

NATURAL ENVIRONMENT RESEARCH COUNCIL

# UKDMAP

***Third Edition***  
***July 1998***

**An atlas of the seas around the British Isles**  
for use with *Windows 95/NT*

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**USER GUIDE TO THE**  
**UNITED KINGDOM**  
**DIGITAL MARINE ATLAS**  
**(Third Edition)**

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# Introduction

## Welcome to the United Kingdom Digital Marine Atlas

The Atlas was originally developed, and published in its First and Second Editions, by the British Oceanographic Data Centre (BODC) at the CCMS Proudman Oceanographic Laboratory (POL), Birkenhead, with funding by the Natural Environment Research Council (NERC), the Ministry of Agriculture, Fisheries and Food (MAFF), The Scottish Office Agriculture and Fisheries Department (SOAFD), the Joint Nature Conservation Committee (JNCC) and the National Rivers Authority (NRA). The BODC has subsequently developed and expanded the Atlas into this Third Edition of the UKDMAP for *Windows 95/NT*, funded by NERC and MAFF.

The UKDMAP is intended to be a reference work on the marine environment around the UK which will be of use to the scientific, educational, government and commercial sectors. In addition to the presentation of geographically referenced information in the form of maps, which may be zoomed and/or overlaid upon each other, and individual features queried to obtain detail information, the Atlas presents accompanying textual information which enables the user to contact sources both of additional or source data and of technical expertise in the relevant subject.

### Aims of the Atlas

The present Atlas originated from the desire of MAFF to convert its printed *Atlas of the Seas around the British Isles* (HMSO, 1981) to the electronic medium in order both to simplify the process of updating and extending the charts that it contained and to increase the flexibility of use by permitting such operations as zooming in to an area of interest, and overlaying of charts upon one another for comparative purposes. In 1989, NERC, MAFF, DAFS, NCC and later NRA joined in funding the preparation of the First and Second Editions of the electronic atlas, which was conducted by the British Oceanographic Data Centre at NERC's CCMS Proudman Oceanographic Laboratory. The objective of the project, formally titled the United Kingdom Digital Marine Atlas Project (UKDMAP) was to produce a fully functional digital marine atlas for use on IBM compatible PCs.

The scope of the Atlas has broadened considerably since its first conception. In addition to small scale thematic charts (such as those in the printed MAFF atlas) and the addition of large scale charts of specific regions, it contains a wealth of reference material which will permit the user to identify sources of data, information and expertise on all aspects of the marine environment. To this end, the Atlas includes items such as summaries of geo-referenced catalogues and inventories, and indexes to other recognised chart series.

The Atlas is intended to offer a service both to users and to data suppliers. Datasets appearing in the Atlas represent the endpoint of data collection, collation, processing and presentation carried out by the data supplier. During this process, the data supplier will probably have amassed a substantial database, of which the Atlas data is a summary, and gained (or already had) expertise in the field in question. The informative text that accompanies each Atlas dataset offers data suppliers the opportunity to advertise the existence of such databases, together with any services or technical expertise that they have to offer. In this way, the user may more readily determine the availability of data and/or technical expertise on a given subject, and the data supplier can ensure that more effective use is made of valuable data assets.

## System Requirements

Basic system requirement is an IBM compatible PC running the *Windows* operating environment (95 or NT 4.0 or later), with at least 16Mb of RAM, a CD-ROM drive, a standard *Windows* pointing device (mouse, trackball or similar), and at least 2.5MB of free hard disk space on which to install the *UKDMAP* software. Any processor in the 80x86 or *Pentium* series is suitable, although the use of a fast, *Pentium*-based machine will obviously benefit system performance. Similarly, the faster the CD-ROM drive then the better will be the display speed.

The software will use any standard graphics adapter, but has been designed for optimal visual results on displays of 800 by 600 pixels resolution or better with at least 256 colour capability. Users of low (256 or less) colour-depth displays will notice duplication of colours within the standard colour selection palette when they are setting the colour of lines or text within the *UKDMAP*. This is because *Windows* will not permit the selection of "dithered" colours for lines or text, and it therefore re-maps such colours to existing "solid" colours. The full palette of colours remains available for selection for area-fill functions.

## Installing UKDMAP

In a standard installation, only the software is installed on the user's hard drive; the chart datasets remain on the CD-ROM from whence they are accessed (it is therefore necessary for the *UKDMAP Third Edition* CD-ROM to be mounted on the CD-ROM drive whenever the system is run). *[If desired, the chart datasets also may be transferred to the hard disk of the PC; instructions for doing this are given later in this manual.]*

1. Insert the *UKDMAP Third Edition* CD-ROM in the CD-ROM drive.

From within the *Windows* environment, run the program SETUP.EXE in the root directory of the CD-ROM; i.e. assuming that your CD-ROM drive is designated as drive "D:", select the 'Run' option from the Start Menu, enter 'D:\SETUP.EXE' in the entry box, and click on the 'OK' button.

If the drive letter of your CD-ROM drive is not 'D:', simply substitute the correct drive letter for 'D:' in the instructions above.

3. By default, the software will be installed in directory C:\Program Files\British Oceanographic Data Centre\UKDMAP\ and the *Windows* Start Menu folder will be BODC. If you wish to change either of these, simply replace the default drive, directory or Start Menu folder names with your preferred values when invited to do so by the installation programme.
4. Click on the 'OK' button to complete the installation.

## Features new to UKDMAP Third Edition

Although the *Windows* version of the *UKDMAP* inherits much from its DOS predecessor, some aspects of the design have been modified to enhance the functionality of the system, and it is important that the user is familiar with these conceptual changes before attempting to use the system.

