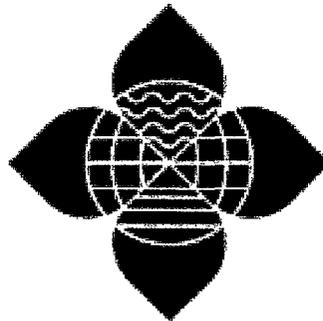


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Report No. 9      October 31, 2000

**REPORT**  
(COVERING THE THIRD QUARTER OF 2000)  
**GRANT AWARD No. 121-A-00-98-00615-00**

**THE UKRAINIAN LAND AND RESOURCE  
MANAGEMENT CENTER**  
(A Not-for-Profit Center of Excellence  
in Remote Sensing and Geographic Information Systems)



**Submitted by:**

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## **Introduction**

This is the ninth report to the U.S. Agency for International Development (USAID) under Cooperative Agreement No. 121-A-00-98-00615-00 in support of the establishment of the Ukrainian Land and Resource Management Center (ULRMC). ERIM is submitting this report to cover the third quarter of 2000 as per its understanding with USAID that ERIM should submit quarterly reports throughout the extension period of May 8 - December 31, 2000. The extension of the Cooperative Agreement was approved by USAID in a written notification to ERIM, dated June 14, 2000.

As with previous reports, this report is organized by tasks, as outlined within the grant documentation, and discusses the most significant events and issues that have occurred during this reporting period of July 1, 2000, through September 30, 2000. Additionally, we have added a section on "Quarterly Highlights." Copies of this report are being provided to the addressees listed in Attachment 1 to the grant agreement, as well as to Environmental Advisor and ULRMC Project Officer, Mr. Dan Thompson, in the Kyiv Mission.

Continuing our reporting practice from the last three quarterly reports, we have included a matrix (Table 2) showing the status of major tasks and subtasks detailed under the statement of work. The matrix shows, by quarterly report, which tasks have been completed, which are ongoing, and which are yet to be initiated. We are pleased to report that all tasks have been initiated and completed, or are ongoing and nearing completion.

## **Quarterly Highlights**

### **Third Quarter 2000**

As the two-year Cooperative Agreement with ERIM expired on May 7, 2000, USAID contracted Management Systems International (MSI) to conduct an “end of project” independent evaluation of ERIM’s implementation of the Ukrainian Land and Resource Management Center program. Please see Attachment 1 for the Scope of Work for the Independent Evaluation. This evaluation took place over August and September 2000 in Washington, D.C., and Kyiv, where MSI interviewed present and former representatives of USAID, ERIM, ULRMC, the Environmental Resources and Research Institute of Ukraine (ERRIU), the Ukrainian government, the U.S. Geological Survey (USGS) and other collaborative partners in the ULRMC program. Please refer to Attachment 2 for a complete list of interviewees. Beginning in July 2000, ERIM worked very closely with MSI in preparation for the independent evaluation, compiling and providing MSI with substantial background documentation. The majority of this information was also provided directly to USAID Kyiv in the form of a “Reference Book” compiled by ERIM for the independent evaluation process.

On August 18, 2000, ULRMC executed a subcontract with the Space Research Institute of Ukraine, which falls under the auspices of the National Academy of Sciences of Ukraine and the National Space Agency of Ukraine. The subcontract for 30,000 Ukrainian Hryvnias calls for ULRMC to work with imagery acquired from the Ukrainian-Russian satellite Okean-O. This subcontract will largely be completed in the fourth quarter of 2000.

In September, ULRMC was approached by USAID, the U.S. Environmental Protection Agency (EPA) and the U.S. Centers for Disease Control and Prevention (CDC) to assist in a mission requested by the Government of Ukraine to investigate health issues in Mykolaiv Oblast. On September 20 – 21, ULRMC General Director Oleksandr Kolodyazhnyy accompanied USAID, EPA and CDC representatives to Boleslavchyk to conduct a site visit of one of the affected areas. To provide continued support of these efforts, ULRMC has established a Client Services webpage, which ULRMC continually updates as information products become available. ULRMC would like to acknowledge that the source data used in constructing this webpage and in producing the associated data applications were provided by the Ministry for Ecology and Natural Resources of Ukraine, its Department for Hydrometeorology, and the State Water Committee, as well as oblast and local representations.

To access this webpage, please visit the ULRMC website and enter the “Client Services” section. Once in Client Services, click on “Health Issues in the Mykolaivs'ka Oblast of Ukraine.” The user name is “epa-cdc” and the password is “usaid.” This webpage combines source data from official Ukrainian sources, satellite imagery from ULRMC’s archive, and ULRMC-produced data applications. Nearly all of the source data acquired was originally in Ukrainian / Russian and was translated, as necessary.

Given the amount of work required, ULRMC continues to improve the content and quality of this webpage.

In September, after developing and implementing an information system for collection, storage and maintenance of land cadastre data in Pustomyty District, Lviv Oblast, ULRMC completed its demonstration project for Land Cadastre and Privatization. Potential users of this type of system include local state organs for land resources, land cadastre bureaus, and other private enterprises and organizations involved in land planning activities. Ukrainian government representatives praised the efforts and results of the project, which helped further USAID's own objectives in promoting land privatization.

As required per the Cooperative Agreement, ULRMC began drafting its second Annual Report on the State of Remote Sensing and GIS in Ukraine. Completion is estimated for the end of December. Initial drafts indicate that this edition of the report will differ greatly from the first edition, providing much more in-depth detail and analysis. Where and when appropriate, ULRMC is engaging the participation and contributions of other remote sensing and GIS experts in Ukraine so as to broaden the scope and coverage of the annual report.

## **Task 1 Identify Requirements**

During the reporting period, the Ukrainian government made changes within the management of the Environmental and Resources Research Institute of Ukraine (ERRIU), ERIM's partner in the ULRMC joint venture. On September 11, 2000, President Kuchma signed Decree Number 1058/2000, removing Dr. Kostyantyn K. Yartsev from the position of Director of ERRIU. Dr. Oleksandr M. Trofymchuk currently serves as Acting Director of ERRIU, and ULRMC continues to benefit from the established partnership between ERIM and ERRIU. ERIM, together with ERRIU, looks forward to making further strides forward in their efforts toward the continued success of ULRMC.

## **Task 2 Project Planning**

This task is mostly completed. Upkeep and administrative tasks, such as providing project progress reporting, continue to be performed. During the reporting period ERIM utilized its No-cost Extension in order to complete its demonstration projects on Flood and Fire Monitoring and Prediction Within the Chornobyl Exclusion Zone and on Land Cadastre and Privatization.

### **Task 3 Infrastructure**

The ULRMC website (<http://www.ulrhc.org.ua>) residing on the server in Kyiv continues to be updated with pages in both Ukrainian and English. Most notably, ULRMC added a Client Services webpage for USAID, EPA, and CDC in support of the joint effort to investigate the recent health problems in Mykolaiv Oblast.

The High Resolution Picture Transmission (HRPT) station continues to perform daily acquisitions of NOAA and SeaWiFS satellite imagery with the potential to collect images of much of the region beyond Ukraine, including central and northern Europe, much of the western portion of European Russia, the Central Asian republics, the Mediterranean Sea, and parts of northern Africa. Images are acquired and displayed on the ULRMC website in near real time. Several attachments demonstrate ULRMC's work during the reporting period using the HRPT station, purchased and installed with USAID grant funds. Included are illustrations concerning the following:

- Satellite-derived Water Surface Temperature Map for the Black Sea, July 13, 2000
- Ecological Disaster Zone in Pervomaisk District, Mykolaiv Oblast, depicted by Landsat imagery acquired on July 1, 1998 (Updated by ULRMC in September 2000)
- Ecological Disaster Zone in Pervomaisk District, Mykolaiv Oblast, depicted by Okean-O images acquired on September 23, 1999 and November 10, 1999 (Updated by ULRMC in September 2000)
- Sample Webpage from ULRMC Website Client Services Section, Prepared for U.S. EPA and CDC for assistance to the Government of Ukraine
- Okean-O Image of Zakarpattia Region Combined with a Data Elevation Model (DEM), April 17, 2000 (Updated by ULRMC in September 2000)
- Apparent Fire and Smoke Situation in Greece, August 15, 2000
- Final Version of ULRMC Fire Monitoring Website Application, July 21, 2000
- Mosaic Coverage of Ukraine included in ULRMC's Landsat Image Archive

### **Task 4 Outreach Office**

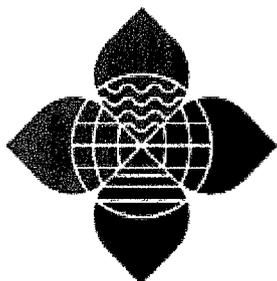
This task is complete. The outreach office activities have been transferred to the new facility in an effort to consolidate ULRMC managerial, marketing, business development, and technical activities.

