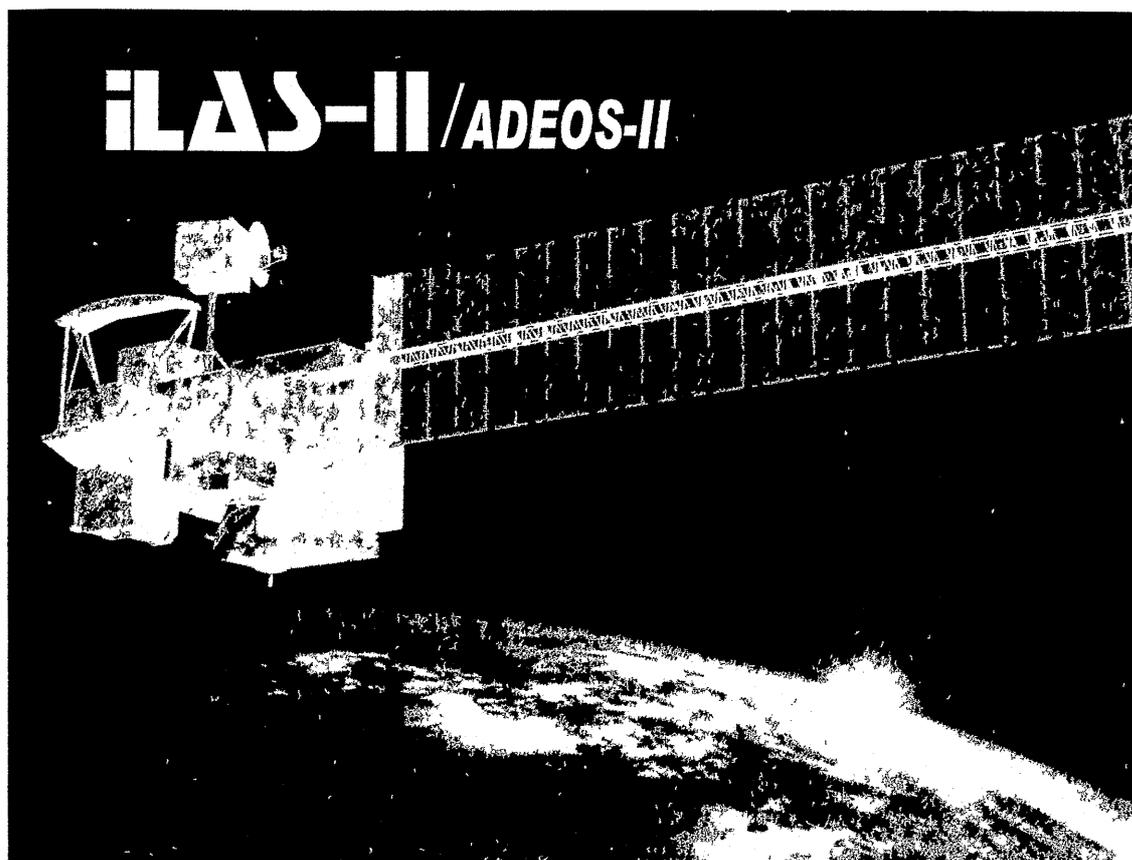


# ILAS-II Data Handling Facility

## Usage Guide (Version 1.0)



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 National Institute for Environmental Studies

 Center for Global Environmental Research



## Preface

This guide is intended to provide the users of the ILAS-II Data Handling Facility (DHF) with information on the environment where data is obtained, and on the procedures for using the facility and for registering as a user. In order to use this facility, the ILAS-II DHF users must follow the instructions described in the guide.

The ILAS-II DHF is a facility whose environment has been arranged by the satellite remote sensing project of National Institute for Environmental Studies (NIES). The Improved Limb Atmospheric Spectrometer II (ILAS-II) is a sensor for observing the high latitudinal ozone layer developed by Ministry of the Environment. The major purposes of the ILAS-II DHF are to provide them to users. The National Space Development Agency of Japan (NASDA) initially scheduled that it would launch ILAS-II aboard the Advanced Earth Observation Satellite II (ADEOS-II) in February 1999. However, under unavoidable circumstances, launching it has been deferred until the year 2001 or later. Meanwhile, the ILAS-II DHF has established an excellent environment for ILAS-II data processing and distribution services. It also provides other services such as re-processing of the measured data derived from ILAS observation in 1996 and 1997, data distribution to registered users for scientific analysis, and disclosed-data distribution to general users.

We hope that users make full use of our facility efficiently and effectively. To use the facility, users must fill required information in any of the applications attached at the end of the guide.

The users cannot enter the facility when revised software is being tested, when the communications lines are being tested between the NASDA / Earth Observation Center (EOC) and ILAS-II DHF are being initially checked out after ADEOS-II is launched.

If any change to the ILAS-II DHF facility or functions occurs, we will modify the information described in the guide accordingly. For update information, please visit our Web site (<http://www-ilas2.nies.go.jp>).

February 2001

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Appendix: Applications for Use of ILAS-II DHF

## 1. Summary of the ILAS-II Data Handling Facility

### 1.1 What is the ILAS-II DHF?

The ILAS-II Data Handling Facility (hereafter, simply called ILAS-II DHF) is the computing system managed by the Center for Global Environmental Research (CGER) of the National Institute for Environmental Studies (NIES), which was established in order to process and provide ILAS and ILAS-II data, as well as to support data analysis in the satellite remote sensing project in NIES. This project has responsibilities for monitoring and studying the polar ozone layers using sensors ILAS<sup>1)</sup> and ILAS-II<sup>2)</sup>, the former being installed on the ADEOS<sup>3)</sup> satellite and the latter on ADEOS-II<sup>4)</sup>. The ILAS-II DHF not only processes observation data from ILAS and ILAS-II but also centrally stores and manages the processed data and related data. It also provides its registered members with computing resources and data services for research use. Finally, it provides general users with information on ILAS and ILAS-II projects, as well as with the processed data through its Web site.

