

GEORGIA WATER RESOURCES RESEARCH PRIORITIES

Hydrology/Water Resources	Basin wide analysis and planning Watershed protection Surface/groundwater interactions Water conservation and re-use Environmental Sensors Sustainable development Drought assessment, prediction and management Flood forecasting State-wide assessment and long-range planning Climate variability and change assessment Decision support technology for agricultural and water resources systems
Water supply and waste water	Infrastructure needs assessment Resources development and allocations Treatment options Biological and viral control
Surface water quality protection	Urban stormwater management Pollution source and transport assessment Sediment control In-stream and remote monitoring methods
Environmental/Ecological protection	Wetlands conservation Efficacy of wastewater land application Pollutant source control Ecosystem/watershed linkage Biological water quality criteria Impacts and costs Ecosystem restoration
Groundwater	Source information Locating well sites and estimating yields, notably in fractured rock Improved well utilization Subsurface pollutant interactions Relation to sources In situ treatment systems; bioremediation Conjunctive groundwater and surface water management



Georgia Water Resources Institute
Science and Technology for a Changing World

Proposal Review Form - 2004

Title:
Author:
Reviewer:

Signature:

Date Reviewed:

_____ 1. Focused objective, strategy, scientific merit of methodology, and value of final products (including educational impacts). **35%**

_____ 2. Relevance and potential impact for the State of Georgia and the Southeastern US. **(30%)**

_____ 3. Investigator track record and qualifications to carry out proposed tasks. Output of previous GWRI projects, if any, as evidenced by publications, theses, and other products. **(25%)**

_____ 4. Reasonableness of requested budget. **(10%)**

_____ ***Total***

Please return this form (in confidence) by 01/03/03:

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(Feel free to use additional sheets if needed.)

INSTRUCTIONS FOR THE PREPARATION OF PROPOSALS FOR THE STATE WATER RESOURCES RESEARCH PROGRAM: FY 2003

This is to provide guidance for the preparation of proposals for the Institute's annual research program with the U.S. Geological Survey. The procedure this year will be: (1) request proposals, (2) solicit evaluations by technical reviewers, (3) request a numerical rating of the proposals meeting the requirements of priority needs, (4) assemble an annual program for submission to the Institute's Advisory Board, and (5) submit the selected program package to reach Washington by approximately January 15.

December 16, 2002
End December, 2002
Approx. January 15, 2002
March 1, 2003

Full proposals due in the Institute Office by noon
Selection process completed by Advisory Board
Formal submission of program package to U.S.G.S.
Begin project

Proposals may be for a one to two year duration. Those with a duration greater than one year will be approved for continuation of funding contingent upon: (1) the continued availability of funds to the Institute, and (2) a satisfactory process for the first year toward meeting the project's stated objectives.

The following special provisions are issued by the U.S.G.S. to guide the Institute in preparing the annual program package. They are included here for your information in developing your proposal and are subject to revisions by the U.S.G.S.

Special Provisions

1. Performance Period: The period of performance of the project will be March 1, 2003 through February 28, 2004. Short (1-2 page) quarterly reports are required, and PIs will submit draft copies of interim/completion reports to GWRI for peer review.

2. Participation Requirements

- a. Institutes may only consider project proposals from faculty members or affiliates at institutions of higher learning in the state.
- b. Institutes shall not submit proposals from any investigator who has not met reporting requirements for projects funded by a prior formula grant administered by the Department of the Interior.

3. Non-Federal Funds

- a. For FY 2003, the non-federal portion must be \$2.00 for every \$1.00 federal. The Institute hopes that some legislative appropriations will be available. In the event they are not, or they are inadequate to cover the required cost share, you must rely on departmental assistance.