## **Task 5 ULRMC Management Issues**

A major focus of ERIM and ULRMC project management continues to be the development of follow-on funding for ULRMC, both in terms of donor assistance and revenue-generating projects. The grant from USAID has addressed the establishment of ULRMC and the installation of infrastructure that can support a state-of-the-art remote sensing and GIS institution. Additionally, USAID grant funds have supported the managerial and technical development of ULRMC through the training of Ukrainian staff on sound business practices and concepts and through the accomplishment of demonstration projects, respectively. This work has largely progressed as planned.

## **Task 6 Information (Data) and Imagery Archive**

With the establishment of a permanent ULRMC facility and the associated computer hardware, ULRMC has identified personnel and workstation spaces that will be dedicated to the population of the information and imagery archive. Elements of the archive, which is continually evolving in terms of added imagery, can be reviewed on the ULRMC website. This essentially completes the final task specified under the grant.



## Table 1 Demonstration Projects (Task 7)

Table 1 below provides a status of active demonstration projects supported with grant funds.

<b>Table 1. Demonstration Projects</b>				
<b>Project Title</b>	<b>Description</b>	<b>Author/Organization</b>	<b>Customer/Client</b>	<b>Status</b>
Western Ukraine Flood Assessment	Spot/Landsat data analysis of November 1998 floods with GIS overlay.	Sadowski (EI) Kolodyazhnyy (ULRMC)	Government of Ukraine	Completed in fall / winter 1998. Information on CD and in hard copy delivered to the customer.
Kyiv Oblast GIS	Commercial project to compile a countrywide GIS, including physical and social data, in support of direct investment interests of the primary client.	Hearn (USGS) Chiesa (EI) Kolodyazhnyy (ULRMC) Potapenko (ULRMC)	General Motors Government of Ukraine	Completed in fall 1999. Anticipating future requirements once GM's business approach to the Ukrainian market is developed.
Real-time NOAA/SeaWiFS Satellite Data Reception and Processing	Established ability of ULRMC to receive and process real-time SeaWiFS and NOAA data.	ULRMC	Orbital Science Corporation Commercial Sector Government of Ukraine	Completed hardware and software installation in November 1999. System presently operational and imagery being used by ULRMC for various applications.
Agricultural Privatization Assistance	Create GIS-based system including prediction and economics for management of agribusiness and related statistics in Ukraine.	Sadowski (EI) Kobets (ULRMC) Wigton (AAIC)	USAID Government of Ukraine Commercial Sector	Completed data collection and compilation in March 2000. First prototype IDPs prepared. Support from the Lviv Imagery Archive has been obtained. Report delivered to ERIM and USAID Kyiv.
Flood and Fire Monitoring and Prediction Within the Chernobyl Exclusion Zone	Develop mechanism for flood and fire monitoring in the Chernobyl Exclusion Zone and surrounding areas to prevent radionuclide dispersion.	Kopiyka (ULRMC) Ischuk (ULRMC) Shvaiko (ULRMC) Kolodyazhnyy (ULRMC)	Government of Ukraine	Completed in July 2000. Seminar held on April 24, 2000, to present preliminary results of the project. Final report completed and distributed widely.

<b>Project Title</b>	<b>Description</b>	<b>Author/Organization</b>	<b>Customer/Client</b>	<b>Status</b>
Land Cadastre and Privatization	Assistance in Lviv Oblast for land privatization and cadastre development.	Grekov (ULRMC)	Government of Ukraine Lviv Regional Administration	Completed in September 2000. Held seminar at ULRMC on June 29, 2000, to review status. Final report being completed.
Health Issues in the Mykolaiv Oblast of Ukraine	Information support system to aid U.S. EPA and CDC experts invited by the Government of Ukraine to investigate the health concerns in the oblast.	Kolodyazhnyy (ULRMC) Luhmann (ERIM)	EPA / CDC / USAID Government of Ukraine	Completed in October 2000. ULRMC General Director traveled with EPA / CDC / USAID delegation to oblast in September 2000. Web-based information support system launched in October 2000. Follow-on work possible.
Remote Sensing Data Availability System	Development of an internet-based data availability system.	Kolodyazhnyy (ULRMC)	Commercial Sector	MOU signed with Imagery Archive in Lviv.
Landsat Base Map	Geo-coded with DEM Landsat imagery of entire country.	Sadowski (ERIM) ULRMC	Government of Ukraine Commercial Sector USAID	Imagery ordered. Potential to use IFSARE being explored.
Environmental Monitoring and Management of Water Resources	Environmental management of water resources.	Kolodyazhnyy (ULRMC)	Government of Ukraine World Bank Ukrainian Public	Project is in its initial stages. ULRMC is seeking additional funding through the Canadian Government.
Black Sea Biodiversity Preservation	GIS-based analysis of habitat, species requirements, corridors, land use, and land change.	Prydatko (ULRMC) Moore (ERIM) White (ERIM)	World Bank Government of Ukraine USAID	Currently awaiting WB funding profile. Preparing briefing support for Ukrainian Verkhovna Rada.
Black Sea Oil Spills and Bilge Dumping Monitoring System	Detection of bilge dumping and oil spills in the Black Sea.	Shuchman (ERIM) Kolodyazhnyy (ULRMC) Tsymbol (ULRMC Partner)	U.S. Dept. of Defense (DOD) World Bank Government of Ukraine USAID	Potential DOD (U.S. Navy) data rescue project. A proposal has been submitted following initial briefings and program development discussions.
Chornobyl GIS Data Layers	Preparation of 3m littoral time images and 3m Digital Elevation Mapping (DEM).	Shuchman (ERIM) Luhmann (ULRMC)	Canadian GIS Project Government of Ukraine	Awaiting declassification of U.S. national imagery; exploring use of IFSARE. Approval of Ukrainian government being pursued.

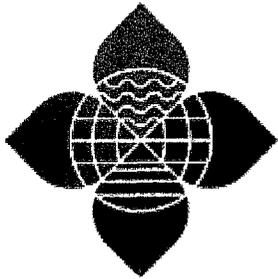
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## **Discussion**

ULRMC will continue to market remote sensing and GIS-based decision support tools to commercial and civil government customers and will continue providing support to Ukraine to meet the challenges of sustainable development, environmental stewardship, and natural disaster response and planning. Along these lines, ULRMC is completing a business plan, including financial requirements, for the next five years of the organization. This period is considered to be critical by ERIM and ULRMC program management to the eventual self-sustainability of ULRMC.

In connection with the original intent of the grant, ERIM and ULRMC has used and continues to use the No-cost Extension period as a time to focus on internal, as well as external training requirements. Over the course of the past six months, ULRMC has learned of the interests of several Ukrainian institutions in having training courses provided in remote sensing and GIS. Whereas ULRMC has concentrated its training to date on internal requirements, the coming months will allow ULRMC to invite its industry and government colleagues to future training programs. The recent Seminar on Land Resource Management and Privatization, as well as the student program with Kyiv National University, begin to demonstrate this future direction.

ULRMC expects to expand its reach beyond Ukraine, helping other commercial and civil governmental customers in the region (Poland, Hungary, Caspian region) to plan and implement infrastructure improvement programs, environmental management projects, and improved systems of emergency planning and response.



