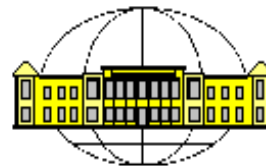


World Radiation Data Center

2014: - 50 Years of Activity under BMO



**GLOBAL
ATMOSPHERE
WATCH**

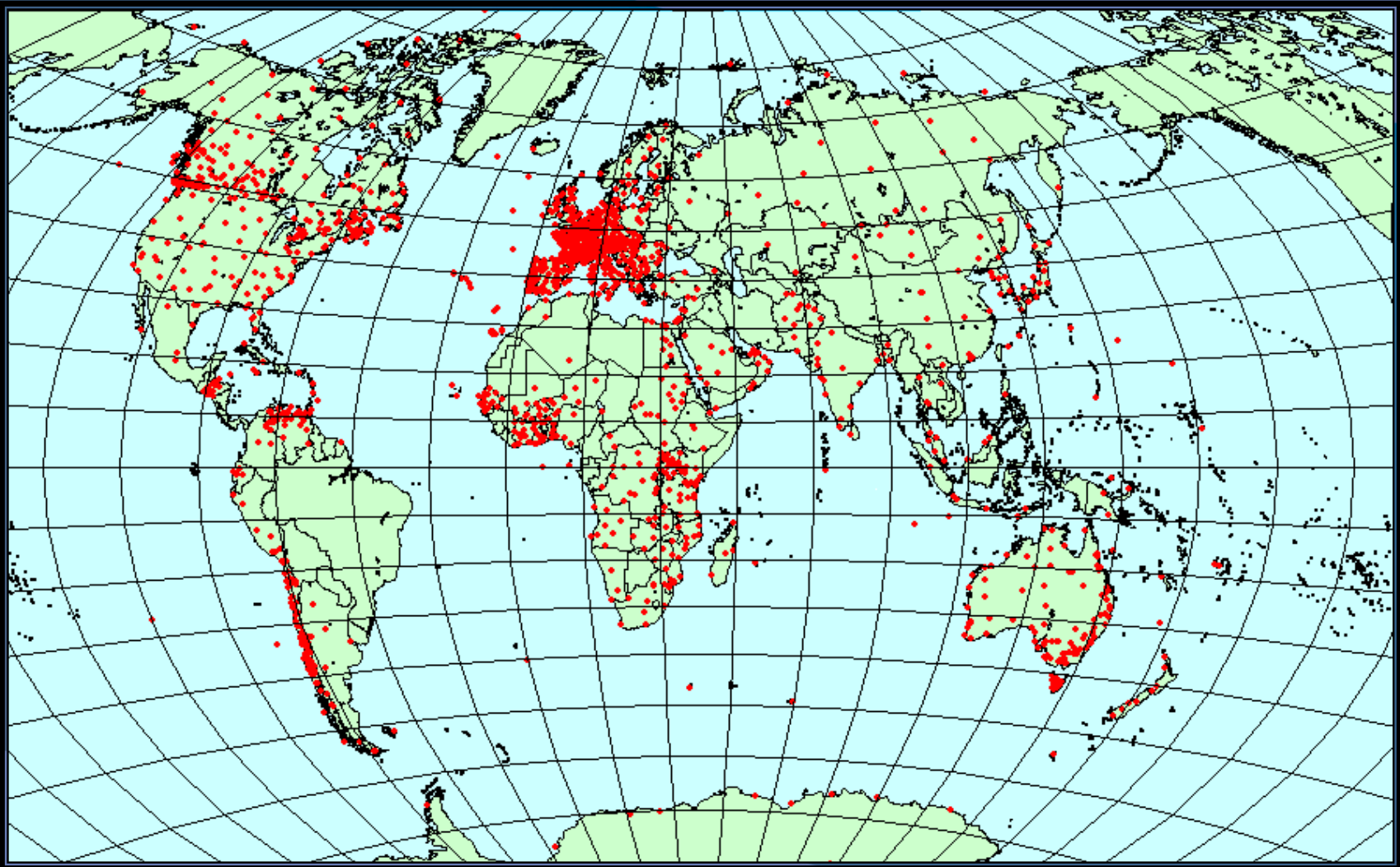