*UKDMAP Third Edition* is based upon the concept of a Map Definition File (MDF) which contains details of the currently selected datasets, selected options, etc.. The MDF can be saved to disk at any time so that the current situation may be re-loaded later during the same or a subsequent session.

*UKDMAP Third Edition* permits any number of datasets to be displayed at the same time (although the number which may effectively be overlain will be limited by the user's ability to distinguish between them). This is accomplished *via* the concepts of a Base Map, Base Map Datasets and Overlay Datasets:

**The Base Map** is effectively the background upon which the datasets are displayed. The land outline is part of the Base Map.

**Base Map Datasets** are one or more datasets that the user has chosen to add to the base map. These datasets will be displayed as part of the background information on all charts subsequently displayed. The selection of datasets which constitutes the Base Map Datasets may be modified by the user at any time. By default, no Base Map Datasets are selected (i.e. the Base Map consists of the land outline only).

**Overlay Datasets** are user-selected datasets which form the current dataset list, and which may be overlain (one at a time) upon the Base Map.

## Using UKDMAP Third Edition

### Running UKDMAP

Ensure that the *UKDMAP* CD-ROM is loaded in the CD-ROM drive and then select 'Programs' from the Start Menu, and on the Programs menu open the 'British Oceanographic Data Centre' folder and click on the item *UKDMAP*.

Note: If you wish to create a desktop shortcut to the *UKDMAP* software, use *Windows Explorer* to open the folder C:\Program Files\British Oceanographic Data Centre\UKDMAP and then drag a copy of the file *UKDMAP.EXE* from that folder onto the *Windows* desktop. Answer "Yes" when *Windows* says that it cannot copy the file and asks if you wish to create a shortcut to it.

### Specifying the CD-ROM drive letter

The CD-ROM drive letter does not ordinarily require setting. In its default state, the software will check all CD-ROM drives for the *UKDMAP* CD-ROM.

When the software detects that the CD-ROM is not available in a local CD-ROM drive, it will open a standard file dialog box inviting you to specify an alternative location where it can find the file *MAINMENU.DAT*. Use the dialog box to open the \UKDMAPV3\MISC directory (you will see *MAINMENU.DAT* listed as one of the files within that directory), and then click on "OK". You will then be asked if you wish this to be the default location for future program runs. Answer "Yes" if you do not wish the auto-detection to be active in future; this is particularly useful if the contents of the CD-ROM are assigned to a network drive or have been copied to a hard disk. All subsequent runs of the *UKDMAP* software will then access the specified CD-ROM drive.

### Using UKDMAP for the first time

The initial display of the *UKDMAP* consists of the Control Window (at the top left of the screen), which contains all of the menus and buttons by which the system is controlled, and the Map Window, which is opened below the Control Window. Initially the Map Window will contain a blank Base Map (i.e. only the land outline will be displayed). *[Note: if you want to know what a button does, just move the cursor over it and a "Hint" box will appear displaying the button's function.]*

The next step is to select datasets for display; this is accomplished by use of the 'List' option on the 'Dataset' menu. When the option is activated, a list box is opened in which the available datasets are listed in an hierarchical tree structure of 'folders' and 'datasets' in the upper half, whilst the lower half, where datasets are to be listed, is initially blank. Datasets may be added to the selection by dragging them into the lower box, by highlighting them and clicking on the 'Add' button, or by double-clicking on the item. All datasets within a specific folder may be added to the selection by double-clicking on the folder title, although the contents of sub-folders are not included. Datasets may be removed from the selection by dragging them back into the top half of the box, or by highlighting them and clicking on the 'Remove' button. When all required datasets are listed in the lower half of the box, terminate the selection by clicking on the 'OK' button.

The Map Window contents will now be redrawn to show the Base Map overlain by the first of the Overlay Datasets (i.e. the dataset that was at the top of the list). Datasets may be displayed in sequence by use of the 'Next' and 'Previous' options on the 'Dataset' menu (or the left and right arrow buttons on the button bar), or a specific dataset may be selected by the 'Select' option on the 'Dataset' menu. The sequence of datasets (i.e. the order in which they will be displayed by use of the 'Next' or 'Previous' options) may be set by use of the 'Order' option on the 'Dataset' menu; datasets are arranged in the desired sequence by 'dragging and dropping' up and down the list.

## **Selecting Base Map Datasets**

Base Map Datasets are selected by use of the 'Order' option on the 'Dataset' menu. When this option is activated, a list of the currently selected Overlay Datasets is displayed in the right hand box, whilst a list (initially empty) of Base Map Datasets is displayed in the left hand box. Datasets may be moved from one box to the other by 'dragging and dropping' or by highlighting and clicking on the appropriate arrow button. The order of Base Map Datasets in the list is important because, although all of them will be displayed, only the Base Map Dataset at the top of the list will have its key displayed. The order of Base Map Datasets may be changed by 'dragging and dropping' within the list.

## **The UKDMAP Help System**

Context-sensitive help may be accessed at any time by pressing the 'F1' key on your keyboard. This will cause the Help system to be opened at the section relating to the currently active menu option or task.

The *UKDMAP* Help system may be opened for more general browsing, or to search for information on a specific topic, by use of the 'Contents' option on the 'Help' menu.

## Running UKDMAP from Hard Disk

If you wish to increase the speed of display of UKDMAP, or you wish to be able to run the system without having to insert the CD-ROM, then the datasets may optionally be transferred to the hard disk of your PC, and the software system instructed to access them from there.