**Table 2 Reporting Status of Major Tasks and Subtasks**

Period Covered	Quarterly Report Submission								
	#1	#2	#3	#4	#5	#6	#7	#8	#9
5/8/98-6/30/98	7/1/98-9/30/98	10/1/99-12/31/99	1/1/99-3/31/99	4/1/99-6/30/99	7/1/99-9/30/99	10/1/99-12/31/99	1/1/00-6/30/00	7/1/00-9/30/00	
<b>MAJOR TASKS AND SUBTASKS</b>									
<b>1. Requirements</b>									
1 a Assemble roster of government agencies/programs with R.S. applications.	X								
1 b Identify/summarize needs and market assessment already done.	O	O	O	O		O	O		
1.c. Analysis/forecast of ongoing/planned R.S. or GIS commercial activity in Ukraine.			O		O	O	O	O	O
1.d. Identify similar R.S. or GIS activities sponsored by int'l donor organizations.			O		O	O	O		
1.e. Assess current and implement/integrate new R.S and mapping techniques into land survey					O			O	O
1 f. Develop marketing plan, document user requirements	O	O	O	O	O	O	O	O	O
1 g Conduct fast track data analysis.	X								
<b>2. Planning</b>									
2.a. Initial workshop.	X								
2.b. Workplan developed/delivered.	O	X							
2.c. Follow-up meeting.		X							
2 d Final plan delivered		X							
2 e Periodic reviews (including Technical Reviews).		O	O				O	O	
<b>3. Infrastructure</b>									
3 a. Establish organizational structure.	X								
3.b Acquire data analysis facilities.		O		O	O	X			
3.c. Establish informational exchange network	O		O	O	O	O	X		
<b>4. Liaison Office</b>									
4 a. Establish office	X								
<b>5. ULRMC Management</b>									
5 a Assure program management.	O	O	O	O	O	O	O	O	O
5.b. Identify sustainability mechanism.		O	O		O	O	O	O	O
5.c. Develop sustainability program			O		O	O	O	O	O
<b>6. Informational Archive</b>									
6.a. Identify institutional "home."	X								
6.b. Establish country digital base map archive	O	O	O	O	O	O	X		
6 c Directory of geospatial information resources.			O	O		O	O	O	O
6.d. Electronic clearinghouse			O			O	O	O	O
<b>7. Demonstration Projects</b>									
			O	O	O	O	O	O	O

X denotes completion of task, as reported in the noted reporting period or separate submission.

O denotes ongoing nature of task, as reported in the noted reporting period or separate submission

## **Attachments**

1. Scope of Work for the Independent Evaluation of USAID Cooperative Agreement Number 121-A-00-98-00615-00 with the Environmental Research Institute of Michigan (ERIM)
2. List of Persons Interviewed by MSI (July-August 2000)
3. Satellite-derived Water Surface Temperature Map for the Black Sea, July 13, 2000
4. Ecological Disaster Zone in Pervomaisk District, Mykolaiv Oblast, depicted by Landsat imagery acquired on July 1, 1998 (Updated by ULRMC in September 2000)
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8. Apparent Fire and Smoke Situation in Greece on August 15, 2000
9. Final Version of Fire Monitoring Website Application, July 21, 2000
10. Mosaic Coverage of Ukraine included in ULRMC's Landsat Image Archive

## **ATTACHMENTS**

**SCOPE OF WORK**

**STATEMENT OF WORK**

**AN INDEPENDENT EVALUATION OF  
USAID COOPERATIVE AGREEMENT 121-A-00-98-00615-00**

**WITH THE  
ENVIRONMENTAL RESEARCH INSTITUTE OF MICHIGAN (ERIM)**

**April 4, 2000**

**USAID/Kyiv**

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## **SCOPE OF WORK**

### **I. PURPOSE**

The two-year award to the Environmental Research Institute of Michigan (ERIM) is scheduled to expire on May 7, 2000. However, at ERIM's request, USAID intends to extend the project period until December 31, 2000 at no additional cost. The purpose of this evaluation is to: 1) document achievements and/or sustainable results of this two-year program; 2) document projected results and achievements that may occur before the end of the proposed no-cost extension; and 3) assist U.S. decision-makers in addressing the question of continued U.S. financial support for the ULRMC.

### **II. BACKGROUND**

On May 8, 1998, USAID awarded a cooperative agreement to the Environmental Research Institute of Michigan (ERIM), to establish a sustainable land and resource management institute in Ukraine in response to a Congressional directive in the FY 1997 Foreign Operations Appropriations Act. Congress directed that the funds be made available to USAID to establish a land and resource management institute to identify radionuclide contamination from the 1986 Chernobyl accident. According to the cooperative agreement, this appropriation provided "the opportunity to assist Ukraine in establishing accurate geographic data systems that would support assessment of environmental changes and impacts" and "informational systems needed for economic development and market reform, agricultural development, land management reform, and privatization."

As of March 1, 2000, ERIM has established the Ukrainian Land and Resource Management Center (ULRMC) in Kyiv, Ukraine and is conducting demonstration projects and services as prescribed by the grant award.

### **III. SCOPE OF THE EVALUATION**

The principal focus of the evaluation shall be ERIM's performance in meeting the terms of the USAID grant agreement. The evaluation also shall focus on a number of relevant areas that are outside of the official grant framework but that may have bearing on USAID's assessment of the overall success of the ERIM project. In evaluating ERIM's implementation of the various components of the grant award, the evaluators shall address whether the objectives of the award were met and whether proposed activities, technical assistance, and equipment were provided as planned and within the budget parameters of the award. The evaluators shall identify any unforeseen constraints and obstacles that may have affected ERIM's performance. The evaluators shall provide recommendations for USAID and/or ERIM to consider regarding possible improvements, adjustments or alternative approaches that might enhance performance and results during the no-cost extension or afterward. Finally, the evaluators shall assess ERIM's and USAID's success in fulfilling the congressional mandate.

#### **IV. IMPLEMENTING THE GRANT AWARD**

##### **1. Relevance to USAID Mission Strategic Objectives**

USAID/Kyiv accepted ERIM's unsolicited proposal and a cooperative agreement was concluded with the understanding that the activities funded under the agreement would assist the Mission in achieving a number of its strategic objectives. Recognizing that SO 1.6 (environment) was recast just prior to the approval of the agreement, the evaluators shall assess how the ERIM project resulted in progress toward achieving the Missions Strategic Objectives. The evaluators shall assess the success ERIM had in meeting the targets set forth in the relevant program documents (e.g., program description and work plan). The evaluators shall identify any constraints that may have prevented ERIM from achieving results or meeting its targets.

##### **2. Surveys, Studies and Analyses**

The grant award called for ERIM to conduct a number of surveys, studies and analyses to define more clearly Ukrainian needs for the kinds of services to be provided by the ULRMC and the commercial market for these services. The evaluators shall assess ERIM's performance in conducting and using the results of these surveys to develop a work plan and program of technical assistance that meets the needs of Ukraine from both the technical and institutional perspective.

##### **3. Establishing a Remote Sensing and GIS Institute**

The evaluators shall assess ERIM's performance in establishing the ULRMC. The evaluators shall examine ERIM's selection of partner organizations and the legal foundation on which the ULRMC was established. The evaluators shall examine the governing structure of the ULRMC and assess whether the organization meets the objectives of the USAID award. The evaluators shall assess the relationship between the ULRMC and Ukrainian authorities and evaluate the Center's independence from governmental influence. The evaluators shall assess ERIM's performance in building technical capability at the ULRMC and shall consider any constraints or obstacles that may have prevented ERIM from achieving desired results.

The evaluators shall assess the technical capacity of the ULRMC. They shall assess all aspects of the Center's operations and the quality of technical services provided by the ULRMC, including the functioning of the various systems and equipment that have been installed with USAID assistance. The evaluators shall identify any technical difficulties that the ULRMC may have in providing services. The evaluators shall assess ERIM's performance in establishing an informational archive at the ULRMC, as described in the grant award.

##### **4. Sustainability of the ULRMC**

An important result that ERIM and USAID have aimed at achieving in this project is the establishment of a sustainable institution. The evaluators shall assess the sustainability of the ULRMC in terms of its financial and institutional survival without need for additional USAID support.

The award notes that "after start-up using seed monies provided under this cooperative agreement" the ULRMC would become self-sustaining through contracts and grants. The award notes that "substantial revenues" would be generated by the ULRMC. The evaluators shall assess whether any of these areas have led to revenue generation or are expected to lead to revenue generation. The evaluators shall assess any constraints that might prevent the ULRMC from generating revenue.

In assessing the ULRMC's sustainability, the evaluators shall examine possible support that may be available from Ukrainian institutions. The evaluators shall consider whether any Ukrainian institutions are capable of and willing to contribute financial resources for the continued operation of the ULRMC after USAID funding ends and if revenue generation is not sufficient to cover the cost of operation.

In addressing the question of sustainability, the evaluators should consider the whether the ULRMC's current owners are willing to continue to support the ULRMC's operations after USAID funding ends. ERIM has announced that it already has committed \$1.5 million of its own resources to support the ULRMC and the Environmental and Resources Research Institute of Ukraine (ERRIU) already provides the office facility where the ULRMC is located as an in-kind contribution to the project.

