

Marine Advanced Technology Education Environmental Monitoring Employer Survey

This survey is being conducted by the Marine Advanced Technology Education (MATE) Center, a project of the National Science Foundation. The MATE Center is located at Monterey Peninsula College in Monterey, California. This survey is designed to assess your need for skilled workers in environmental occupations. One of the goals of this survey is to better align the educational and training resources in our community with your current and future workforce needs. The results of this survey and the accompanying report will be made available to all organizations participating in this survey. This is a confidential survey that will be entered into a database for statistical purposes only. Only the information in question one and two will be linked to your organization by name.

Organization Name: _____

Organization Address: _____

Name of person completing this form: _____

Your role within the organization: _____

Phone Number: _____ Fax: _____

Email: _____ Website address: _____

1) Which of the following best describes your organization? (Please check all that apply.)

- | | |
|--|--|
| <input type="checkbox"/> Agricultural Consulting | <input type="checkbox"/> Geotechnical Engineer |
| <input type="checkbox"/> Air Pollution Control | <input type="checkbox"/> GIS/GPS Consulting |
| <input type="checkbox"/> Aquaculture or Mariculture | <input type="checkbox"/> Government Agency |
| <input type="checkbox"/> Chemistry—Analytical or Consulting | <input type="checkbox"/> Hazardous Materials |
| <input type="checkbox"/> Civil Engineering | <input type="checkbox"/> Laboratories—Marine Biology |
| <input type="checkbox"/> Computer Hardware/Software | <input type="checkbox"/> Laboratories—Testing and Analysis |
| <input type="checkbox"/> Conservation Organization | <input type="checkbox"/> Lead Testing and Abatement |
| <input type="checkbox"/> Diving | <input type="checkbox"/> NGO or Non-Profit |
| <input type="checkbox"/> Instrumentation Design & Construction | <input type="checkbox"/> Research or Education |
| <input type="checkbox"/> Environmental Consulting—CEQA/NEPA | <input type="checkbox"/> Water Supply Engineers |
| <input type="checkbox"/> Env. Consulting—Monitoring & Compliance | <input type="checkbox"/> Water Treatment |
| <input type="checkbox"/> Environmental Law | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Fisheries Consulting | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Forestry Consulting | |

2) Please describe the primary functions of your organization: _____

3) Number of workers employed by your organization? _____ Number hired annually? _____

4) How many of your employees perform some type of environmental monitoring? _____

5) The following chart is designed to describe your technical, engineering, and scientific staff. Information on job duties would also be greatly appreciated. If possible, please attach job descriptions for each position. (H.S. = High School, A.S. = 2-year degree, B.S. = 4-year degree, M.S. = Master's)

