

# GRAYZONE APPLICATION

## MANUAL

Welcome to GRAYZONE APPLICATION and many thanks for purchasing it. Please enjoy its use. If any bugs are found, let me know about at [info@on5au.be](mailto:info@on5au.be)

Having precise information of where to find the sunrise and sunset zones is a must for the eager DX chasing radioham. These zones have specified propagation properties and characteristics that lead to long distance communication possibilities with strong signal strength quality. It will be for sure a great help today's time year 2006 with its low Sun activity period. The highest HF radioham bands are mostly closed now and this for some coming years too. So, a lot of hams are more frequently using the lower HF bands and these bands are in good shape now at this period to make exciting DX contacts. Knowledge of the grayzone and dark hours locations worldwide is a must to succeed on these bands.

It starts by clicking **Start.exe** from where you can access the Menu Options.



**Start window**

The **Menu options** are: Wizards – PDF Files – Tables – Programs – About – ON5AU – Help – Exit.

The **About** option is the traditional popup with information about the CD-ROM version message.

The **ON5AU** option directs you to my Webpage.

The **antenneX** option directs you to the on Internet antenneX monthly magazine.

The **Help** option is this manual PDF-File.

The **Exit** option is self-explaining and does what it implies.

## The Wizards Option

Clicking the Wizards Option opens the Grayzone Application Dialog box. For 3 dates in a month (1 – 11 – 21) you find a Radio Button, which gives access to the chosen date hourly Wizard window screen. You have the opportunity to display 3456 different world maps showing the auroral ovals computed with SSN 75, A-index 5 and most important the grayzone at this date and time with one-quarter hour steps. From the hourly Wizard window screen it is possible to follow the grayzone locations in an animated way.



The Grayzone Application Dialog Box

**CLICK ON A DATE BUTTON AND YOU CAN BROWSE 96 MERCATOR TYPE MAPS WITH AURORAL OVALS SSN 75 A-INDEX 005 AND THE GRAYLINE ZONES FOR EACH QUARTER HOUR PLUS AN ANIMATION OF THEM.**

**HAVE ACCESS TO A TOTAL OF 3456 MAPS AND 36 ANIMATIONS**

PROPAGATION WIZARDS BY ON5AU - Hour Menu

# AURORAL OVALS & GRAYLINE ZONES

00:00	03:00	06:00	09:00	12:00	15:00	18:00	21:00	1 December
00:15	03:15	06:15	09:15	12:15	15:15	18:15	21:15	
00:30	03:30	06:30	09:30	12:30	15:30	18:30	21:30	
00:45	03:45	06:45	09:45	12:45	15:45	18:45	21:45	
01:00	04:00	07:00	10:00	13:00	16:00	19:00	22:00	
01:15	04:15	07:15	10:15	13:15	16:15	19:15	22:15	
01:30	04:30	07:30	10:30	13:30	16:30	19:30	22:30	
01:45	04:45	07:45	10:45	13:45	16:45	19:45	22:45	
02:00	05:00	08:00	11:00	14:00	17:00	20:00	23:00	
02:15	05:15	08:15	11:15	14:15	17:15	20:15	23:15	
02:30	05:30	08:30	11:30	14:30	17:30	20:30	23:30	
02:45	05:45	08:45	11:45	14:45	17:45	20:45	23:45	

Animation

Back

**The Hourly Wizard Window**

PROPAGATION WIZARDS BY ON5AU - 1200

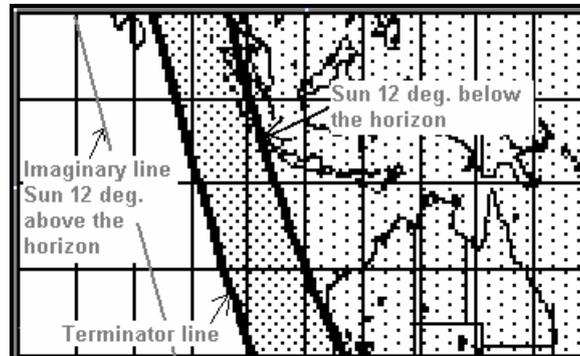
(c) ON5AU Auroral & Graytime Zones 12:00 UTC December 1

