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**REPORT FINDS BETTER COORDINATION IS NEEDED TO DEAL WITH SPACE
WEATHER IMPACTS ON AVIATION SAFETY AND EFFICIENCY**

Better forecasts of space weather events and better use of those forecasts by the aviation industry could lead to safer operations and hundreds of thousands of dollars in savings for airlines, according to a new report by the American Meteorological Society and SolarMetrics. The report, "Integrating Space Weather Observations & Forecasts into Aviation Operations," is the outcome of a two-day workshop last fall among aviation and space weather experts.

Conditions and activity that takes place on the sun and in the solar wind are known to have an influence on the performance and reliability of navigation satellites and ground-based communication systems frequently used by the aviation industry. Solar activity could result in degradation or loss of High Frequency radio transmission and satellite navigation signals; navigation systems disruptions; and radiation hazards to humans and avionics, especially in the polar regions, which are now becoming more popular aviation routes due to the tremendous cost savings they provide.

For example, a 2000 study by NAVCANADA, Canada's civil air navigation services provider, identified 33 potential city pairs that could benefit from polar routes. The study found that using polar routes, flights from Atlanta to Seoul could save 124 minutes and \$44,000; flights from Boston to Hong Kong could be reduced by 138 minutes and \$33,000; flights between Los Angeles and Bangkok could be cut by 142 minutes and \$33,000; and flights between New York and Singapore could save 209 minutes and \$44,000.

"The savings airlines and business jets could have by flying polar routes is tremendous," said Genene Fisher, AMS Senior Policy Fellow and co-author of the report. "And the economics of cross-polar air traffic will become even more important as travel is expected to increase sharply in anticipation of the 2008 Beijing Olympics and continue to grow after that. One goal of the workshop and report was to find ways to use those routes safely and efficiently."

Fellow co-author, Captain Bryn Jones, an airline pilot, space weather research scientist and SolarMetrics' CEO adds, "These space weather concerns not only apply to current operations, but become even more important at all latitudes when considered within the framework for the Next Generation Air Transportation System, an interagency initiative to transform the U.S. air transportation system by 2025. Additionally, with the potential space tourism and intercontinental space flight markets, these risks are equally important to the commercial space transportation industry."

One key recommendation is better communication between forecasters and the aviation industry. Within the U.S., aviation weather services are provided to non-military aircraft

primarily by NOAA, the Federal Aviation Administration (FAA), and the private sector. While the same channels for dissemination of space weather information are available in principle, communication varies. Dispatchers receive space weather information from in-house meteorologists, private sector companies, NOAA alerts and forecasts, or online. In addition, the current FAA system that distributes text meteorological information cannot distribute graphical products required for interpreting space weather information. Finally, space weather information is too technical for aviation operators and they need more understandable products to aid in decision making.

The report also recommends global standardization of information and regulations. The goal is to harmonize international standards for space weather products and services and give aviation operators a minimum set of requirements to make decisions. Specifically, one of the recommendations is for the FAA to mandate that space weather information be received by aviation operators and included as part of their planning and briefing process.

Education and training were also high on the list of the report recommendations. According to the authors, overall, the aviation industry does not understand space weather effects or its impacts on operations. This minimizes the potential risk, and makes it difficult to get key industry stakeholders interested in education and training, which is needed at all levels.

Lastly the authors and workshop participants recommended cost-benefit and risk analysis to determine the impact of space weather on delays or reroutes on polar routes. The aviation industry needs a better understanding from scientific, engineering, and medical communities regarding risks.

"These recommendations may seem fundamental, but this is really the first time that all the groups sat down to discuss the policy issues together," added Fisher. "I believe these discussions will result in actual changes and improvements that will make aviation operations around the globe safer and more efficient."

The report, now available on the AMS (www.ametsoc.org/atmospolicy) and SolarMetrics (www.solarmetrics.com) websites, will be distributed throughout the meteorological, space weather, and aviation community, as well as national and international legislatures and organizations.

The American Meteorological Society (AMS) is a scientific and professional society of more than 12,000 members from the United States and over 100 foreign countries. The Society has long promoted the link between scientific issues and policy decisions. SolarMetrics is a UK consultancy that provides services to airlines, aerospace companies and large corporations to enable them to deal effectively with the impacts of space weather on air travel.

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Editor's Note: Copies of the report and highlights document are available on the AMS Web site at <http://www.ametsoc.org/atmospolicy>, the SolarMetrics Web site at <http://www.solarmetrics.com>, or you may obtain a hard copy from Genene Fisher at (202) 737-9006, ext. 422.

Genene Fisher and Bryn Jones will be available for interviews during the Space Weather Enterprise Forum at the Hotel Washington on April 4 and 5, 2007. See Carmeyia Gillis at the Press Information Table for details. For more information on the Forum see <https://www.infonetic.com/tis/swe/>