Job Titles for Engineering, Scientific, and Technical Staff	Type of worker?	Number of workers?	Most appropriate level of education?	Current demand for these workers?	Do you plan to increase the number of workers in the next three years?
1.	<input type="checkbox"/> Technician <input type="checkbox"/> Engineer <input type="checkbox"/> Scientist <input type="checkbox"/> Other		<input type="checkbox"/> H.S. <input type="checkbox"/> M.S. <input type="checkbox"/> A.S. <input type="checkbox"/> Ph.D. <input type="checkbox"/> B.S. <input type="checkbox"/> tech/trade certificate	<input type="checkbox"/> High <input type="checkbox"/> Ave. <input type="checkbox"/> Low	<input type="checkbox"/> Increase by how many?____ <input type="checkbox"/> Remain Stable <input type="checkbox"/> Decrease
2.	<input type="checkbox"/> Technician <input type="checkbox"/> Engineer <input type="checkbox"/> Scientist <input type="checkbox"/> Other		<input type="checkbox"/> H.S. <input type="checkbox"/> M.S. <input type="checkbox"/> A.S. <input type="checkbox"/> Ph.D. <input type="checkbox"/> B.S. <input type="checkbox"/> tech/trade certificate	<input type="checkbox"/> High <input type="checkbox"/> Ave. <input type="checkbox"/> Low	<input type="checkbox"/> Increase by how many?____ <input type="checkbox"/> Remain Stable <input type="checkbox"/> Decrease
3.	<input type="checkbox"/> Technician <input type="checkbox"/> Engineer <input type="checkbox"/> Scientist <input type="checkbox"/> Other		<input type="checkbox"/> H.S. <input type="checkbox"/> M.S. <input type="checkbox"/> A.S. <input type="checkbox"/> Ph.D. <input type="checkbox"/> B.S. <input type="checkbox"/> tech/trade certificate	<input type="checkbox"/> High <input type="checkbox"/> Ave. <input type="checkbox"/> Low	<input type="checkbox"/> Increase by how many?____ <input type="checkbox"/> Remain Stable <input type="checkbox"/> Decrease
4.	<input type="checkbox"/> Technician <input type="checkbox"/> Engineer <input type="checkbox"/> Scientist <input type="checkbox"/> Other		<input type="checkbox"/> H.S. <input type="checkbox"/> M.S. <input type="checkbox"/> A.S. <input type="checkbox"/> Ph.D. <input type="checkbox"/> B.S. <input type="checkbox"/> tech/trade certificate	<input type="checkbox"/> High <input type="checkbox"/> Ave. <input type="checkbox"/> Low	<input type="checkbox"/> Increase by how many?____ <input type="checkbox"/> Remain Stable <input type="checkbox"/> Decrease
5.	<input type="checkbox"/> Technician <input type="checkbox"/> Engineer <input type="checkbox"/> Scientist <input type="checkbox"/> Other		<input type="checkbox"/> H.S. <input type="checkbox"/> M.S. <input type="checkbox"/> A.S. <input type="checkbox"/> Ph.D. <input type="checkbox"/> B.S. <input type="checkbox"/> tech/trade certificate	<input type="checkbox"/> High <input type="checkbox"/> Ave. <input type="checkbox"/> Low	<input type="checkbox"/> Increase by how many?____ <input type="checkbox"/> Remain Stable <input type="checkbox"/> Decrease
5.	<input type="checkbox"/> Technician <input type="checkbox"/> Engineer <input type="checkbox"/> Scientist <input type="checkbox"/> Other		<input type="checkbox"/> H.S. <input type="checkbox"/> M.S. <input type="checkbox"/> A.S. <input type="checkbox"/> Ph.D. <input type="checkbox"/> B.S. <input type="checkbox"/> tech/trade certificate	<input type="checkbox"/> High <input type="checkbox"/> Ave. <input type="checkbox"/> Low	<input type="checkbox"/> Increase by how many?____ <input type="checkbox"/> Remain Stable <input type="checkbox"/> Decrease
6.	<input type="checkbox"/> Technician <input type="checkbox"/> Engineer <input type="checkbox"/> Scientist <input type="checkbox"/> Other		<input type="checkbox"/> H.S. <input type="checkbox"/> M.S. <input type="checkbox"/> A.S. <input type="checkbox"/> Ph.D. <input type="checkbox"/> B.S. <input type="checkbox"/> tech/trade certificate	<input type="checkbox"/> High <input type="checkbox"/> Ave. <input type="checkbox"/> Low	<input type="checkbox"/> Increase by how many?____ <input type="checkbox"/> Remain Stable <input type="checkbox"/> Decrease
7.	<input type="checkbox"/> Technician <input type="checkbox"/> Engineer <input type="checkbox"/> Scientist <input type="checkbox"/> Other		<input type="checkbox"/> H.S. <input type="checkbox"/> M.S. <input type="checkbox"/> A.S. <input type="checkbox"/> Ph.D. <input type="checkbox"/> B.S. <input type="checkbox"/> tech/trade certificate	<input type="checkbox"/> High <input type="checkbox"/> Ave. <input type="checkbox"/> Low	<input type="checkbox"/> Increase by how many?____ <input type="checkbox"/> Remain Stable <input type="checkbox"/> Decrease

Questions #6-8 are to assess your workforce needs in terms of General, Computer, and Technical skills.

6) General Skills

What are the greatest weaknesses you find in new employees that adversely affect their performance on the job? (Please check all that apply.)

- | | |
|---|--|
| <input type="checkbox"/> Poor reading comprehension (technical manuals, procedures) | <input type="checkbox"/> Have difficulty meeting deadlines |
| <input type="checkbox"/> Not comfortable with math through calculus | <input type="checkbox"/> Poor problem solving skills |
| <input type="checkbox"/> Not able to perform statistical analyses | <input type="checkbox"/> Do not think creatively |
| <input type="checkbox"/> Poor listening skills (e.g., following instructions) | <input type="checkbox"/> Lack motivation and initiative |
| <input type="checkbox"/> Weak written communication skills | <input type="checkbox"/> Do not work well in teams |
| <input type="checkbox"/> No experience with technical writing | <input type="checkbox"/> Do not work well with minimal supervision |
| <input type="checkbox"/> Weak oral communication skills | <input type="checkbox"/> Fluency in a foreign language |
| <input type="checkbox"/> Not computer literate | <input type="checkbox"/> Other_____ |
| | <input type="checkbox"/> Other_____ |

7) Computer Skills

i) Which computer platforms are frequently used in your organization? (Please check all that apply.)

- Macintosh PC UNIX workstation

ii) When hiring a new employee, how important are the following computer skills? (1 = not relevant, 2 = not a major consideration, 3= important, 4 = essential)

- | | | | |
|---------|---|---------|--|
| 1 2 3 4 | UNIX & UNIX utilities | 1 2 3 4 | TNT/MIPS (GIS) |
| 1 2 3 4 | MS Word or other word processing | 1 2 3 4 | GRASS (GIS) |
| 1 2 3 4 | MS Excel or other spreadsheet | 1 2 3 4 | Remote sensing & Image Processing |
| 1 2 3 4 | MS Power Point or other presentation software | 1 2 3 4 | Stats programs (Statview, SPLUS) |
| 1 2 3 4 | MS DOS | 1 2 3 4 | MATLAB or Mathematica |
| 1 2 3 4 | Windows 95 | 1 2 3 4 | Drafting software (CAD) |
| 1 2 3 4 | C or C++ | 1 2 3 4 | HTML for development of web sites |
| 1 2 3 4 | BASIC | 1 2 3 4 | JAVA, PERL, or CGI programming |
| 1 2 3 4 | FORTTRAN | 1 2 3 4 | Adobe Photoshop or other image processing software |
| 1 2 3 4 | STELLA or other modeling software | 1 2 3 4 | Other_____ |
| 1 2 3 4 | ArcView (GIS) | 1 2 3 4 | Other_____ |
| 1 2 3 4 | ARC/INFO (GIS) | 1 2 3 4 | Other_____ |

