

## Geological evidence for tsunamis and earthquakes from Lake Hamana and Fuji Five Lakes

\*Atsunori Nakamura<sup>1</sup>, Evelien Boes<sup>2</sup>, Helmut Brückner<sup>3</sup>, Marc De Batist<sup>2</sup>, Osamu Fujiwara<sup>1</sup>, Edmund Garrett<sup>4</sup>, Vanessa Heyvaert<sup>4</sup>, Aurelia Hubert-Ferrari<sup>5</sup>, Laura Lamair<sup>5</sup>, Yosuke Miyairi<sup>6</sup>, Stephen Obrochta<sup>7</sup>, Masanobu Shishikura<sup>1</sup>, Shinya Yamamoto<sup>8</sup>, Yusuke Yokoyama<sup>6</sup>, The QuakeRecNankai team

1.National Institute of Advanced Industrial Science and Technology, 2.Ghent University, 3.University of Cologne, 4.Royal Belgian Institute of Natural Sciences, 5.University of Liège, 6.Atmosphere and Ocean Research Institute, The University of Tokyo, 7.Akita University, 8.Mount Fuji Research Institute, Yamanashi Prefectural Government

Great earthquakes have repeatedly occurred along the Nankai Trough, the subduction zone that lies south of Japan's heavily industrialized southern coastline. While historical records and geological evidence have revealed spatial distribution of paleo-earthquakes, the temporal variation of the rupture zone is still under debate, in part due to its segmented behavior. Here we explore the potential of the sediment records from Lake Hamana and Fuji Five Lakes as new coherent time series of great earthquakes within the framework of the *QuakeRecNankai* project.

We obtained pilot gravity cores from Lake Hamana and the Fuji lakes Motosu, Sai, Kawaguchi, and Yamanaka in 2014. In order to image the lateral changes of the event deposits, we also conducted reflection-seismic survey. Based on these results, potential coring sites were determined and then 3-10 m long piston cores were recovered from several sites in each lake in 2015. The cores consist of 2 m long sections with 1 m overlaps between the sections allowing us to reconstruct continuous records of tsunamis and paleo-earthquakes. In this presentation we introduce the progress of *QuakeRecNankai* project and discuss the potential of the lakes as Late Pleistocene and Holocene archives of tsunamis and paleo-earthquakes.

Keywords: Tsunami deposit, paleo-earthquake, Lake Hamana, Fuji Five Lakes