

NASA-CR-202071

004883

REMOTE SENSING OF LANDUSE CHANGES AND IMPLICATIONS FOR LANDUSE POLICY

NAG 2-969 - FINAL

**ADMINISTRATOR'S
Close-out Report**

**Submitted by:
Professor Ken Kennedy, P.I.
November 20, 1996**

NOV 29 1996
C.A.S.I.

Closeout Report For NAG 2-969

Table of Contents

1.0 Purposes of Grant

- 1.1 Original Purposes
- 1.2 Changes Due to Early Termination

2.0 Grant Activities

- 2.1 Creation of the Laboratory
- 2.2 Identification of Students
- 2.3 Work Protocols
- 2.4 Acquisition of Software

3.0 Achievements of the First Year

4.0 Documents

- 4.1 Final 272 - to fiscal

1.1 Original Purposes

The original purpose of **NAG 2-969** was to provide community college students with an opportunity to participate in a pilot research project. This project would allow selected student to do research on a well defined subject using satellite and aircraft data. The students were to study landuse changes by comparing planning and zoning documents using remote sensed data analyzed and interpreted in a laboratory designed for that purpose. The grant was to be accomplished in three phases over two years.

Phase One involved establishing a research site at the College of San Mateo and acquiring Macintosh and PC computers and other equipment to be used in the research study. Software necessary for analysis of the data would also be purchased.

Phase Two involved the identifying of students with the appropriate preparation which would enable them to participate in the project. These students would need basic math and computer skills to begin participation in the pilot.

Phase Three involved the collection of data, analysis, ground truthing results and the writing of the paper.

1.2 Changes Due to Early Termination

Due to severe budgetary constraints, the second year of the project was unfunded. Since there was some reason to believe that a much larger grant was forthcoming from Mission To Planet Earth, all of the investigators agreed to go as far as we could with the first year funding and "fold" the remaining activities into the new grant where that was feasible. As a consequence of the agreement among the investigators and the administrator responsible, some objectives were accelerated to put the laboratory into operation at the earliest possible date.

2.0 Grant Activities

2.1 The first task was to obtain a site on the College of San Mateo campus. Accordingly, CSM assigned the grant project a 300+ square foot space in the Science Bldg. (12). Suitable infrastructure (wiring, digital phone line, analog phone line, furnishings, etc.) was also provided. The college would also provide administrative, clerical, and utilities support for the project. This was accomplished in the spring of 1995 and into the fall semester with all relevant equipment in place and the lab functioning by the end of 1995.

2.2 The second task was to identify students. Investigators recruited students through Math, Political Science and Engineering classes and clubs. Five students were ultimately recruited for the pilot project and met with investigators on an individual basis to sketch out plans and schedules.

- 2.3 With the first year coming to an end, work protocols were organized for research on the county's growth patterns over the last three decades. Although earlier aircraft photos of the areas were available, remote sensed data covered only the last three decades. Student and investigators made plans to identify the specific "scenes" in Landsat and other data which would satisfy the research parameters.
- 2.4 Finally, statistical and imaging software was identified and some was acquired which would be necessary to complete the project.

3.0 First Year Achievements

- A functioning multi-station computer laboratory for image analysis was located, staffed and installed at the College of San Mateo.
- Appropriate students were identified and contacted for participation in the pilot study.
- Appropriate data both from community sources and Landsat sources was identified.
- Necessary software was identified and some was acquired as part of the first year activities.

Summary

Although the full research objectives of the grant could not be fulfilled due to early termination, the grant did serve the purpose of increasing campus awareness of research opportunities. Additionally, this small grant operated as a "seed" activity which could and did provide a foundation for a successful larger application to MTPE. In fact, the original lab once shared with another project has now been enlarged, augmented with equipment and serves the developers involved in the new grant. Happily, this larger MTPE grant also involves the use of remote sensing data in curriculum development.