The amount of disk space required by the UKDMAP datasets will depend to some extent upon the size (and therefore the cluster size) of the hard disk to which they are to be copied. The datasets themselves require just under 36Mb of disk space. To this must be added an overhead of approximately 3,750 (the number of UKDMAP files) times half the cluster size of the hard disk (which represents the average amount of disk space 'wasted' by each file on your system). For example, a hard disk with a cluster size of 8kb would require an additional disk space of  $(3750 * 4)kb$ , which is approximately 15Mb; the total space required for the datasets would therefore be  $36 + 15 = 51Mb$ . *[This is only a rough estimate. Don't be surprised if it turns out to be more or less.]*

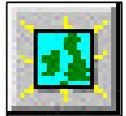
To move the files onto your hard disk, copy all files from the \UKDMAPV3 directory of the CD-ROM to a directory on your hard disk (be sure to copy the entire directory tree, including all subdirectories and the data files within them). Then remove the CD-ROM from the drive, and run UKDMAP. When the software detects that the CD-ROM is not available it will open a standard file dialog box inviting you to specify an alternative location where it can find the file MAINMENU.DAT; use the dialog box to open the MISC directory of the UKDMAP in its new location on your hard disk (you will see MAINMENU.DAT listed as one of the files within that directory), and then click on "OK". You will then be asked if you wish this to be the default location for future program runs; answer "Yes". All subsequent runs of the UKDMAP software will then access the hard disk copy of the data files.

## UKDMAP Menu Options

**File** Options on the File menu permit the management of Map Definition Files (MDF), printing and printer control, and copying of information to the *Windows* Clipboard for use in other applications.

A Map Definition File contains information on program options such as the geographic limits of the display area, the Base Map and Overlay Datasets selected, and display attributes (colours, grid size, etc.). Every *UKDMAP* session utilises an MDF, and its contents are updated each time the user changes the current display in any way. The MDF may be saved at any time as a "snapshot" of the current program selections and settings, or a previously saved MDF may be loaded in order to restore the *UKDMAP* system to the status prevailing when that MDF was saved. Opening a new MDF discards all current settings and restores the *UKDMAP* to its system default values with no datasets selected.

**New** Resets all *UKDMAP* options to system default values and opens a new Map Definition File (MDF) with no datasets selected. This option is executed automatically each time the *UKDMAP* is started. If an existing MDF is already open when this option is activated, and changes have been made since that MDF was last saved, the user is prompted to save or discard changes before the new MDF is opened.



**Open** Opens a file dialog box which permits the user to select and load a previously saved Map Definition File (MDF), thereby restoring the *UKDMAP* to the status prevailing when that MDF was saved. If an existing MDF is already open when this option is activated, and changes have been made since that MDF was last saved, the user is prompted to save or discard changes before the selected MDF is opened.

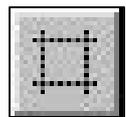


**Save** Saves the current Map Definition File (MDF) to disk, overwriting any previous version of that file. If the MDF is currently untitled (i.e. it has been created with the "File - New" option), a "Save File As" dialog box is opened to permit the user to specify the name and location under which the MDF should be saved.



**Save As** Saves the current Map Definition File (MDF) to disk in a named file. A "Save File As" dialog box is opened to permit the user to specify the name and location under which the MDF should be saved.

**Page Setup** Permits the user to specify the paper size, page orientation and print margins to be used when charts or data are printed from the *UKDMAP*.



**Print** Sends the contents of the active window to the currently selected printer. This option is used to print all charts and textual information from the *UKDMAP* except for text displayed in response to querying a chart feature (which is printed using a sub-option of the "Save" button in the Query window).



**Print Setup** Permits the user to specify the printer and printer options to be used when charts or data are printed from the *UKDMAP*.



**Copy to Clipboard** Copies the contents of the active window to the *Windows* Clipboard. This option is used to copy all charts and textual information from the *UKDMAP* except for text displayed in response to querying a chart feature (which is copied using a sub-option of the "Save" button in the Query window).

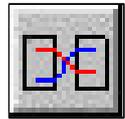
**Exit** Terminates the current *UKDMAP* session. If changes have been made to the current Map Definition File (MDF) since it was last saved, the user is prompted to save or discard changes before the session is terminated.

**Dataset** Options under this menu item permit the user to specify which UKDMAP datasets should be displayed in the current session, to specify which should be assigned as Base Map Datasets, to control the order in which datasets are displayed, and to customise the appearance of datasets when displayed.

**List** This option permits the user to select datasets for display in the Map Window. When the option is activated, a list box is opened in which all available datasets are listed in an hierarchical tree structure of 'folders' and 'datasets' in the upper half, whilst the lower half, where the selected datasets are to be listed, is initially blank. Datasets may be added to the selection by dragging them into the lower box, by highlighting them and clicking on the 'Add' button, or by double-clicking on the item. All datasets within a specific folder may be added to the selection by double-clicking on the folder title, although the contents of sub-folders are not included. Datasets may be removed from the selection by dragging them back into the top half of the box, or by highlighting them and clicking on the 'Delete' button. When all required datasets are listed in the lower half of the box, terminate the selection by clicking on the 'OK' button. This option may also be used subsequently to modify or extend the list of selected datasets. Datasets are initially added as Overlay datasets.



**Order** This option permits the user to specify the sequence of datasets; this sets the order in which Overlay Datasets will be displayed when the 'Next' or 'Previous' options are used. Datasets are arranged in the desired sequence by 'dragging and dropping' up and down the list.



A second function of this option is to permit the selection and ordering of Base Map Datasets. The list of the currently selected Overlay Datasets is displayed in the right hand box, whilst a list (initially empty) of Base Map Datasets is displayed in the left hand box. Datasets may be moved from one box to the other by 'dragging and dropping' or by highlighting and clicking on the appropriate arrow button. The order of Base Map Datasets in the list is important because, although all of them will be displayed, only the Base Map Dataset at the top of the list will have its key displayed. The order of Base Map Datasets may be changed by 'dragging and dropping' within the list.

