

## The publication of the revised edition of “Digital Active Fault Map of Japan”

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The first edition of the Digital Active Fault Map of Japan (Nakata and Imaizumi, 2002) was revised by the new editors' team and it was published by the University of Tokyo Press as a revised edition in March 2018. We checked all data and added new important fault-related information to fault trace information for computer search. We also renewed the GIS-based viewer application to work on and after Microsoft OS Windows 7 (32bit and 64bit) and developed 3D base maps using DEM data and digital topographic tile maps offered by Geospatial Information Authority of Japan. The explanatory book composed of three sections was outlined by editing processes, regional characteristics of active fault zones and the variety of earthquakes generated by active fault movements in the Section I, the principle of stereoscopic topographic maps and the application to read the fault topography in the Section II, and the user's manual of viewer in the Section III. We adopted the USB memory as the medium of data distribution for increasing the data storage capacity and quick access to data. The viewer was developed by OYO Corporation. The DEM-based base maps were developed by Yokoyama Geo-Spatial Information Laboratory Co., Ltd. The essence of this revised edition are summarized as follows.

The users successfully can understand the relation between active fault traces and topography with support of 3D glass for stereoscopic seamless maps, compared with the first edition. Further, they can immediately search locations and related information of active faults in database system. Concealed active faults were newly mapped on the basis of seismic profiling images, and historical earthquake fault ruptures were also put from literatures. The database of fault trace information and fault-related information includes the fault parameters and the recognition criteria of fault topography, the locations of trenching study and literatures. The active fault traces on the Japanese Islands were grouped into totally 245 active fault zones to make it possible to access data using the names of active fault zones and of local government units. The newly grouped ones are Deto-Seiho, Yokohama and Nikaho active fault zones in Tohoku District, Kuninaka-heiyakitta and Itadoriin active fault zones in Chubu District, Sakaetani, Nako, Chifuku active fault zones, Umi, Uhibubiyama-hokuroku, Hinatatoge-ogasagi, Sagaheiyahokuroku and Ichiki active fault zones in Kyushu District. We added several active faults zones in and around the Takayama Basin in Chubu District, which were forgotten to be mapped in the first edition. All of 245 active fault zones are not coincide with source faults, but those information must be useful for resolving the problem of segmentation of active fault zones. The recent variable samples of large inland earthquakes associated with surface ruptures since 2000 did not seem to meet with the characteristic earthquake theory. It presents the difficulty of long-term prediction of earthquakes on the premise of the theory. In order to clarify and understand the variety of earthquakes, it is necessary for industry, official and academic team to promote the cooperative work from the point of view of seismogenic and active fault systems. We hope that this book (map) are usefully utilized and contribute for the reduction of earthquake disasters. Co-authors are Kohei Abe, Tatsuya Sasaki, Nao Shimoyama, Ena Tsuchiya, Atsushi Miwa and Masanori Yoshikane of OYO Corporation, Ryuzo Yokoyama and Michio Shirasawa of Yokoyama Geo-Spatial Information Laboratory Co.,Ltd., and Tomoo Echigo of Geo-Research Institute.

Keywords: fault trace information, fault-related information, active fault zone, active fault zone, stereoscopic topographic map, viewer software