#### 5. Cost Effectiveness of the ULRMC

The evaluators shall assess whether the ULRMC is cost effective in delivering its services. The evaluators shall establish criteria for measuring cost effectiveness in collaboration with USAID and ERIM. Recognizing the possibility of reduced USAID support, the evaluators shall make recommendations for cost savings that could increase the likelihood of sustainability without compromising the mission of the ULRMC

#### 6. Evaluation of the Project's Success in Meeting Ukraine's Needs for Environmental Information

The grant award states that the primary uses for the technologies and capacity developed at the ULRMC are for digital mapping, remote sensing, geographic information systems (GIS), environmental monitoring, resource assessment, land use planning, and mapping. The evaluators shall assess whether these areas continue to be the primary uses for ULRMC capabilities and shall examine how the ULRMC has provided services in these areas. (Some of this information may be more appropriately provided in the assessment of the demonstration projects.) The evaluators shall identify any additional uses for ULRMC capabilities that have been developed by ERIM and ULRMC or that may be developed before the end of the project. The evaluators shall review all of the activities and services of the ULRMC and report which are of highest priority and greatest value to ULRMC, to the GOU and to USAID.

#### 7. Demonstration Projects

The evaluators shall assess ERIM's performance in developing demonstration projects. The evaluators shall assess the selection process and the results of each demonstration project. The evaluators shall provide a description of the demonstration projects and assess how they supported the objectives of the grant award and/or USAID strategic objectives. The evaluators

shall assess how the demonstration projects assisted in promoting the sustainability of the ULRMC.

8. Monitoring and Reporting

The evaluators shall assess ERIM's performance in monitoring and reporting on the project implementation, including timely notification of USAID of any issues that might have affected the success of project performance.

9. ERIM Technical Assistance

The evaluators shall examine the kinds of and amount of technical assistance provided and determine how effective this assistance was in meeting the needs of the ULRMC.

10. Assessment of Equipment Provided Under the Grant Award

The evaluators shall report on the condition of equipment and other major assets that have been provided to the ULRMC by ERIM. The evaluators shall identify any problems that may exist regarding customs clearance or transfer of ownership. The evaluators shall report on ERIM's plans for transferring equipment to the ULRMC or other parties during the life of the project or at the end of the project period.

**V. ASSESSMENT OF OTHER FACTORS WITH POTENTIAL TO AFFECT THE SUCCESS OF THE PROJECT**

1. U.S. Geological Survey (USGS) Guidance and Technical Support

USAID entered into a PASA with USGS to provide \$100,000 for USGS assistance in providing technical guidance to the ERIM project. USGS participated as a member of the multi-disciplinary technical panel that approved the ULRMC demonstration projects. USGS also provided expert assistance to ERIM in its response to the Government of Ukraine's request for assistance in flood control in the Zakarpatia region. The evaluators shall comment on the assistance provided by USGS and its importance to the project.

2. Ukrainian Declassification of Data and a Data Sharing Agreement between the U.S. and Ukraine

Currently, there is no bilateral agreement between the U.S. and Ukraine on the sharing of remote sensing data. In addition, Ukraine continues to classify data that would be commercially available in the U.S. The evaluators shall assess the possible impact that these factors may have had on the results of the ERIM project and the constraints that they may place upon the effectiveness of the ULRMC. The evaluators shall consider and comment on any steps that ULRMC is taking to address this issue. The evaluators should consider whether the ULRMC's access to historical data is limited to the degree that it might affect the commercial viability of ULRMC services.

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**V. ASSESSMENT OF OTHER FACTORS WITH POTENTIAL TO AFFECT THE SUCCESS OF THE PROJECT**

1. U.S. Geological Survey (USGS) Guidance and Technical Support

USAID entered into a PASA with USGS to provide \$100,000 for USGS assistance in providing technical guidance to the ERIM project. USGS participated as a member of the multi-disciplinary technical panel that approved the ULRMC demonstration projects. USGS also provided expert assistance to ERIM in its response to the Government of Ukraine's request for assistance in flood control in the Zakarpatia region. The evaluators shall comment on the assistance provided by USGS and its importance to the project.

2. Ukrainian Declassification of Data and a Data Sharing Agreement between the U.S. and Ukraine

Currently, there is no bilateral agreement between the U.S. and Ukraine on the sharing of remote sensing data. In addition, Ukraine continues to classify data that would be commercially available in the U.S. The evaluators shall assess the possible impact that these factors may have had on the results of the ERIM project and the constraints that they may place upon the effectiveness of the ULRMC. The evaluators shall consider and comment on any steps that ULRMC is taking to address this issue. The evaluators should consider whether the ULRMC's access to historical data is limited to the degree that it might affect the commercial viability of ULRMC services.

### 3. Possible Effects of No Additional U.S Funding

The evaluators shall assess the possible impact of an end to U.S. funding after the current grant award expires. This assessment shall consider which services might continue and which might need to be terminated. The evaluators shall assess possible options available to the ULRMC for non-USG financial assistance. In assessing this impact, the evaluators shall consider, as one option, the possibility that the ULRMC would have to cease operations without additional U.S. funding. The evaluators shall report on provisions in the ULRMC charter for the disposition of its assets in case of dissolution.

## **VI. TEAM COMPOSITION**

The team will consist of three people. Team members should possess superior written and verbal communication skills. Preference will be given to a team with relevant regional and developmental experience and experience with issues related to the implementation of technical assistance on GIS and remote sensing technologies, environmental engineering, and environmental policy. Overseas experience is required, preferably in the NIS region. USAID reserves the right to appoint a USAID and/or other USG employee(s) to act in the capacity of observer or consultant where appropriate in this process.

The evaluation team will possess the following required characteristics:

- (1) A team leader with a professional background in developmental work, especially in implementation of technical assistance in GIS and remote sensing, environmental engineering, and environmental policy, as well as experience in the NIS region. This person must have previous experience working on evaluations of multi-faceted, large-scale projects. He/she should preferably have Russian or Ukrainian language proficiency.
- (2) A second team member must have a background in environmental policy, and experience and/or strong background knowledge of the NIS region. Preference will be given to someone who has experience in evaluating large-scale NIS-based programs. Russian and/or Ukrainian language proficiency is also preferred. If the team leader is lacking expertise in GIS and remote sensing technologies, it is desired that the second team member be familiar with these areas.
- (3) A third team member shall be an expert in GIS and remote sensing technologies and shall participate in all phases of the evaluation through the completion of the draft evaluation report.

## **VII. METHODOLOGY**

The contractor must be thoroughly familiar with all aspects of the ERIM project through careful review of background materials prior to leaving the United States for fieldwork. The contractor will be provided with background materials regarding the design and structure of field activities being evaluated, including trip reports, draft work plans, interim performance reviews and other documents. USAID will provide the contractor with names and contact information for key individuals to interview in Washington, DC and Kyiv. Prior to departing the U.S., the contractor shall:

- interview USAID/E&E Bureau staff;
- interview by telephone former USAID/Kyiv staff;
- interview ERIM representatives;
- interview USGS technical advisors to the project to ensure that the team has a solid understanding of the programs to be evaluated; and
- interview project managers of ERIM demonstration projects by telephone.

In Ukraine, the contractors shall:

- interview USAID field officers to obtain relevant documentation, receive briefings on evaluation topics, clarify and expand on information received in Washington interviews, reconfirm relevant site visit schedules and counterpart interviews;
- interview host country counterparts to gain their perspective on the completed projects under examination from the standpoint of program impact; develop insights concerning program sustainability;
- interview ERIM and ULRMC staff and obtain necessary documents and background materials;
- visit the ULRMC and other relevant locations in Kyiv and
- attend ULRMC presentations on activities completed, in progress, or planned.

USAID/Mission environmental staff assistance in providing host country counterparts with advance notification of the evaluation will be requested by the contractor. The contractor will obtain the concurrence of the CTO in the USAID/Mission regarding subjects and schedules for interviews. The evaluation shall be conducted in a manner that recognizes Ukrainian counterpart needs and concerns and USAID Mission guidance will be sought to ensure this outcome.

The contractor is required to initiate discussions with the Kyiv Mission in advance of departure to concur on the timing and content of interview and field visits. The contractor should have established detailed schedules for Ukrainian interviews and site visits together with the Kyiv Mission prior to departing the U.S. Issues to be resolved in advance will include the number and types of counterparts to be interviewed, the content of interviews, issues to be addressed during the field visits, timing of visits to each activity site, and the logistics of travel and accommodations. The contractor will provide detailed field schedules established in consultation with the Kyiv Mission to the CTO prior to leaving the U.S.

Prior to departure from Ukraine, the contractor will discuss the preliminary results of the evaluation and the results of Washington and Kyiv interview results with the USAID/Kyiv Director, Office of Democracy and Social Transition and the USAID/Kyiv Environmental Advisor.