**Select** This option permits the user to select for display a specific dataset from within the current list of Overlay Datasets. When the option is activated, the current list of Overlay Datasets is presented, and the user may specify which of these is next to be displayed in the Map Window. The dataset may be selected either by double-clicking upon it, or by highlighting it and then clicking on the "OK" button.



Use of this option causes the selected dataset to move to the head of the list of Overlay Datasets.

This option will not be available if there is only one Overlay Dataset present.

**Next** Use of this option causes the Map Window display to be redrawn to depict the next dataset on the Overlay Datasets list. The dataset that was previously displayed is moved to the foot of the list of currently selected Overlay Datasets.



This option will not be available if there is only one Overlay Dataset present.

**Previous** Use of this option causes the Map Window display to be redrawn to depict the previous dataset on the Overlay Datasets list (i.e. the one that appears at the foot of the list of currently selected Overlay Datasets). The displayed dataset is moved to the head of the list of currently selected Overlay Datasets.



This option will not be available if there is only one Overlay Dataset present.

**Subset** This option permits the user to modify the way in which a specific dataset is displayed in the Map Window. The colour and style of lines, symbols and fill patterns may be selected, and, if desired, the chart may be simplified by selecting only a subset of the full range of features to be displayed.

Upon activation of this option the user is presented with a list of all currently selected Base Map Datasets and Overlay Datasets. The dataset to be modified is selected by double-clicking on it or by highlighting it and clicking on the "OK" button; this causes the Data Subset Window to open, displaying an expanded version of the key for that dataset in tabular form. For each row of the table, the following options are offered:

**Status** "Active" means that the item will be displayed when the chart is drawn, "Inactive" means that it will not be displayed. Clicking on the entry toggles between active and inactive status. If an entry is set to "Inactive", then the corresponding Key entry in the second column will automatically be set to "Hidden".

**Key** "Visible" means that a definition of this item will be displayed in the key, "Hidden" means that no key entry will be displayed. Clicking on the entry toggles between visible and hidden.

**Overlay Map** Entries in this column show the colour and style in which entities will be displayed when the dataset is an Overlay Dataset. Left-clicking on an item will permit its colour to be specified, right-clicking will permit its style to be modified (Note: only the colour of displayed text may be changed; style of text is fixed).

**Base Map** Entries in this column show the colour and style in which entities will be displayed when the dataset is a Base Map Dataset. Left-clicking on an item will permit its colour to be specified, right-clicking will permit its style to be modified (Note: only the colour of displayed text may be changed; style of text is fixed).

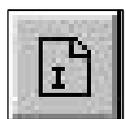
**Definition Text** This entry cannot be modified; it is displayed purely to identify the relevant chart entity.

Please note that changes made using this option remain in force only during the current UKDMAP session, and only whilst the dataset remains on the list of currently selected datasets. If the dataset is deselected, or if the session is terminated, then all attributes will revert to their default values the next time the dataset is displayed.

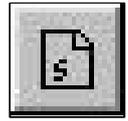
If desired, the background and text colours of the subset dialog window may be changed by left- or right-clicking respectively whilst the mouse cursor is pointing to the window background (i.e. the cursor must be within the dialog window, but not pointing to any data field or button). This feature is most useful in matching colours with the Map Window if the background colour of the latter has been changed.

**View** Options under this menu permit the user to view Information Text for any one of the currently selected datasets, and also the source date and spatial resolution of all of them. The Information Text provides a general descriptive overview of the thematic information depicted by the chart, and provides a reference to the original data source from whom more detailed and/or more recent data may be available.

**Information** This option permits the user to access Information Text which provides a descriptive overview of the thematic information depicted by the chart, and provides a reference to the original data source from whom more detailed and/or more recent data may be available. Activation of the option will cause a list of all currently selected datasets to be displayed. The dataset for which Information Text is to be displayed is selected either by double-clicking on it or by highlighting it and clicking on the "OK" key.



**Source** Selection of this option will cause a list of all currently selected datasets to be displayed, accompanied by their dates of origin and source scales. The date of origin is the date on which the dataset was finalised in its original form (i.e. it is the true currency date of the information). For datasets digitised from printed material the source scale is that of the original printed chart; datasets which originated in digital form are listed as such.



When utilising information from *UKDMAP* datasets, it is imperative that the user should take note of the source date and scale. It is the responsibility of the user to utilise this information to assess whether or not the information presented is of adequate spatial resolution and temporal currency to meet his/her requirements. If higher spatial resolution and/or more temporally current information is required, then the user should consult the data originator (as identified in the Information Text for each dataset) to determine whether more detailed and/or more recent data are available from that source.

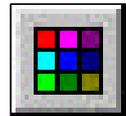
**Display** Options under this menu control the environment in which charts are displayed. The user may select the colour, style and resolution of the land outline, the colours of keys and whether or not they are displayed, chart background colour, graticule display, colour and style, and cursor position display, colour and style. A facility is also provided to display distances in nautical miles, statute miles or kilometres along multi-point tracks that the user may draw on the chart.

**Land** This option permits the user to specify the style and colour of the land outline which is a component of the Base Map.

**Infilled** Selecting this option (which is the *UKDMAP* default option) causes an infilled land outline to be plotted on the Base Map. When the option is activated, as indicated by a tick mark alongside the menu entry, the "Outline" option is automatically cancelled.



