



ZEPHYR

JANUARY 1974 JANVIER

ZEPHYR

JANUARY 1974 JANVIER

Published Under Authority of the
Assistant Deputy Minister
Atmospheric Environment Service

Publié avec l'autorité du
Sous-ministre adjoint
Service de l'environnement atmosphérique

editor/la rédactrice: B.M. BRENT

Fort Chimo, Québec par Guy E. Born	1
Metrication of Weather Forecasting by N.N. Powe	5
Toronto International Boat Show	7
Temperature Recording Device – Grouse Mountain (B.C.) Gondola	8
Retirement – Sydney J. Buckler	9
The International Field Year for the Great Lakes	10
Service Now Trilingual	10
The Science Game	11
Seminars Prove Popular	13
Sixth Session WMO Regional Association IV	13
Personnel	14
Trivia	17

FORT CHIMO, QUÉBEC

par Guy E. Born

Une rivière tumultueuse au nom de Koksoak, bercée aux confins de son estuaire par le rythme imperturbable des marées, une langue de terre boisée s'agrippant au tracé de ses rives et s'étirant vers le nord, défiant la limite septentrionale de pousse des arbres, un vallon le protégeant des plus rigoureux effets du climat de la toundra environnante, tel est situé Fort Chimo, au centre du Nouveau-Québec, et à trente milles au sud de la Baie d'Ungava, si près du vide sud-arctique et si loin de tout à la fois.

Surplombant le village peuplé de 600 Esquimaux et de 200 blancs ainsi que le panorama l'encerclant, se situe notre Station de météorologie, du Ministère de l'environnement. Les quelques installations qui la composent, outre la salle des opérations, sont: le bâtiment renfermant la salle de gonflage et celle d'électrolyse, servant à la fabrication électrochimique de l'hydrogène, utilisé pour les opérations de radiosondage de l'atmosphère, effectuées deux fois par jour, à 0000 et 1200 heures TMG, et juché au sommet d'un coteau, à environ 800 verges de notre salle d'opérations météorologiques, l'abri de l'équipement de détection et de réception au sol des signaux transmis par l'équipement de radiosondage en cours d'envolée.

En lieu idéal, centrés à bonne distance des bâtiments nommés, se trouvent les différents instruments servant aux relevés des informations de la météorologie de surface.

Le programme d'observations est assez étendu, comprenant en prime abord les radiosondages de l'atmosphère, puis entr'autres les relevés de données radiométriques, les relevés des températures du sol pour localiser la profondeur du pergélisol, les relevés d'épaisseur de neige et de glace, ceux-ci en saison, d'octobre à mai, et, bien entendu, les rapports horaires de météorologie de surface.

Etant donnée sa situation géographique isolée, une importance primordiale est accordée par notre Ministère, par notre Bureau régional de Montréal et par le personnel de la Station, à la haute qualité des données et rapports météorologiques locaux, car la Station de Fort Chimo est la seule source d'informations météorologiques, sur un territoire comparable à la superficie de la Suède ou de l'Espagne.

Une équipe de quatre techniciens s'adonne à ces tâches, la majeure partie du temps dans la langue de Molière, puisque nous dénombrons une équipe entièrement francophone, pour la première fois depuis la mise sur pied de la Station.

Le personnel et leur famille sont excellemment logés dans deux bâtiments de type Duplex, avec soubassement et étage où nous comptons tout le confort désiré dans un ensemble de sept pièces par appartement. Nous tirons une belle grandeur morale de ces logements qui font notre fierté, ceux-ci comptant parmi les mieux localisés et les plus confortables de Fort Chimo. Ils sont bâtis à flanc de coteau à seulement 200 verges du local d'opérations et le panorama enthousiasmant de la rivière Koksoak se déroule au loin sous leurs fenêtres.

