Technical Soaring, the International Journal of OSTIV

(International Scientific and Technical Organization for Soaring)

Prof. Emeritus Dr. Edward (Ward) Hindman, Editor

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Presented at the Soaring Society of America Conference, 27-29 January 2011, Philadelphia PA USA

Technical Soaring

- *B*ackground and principles
- Sample content
- Online archive
- Subscriptions

TS Background

Dr. Bernard Paiewonsky, Editor

Published Quarterly by the Soaring Society of America, Inc.

TS Background

"The goal of the journal is to advance the science and technology of soaring flight through the publication of original papers, review articles and tutorial papers. *Technical Soaring* publishes **qualified** papers on sailplane design and analyses, materials and structures, aerodynamics, instrumentation, flight testing, performance, stability and control, meteorology, communications, production and fabrication techniques, human factors, flight safety, and other subjects of scientific and engineering interest to soaring."

TS Background

How did OSTIV get involved with *TS*?

www.ostiv.fai.org

The mission of the OSTIV is to encourage and coordinate internationally the science and technology of soaring and the development and use of the sailplane in pure and applied research. This mission is accomplished through **congresses** convened at the bi-annual world gliding championships, through **panels** of experts and through **publications**.

So, the mission of *TS* and the mission of OSTIV are in concert.

TS Background

OSTIV Publications 1 to 18
(1950-1985)

Technical Soaring, Vol. 10
(1986)

Technical Soaring, Vol. 1 to 9
(1971-1985)

Technical Soaring, Vol. 35(2)
(April-June 2011)

TS Principles

TS records and disseminates **qualified** new knowledge.

Qualification occurs through the **peer-review** process.

The peer-review process is a **sacred**, professionally duty.

Comments on papers permit **debate** and/or **clarification**

To be a forum to all reasonable new ideas, the journal accepts **non-peer reviewed** papers

TS Principles

To increase the value of *TS*, the journal needs to achieve 'learned-journal' status.

How well does *TS* match the 'learned journal' criteria?

Due to the efforts of Prof. Dr. Miroslaw Rodzewicz, *TS* is a 'learned journal' in Poland.

OSTIV members in other countries may perform similar work to have *TS* achieve 'learned journal' status.

TS Sample Content

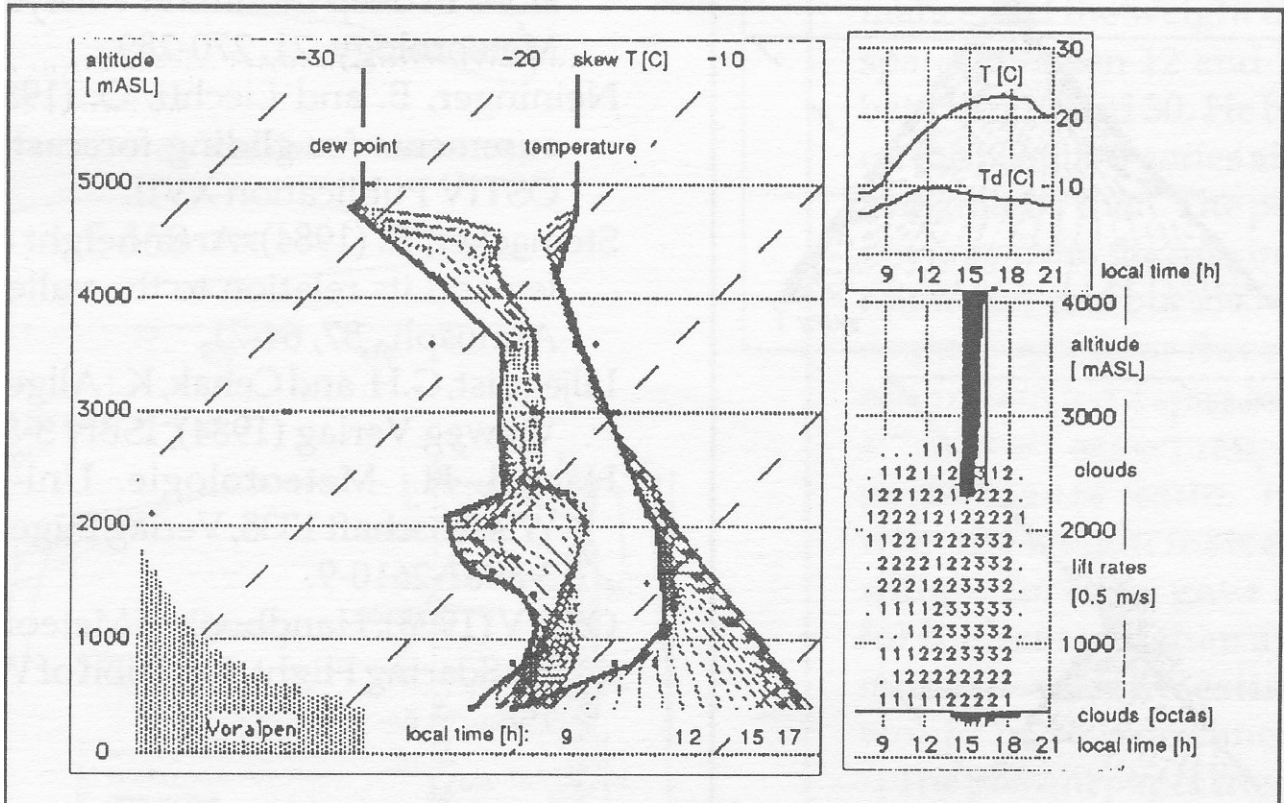
Regardless of whether *TS* achieves ‘learned-journal’ status, the journal has been an **import chronicler** of studies that have benefited soaring.

TS Sample Content
Vol. 18 (3), 1994

ALPTHERM – A PC-BASED MODEL FOR ATMOSPHERIC CONVECTION OVER COMPLEX TOPOGRAPHY

by O.Liechti, Analysen& Konzepte, Switzerland
and B. Neininger, MetAir AG, Switzerland

Presented at the XXIII OSTIV Congress, Borlänge, Sweden (1993)

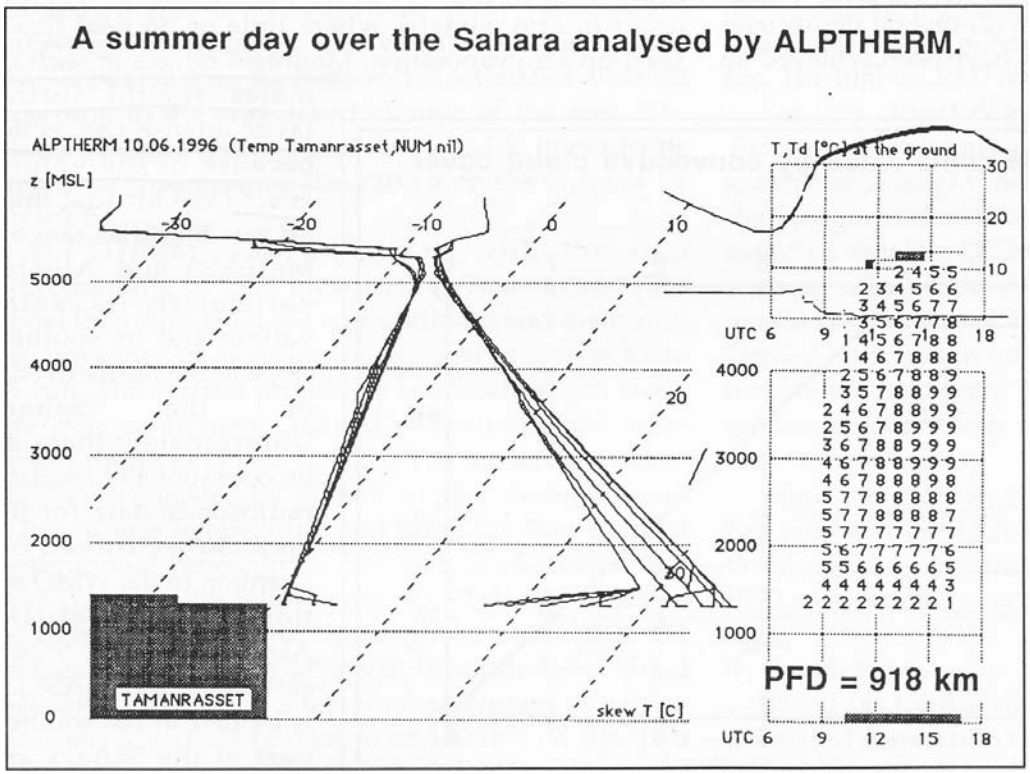


TS Sample Content
Vol. 22 (2), 1998

A NEW APPROACH TO THE CLIMATOLOGY OF CONVECTIVE ACTIVITY

by Olivier Liechti and Erland Lorenzen

Presented at the XXV OSTIV Congress, St. Auban, France (1997)