Menu      First    Previous    Next    Last

**The Maps(s) Wizard**

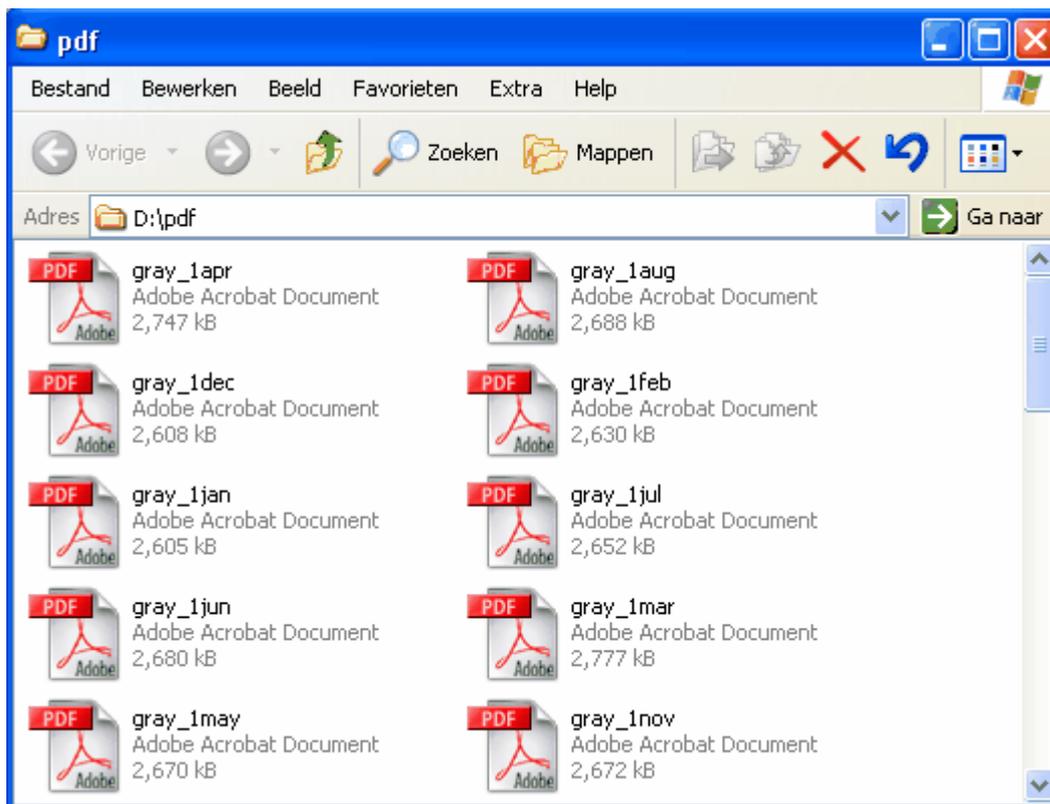
## How to interpret the grayzone?

On the maps the grayzone is only shaded from sunset to 48 minutes after sunset: 48 minutes is equal to 12 degrees sun displacement. The worldwide grayzone maps were created with PROPLAB PRO-2 and this program allows defining the end or the beginning of the grayzone in one direction only. So, I decided that the  $-12$  degrees input would be the best choice in my opinion. To imagine a line of 12 degrees ahead of the terminator line is clearly and easily done; see illustration below.