Main Geophysical
Observatory.
Founded in 1849

WRDC. Status Report

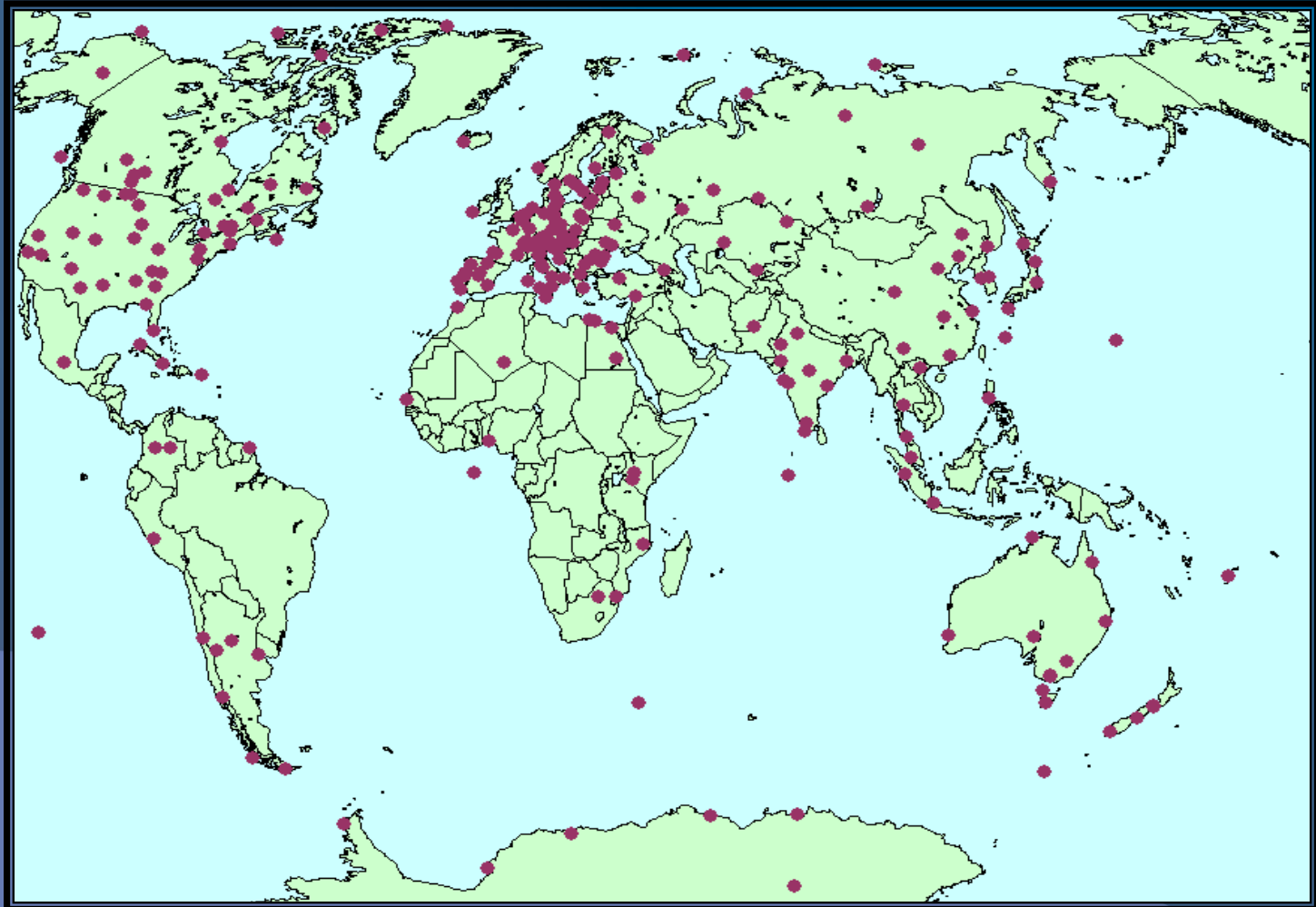
Anatoly Tsvetkov
Voeikov Main Geophysical Observatory
St. Petersburg

