



Publication History and Index

With questions I was often asked as a professional meteorologist and in various roles as an aviation instructor in mind, I felt that some instructional articles might be useful for pilots in regard to explain the mechanisms that developed the four types of lift for soaring flight. In pursuit of the idea, *Soaring* Editor Chuck Coyne, and I originally discussed such a goal and envisioned a short little series of about four to six articles for publication under a heading title of “*Weather To Fly*.” The series began in *Soaring* in April of 2011 with a simple, introductory column. In subsequently writing the column, I soon realized that preliminary informational articles were often needed to insure sufficient understanding to logically approach an upcoming subject(s). So after two-and-a-half years and twenty-five articles, this column within *Soaring* has stretched across enough time that students coming into our aviation community have

expressed interest in obtaining some of the weather column information previously published.

Thanks to Soaring Society of America’s (SSA) Member Services, *Soaring* articles are archived for very beneficial use by SSA members, including the aforementioned “*Weather To Fly*” columns. However, the subject matter discussed in each column may not adequately be described by reference to its title alone. Therefore, to assist newer pilots, this month’s column simply presents an index and provides a brief description by the month of the content of those published “*Weather To Fly*” articles. This rather impromptu index in regard to time-of-publication [See **Text Box: “Article Publication Dates Quick Reference”**] and “*Column Content Synopses*” will hopefully efficiently assist students and instructors alike in studying and researching soaring meteorology subject areas.

Please note that the knowledge pre-

sented in these columns has often not been that of mine alone, but is a compilation of those masters who had previously, in one form or another, published information as soaring knowledge has been expanded. Therefore, an important part of many of my articles is the “Reference Section,” where I have given credit to a reference source or explanatory diagram. Hopefully, proper credit has always been given to published authors, with my experiences simply confirming and/or augmenting what I believe is common knowledge among the aviation meteorology community.

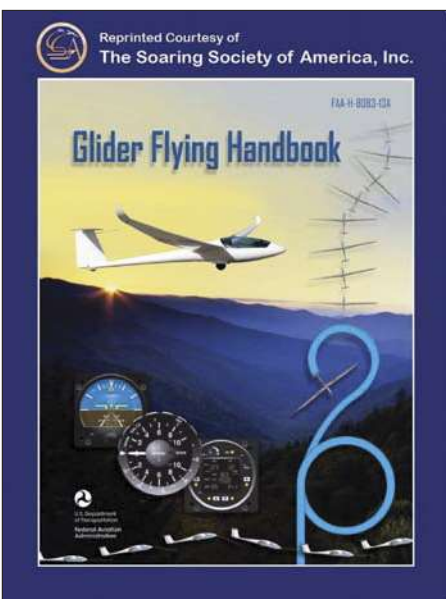
Column Content Synopses

Beginning in May 2011, the much-recognized notion of lift provided by the non-aviation community was addressed in a column on ridge or **orographic lift**.

Perceiving that I needed to present some background knowledge, the June 2011 column reviewed *gradients* and atmospheric instability definitions. In July 2011, I discussed the logic behind early **thermal lift** initiation from *elevated and/or sloped terrain* followed by *thermal development* and *forecasting thermal lift* subsequently published in the August and September 2011 *Soaring* publications. Closely related, *upper air sounding evaluations* and comments on *moisture effects* on thermal strength followed in October and November 2011, respectively.

The often mistaken or confused concept of **mountain wave lift** was addressed in a series of four articles that extended from December 2011 through March 2012. A brief reference to historical research into the mountain wave and its *conceptual model* was presented in the December article. Subsequently, some guidelines for *short-term forecasting* mountain wave presence were listed in January 2012 with discussion made about *numerical forecasting* of the wave in March 2012. The February 2012 issue of *Soaring* discussed the variety of *mountain wave locations* and airspace nuances of wave flying.

