Sentinel data in Quito, Ecuador
- **C. Campos et al.** Geomorphology of alluvial terraces along the Tena River in the Eastern Flank of the Andes of Ecuador
- **O. Guzmán et al.** Chronological and geomorphological evolution of the fluvial terraces in the South Andean flank of Venezuela Andes. Climate and tectonic implications
- **E. Aguirre et al.** Active faulting, paleoseismology and seismic hazard in forearc of southern Peru: First evidence of a crustal earthquake in the 19th century

- **J. Guerra et al.** Geometry and kinematics of the shallow northern segment of the Quito Fault System
- **A. Palomino et al.** Structural geomorphology and paleoseismology in the Altiplano of Peru: First geological evidence of the 1950 earthquake
- **F. Gutiérrez et al.** New tectonic evidence of the 1955 Cotacachi earthquake (Mw 6)
- **B. Garcia et al.** Impact of a paleo-earthquake and debris flow in Pikillaqta collapse, Cusco-Perú
- **A. Cisneros et al.** Subduction versus crustal tectonics: impact on southern Ecuadorian margin uplift -quantification of uplift rates and modelling of marine terraces

### ***Andean structure imaged by geophysical studies***

- **L. Yegres.** 2-D modelling of the Crustal structure of Merida Andes - Venezuela, from wide angle seismic and gravity studies
- **K. Ramírez et al.** Development of a new crustal thickness map of Venezuela based on seismological and gravimetric data
- **C. Condori et al.** Upper crustal velocity structure beneath Northern Peruvian Andes from ambient noise tomography
- **J. Assunção and V. Sacek.** Nazca plate buoyancy and mantle convection under the Pantanal Basin
- **S. Araujo et al.** Seismic tomography of the continental wedge and geometry of Nazca slab beneath Ecuador
- **C. Rivadeneyra-Vera and M. Bianchi.** A narrower belt of sub-Andean thin crust constrained by new measurements of crustal thickness in the central part of South America
- **J. Sánchez-Rojas et al.** Variations of the crustal structure of Merida Andes - Venezuela, observations from gravity data analysis and modeling
- **W. Ben Mansour et al.** Interaction between volcanisms inland and the spreading center: example of Galápagos archipelago
- **D. Díaz et al.** Geophysical imaging of the Chilean subduction zone beneath the Antofagasta region

### ***Volcanology***

- **J. Salgado et al.** New observations on the recent activity from Sumaco Volcano, based on geochronology, stratigraphy and geochemistry
- **S. Santamaria et al.** New groundmass K-Ar ages of Iliniza Volcano, Ecuador
- **A. Proaño et al.** New hazard map of Atacazo-Ninahuilca Volcanic Complex, Ecuador
- **M. Almeida et al.** New constraints on the geological and chronological evolution of the Cotacachi-Cuicocha Volcanic Complex (Ecuador)
- **N. Sainlot et al.** Pb-Sr isotope temporal variations on juvenile ash samples from the last eruptive period of Tungurahua volcano (1999-2016)