## **VIII. SCHEDULE**

The evaluation will start no earlier than June 1, 2000. The assignment will take place over a six- week period. It will include approximately 4 days conducting interviews in the U.S., deciding whom to contact in the host country and scheduling appointments for these meetings, for collection and review of documents, and for pre-field interviews with ERIM and USG officials. Approximately two weeks will be spent in Ukraine for field project review, interviews and

debriefing. The contractor shall brief USAID/Kyiv prior to departure from the field and, by telephone immediately following the completion of the first draft of the evaluation on the major findings and conclusions of the evaluation. The contractor shall submit the draft final report within one week of return to the U.S. and shall receive comments from USAID and from ERIM within two weeks after that. The contractor shall then prepare the final report within one week of receipt of ERIM and USAID feedback, incorporating comments and input as appropriate.

## **IX. LOGISTICAL SUPPORT**

All logistical support will be provided by the Contractor, to include travel, transportation in Ukraine, secretarial and office support, interpretation/translation services, report printing and communications, as appropriate.

## **X. WORKWEEK**

A six-day workweek is authorized.

## **XI. DELIVERABLES**

- (1) Draft work plan to be submitted to USAID/Kyiv CTO for concurrence prior to evaluators' departure for Kyiv.
- (2) Draft report outline to be submitted to ERIM and to USAID/Kyiv for concurrence by the CTO prior to evaluators' departure for Kyiv.
- (3) Draft written summary of findings and conclusions to be presented at a briefing for USAID/Kyiv and ERIM prior to evaluators' departure from Kyiv and to USAID/Washington and ERIM staff immediately after returning from the field.
- (4) Draft report to be submitted to USAID/Kyiv, USAID/Washington and ERIM no later than one week after the team's return to the U.S. In addition to the contents outlined in Section III, above, the draft and final report shall include:
  - an executive summary of the findings, conclusions and recommendations;
  - a description of the purpose of the assessment;
  - an overview of the project; and
  - conclusions and recommendations.

USAID and ERIM will have an opportunity to provide comments to contractor within two weeks after submission of draft report.

- (5) Final report, to be submitted to USAID/Kyiv no later than one week after receipt of comments from USAID and ERIM. The final report shall address all comments or USAID shall be advised in advance how the final report has been modified to account for these comments.

The contractor shall submit to USAID/Kyiv five (5) hard copies, one (1) diskette copy, and one (1) electronic mail copy in MS Word format of the draft final report. The contractor shall e-mail

one copy of the draft report to ERIM. The contractor shall submit to USAID/Kyiv ten (10) hard copies, one (1) diskette copy, and one (1) electronic mail copy in MS Word format of the final report (nine bound and one loose leaf) for distribution. The final report is not to exceed 40 pages total. Additional material may be submitted in Annexes, as appropriate (e.g. bibliography of documents analyzed, list of agencies and persons interviewed, and list

### List of Persons Interviewed (July-August 2000)

Name	Title	Organization	Dates
1. Dan Thompson	Environmental Advisor	USAID Kyiv; project CTO June 1999 to present	July 25, August 15, 16
2. Eugene M. Iwanciw	President	EMI Associates, Ltd. Arlington, VA	July 25
3. Dr. John F. Payne	Senior Wildlife Biologist/Program Lead	Alaska State Office, Bureau of Land Management U.S. Dept. of Interior Anchorage, Alaska	July 25
4. Laura Cinat	Chief Financial Officer for - ULRMC (Nov98 to Nov99)	Ukrainian Land Resource Management Center Kyiv, Ukraine	July 26
5. Alexandra B. Burke	Environmental Specialist	Bureau for Europe and the New Independent States Environmental and Natural Resources Division US-AID Washington, D.C.	July 26
6. Carl Mitchell	Deputy Division Chief	Bureau For Europe and Eurasia Environment and Natural Resources Division US-AID Washington, D.C.	July 26
7. Albert Fuerst	Program Manager for ULRMC (Jan 99 -Nov99); Deputy Program Manager May 1998-December 1998	The Environmental Research Institute of Michigan Ann Arbor, MI	July 26
8. Eric P. Luhmann	ERIM Director, International Programs ULRMC Program Manager and CFO (Dec 99 to present)	The Environmental Research Institute of Michigan Ann Arbor, MI Ukrainian Land Resource Management Center Kyiv, Ukraine	July 12 July 27 July 31 ongoing
9. Jeffrey G. Moore	ULRMC President (Dec. 99 to present) ERIM Vice President	The Environmental Research Institute of Michigan Ann Arbor, MI	July 27 July 31
10. Robert A. Shuchman	Vice President and Chief Technical Officer Director of Sustainment Science	The Environmental Research Institute of Michigan Ann Arbor, MI	July 27
11. Paul P. Heam, Jr.	Coordinator for Integrated Science Applications	Office of the Chief Geologist U.S. Geological Survey National Center Reston, VA	July 27

Name	Title	Organization	Dates
12. Karen A. Irby	Manager, National Civil Applications Program	U. S. Geological Survey	July 28
13. Dan Apple	Liaison Officer for ULRMC Outreach Office in Downtown Kyiv (May'98 -Oct'99)	Ukrainian Land Resource Management Center Kyiv, Ukraine	July 28
14. Wigton, William	President	Agricultural Assessments International Corporation	July 31
15. Martha Holder	USAID/Kyiv PSC/Environmental Advisor; CTO May 1998 to June 1999	US-AID Kyiv Office	August 3
16. Dr. Tom Bevan	Program Director (May'97 - Dec'99)	The Environmental Research Institute of Michigan Ann Arbor, MI	August 3
17. Andrey Omelchenko	Legal Advisor to ULRMC	Ukrainian Land Resource Management Center Kyiv, Ukraine	August 4 and 8
18. Craig Marks	Former ERIM President (May 1997-November 1999) Current Chairman of ULRMC Board of Directors and ERIM Board of Directors	The Environmental Research Institute of Michigan Ann Arbor, MI	August 4
19. Markian B. Silecky	Principal (served as legal counsel to ULRMC)	Silecky Organization; Hutzell Enterprises Kyiv, Ukraine	August 7
20. David S. Diamonon	Deputy Program Manager, ULRMC	Ukrainian Land Resource Management Center Kyiv, Ukraine	August 7 -18
21. Dr. Oleksandr A. Kolodyazhny	General Director, ULRMC	Ukrainian Land Resource Management Center Kyiv, Ukraine	August 7 -18
22. Victors. Chabanyuk	Director	Intelligence Systems Geo Kyiv, Ukraine	August 8
23. Y. Lyashenko O. Savchenko S. Krivenko M. Kobets O. Kopyka L. Potapenko Y. Shtepa O. Voevoda S. Kornienko V. Kalinin I. Koretsky A. Belanov V Dubrovsky V.Los M. Ryzhkova M Zalogin	Administrative Assistant Office Manager Chief Accountant Agricultural Project Manager Emergency Situations Project Manager GIS Specialist Data Processing Specialist Internet Specialist Creative Specialist Manager Information Technology Systems Administrator HRPT Station Caretaker HRPT Station Technician Director Program Devel/Marketing Manager Marketing & Research Specialist	Ukrainian Land Resource Management Center Kyiv, Ukraine	August 8 -18
24. Anatoliy Lavrentievich Bondar	General Director	Administration of Geodesy & Cartography Ministry of Ecology and Natural Resources Kyiv, Ukraine.	August 9