HANDICAPS AND POLARS

By Olivier Liechti

Presented to the ~~XXVII OSTIV Congress~~ OSTIV SEMINAR in Mafikeng, South Africa (2001)

ABSRACT

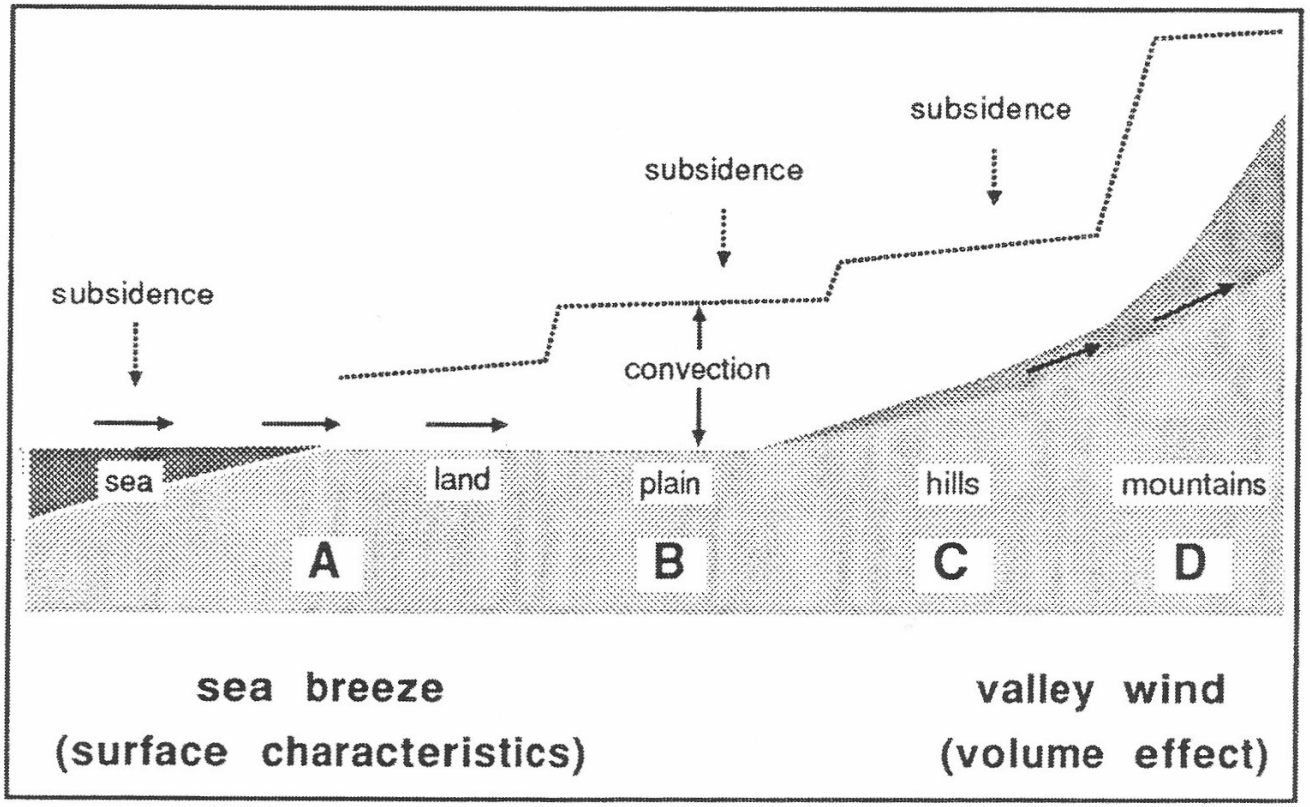
Methods to obtain glider polars from handicap figures were developed. Common optimization calculations like cross-country speed versus lift rate can thus be obtained with just the handicap figure of the glider known. Application to all gliders, hang gliders, paragliders, and soaring birds is possible and contributes to the assessment of their specific potential flight distance.

TS Sample Content
Vol. 26 (1), 2002

REGTHERM 2001 Convection Model with Local Winds

By Olivier Liechti

Presented at the ~~XXVII OSTIV congress~~ OSTIV Seminar in Mafikeng, South Africa (2001)