- 1) ILAS : Improved Limb Atmospheric Spectrometer
- 2) ILAS-II : Improved Limb Atmospheric Spectrometer-II
- 3) ADEOS : Advanced Earth Observing Satellite
- 4) ADEOS-II : Advanced Earth Observing Satellite-II

### 1.2 How can the ILAS-II DHF be used?

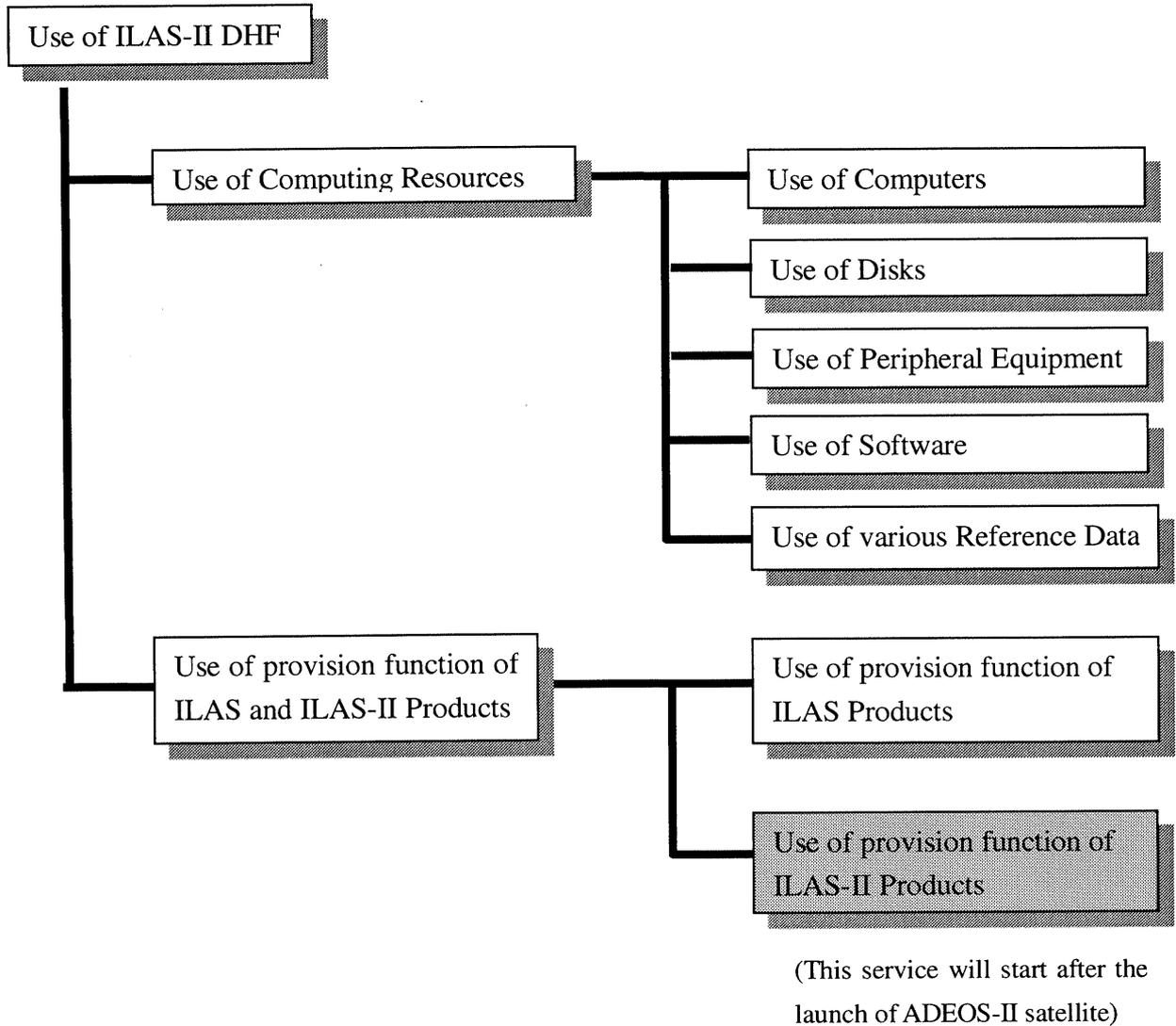
#### 1.2.1 ILAS-II DHF services

The ILAS-II DHF provides the following resources.

- 1) Computing resources (computing resource service within the ILAS-II DHF)
- 2) ILAS and ILAS-II products (through the ILAS Web site)

For more information on the services described in (1) and in (2), refer to Section 2, “Environment and procedure for using computing resources” and Section 3, “Using ILAS and ILAS-II product services”.

In order to benefit from these services, you must submit an application for using resources to the ILAS-II DHF office. For more information on the application procedure, refer to Section 1.2.4, “Various types of applications for use”.



**Figure 1.1 Details of Use of ILAS DHF**

**1.2.2 Procedure for using ILAS-II DHF computing resources**

(1) Environment for using LAS-II DHF computing resources

(a) Available resources

- Hardware

The hardware resources available in the ILAS-II DHF include CPUs and disks, as well as peripheral devices such as printers and tape units.

- Software

The software resources available in the ILAS-II DHF include Fortran and C compilers and various types of package software libraries.

- Documentation

The ILAS-II DHF keeps the documentation of package software for reference. It may be referenced in the Data Analysis Room of the ILAS-II DHF. You will need permission to borrow them.

(b) Web server

The Web server has been installed for you to access the ILAS and ILAS-II project home pages, which contain the descriptions and activities of the ILAS-II DHF.

The URLs of the ILAS and ILAS-II home pages are shown below.

ILAS project:

<http://www-ilas.nies.go.jp/> or <http://ilas.nies.go.jp>

ILAS-II project:

<http://www-ilas2.nies.go.jp/> or <http://ilas2.nies.go.jp>

(2) Procedure for using ILAS-II DHF computing resources

The computing resources can be used in the following two ways.

- Through an external communications line

You can have access to the ILAS-II DHF computing resources through internet.

- By visiting the ILAS-II DHF

You can visit the Data Analysis Room of the ILAS-II DHF in NIES to directly use the resources on site.

(3) Time zone open to the user

(a) Access through an external communications line

As a general rule, 24 hours a day, 365 days a year.