- **V. Valverde et al.** Geology and petrogenesis of Pulumbura volcano (Western Cordillera, Ecuador)
- **M. Urquiza et al.** Chachimbiro PEC-1, first deep geothermal exploration well in Ecuador
- **A. Guerrero et al.** Assessment of thephra-fall effects and physical vulnerability of roofs in the city of Arequipa, Perú
- **J. Cuno et al.** The Sacarosa Tephra-fall Deposit Emplaced by a Plinian Eruption of Misti Volcano, Southern Peru at  $\leq 33.7$  ka
- **D. Yaguana et al.** Morphological changes of the crater in the Tungurahua volcano, Ecuador, from 2002 to 2016: Implications for volcanic hazards
- **E. Arapa et al.** Assessing physical vulnerability and modeling flash floods and debris flows in the City of Arequipa, Perú
- **R. Parra.** Influence of the startup period from initial conditions in modeling the dispersion of volcanic ash in Ecuador
- **B. Bernard et al.** Dispersion of volcanic ash clouds in Ecuador: a 20 years perspective
- **E. Telenchana et al.** Lithological units of Chiles Volcano.
- **E. Telenchana et al.** The new potential volcanic hazard map of Guagua Pichincha Volcano, third edition 2019
- **J.-L. Le Pennec et al.** The Incahuasi resurgent caldera (Ayacucho Province, Peru), a site of high-magnitude explosive eruptions in Miocene times
- **F Vasconez et al.** Magma output rates of Pululahua, the largest Ecuadorian dome complex
- **F Vasconez et al.** High-rate thermal imaging systems in volcano surveillance: the case of El Reventador volcano (Ecuador)
- **S. P. Solano et al.** Source and emplacement conditions of a directed blast deposit at Huarmi Imbabura volcano, Ecuador
- **J. Ciesielczuk et al.** Thermal springs and active fault network of the central Colca River basin, Western Cordillera, Peru
- **N. Vizúete et al.** Geochronology, eruptive source parameters and dynamism of the "San Marcos" event at Nevado Cayambe Volcano, Ecuador
- **S. Vallejo Vargas et al.** Thermal imaging, seismo-acoustic signals and SO<sub>2</sub> degasification following a partial summit collapse at El Reventador volcano, Ecuador
- **W. F. Navarrete et al.** The Cubilche Volcanic Complex, Imbabura province, Ecuador: a first investigation of its evolution and petrology
- **M. Córdova et al** Determining the volume of Pifo Pumice Layers, a major Plinian fall from Chacana Caldera – Ecuador

## September 25<sup>th</sup>

### ***Tectonics & Basins***

- ***G. Aguilar et al.*** Quantifying valleys incision rates with low-temperature thermochronology in the flat slab subduction segment of the western Andes slope (29°S)
- ***F. Michaud et al.*** Formation of a giant honeycomb seafloor morphology on the Carnegie ridge: potential geodynamic significance
- ***C. Bulois et al.*** Active normal faulting along the compressional margin of the Santa Elena Peninsula region (Ecuador): inheritance processes of extensional settings related to active orogens
- ***A. Piraquive et al.*** Eocene post-orogenic emplacement of the Santa Marta Batholith by extrusion within an overthickened crust, Sierra Nevada de Santa Marta, Colombia
- ***C. Sue et al.*** Exhumation of the Fitz Roy Granite: How Efficient are the Mantel and Glaciations Processes?
- ***S. Roya et al.*** Post-glacial deformation of the eastern Magallanes-Fagnano transform fault system, Tierra Del Fuego, Argentina
- ***M. C. Genge et al.*** Long-term vertical movements and construction of the continental margin along the forearc of the central Peruvian Andes (6-10°S)
- ***M-A. Bermúdez et al.*** Deriving the complete history of eroded batholiths from magmatic cooling to exhumational cooling using multiple numerical models, Antioquia batholith in the Central Cordillera of Colombia case study
- ***J. Enriquez et al.*** Rigid basement translation in the hanging-wall block of the Jipijapa – La Rinconada fault system inferred from tectono-stratigraphic studies along the southwestern border of the Manabí Basin, Ecuador
- ***C. Arróspide and G. Aguilar.*** Origin and evolution of the great Coastal cliff in Parque Nacional Pan de Azucar, Northern Chile (~26°S): Insight from marine erosion modelling
- ***R. Quiroga et al.*** Structural and Anisotropy of Magnetic Susceptibility study of the Neogene deformation recorded in Cordillera Frontal and Western Sierras Pampeanas, along the Valle Ancho-Sierra de Hualfín transect (27 ° 30'S): Preliminary Results
- ***E. Angulo and B. Beate.*** Temperature Distribution and Zoning of the Geothermal Gradient in the Oriente Basin, Ecuador
- ***S. Brichau et al.*** First time-constraints on Ecuadorian Coastal Cordillera uplift: Geodynamic implications
- ***F. Muñoz et al.*** Velocity structure and ongoing tectonic deformation of the northern Middle Magdalena Valley, Colombia
- ***A. Margirier et al.*** New thermochronological constraints on the structural evolution of the Western Cordillera of the Ecuadorian Andes
- ***J. Vanegas et al.*** Cretaceous fringing arcs in the Northern Andes
- ***G. Fuentes.*** Pre-orogenic structural control in west-vergent thrust system structure style, Northern Chile (20°30'-21°30'S)

