



# M.E.S.O.



*Multi-community Environmental Storm Observatory*

The MESO Association is a national group of weather enthusiasts organized for the purpose of singly or collectively assisting any community or community agency with the work of public safety, severe weather warning, disaster preparedness, severe weather awareness, and public education in the above areas. Assistance will be provided in whatever capacity possible through the use of combined or individual skills and/or resources.

Basically, we apply the methodologies of storm chasers to the work of warning. Warning system improvements will hopefully be accomplished by constant innovative experimentation with new concepts, technology, and application methods.

Our goal is a combination of educational, civic, scientific, and research purposes that as a whole may be considered as research applied to civic and educational ends for the purpose of assisting with the work of warning, severe weather education, and disaster preparedness.

Our group was started in early 1998. What started as a group of weather enthusiasts hoping to observe nature's grandest show has evolved into one of the most highly regarded severe weather organizations in the United States. We have very highly trained specialists in such departments as forecasting, emergency management, weather observation and reporting, photography, videography, electronics, computers and Internet communication, and teaching.

One of our original projects was to acquire and equip a research vehicle with electronic sensing, weather, and communications gear to allow confirmation or denial of severe weather events, improved warning lead time, and data input accuracy to NWS and Local Agencies. Warning system improvements were accomplished by constant innovative experimentation with new concepts, technology, and application methods. We took our mobile lab into tornado alley in the peak of storm season for two years running, and it exceeded our expectations. As a command center, it allowed us to safely deploy and direct any number of weather spotters, allowing us to chart their position in relation to the storm, moving them out of harms way and into position where they could accurately observe and report on developing weather systems. As a learning tool, we have been able to use the mobile lab to teach weather spotters and EMS workers how to use our systems; knowledge they can apply to their own early warning systems and agencies in their own communities. This project was a huge success. The lab was named McWAR... Multi-community Wide Area Resource. As a prototype, it was also a success. We were able to complete the entire project for under \$10,000, a figure affordable by even the smallest community.

Since we first incorporated and implemented the McWAR project, we have grown as a group and have expanded our community service.

- \* We have built and are nearing completion of our second mobile lab, ECHO. ECHO encompasses all we learned from McWAR, and goes beyond McWAR's capabilities, being capable of self-sufficient weather monitoring and tracking and both weather and hazardous material vapor forecasting. She will also have a strong communications system with the flexibility to assist multiple departments.

- \* We have an affiliate program with MSU-Mankato. The Minnesota Storm Intercept Team (MSIA), comprised of University students, works in conjunction with MESO in weather research, and storm spotting, as well as public education.

- \* We have an active in-school presentation program, wherein members of our organization visit schools with a government-approved message of disaster preparedness. They are provided with brochures describing "what to do if..." to take home.

- \* A modified presentation is made available to community groups, churches, etc. Any donations received from these presentations have been sent to disaster relief organizations, most prominently the American Red Cross (after the expense of the presentation is deducted). At the end of the year, we intend to do an overview of the program, and modify it according to the input we have received from our audiences. Our media plan for this project is underway now; we are contacting various school districts in the areas our presenters live by direct mail.

- \* We are currently completing work on another retired ambulance that was donated to us. This vehicle, in addition to fulfilling the functions of McWAR, will also be used in disaster relief; dispersing first aid supplies, clothing, food, blankets to those in need in disaster areas. It will maintain an active cell phone for folks to make emergency calls or contact relatives, and also provide EMS workers with a place to grab a hot cup of coffee, a change of clothes, or a quick nap. Our new vehicle will have constant Internet connectivity via cell phone, so that members of the press can get the stories out, hastening help from other sectors. We shall make this vehicle available predominantly in the area of Michigan, Ohio, and Kentucky, and offer its use to any valid, recognized disaster relief or community warning agency, manned either by MESO volunteers, or MESO trained volunteers.