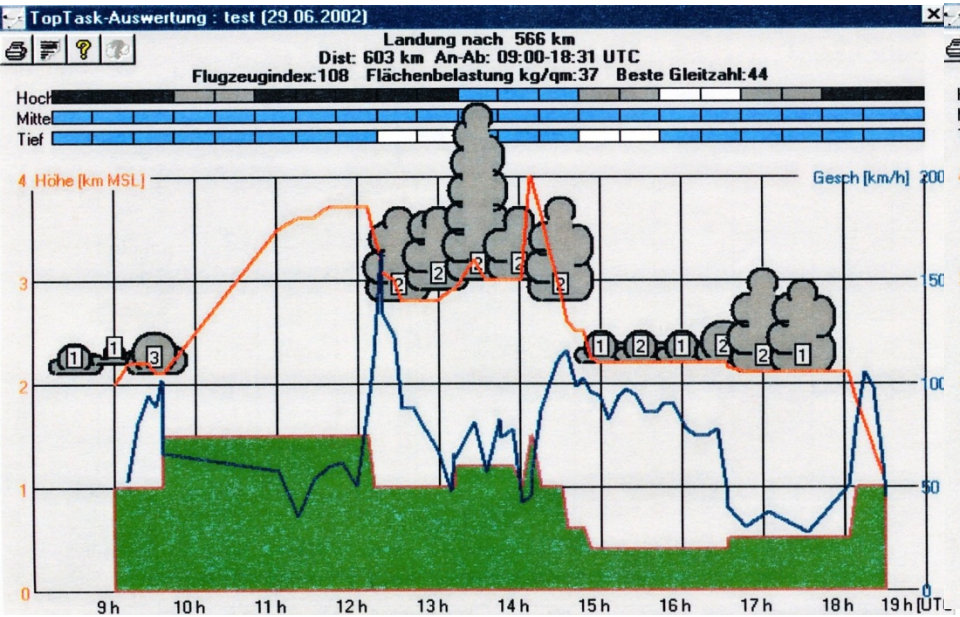


TS Sample Content
Vol. 28 (4), 2004

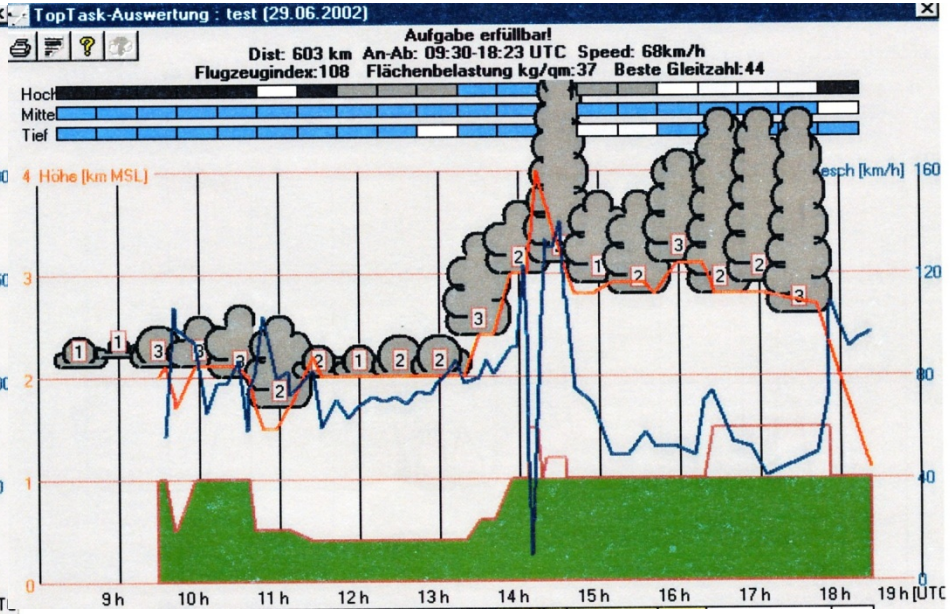
TopTask
Meteorological Flight Planning for Soaring

Olivier Liechti
Analysen & Konzepte, Switzerland
Erland Lorenzen
Deutscher Wetterdienst, Germany

XXVII OSTIV Congress, Leszno, Poland, 2003



Counter-clockwise flight around Mont Blanc, predicted to be unsuccessful



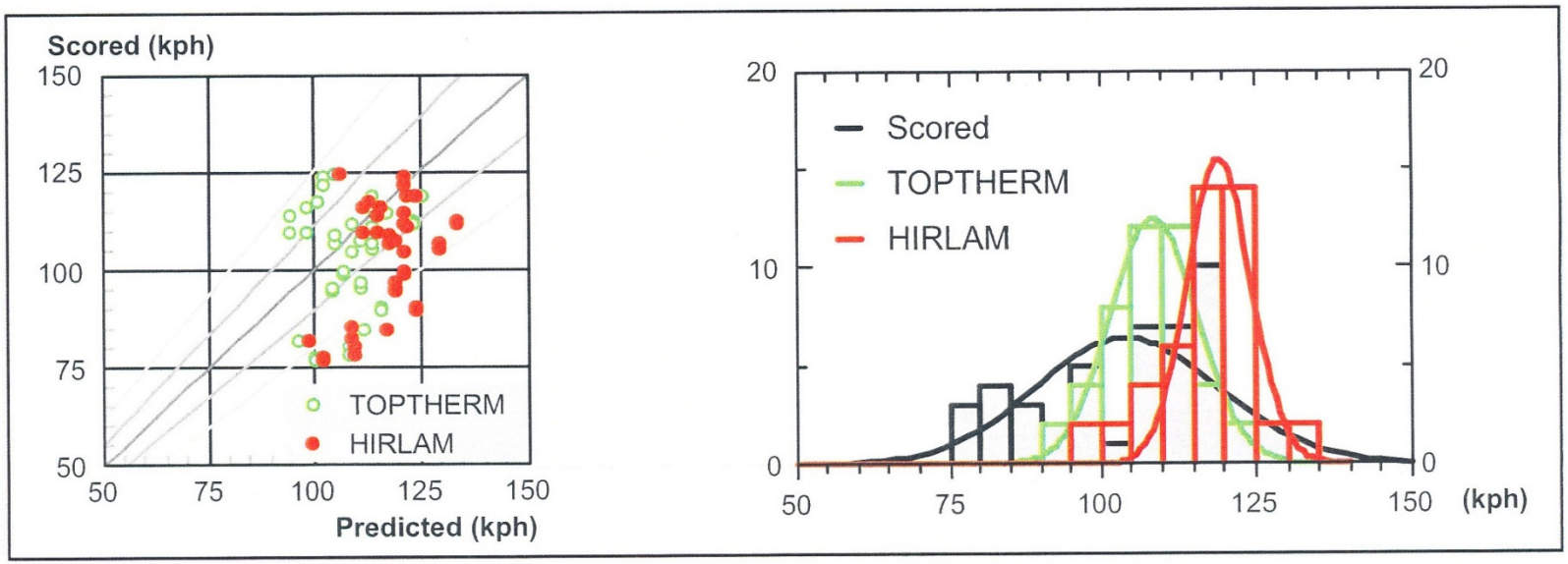
Clockwise flight around Mont Blanc, predicted to be successful

TS Sample Content
Vol. 31 (2), 2007

Verification of Thermal Forecasts with Glider Flight Data

Olivier Liechti
Analysen and Konzepte, Winterthur CH 8404
OlivierLiechtiAuK@compuserve.com
and co-authors

Presented at the XXVIII OSTIV Congress, Eskilstuna, Sweden, 8-15 June 2006



TS Sample Content
Vol. 34 (2), 2010

The Best-speed Diagram for Soaring in Isolated and Aligned Lift

Olivier Liechti
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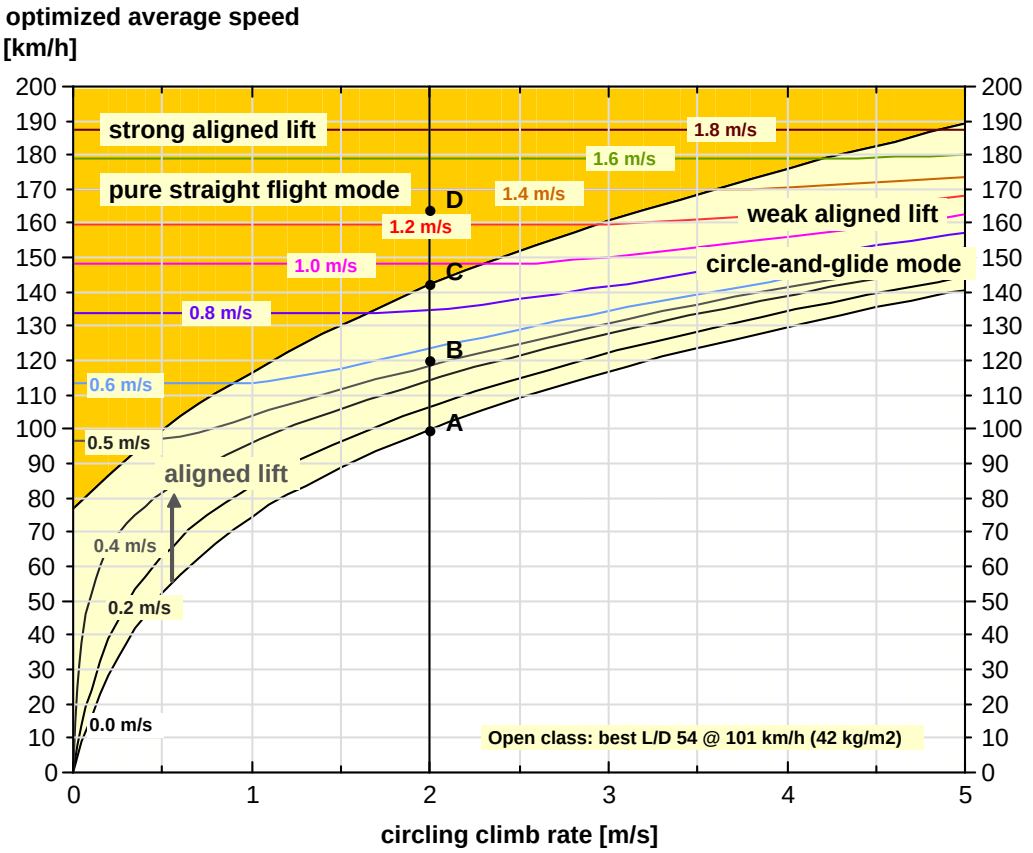
Presented at the XXIX OSTIV Congress, Lüsse, Germany, 6 - 13 August 2008