Meeting of the ET GAW WDC Managers,
At JMA Tokyo, Japan,
21-23 January 2014

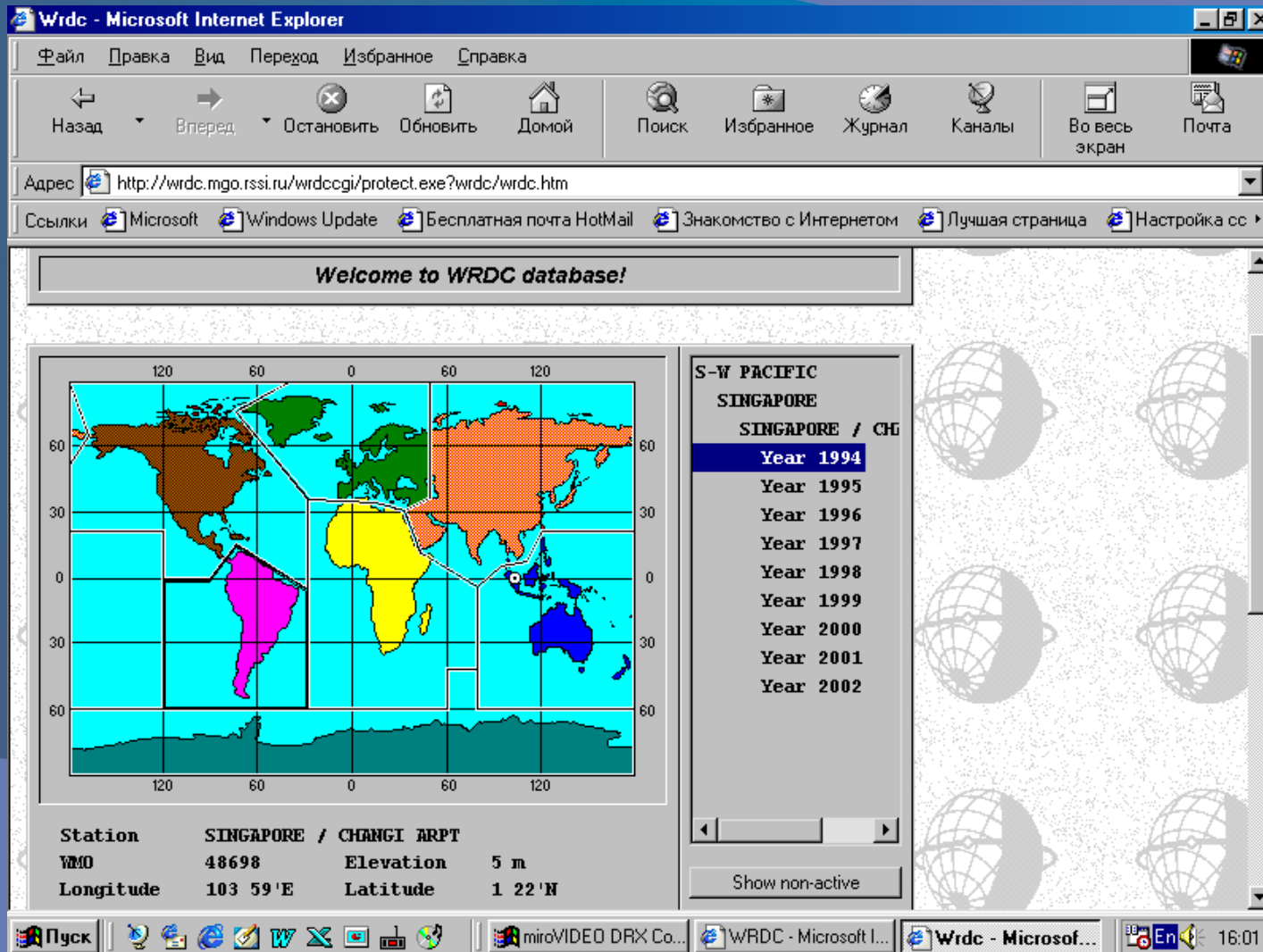


Radiometry Stations at WRDC Data Archive: 1964 - 2013.