- **A. Derycke et al.** Southern Patagonian foreland (~ 44 - 48° S) evolution: insight from low-temperature thermochronological approach
- **C. Bustamante et al.** Permian to Jurassic record of subduction related extension and compression in the Central Cordillera of Colombia
- **J. Gonzalez and M. Uribe.** Morphostructural caraterization of the Cordillera Negra (Ancash), using open source software
- **F. Gárate et al.** Morpho-structural analysis of the Neogene tectonic in the Precordillera of North Chilean at 25°S
- **M. Valarezo et al.** Quantifying relative rock uplift along the Ecuadorian coastal margin: an example on the use of high-resolution topographic data
- **A. Aguilar et al.** 3D tectono-structural analysis of Cuyo Basin tectonic inversion and its implication for oil bearing systems
- **D. S. Avellaneda Jiménez et al.** Early Cretaceous roll-back related metamorphism in the Northern Andes: Upper plate insights
- **D. Mejía et al.** Late Jurassic arc related metamorphism in the Northern Andes
- **D. Espinoza et al.** The inversion of inherited extensional faults during the Upper Cretaceous compressional event: geometry and evolution of the deformation in the Candeleros Range, Domeyko Cordillera, northern Chile
- **E. A. Rosselot et al.** Preliminary results on the tectonic genesis of the Cura Mallín Formation in the Southern Central Andes (36° - 39°S)
- **K. Gaidzik et al.** Spatial variations in relative tectonic activity in the Colca catchment inferred from geomorphic indices, Central Andes
- **E. Lezama et al.** Contractional deformation of the late Paleocene-middle Eocene foredeep and the initiation of an arc-trench system in Southwestern Ecuador
- **L. Guajardo et al.** Pseudotachylites as evidence of the paleoseismogenic zone of a Paleozoic accretionary prism, northern Chile (29°S)
- **F. Guarderas et al.** Microstructures, deformation styles and tectonic history of the Cordillera Real of southern Ecuador
- **S. Rosero and R. Almeida.** Geological and Structural transect across the northernmost Cordillera Real
- **F. Chávez.** Lithological and structural characterization in the section Atillo-Macas (Cordillera Real-Ecuador)
- **C. Sanchez et al.** Neogene basin infilling from cosmogenic nuclides (<sup>10</sup>Be and <sup>21</sup>Ne) in Atacama, Chile: implications for paleoclimate and copper supergene enrichment
- **M. Gonzalez et al.** Nature and distribution of recent sediments in the trench of the subduction margin of Ecuador
- **G. Montenegro et al.** The middle Miocene San Antonio Formation: Acoralline algae and rodolite bearing biostrome built in the La Cruz Fault footwall
- **M.J. Hernández Salazar et al.** Neogene evolution of western boundary of the Manabí basin controlled by the Jama Fault System
- **M. Rojas et al.** Biostratigraphic Evolution of the Southwestern Edge of the Neuquén Basin (Lower-Middle Jurassic), Chile
- **D. Barba and C. Witt.** Geochemistry of sedimentary rocks from the Progreso and Tumbes Basins: an approach to provenance and geodynamic evolution