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Vol. 34 (4), 2010

Regionalized Predictions of Aligned Updrafts and their Tuning for Planning Soaring Flights

Olivier Liechti
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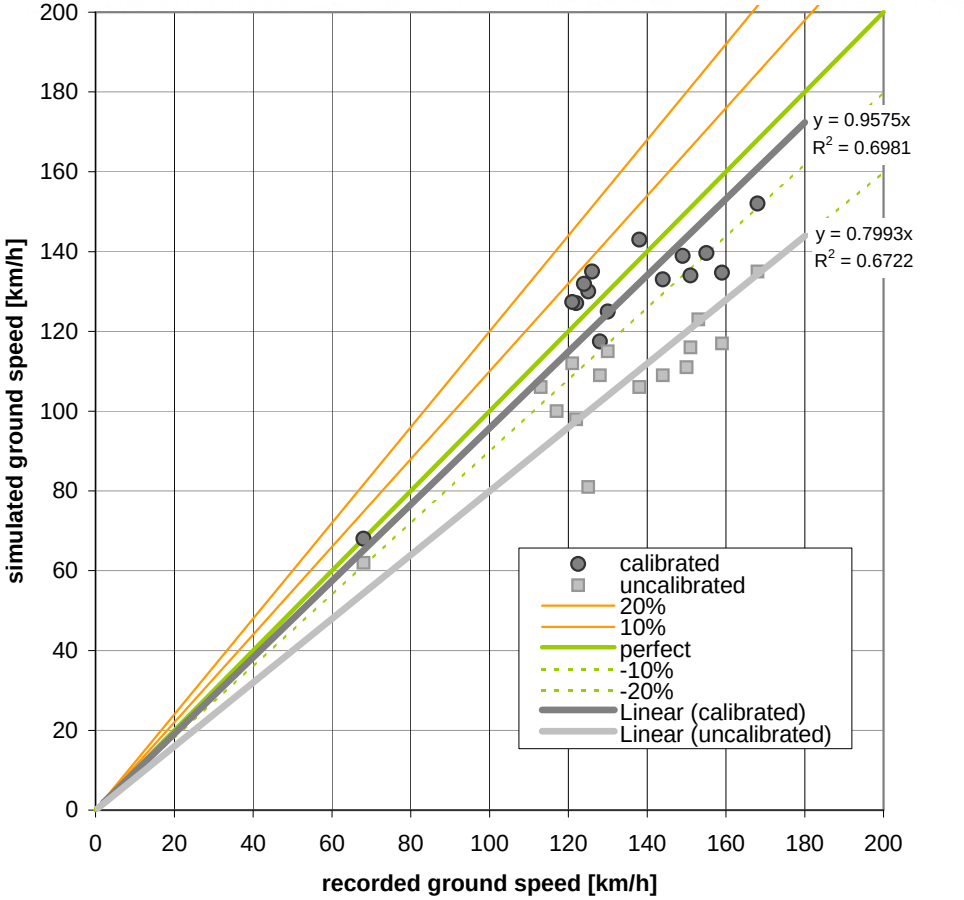
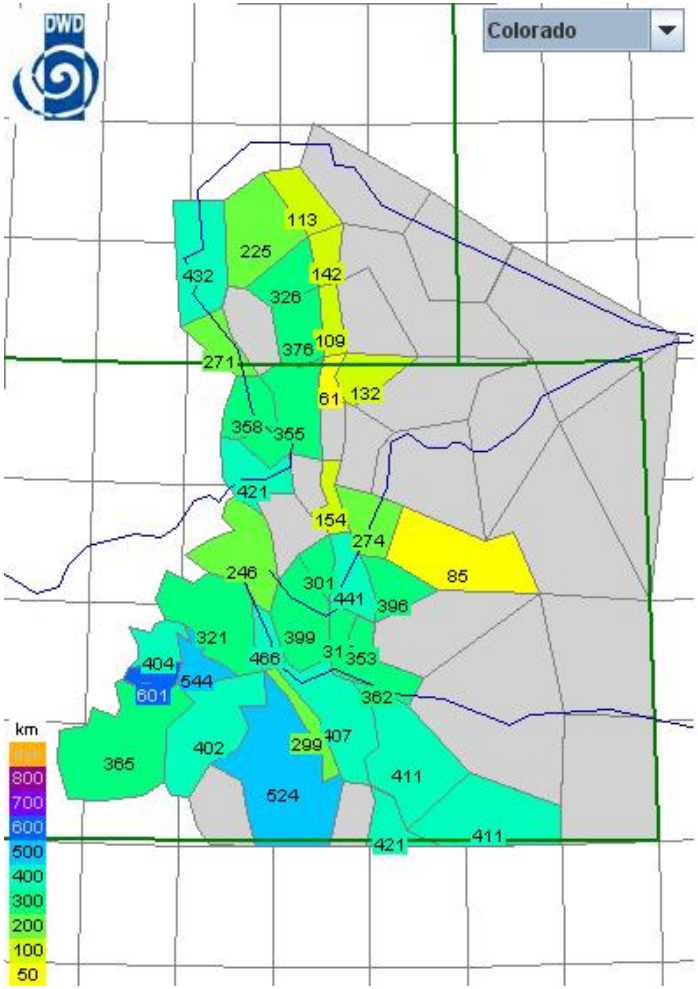
Presented at the XXIX OSTIV Congress, Lüsse, Germany, 6 - 13 August 2008

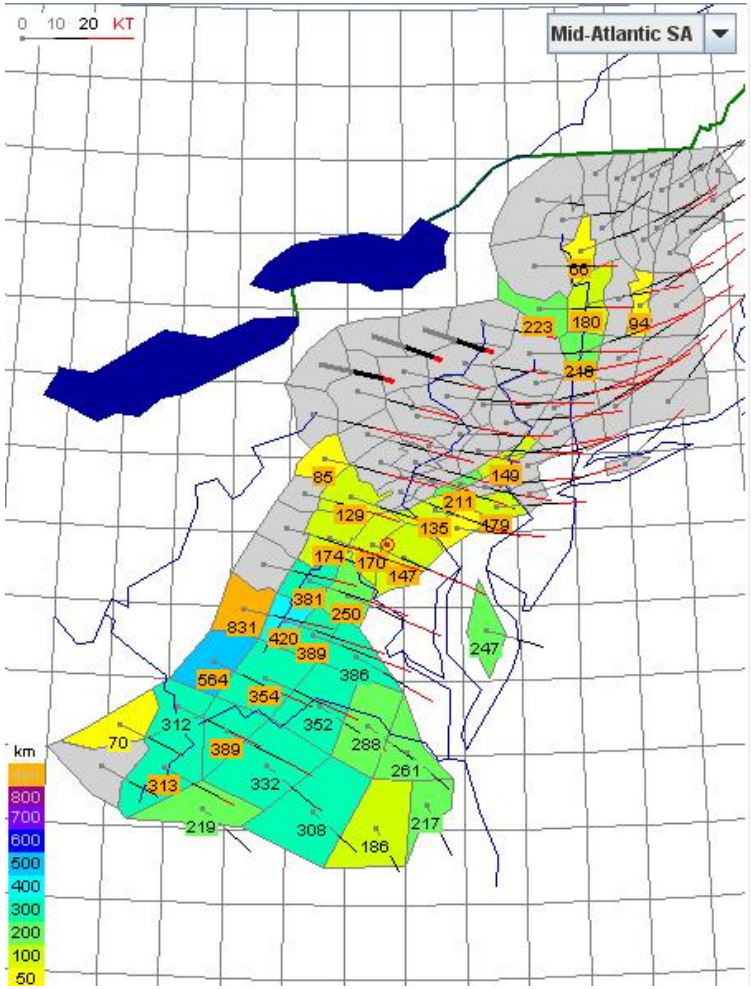


An On-line Glider pilot Self-briefing System

Edward (Ward) Hindman
The City College of New York, New York NY USA

Presented at the Soaring Society of America Convention, January 2010, Little Rock AR USA,
Submitted to 'Soaring', February 2010, online at www.sci.ccny.cuny.edu in 'Soaring meteorology'





Forecast for 13 October 2009 for isolated convective lift in Colorado and for aligned convective and ridge lift over the East Coast. PFD values are illustrated.