4. Charges Allowable to Federal Funds

- a. Costs will be allowable in accordance with OMB Circular A-21, revised, "Cost Principles for Educational Institutions," on file in your university's contract office.
- b. The portion of benefits paid to individuals cannot exceed the proportion of their salaries paid from the grant.
- c. Federal funds shall not be used to pay indirect costs. The applicant's negotiated indirect cost rate (NICR) may be applied to both qualifying federal and non-federal direct costs, and the result used to satisfy part of the matching requirement under the non-federal share. The NICR shall not be applied to tuition and equipment costs. The Geological Survey will accept indirect cost rates approved by the cognizant agency in accordance with OMB Circular A-88. **A copy of the approved rate agreement or other approving documentation must be attached to proposals from universities other than Georgia Tech.**

5. Program Funds Management: Funds available to the Institute (both Federal and State appropriations) will be applied to projects as long as available. In the event that State appropriations are not adequate to cover the non-federal share, other contributions must be generated.

6. Program Focus: Institutes other than Alaska, Guam, Hawaii, Puerto Rico, and Virgin Islands must use research priorities for their region by the appropriate group of Institute Directors for guiding selection of at least one-half of their research project proposals.

7. Program Content Management

- a. Projects begun with prior year funds may be continued with FY 2003 funds, provided that each is based on a revised proposal that incorporates a report on progress to the date of revision.
- b. Projects may be designed to run beyond February 2004 provided that they contain a reportable element to be included in the FY 2003 program report.

Application Instructions

The contents of the application shall be prepared in accordance with the following instructions.

A. Cost Category Allocate Federal and non-Federal costs.

1. Direct Costs

a. Direct costs are those costs which can be identified specifically with a particular research project, an instructional activity, or any other institutional activity which can be directly assigned to such activities relatively easily with a high degree of accuracy.

b. Identifiable benefit to the research work rather than the nature of the goods and services involved is the determining factor in distinguishing direct from indirect costs of research agreements. Typical transactions chargeable to a research agreement as direct costs are the compensation of employees for performance of work under the research agreement, including related staff benefit and pension plan costs to the extent that such items are consistently treated by the educational institution as direct rather than indirect costs; the costs of materials consumed or expended in the performance of such work; and other items of expense incurred for the research agreement, including extraordinary utility consumption. The cost of materials supplied from stock or services rendered by specialized facilities or other institutional service operations may be included as direct costs of research agreements provided such items are consistently treated by the institution as direct rather than indirect costs and are charged under a recognized method of costing or pricing designed to recover only actual costs and conforming to generally accepted cost accounting practices consistently followed by the institution.

2. Indirect costs (non-Federal share only). Indirect costs are those that have been incurred for common or joint objectives and therefore cannot be identified specifically with a particular research project, an instructional activity, or any other institutional activity. At educational institutions such costs normally are classified under the following functional categories:

- a. General administration and general expenses;
- b. Research administration expenses;
- c. Operation and maintenance expenses;
- d. Library expenses; and
- e. Departmental administration expenses.

Note: Indirect costs are allowed under the non-Federal cost category only.

B. Research Proposals The proposals shall consist of the following 15 elements. The synopsis (first 10 elements) shall not exceed 2 pages. Begin a new page with element 11 (Nature, scope, and objectives of the research).

1. Title

2. Focus Categories List a maximum of three focus categories, with the most preferred focus category first (a list of focus categories is attached). Enter the abbreviations in capital letters and separate them by commas.

3. Keywords List descriptor words, separated by commas. Make up your own or select words from the attached list of keywords.

4. Duration (month/year to month/year) Use the actual beginning and estimated ending dates.

5. Federal funds requested.

6. Non-Federal (matching) funds pledged.
7. Principal investigator(s) name(s), university, city, and water resource institute.
8. Congressional district of university where the research is to be conducted.
9. Statement (2 paragraphs maximum) of critical regional water problems. Include an explanation of the need for research. (Who wants it? Why? Specify Southeast/Island Region priorities addressed.)
10. Statement (2 paragraphs maximum) of the results, benefits, and/or information expected to be gained during the performance period and by the end of the project, if of longer duration, and how they will be used.