- **A. Aleman and W. Leon.** The Río Cañete Basin: Implications for the Mesozoic geodynamic evolution of the Peruvian margin
- **M. Muthre et al.** Turbidites and megaturbidites of Ecuadorian subduction trench: paleoseismologic indicators?
- **A. Palencia et al.** Timing, opening style, heterogeneous extension and subsidence of the Progreso Pull-Apart Basin in Southwestern Ecuador
- **G. Villegas et al.** 2-D seismic reflection evidence for Mio–Pliocene tectonic inversion along the southwestern boundary of the Miocene Manabí Basin, Ecuador
- **S. Lopez Velásquez et al.** The Cañari Formation (Early Silurian): U-Pb isotopes on detrital zircon and Palynomorphs data for a regional correlation of a significant unit in the Central Andes
- **S. Almagor et al.** Provenance analysis and radiometric dating of the Silante Formation; implications for the Miocene evolution of the Western Andes of Ecuador
- **C. Romero et al.** Stratigraphy of the Santiago Formation along the Patuca - Santiago road section; implications for the evolution of southeastern Ecuador during the Jurassic
- **C. Chavez et al.** Provenance of the middle Jurassic-Cretaceous sedimentary rocks of the Arequipas basin (South Peru) and implication for the geodynamic evolution of the Central Andes
- **L. Sarmiento and R. Almeida.** Characterization of the Silante Fm. Along the Salinas-Lita Transect in Northern Ecuador
- **E. Romero et al.** High-resolution sedimentology in the Cerbatana Conglomerate Unit (La Victoria Formation – Honda Group, La Venta, Colombia) from Digital Outcrop Models (DOMs)
- **C. Santonja et al.** Tectono-stratigraphic evolution of the northeastern sector of the Ñirihuau basin, north Patagonian Andes
- **C. Chávez et al.** Provenance sedimentary from Arequipa – Tarapacá Basin, based on U-Pb detrital zircons, and Sm-Nd isotopes: implications for southwestern of Gondwana
- **E. Duarte et al.** Provenance of the Caballos Formation in the Upper Magdalena Valley and Putumayo basin, Colombia: climatic and tectonic implications
- **F. Robledo et al.** Basin inversion and the role of inherited extensional structures in the forearc of northern Chile: The Late Cretaceous tectonic inversion of the Domeyko Basin in the Sierra de Varas segment, Andean Precordillera of northern Chile

## **Volcanology**

- **A. García et al.** Spatiotemporal distribution of distal volcanic-tectonic swarms in the Northern Inter-Andean Valley, Ecuador
- **J. Perea et al.** Collecting infrasound data at Reventador volcano to improve hazards monitoring and risk mitigation
- **J. Pulido et al.** Long-period events at Purace volcano, Colombia, generated by the interaction between magma and hydrothermal systems

- **D. Pérez and M. Ruiz.** Space-time variation of b value in Cotopaxi Volcano, during 2013 and 2016

## September 26<sup>th</sup>

### **Magmatism**

- **Y. Mamani and J. Jacay.** New evidences of Triassic – Jurassic volcanism in the north of Lima, Perú
- **D. Contreras.** Interaction between volcanic activity, coeval shear failure and epithermal ore deposit formation in the Paleocene-Eocene Belt, northern Chile (23-26°Lat.S)
- **J. Cerrón.** Nuevos datos e interpretación de las rocas volcánicas “Basalto Montero”, Sur del Domo de Yauli, Junín – Perú
- **V. Piedrahíta et al.** Magnetic fabric, petrography and timing of exhumation of the Palmitas protomylonitic granite, Colombian Northern Andes
- **K.S. Luengo et al.** The diachronous onset of the magmatic stages during the Paleozoic and Mesozoic in the Andean forearc at 24-27°S
- **D. Jaldin et al.** Neogene activity of the Barrancas Bancas Fault and its relationship with Hydrothermal and volcanic activity
- **L. Fernández Paz et al.** Variable magmatic features of Oligocene-early Miocene Patagonian magmatism as result of subduction-induced mantle dynamics
- **D. A. Llano Montenegro et al.** Cretaceous flux-driven anatexis in the Colombian Central Cordillera
- **J. Iglesias et al.** Petrogenesis and evolution of the Altar volcano deposits (Ecuador)
- **L. Chavarría et al.** Geobarometry of the Jurassic plutonic rocks of the Central Cordillera of Colombia: tracking changes of crustal thickness in the Northern Andes
- **F. Villares Jibaja et al.** The Pelitetec ophiolitic belt (Ecuador): evidence for early Cretaceous suprasubduction oceanic crust in the northern Andes
- **K. S. Macías Mosquera and Y. Rojas Agramonte.** Age, geochemistry and emplacement of the Pascuales plutons in western Ecuador and their geodynamic implications
- **F. Nauret et al.** Lower crustal vs. mantle wedge fingerprint in the Ecuadorian arc magmas: Contribution of Pb isotopes from the Cotopaxi volcano
- **M. Restrepo et al.** Granitic intrusive rocks in southern Colombia: missing link of the north Andean Jurassic magmatic belt
- **E. Guerrero.** Cinturones metalogénicos en base a principales yacimientos metalíferos del Ecuador



