



# Yellowstone Altai-Sayan Project

## *Informal Science Learning in Ecological Contexts*

—*Science Learning and Native Language Use in Contrasting U.S. and Mongolian Mountain Systems*—

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### INTRODUCTION

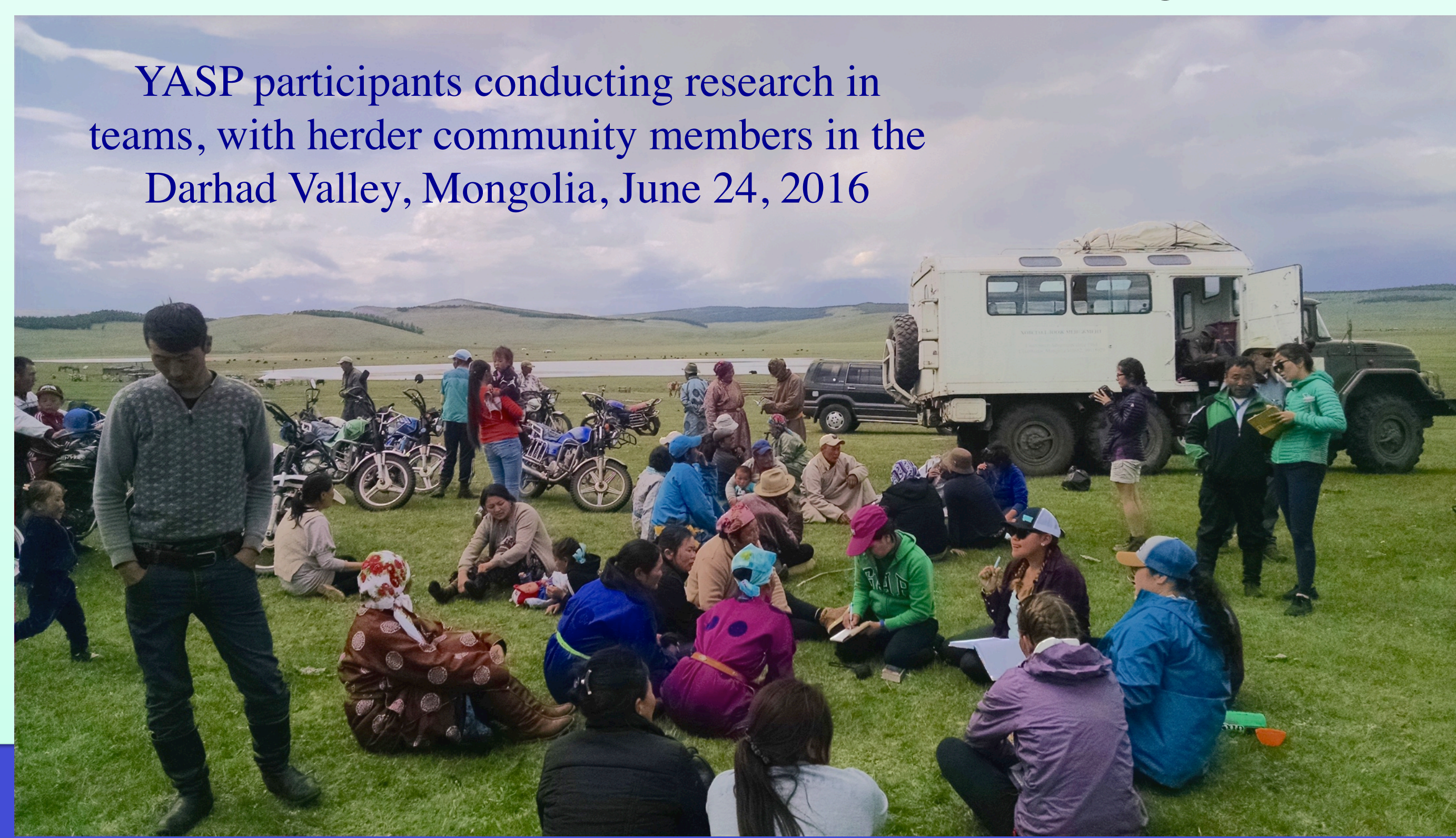
The Yellowstone Altai-Sayan Project (YASP) brings together student and professional researchers with Indigenous researchers and communities in domestic and international settings.

4 MSU and 2 tribal college student participants engaged research projects with their home communities in the western U.S.—Crow, Northern Cheyenne, Fort Peck Assiniboine & Sioux, Fort Berthold Mandan/Hidatsa/Arikara—and with Indigenous communities in Mongolia

Research was initiated with home communities in spring 2016, and with Indigenous researchers and herder (semi-nomadic) communities in the Darhad Valley of northern Mongolia in summer 2016 (June 16-July 16)

### RESULTS

Student participants conducted 6 separate but related projects during spring and summer 2016, researching medicinal plant knowledge, hunting traditions, land use management and place name knowledge, spirituality, and water quality. The YASP team will present results of their individual and collective projects at the Meeting of the American Indigenous Research Association at Salish Kootenai College, Oct. 21-23, 2016.