Stations GAW with Data in WRDC Archive and on the Site



Main Page of WRDC Site



Wrdc - Microsoft Internet Explorer

Файл Правка Вид Переход Избранное Справка

Назад Вперед Остановить Обновить Домой Поиск Избранное Журнал Каналы Во весь экран Почта

Адрес <http://wrdc.mgo.rssi.ru/wrdccgi/protect.exe?wrdc/wrdc.htm>

Ссылки [Microsoft](#) [Windows Update](#) [Бесплатная почта HotMail](#) [Знакомство с Интернетом](#) [Лучшая страница](#) [Настройка сс](#)


Welcome to WRDC database!

S-W PACIFIC
SINGAPORE
SINGAPORE / CHI

- Year 1994**
- Year 1995
- Year 1996
- Year 1997
- Year 1998
- Year 1999
- Year 2000
- Year 2001
- Year 2002

Station **SINGAPORE / CHANGI ARPT**

WMO	48698	Elevation	5 m
Longitude	103 59'E	Latitude	1 22'N

Пуск  miroVIDEO DRX Co... **Wrdc - Microsoft I...** **Wrdc - Microsof...** En 16:01

WRDC Site address: <http://wrdc.mgo.rssi.ru>

Metadata files sent to FTP GAWSIS (Started on April 2007)

2010	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Number of stations	227	227	227	229	229	229	229	229	229	229	229	229
Date of sending	18/01	18/02	23/03	20/04	18/05	16/05	20/07	17/08	24/09	15/10	16/11	23/12
2011	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Number of stations	229		229	229		229	229			229		229
Date of sending	21/01		22/03	20/04		07/06	20/07			31/10		22/12
2012	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Number of stations	229		229	229	238	239	239		239			239
Date of sending	20/01		29/03	23/04	30/05	09/06	23/07		05/09			05/12
2013	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Number of stations	239	239	240		240	240			240	240		240
Date of sending	15/01	15/02	20/03		22/05	13/06			19/09	15/10		4/12

Tasks formulated for Toronto 2010:

- *Formation of WRDC Metadata Database (MDB); Done*
- *Upload of MDB to the WRDC Server; Done*
- *Update Interface helpful to download the WRDC data. Done*

http://wrdc.mgo.rssi.ru/wwwroot/Output/country_index.html

GAW STATIONS

Station	GAW Station Type	Info	Daily data	Hourly data
ALGERIA				
TAMANRASSET	Global	Info	Daily data	Hourly data
ARGENTINA				
USHUAIA	Global	Info	Daily Data	Hourly Data
AUSTRALIA				
ALICE SPRINGS ARPT	Contributing	Info	Daily Data	Hourly Data
CAPE GRIM	Global	Info	Daily Data	Hourly Data
DARWIN ARPT	Regional	Info	Daily Data	Hourly Data
MELBOURNE ARPT	Regional	Info	Daily Data	Hourly Data
WAGGA WAGGA AMO	Regional	Info	Daily Data	Hourly Data
AUSTRIA				
GROSSENZERSDORF	Contributing	Info	Daily Data	Hourly Data
SONNBLICK	Global	Info	Daily Data	Hourly Data
WIEN / HOHE WARTE	Regional	Info	Daily Data	Hourly Data
CHILE Images				
EL TOLOLO	Regional	Info	Daily Data	Hourly Data

Station Information:

Name: El Tololo
 WMO index: 85490
 Latitude: 30.17 S
 Longitude: 70.70 W
 Elevation (m): 2030
 Time: Local mean time, local time offset from GMT: -4.0

Instrumentation:

Global Horizontal Q: Kipp and Zonen Pyranometer
 Diffuse horizontal D: Kipp and Zonen Pyranometer

