

EVOS ANNUAL PROJECT REPORT

All recipients of funds from the *Exxon Valdez* Oil Spill Trustee Council must submit an annual project report in the following format by September 1 of each fiscal year for which project funding is received, with the exception of the final funding year in which a final report must be submitted. Satisfactory review of the annual report is necessary for continuation of multi-year projects. Failure to submit an annual report by September 1 of each year, or unsatisfactory review of an annual report, will result in withholding of additional project funds and may result in cancellation of the project or denial of funding for future projects.

PLEASE NOTE: Significant changes in a project's objectives, methods, schedule, or budget require submittal of a new proposal that will be subject to the standard process of proposal submittal, technical review, and Trustee Council approval.

Project Number: 03614

Project Title: Monitoring program for near-surface temperature, salinity, and fluorescence in the northern Pacific Ocean

PI Name: Stephen Okkonen

Time Period Covered by Report:

Date of Report: 5 Sept 03

1. ***Work Performed:*** Summarize work performed during the reporting period, including any results available to date and their relationship to the original project objectives. Describe and explain any deviation from the original project objectives, procedural or statistical methods, study area, or schedule. Also describe any known problems or unusual developments, and whether and how they have been or can be overcome. Include any other significant information pertinent to the project.

The thermosalinograph (TSG) has been operating continuously on the Polar Alaska since its return (October 2002) from drydock repairs in Korea. The fluorometer was damaged during preparation for installation and was returned to the manufacturer for repair. The fluorometer has been repaired and is awaiting installation. The continuous plankton recorder (CPR) project (Sonia Batten and David Welch, PIs) on the Polar Alaska has been discontinued. Nonetheless, we will continue the operation of the TSG on the Polar Alaska.

2. ***Future Work:*** Summarize work to be performed during the upcoming year, if changed from the original proposal. Describe any proposed changes in objectives, procedural or statistical methods, study area, or schedule. [***PLEASE NOTE:*** Significant changes in a project's objectives, methods, schedule, or budget require submittal of a new proposal that will be subject to the standard process of proposal submittal, technical review, and Trustee Council approval.]

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We plan to continue the operation of the TSG on the Polar Alaska and maintain our working relationship with Polar Tankers. We plan to submit a new proposal to purchase and install a TSG on whatever vessel that carries the CPR.

3. **Coordination/Collaboration:** Describe efforts undertaken during the reporting period to achieve the coordination and collaboration provisions of the proposal, if applicable.

The TSG project ran concurrently with the CPR project on the Polar Alaska. As noted above, the CPR project on the Polar Alaska has been discontinued. The TSG project will be continued on the Polar Alaska.

4. **Community Involvement/TEK & Resource Management Applications:** Describe efforts undertaken during the reporting period to achieve the community involvement/TEK and resource management application provisions of the proposal, if applicable.

N/A

5. **Information Transfer:** List (a) publications produced during the reporting period, (b) conference and workshop presentations and attendance during the reporting period, and (c) data and/or information products developed during the reporting period. [**PLEASE NOTE:** Lack of compliance with the Trustee Council's data policy and/or the project's data management plan will result in withholding of additional project funds, cancellation of the project, or denial of funding for future projects.]

Publications: none during the past year.

Presentations: A Monitoring Program for Near-Surface Temperature, Salinity, and Fluorescence Fields in the Northeast Pacific Ocean, 2003 Symposium, Marine Science in the Northeast Pacific: Science for Resource Dependent Communities, 13-17 January 2003, Anchorage, Alaska

6. **Budget:** Explain any differences and/or problems between actual and budgeted expenditures, including any substantial changes in the allocation of funds among line items on the budget form. Also provide any new information regarding matching funds or funds from non-EVOS sources for the project. [**PLEASE NOTE:** Any request for an increased or supplemental budget must be submitted as a new proposal that will be subject to the standard process of proposal submittal, technical review, and Trustee Council approval.]

No significant differences between budget and expenditures.

Report Prepared By: _____ *Steve Okkonen* _____

Project Web Site Address:
_____ *www.ims.uaf.edu/tsg/* _____

SUBMIT ANNUAL REPORTS ELECTRONICALLY TO phil_mundy@oilspill.state.ak.us. THE REPORTS WILL BE POSTED ON THE TRUSTEE COUNCIL'S WEB SITE AND SHOULD ALSO BE POSTED ON

THE PI'S WEB SITE. The subject line of the e-mail transmitting the report must include the project number and the words "annual report" (e.g., "035620 Annual Report"). Electronic reports must be submitted either as an Acrobat Portable Document Format (PDF) file or word processing document (Microsoft Word 2000 for Windows or lower or WordPerfect 9.0 or lower) with any figures and tables imbedded. Acrobat PDF 4.0 or above file format must be used, preferably in 'formatted text with graphics' (called "PDF normal" under Acrobat PDF 4.0) format. Minimally, "PDF searchable image" (called "PDF original image with hidden text" under Acrobat PDF 4.0) may be used if pre-approved by the Trustee Council Office. In either case, the PDF file must not be secured or locked from future editing, or contain a digital signature from the principal investigator.