TS Sample Content
Vol. 10 (3), 1986

Ascending Mt. Everest Through Soaring Flight

by Ed"Ward" Hindman, Ph.D.

Certified Consulting Meteorologist

Presented at the XIX Organisation Scientifique et Technique Internationale du Vol a Voile (OSTIV) Congress, Rieti, Italy. August, 1985.

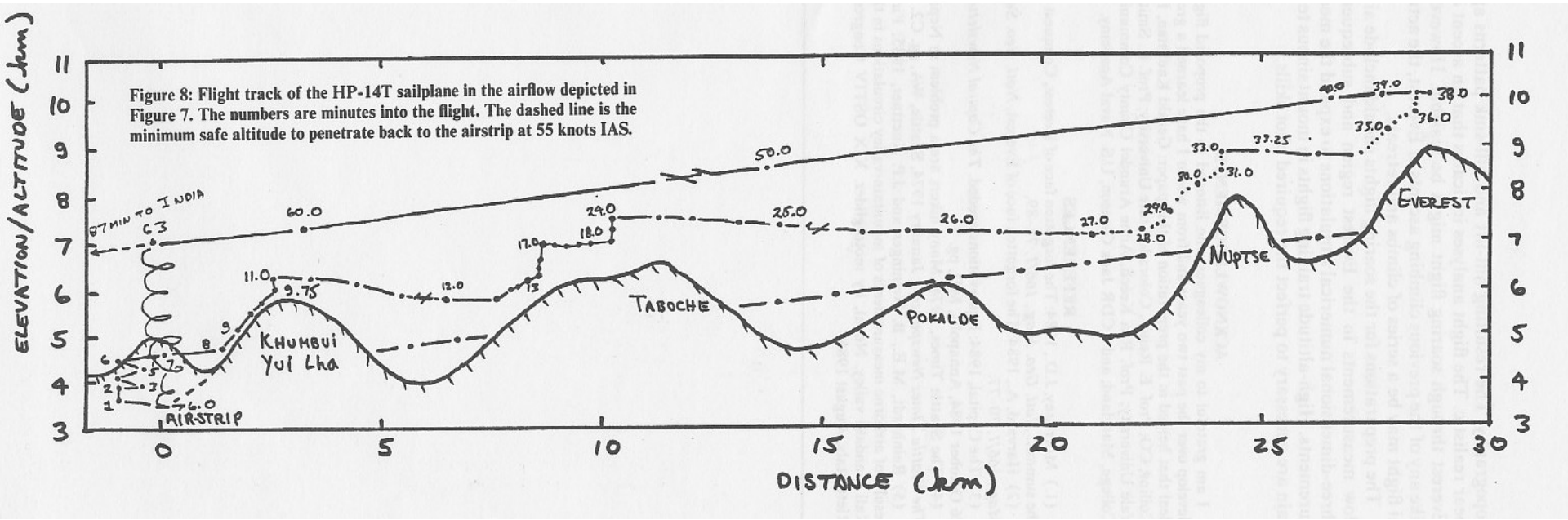


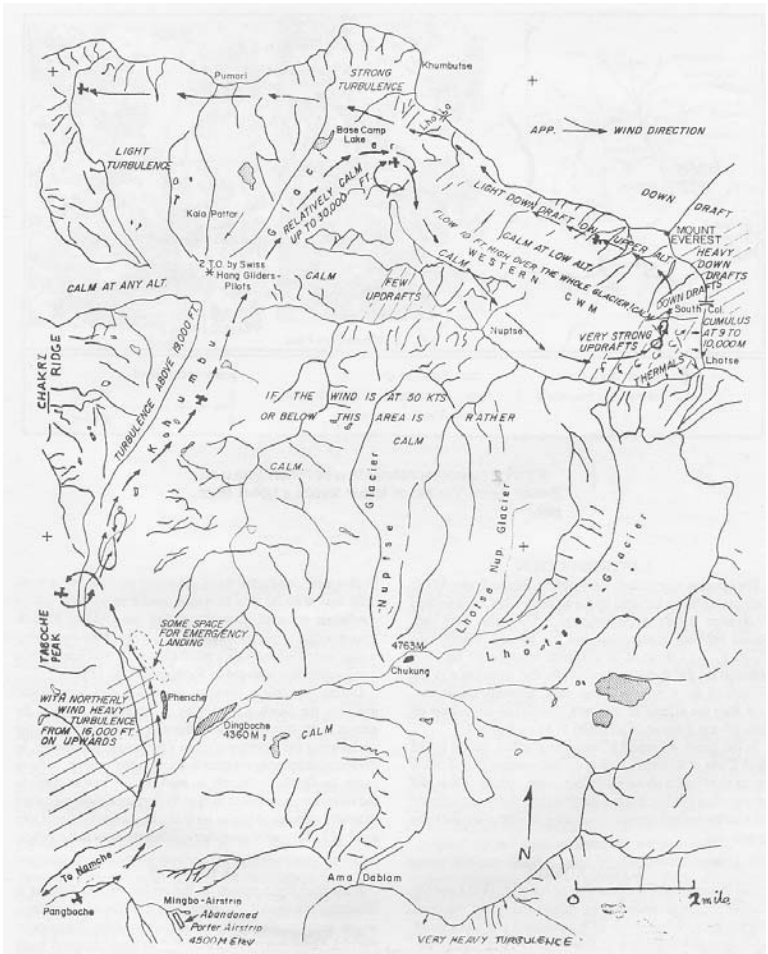
Figure 8: Flight track of the HP-14T sailplane in the airflow depicted in Figure 7. The numbers are minutes into the flight. The dashed line is the minimum safe altitude to penetrate back to the airstrip at 55 knots IAS.

TS Sample Content
Vol. 14 (2), 1990

AIR MOTIONS IN THE VICINITY OF MT. EVEREST AS DEDUCED FROM PILATUS PORTER FLIGHTS

by Edward E. Hindman, The City College, New York, USA and
Capt. Emil J. Wick (Ret.), Royal Nepalese Airlines,
Cointrin, Switzerland

Presented at the XXI OSTIV Congress, Wiener-Neustadt, Austria (1989)