Contributor:

Luis Gerardo Valle Lobos
 Observator Meteorologico
 Anexo 1762 1709
 Fono 56-51-272652
 Chile

Daily and monthly averages in J/cm^2 are computed according to WRDC protocol (and subject to rejection by the flagging protocol):

- Daily total values are the total of each hourly irradiance for the day
- Monthly averages are the sum of the daily values divided by the number of days available
- Monthly totals are the monthly average multiplied by the number of calendar days in the month
- Monthly statistics for hourly intervals are the sum and average of the hourly interval for each day under a process similar to the monthly averages and totals above.

flag (F) = 0 (blank in the table) means that a value has good quality flag = 1 - questionable value flag = 2 - bad or missing value

Table of Metadata according the WMO recommendations

CATEGORY	METADATA TYPE
STATION IDENTIFIERS	Local Code WMO Code Name and aliases Active/Closed Beginning/End Date
GEOGRAPHICAL DATA	Latitude Longitude Elevation Dates of relocation
LOCAL ENVIRONMENT	Local land use/land cover Instruments exposure Skyline diagrams
STATION INSTRUMENTATION AND MAINTENANCE	Instrument Sheltering and Mounting Type of recording Calibration results Special Maintenance/Faults
DATA PROCESSING	Units Special codes Algorithms Calculations QC applied? (yes/no) Homogenization applied? (yes/no)
HISTORICAL EVENTS	Changes in the social, political and institutional environment



Метаданные: XML, HTML файлы МЦРД

The screenshot shows a Windows Explorer window displaying a directory of HTML files. The files are organized into columns, with each file name preceded by a globe icon. A tooltip is visible over the 'usa.html' file, providing metadata: 'Тип: Safari Document', 'Изменен: 17-01-2012 15:57', and 'Размер: 265 байт'. The left sidebar shows navigation options like 'Задачи для файлов и папок' and 'Другие места'. The bottom status bar indicates 'Объектов: 261' and '142 КБ'.

afghanistan	hungary	saint-pierre_and_miquelon	colombia.html	maldives.html	ukraine.html
algeria	iceland	san_tome_and_prinsipe	cote_d_ivoire.html	mail.html	united_kingdom.html
angola	india	saudi_arabia	country_index.html	malta.html	usa.html
argentina	indonesia	senegal	croatia.html	marshall_isls.html	uzbekistan.html
australia	ireland	singapore	cuba.html	martinique.html	venezuela.html
austria	israel	slovakia	czech_republic.html	mexico.html	viet_nam.html
azores	italy	spain	denmark.html	moldova.html	wake_is.html
bangladesh	jamaica	sri_lanka	djibouti.html		yugoslavia.html
barbados	japan	sudan	dprk.html		zaire.html
belgium	johnston_is	sweden	east_timor.html		zambia.html
benin	kazakhstan	switzerland	ecuador.html		zimbabwe.html
brunei	kenya	syria	egypt.html	netherlands.html	
bulgaria	latvia	tanzania	el_salvador.html	new_caledonia.html	
burkina_faso	lebanon	thailand	estonia.html	new_zealand.html	
canada	lithuania	trinidad_and_tobago	ethiopia.html	niger.html	
canton_is	macao	tunisia	falkland_isls.html	nigeria.html	
cape_verde	madagascar	turkey	fiji.html	norway.html	
car	madeira	uae	finland.html	oman.html	
chile	malaysia	uganda	france.html	pakistan.html	
china	maldives	ukraine	germany.html	papua_new_guinea.html	
colombia	mali	united_kingdom	georgia.html	peru.html	
cote_d_ivoire	malta	usa	ghana.html	philippines.html	
croatia	marshall_isls	uzbekistan	greece.html	poland.html	
cuba	martinique	venezuela	guadeloupe.html	portugal.html	
czech_republic	mexico	viet_nam	hawaii_isls.html	puerto_rico.html	
denmark	moldova	wake_is	guiana.html	republic_of_korea.html	
djibouti	mongolia	yugoslavia	guinea-bissau.html	republic_of_yemen.html	
dprk	morocco	zaire	honduras.html	reunion.html	
east_timor	mozambique	zambia	hong_kong.html	romania.html	
ecuador	namibia	zimbabwe	hong_kong.html	rsa.html	
egypt	netherlands	afghanistan.html	hong_kong.html	russia.html	
el_salvador	new_caledonia	algeria.html	hungary.html	saint-pierre_and_miquelon.html	
estonia	new_zealand	angola.html	iceland.html	san_tome_and_prinsipe.html	
ethiopia	niger	argentina.html	india.html	saudi_arabia.html	
falkland_isls	nigeria	australia.html	indonesia.html	senegal.html	
fiji	norway	austria.html	ireland.html	singapore.html	
finland	oman	azores.html	israel.html	slovakia.html	
france	pakistan	bangladesh.html	italy.html	spain.html	
gambia	papua_new_guinea	barbados.html	jamaica.html	sri_lanka.html	
georgia	peru	belgium.html	japan.html	sudan.html	
germany	philippines	benin.html	johnston_is.html	sweden.html	
ghana	poland	brunei.html	kazakhstan.html	switzerland.html	
greece	portugal	bulgaria.html	kenya.html	syria.html	
guadeloupe	puerto_rico	burkina_faso.html	latvia.html	tanzania.html	
guam_is	republic_of_korea	canada.html	lebanon.html	thailand.html	
guiana	republic_of_yemen	canton_is.html	lithuania.html	trinidad_and_tobago.html	
guinea-bissau	reunion	cape_verde.html	macao.html	tunisia.html	
hawaii_isls	romania	chile.html	madagascar.html	turkey.html	
honduras	rsa	china.html	madeira.html	uae.html	
hong_kong	russia	china.html	malaysia.html	uganda.html	