Brenda Hall

From: Phil Mundy [phil_mundy@oilspill.state.ak.us]
Sent: Friday, September 05, 2003 3:57 PM
To: 'Steve Okkonen'
Cc: Rob Bochenek; 'Brenda Hall'
Subject: RE: Annual Reports due - September 2, 2003 Annual Report 030614 Okkonen

Steve - Thanks for the report. Would appreciate it if you complete the project identification information in the future, because it saves us time not to have to track it down. I am requesting your responses to the following points as an addendum to your Annual Report.

0. When will the fluorometer be deployed?

1. When will final data sets and preliminary data sets be available? The latest data on the web site is March 17 - 22. Have we collected data since March 22? I didn't see plans or comments in your report about QA/QC on existing data sets. I know we have been in experimental mode getting this TSG going, however some of the data on the web site are still kind of wild and wooly looking. I use the starting date of the transect for identification in these comments. For example March 17 '03 series makes sense, but some of the other plots do not. The March 5 '03 time series, for example, shows some wide fluctuations in salinity. Are these real, or are they Memorex? October 31 '02 shows some wide fluctuations in temperature coming out of Long Beach. Feb 16 shows some kind of problem with equipment in the middle of the transect for both temperature and salinity. Feb 8 '03 time series shows only temperature, with some unbelievable increases in temperature nearing Valdez. And so forth.

Since the web site is the primary interface to the products of the project, I would expect preliminary data to be so labeled, and periodically given the final QA/QC where problems are noted, bad data discarded, and a final product provided. A link should be provided to a table of the numbers plotted in the finals, along with a link to the metadata describing the limitations and precision of the data (T, S, lat, long, time, date).

2. Has this been done yet? "As part of normal ship operations the sea chest is flushed continuously with a dilute solution of sodium hypochlorite to limit biological growth. This probably will not affect the conductivity measurements, but this should be tested by cycling the "chloropac" generator off and on when the TSG is taking data." (Text quote from the web site)

3. Sonia Batten showed me some data comparing three different

methods of taking temperatures from the Polar Sea which appeared to be a valuable validation of the through the hull temperature sensor used by the project. Are these data available to our project? If so would you please include the data (tables are fine) as part of this addendum to the annual report.

4. Would you please provide a brief discussion about what, if anything, the data collected so far might demonstrate with regard to the features and properties identified below (from the web site). I am not looking for a publishable manuscript, just interested in seeing if we could report on some preliminary products other than the working relationship with the tanker company and the installation and demonstration of the TSG.

- Identify the seasonal migration and evolution of frontal features associated with the Alaska Coastal Current (ACC), shelf break, and mesoscale eddies.

- Identify the dominant length scales of variability (and seasonal modulation of those length scales) characterizing the near-surface temperature, salinity, and fluorescence fields along the shipping corridor.

- Compare TSG/fluorometer measurements with TOPEX altimeter observations of the Gulf of Alaska eddy field.

- Compare TSG/fluorometer data with contemporaneous NEP GLOBEC and Continuous Plankton Recorder field data (see also PICES projects).

5. " The GPS antenna is mounted inside the engineers' office up against the window glass. The GPS is able to receive signals from enough satellites to enable it to compute fixes most of the time. On this ship it would be difficult to relocate the GPS antenna to a more favorable location." Question: Does the ship's computer log the location at GMT often enough for this to be used as a backup for the GPS? Would the shipping company make a record of these data available to you?

6. "Within the next six months this brief description of the Polar Alaska TSG system will be expanded and updated." (From the web site) Could you elaborate on these plans?

Thanks

Phil Mundy
907-278-8012

-----Original Message-----

From: Steve Okkonen [mailto:okkonen@alaska.net]

9/8/2003

Sent: Friday, September 05, 2003 9:32 AM
To: Brenda Hall
Cc: Phil Mundy
Subject: Re: Annual Reports due - September 2, 2003

Hello Brenda and Phil,

I have attached the annual report form. If you have any questions,
give
me a shout.

Steve