The Institute is required to distribute the above material to other institutes who must certify that the proposal does not duplicate other known research activities.

(Note: Begin a new page with item 11. Items 11-15 shall not exceed 15 single spaced pages.)

11 Nature, scope, and objectives of the research

12 Methods, procedures, and facilities Provide enough information to permit evaluation of the technical adequacy of the approach to satisfy the objectives.

13 Related Research Show by literature and communication citations the similarities and dissimilarities of the proposed project to completed or on-going research on the same topic.

14. Investigator's qualifications Include a resume(s) of the principal investigator(s). No resume shall exceed three pages or list more than 15 pertinent publications. (Note: Duplicate resumes need not be submitted for individuals participating in more than one proposed project. If preferred, all resumes may be indexed by project number and included as an appendix to an application.)

15. Training potential Estimate the number and level of graduate and undergraduate students, by field of study and degree, that are expected to receive training in the project.

C. Identify the Information Transfer Plan (up to two pages). Indicate the plan for disseminating information on the results of the research and promoting their application. Each plan shall:

1. Define the subject matter and the problems to be addressed.
2. Identify the target audience.
3. Indicate the strategies to be employed; e.g. workshops, publications.
4. Identify the cooperators (e.g., Cooperative Extension service).

D. Budget breakdown Submit a detailed budget for each project number which includes the following line items. (Indicate the amount of cost sharing for each element):

1. Salaries and Wages Identify the individuals and categories of salaries and wages, estimated hours or percentage of time, and the rate of compensation proposed for each individual or category. (Tuition remission and other forms of compensation paid as or in lieu of wages to students performing necessary work are allowable provided that the tuition or other payments are reasonable compensation for the work performed and are conditioned explicitly upon the performance of necessary work.) If the rate of pay shown is higher than the current rate of pay, include an explanation.

2. Fringe Benefits Propose rates/amounts in conformance with normal accounting procedures. Explain the costs and the basis of the rate computations. Indicate whether the rates are used for application purposes or whether they are fixed or provisional rates for billing purposes.

3. Supplies Indicate separately the amounts estimated for office, laboratory, computing, and field supplies. Provide detail on any specific item which represents a significant portion of the proposed amount. If fabrication of equipment is proposed, list parts and materials require for each, and show costs separately from the other items.

4. Equipment Identify nonexpendable personal property having a useful life of more than 1 year and an acquisition cost of more than \$5,000 per unit.
5. Services of consultants Identify the specific project numbers for which these services would be used. List the contemplated consultants (including sub-recipients), the estimated amount of time required, and the quoted rate per day or hour. State whether the consultants rate is the same as s/he has received for similar services under other Government awards.
6. Travel All estimated costs should be itemized showing the number of trips required, type of trip (field, scientific meeting, or conference attendance), the destinations, the number of people traveling, the per diem and local reimbursement rates allowed by the applicant, and any miscellaneous expenses for each trip. (Note: All travel is to be in accordance with the established travel policy of the applicant. A copy of the applicant's travel policy may be attached).
7. Other direct costs Itemize the costs not included elsewhere; e.g., shipping, telemetry, computing, equipment-use charges, age dating, or other services. Provide breakdowns showing how the cost was estimated; e.g. computer time should show the type of computer, the estimated time of use, and the established rates.
8. Indirect costs Specify the indirect costs in the non-Federal column only based on the applicant's approved rate agreement. An amount equivalent to what the indirect costs would have been under the federal portion may also be included as match under the indirect cost in the non-federal portion.
9. Total estimated costs Total items (1) through (8).

E. Negotiated indirect cost rate agreement Attach a copy of the approved negotiated indirect cost rate agreement if you are not at Georgia Institute of Technology.