Name	Title	Organization	Date(s)
25. Oleh Mykolaiovych Prokopenko	Head of the Department (if Agriculture and Natural Resources	State Statistics Committee of Ukraine Kyiv, Ukraine	August 9
26. Myron Lahola	IDRC Representative	International Development Research Center Kyiv, Ukraine	August 9
27. Oleksandr Oleksiiovych Mazurkevych	Head of Department of Water Resources Management	Ministry of Ecology and Natural Resources Kyiv, Ukraine	August 10
28. Anatoly Smurak	Head of Information Technologies Division	Ministry of Ecology and Natural Resources Kyiv, Ukraine	August 10
29. Vadim I. Lyalko	Director	Center for Aerospace Research of the Earth Kyiv, Ukraine	August 10
30. Mykola I. Proskura	Scientific and Industrial C department Chief	The Administration of the Exclusion Zone and the Zone of Absolute Resettlement Ministry of Ukraine of Emergencies and Affairs of Population Protection from the Consequences of Chornobyl Catastrophe, Ukraine	August 11
31. Victor G. Baryakhtar	Vice President	Ukrainian National Academy of Sciences, Kyiv, Ukraine	August 11
32. Oleh Mykolaiovych Prokopenko	Department Head	Agriculture and Environment State Statistics Committee of Ukraine	August 14
33. Oleg V. Hayduk	Deputy Minister	Ministry of Ukraine of Emergencies and Affairs of Population Protection from the Consequences of Chornobyl Catastrophe, Ukraine	August 14
34. Anton M. Tretiak	First Vice President	State Committee of Ukraine on land Resources Kyiv, Ukraine	August 14
35. Victor P. Zubko	Chief of Remote Sensing Department	National Space Agency of Ukraine Kyiv, Ukraine	August 14
36. Alexander K. Kuzin	President	The East-Ukrainian Association of Enterprises in the Branch of Ecologically Safe Energetics and Energy Saving, Ukraine	August 14
37. Kostyantyn K. Yartsev	Vice-President	Ukrainian Land Resource Management Center Kyiv, Ukraine	August 15

Name	Title	Organization	Date(s)
38. Dr. Vasyi Yakovych Shevchuk	Secretary of Administration	Ukrainian National Security and Defense Council Kyiv, Ukraine	August 15
39. Valery Pavlovich Kukhar	Academician of the Ukrainian National Academy of Science; Member of the ULRMC Board of Directors and Technical Advisory Panel	Ukrainian National Academy of Sciences Kyiv, Ukraine	August 16

(Sorted by date interviewed)

# Web застосування моніторингу пожеж

## Fire Monitoring Web Application

Map Page - Microsoft Internet Explorer

Файл Правка Вид Избранное Сервис Справка

Назад Вперед Останов Обновл Домой Поиск Избран Журнал Почта Размер Печать

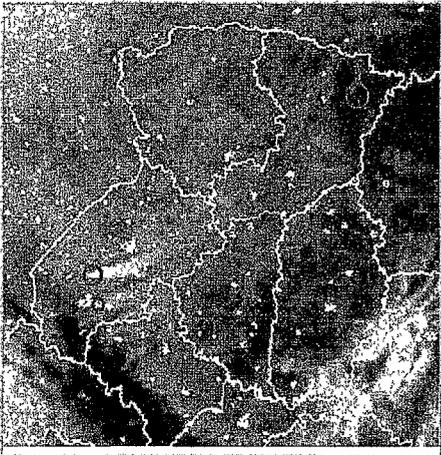
Адрес http://www/services/firemon/fire.asp

Переход Ссылки

### Apparent Fires at October 24, 2000, 16:03

- Zoom In
- Zoom Out
- Center
- Info

Map width:  
447.56 km



[Maps](#) | [Layers](#) | [Legend](#) | [Help](#)

[\[ Home ULRMC \]](#)

### Map Settings

Width, pixels

Height, pixels

Maps

- Apparent Fires at October 24, 2000, 16 04
- Apparent Fires at October 23, 2000, 16 15
- Apparent Fires at October 22, 2000, 17 15
- Apparent Fires at October 20, 2000, 16 50
- Apparent Fires at October 19, 2000, 15 04
- Apparent Fires at October 5, 2000, 17 25
- Apparent Fires at October 4, 2000, 16 37

Местная информация



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# Архів УЦМЗР знімків Landsat / ULRMC Archive of Landsat Images

## Coverage Mosaic of Ukraine

Landsat 4 TM Image Coverage of Ukraine, June - August 1988 (Includes two images from the summer of 1989)

Please click on the thumbnail to get the image.

Row/Path	186	185	184	183	182	181	180	179	178	177	176	175	174	Path/Row
24														24
25														25
26														26
27														27
28	<p>ULRMC houses the first high-resolution archive images covering all of Ukraine</p>													28
29														29
Row/Path	186	185	184	183	182	181	180	179	178	177	176	175	174	Path/Row



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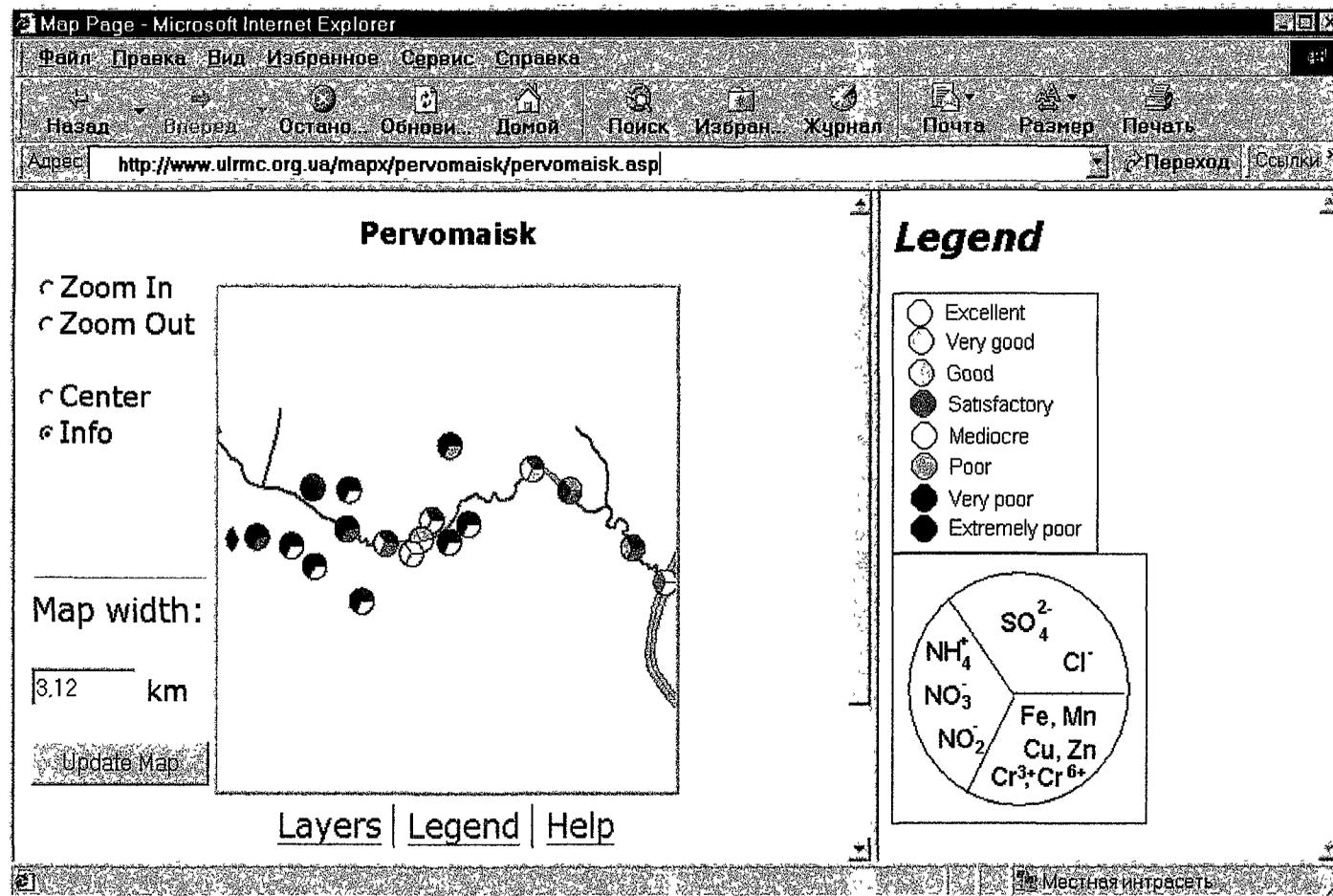
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# Доступ до бази даних спостережень за якістю води через Internet

## Direct Access to Water Quality Data Base by Internet



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E-mail info@ulmc.org.ua http://www.ulmc.org.ua

