Appendix C

Survey of University Programs in Remote Sensing Funded Under Grants From the NASA University-Space Application Program[1]

Summary Conclusions

- All of the programs surveyed have attained some level of State / local involvement. One program has worked in projects with 39 State agencies, maintains regular contact with 74 others, and has 150 other contacts that can be drawn upon as needed. Such involvement depends on seed money to demonstrate applications before State /local agencies will provide funding.
- NASA grant funding has reduced the time which would otherwise be expected for State/local governments to become operational users of remote sensing. NASA grants are the base which assists and supports university programs to demonstrate proven applications to first-time users. The States will generally not support development/demonstration programs.
- State governments are beginning to use remote-sensing technology and capabilities in operational areas. Capabilities have, in general, not been institutionalized in the sense that many programs would not continue if NASA seed support were withdrawn.
- About 9 percent of the total funding in 1977 was from State and local sources. Estimates for prior years indicate that State funding is accelerating as remote-sensing applications are beginning to be applied in State and local programs. In many programs, significant nonfinancial support is contributed by the university (faculty and graduate research assistants), and by State/local agencies working with the university.
- Total funding for the university programs surveyed has grown approximately 50 percent since 1974. A large part of non-NASA funding comes from Federal sources to develop applications which also interest State, local, and private users. NASA grant funds have been an important stimulus to attracting non-NASA Federal funds.
- The programs are adaptive to the expressed interests of State/local governments. The distribution of application areas and specific expertise developed reflects State/local interests and funding patterns. State/local participation is dependent on the applicability of remote sensing to near-term problems.
- University participation in remote-sensing is large and growing. Some universities offer several courses in specific remote-sensing disciplines. Overall, during 1977, 137 courses were taught to a total of 2,906 students; 195 faculty members and 393 research assistants were involved in the research projects.
- Sixty-five percent of the programs have minor private sector involvement, which ranges from geoexploration assistance for the major oil companies to rangeland productivity y projects with local ranchers.
- Twenty-five percent of the programs have foreign involvement. The University of Utah, for example, has a **$150,000** land-use project with the Government of Korea.

[1] J A Madigan and R W Earhart, NASA contract No NASw-2800, task No 27 Battelle Columbus Laboratories report No BCI-OA-TFR-78-3 Mar 31 1978

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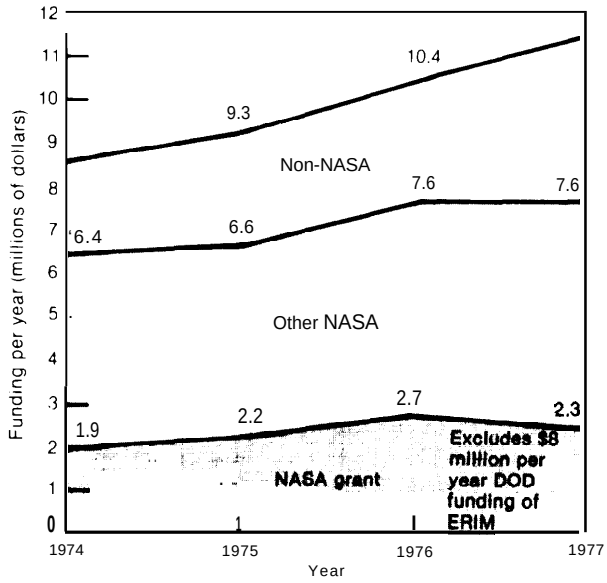
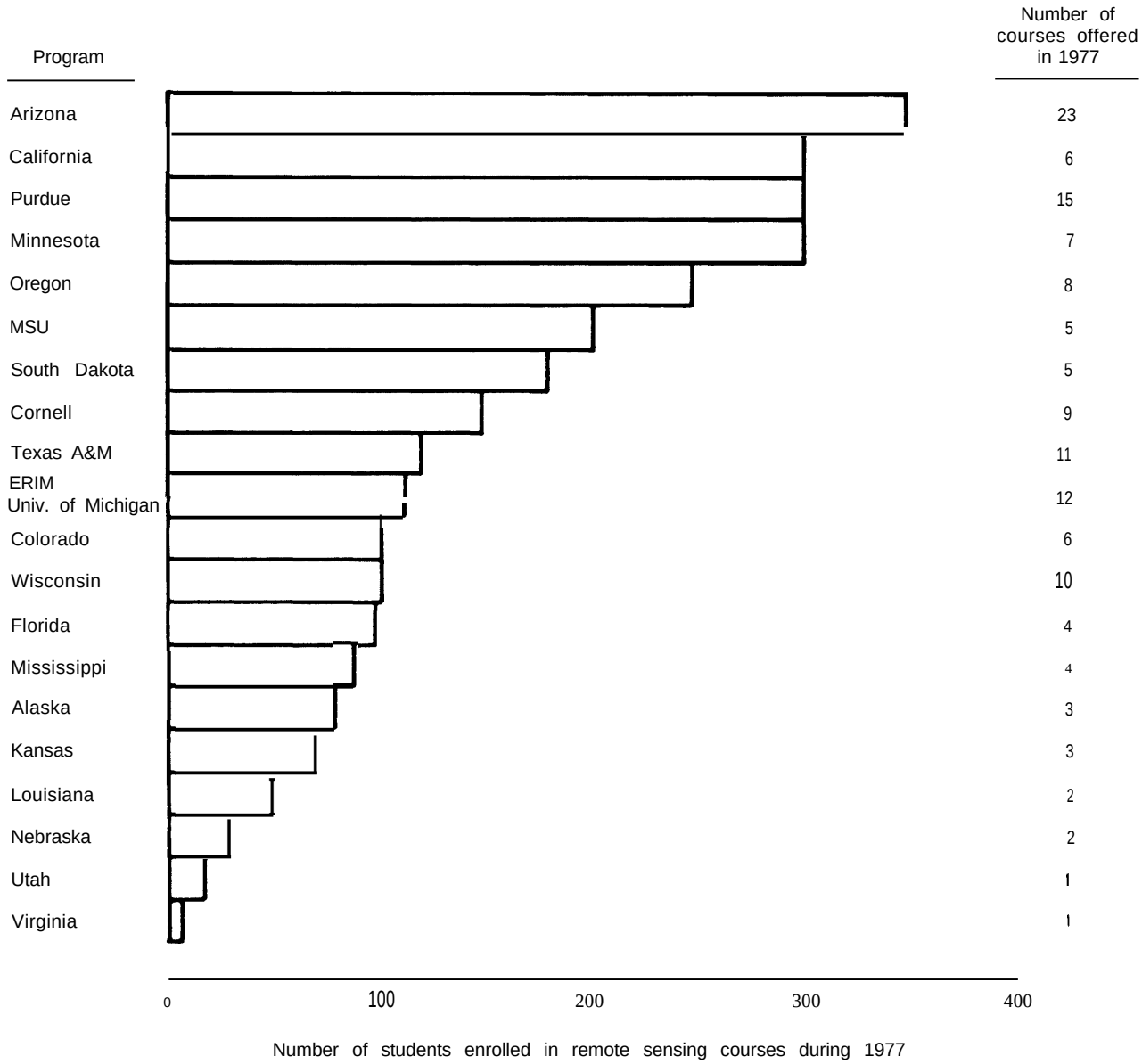
Figure C-1 .—University Programs: Sources of Funding 1974.77