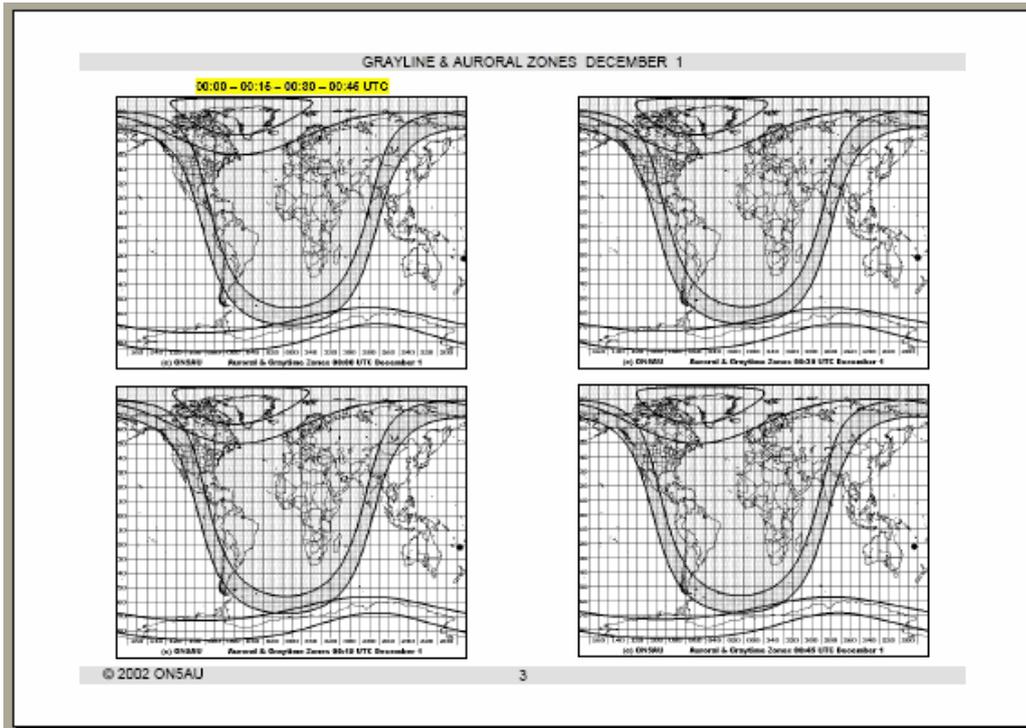


### The PDF Files Option

Clicking the PDF File option opens the Windows Explorer screen from where you can open 36 printable documents of every map contained on the CD-ROM.



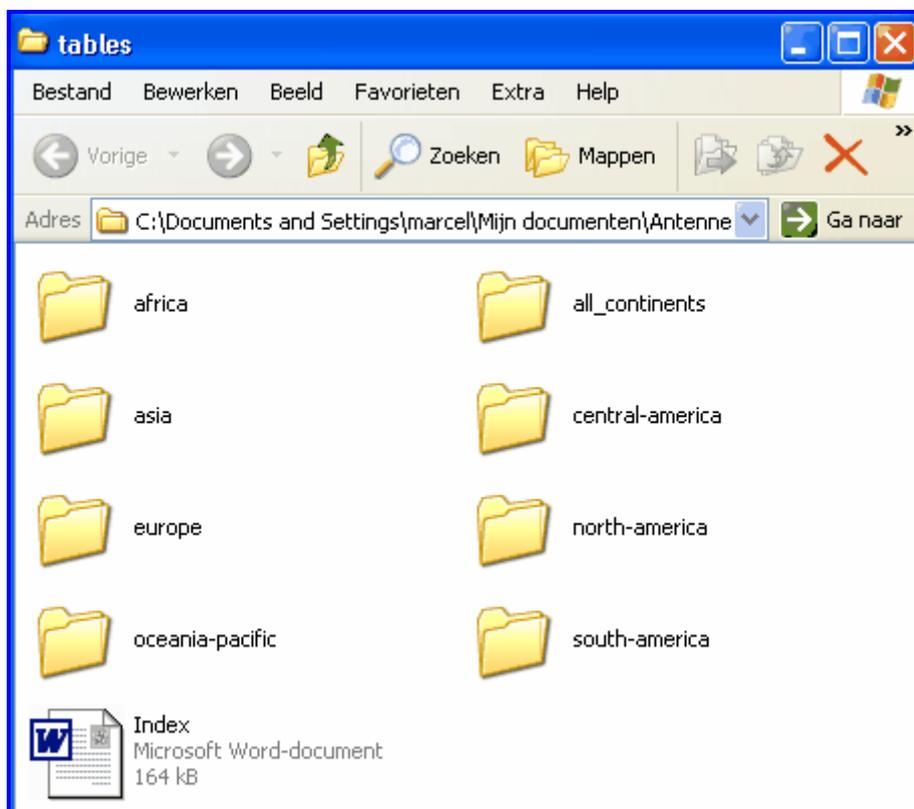
### The PDF-Files Option Window



One page from the PDF documents, (actual size = A4 or Letter format)

