

IGERT Project 2010

RENEWABLE ENERGY ASSESSMENT FOR THE CONFEDERATED SALISH & KOOTENAI TRIBES OF THE FLATHEAD RESERVATION

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Project Background

The Confederated Salish & Kootenai Tribes (CSKT) are interested in exploring renewable energy sourced from the Flathead Reservation. While the Kerr Dam located on the reservation supplies the CSKT with abundant inexpensive power, ecological concerns surrounding fish, streamflows, and climate impacts, as well as desire to be more self sufficient, necessitate interest in the diversification of energy sources. Students from IGERT Cohort 2 visited the Flathead Reservation in the Summer of 2009 and have been conversing with tribal members and employees in order to prepare for the 2010 design project.

Project Statement

The IGERT Team will supply CSKT with an energy assessment of biomass, wind, and solar resources on the Flathead Reservation at the end of Winter Quarter 2010. This assessment will consist of a written report and presentation. The report will include a geospatial assessment of the three energy resources. After receiving feedback from CSKT, the IGERT team will spend Spring Quarter 2010 on secondary objectives related to the biomass resources defined in the Winter report.

Project Schedule Outline and Preliminary Work-Flow

Winter 2010: Geospatial Energy Assessment of Biomass, Wind, and Solar Resources on the Flathead Reservation

IGERT Cohort 2 will split into three teams to address the assessment of the three energy resources. Each team will include a "geospatial lead" who will be responsible for organizing the geospatial data and producing final maps for the report. The three "geospatial leads" will work as a subteam in order to problem solve and produce a consistent product. The Biomass team will concentrate on replicating and improving upon methods developed by IGERT Cohort 1 in their biomass assessment for the Yakama Nation. The Wind team will synthesize existing geospatial resources and develop improvements as necessary. The Solar team will modify national level assessments of solar resources for the local context of CSKT and address the tradeoffs in current technologies.

Spring 2010: Secondary Biomass Objectives

Work this quarter is left intentionally open, owing to the feedback that will be received from CSKT during Winter Quarter and after the presentation of the energy assessment. Cohort 2 members will be expected to work in teams toward goals that synergize with CSKT interests and their own research interests and technical expertise.

Map of the Flathead Reservation