YASP participants conducting research in teams, with herder community members in the Darhad Valley, Mongolia, June 24, 2016

### OBJECTIVES

- To provide students underrepresented in the STEM fields (particularly Native American students and women) with research opportunities in international settings
- To bring together Indigenous students and researchers from different domestic and international indigenous communities in contrasting but comparable bioregions with the intention of sharing Indigenous Knowledges (IK), particularly but not exclusively Traditional Ecological Knowledge (TEK)
- To develop sustainable cross-cultural relationships in order to help support Indigenous communities' efforts to protect their natural environments and revitalize their ways of knowing, being, and doing.

### CONCLUSIONS

According to IRM and HM, ongoing conversations with community members (U.S. and Mongolian) must inspire and shape

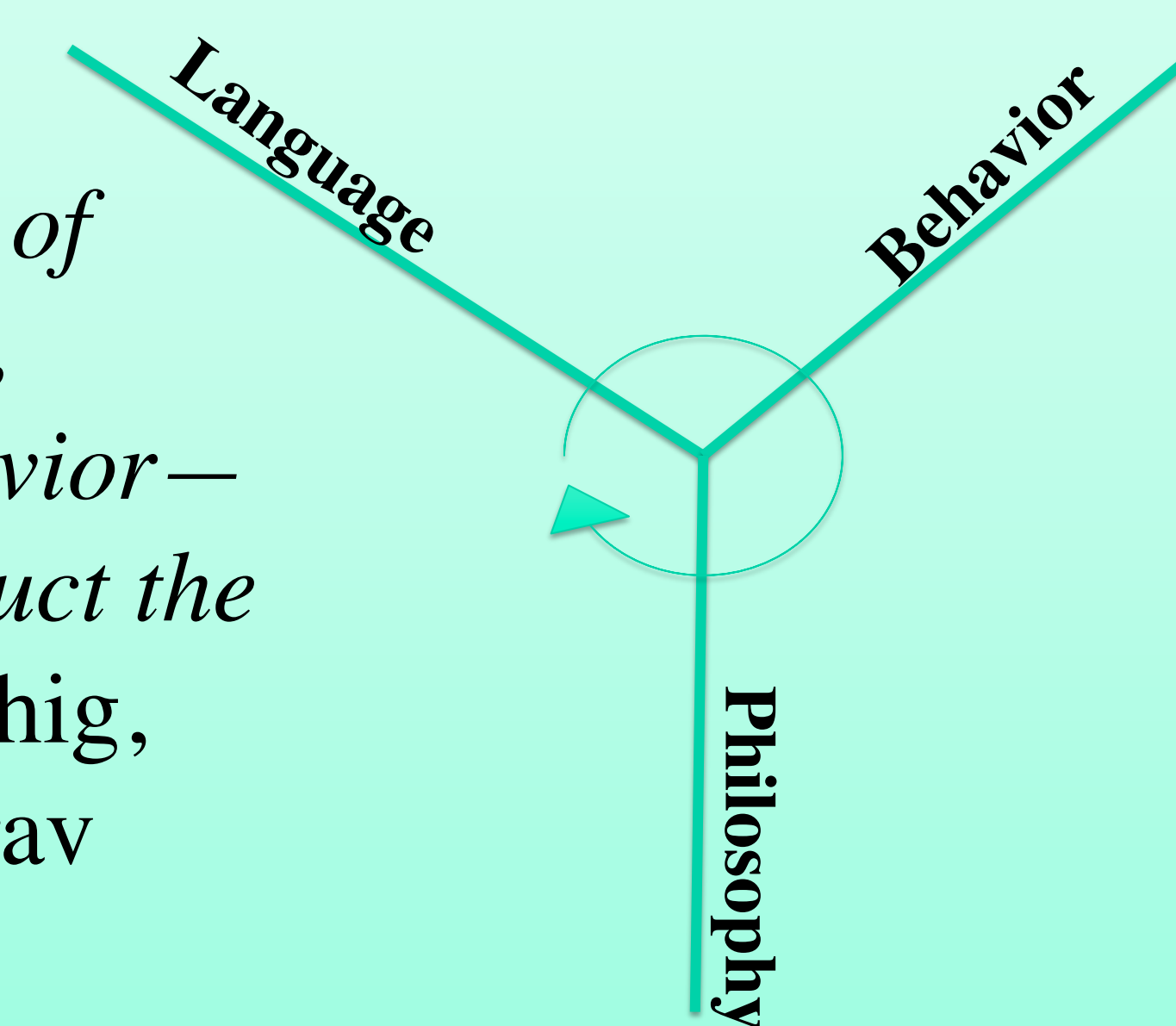
- Research questions
- Methods of data collection
- How and what is disseminated
- To whom, When, and for what purposes

**Research plans going into our Mongolia expedition were fundamentally changed because of IRM, HM, and our growing awareness and appreciation of an Indigenous Mongolian research framework (see Methodologies).**

### METHODOLOGIES

Indigenous Research Methodologies (IRM) and Holistic Management (HM) organized **within an indigenous Mongolian research framework for revitalizing Indigenous cultures and societies**

“If you have one of these—language, philosophy, behavior—you can reconstruct the other two.” (Mishig, transl. Badamgarav Dovchin)



### FUTURE DIRECTIONS...

YASP team at mare milking station Orhon, Mongolia, July 14, 2016



YASP team with BioRegions' Health and Community Teams



In partnership with BioRegions, YASP has been invited to return summer 2017 to share fruits of student research (via GIS and other media), receive feedback, and conduct similar projects with other herder groups and communities.

### ACKNOWLEDGEMENTS

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