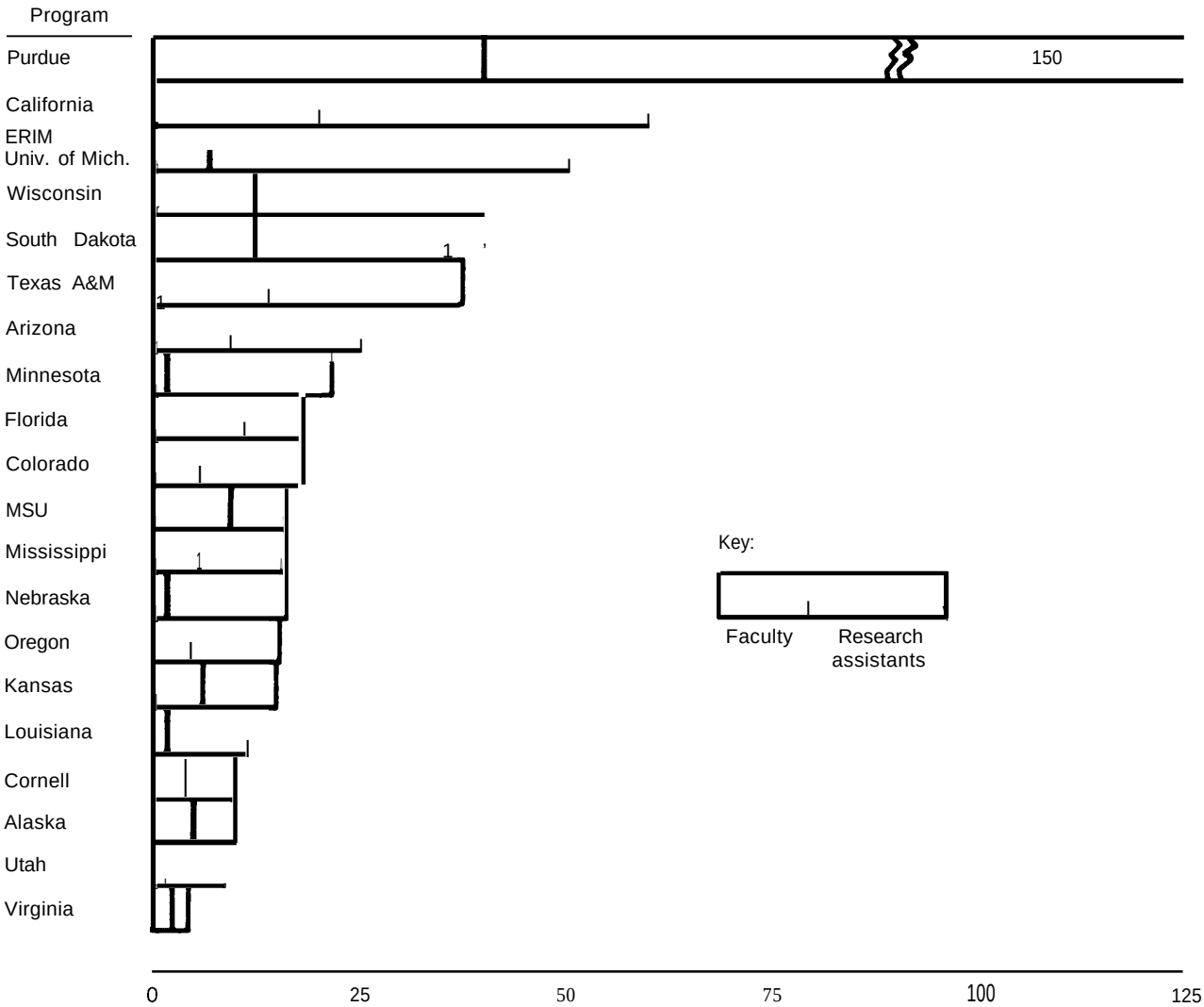
SOURCE National Aeronautics and Space **Administration**

