

## Knowledge-based application system for natural forest management at the University of Tokyo Hokkaido Forest using ArcGIS Online and Collector for ArcGIS.

\*Kazuhiko Nakamura<sup>1</sup>, Toshiaki Owari<sup>2</sup>, Daisuke Sakaue<sup>2</sup>, Keisuke Toyama<sup>3</sup>

1. Center for Spatial Information Science, The University of Tokyo, 2. The University of Tokyo Hokkaido Forest, University Forests, Graduate School of Agricultural and Life Sciences, the University of Tokyo, 3. The University of Tokyo Chiba Forest, University Forests, Graduate School of Agricultural and Life Sciences, the University of Tokyo

Natural forest management depends heavily on expert knowledge gained through long-term experiences. In this study, we aimed at developing and applying a knowledge-based application system for natural forest management at the University of Tokyo Hokkaido Forest. The system required the following conditions: (1) to be available in an offline environment, (2) have a quick response, (3) be able to display the present location, (4) be able to display multiple map sources, and (5) be able to display the minutes of past field review meetings. We implemented these requirements using mapping applications of ArcGIS Online and Collector for ArcGIS and then evaluated the usefulness of the system in actual natural forest management operations.

Keywords: Natural forest management, Knowledge base, ArcGIS, Offline environment