(b) Visit to the ILAS-II DHF

As a general rule, the ILAS-II DHF open; 9:00 a.m. to 17:00 p.m. (Japanese Standard Time), Monday to Friday (excluding off days)

(c) Suspension of services

Although the time open to the user is generally as shown above, the services may be suspended when:

- Any failure occurs or the maintenance work is performed.
- A network interruption occurs (including a legal inspection/maintenance of the power system of NIES).
- ILAS-II DHF operation is temporarily stopped due to a change to the existing ILAS-II DHF environment, taking backup files of system and user areas and others.
- ILAS-II operation is temporarily stopped due to any other cause than those described above, if appropriate.

Note that we will issue a notice of service suspension to the users by any means such as e-mail prior to shutdown when possible, but in some cases, we cannot do so due to sudden occurrence of failure, etc. In such cases, we will issue it after shutdown occurs.

#### (4) Various types of data you can reference in the ILAS-II DHF

As of February 2001, the data listed below were registered in the ILAS home page. For more information on other data that can be referenced, see Section 2.3.5, "Referencing various types of data".

- CMDB: Correlative Measurement Data Base

The database containing data set of ILAS validation experiment data

- Solar image data for ILAS

Solar image data derived from the solar observatories (the Hiraiso Office of the Communications Research Laboratory, the Ministry of Posts and Telecommunications and the Big Bear Solar Observatory) during the observation period of September, 1996 to June, 1997)

### 1.2.3 Procedure for using ILAS and ILAS-II product services

#### (1) Summary of the procedure for using ILAS product services

The procedure for using ILAS product services is described below.

##### (a) Available data

The following data among ILAS products can be used.

- Level 1 data
- Level 2 data

On the detail of Level 1 data and Level 2 data, refer to the "ILAS-II User's Handbook".

Each type of data is available in any of the following formats.

- HDF format
- Old text format: Level 2 data only
- New text format- AMES2160: Level 2 data only

Provisionally, data may be provided in both formats, old and new.

##### (b) Delivery method

ILAS products are provided through the following ways.

- Memory devices
- Online through a network: Level 2 data only

If your selection is a memory device, you can specify any of the following types of media. For more information, refer to Section 3.1.2, "Data delivery method".

- 3.5-inch floppy diskette
- Zip
- MO
- 8-mm tape
- 4-mm DAT
- CD-ROM

##### (c) Ordering information

To obtain ILAS products, please do one of the followings.

- Search and order through the ILAS Web site
- Search and order by e-mail, letter, or FAX

(2) Procedure for using the ILAS-II product services

When we start the ILAS-II product services after the ADEOS-II satellite is launched, we will notify you of the procedure for using the services.

**1.2.4 Various types of applications for use**

(1) Competence

People, who can use the services provided by the ILAS-II DHF, include:

ILAS and ILAS-II project staff, the members of the advisory committee, the members of the science team, PIs (Principal Investigators), Co-Is (Co-Investigators), the leaders or PIs of the validation experiment (Core, Cooperative) teams, as well as the Co-I and assistant groups and associates headed by the leaders mentioned above.

(2) Procedure for application

Before you can use the ILAS-II DHF services, you must have submitted a completed application for use to the ILAS-II DHF office.

To submit the “Application form for ILAS-II user account registration” or “Application form for extension of ILAS-II personal user area”, complete the appropriate application form and send it to the ILAS-II DHF office by FAX or mail. Don’t forget to sign the form. If an assistant or associate Co-I makes an application, an account will be issued only after we confirm that a person responsible for data management has approved or signed it. Any application by e-mail may be accepted for some time but it will be treated as “temporary one”.

After the application for ILAS-II user account registration is accepted, the ILAS DHF will inform the applicant(s) of account registration information after the ILAS-II project leader checks whether the requirements have been satisfied. If the application is incomplete, we will inform the applicant(s) of it.

- Application for ILAS-II user account registration: (Appendix A-1 and A-2)

Required when you are going to use the computing resources or the ILAS standard processed data services.

- Application for extension of ILAS-II personal user area: (Appendix A-3 and A-4)

Required when you already have an ILAS-II account and want to increase your available disk space.

## **2. Environment and Procedure for Using Computing Resources**

### **2.1 Computing facility**

The computing resources of the ILAS-II DHF have a core configuration, IBM RS/6000 SP consisting of 48 nodes, that enables high-speed data processing. Peripheral connections include the workstations such as SUN Ultra Series and IBM RS/6000 F50, as well as terminals (personal computers).

Users can access the resources both internally and externally through the Internet.

The environment for using the computing resources is described below.

#### **(1) System configuration**

Figure 2.1 "ILAS-II DHF System Configuration" illustrates how to configure the ILAS-II system.

#### **(2) Layout of ILAS-II DHF Analysis Room**

The ILAS-II DHF has three rooms, the ILAS-II DHF Parallel Computing Room, ILAS-II DHF Operation Room, and ILAS-II DHF Data Analysis Room. Most users are only permitted to enter the ILAS-II DHF Data Analysis Room. The layout of the ILAS-II DHF Data Analysis Room is shown in Figure 2.2.