Noting that thermal and mountain wave lift was *not* able to be discussed nor feasible to adequately be covered in a single published article, likewise, a series of five articles was deemed necessary to discuss **convergence lift**. The April



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2012 article provided some background information in regard to *convergence definitions*. Four subsequent articles from May through August 2012 each discussed convergence lift involved with or derived from *sea breezes, terrain-induced flow, channeled flow, and modified air mass characteristics*, respectively. These column discussions on convergence focused on some of the most historical soaring sites thereby providing excellent examples of this form of lift, i.e., the Florida Sea Breeze Front(s), the Lake Elsinore and Tehachapi Shear Lines, and the famous El Mirage Shear Line.

Having made many presentations for the benefit of the Federal Aviation Administration's Safety Program, recent focus has been on pilot self-briefing capabilities courtesy of Internet information. The September 2012 column provided some historical background and reference sources for a *pilot weather briefing* format.

Coming back from service at the World Gliding Championships in Uvalde, the December 2012 article provided some in-

sights on the usefulness of a little known, newer weather product, the "850-250mb *Differential Divergence Chart*," located within the suite of National Weather Service (NWS) meso-scale forecast and weather observation products.

In discussions with professional and international meteorology colleagues and pilots, the aviation community (including meteorologists) in the United States has the benefits of on-line weather information provided via our tax-money rather than an organized fee-structure like much of the world. The March and April 2013 articles simply provided a shortened, abridged documentation of the *evolution of weather services* that now benefits the aviation community in this country, including soaring.

As discussed previously in September of 2012, pilot weather self-briefings are easily accomplished by virtue of Internet access, although no record is available to prove a pilot provided him/herself with a preflight weather self-briefing. However, use of a *Qualified Internet Communications Provider (QICP)* can provide

such a record. The July 2013 column provided background and instructions for enabling a pilot to conduct a self-briefing through the auspices of a QICP.

Noting that several aviation instructional guides and books still referenced the discontinued "*Stability Chart*" (Lifted and K Indices plot), the August 2013 column focused upon the history and background of that chart and suggested a recommended procedure to replace the information formerly provided by the withdrawn product.

The two most-recent renditions of "*Weather To Fly*" focused on difficulties often experienced by students as they sought to decode NWS weather products. The September 2013 column discussed *date-time groups* within weather observation and forecast information; and, the November 2013 column referenced the chart pinpointing the finite number of encoded *location identifiers* used in NWS aviation weather products.

Again, it is my pleasure to write this series of articles. Understanding the column's initial purpose might have had a little self-serving benefit as I tried to make it less work to instruct my aviation students in basic meteorology. However, learning comes in instructing along with the realization of the hard work that is required with any quality publishing; and much thanks to editor Coyne for his assistance in editing and publishing these articles for *Soaring*. ✈

Weather To Fly Index

2011	Apr	<i>Weather-To-Fly; Introduction</i>
2011	May	<i>Ridge Lift</i>
2011	Jun	<i>Gradients</i>
2011	Jul	<i>Elevated Heat Sources</i>
2011	Aug	<i>Thermal Development</i>
2011	Sep	<i>Thermal Forecasting</i>
2011	Oct	<i>Energy Diagrams</i>
2011	Nov	<i>Moisture Effects on Thermal Lift</i>
2011	Dec	<i>Mountain Waves</i>
2012	Jan	<i>Mountain Wave Forecasting</i>
2012	Feb	<i>Mountain Wave Comments</i>
2012	Mar	<i>Mountain Wave Parameters</i>
2012	Apr	<i>Wind, Convergence, and Shear</i>
2012	May	<i>Convergence along a Sea Breeze</i>
2012	Jun	<i>Terrain-Induced Convergence</i>
2012	Jul	<i>Terrain-Channeled Convergence</i>
2012	Aug	<i>Modified Convergence Lines; The El Mirage Shear Line</i>
2012	Sep	<i>The Pilot Weather Briefing</i>
2012	Dec	<i>The "850-250mb Differential Divergence" Chart</i>
2013	Mar	<i>National Weather Service History</i>
2013	Apr	<i>National Weather Service Modernization and Restructuring</i>
2013	Jul	<i>A QICP for Weather Briefings</i>
2013	Aug	<i>The Lifted Index Analysis Chart</i>
2013	Sep	<i>Date-Time Groups</i>
2013	Nov	<i>Encoded Advisory Points</i>

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