Weather Forecasting for Soaring Flight

Technical Note No. 203

World Meteorological Organization
Weather • Climate • Water

WMO-No. 1038

Weather • Climate • Water

Weather Forecasting for Soaring Flight

Prepared by

Organisation Scientifique et Technique Internationale du Vol à Voile (OSTIV)

WMO-No. 1038

World Meteorological Organization

Weather • Climate • Water

2009 edition

WMO-No. 1038

© World Meteorological Organization, 2009

The right of publication in print, electronic and any other form and in any language is reserved by WMO. Short extracts from WMO publications may be reproduced without authorization, provided that the complete source is clearly indicated. Editorial correspondence and requests to publish, reproduce or translate this publication in part or in whole should be addressed to:

Chairperson, Publications Board
World Meteorological Organization (WMO)
7 *bis*, avenue de la Paix
P.O. Box 2300
CH-1211 Geneva 2, Switzerland

Tel.: +41 (0) 22 730 84 03
Fax: +41 (0) 22 730 80 40
E-mail: publications@wmo.int

ISBN 978-92-63-11038-1

NOTE

The designations employed in WMO publications and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of WMO concerning the legal status of any country, territory, city or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Opinions expressed in WMO publications are those of the authors and do not necessarily reflect those of WMO. The mention of specific companies or products does not imply that they are endorsed or recommended by WMO in preference to others of a similar nature which are not mentioned or advertised.

CONTENTS

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.

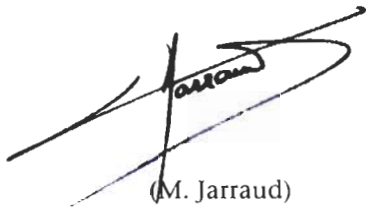
Accordingly, the International Scientific and Technical Soaring Organisation (OSTIV - Organisation Scientifique et Technique Internationale du Vol à Voile) meteorological panel, under the chairmanship of Mr Hermann Trimmel, took the initiative to produce this update in order to document progress achieved.

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