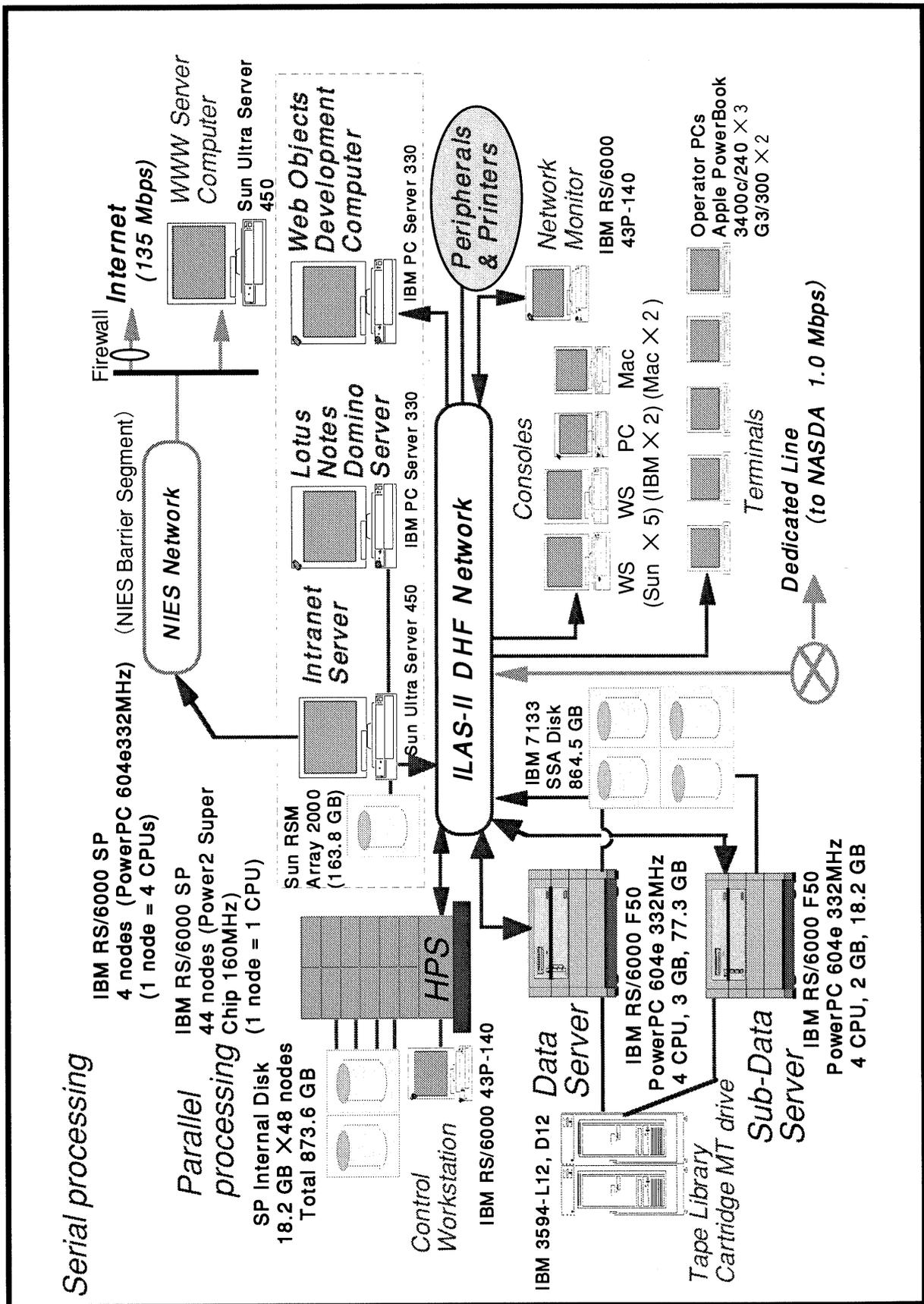
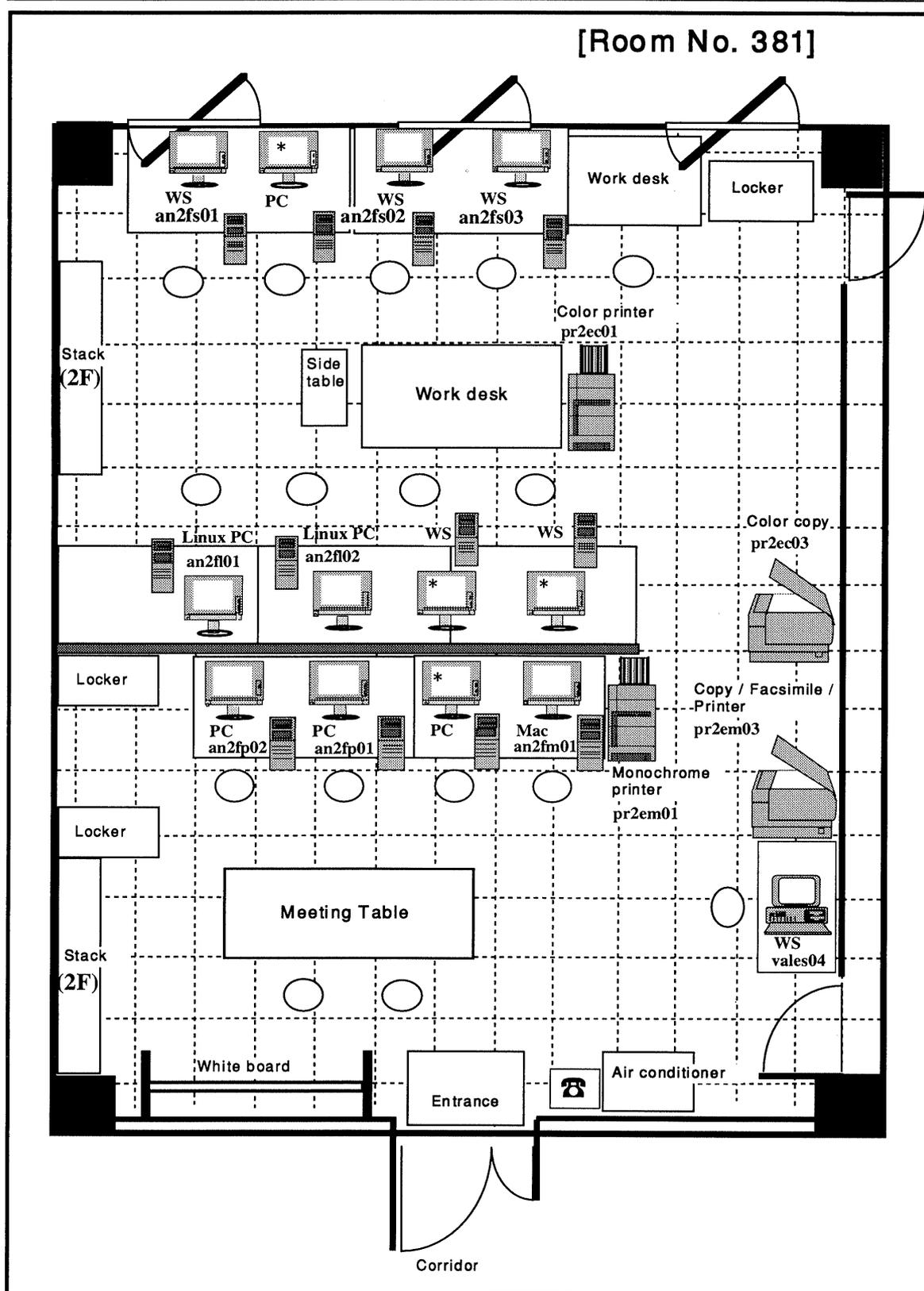


Figure 2.1 ILAS-II DHF System Configuration



\*: The outside of use object

Figure 2.2 Layout of ILAS-II DHF Data Analysis Room

## 2.2 Environment for using computing resources

### 2.2.1 Environment for using computers in the ILAS-II DHF

Table 2.1 describes the environment for using computers in the ILAS-II DHF. To access these computers externally, the user must log into the gateway machine (hostname: is2fs01, st2fr (see Note 1 in Table 2.1)).