Le coût élevé de la vie, la surpopulation d'insectes voraces durant l'été, le froid mordant en hiver, les heures de travail souvent incommodantes, et un service postal plus ou moins régulier, nous rappellent que Fort Chimo c'est avant tout l'ardeur au travail

quotidien; la récréation relève strictement de l'initiative personnelle car l'organisation collective locale, ou l'aide gouvernementale, sont grandement déficientes sur ce point

Fort Chimo c'est pourtant un tout qui respire et qui veut vivre et vibrer, ça grandit, ça se métamorphose, le futur ouvre ses portes, l'idéal de chacun n'est plus seulement c'être ici de passage, mais d'oeuvrer pour une cause réaliste et durable. Les temps changent et Fort Chimo veut précéder l'élan de développement du grand nord Québécois offrant avec l'exploration minière grandissante, et l'accélération de l'établissement local de bases de compagnies d'aviation hélicoptérées, venant apporter l'énergie et le matériel indispensables au progrès des options pour ceux qui voudront enfin considérer que le Nord, si loin fut-il, se rapproche maintenant à pas de géant de l'ensemble abracadabran de notre civilisation des latitudes tempérées.



Fort Chimo avec l'antenne de réception/transmission de satellite Anik et le site SEA/MDT en premier plan. En arrière plan est la rivière Koksoak.

Un des duplex semi-détaché pour couples mariés.



*Observateurs de station d'altitude;
Jacques Renaud (à gauche) et
Bertin Plante (à droite), au travail.*

Chef de service: Guy Born.





L'édifice où se font les observations d'altitude avec le radiomètre RF 1 sur le dessus de l'ancien dome metox.

L'édifice où se font les observations en altitude (à gauche) et l'édifice où l'on produit l'hydrogène (à droite).



La maison des célibataires avec l'édifice GMD-2 (à gauche) et l'antenne du satellite Anik, en arrière plan.

METRICATION OF WEATHER FORECASTING

by N.N. Powe

It could prove a traumatic experience the first time you plan to go swimming in the summer of 1975 and hear the temperature forecast around 25 degrees.

It may also take considerable adjustment to find the high temperature for the day consistently forecast below zero from late November on through the winter.

It will be a while before we can react nonchalantly to a minimum temperature forecast of 25 below as we could have heard it last weekend had the metric system been introduced in Canada in January as it was to Australia and New Zealand.

The temperature quoted are Celsius (centigrade) and are already in general use on every continent but North America.

The word Celsius may be new to those who have not studied science recently in the schools.

It is a word that received international acceptance at a conference back in 1948 to replace the word centigrade when referring to temperatures.

The latter word has an ambiguous meaning since it is used in engineering for angular measurement.

Present planning calls for Atmospheric Environment Service meteorologists to begin reporting and forecasting temperatures in Celsius degrees in the spring of 1975.

In the Celsius scale the freezing point (32 degrees) is 0°C. The boiling point of water is 100°C and 212°F; or a ratio of five Celsius degrees to nine Fahrenheit degrees.

The 25°C forecast would correspond to a forecast of 77°F which is close to normal for a fine sunny July afternoon.

Below zero in Celsius means below freezing and to be expected as early as November.

Last weekend, the minimum temperature was forecast around 15 below Fahrenheit which would be about 25 to 27 below Celsius.

The familiar expression "below zero" may drop from our language in favor of the expression "below freezing."

The use of Celsius degrees for temperatures has one disadvantage, however. Since one degree Celsius is equal to almost two degrees Fahrenheit the reporting of temperatures will not be as precise, unless decimals are used.

Another change involved in the introduction of the metric system for use in weather observing will be the reporting of accumulations of rain or snow. It is intended to report rain in millimetres and snow in centimetres.

For this purpose the scales selected will give the precision that is warranted for the purpose.

One millimetre is equal to about .04 inches: 25 millimetres are equal to about an inch. For example, in the month of January, there was 1.27 inches or 32 mm of rain. There was also 14.9 inches of snow or 38 cm.

Everyone has heard wind speeds reported in miles per hour or knots.

The use of knots or nautical miles per hour has been traditional for marine navigation purposes and has been adopted generally for air navigation.