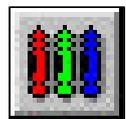
**Fill Colour** Causes a standard colour-selection dialog box to be opened to permit the user to specify the colour in which infilled areas of land will be plotted.



**Outline** Selecting this option causes land areas to be plotted on the Base Map in outline only. When the option is activated, as indicated by a tick mark alongside the menu entry, the "Infilled" option is automatically cancelled.

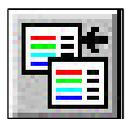


**Outline Colour** Causes a standard colour-selection dialog box to be opened to permit the user to specify the colour in which the land outline will be plotted.



**Keys** This option permits the user to specify whether or not the Base Map and Overlay Map keys should be displayed, to select their text and background colours, and to toggle their identifying captions on or off. If no datasets have been added to the Base Map, no Base Map Key will be plotted even if the relevant item has been activated; similarly, the Overlay Key will not be plotted if no Overlay Datasets are currently selected.

**Base Map** Toggles display of the Base Map Key on (the *UKDMAP* default) or off. If no datasets have been added to the Base Map then the Base Map Key will not be plotted, regardless of the setting of this menu item. When the item is active, a tick mark is displayed alongside the menu entry. When displayed, the key may be positioned in any of the four corners of the chart by "dragging and dropping" from its current location.



**Overlay Map** Toggles display of the Base Map Key on (the *UKDMAP* default) or off. If no Overlay Datasets are currently selected then the Overlay Key will not be plotted, regardless of the setting of this menu item. When the item is active, a tick mark is displayed alongside the menu entry. When displayed, the key may be positioned in any of the four corners of the chart by "dragging and dropping" from its current location.



**Colour** Causes a standard colour-selection dialog box to be opened to permit the user to specify the colour in which text will be plotted within the Base Map and Overlay keys.

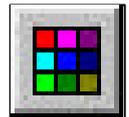


**Background** Causes a standard colour-selection dialog box to be opened to permit the user to specify the background colour for the Base Map and Overlay keys.



**Caption** Toggles display of the Base Map and Overlay key captions on (the *UKDMAP* default) or off.

**Background** This option opens a standard colour-selection dialog box to permit the user to specify the background colour for the Map Window.

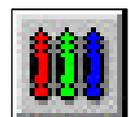


**Graticule** This option enables the user to specify whether or not a graticule (i.e. a latitude/longitude grid) is to be overlain upon the chart display, and to specify the colour, line style, spacing, format and text size of that graticule.

**Display** Toggles display of the Base Map Key on (the *UKDMAP* default) or off. When the item is active, a tick mark is displayed alongside the menu entry.



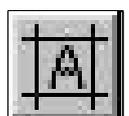
**Colour** Causes a standard colour-selection dialog box to be opened to permit the user to specify the colour of the graticule lines and text.



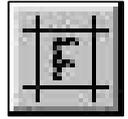
**Style** Causes a dialog box to be opened to permit the user to specify the line style to be used in drawing the graticule lines.

**Spacing** Permits the user either to allow the display software automatically to select an appropriate grid interval for the graticule (the *UKDMAP* default), or to specify a fixed grid interval in degrees of arc. Items are mutually exclusive, with the currently active item being indicated by a tick mark alongside that item; selecting a new spacing interval will automatically deselect the previous one. All annotation sequences originate from 0°.

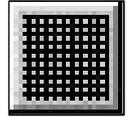
**Auto** Selects automatic graticule spacing. The software automatically selects the most appropriate grid interval for the graticule based upon the geographic extent of the currently displayed map area. As the map area changes, when new charts are displayed or the user "zooms in" on a sub-area, the graticule spacing interval will automatically change to suit the current display.



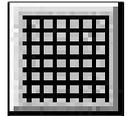
**Fractional** Selects fractional degrees graticule line spacing interval, i.e. the spacing interval will be less than one degree of arc, but an appropriate fractional interval for graticule line spacing will be selected automatically by the software. The maximum spacing interval with this item selected is 10 minutes of arc (or 0.1 degrees of arc if the "Decimal Degrees" annotation style is active).



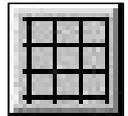
**1 Degree** Specifies a graticule line spacing interval of 1 degree of arc.



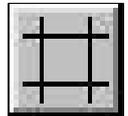
**2 Degrees** Specifies a graticule line spacing interval of 2 degrees of arc.



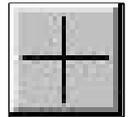
**5 Degrees** Specifies a graticule line spacing interval of 5 degrees of arc.



**10 Degrees** Specifies a graticule line spacing interval of 10 degrees of arc.



**20 Degrees** Specifies a graticule line spacing interval of 20 degrees of arc.



**Format** Permits the user to select degrees-minutes-seconds (the UKDMAP default) or decimal degrees of arc as the annotation format for the graticule. The two annotation styles are mutually exclusive, with the currently selected style being indicated by a tick mark next to the menu item name. Selection of one annotation style will automatically deselect the other.

**Degrees-Minutes-Seconds** Selects degrees-minutes-seconds format for graticule annotation. Unnecessary precision will be omitted from the displayed annotation (e.g. if the annotation interval is a whole number of degrees of arc, then the minutes and seconds fields will automatically be suppressed).

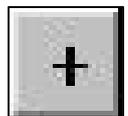


**Decimal Degrees** Selects decimal degrees format for graticule annotation. The number of decimal places is automatically adjusted (between zero and three decimal places) to eliminate unnecessary precision (e.g. if the annotation interval is a whole number of degrees of arc, then no post-decimal digits will be displayed).



**Text Size** Permits the user to increase or decrease the size of graticule annotation text in incremental steps from its default size.