**Table 2.1 Environment for using computers**

Classification	Host name of ILAS-II DHF	Machine type (OS)	Location
Workstation for validation and analysis	an2fs01	Sun EnterPrise 250 (Solaris 2.6)	ILAS-II DHF Analysis Room
	an2fs02	Sun Ultra 10 (Solaris 2.6)	
	an2fs03		
	vales04	Sun Ultra 1 (Solaris 2.6)	
Personal computers for X terminal (*1)	an2fl01	Compact Station (RedHat 6.1J Linux)	
	an2fl02		
Personal computers for validation and analysis	an2fp01	IBM IntelliStation N-Pro (Windows NT 4.0)	
	an2fp02	Gateway GP7-800 (Windows NT 4.0)	
	an2fm01	Power Mac G3 MT 400 (MacOS 8.5)	
Server workstation for validation and analysis	is2fs01	SUN Ultra Enterprise 450 (Solaris 2.6)	
	st2fr01 ~ st2fr12 (*2)	IBM RS/6000 (AIX 4.2)	

(\*1) Please contact the DHF staff.

(\*2) One of those hosts is selected automatically when logged in to "st2fr".

(\*3) It is needed to remote log in from inside the parallel processing room when using by visiting to the ILAS-II DHF.

## 2.2.2 Environment for using disks

### (1) User area

#### (a) Personal user area (home directory)

A limited-size personal user area, a home area (/dshome/username) used for login, can be used (for data storage, etc.) by the owner at his/her discretion. The size of the personal user area is set to 10 MB by default.

If the user wants to extend the area, he/she should submit an “Application form for extension of ILAS-II personal area”. After the responsible person of the ILAS-II DHF checks for any discrepancies and coordination is made within the DHF, an additional size is determined.

#### (b) User-shared area

A user-shared area is an area where a massive volume of data that cannot be contained in a personal user area is temporarily stored, and may be shared by all the users. The files stored in this area are deleted starting from the oldest one. The directories used for user-shared areas include:

Directory	Size
/dshome/public1	9 GB
/dshome/public2	9 GB
/dshome/public3	9 GB
/dshome/public4	9 GB

### (2) Backup

A backup file of a personal user area is made by the DHF staff at 6:00 p.m. (Japanese Standard Time) every Saturday.

### 2.2.3 Various types of peripheral devices

Table 2.2 lists the peripheral devices available in the ILAS-II DHF.

**Table 2.2 List of peripheral devices**

	Host name to be connected	Connection type	Device name	Location	
3.5 inch FD device	an2fs01	Interior	/dev/fd0	ILAS-II DHF Analysis Room	
	an2fs02				
	an2fs03				
	vales04				
	an2fp01	Interior	/		
	an2fp02				
	an2fm01	USB Exterior			
8mm tape device	an2fs01	Interior			/dev/rst5
CD-ROM device	an2fs01	Interior			/vol/dev/dsk/c0t6d0
	an2fs02	Interior			/vol/dev/dsk/c0t2d0
	an2fs03				
	vales04	Interior	/vol/dev/dsk/c0t6d0		
	an2fp01	Interior	/		
	an2fp02				
	an2fm01				
	an2fp01				
	an2fm02				
640MB MO device	an2fp01	Exterior			
	an2fm02	Exterior			
Monochrome printer	/	/		pr2em01	
Color printer				pr2em03 (copy/FAX)	
			pr2ec01		
			pr2ec03 (color copy)		

If the user wants to use a CD-R or a Digital-scanner, please contact the HDF staff.

## 2.3 Procedure for using computing resources<sup>1)</sup>

### 2.3.1 Log in

The ILAS-II DHF has two login environments, AIX (IMB workstation) and Solaris (SUN workstation). We permit only a few nodes to have access to the external environment to provide higher security. To access the DHF facility externally, the user must log into the designated gateway machines shown below.

**To access the AIX environment: st2fr.ilas2.nies.go.jp**

**To access the Solaris environment: is2fs01.ilas2.nies.go.jp**

#### (1) External login

The ILAS-II DHF has installed SSH (Secured Shell). Before the user can access the DHF externally (excluding inside the network of National Institute for Environmental Studies), he/she must have installed SSH client software in his/her login terminal. The user can use the existing commands such as telnet, ftp, and rlogin when accessing the DHF internally from the network of National Institute for Environmental Studies.

##### (a) SSH (Secured Shell)

SSH, a software shell allows the user to log into a remote site through a network for using its computing environment. SSH enhances host/client authentication to ensure secure network communications. The main features of SSH are described below.

- Data encryption based on RAS<sup>1)</sup>

SSH ensures strict authentication based on RAS (a public key encryption algorithm). It eliminates any concern about interception on a transmission line because only encrypted passwords and data are transmitted.

- Remote commands available

The user can use “r” commands such as rsh, rlogin, and rcp in addition to the commands such as ssh, slogin, and scp.

##### (b) Login through SSH

Example: Login from the UNIX environment through SSH

```
% ssh -l username st2fr.ilas2.nies.go.jp [Enter]
Host key not found from the list of known hosts.
Are you sure you want to continue connecting (yes/no)? yes [Enter]
Host 'st2fr.ilas2.nies.go.jp' added to the list of known hosts.

username@st2fr.ilas2.nies.go.jp's password: password [Enter]
username@st2fr02%
```

---

<sup>1)</sup> RAS is named after Rivest, Shamir, and Adleman, the three inventors of this algorithm.

(c) Obtaining SSH client software

Before the user can use SSH, he/she must have installed SSH client software in his/her login terminal. This software may be downloaded from the site listed below for example, for free.

