

Weather Forecasting for Soaring Flight

Technical Note No. 203



**World
Meteorological
Organization**

Weather • Climate • Water

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Weather Forecasting for Soaring Flight

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FOREWORD

The key importance of soaring flight skills was recently highlighted in the media through the successful emergency "landing" over the Hudson River of an airliner which had fully lost its power. It is remarkable that the pilot involved in this emergency was also an experienced glider pilot, thereby underscoring the potential benefits of extending these skills to aviation as a whole.

The second edition of WMO Technical Note No. 158 *Handbook of Meteorological Forecasting for Soaring Flight* was released in 1993 as WMO-No. 495. From that time, significant changes have occurred in soaring flight forecasting, in particular since Numerical Weather Prediction has considerably progressed towards the spatial and temporal resolutions required to generate important physical variables needed for non-powered flight, such as climb rates and their temporal and spatial distributions.

Data volume from numerical weather prediction centres to pilots has increased significantly and improved predicted weather interfaces are now accessible to pilots. Available weather information and forecasts further support pre-flight decision-making and, reciprocally, flight recorders are contributing quantitatively to prediction improvement.

Accordingly, the International Scientific and Technical Soaring Organisation (OSTIV - Organisation Scientifique et Technique Internationale du Vol à Voile) meteorological panel, under the chairmanship of Mr Hermann Trimmel, took the initiative to produce this update in order to document progress achieved.

The following experts have contributed their knowledge, experience and time to this publication: René Heise (Germany), Wolf-Dietrich Herold

(Argentina), Rolf Hertenstein (United States), Edward Hindman (United States), Olivier Liechti (Switzerland), Erland Lorenzen (Germany), Christof Maul (Germany), Daniel Murer (Switzerland), Beda Sigrist (Switzerland) and Hermann Trimmel (Austria). To make the publication truly international, the following experts served as reviewers: Zafer Aslan (Turkey), Tom Bradbury (United Kingdom), Dan Gudgel (United States), Joerg Hacker (Australia) and Bernt Olofsson (Sweden).

Mr Olivier Liechti has served as working group chairman and Mr Edward Hindman as editor. The European Cooperation in Science and Technology (COST) generously provided support to working group sessions and the NMSs of Germany and Switzerland kindly hosted the meetings. The final document has been reviewed by the WMO Commission for Aeronautical Meteorology (CAeM).

The aim of this Technical Note is to provide the reader an internationally agreed set of guidelines for meteorological forecasting in soaring flight and related activities. As pointed out in the Introduction, this includes forecasters at busy aerodrome meteorological offices routinely receiving enquiries from pilots, as well as those detached on the field to provide forecasting support during contests and shows.

WMO is therefore pleased to make this highly relevant publication available to the wider soaring flight community.



(M. Jarraud)
Secretary-General