



WMO



Weather Forecasting for Soaring Flight 2022

With an update from 2025 (see below)

Short history and introduction

[WMO](#) has published the «Handbook of meteorological forecasting for soaring flight» in [1993](#), and a revised version as Technical Note No. 203 in [2009](#). About a year ago, WMO contacted [OSTIV](#) for preparing another revision. During the following discussions it became clear, that a revision might be difficult due to at least three reasons: (i) Much of the content in the existing handbooks and the references in them are still current. (ii) There are numerous supplementary publications available, for example in "[Technical Soaring](#)". (iii) A new book might not be the best medium for sharing today's knowledge about the tools we have for assessing the daily weather conditions for air sports.

Therefore, WMO and OSTIV decided to keep the existing handbooks in the WMO library as they are, and OSTIV will launch a new webpage as an orientation and a possible discussion platform about these special types of weather forecasts. [ZHAW](#) has agreed to host this new platform, where we now start with this introduction, looking forward to the further evolution in 2022.

What has changed since 2009?

When we remember 2009, and especially 1993, specific weather information relevant for air sports was hardly accessible for the public; most national weather services were quite restrictive. The main information for glider pilots consisted of the general weather outlooks, some charts and low-resolution satellite images, and the nearest balloon soundings. The latter were only useful for those who knew to deal with thermodynamic diagrams and other nomograms for the assessment of thermal activity or dynamic lift. The numerical models were not able to resolve the processes that are important for predicting thermals or waves. Even for those who had access to data and models, additional knowledge and tools like flowcharts and checklists were necessary for a tailored forecast. Therefore, a handbook as a collection of recipes was crucial both for forecasters, and for interested users.

Now, having weather information for all scales – both nationally and internationally – at our fingertips, the data access itself is not a problem anymore. The challenge has shifted to an efficient selection of information that allows a decision for a certain type of flight activity. Many national weather services started online tools for aeronautical weather briefings and created well-received smartphone apps for the dissemination of general weather information. Private and academic providers launched attractive and useful products on the web. Continued education in (aviation-)meteorology became easily accessible via powerful learning tools such as [SC-AVI](#).

While some years ago, we had a lack of open access to weather data, the new challenge is filtering out the best sources for assessing the conditions for a certain type of flight activity. For knowing the essentials, such as what are good soaring conditions, the existing handbooks are still very helpful. With this new platform, we would like to complement the existing resources with some overviews, such as bundled information for specific target groups, and a compilation of a list of well-sorted and commented links to sources of information.



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Target groups

Already the existing handbooks had different target groups in mind. It's worth to read the introduction of WMO-495 (PDF p. 8 of [WMO-495](#)). This new online extension will allow to bundle information for the different groups such as service providers (forecasters with or without own gliding experience), and users (clubs, competition organisers and individual pilots in different disciplines, with different skill levels and ambitions). Where for the first, background information is important (What is gliding? What do the users primarily need? What are the showstoppers?), the latter wish to know how they can assess most efficiently the actual or future weather conditions for their specific needs.

The idea

Everything is there: There are the existing handbooks and many textbooks for different types of air sports, plus new online learning tools. And there are many sources for weather information from raw data (measurements, or numerical results from models) to post-processed products such as charts, meteograms, TEMP-forecasts or even explicit information about convection or lee wave activity.

Not many pilots and new forecasters have enough experience for an efficient navigation through the "sea of information" for arriving at a decision (fly or better stay at home) within due time. However, already the existing handbooks with their core content are helping to identify the primary information they need for a useful forecast for the different disciplines and weather situations, because this basic knowledge has not changed much.

With this platform we aim to guide users to the information they need. Instead of re-writing a handbook top-down (a small team trying to do this job), we would like to trust some "swarm intelligence". This should be as concrete as possible. Some examples: Experienced forecasters and pilots could list their favourite sources of information, and academics in the gliding and paraglider community could review existing literature. Both would not only provide recommended literature and links, but will identify the target group (for whom is this information useful? Is it useful for most of the pilots in this discipline or is it rather an academic discussion?). They will be asked to deliver a review comment that should name the main advantage of this source and possible shortcomings, that might better be covered by another reference, etc. Additionally, case studies will be most welcome: "I did this flight, and this meteorological information was important."

Starting with the existing handbooks we hope that this platform will grow, offering well-sorted guidance to the most useful forecasting tools for the worldwide air sports community. Our platform should help to learn from each other, across the different disciplines, and between service providers and users. After a while, the collected information could be used to draft a new handbook.

Next steps

Before inviting more contributors for the process described above, we will contact known OSTIV members, inviting them to contribute to these plans. This will include reviews of the existing handbooks and additional literature or data sources, resulting in a compact table, where the different chapters or references are commented ('still very actual', 'still actual, but ...; maybe with supplementing references', 'updated in document xyz.pdf', 'outdated', or 'better covered by abc.pdf now' [to be completed]).



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Open participation

As soon as a seed of such information has been compiled, we will ask a wider public to contribute. Meanwhile, the address for this platform can be spread within the interested communities, and the involved members of the OSTIV Met-Panel will try to follow correspondence that might be triggered by this initiative. For such correspondence you can use the address ostiv@zhaw.ch.

The role of the OSTIV Met-Panel

The OSTIV Met-Panel will guide the next steps as described above. It will organise the continued review process and will finally decide about the added contents. It will stay in contact with WMO for the coordination with [SC-AVI](#). It will care about frequent checks and updates of the listed references.

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Meanwhile, the OSTIV MET-Panel has met in May 2025 for planning the next steps. If you wish to be informed about this meeting, receiving the minutes and stay on the distribution list, write to ostiv@zhaw.ch.

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