<http://www.ssh.org/>

(2) Login internally from ILAS-II DHF

To log into the ILAS-II computing environment, use a workstation in the Analysis Room.

Example: Log into an2fs01.

```
an2fs01 console login: username [Enter]
Password: password [Enter]
```

(3) User account and password

The ILAS-II DHF centrally manages user accounts and passwords. This means that any change to a password in one host is reflected in all the available workstations in the ILAS-II DHF. Remember that users must change their password at least every three months for security. The procedure for changing a password is described below.

Example: Changing a password

```
%passwd [Enter]
Password change takes about 3 minutes.
Old password:old password [Enter]
New password:new password [Enter]
Retype new password:new password [Enter]
End-user Password Modification for username username succeeded:
Changed Common/NT/NetWare/UNIX password for username in user profile general-users
Changed password for user username on host is2fs01.
:
Changed password for user username on host st2fr12.
Password successfully changed.
%
```

### 2.3.2 Procedure for using a printer

The ILAS-II DHF Analysis Room has monochrome and color printers. Table 2.3 shows a list of printers available in the Analysis Room.

**Table 2.3 List of printers (as of January 2001)**

Host name	Name of printer	Monochrome / color
pr2em01	IBM Network Printer 24	monochrome
pr2em03	RICOH imagio MF4570e (copy / FAX)	monochrome
pr2ec01	SONY Tektronix Phaser 560J	color
pr2ec03	Canon PIXEL Dio (color copy)	color

These are all postscript printers.

### (1) Command syntax (single-side printing)

lpr command allows the user to print out data from any host computer.

`%lpr-P (printer name) (filename)`

(Example 1): Printing out of a file "test\_data.c" onto a monochrome printer pr2em01

`%lpr-Ppr2em01 test_data.c`

### (2) Command syntax (double-side printing)

Two different commands are provided depending on the environment, AIX or Solaris.

#### (a) Solaris environment

`%lp-o vd-P (printer name) (filename)`

(Example 2): Printing out a file "test\_data.c" onto a monochrome printer pr2em01

`%lp-o vd-Ppr2em01 test_data.c`

#### (b) AIX environment

`%qpri-Y1-P (printer name) (filename)`

(Example 3): Printing out a file "test\_data.c" onto a monochrome printer pr2em01

`%qpri-Y1-Ppr2em01 test_data.c`

## 2.3.3 Procedure for using compilers

There are two types of compilers available in the ILAS-II DHF, i.e., Fortran and C, which are set in either the AIX (IBM) or Solaris (SUN) environment by default when a user account is registered. Tables 2.4 and 2.5 show lists of compilers for the AIX and Solaris environments.

**Table 2.4 List of compilers (AIX environment) (as of January 2001)**

Language	Compiler	Command	Available workstation
C	Cset++ 3.1.4	/bin/xlc /bin/cc	st2fr01~ st2fr12
	ProC/C++ R8.0.4	/bin/cc	
Fortran	XL Fortran 5.1 Fortran 77	/bin/xlf /bin/f77	
	XL Fortran 5.1 Fortran 90	/bin/xlf90	
	XL HPF 1.3	/bin/xlhpf	

**Table 2.5 List of compilers (Solaris environment) (as of January 2001)**

Language	Compiler	Command	Available workstation
C	C/C++ 4.2	/opt/SUNWspro/SC4.2/bin/cc	is2fs01
	ProC/C++ R8.0.4	/bin/cc	
Fortran	Fortran77 4.2	/opt/SUNWspro/SC4.2/bin/f77	
	Fortran90 1.2	/opt/SUNWspro/SC4.2/bin/f90	

### 2.3.4 Package software libraries

Table 2.6 shows of package software libraries. For more information on how to use the libraries, refer to the online manuals and documentation kept in the LAS-II DHF Data Analysis Room.

**Table 2.6 List of package software libraries (as of January 2001)**

Package software	Summary of function	OS	Activation method	Termination method	Available hosts	Remarks (location of library)
PV-WAVE V7.00	Data visualization tool	Solaris	wave	exit	is2fs01	
		AIX	wave	exit	st2fr	
S-PLUS V3.4	S language basis statistical analysis software	AIX	Splus	q()	st2fr	
G-Sharp V7.0	Data visualization tool	Solaris	Gsharp	Mouse operation	is2fs01	
ESSL V3.1.1	General-purpose numerical computation library	AIX	-	-	st2fr	/usr/lpp/essl
IDL R5.3	Data visualization tool	Windows NT	Mouse operation	Mouse operation	an2fp02	
Mathematica V4.0J Pro	Formula manipulation system	Windows NT	Mouse operation	Mouse operation	an2fp02	
Orbiter for Windows	Orbit analysis package software	Windows NT	Mouse operation	Mouse operation	an2fp02	

### 2.3.5 Procedure for referencing data

The types of data that can be referenced and the procedure for accessing them are described in Table 2.7. Most of observation data derived during ILAS observation periods may be used. Reference data from observations during ILAS-II observation periods is expected to increase in volume and we are examining its possibility.

**Table 2.7 Procedure for referencing data (as of January 2001)**

Type of data	Contents of data	Access method	remarks
Correlative measurement database (CMDB)	Database into which ILAS validation experiment data are collected and stored	ILAS home page	Following users are entitled to access the data; ILAS project staff, the members of the science team, the leaders of validation experiment team, and the members of the validation experiment team who have registered validation experiment data.
Solar image data	The solar image data observed at the points (Hiraiso Branch of Communications Research Laboratory (CRL) and Big Bear Solar Observatory.	ILAS home page	
Existing satellite data set	Vertical distribution data such as the density of atmospheric constituent gases and aerosol extinction coefficient acquired from satellite observation by NASA.	(*)	<ul style="list-style-type: none"> <li>• MLS<sup>1)</sup> data (Ver. 4)</li> <li>• HALOE<sup>2)</sup> data (Ver. 18, 19)</li> <li>• SAGE II<sup>3)</sup> data (Ver.5.931, 5.96, 6.0)</li> <li>• POAM II<sup>4)</sup> data (Ver.5, 6)</li> </ul>
ADEOS / TOMS data	Observation data by TOMS sensor boarded on ADEOS.	(*)	• TOMS <sup>5)</sup> L3nrt data (numerical data)
UKMO <sup>6)</sup> global meteorological data	Global meteorological data in a three-dimensional grid provided by UKMO (temperature, atmospheric pressure, wind direction/speed data etc.)	(*)	Following users are entitled to use the data; ILAS project staff, the members of the science team, and the leaders of the validation experiment team.