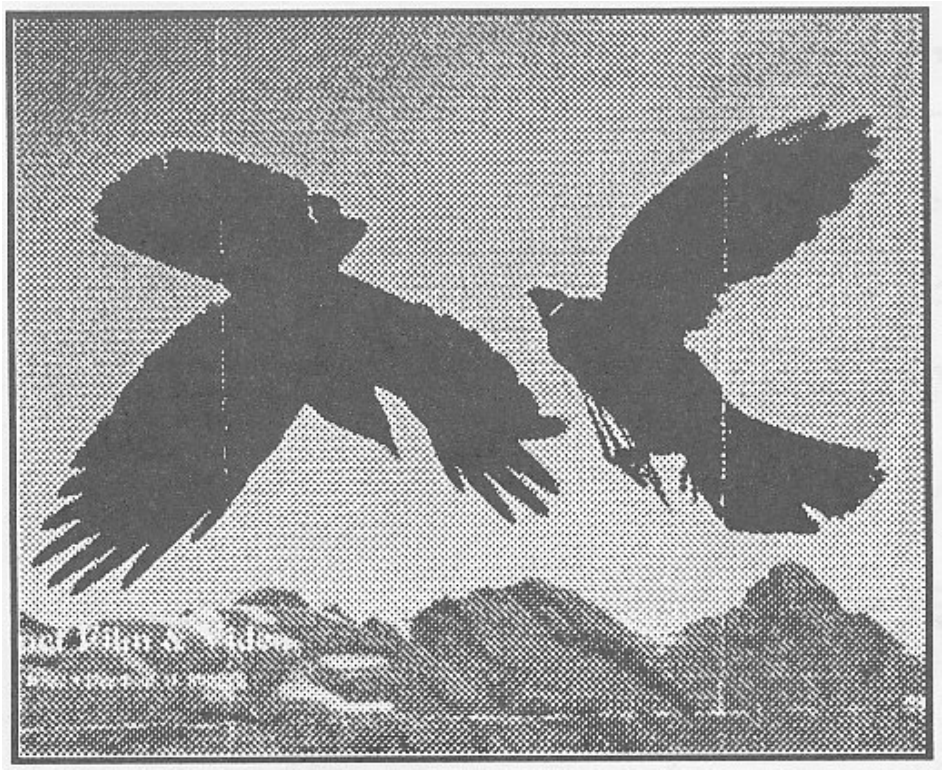


TS Sample Content
Vol. 18 (1), 1994

SOARING BIRDS OF MT. EVEREST

by Edward E. Hindman, New York City, USA

Presented at the XXII OSTIV Congress, Uvalde, Texas, USA (1991) and revised 1992.

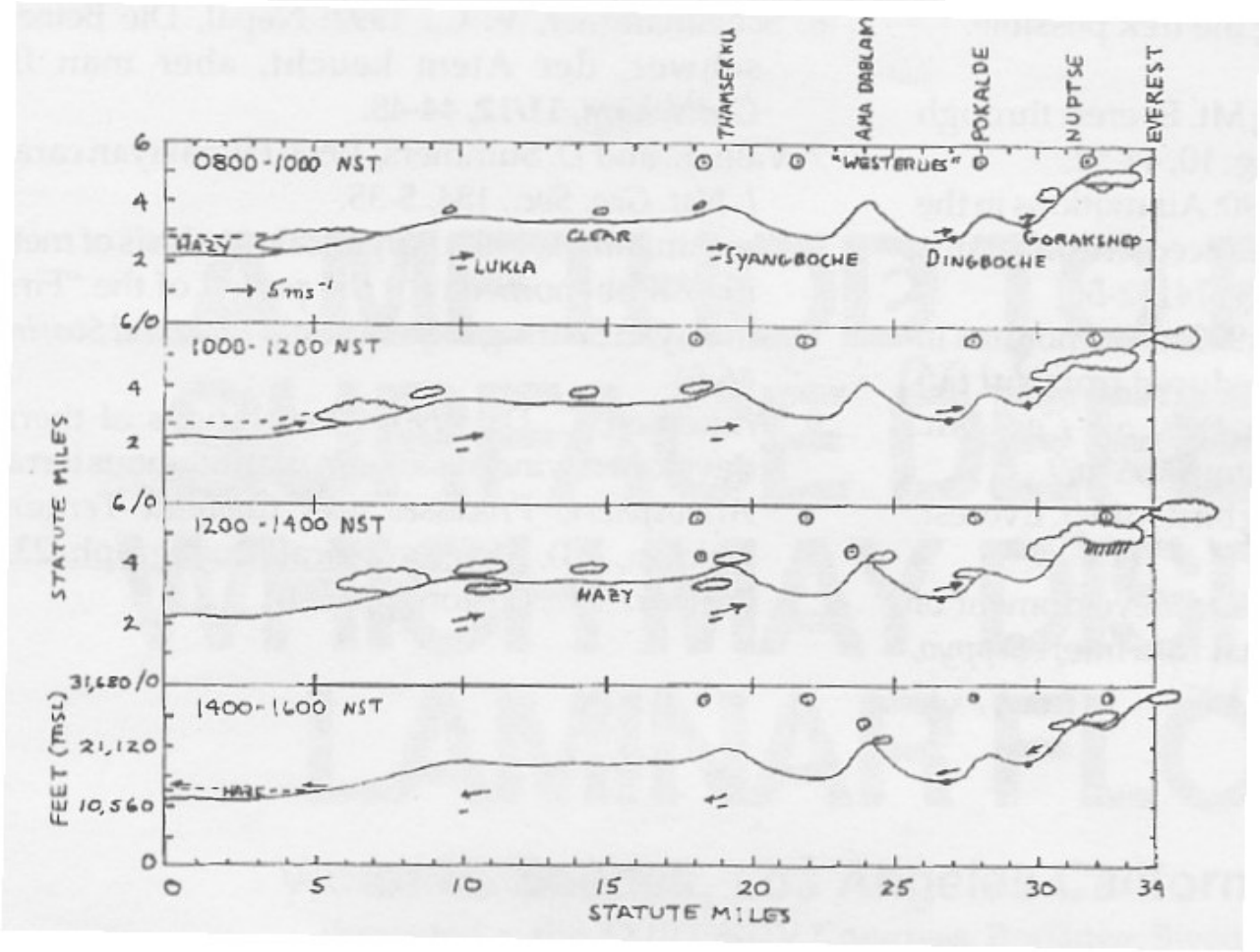


TS Sample Content
Vol. 19 (1), 1995

AIR MOTIONS IN THE KHUMBU HIMAL AND POSSIBLE SOARING FLIGHTS

Edward E. Hindman, The City College, New York, New York , USA
and Michael A. Engber, The City College, New York, New York USA

Presented at the XXIII OSTIV Congress, Borlänge, Sweden (1993)



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Vol. 23 (2), 1999

SOARING WEATHER AT THE TOP OF THE WORLD

By Edward Hindman

Presented at XXV OSTIV Congress, St. Auban, France (1997)

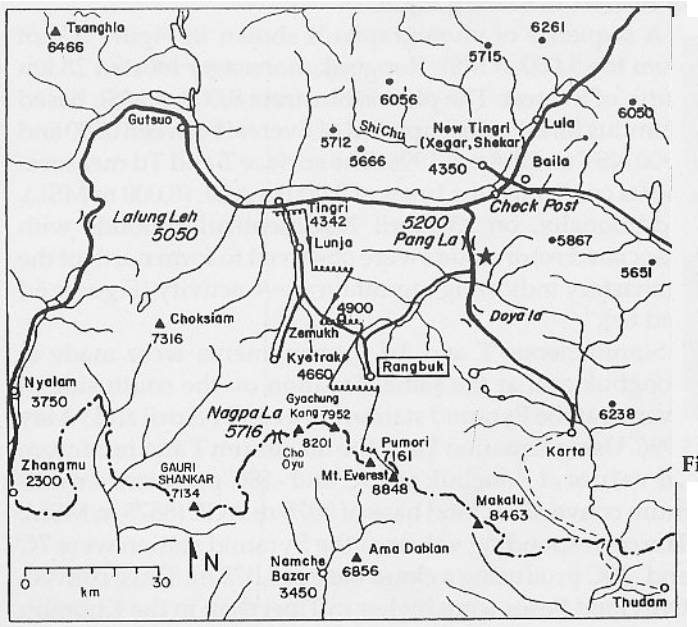

Figure 7. Possible flight track (plan-view) from Old Tingri to Mt. Everest. All elevations are in meters MSL.