There appears to be some reluctance to convert these units to metric units, but eventually it is expected that marine and aviation interests will make the change universal.

The use of kilometres per hour is going to be adopted for use with automobiles, probably in 1977.

Speedometers and traffic signs will be redesigned to use the new units.

At that time, weather offices will begin to report and forecast winds in kilometres per hour.

Measurements in this unit are not as precise and at first the reports and forecasts are likely to sound more ominous in the new unit. For example, 20 m.p.h. will equal 32 k.p.h., and hurricane winds of 75 m.p.h. will be reported as 120 k.p.h.

Experience has shown that people are reluctant to give up traditional practices.

When the new units are introduced both the old and the new will be quoted at first to permit comparison and to allow people to adjust to the new scales.

In practice, however, the weather service will discard the old units within a year of the adoption of a metric unit.

Meteorologists have evidence of the reluctance of the layman to accept new units of measurements despite the logic of their use.

To measure air pressure in terms of a unit of length is very unscientific so that back in the late 1920's meteorologists decided to use the millibar instead of inches as the unit of pressure.

Pressure is regularly measured in millibars and all weather maps are plotted in millibars.

Yet when you listen to weather reports or forecasts on radio and TV you will hear the pressure reported in inches, because people continue to use home barometers calibrated in inches instead of millibars.

The success in converting to a uniform integrated system of measurements will depend on the attitude of the Canadian public in accepting the metric system, as most of the other countries of the world have done or will do in the years ahead.

TORONTO INTERNATIONAL BOAT SHOW
FEBRUARY 1st - 10th, 1974

Environment Canada was well represented at this years Toronto International Boat Show. The Atmospheric Environment Service was one of six services which combined their resources to produce what everyone felt was the finest display exhibited at this annual event.



Geoff Meek, Port Meteorological Officer (Explains Marine Weather Services to visitors at Toronto International Boat Show) Photo H. DeBlokline

The theme of the display was "Services Available" and a large portion of the more than 100,000 visitors passed through the display. Many complemented the staff on the layout.

The exhibiting services were Hydrographic Services, Ottawa; the Marine Sciences Directorate; Environment Protection Services, Environment Management Service, Lamprey Control of Marine and Fisheries, Small Craft Harbours and the Atmospheric Environment Service.

The concept for the display originated from the Regional Board for Ontario and Central Regions and Mr. T. McCulloch, Director of the Marine Sciences Directorate, of the Canadian Centre for Inland Waters was nominated as chairman of the Boat Show Committee, with Mr. G.T. Meek, Port Meteorological Officer, Toronto as the co-ordinator.

The combined efforts of the various services was a splendid example of co-operation between the services of Environment Canada, and gave those participating the opportunity to discuss over-lapping problems.

TEMPERATURE RECORDING DEVICE – GROUSE MOUNTAIN (VANCOUVER) GONDOLA

An instrument package which makes a continuous recording of the air temperature is attached to the gondola which carries passengers from the 900' level on Grouse Mountain to the Chalet at the 3600' level. The package, which carries its own power supply, is removed each 24 hours and a second plugged in. The first then is recharged and its chart of temperature readings is sent to the Scientific Support Unit of the Pacific Region, AES, where Mr. J. Emslie is using them to make a climatological study of the diurnal changes in freezing levels and of inversion layers.

In addition, the gondola supervisor, who carries out the tasks of replacing the sensors, recharging the batteries and forwarding the records, will provide current readings at any time upon telephone request from the Vancouver Weather Office.

The Grouse Mountain Corporation were happy to cooperate in this venture since they have recently installed a \$1,000,000 snow making machine which must operate at temperatures between 24°F and 30°F. Below 25°F, ice pellets are produced and above 30°F water droplets. The temperature readings produced by the sensor allow them to choose the best level for snow making at any time.

Although the Grouse Mountain people are interested in the readings only during the winter season they will provide the service year round.

The program began Feb. 6th and Mr. Emslie reports excellent and interesting data is being received.