1) MLS : Microwave Limb Sounder

(\*) Please contact the DHF staff.

2) HALOE : HALogen Occultation Experiment

3) SAGE II : Stratospheric Aerosol and Gas Experiment II

4) POAM II : Polar Ozone and Aerosol Measurement II

5) TOMS : Total Ozone Mapping Spectrometer

6) UKMO : United Kingdom Meteorological Office

### 3. Using ILAS and ILAS-II Product Services

#### 3.1 Procedure for referencing ILAS products

The ILAS-II DHF provides the user with the Levels 1 and 2 data, which were processed ILAS observation raw data (Level 0). The user may download them directly from the ILAS Web home pages or obtain them on any media. Please refer to “ILAS-II User’s Handbook”.

##### 3.1.1 Available data

The following ILAS products are available.

- Level 1 data
- Level 2 data

Table 3.1 shows the possible data formats. Users may select any of the formats listed in the table.

**Table 3.1 Possible data formats**

File Format	Contents of format	remarks
HDF format	Based on NASA EOSDIS V0 Data Product Implementation Guidelines	Level 1 data, Level 2 data
Text format (Old format)	Defined by ILAS project	Level 2 data only
Text format (New format)	Based on AMES 2160	Level 2 data only

##### 3.1.2 Data delivery method

Data may be delivered by means of either memory devices or online download from ILAS Web home pages. For more information, refer to Table 3.2

**Table 3.2 Data delivery method**

Data	Method
Level 1 data	Media
Level 2 data	Media, online

Users, who want to obtain data on a memory device, may select their desired type from DHF-supplied memory devices. For more information, refer to Table 3.3.

**Table 3.3 Supplied memory devices**

Device	Stored volume	Format etc.
3.5 inch floppy diskette	2HD:1.44MB(1.2MB)	PC-DOS、 Macintosh format or UNIX
Zip	approx. 100MB	PC-DOS or Macintosh format
MO	approx. 230MB, approx. 640MB	PC-DOS or Macintosh format
8mm tape	approx. 5GB	Based on ISO
4mm DAT	approx. 2GB	ANSI DDS2 format
CD-ROM	approx. 650MB	PC-DOS or Macintosh format

### 3.1.3 Procedure for acquiring data

To acquire ILAS products, do one of the followings.

- Search and ordering of data through the ILAS Web pages
- Search and ordering of data by e-mail, letter, or FAX

#### (1) Search and ordering of data through the ILAS Web home pages

Visit the ILAS Web home page through the Internet and find the Data Search service for searching the database for necessary data. After the desired data is found, you may download it directly from the ILAS Web home page or use the Ordering service in it to order the data from the ILAS-II DHF office. The URLs of the ILAS Web home pages are shown below.

<http://www-ilas.nies.go.jp/> or <http://ilas.nies.go.jp>

From “ILAS Data Search and Ordering” on each of these home pages, the user may enter the search and ordering page. Follow the instructions given on the home pages.

#### (2) Search and ordering of data by e-mail, letter, or FAX

Please order your desired data from the ILAS-II DHF office by e-mail, letter, or FAX. The ILAS-II DHF will search the specified data for you, store it on your desired memory device, and send it to you. The information to be completed at the time of your order is listed below.

**Table 3.4 Information to be completed at time of ordering**

Item	Required / omissible	Descriptions
Data	Required	Level 1 or level 2
Data Parameters	Required	Only Level 2 data may be selected. Selectable parameters are: all the parameters, or one or more parameters listed below: temperature, pressure, visible aerosol extinction coefficient (780nm), O <sub>3</sub> , NHO <sub>3</sub> , NO <sub>2</sub> , N <sub>2</sub> O, H <sub>2</sub> O, CH <sub>4</sub> , CFC-11,CFC-12 concentrations, infrared aerosol extinction coefficient (7.12, 8.27, 10.60, 11.76 μ m), temperature (UKMO), pressure (UKMO), potential temperature (UKMO), potential vorticity (UKMO), observation point (latitude and longitude), solar azimuth angle
Start date (observation date)	Omissible	Start date of observation whose data is searched. If omitted, the first date of observation is set by default.
End date (observation date)	Omissible	End date of observation whose data is searched. If omitted. The last date of observation is set by default.
Start data (registration date)	Omissible	Start date of data registration period whose data is searched. If omitted, the first date of data registration period is set by default.
End data (registration sate)	Omissible	End date of data registration period whose data is searched. If omitted, the last date of data registration period is set by default.
Latitude and longitude	Omissible	Users may specify the latitude and longitude of the observatory whose data is searched. If no latitude is specified, data is searched in all the latitude zones. If no longitude is specified, data is searched in all the longitude zones.
Reason for use	Required	“Study on the algorithm”, “Analysis for verification”, or “Applied study”
Format	Required	“HDF”, “Old format”, or “New format”. For Level 1 data, “HDF” only
Delivery	Required	Select any of the following memory devices “35-inch floppy diskette”, “MO”, “Zip”, “8-mm tape”, “4-m DAT”, and “CD-ROM”.

(Note) The parameters, temperature (UKMO), pressure (UKMO), potential temperature (UKMO), and potential vorticity (UKMO) are not ILAS products but are provided for reference.

### 3.2 Procedure for using the ILAS-II product services

When we are to start the ILAS-II product services after the ADEOS-II satellite is launched, we will notify you of the procedure for using the services.

## 4. Contact

Please feel free to contact the ILAS-II DHF office if you submit an application to use the ILAS-II DHF or have any question.

ILAS-II DHF Operation Manager  
National Institute for Environmental Studies

16-2, Onogawa, Tsukuba, Ibaraki 305-0053, Japan

TEL 0298-50-2568

FAX 0298-56-6995

E-mail [admdhf@ilasris.nies.go.jp](mailto:admdhf@ilasris.nies.go.jp) or [admdhf@ilas2.nies.go.jp](mailto:admdhf@ilas2.nies.go.jp)

## Appendix

Applications for Use of ILAS-II DHF

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## 1. Application for ILAS-II User Account Registration

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To Manager of ILAS-II DHF

Date (Month/Day/Year): 12/01/1999

Application for ILAS-II User Account Registration

I agree to utilize the ILAS-II DHF system only for the purpose of the research approved in advance and apply for the registration of the user account.

