

## Place-based Learning Using Google Earth in an Introductory Geoscience Class

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### Summary

This talk will introduce the audience to some of the possible uses of Google Earth in teaching geology at the introductory post-secondary level. Google Earth is a free program that drapes high resolution satellite imagery onto 3-D terrain for the entire planet. This provides a powerful way for students to build an understanding of the geological landforms of an area without leaving their classroom or home. Previous studies that have evaluated the efficacy of Google Earth in student learning have found that when given the opportunity and tools to develop a sense of place, students improve their conceptual knowledge and ability to apply critical thinking skills (Monet and Greene, 2012). These authors incorporated place-based learning into their introductory geoscience course at California State University through virtual explorations of the surrounding landscape using Google Earth. This learning tool has broad applications for use in large university classes, where instructors can take the class to examine the Earth's surface anywhere in the world with the click of a mouse. This talk will give an overview of some activities from the GeoTours Workbook (Wilkerson et al., 2017) and from the SERC website "Resources for Using Google Earth for Geoscience Teaching and Research" ([https://serc.carleton.edu/NAGTWorkshops/google\\_earth/index.html](https://serc.carleton.edu/NAGTWorkshops/google_earth/index.html)). There will also be a short discussion on how instructors can create their own Google Earth Geotours, based on recommendations from the GeoTours Workbook. In conclusion, this talk will provide information on how student knowledge and digital literacy gains can be maximized by creating their own Learning ePortfolio within Google Earth, following work done by Guertin et al. (2012). These authors found that students self-reported having greater knowledge retention and a deeper connection to the geology as a result of creating customized Google Earth files themselves.

### References

- Guertin, L., Stubbs, C., Millet, C., Lee, T-K., and Bodek, M. (2012) Enhancing Geographic and Digital Literacy with a Student-Generated Course Portfolio in Google Earth. *Journal of College Science Teaching*, 42(2): 32-37.
- Monet, J. & Greene, T. ((2012) Using Google Earth and Satellite Imagery to Foster Place-Based Teaching in an Introductory Physical Geology Course. *Journal of Geoscience Education*, 60(1): 10-20.
- Wilkerson, M.S., Wilkerson, M.B., and Marshak, S. (2017) *Geotours Workbook*. W.W. Norton & Company, New York. 192 pp.