FOCUS CATEGORIES

ACID DEPOSITION	ACD
AGRICULTURE	AG
CLIMATOLOGICAL PROCESSES	CP
CONSERVATION	COV
DROUGHT	DROU
ECOLOGY	ECL
ECONOMICS	ECON
EDUCATION	EDU
FLOODS	FL
GEOMORPHOLOGICAL & GEOCHEMICAL PROCESSES	G&G
GROUND WATER	GW
HYDROGEOCHEMISTRY	HYDGEO
HYDROLOGY	HYDROL
IRRIGATION	IG
LAW, INSTITUTIONS, & POLICY MANAGEMENT & PLANNING	LIP
METHODS	M&P
MODELS	MET
MODS	MOD
NITRATE CONTAMINATION	NC
NONPOINT POLLUTION	NPP
NUTRIENTS	NU
RADIOACTIVE SUBSTANCES	RAD
RECREATION	REC
SEDIMENTS	SED
SOLUTE TRANSPORT	ST
SURFACE WATER	SW
TOXIC SUBSTANCES	TS
TREATMENT	TRT
WASTEWATER	WW
WATER QUALITY	WQL
WATER QUANTITY	WQN
WATER SUPPLY	WS
WATER USE	WU
WETLANDS	WL

KEYWORDS

Note: The keywords describe areas of interest as related to water; e.g., "Cooling" refers to water as used in cooling; "Fertilizers" implies the effect of fertilizer on water characteristics, etc.