(1) Blanks to be filled in by the applicant

1	Name	(Family,First, Middle)	Holton	Richard	Allan
2	Country	Japan			
3	Term of respect	Dr.			
4	Sex	male			
5	Organization name or company name	Sakura University			
6	Department and section names	Information Technology Course, Department of Technology			
7	Address	3-2-1 Tamato, Tsukuba City, Ibaraki, Japan			
8	Contact number	TEL: +81-9999-99-9999		FAX: +81-9999-99-9999	
		e-mail: holton@sakura.ac.jp			
9	Requested login name (within 8 characters)	login name	First request: holton		
			Second request: richard		
		Note: Initial password will be sent to you <u>by mail or by facsimile</u> .			
10	Period of use of the user account	From (Month/Day/Year): 01/01/2000		To (Month/Day/Year): 12/31/2003	
11	Contents of the work	Validation analysis for ILAS-II products			
12	Remarks				

Signature by Applicant: Richard Allan Holton

(2) Approval by person who is responsible for application

When Co-I and assistant/associate researcher register ILAS-II user account, should be approval by one of project staff, member of the Advisory Committee, Science Team member, and JRI PI and should fill in below items with signature by the above person who is responsible for this application.

1	Name	(Family,First, Middle)	Yamada	Ichiro	
2	Country	Japan			
3	Term of respect	Prof.			
4	Sex	male			
5	Organization name or company name	Sakura University			
6	Department and section names	Information Technology Course, Department of Technology			
6	Address	3-2-1 Tamato, Tsukuba City, Ibaraki, Japan			
7	Contact number	TEL: +81-9999-99-9999		FAX: +81-9999-99-9999	
		e-mail: yamada@sakura.ac.jp			

I am responsible for this application.

Signed by: Ichiro Yamada

----- To be filled in by ILAS-II DHF -----

(3) Membership category the person in charge of the application falls into

<input type="checkbox"/> ILAS Project ( <input type="checkbox"/> Staff <input type="checkbox"/> Advisory <input type="checkbox"/> Sci. Team <input type="checkbox"/> JRA PI <input type="checkbox"/> Valid. <input type="checkbox"/> Co-I, Assoc.)	<input type="checkbox"/> ILAS-II Validation Experiment Team (PI)
<input type="checkbox"/> ILAS-II Project Staff	<input type="checkbox"/> ILAS-II Validation Experiment Team (Co-I, Associate, or Assistant)
<input type="checkbox"/> ILAS-II Science Team Member (JRA PI)	<input type="checkbox"/> Contractor
<input type="checkbox"/> ILAS-II Science Team Member (Co-I, Associate, or Assistant)	<input type="checkbox"/> Others ( )

(4) Group which the user account belongs to

Group name 1	
Group name 2	
Group name 3	

User No.	Manager of ILAS-II DHF

To Manager of ILAS-II DHF,

Date (Month/Day/Year):

## Application for Extension of ILAS-II Personal User Area

I apply for extension of ILAS-II personal user area.

(1) Blanks to be filled in by the user

1	Name	(Family,First, Middle)			
2	Country				
3	Organization name or company name				
4	Department and section names				
5	Address				
6	Contact number		TEL:	FAX:	
			e-mail:		
7	User login name				
8	Requested area size to be extended (megabyte)		MB		
9	Reason for extension				

Signature by Applicant: \_\_\_\_\_

(2) Approval by person who is responsible for application

When Co-I and assistant/associate researcher register ILAS-II user account, should be approval by one of project staff, member of the Advisory Committee, Science Team member, and JRI PI and should fill in below items with signature by the above person who is responsible for this application.

1	Name	(Family,First, Middle)			
2	Country				
3	Organization name or company name				
4	Department and section names				
5	Address				
6	Contact number		TEL:	FAX:	
			e-mail:		

I am responsible for this application.

Signed by: \_\_\_\_\_

----- To be filled in by ILAS-II DHF -----

User No.	Manager of ILAS-II DHF

To Manager of ILAS-II DHF,

Date (Month/Day/Year): 12/01/2000

Application for Extension of ILAS-II Personal User Area

I apply for extension of ILAS-II personal user area.

(1) Blanks to be filled in by the user

1	Name (Family,First, Middle)	Holton	Richard	Allan
2	Country	Japan		
3	Organization name or company name	Sakura University		
4	Department and section names	Information Technology Course, Department of Technology		
5	Address	3-2-1 Tamato, Tsukuba City, Ibaraki, Japan		
6	Contact number	TEL: +81-9999-99-9999	FAX: +81-9999-99-9999	
		e-mail: holton@sakura.ac.jp		
7	User login name	holton		
8	Requested area size to be extended (megabyte)	100 MB		
9	Reason for extension	Above disk space is necessary for studying the change		
		in temperature and atmospheric pressure with UKMO data.		

Signature by Applicant: Richard Allan Holton

(2) Approval by person who is responsible for application

When Co-I and assistant/associate researcher register ILAS-II user account, should be approval by one of project staff, member of the Advisory Committee, Science Team member, and JRI PI and should fill in below items with signature by the above person who is responsible for this application.

1	Name (Family,First, Middle)	Yamada	Ichiro	
2	Country	Japan		
3	Organization name or company name	Sakura University		
4	Department and section names	Information Technology Course, Department of Technology		
5	Address	3-2-1 Tamato, Tsukuba City, Ibaraki, Japan		
6	Contact number	TEL: +81-9999-99-9999	FAX: +81-9999-99-9999	
		e-mail: yamada@sakura.ac.jp		

I am responsible for this application.

Signed by: Ichiro Yamada

----- To be filled in by ILAS-II DHF -----

User No.	Manager of ILAS-II DHF

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ILAS-II Data Handling Facility Usage Guide (Version 1.0)

問い合わせ先：地球環境研究センター 横田達也

E-mail : yoko@nies.go.jp

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