EDITOR'S NOTE – The instrument package, mentioned above was designed and developed by Don Champ of the AES's Instrument Branch and backed by Air Quality Research Branch. The first production model was produced to AES specifications by the Canadian Research Institute in Don Mills, Ontario.

RETIREMENT – S.J. BUCKLER

Over 100 friends, relatives and colleagues gathered at the Golden West Motor Inn last December 6, to mark the retirement of Sydney J. Buckler, Regina Hydrometeorologist.

Since 1939 Syd has served the AES in a number of capacities including that of forecaster at Winnipeg and Edmonton, OIC at Whitehorse, and Instructor at the Toronto Training Section. His last six years were spent as Prairie Hydrometeorologist at Regina where he cultivated an ever expanding association with members of the scientific and engineering community. As a consulting Meteorologist, he will continue to exercise his insight and knowledge in these fields from his new home overlooking Lake Okanagan at Peachland, B.C.

Syd's ready wit and humor coupled with an outgoing personality, won him many friends and made him one of Canada's best-known meteorologists. This was evidenced by the large number of telegrams received at the banquet and the great proportion of out-of-town guests.

During the course of the evening Syd, an enthusiastic sportsman, was presented with a hunting rifle while wife Phyl received a lead-crystal serving dish. A surprise guest was daughter Laurel, who flew in from Toronto especially for the occasion.



Syd and Phyl Buckler



Entrance to "Golden West Hotel"

THE INTERNATIONAL FIELD YEAR FOR THE GREAT LAKES

The IFYGL is currently in the data management phase. Data are being abstracted, edited and verified, and in most cases stored in computer compatible forms in the Canadian and United States IFYGL Data Banks. However, at the same time, some participating scientists are completing "first look" analyses based on incomplete data bases. It is now foreseeable that some final analysis programs involving lake-wide data and complex budget calculations will not be completed until 1976, or possibly later.

An overall status report concerning all aspects of the program will be made at a IFYGL Symposium scheduled for April 1974 in conjunction with the Washington Spring meetings of the American Geophysical Union and the American Meteorological Society. This report will be published in a special edition of the IFYGL Bulletin. Close to 100 more-detailed scientific papers dealing with specific IFYGL projects are expected to be presented at the annual conference of the International Association for Great Lakes Research to be held in Hamilton in August 1974.

The final reports of IFYGL will be published in a separate Scientific Series. It is expected that individual volumes will deal with each of the six panel programs, plus an overview of the entire IFYGL program. Dr. E.J. Aubert (NOAA) and T.L. Richards (AES) have been designated as scientific editors and authorship responsibilities for each of the volumes are currently being assigned.

SERVICE NOW TRILINGUAL

This is the first AES publication ever printed in Chinese. The English version is "Auxiliary Ships Weather Observations." It was commissioned by the P.M.O., Vancouver, so that he might more easily recruit weather observations from chinese ships voyaging across the North Pacific.

加拿大之大氣環境服務

總部—4905 DUFFERIN ST., DOWNSVIEW, ONTARIO, CANADA

輔助船氣象觀測

SHRED 99LaLaLo QcLoLoLoLo YYGGiw Nddff VVwwW PP/TT 21sEsEsRs

何謂氣象觀測？

對於「輔助船」，這是一個電碼報告，該報告以指標SHRED為首，接着平常是六組電碼，每組各五個數字。基本上，報告供給輔助船的位置，觀測日期和時間，雲量，以及如有冰凍之增加。國際報告電碼如上所示，其中標符代表有關數字。

為何觀測氣象？

海洋氣象觀測極其重要，理由如下：

- (一) 協助世界氣象服務，及為航運發出較好的天氣預告；
- (二) 幫助確定暴風、颱風和旋風的位置，以助船隻避暴風浪。
- (一) 所以氣象報告有助於保障海運及貨物之安全。
- (四) 亦有助於很多地區的漁業活動。
- (五) 供給空海搶救工作所需之情報。
- (六) 氣象報告是海洋氣候學之基本資料。
- (七) 觀測資料亦補充衛星氣象探測，並對船隻「天氣航綫」是必要的。