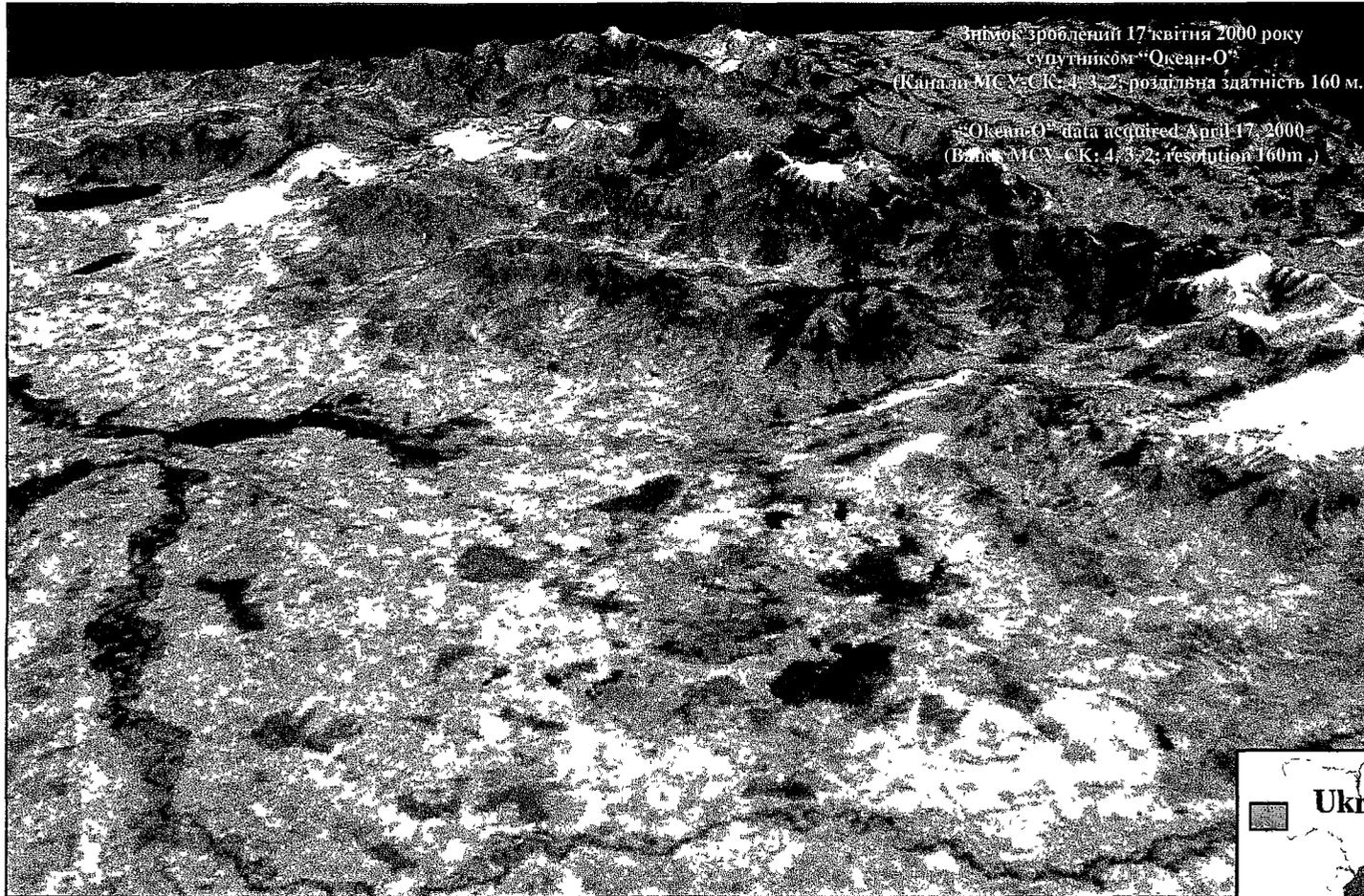


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# Поверхня DEM текстурована знімком "ОКЕАН-О" Закарпатської області OKEAN-O Image of Zakarpattia Region Combined with a Digital Elevation Model (DEM)



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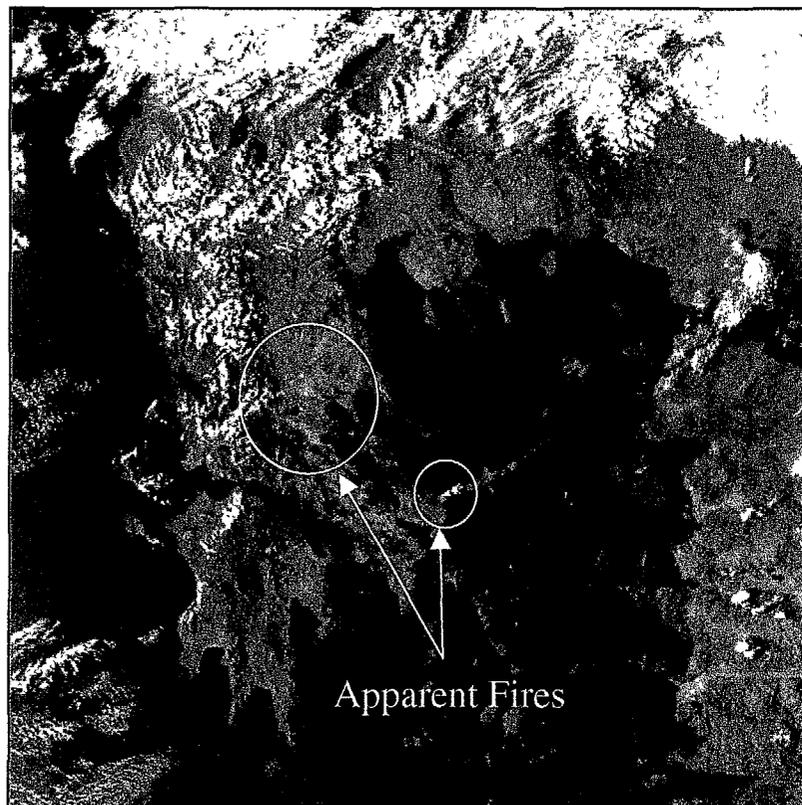


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Management Center

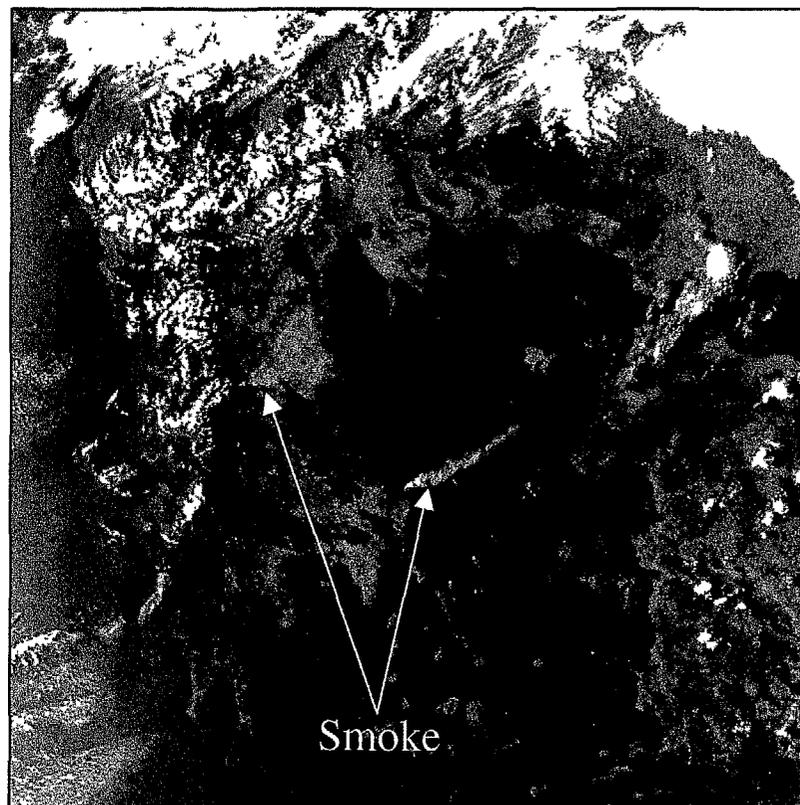
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**Apparent Fire and Smoke Situation in Greece on August 15, 2000**  
 (AVHRR image acquired by NOAA 12 at 18:08)