## Seismology

- **Y. Font et al.** Slab curvature in Ecuador and plate interface geometry
- **V. Simbaña and S. Vaca.** Characterization of seismic swarms in the Punta Galera area (Ecuador) and their relationship with seismic and aseismic processes
- **S. Vaca et al.** Focal mechanism solutions using Waveform Inversion: A new catalogue for Ecuador
- **P. Jarrin et al.** A new Interseismic Velocity Field along the Northern Andes
- **Q. Bletery and J-M. Nocquet.** When a slow slip event meets another
- **J. Battaglia et al.** Long-lasting families of similar events at Cotopaxi volcano between 2013 and 2018
- **I. Pozo and G. Montalva.** Estudio de la variabilidad del parámetro de decaimiento espectral  $\kappa$  en Chile
- **C. Rivas et al.** Seismic activity beneath the Iglesia Valley between the Andean Frontal Cordillera and the northern Precordillera, Argentina
- **C. Koch et al.** Shear wave velocity structure of the Ecuadorian forearc and the relationship to the mega-thrust zone
- **A. Galve et al.** The HIPER marine geophysical project to a high-resolution imaging of the Pedernales earthquake rupture zone
- **M. Schmitz et al.** Principal results of the Portoviejo seismic microzoning project
- **M. Schmitz et al.** Preliminary response spectra for seismic microzones in Quito
- **M. Segovia et al.** The 2012-2013 Slow Slip Event at La Plata Island in the Central Subduction Zone of Ecuador
- **A. Laurendeau et al.** Toward understanding the seismic response of the Quito basin (Ecuador) using microtremor H/V spectral ratios
- **J. Marinière et al.** Probabilistic seismic hazard assessment in Ecuador: towards subduction interface source models combining seismic and geodetic data
- **B. Derode et al.** New real-time FMNEAR implementation in Chile: An advanced seismic catalogue by systematic determination of focal mechanisms, and observation of subsequent statistical seismic source parameters variations
- **M. Carvajal et al.** Large tsunamigenic slip-deficit threatens the most populated coast of Chile
- **D. Pacheco et al.** Imaging the Quito basin using ambient seismic noise
- **O. Ortiz and P. Reyes.** A high-resolution local seismic network in the Southeast of Ecuador: Preliminary results
- **A. Flores-Bertoglio and G. De Pascale.** Liquefaction and lateral spreading structures in Upper Jurassic sedimentary sequence: Río Damas Fm., Central Chile
- **G. Ponce et al.** Looking for the southernmost border of the North-Andean Sliver
- **E. D. Mercerat et al.** A textbook example of lithological site effect in the Ecuadorian Pacific coast: the Cojimies-Chamanga case study
- **G. A. Fernandez et al.** 22 new focal mechanism solutions for shallow earthquakes and stress observations for Bolivia

- **G. A. Fernandez et al.** New crustal focal mechanism solutions for Bolivia: mapping the transition from Subandean compression and Altiplano extension
- **D. Lozano et al.** Study of Coulomb stress changes in seismic sequence of Puerto Gaitán (Meta), Colombia
- **J. G. Barros López et al.** Geophysical characterization of the subsoil using several methods: the case of the city of Pedernales after the Mw7.8 earthquake on April 16, 2016
- **F. Rondón et al.** Determination of the basement depth in Portoviejo, Ecuador, using active seismic methods
- **V. Carrillo Barra et al.** Characterization and analysis of b-value in the Mw 8.8 Maule 2010 earthquake area
- **D. Molina and A. Tassara.** Frictional structure of the Chilean megathrust combining seismicity, geodesy, gravity-bathymetry anomalies, morphology and geology
- **M. F. Reyes Once et al.** Characterization of the seismic response of the Quito basin applying the method of horizontal components to vertical (H / V) ambient noise
- **P. Mothes et al.** Regional geodetic displacements in response to the 6.1 MLv Santa Elena Subduction Earthquake, 31 March 2019, Ecuador
- **H. Agurto-Detzel and D. Rivet.** Seismic velocity changes in the region affected by the Mw 7.8 Pedernales (Ecuador) earthquake from cross-correlation of ambient seismic noise