### The Tables Option

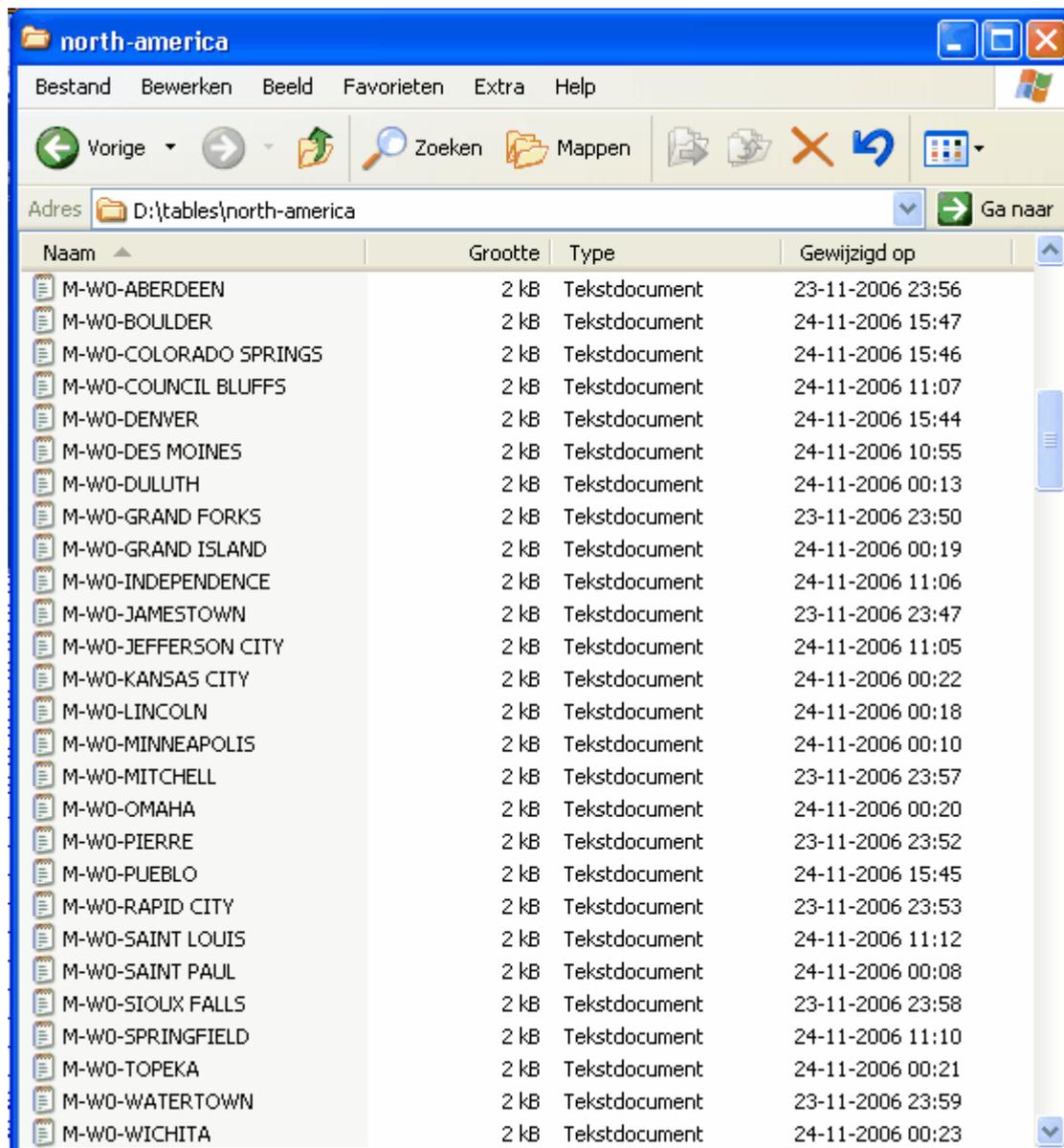
Clicking the Tables option opens the Windows Explorer screen from which you can open more than 800 printable sunrise-sunset time lists of worldwide locations pre-computed. These locations are subdivided in seven continental categories and one all continents file, containing all the continental categories. A complete list is founded at the Index.doc file.



The Tables Option Window

1
1A-SMO OF MALTA
1S-SPRATLY ISL
2
2A-TIRANA
3
3A-MONACO
3B6-AGALEGA
3B8-PORT LOUIS
3B9-RODRIGUES
3C0-ANNOBON
3C-MALABO.
3D2-CONWAY REEF
3D2-ROTUMA
3D2-SUVA
3DA-MBABANE
3V-TUNIS
3W-HANOI
3W-HUE
3W-SAIGON HO CHI MINH
3X-CONAKRY
3Y-BOUVET
3Y-PETER I ISL
4
4J-KIROVABAD

The Index.doc Word-file.