**Increase** Increases the size of graticule annotation text by one incremental step from its current size. This operation may be performed repeatedly if a greater enlargement is required.



**Decrease** Decreases the size of graticule annotation text by one incremental step from its current size. This operation may be performed repeatedly if a greater reduction in size is required.



**Cursor Position** This option permits the user to specify whether or not the geographic coordinates of the current position of the mouse cursor are to be displayed on the chart, and, if so, the colour, transparency of background, background colour and format of the coordinate display. The *UKDMAP* default is for no display of the cursor position. When displayed, the cursor position readout, which is initially in the top, left-hand corner of the Map Window, may be positioned anywhere within that window by "dragging and dropping" from its current location.

**Display** Toggles display of the geographic coordinates of the current cursor position on or off ("off" is the *UKDMAP* default). When the cursor position display is switched on, a tick mark is shown alongside the menu entry.

**Colour** Causes a standard colour-selection dialog box to be opened to permit the user to specify the colour in which the text of the cursor position display will be plotted.

**Overlay** Permits the user to specify whether the cursor position display should be directly overlain upon the chart (i.e. plotted on a transparent background) or plotted on a rectangular, coloured background (the *UKDMAP* default). Clicking on this item toggles between the two display states.

**Background** Causes a standard colour-selection dialog box to be opened to permit the user to specify the background colour of the cursor position display. This item is not available if overlay of the cursor position display has been activated.

**Format** Permits the user to select degrees-minutes-seconds (the *UKDMAP* default) or decimal degrees of arc as the annotation format for the cursor position readout. The two annotation styles are mutually exclusive, with the currently selected style being indicated by a tick mark next to the menu item name. Selection of one annotation style will automatically deselect the other.

**Degrees-Minutes-Seconds** Selects degrees-minutes-seconds format for cursor position display.

**Decimal Degrees** Selects decimal degrees format for cursor position display. The number of decimal places is automatically adjusted (between two and four decimal places) to reflect the precision with which the geographic cursor position may be determined from the current chart display scale.

**Distance** This option permits the user to draw a multi-point track line upon the current chart, with the real world length of the current leg and the cumulative total track distance continuously displayed in either nautical miles, statute miles or kilometres.

When the option is activated, the first left-click on the mouse will cause the initial anchor point for the track to be located at the current cursor position. As the mouse is moved, a "rubber band" line is drawn between the anchor point and the current position. Additional anchor points (turning points) may be dropped at the current cursor position by left-clicking, whilst previous anchor points may be deleted (in reverse order) by right-clicking. A double left-click causes the track temporarily to be terminated (i.e. the "rubber band" is broken), but it may then be further extended if required by dropping additional anchor points in the usual manner.

Selection of any other menu item causes the distance measuring session to be terminated, and the track line is deleted from the display.

**Nautical Miles** Initiates a distance measuring track line, with along-track distances displayed in nautical miles.

**Kilometres** Initiates a distance measuring track line, with along-track distances displayed in kilometres.

**Statute Miles** Initiates a distance measuring track line, with along-track distances displayed in statute miles.

**Zoom** Options under this menu permit the user to zoom in to a selected rectangular area of the chart, to zoom back out or reposition the zoom area, and to view the zoomed area in context of the total chart. The user may also specify the shape of the zoom area, and whether or not the zoom level is to be retained between successive Overlay Datasets.

**In** This option permits a rectangular sub-area of the displayed chart to be selected by use of the mouse; the sub-area is then redrawn to fill the Map Window. When the option is activated and the mouse cursor is moved over the chart, the cursor shape changes to "cross hairs" style with the subscript "Z". To make a selection, the cross-hairs are placed at one corner of the desired zoom area and a left-click performed to anchor that corner. The cursor is then moved to the diagonally opposite corner of the required area (the outline of the area that will be selected is shown by a "rubber band" box during this process), where a second left-click completes selection of the zoom area. The Map Window is then immediately redrawn with the selected area of chart filling it.

Selection of a zoom area may be aborted by right-clicking at any time after the initial anchor point has been dropped, and the entire zoom process may be cancelled either by right-clicking or by selecting any other menu option.

If the "Zoom - Box Shape - Defined During Zoom" option is active then the shape and size of the zoom box is fully under user control. If the aspect ratio of the resulting zoom area differs from that of the Map Window, then the window will temporarily be re-sized to conform to the selected area.

If the "Zoom - Box Shape - Use Window Proportions" option is active, then the selected zoom area will be constrained to have the same aspect ratio as the Map Window. In this case, the size of the zoom window is controlled by vertical movement of the mouse, and lateral movement of the mouse determines only whether the zoom area lies to the left or right of the initial anchor point.

**Exact** This item permits the user to specify the precise geographic limits of the area of chart to be displayed. When the item is activated, a dialog box is opened in which the geographic limits of the currently displayed chart area are presented. The user may change any of these limits either by use of the up and down arrows adjacent to each data entry field, or by keying the required value directly into that field. When the "OK" button is clicked, the Map Window is immediately redrawn with the selected area of chart filling it.

No constraint is placed upon the geographic limits that may be entered, and this option may therefore be used to increase or decrease the displayed chart area as required.

Specification of precise zoom coordinates in this manner over-rides the "Zoom - Box Shape - Use Window Proportions" option if it is active.

**Previous** Selection of this item causes the geographic limits of the displayed chart to be restored to those in force prior to the most recent "Zoom - In" operation. The chart is immediately redrawn using those limits.

Multiple successive levels of zoom are stored by the system, permitting this option to be used repeatedly to "backtrack" a series of consecutive zoom operations.

The option will not be available if no preceding zoom operation has been performed, or if prior use of the option has returned the display to its original, un-zoomed area.

