**NPS**

**PROJECT SUMMARY**

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| **Cooperative Ecosystem Studies Unit**  **Cooperative Agreement Modification** | | | | | |
| FUNDING AGENCY: **National Park Service** | | | | | |
| MODIFICATION NO.: | | COOPERATIVE AGREEMENT NO.:**1200-99-009** | | FUNDING AMOUNT: $ **40,000** | |
| INVESTIGATORS Contact Information: Dr. Abe Springer (Northern Arizona University), Drs. Mike Scott and Patrick Shafroth (USGS), John Rihs (NPS-GRCA) | | | | | |
| PROJECT TITLE:**Grand Canyon Springs/Ecosystems Coupled Models** | | | | | |
| EFFECTIVE DATES**: 12/02-1/05** | | | | | |
| PROJECT ABSTRACT:The NPS has solicted this study to better the understanding of the effects of diminished spring discharge may have on associated spring-dependent ecosystems on the South Rim. This study proposes to address this issue through a coupling of existing groundwater flow models with new surface-water routing models and conceptual ecosystem process models. This study will be a pilot study to develop the techniques and methods to predict the impacts of diminished spring discharge on the ecosystems associated with at least two minor springs on the South Rim. | | | | | |
| **Agency Representative:**  Ron Hiebert, NPS Research Coordinator  CPCESU  Northern Arizona University  P.O. Box 5765  Flagstaff, AZ 86011-5765  Tel: (928) 523-0877  Fax: (928) 520-8223  Ron.Hiebert@nau.edu | **Agency Administration Representative**  Mary Estep  Budget Assistant  Intermountain Support Office  Denver, CO 80225-0287  Tel: (303) 969-2750  Mary\_Estep@nps.gov | | **Investigator:**  Abe Springer, Ph.D.  Associate Professor, Department of Geology, Northern Arizona University  P.O. Box 4099  Flagstaff, AZ 86011  ph (928) 523-7198  fax (928) 523-9220 | | **Partner Admin. Contact:**  Claudette Piper  Grant and Contract Administrator  Northern Arizona University  Box 4130  Babbitt Administration Building #51  Knoles Drive  Flagstaff, AZ 86011  Tel: 928-523-1656  FAX: 928-523-1075 |
| ***List of Key Words: Grand Canyon, Groundwater, Surface Water, Tributary, Model, Hydrology*** | | | | | |
| ***Agency Manager/Technical Representative from National Park �***    *The Senior Scientist or Park Hydrologist,*  John Robert Rihs  Park Hydrologist & Cave Resource Lead  Grand Canyon National Park  P.O. Box 129  Grand Canyon, AZ., 86023  Phone: 928.638.7905, Fax: 928.638.7755  http://www.nps.gov/grca/water | | | | | |
| *Annual Report Received:*  *Final Report Received:*  *Publications on File:* | | | | | |
| *This Modification is subject to all the provisions included in the Cooperative Agreement,****dated 6/22/99.*** | | | | | |
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*Attach any supporting material as necessary.*