- \* We have an annual research mission into the central Plains during the peak of severe weather season, wherein we experiment with developing technologies in the work of warning and severe weather preparedness. We

open spots on the trip to interested parties wishing to learn more about forecasting, weather observation, and meteorology. Many use what they learn on these trips to enhance their warning systems at home. One of our proudest developments, named OZ (Observation Zero) tested a protected camera and housing to use in severe weather photography, when it's too dangerous to have manned cameras at work. OZ, which was a great success, was invented and developed by MESO members. Our goal is to incorporate our field-tested techniques and safety guidelines into a growing number of weather research teams. We are accomplishing this goal by carefully training new members to be able to head up field excursions of their own. We currently direct two teams of researchers, and hope to expand this eventually to six or more. Setting a timeline to this project is impossible, and in violation of our strict safety guidelines for fieldwork. Team heads will be appointed as their ability and expertise evolves.

\* We maintain an active website at [www.mcwar.org](http://www.mcwar.org), which has grown in popularity tremendously since its inception. A quick glance at our statistics page will verify this; we have received visitors from all over the world, and frequent return visitors are the US Government, the US Military, and the National Weather Service. In 2000, our web site was awarded Discover Magazines "Pick of the WEB" award, and is still listed as one of their recommended sites. The site has also been chosen as a valuable resource by the National Science Teacher's Association. In addition to our Mission Statement, we post pictures in our gallery of our various projects and from our various outings, we maintain various research centers, offering tutorials in various aspects of weather research, and post an open invitation to any organization or person requiring our assistance. We have a steadily growing online library, containing articles written either by individual team members or by several members as a team project.

\* We publish a monthly newsletter via email. This newsletter covers a broad spectrum of topics and reaches a broad spectrum of readers. We accept outside contributions, but most of the content is from MESO members, and addresses news and areas of concern within the organization and in the weather community.

\* We have a very active email exchange, and are proud to say that over the years, not one email to MESO has gone unanswered. Email requests vary in content from people requesting recommended services and equipment, to students asking direction to good meteorology schools or assistance with research.

\* MESO also has an active media department. Our Media Director has set up numerous opportunities for film producers and members of the printed media to do films or stories on MESO. We feel that media exposure to our activities is critical to our success as a group, and through our Media Director's efforts, we have had extensive media coverage on all of our field

outings... many times allowing media people temporary positions on the research teams. Some of our media coverage is as follows:

*Pittsburgh Post-Gazette*; Pittsburgh, PA (6/14/98), (6/15/98)  
*Toledo Blade*; Toledo, OH (6/28/98), (6/29/98)  
*Millbrook Roundtable*  
*Reading Eagle*; Reading, PA (7/25/98)  
*Pittsburgh Post-Gazette*; Pittsburgh, PA (8/26/98), (8/27/98), (8/28/98)  
*auf einen Blick*; Hamburg, Germany (3/25/99)  
*Sunday News*; Lancaster, PA (5/23/99)  
*Sunday News*; Lancaster, PA (6/13/99)  
*Discover Magazine Online* ("Pick of the Web", 3/00)  
*Pittsburgh Post-Gazette Online*; Pittsburgh, PA (5/12/00 - 5/19/00)  
*Bangor Daily News*; Bangor, ME (7/24/00)  
*Handheld Magazine*; (3/01)  
*The Metro Net*; Toledo, OH (4/26/01)  
*USA Today*; (6/19/01)  
*Froggy 99.9 FM*; Fargo, ND (6/20/01)  
*MSN*; (7/30/01)  
*Lake Region Times Newspaper*; Madison Lake, MN (8/15/01)  
*Millbrook Round Table*; Millbrook, NY (7/18/02)  
*The News Messenger*; (11/15/02)  
*The Kentucky Post*; Covington, KY (11/30/02)  
*Campbell County Recorder*; Campbell Co., KY (3/13/03)

We have also had videographers from Ryboprod (France) and NZTV (New Zealand).

The success and popularity enjoyed by MESO, and its universal appeal is that its membership is extremely diverse. Graduate students work side by side with truck drivers; photographers discuss forecasting techniques with electricians. MESO represents the most dynamic example of people with a common dream working together to serve the community of man. Diverse as we are, we each have a critical area of expertise that we bring to the group. Many of our members are involved with volunteerism on their home fronts: as EMTs, Emergency Services workers, Firefighters, and/or Skywarn spotters. The wonderful spirit of MESO is immediately captured by those we teach and those we meet, thus the message we impart reaches a vast audience.