Explorer: select from DXCC list

last - Kladblok

Bestand Bewerken Opmaak Beeld Help

BELGIUM - ON - ON5AU

Longitude :3 45' E -3.75 E  
 Latitude :51 0' N 51 N

Times UTC

Date	Sunrise	Sunset
Jan 01	07.48	15.49
Jan 11	07.45	16.01
Jan 21	07.36	16.16
Feb 01	07.22	16.35
Feb 11	07.06	16.53
Feb 21	06.47	17.11
Mar 01	06.30	17.25
Mar 11	06.09	17.42
Mar 21	05.46	17.58
Apr 01	05.22	18.16
Apr 11	05.00	18.33
Apr 21	04.39	18.49
May 01	04.19	19.05
May 11	04.02	19.21
May 21	03.47	19.36
Jun 01	03.36	19.49
Jun 11	03.31	19.58
Jun 21	03.30	20.03
Jul 01	03.34	20.03
Jul 11	03.43	19.58
Jul 21	03.55	19.48
Aug 01	04.10	19.33
Aug 11	04.25	19.16
Aug 21	04.40	18.56
Sep 01	04.58	18.33
Sep 11	05.13	18.10
Sep 21	05.29	17.48
Oct 01	05.45	17.25
Oct 11	06.01	17.03
Oct 21	06.17	16.42
Nov 01	06.36	16.21
Nov 11	06.54	16.04
Nov 21	07.10	15.51
Dec 01	07.25	15.42
Dec 11	07.37	15.39
Dec 21	07.45	15.40

The select location 3-dates monthly sunrise-sunset times

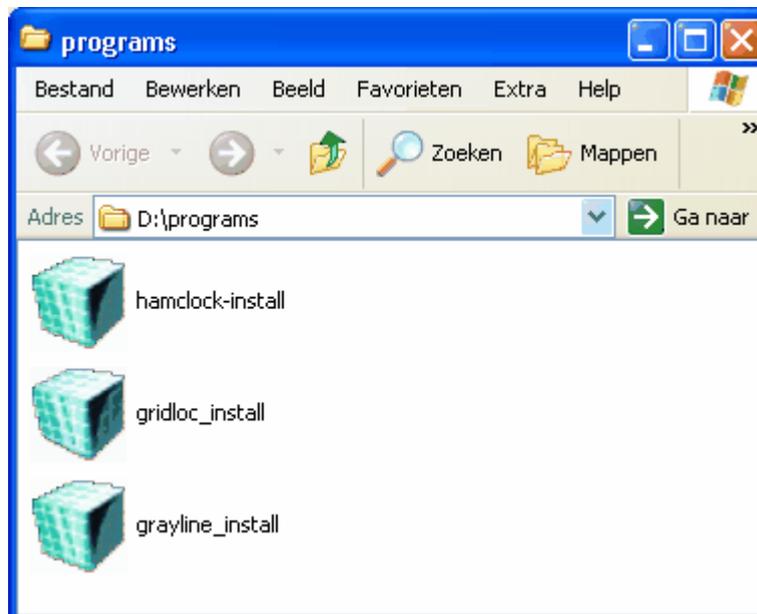
With the extra supplied greylines program you can even compute daily sunrise-sunset times. You can know the times **“on the minute”** at every day of the year. This is most useful for the top band 160 meters, which is sensitive to a much smaller range of grayzone path openings than the 80- or 40-meter bands.

BELGIUM - ON - ON5AU		
Longitude : 3 45' E -3.75 E		
Latitude : 51 0' N 51 N		
Times UTC		
Date	Sunrise	Sunset
Jan 1	07.48	15.49
Jan 2	07.48	15.50
Jan 3	07.48	15.51
Jan 4	07.48	15.52
Jan 5	07.48	15.53
Jan 6	07.47	15.54
Jan 7	07.47	15.55
Jan 8	07.46	15.57
Jan 9	07.46	15.58
Jan 10	07.45	15.59
Jan 11	07.45	16.01
Jan 12	07.44	16.02
Jan 13	07.44	16.04
Jan 14	07.43	16.05
Jan 15	07.42	16.06
Jan 16	07.41	16.08
Jan 17	07.40	16.10
Jan 18	07.39	16.11
Jan 19	07.39	16.13
Jan 20	07.38	16.14
Jan 21	07.36	16.16
Jan 22	07.35	16.18
Jan 23	07.34	16.19
Jan 24	07.33	16.21
Jan 25	07.32	16.23
Jan 26	07.31	16.24
Jan 27	07.29	16.26
Jan 28	07.28	16.28
Jan 29	07.27	16.30
Jan 30	07.25	16.31
Jan 31	07.24	16.33
Feb 1	07.22	16.35
Feb 2	07.21	16.37
Feb 3	07.19	16.38
Feb 4	07.18	16.40
Feb 5	07.16	16.42

