

PERSONAL INFORMATION

Thibault CATRY

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Sex Male | Date of birth 12/01/1985 | Nationality French

POSITION

Research engineer at IRD (French Research Institute for the Sustainable Development), UMR Espace-Dev

Optical and SAR remote sensing

WORK EXPERIENCE

Member of the CNES (French Space Agency) TOSCA commission since December 2019

Member of the GEO-HEALTH community

Co-leader of the THEIA Scientific Expertise Centre (CES) dedicated to Remote-sensing, Health and Environment

Since June 2015 **Research engineer at IRD, UMR Espce-Dev**

Optical and SAR remote sensing (Sentinel 1 and 2 data, Pleiades, SPOT 6/7, PALSAR)

Natural hazards, health and environments, hydrology

**feb. 2013-
sept 2014**

Remote sensing engineer at IRD, UMR Espce-Dev, assigned to SEAS-OI station: Development of methodologies and research activities based on SAR remote sensing, in the field of environmental sciences and natural hazards. 30 % Technical activities – 50 % Research activities – 20 % operational activities

2012

Research assistant: cartography of lava flows and study of the relationship between age and nature of lava flows and vegetal colonization of lava. Dating of recent lava flows using vegetal debris (ALEA project, supervision of Pr. D. Strasberg).

2011

Research assistant: numerical modelling of the influence of complex tidal cycle on the coastal aquifer on the western coast of La Reunion (INTERFACE project, supervision of Pr. JL. Join).

2008-2011

PhD: Magma injections and destabilizations of basaltic volcanoes: a numerical study; application to La Reunion (Indian Ocean, France) and Stromboli (Tyrrhenian sea, Italy). **Combination of numerical modelling and InSAR.**

2007

Internship at Laboratoire Geosciences Reunion, University of La Reunion: Dynamics and impact of summit caldera collapse at Piton de la Fournaise volcano, La Réunion Island, France (M.Sc.). Supervisor: Pr. Laurent Michon (University of La Reunion) and Dr. Nicolas Villeneuve (Head of Piton de la Fournaise Volcanological Observatory).

EDUCATION AND TRAINING

- 2008- 2011** Ph.D thesis – Doctor Europaeus, speciality in Numerical Modelling for the Protection of the Environment and Volcanology
co-supervision University of Bologna (Italy) and University of La Reunion (France)
Magma injections and destabilizations of basaltic volcanoes: a numerical study; application to La Reunion (Indian Ocean, France) and Stromboli (Tyrrhenian sea, Italy).
- 2007** M.Sc., Earth Sciences, LMV - University of Clermont-Ferrand (France)
- 2005** B.Sc., Earth Sciences, LMV - University of Clermont-Ferrand (France)

PERSONAL SKILLS

Language	UNDERSTANDING	ORAL	WRITTEN
English	C2	C2	C2
Italian	C2	C2	C2
Portuguese	B1	B1	B1

Digital competence

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Proficient	Proficient	Proficient	Proficient	Proficient

- good command of office suite (word processor, spread sheet, presentation software)
- good command of photo editing software
- treatment of SAR images and InSAR processes using Diapason, remote sensing softwares: SNAP, Ecognition, POLSAR-PRO, OTB
- GIS: QGIS
- Numerical modelling and programming: MATLAB
- Geophysics technics: differential GPS, self-potential measurements

PUBLICATIONS

Number of publications in peer-reviewed journals: 12

Hirsch index (Web of Science): 4

Pinel, S., Bonnet, M. P., S. Da Silva, J., Sampaio, T. C., Garnier, J., **Catry, T.**, ... & Seyler, F. (2020). Flooding dynamics within an Amazonian floodplain: water circulation patterns and inundation duration. *Water Resources Research*, 56(1), e2019WR026081.

Alexandre, C., Rosa, J., **Catry, T.**, Mouquet, P., Révillion, C., Rakotondraompiana, S., & Pennober, G. (2020). A Sentinel-1 Based Processing Chain for Detection of Cyclonic Flood Impacts. *Remote Sensing*, 12(2), 252.

Marti, R., Li, Z., **Catry, T.**, Roux, E., Mangeas, M., Handschumacher, P., ... & Cortes, C. (2020). A Mapping Review on Urban Landscape Factors of Dengue Retrieved from Earth Observation Data, GIS Techniques, and Survey Questionnaires. *Remote Sensing*, 12(6), 932.

Defrance, D., **T. Catry**, A. Rajaud, N. Dessay and B. Sultan, *In Press*. The Impact of Melting Ice Sheets on Future Global Climate, *Applied Geographics*.

Catry, T., C. Révillion, P. Mouquet, G. Pennober, *In Press*. Apports de l'imagerie satellite pour le suivi de l'impact des événements cycloniques à Madagascar : complémentarité des échelles et des capteurs, *Echogéo*.

Catry, T., Li, Z., Roux, E., Herbreteau, V., Gurgel, H., Mangeas, M., ... & Dessay, N. (2018). Wetlands and malaria in the Amazon: Guidelines for the use of synthetic aperture radar remote-sensing. *International journal of environmental research and public health*, 15(3), 468.

Catry, T., Pottier, A., Marti, R., Li, Z., Roux, E., Herbreteau, V., ... & Dessay, N. (2018). Apports de la combinaison d'images satellites optique et RADAR dans l'étude des maladies à transmission vectorielle: cas du paludisme à la frontière Guyane française–Brésil. *Confins. Revue franco-brésilienne de géographie/Revista franco-brasilera de geografia*, (37).

Peltier, A., Froger, J. L., Villeneuve, N., & **Catry, T.** (2017). Assessing the reliability and consistency of InSAR and GNSS data for retrieving 3D-displacement rapid changes, the example of the 2015 Piton de la Fournaise eruptions. *Journal of Volcanology and Geothermal Research*, 344, 106-120.

Li, Z., **Catry, T.**, Dessay, N., da Costa Gurgel, H., Aparecido de Almeida, C., Barcellos, C., & Roux, E. (2017). Regionalization of a Landscape-Based Hazard Index of Malaria Transmission: An Example of the State of Amapá, Brazil. *Data*, 2(4), 37.

Catry, T., Villeneuve, N., Froger, J. L., & Maggio, G. (2015). InSAR monitoring using RADARSAT-2 data at Piton de la Fournaise (La Reunion) and Karthala (Grande Comore) volcanoes. *Geological Society, London, Special Publications*, 426, SP426-20.

Catry, T., & Besnard, A. (2015). Suivi de l'évolution de la tâche urbaine entre 2008 et 2013 à Saint-Denis de la Réunion (France): Apports de l'imagerie satellite Pléiades. *Revue Française de Photogrammétrie et de Télédétection*, (209), 89-94.

Cayol, V., **Catry, T.**, Michon, L., Chaput, M., Famin, V., Bodart, O., ... & Romagnoli, C. (2014). Sheared sheet intrusions as mechanism for lateral flank displacement on basaltic volcanoes: Applications to Réunion Island volcanoes. *Journal of Geophysical Research: Solid Earth*, 119(10), 7607-7635.

Michon L., N. Villeneuve, **Th. Catry**, O. Merle (2009), How summit calderas collapse on basaltic volcanoes: new insights from the April 2007 caldera collapse of Piton de la Fournaise volcano. *J. Volcanol. Geotherm. Res.*, doi:10.1016/j.jvolgeores.2008.11.003.