

### V(B). Program Knowledge Area(s)

#### 1. Program Knowledge Areas and Percentage

- 121 20% Management of Range Resources
- 122 20% Management and Control of Forest and Range Fires
- 123 30% Management and Sustainability of Forest Resources
- 605 10% Natural Resource and Environmental Economics
- 903 20% Communication, Education, and Information Delivery

### V(C). Planned Program (Situation and Scope)

#### 1. Situation and priorities

Geographic information is critical to the management of vast natural resource areas. Increasingly, geographic information is derived from and transmitted using remote images. Without a reference to ground-based data, indices to relate ground-data to information obtained remotely, and a data management system that allows universal and user-friendly accessibility, remote information is useless. Professionals who will be future land managers will need to be conversant in technology and methodology to obtain both land and remotely sensed information. An excellent training base for these future managers is curricula that incorporate visual learning through electronic media, combine students from distantly separated areas in a single "classroom", who must communicate and work together

### V(D). Planned Program (Assumptions and Goals)

#### 1. Assumptions made for the Program

Geographic information is critical to the management of vast natural resource areas. Increasingly, geographic information is derived from and transmitted using remote images. Without a reference to ground-based data, indices to relate ground-data to information obtained remotely, and a data management system that allows universal and user-friendly accessibility, remote information is useless. Professionals who will be future land managers will need to be conversant in technology and methodology to obtain both land and remotely sensed information. An excellent training base for these future managers is curricula that incorporate visual learning through electronic media, combine students from distantly separated areas in a single "classroom", who must communicate and work together using a variety of media, and allow students to learn to relate their regional information in biological, physical and social sciences, cultures, and economies to others in a universal geographic format. Thus priorities for the planned program in geographic information incorporate data collection design, data management, land-based information/remotely sensed image correlations, and the extension of these skills through curricula that use multi-media experiential education pedagogy to deliver programs remotely and over extensive distances.

#### 2. Ultimate goal(s) of this Program

Obtaining information from vast areas of remote, roadless and uninhabited lands is cost prohibitive. Remote means of collecting this information is cost effective but is only meaningful if it can be accurately interpreted. The goals of the Geographic Information Planned Program are to:

Convert antiquated data sets from permanent forest sample plots and growth and yield research to make them compatible with long term ecological research, fire management, and forest ecosystem data sets.

Incorporate data sets as reasonable into megadata systems such as GINA

Increase information available on wildlife and domestic animal ranges in northwestern Alaska

Develop curricula that train future land managers in data collection and interpretation using experiential pedagogy in distance delivered education programs

### V(F). Planned Program (Activity)

#### 1. Activity for the Program

Research, education and outreach activities include:

Correlating land-based information with remotely sensed images

Develop curricula that use experiential pedagogy in distance education

Geographic Information Systems

Geography training for teachers

Canadian studies and geography of the north

Economic geography of Alaska

Physical geography and biogeography of Alaska

Maps and spatial data sets of long-term value