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|---|--|---|--|--|---|--|---|---|---|--|---|---|---|--|---|---|--|---|---|
| <p>A</p> <ol style="list-style-type: none"> 1. Acid Deposition 2. Acid Rain 3. Activated Carbon 4. Activated Sludge 5. Adsorption & Exchange 6. Aeration 7. Agriculture 8. Algae 9. Alkaline Scale 10. Anaerobic Treatment 11. Animal Waste 12. Aquaculture 13. Arid Climates 14. Aquatic Plants 15. Aquifer Characteristics 16. Aquifer Parameters 17. Atmospheric Models 18. Atmospheric Processes | <p>D</p> <ol style="list-style-type: none"> 53. Dairy Waste Mgmt 54. Dams 55. Data Analysis 56. Data Storage & Retrieval 57. Decision Models 58. Demand Management 59. Denitrification 60. Desalination 61. Developing Countries 62. Disinfection 63. Distillation 64. Distribution Systems 65. Drainage 66. Drilling 67. Drought 68. Dynamic Programming | <p>H</p> <ol style="list-style-type: none"> 102. Groundwater Recharge 103. Hazardous Waste 104. Health Effects 105. Heal Budget 106. Heavy Metals 107. Herbicides 108. History 109. Hydraulic Structures 110. Hydraulics 111. Hydrobiology 112. Hydrogeology 113. Hydrologic Models 114. Hydropower 115. Hypothermia | <p>I</p> <ol style="list-style-type: none"> 116. Ice 117. Impoundments 118. Indian Water Issues 119. Industrial Wastewater 120. Infiltration 121. Information Dissemination 122. Insecticides 123. Insects 124. Institutional Relationships 125. Instream Flow 126. Interbasin Transfers 127. Invertebrates 128. Ion Exchange 129. Irrigation 130. Irrigation Management 131. Irrigation Scheduling 132. Irrigation Systems 133. Isotopes | <p>J</p> <ol style="list-style-type: none"> 134. Karst Hydrology | <p>K</p> <ol style="list-style-type: none"> 135. Lagoons 136. Lakes 137. Land Use 138. Landscape Management 139. Land-Water Interactions 140. Law 141. Leaching | <p>L</p> <ol style="list-style-type: none"> 142. Marketing 143. Marinas 144. Marine Resources 145. Marshes 146. Mathematical Models 147. Membranes 148. Microclimatology 149. Mineralogy 150. Mining 151. Model Studies | <p>M</p> <ol style="list-style-type: none"> 152. Moisture Uptake 153. Mountain Lakes/Streams 154. Multiple-Objective Planning | <p>N</p> <ol style="list-style-type: none"> 155. Navigation 156. Nitrogen 157. Numerical Analysis 158. Nutrients | <p>O</p> <ol style="list-style-type: none"> 159. Oil-Water Interfaces 160. Open Channels 161. Operation Research 162. Optimization 163. Organic Compounds 164. Osmosis 165. Oxidation 166. Ozonation | <p>P</p> <ol style="list-style-type: none"> 167. Perched Water Table 168. Percolation 169. Pest Management 170. Pesticides 171. Phosphorus 172. Photosynthesis 173. Phreatophytes 174. Physical Chemistry 175. Planning 176. Plant Growth 177. Plant Pathology 178. Plant Stress 179. Plant-Water Relationships 180. Policy Analysis 181. Pollutants 182. Pollution Control 183. Ponds 184. Port Facilities 185. Powerplants 186. Public Health 187. Pumps | <p>R</p> <ol style="list-style-type: none"> 188. Rainfall 189. Rainfall-Runoff Models 190. Rainfall-Runoff Processes 191. Range Management 192. Recreation 193. Reels 194. Regulatory Permits 195. Remote Sensing 196. Reservoir Management 197. Reservoir Modeling 198. Resource Development 199. Resource Planning 200. Reverse Osmosis 201. Riparian Vegetation | <p>S</p> <ol style="list-style-type: none"> 202. Risk Analysis 203. Risk Management 204. River Basin Development 205. River Beds 206. Rivers 207. Runoff | <p>T</p> <ol style="list-style-type: none"> 208. Saline Soils 209. Saline-Freshwater Interfaces 210. Salinity 211. Sanitary Landfills 212. Saturated Flow 213. Seawater 214. Sedimentation 215. Seismology 216. Septic Tanks 217. Sewer Systems 218. Shellfish 219. Shipping 220. Shore Birds 221. Shore Protection 222. Sludge 223. Snow 224. Socioeconomic Issues 225. Soil Chemistry 226. Soil Erosion 227. Soil Microbiology 228. Soil Physics 229. Soil-Water Relationships 230. Solar Energy 231. Solute Transport 232. Springs 233. Statistics 234. Stochastic Hydrology 235. Stochastic Processes 236. Storm Water Management 237. Streams 238. Subsidence 239. Subsurface Drainage 240. Surface Drainage 241. Surface-Groundwater Relationships 242. Suspended Sediments 243. Synthetic Hydrology 244. Synthetic Organics 245. Systems Analysis 246. Systems Engineering | <p>U</p> <ol style="list-style-type: none"> 247. Thermodynamics 248. Tidelands 249. Time-Series Analysis 250. Tourism 251. Toxic Substances 252. Trace Elements | <p>V</p> <ol style="list-style-type: none"> 253. Trace Organics 254. Tropics | <p>W</p> <ol style="list-style-type: none"> 255. Underground Storage Tanks 256. Unsaturated Flow 257. Urban Drainage 258. Urban Hydrology 259. Urban Planning 260. Urban Water Systems | <p>X</p> <ol style="list-style-type: none"> 261. Viruses | <p>Y</p> <ol style="list-style-type: none"> 262. Waste Disposal 263. Wastewater 264. Wastewater Irrigation 265. Wastewater Treatment 266. Water Chemistry 267. Water Demand 268. Water Harvesting 269. Water Law 270. Water Levels 271. Water Quality 272. Water Quality Control 273. Water Quality Management 274. Water Quality Modeling 275. Water Quality Monitoring 276. Water Quality Standards 277. Water Resources Development 278. Water Reuse 279. Water Rights 280. Water Softening 281. Water Treatment 282. Water Treatment Facilities 283. Water Use Data 284. Water Use Efficiency 285. Water Use Monitoring 286. Watershed Management 287. Waves 288. Weather Data Collection 289. Weather Forecasting 290. Weather Modification 291. Weeds 292. Well Hydraulics 293. Wetlands 294. Wildlife Management | <p>Z</p> <ol style="list-style-type: none"> 295. Zooplankton 296. Zoning |
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