**Maximum** Selection of this item causes the geographic limits of the displayed chart to be set to 45°N to 65°N, 15°W to 15°E. This standard area coincides with the limits of the area for which a land outline is provided within the system. The chart is immediately redrawn to show the new map area.

**Overlay Area** Selection of this item causes the geographic limits of the displayed chart to the default values for the current Overlay Dataset. In most cases these geographic limits will be those which display the entire Overlay Dataset at the largest possible scale (for a small number of datasets which extend beyond the available land outline, the default area will be that area of the dataset which falls within the limits of the land outline). The chart is immediately redrawn to show the new map area.

**Overlay Maximum** Selection of this item causes the geographic limits of the displayed chart to the maximum values defined for the current Overlay Dataset. In most cases this will be the standard geographic area 48°N to 64°N, 15°W to 12°E that is appropriate to many of the datasets (the option may therefore be useful in zooming out to the maximum extent of a Base Map Dataset in instances where the Overlay Dataset is of more limited geographic coverage). For the small number of datasets which extend beyond the available land outline, however, this option will cause the display to zoom out to the full geographic area covered by the Overlay Dataset. The chart is immediately redrawn to show the new map area.

**Reposition** This option permits the precise geographic location of the current display area to be adjusted without changing the range of latitude or longitude displayed. It will be useful, for example, in bringing a specific chart feature to the centre of the map window following a "Zoom - In" operation.

When the option is activated and the mouse cursor is moved over the chart, the cursor shape changes to "cross hairs" style with the subscript "R". The cursor is first positioned over a reference feature on the chart, and a left-click performed to mark that feature with a cross. The cursor is then moved to the position within the Map Window where the user wishes the marked feature to appear when the chart is redrawn, and a second left-click performed. The chart is immediately redrawn with its geographic limits adjusted by the required amount to effect the specified repositioning.

Repositioning may be aborted by right-clicking at any time after the reference feature has been marked, and the entire process may be cancelled either by right-clicking or by selecting any other menu option.

**Where Am I?** This option permits the user to view the currently displayed map area within the context of the overall chart. When the option is activated, the chart is redrawn to the default geographic limits of the current Overlay Dataset, and a flashing outline of the current zoom area is displayed upon it. Left-clicking anywhere within the Map Window causes display to return to normal, with the current zoomed area filling the Map Window once more.

**Box Shape** This option permits the user to select whether aspect ratio of the geographic area selected during "Zoom - In" operations should be fully under user control, or should be constrained to the same aspect ratio as the Map Window.

**Defined during Zoom** When this item is activated, denoted by a tick mark alongside the menu text, the aspect ratio of geographic areas selected during "Zoom - In" operations will be fully under user control, and the shape of the Map Window will be adjusted to accommodate the selected area when the zoomed chart is displayed. The *UKDMAP* default is for this to be the active option.

Activation of this item automatically deselects "Zoom - Box Shape - Use Window proportions".

**Use Window proportions** When this item is activated, denoted by a tick mark alongside the menu text, the aspect ratio of geographic areas selected during "Zoom - In" operations will be constrained to match that of the Map Window, with the result that the selected area will always fill the Map Window when the zoomed chart is displayed.

Activation of this item automatically deselects "Zoom - Box Shape - Defined during Zoom".

**Level** This option permits the user to specify whether the display should zoom out to the Overlay Dataset's default geographic limits when a new dataset is plotted, or whether the currently displayed geographic area should be retained.

**Retain between datasets** When this item is activated, denoted by a tick mark alongside the menu text, the currently displayed geographic area will be retained as the display area when a new Overlay Dataset is selected.

Activation of this item automatically deselects "Zoom - Level - Use Overlay area".

**Use Overlay area** When this item is activated, denoted by a tick mark alongside the menu text, the display area will be set to the Overlay Dataset's default geographic limits when a new dataset is plotted. The *UKDMAP* default is for this to be the active option.

Activation of this item automatically deselects "Zoom - Level - Retain between datasets".

**Redraw** This menu command causes the chart display immediately to be redrawn using all current program option settings. The command will only be available for selection when changes have been made by the user to program options which will affect the appearance of the displayed chart (e.g. changes to land outline style and or colour, dataset subsetting, etc.). The user may therefore change a number of different program option settings without the display being redrawn after each change; a single use of the "Redraw" command after several changes have been made will cause the display to be redrawn to reflect them all.

Availability of this option is cancelled if, following changes, the display is redrawn due to the action of another menu option (e.g. zooming in, selecting a different Overlay Dataset, etc.).

**Query** This menu command is only available if the current Overlay Dataset contains queryable point locations or polygons. When the option is activated and the mouse cursor is moved over the chart, the cursor shape changes to "cross hairs" style with the subscript "Q". Positioning the cursor on, or near, one of the queryable symbols or polygons on the current chart and left-clicking will cause the query text relevant to that feature to be displayed; the symbol or line will flash during display of the text in order to confirm the identity of the feature that has been queried.

Single-line query text (e.g. place names, etc.) is displayed adjacent to the queried feature. Right-clicking causes the current feature to be deselected and its query text removed from the display ready for the next feature to be queried.

Multi-line query text is displayed in a separate window, which may be repositioned by the user if required. The window may be closed ready for query of the next feature by clicking on the "Close" button. The "Print" button opens a standard print dialog permitting the query text to be directed to a selected printer. The "Copy" button opens a sub-menu that permits the contents of the query window to be copied, either as text or as graphics, to the *Windows* clipboard. The "Save" button permits the query text to be saved to a specified ASCII text file.

This operation may be terminated by right-clicking or by selecting any other menu option at any time when no query text is displayed.