Figure C-2.— Students and Courses in University Remote Sensing Programs



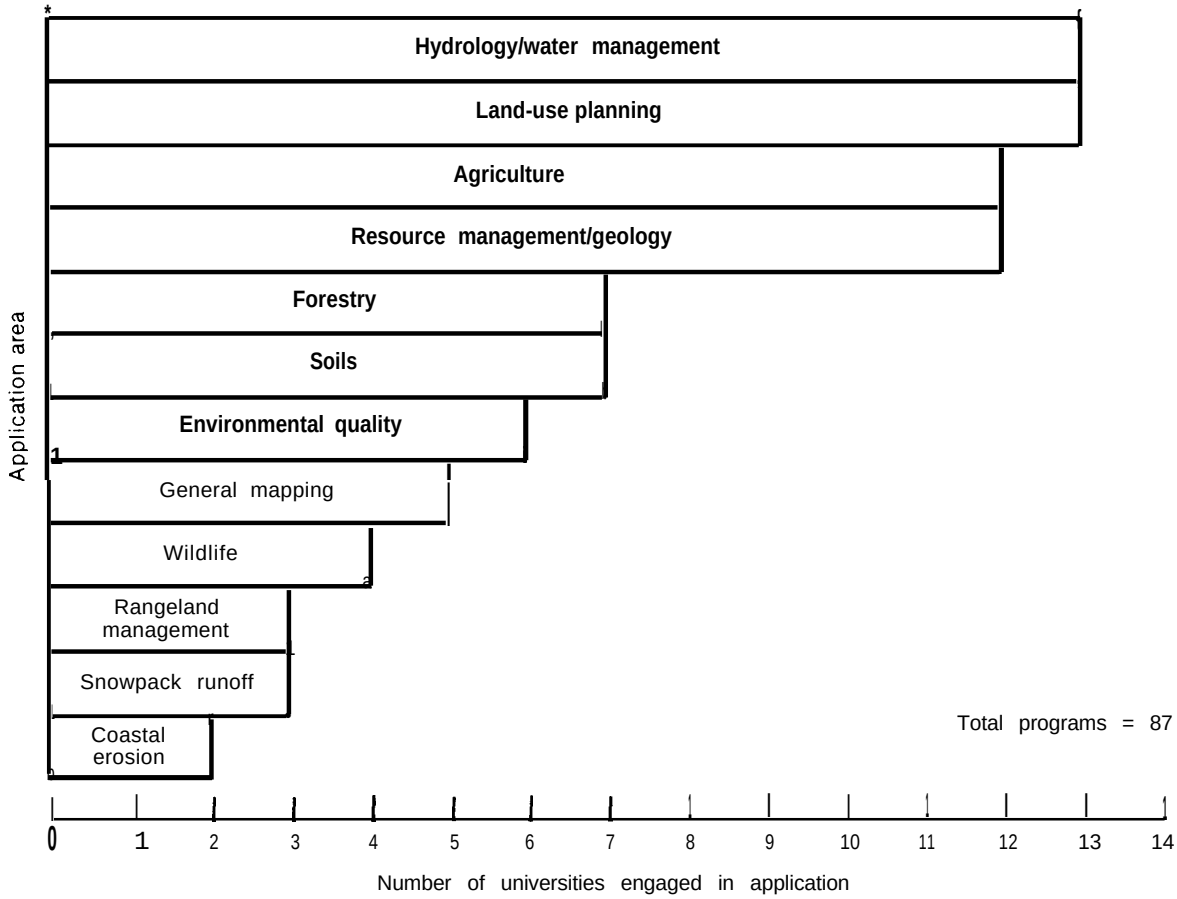
SOURCE National Aeronautics and Space Admintstration

Figure C-3.— Faculty and Research Assistants in University Remote Sensing Programs



SOURCE: National Aeronautics and Space Administration

Figure C-4.— University Programs: Major Applications of Remote Sensing



SOURCE National Aeronautics and Space Administration