**The daily sunrise-sunset times**

## The Extra Programs Option

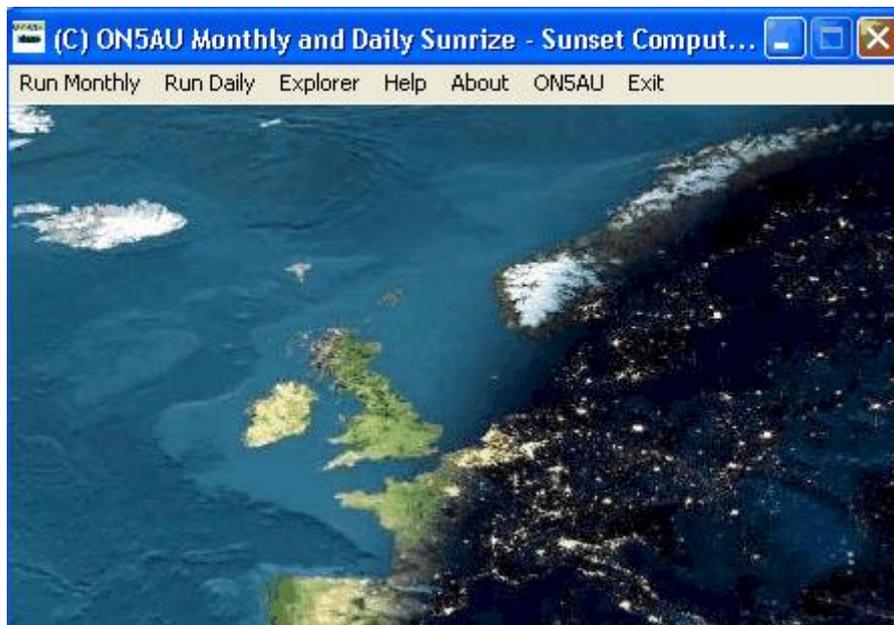
This CD-ROM also includes three programs I developed some time ago. You can install these programs via the Programs option. The manuals *“how-to-use”* are included in the installation process.



**The Programs Option Window**

The extra supplied programs are: Greyline, Hamclock and Grid locator computing as shown above.

Computing your own sunrise-sunset timetable list of any location is easily done with this program.



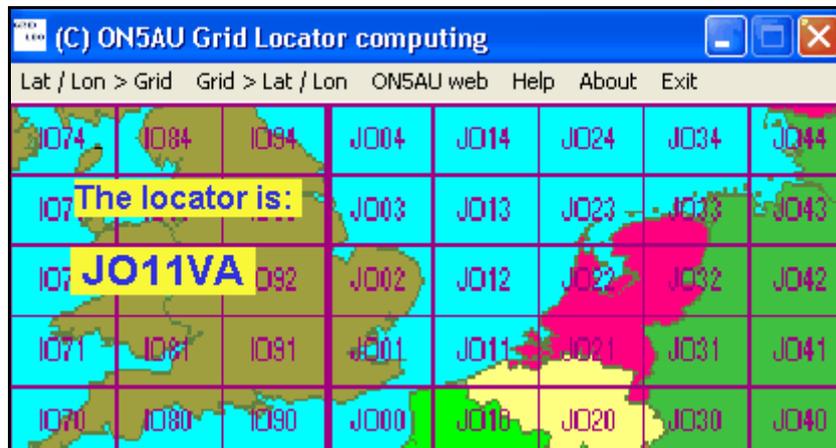
**The Greyline Program**

Finding the local time at any selectable DXCC location is easy with the Ham Clock utility.



**The Hamclock Program**

The Grid Locator program computes any locator from latitude/longitude coordinates or the latitude/longitude coordinates from a given grid locator. This can be a handy tool to find out the coordinates of a specific locator to input and compute a sunrise-sunset time list.



**The Grid Locator Program**

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**WETTEREN (BELGIUM) November 26 - 2006.  
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