何時觀測氣象？

觀測結果最好在下列「主要標準時間」完成並備妥發出：格林威治 0000, 0600, 1200 及 1800，(每隔六小時，每天四次)。每項觀測，均須完成，就是未能發出，亦須記入航海日誌內。請參閱一刊物「為沿海電台發出的天氣報告」這本刊物詳述僅有一個電訊員之船隻所應注意的附加程序。

在何處觀測氣象？

一項氣象觀測可在世界海洋及沿海任何地區進行。你在海岸視界以內之事實並不能減少觀察之重要性。就是無法發送，亦須進行，並予記錄。

如何觀測氣象？

一個氣象觀測包括十四項的情報(冰結增加則為十六項)。我們將簡單介紹如何依照國際電碼法進行觀測，寫電碼，並記錄每一個觀測結果。當你看這些指示時，請也參閱「輔助船的氣象記錄」一頁(表格63-9458)。指標 SHRED 和首組之數字99都須加在報告內。它們已預印在天氣記錄表上。SHRED 意即：這是減縮的輔助船報告，99是電碼的指標(或指示字)。

LaLaLa 緯度之計算法

緯度報告經常為三個數字。緯度的度分(每度為六十分)變為緯度之十分法是把度分除六不管小數，例如：

0° 45' (北或南) 電碼為 007。
34° 05' (北或南) 電碼為 340。

Qc 地球之界限儀

Qc 是指緯度是北緯或南緯，及東經或西經。選擇表內適當的數字。

	西經	東經
北緯	7	1
南緯	5	3

在赤道和格林威治或第 180 子午綫之位置，可用任何二個適當之數字。

LoLoLoLoLo 經度計算法

通常為四個數字。經度之改變法，也是把度分除六，不管小數，例如：

0° 16' (東或西) 電碼為 0002
81° 23' (東或西) 電碼為 0813
146° 58' (東或西) 電碼為 1469

YY 日期(月、日)

一個月之第一天是01，第二天是02等……。
每日以格林威治日為標準。這個標準日可能與你當地時間不同。亦請注意報告日以格林威治0000為觀測標準。這是格林威治日之剛開始，並非格林威治日之剛結束。

GG 最接近格林威治全時(整個鐘頭)的正確觀測時間

既然觀測平常應在四個主要標準時間進行，電碼號為 00 06 12 和 18。這些電碼印在記錄表第九欄內。

如果觀測時間有異，則刪掉印在表內之時間，並在上面加註確實時間之碼數。

用查氣壓計(晴雨計)時之正確時間，例如：0552格林威治=06；1446格林威治=15；2356格林威治=00(用YY作為新的一日)不是24。

iw 風速指標

用碼號3(三)如果風速是被估計者。
用碼號4(四)如果風速是獲自風力計(驗風器)。
iw 平常電碼號為3。

N 天空被各種雲蔽之成分

碼數	雲蔽成分	碼數	雲蔽成分
0	無雲	6	6/8
1	1/8 或以下但不是0	7	7/8或以上，但不是8/8
2	2/8	8	8/8天空全被遮蔽
3	3/8	9	天空被濃霧或大雪遮蔽，或無法估計成分。
4	4/8		
5	5/8		

如能透過薄雲層看到天空之一部分，那就把天空的一部分當做全部天空，並照樣寫成氣象電碼。晚上，月亮在地平綫之下，雲量可按多少天星可被看見，多少天星被雲遮蔽而進行估計。

dd 確定風吹動的方向 儘量接近十度範圍之內

可從由風推進之波浪確定風向，或從海面之波紋確定之。
00 = 靜，01 = 10° T，依每十度之階段增至36 = 360° T(北)。

其他例子：
05 = 50° T (東北)
09 = 90° T (東)
14 = 140° T (東南)
21 = 210° T
27 = 270° T (西)
32 = 320° T (西北)



The Island of Research

One Rule: Do Not Block the Path of Inquiry

Ocean of Experience



HYPOTHESIS

Mount Where-are-we-going?