**Window** This menu offers the user control over whether or not the *UKDMAP* Toolbar is displayed, and permits the selection of *UKDMAP* or Standard "brushes" for drawing charts.

**Toolbar** When this option is activated, denoted by a tick mark alongside the menu text, the *UKDMAP* Toolbar is displayed beneath the Menu Bar in the *UKDMAP* Control Window. Clicking on the option toggles the Toolbar between visible (the *UKDMAP* default) and hidden.

The Toolbar bears quick access buttons that facilitate the selection of the most commonly used menu items.

Hiding the Toolbar reduces the height of the *UKDMAP* Control Window, and thus makes available additional screen area for use by the Map Window. This space-saving will be found most useful on systems with low-resolution displays.

**Use Standard Brushes** When this option is active, denoted by a tick mark alongside the menu text, standard *Windows* "brushes" (colour and style combinations) are used to draw the charts displayed by the system, rather than the *UKDMAP* "brushes". The standard brushes (which are the default for this option) have a transparent background (i.e. non-solid brushes allow the background to show through the brush strokes); the *UKDMAP* brushes are opaque.

If activated, the *UKDMAP* brushes will offer more versatility of colour selection for display on the PC screen. When the chart is printed, however, it may be necessary to revert to using standard *Windows* brushes in order to obtain a printed chart that matches closely the colours displayed on the PC screen.

## **Help**

**Welcome** Provides a brief introduction to the *UKDMAP* software and its usage.

**Contents** Opens the *UKDMAP* help system, with the Contents page displayed.

**About** Displays the version number of the *UKDMAP* software.

# Appendix A

## Accessing the UKDMAP Charts from DOS

Although the Third Edition *UKDMAP* is a 32-bit application developed specifically to run under *Windows 95/98/NT*, it is recognised that there may be occasions when the user may wish to access the charts from the DOS operating system (for example, when the host computer does not have a high enough specification to warrant a 32-bit operating system - as might be the case on some older portable PCs). An updated version of the original DOS software system is therefore included on the CD-ROM, and this may be used to display charts on such PCs.

**Please note: The DOS software is included as a courtesy measure only. It is supplied for use "as is", and the BODC cannot offer any user support relating to its installation or use beyond that which is presented below.**

### DOS System Requirements

The software requires an IBM compatible PC with 80286 processor or higher, 1Mb of expanded memory, a VGA display, a mouse or other pointing device, and 1.5Mb of free disk space in which to install the software. It will run under DOS versions 3.0 or later, and will also run in the "Command Prompt Only" mode of *Windows 95* (it will run in a "Dos Box" within *Windows 95/98/NT*, but the mouse cursor display is corrupted due to differences in the way the cursor is handled by those operating environments).

### Loading the Software to Your Hard Disk

Make a directory (e.g. \UKDMAP) on your hard disk, and copy into it the entire contents of the directory DOS\_SOFT on the CD-ROM (including sub-directory MISC and all the files that it contains).

### Preparing to Run the DOS UKDMAP Software

Make the *UKDMAP* directory on your hard disk the current directory, and then run the program SET\_DEF to configure program defaults; answer "Y" when it asks if you wish to edit the standard defaults file. It is probable that most of the settings will not need to be changed, but do ensure that the drive letter of your CD-ROM drive is correctly specified next to the "*UKDMAP* data drive & directory" heading. When you are satisfied that the settings are correct, use the "S" option to save them to the defaults file and exit the program.

### Running the DOS UKDMAP Software

Make the *UKDMAP* directory on your hard disk the current directory, and ensure that the driver for your pointing device is loaded (e.g. run MOUSE.COM). Run the *UKDMAP* software by entering the command:

```
UKDMAP
```

and follow the on-screen instructions. Context-sensitive help is available at all times within the Atlas system, and may be accessed by pressing the "F1" key on your keyboard.

## Appendix B

### Sample Third-Party Software and Datasets

In addition to the *UKDMAP* chart data and software, the *UKDMAP Third Edition* CD-ROM also bears a number of sample datasets which demonstrate the capabilities of other mapping products currently available from sources other than the British Oceanographic Data Centre. These are located in the /SAMPLES directory of the CD-ROM. Each dataset is in a separate sub-directory, and is accompanied by a README.TXT file that describes the dataset contents and, if appropriate, gives instructions for the installation of any associated software.

The sample datasets are:

- Subdirectory **AD\_CHART**      Contains an example of a digital chart (Admiralty ARCS Chart No 18 - Falmouth) produced by the UK Hydrographic Office (UKHO) for use within the Admiralty Raster Chart Service (ARCS). Four copies of the sample chart are provided, each in a different graphics file format (BMP, GIF, PCX and TIF)
- Subdirectory **BGS\_DATA**      Contains examples of digital geological charts that are available from the British Geological Survey. Detailed information about the contents of the data files is contained in the file SAMPLEDA.TXT. The sample data files are each presented in three graphical formats (Intergraph design file [.DGN], AutoCAD Release 11 [.DXF; File includes header], and ARC/INFO export format [.E00])
- Subdirectory **BGSGCHEM**      Contains samples taken from the British Geological Survey atlas which depicts the distribution of 31 chemical elements in sea-bed sediments of the North Sea and the shelf areas west of Scotland. The sample files (in TIF format) contain concentration maps for the distribution of the elements copper (Cu) and zinc (Zn), together with text that provides a brief interpretation of the distribution plots.
- Subdirectory **KINGFISH**      Contains a demonstration version of the *Kingfish* electronic chart display system from Kingfisher Charts. The software may be loaded and run under *Windows 3.1, 95, 98* or *NT*.