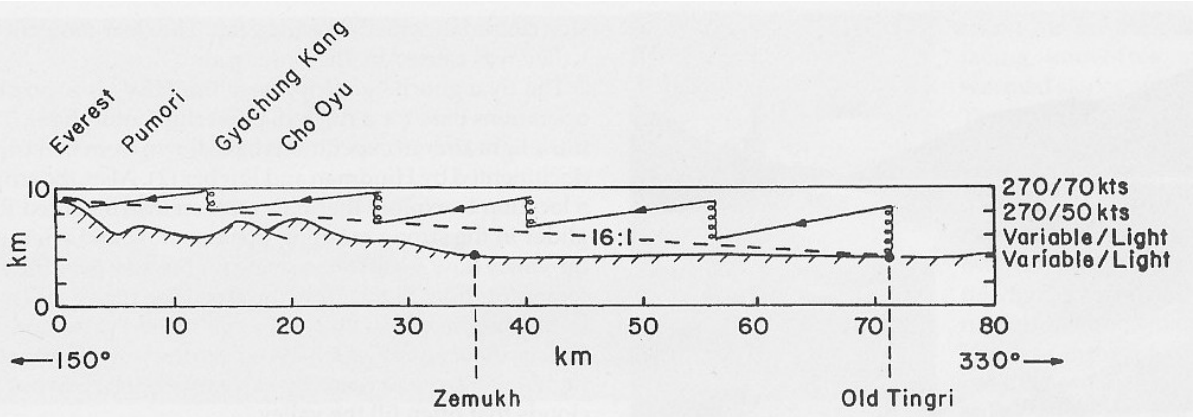

Figure 8. Possible flight track (cross-section view) from Old Tingri to Mt. Everest.

TS Sample Content
Vol. 26 (4), 2002

SOAR MT. EVEREST!

Edward Hindman (Ward)[1], Olivier Liechti[2], Peter Lert [3]

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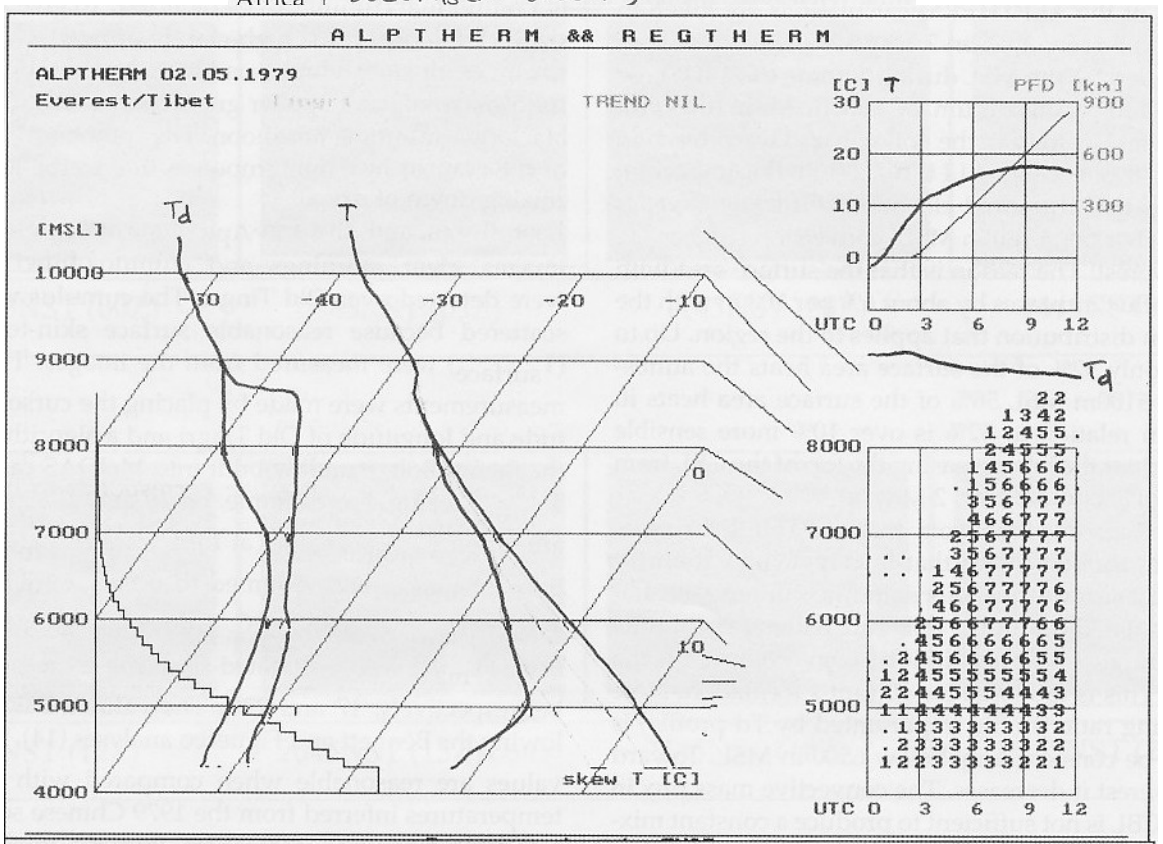
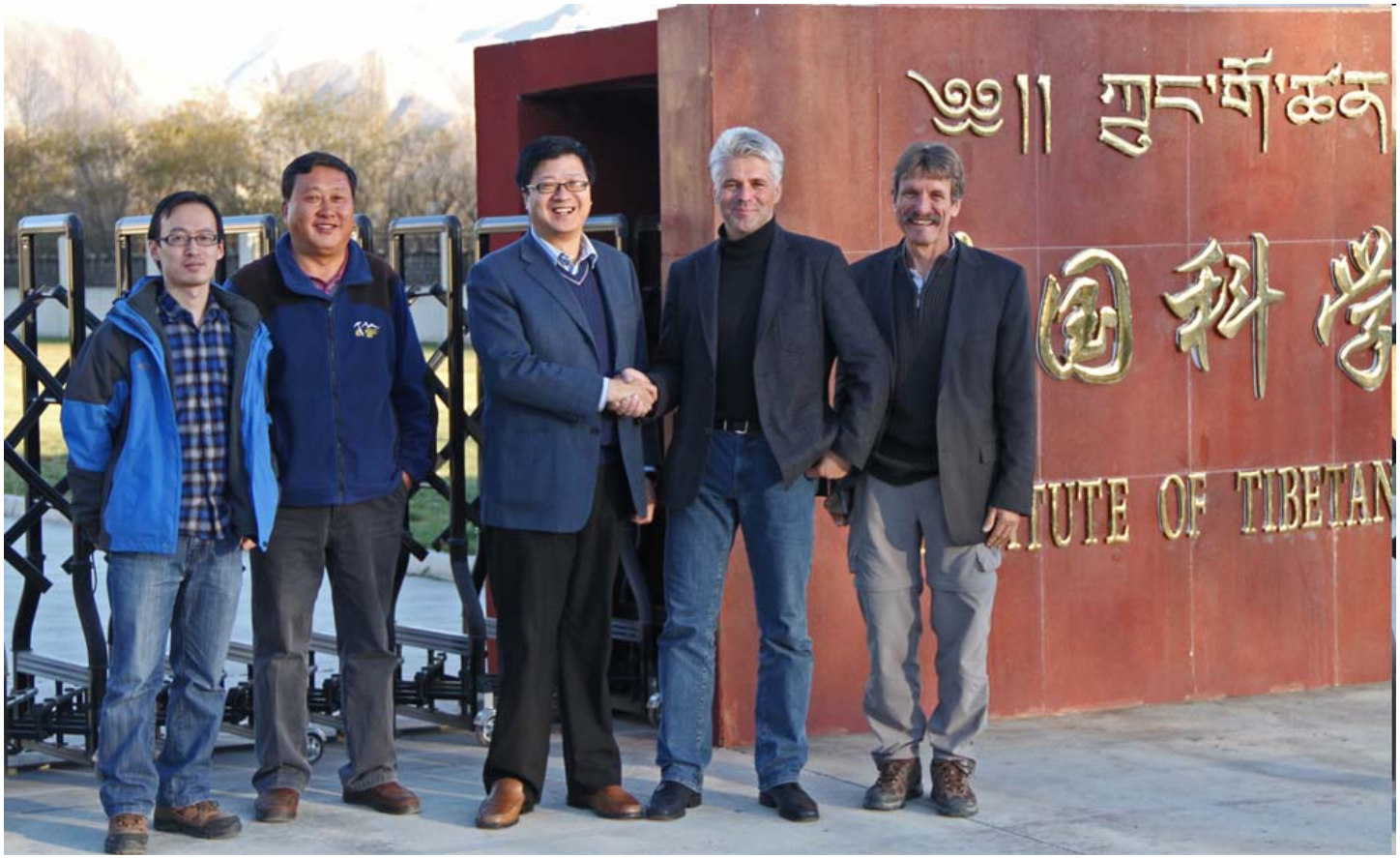
Presented to XXVII OSTIV Seminar, Mafikeng, South Africa (DECEMBER 2001)