Canyon of Despair

Data Analysis Jungle

Data fever-breeding ground

D. D. D. Delta of "dirty" data

Wreck heap of discarded Hypotheses

Where-am-I Fog

Entreé Tactics

Study Design

Instruments

Plains of Report Writing

The Great Fundless Desert

Delta of Editors

Bog of lost manuscripts

Bay of Leisure

To Administration Island

UNCHARTED

KNOW-IT-ALL ISLE

BEGIN HERE

Sea of Theory

SEMINARS PROVE POPULAR

Lunch time seminars put on for the Meteorological Applications Branch of Central Services Directorate are held at 11:30 a.m. on the first and third Friday of each month in the AES auditorium.

Seminars are either of scientific or general interest. The first one on January 18 reported on recent WMO meetings. The second on Feb. 1 answered many questions on Superannuation, Travel and Relocation.

Attendance figures for these two meetings were 35 and 50.

Over 60 topics have been suggested for future meetings, including: the fate of data stream

- how to win a competition
- bird watching during lunch and coffee breaks
- the Lord Dam
- the energy crisis
- special task forces like GATE, IFYGL, Beaufort Sea and James Bay.

SIXTH SESSION WMO REGIONAL ASSOCIATION IV

The Sixth Session of the WMO Regional Association IV was held in Guatemala City, 29 November to 7 December 1973. Mr. J.R.H. Noble, President of the Association, opened the session. There were 65 participants including two invited experts. Nineteen Members of the Association and 5 international organizations were represented. This was the first time in the history of the Association for a session to be held in the southern part of the Region.

A Nomination Committee, a Co-ordinating Committee and two Working Committees were established to examine in detail the agenda items. Considerable attention was given to the regional aspects of the four main WMO Programs – The World Weather Watch Program, The Program on Education, Training and Research, The Program on The Interaction of Man and His Environment and The Technical Co-operation Program.

Mr Noble having served as President for two terms was not eligible for re-election, but on several occasions during the session he was warmly thanked for the leadership he had given during his two terms in office. Mr. E.R. Peterson (Inland Waters Directorate) and Mr. T.L. Richards (AES) will serve on the Working Groups on Hydrology and Mr. E.M. Elsley (AES) on the Working Group on Met. Telecommunications.

Canada was represented at the session by Messrs. J.R.H. Noble (Principal delegate), E.M. Elsley, F.A. Page, E.R. Peterson and T.L. Richards.

A provisional invitation was extended by the delegate of Mexico, Senor S. Aguilar A., to hold the Seventh Session of the Association in Mexico.

PERSONNEL

The following transfers took place:

R.C. Harvey	From: Arctic Weather Central To: Staff Officer Meteorology (MOT) Ottawa
S.J. Lambert	From: Arctic Weather Central To: Canadian Meteorological Centre
S.M. Checkwitch	From: Edmonton WO To: Calgary WO
W.H. McRuer	From: Ice Forecast Central, Ottawa To: CFOCS Chilliwack
R.J. Nutton	From: CFWO Edmonton To: CFOCS Chilliwack
C.D.W. Gietz	From: CFWO Moose Jaw To: Arctic WC
P.W. Cote	From: CFWO Trenton To: Ice Forecast Central, Ottawa
P.A. Lachapelle	From: Resolute WO To: Arctic Weather Central

The following are on temporary duty or project assignment:

R.H.W. Hill	From: Maritimes Weather Office To: Ice Forecast Central
M. Blake	From: METOC Centre, Esquimalt To: METOC Centre, Halifax
L.E. Parent	From: Vancouver Weather Office To: FSD AES HQ

The following have accepted positions as a result of competition:

73-DOE-TOR-CC-250	Meteorology MT7 Supervising Meteorologist Toronto WO Toronto, Ontario A.H. Campbell
-------------------	---