**Bands: infrared, near infrared and visible**



**Bands: near infrared and visible**



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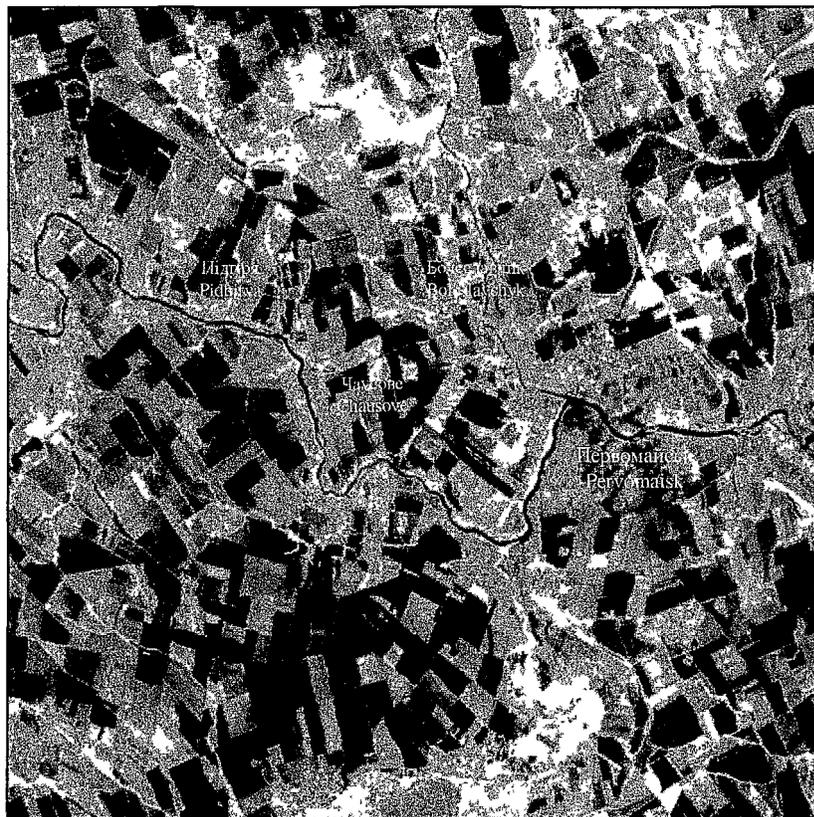


**Ukrainian Land and Resource  
 Management Center**

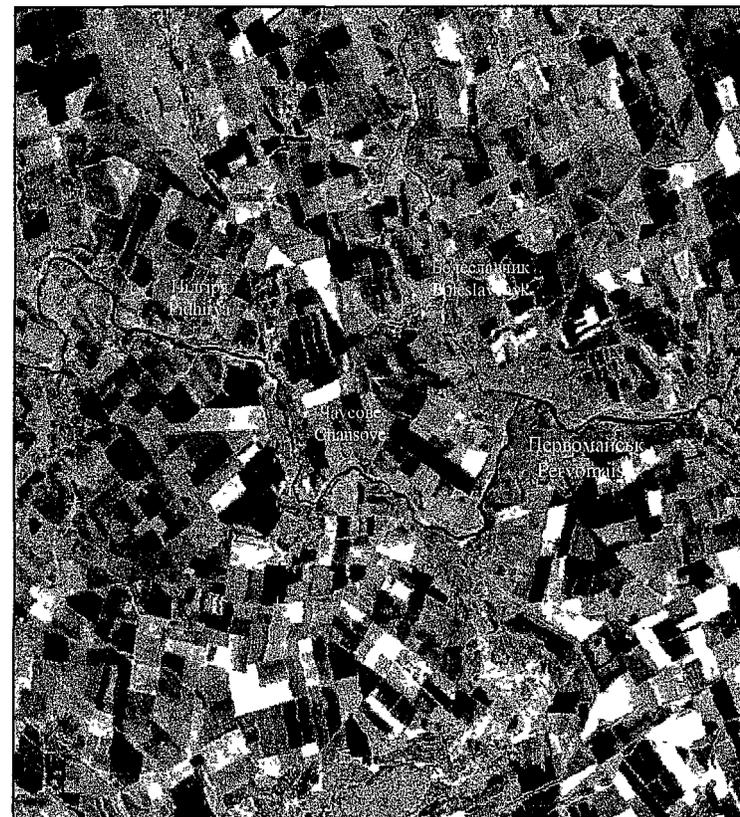
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## Зона екологічного лиха в Первомайському районі Миколаївської області Ecological Disaster Zone in Pervomaisk District, Mykolaiv Oblast



Знімок зроблений 23 вересня 1999 року року супутником "Океан-О" (4 канал МСУ-В, ближній інфрачервоний).  
"Okean-O" data acquired September 23, 1999 (4 band MCV-B, near-infrared).



Знімок зроблений 10 листопада 1999 року року супутником "Океан-О" (4 канал МСУ-В ближній інфрачервоний).  
"Okean-O" data acquired November 10, 1999 (4 band MCV-B, near-infrared).



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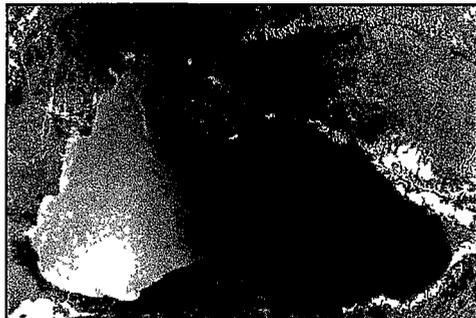
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# Температура поверхні моря, отримана за даними супутникового знімку

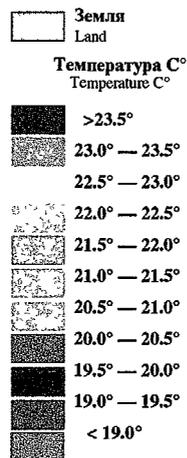
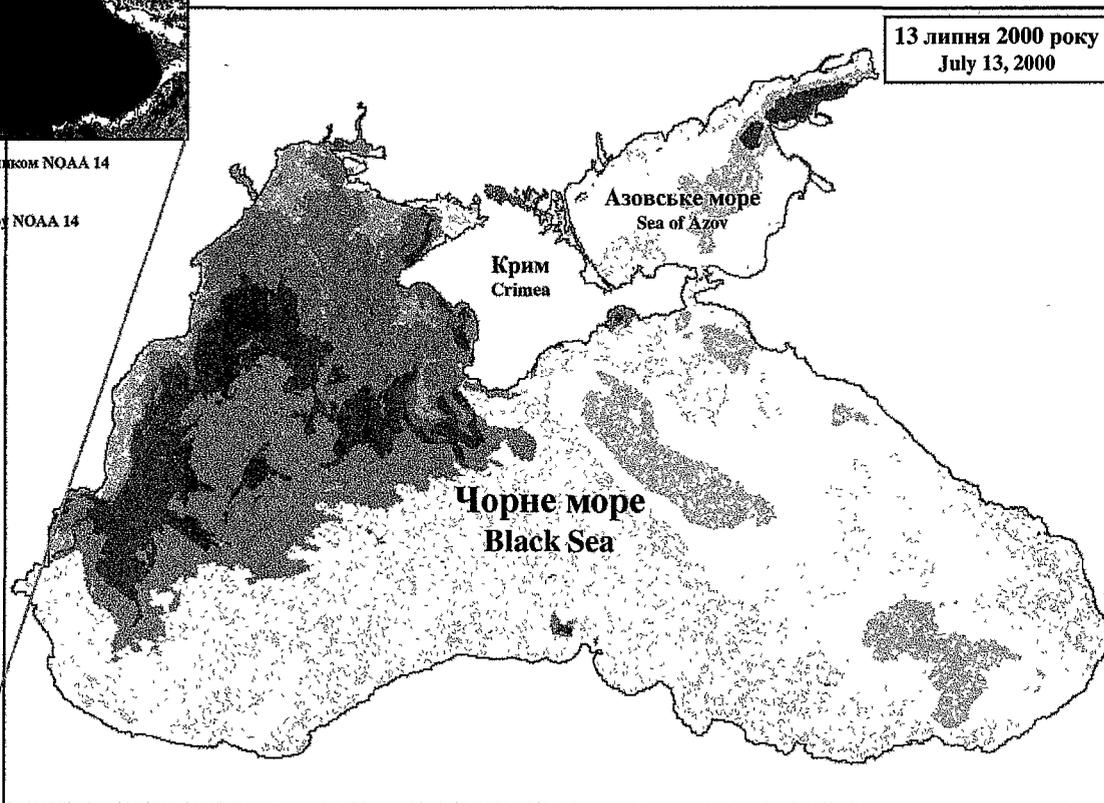
## Satellite-derived Water Surface Temperature

13 липня 2000 року  
July 13, 2000



AVHRR знімок зроблений супутником NOAA 14  
(Канали: 2, 1, 1)

Raw AVHRR image acquired by NOAA 14  
(Bands: 2, 1, 1)



Європа  
Europe

УЦМЗР використовує супутникові знімки та спеціальні обчислювальні методи для побудови карт температури поверхні водоймиш.  
ULRMC uses satellite images and digital processing techniques to map water surface temperature.



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