8) Technical Skills

When hiring a new employee, how important or desirable are the following technical skills? (1 = not relevant, 2 = not a major consideration, 3= important, 4 = essential)

1 2 3 4	Biological sampling techniques	1 2 3 4	Welding or Machining
1 2 3 4	Geological survey techniques	1 2 3 4	Construction
1 2 3 4	Water quality monitoring	1 2 3 4	Drawing and interpreting maps
1 2 3 4	Hydrographic mapping	1 2 3 4	GPS mapping techniques (TRIMBLE)
1 2 3 4	Laboratory techniques (chemical)	1 2 3 4	Knowledge of hazardous materials
1 2 3 4	Laboratory techniques (biological)	1 2 3 4	Knowledge of oil spill cleanup procedures
1 2 3 4	Soil analysis techniques		
1 2 3 4	Atmospheric monitoring	1 2 3 4	Scuba diving certification
1 2 3 4	Aquatic husbandry	1 2 3 4	USCG licensed deck certification
1 2 3 4	Use of electronic instruments	1 2 3 4	USCG licensed engine room cert.
1 2 3 4	Design/repair of electronic instruments	1 2 3 4	Marine safety
1 2 3 4	Data manipulation and analysis	1 2 3 4	Open ocean/overseas experience
1 2 3 4	Data visualization	1 2 3 4	Knowledge of a foreign language
1 2 3 4	Environmental and systems modeling	1 2 3 4	Other_____
1 2 3 4	Knowledge of EIS protocol	1 2 3 4	Other_____
1 2 3 4	Knowledge of CEQA/NEPA	1 2 3 4	Other_____
1 2 3 4	Outboard motor/diesel engine repair		

9) What five skills or areas of knowledge are in the highest demand in your organization?

- i)** _____
- ii)** _____
- iii)** _____
- iv)** _____
- v)** _____

10) What do you consider to be the most important emerging technologies in your field? _____

11) Would your organization consider hiring an applicant with a two year A.S. degree if they had graduated from a program that is focused on training them in the skills needed in your field? Yes No

12) Please list the environmental-related position for which you expect to do the most hiring in the next three years: _____

i) Of the people you have hired for this position during the last 12 months, how many were hired to fill:

- ___ Vacancies resulting from promotions within your firm?
- ___ Vacancies resulting from people in permanent positions leaving your firm?
- ___ New permanent positions resulting from growth?
- ___ Temporary or seasonal positions?

ii) Is previous experience required of the people you hire for this position?

- Never
- Sometimes
- Usually
- Always

iii) If you require previous experience, what jobs provide this experience and how many months of experience meet your qualifications?

Job: _____ Months: _____

Job: _____ Months: _____

iv) What is the usual income earned in this position at the following levels of skill and experience? (Please fill out those that apply.)

New hires with no experience	\$ _____
New hires who are experienced	\$ _____
After three years experience with your firm	\$ _____

Per: (please check one) Hour Week Month Year

13) Do you offer training at your work site and/or send employees for training outside the organization?
 Yes No

If yes, what types of training do you offer? _____

What types of training or education programs would most benefit your organization?

14) Would you or your company be interested in participating in a focus group to address education issues and the future state of the workforce in environmental and marine related fields? Yes No

15) Are you interested in having students work as interns at your organization? (Students for internships will be available from all partners in the MATE program, which includes high school, 2-Year, and 4-Year degree programs.) Yes No

If yes, how many interns would you require per year? _____

In what type of work could an intern be of assistance? _____

Are there particular skills you are looking for in an intern? _____

The internship would most likely be: Paid Unpaid Approximate hourly wage: _____

16) Is there any other information that you think would be useful to students or recent graduates seeking employment in your organization? We would also be grateful for any advice to faculty designing instructional programs to help students prepare for careers with your organization.

17) Thank you for participating in this workforce survey. May we add you to our mailing list to receive updates on workforce development issues in the marine field? Yes No

18) May we add your company to our "Regional Employers" Database on our website? Yes No
Who should we list as a contact person? _____

19) I am interested in the results of this survey. Please send me a copy of the final report.
 I do not wish to receive a copy of the final report.

Thank you for taking the time to complete this survey! Your efforts will go a long way to help promote and improve the education of students and workers interested in careers in the marine and environmental field. Please send us information about your organization (such as brochures, job descriptions, and job postings) along with this survey in the return envelope provided.

Please send to:

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