73-DOE-TOR-CC-250	Meteorology MT7 Supervising Meteorologist Toronto WO Toronto, Ontario J.P. O'Reilly
73-DOE-TOR-CC-250	Meteorology MT7 Supervising Meteorologist Toronto WO Toronto, Ontario P.J. Pender
73-DOE-TOR-CC-132	Meteorology MT7 Scientific Support Officer Western Regional Office Edmonton, Alberta B. Janz
73-DOE-ONT-CC-62	Meteorology MT7 Research Implementation Meteorologist FRD AES HQ Downsview D.W. Shantz
73-DOE-TOR-CC-198	Meteorology MT6 Meteorology Instructor Professional Training Division CSD AES HQ Downsview P. Dillistone
73-DOE-TOR-CC-198	Meteorology MT6 Meteorology Instructor Professional Training Division CSD AES HQ Downsview D.G. Tesch
73-DOE-TOR-CC-150	Meteorology MT8 Head, Networks and Surveys Section Air Quality Services Division ARD AES HQ Downsview M. Olson

Separations:

G.G. Thielman	Weather Office, Edmonton
J.R. Janzen	CFB Edmonton
H.A. Tourigny	22 NRWC North Bay
B.V. Tryggvason	ARD Project, AES HQ

STAFF NEWS – FOREIGN SERVICE – USA

“Bill” Verge has been the Senior Meteorological Instructor at the Dewline School in Streator, Illinois for the past six years.

His son Michael William has been honored as an “*Illinois Scholar*.” Michael was notified that he is to be featured in the Eighth Annual edition of “*Who’s Who Among American High School Students, 1973-74*.” The edition is the largest student award publication in the nation. He received a pin from the Mathematics Association of America and also recognition for marks scored in the 1973 national engineering aptitude search test.



Michael William Verge

Congratulations Michael!! It is nice to know that Canada is so well represented. Well done from all in the Atmospheric Environment Service.

TRIVIA

Eco-brief

Researchers prove oil and water can mix

An independent researcher has discovered that oil and water do mix. Ultrasonic sound vibrations can intersperse tiny droplets of the two substances to form an emulsion that will not separate. When burned as a fuel, water-oil mixtures burn more efficiently – and with less polluting side effects – than straight petroleum.

According to Science News, Eric Cottell, a mechanical engineer, has prepared an ultrasonic fuel emulsifier that will mix water and oil in a 1:3 ratio, to be used at the Adelphi University campus heating plant.

Mr. Cottell also uses the emulsion – of 19 per cent water, this time – in his car. He says that he increases his mileage by one-third.

BIKINI PRINCIPLE

Judicious Cover of Points of
Interest
Rarely Discourages Further
Investigation

Voici une liste d'expressions diverses comprenant des proverbes, des locutions, des dictons, des gallicismes, des canadianismes, des régionalismes, des anglicismes et même des barbarismes.

Prendre du mieux	Guérir
Se prendre pour un autre	Etre prétentieux
Se forcer pour rien	Faire un effort inutilement
Brûler la chandelle par les deux bouts	Dépenser trop d'énergie
C'est une autre paire de manches	C'est un autre problème
Je dors debout	Je m'endors
Qui vivra, verra	L'avenir réserve toujours des surprises
Quvrir l'oeil	Observer
Rendu au coton	Epuisé

WHAT IS THIS RELOCATION DIRECTIVE ?

1,941 There is no minimum distance qualification which governs the eligibility of an employee to be authorized to relocate under the terms of this Directive. However, the general rule is that relocation expenses will not be authorized where the old and new places of employment are within the same metropolitan community or, according to local custom in the area, are within reasonable commuting distance of each other. Generally speaking, relocation expenses should not be paid when the distance between an employee's "old residence and his new work location is not less than 25 miles greater than the distance between his new residence and his new work location," (Extract - Section 62(1) (b), 1972 Income Tax Act).

The Now Society



"Was there weather before television?"