OSTIV Mountain Wave Project visit to Tibet, October 2010

(www.mountain-wave-project.com/index-2.html)



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Liechti, Oliver; with Edward E. Hindman (a.k.a. Edward Hindman, E.E. Hindman, E. Hindman) and Peter Lert
Soar Mt. Everest [*Sites\Mt. Everest*], volume 26, number 4, 2002, page 114
Liechti, Oliver; with Reto Sparr and Bruno Bruderer
Forecasting Flight Altitudes and Soaring Performance of Migrating Raptors by the Altitudinal Profile of Atmospheric Conditions, volume 24, number 2, 2000, page 49
Liechti, Olivier (a.k.a. O. Liechti)
Handicaps and Polars [*Competitions*], volume 25, number 4, 2001, page 216
The Best-Speed Diagram for Soaring in Isolated and Aligned Lift, volume 34, number 2, 2010, page 40
Regionalized Predictions of Aligned Updrafts and their Tuning for Planning Soaring Flights, volume 34, number 4, 2010, page 75
Liechti, Olivier (a.k.a. O. Liechti); with B. Neininger
ALPTHERM - A PC Based model for atmospheric convection over complex topography [*Meteorology\Convection*], volume 18, number 3, 1994, page 73
Liechti, Olivier (a.k.a. O. Liechti); with Bruno Neininger
ALPTHERM-A PC-based Model for Atmospheric Convection Over Complex Topography, volume 29, number 2, 2005, page 55
Liechti, Olivier (a.k.a. O. Liechti); with Edward E. Hindman (a.k.a. Edward Hindman, E.E. Hindman, E. Hindman), Stephen Saleeby and William Cotton
A Meteorological System for Planning and Analyzing Soaring Flights in Colorado USA, volume 31, number 3, 2007, page 68
Liechti, Olivier (a.k.a. O. Liechti); with Erland Lorenzen
A New Approach to the Climatology of Convective Activity [*Meteorology\Convection*], volume 22, number 2, 1998, page 36
Top Task Meteorological Flight Planning for Soaring, volume 28, number 4, 2004, page 1
A New Approach to the Climatology of Convective Activity, volume 30, number 1/2, 2006, page 46
Liechti, Olivier (a.k.a. O. Liechti); with Erland Lorenzen, Ralf Thehos, Bernt Olofsson and Esbjørn Olsson
Verification of Thermal Forecasts with Glider Flight Data, volume 31, number 2, 2007, page 42

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Index 2009

of

OSTIV-PUBLICATIONS I - XVIII
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"Technical Soaring" Articles, Vol. 10-33
(1986 - 2009)

List of contents
with
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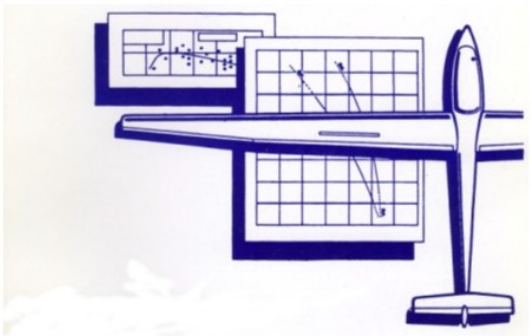
Vol 35, No 1 (2011)

TABLE OF CONTENTS

Volume 35, Number 1 January 2011

Technical Soaring

An International Journal



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Vol 35, No 1 (2011)

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Table of Contents

Cover

Cover — PDF
Edward (Ward) Hindman

Editor comments

Editor's comments — PDF — 1
Edward (Ward) Hindman
OSTIV at SSA Conference — PDF — 2-3
Bernald Smith

Articles

Health History and Performance Testing of Sailplane Pilots — PDF — 4-7
Raphael Warshaw
Non-mesocyclone Tornadoes — PDF — 8-15
Zoltán Polyánszky, Gyula Bondor
Cumulus Humilis: Wireless Mesh Networking for Gliders — PDF — 16-22
Roel Baardman, Nirvana Meratnia
Applications of Statistical Models and Artificial Neural Networks to Investigate Thermals in Turkey — PDF — 23-31
Ahmet Tokgözlü, Zafer Aslan

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Health History and Performance Testing of Sailplane Pilots

Raphael Warshaw

Abstract

A study of the health status and performance capability of pilots attending the 2005 Soaring Society of America (SSA) Conference was undertaken as part of an effort to develop a means of individual self-assessment of the effects of aging and to determine whether those who self-certify their medical fitness to fly sailplanes (permitted in the USA) are less fit than those who are required to undergo medical certification. One-hundred and eighty-three out of two thousand and seven conference attendees volunteered to complete a questionnaire on flight hours, ratings and health history and status and undergo simple (SRT) and two-choice visual reaction-time (CRT) testing. Pilots had a lower prevalence of hypertension, heart disease, and diabetes than the comparison population. SRT was statistically significantly better than predicted (239.6 ms vs. 276 ms) as was CRT (466.7 ms vs. 510.5 ms). When compared by possession of a medical certificate there were no significant differences for age, SRT, CRT, hypertension, heart disease or diabetes. Further studies are needed to determine whether CRT and other age-sensitive tests could be adapted to permit sailplane pilots to self-certify their fitness to fly.

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ISSUE	TITLE	
Vol 34, No 4 (2010)	Summary of Papers presented at the XXX OSTIV Congress at the World Gliding Championships, Szeged, Hungary, 28 July – 4 August 2010 *Mark Maughmer, Zafer Aslan*	ABSTRACT PDF
Vol 33, No 4 (2009)	The role of blocking in the structure of Mediterranean cyclones which affect Middle-East and Iran *Laleh Shabrang, F Ahmadi Givi, P Irannejad*	ABSTRACT PDF
Vol 34, No 1 (2010): 'Technical Soaring' *Edward (Ward) Hindman*	OSTIV Congress Call	ABSTRACT PDF
Vol 34, No 3 (2010) *Edward (Ward) Hindman*	XXX OSTIV Congress Information	ABSTRACT PDF
Vol 34, No 2 (2010) *Olivier Liechti*	The Best-speed Diagram for Soaring in Isolated and Aligned Lift	ABSTRACT PDF
Vol 34, No 2 (2010) *Edward (Ward) Hindman*	Call for papers	ABSTRACT PDF
Vol 33, No 4 (2009) *Jörg Dummann*	A Report on Glider Pilot Activities to document Lee wave-Events in Northern Germany and their Aims	ABSTRACT PDF
Vol 34, No 4 (2010) *Attila Fövényi*	Making Thermal Activity Forecast at the Hungarian Meteorological Service	ABSTRACT PDF
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Additional back issues will be archived as possible. What's involved?

Initially, this archiving campaign will be straightforward back through Vol. 30 (2006) because the issues are in digital form. Then, the campaign becomes more demanding. Earlier issues are only in hard-copy and the individual papers will have to be scanned into .pdf files and uploaded. Additionally, the titles, authors and abstracts will have to be scanned into text files using Optical Character Recognition techniques and uploaded. I invite two OSTIV members to work with me on the scanning and uploading. If you are interested, please contact me.

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Either see Bernald Smith at this Conference (bernald@juggernaut.com) or visit the OSTIV website (ww.ostiv.fai.org)

Technical Soaring

In this presentation, I have described the background and philosophy of *TS*, illustrated sample content, demonstrated the online archive and provided subscription information.

I invite presenters at this Conference to submit their manuscripts to *TS*.

This talk is online at www.sci.ccny.cuny.edu/~hindman (Soaring meteorology).

Thank you!