QC Flags used at WRDC

Flags of QC	Content
0	Good quality
1	Questionable data value according NWS
2	Missing or bad data value according NMS
3	Estimated (or interpolated) value according NWS
4	Polar Night
5	Questionable data value according WRDC
6	May be questionable if compared with climatic level
7	Low value as estimated at WRDC
8	Diffuse radiation > Global radiation more than 5%
9	Bad data value according estimates at WRDC

1, 2, 3 – NMS information

5, 6, 7, 8, 9 – WRDC estimats

Quality Checks at the WRDC

- *Physically meaningful limits*
- *Follow up Control according to WRDC procedures applied to daily and monthly totals*
- *Checks of calculated and actual totals*
- *Checks of hourly and daily values in the within setup ranges*
- *Control of exceedings above TOA values*
- *Control of values higher than those of probabilistic and climatological levels*
- *Control of correlation: data of neighbour sites*
- *Homogeneity Analysis (HA)*
- *Build up of Metadata for 1500 Stations from paper archive **New***

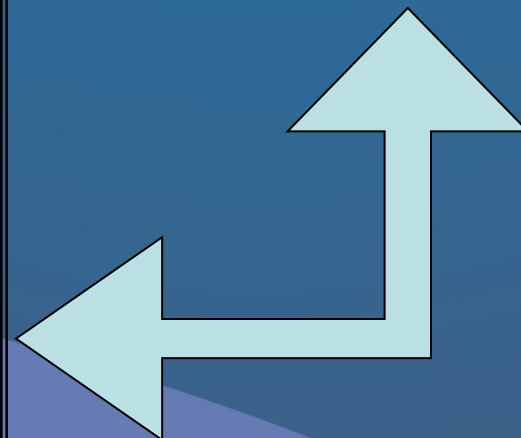


**MINAMITORISHIMA
Instrumentation**

Element	Type of instrument	Start date of instrument
Global radiation	TT/MG/	
	TT	1974-03
	TT/EKO/	1987-03
	PREDE&KZ/CM3/	2002-02
Diffuse radiation	KZ/CMP22/	2010-04
Sunshine duration	SS/J/	
	SS/EKO/	1987-01
	SS/PREDE/	2002-02

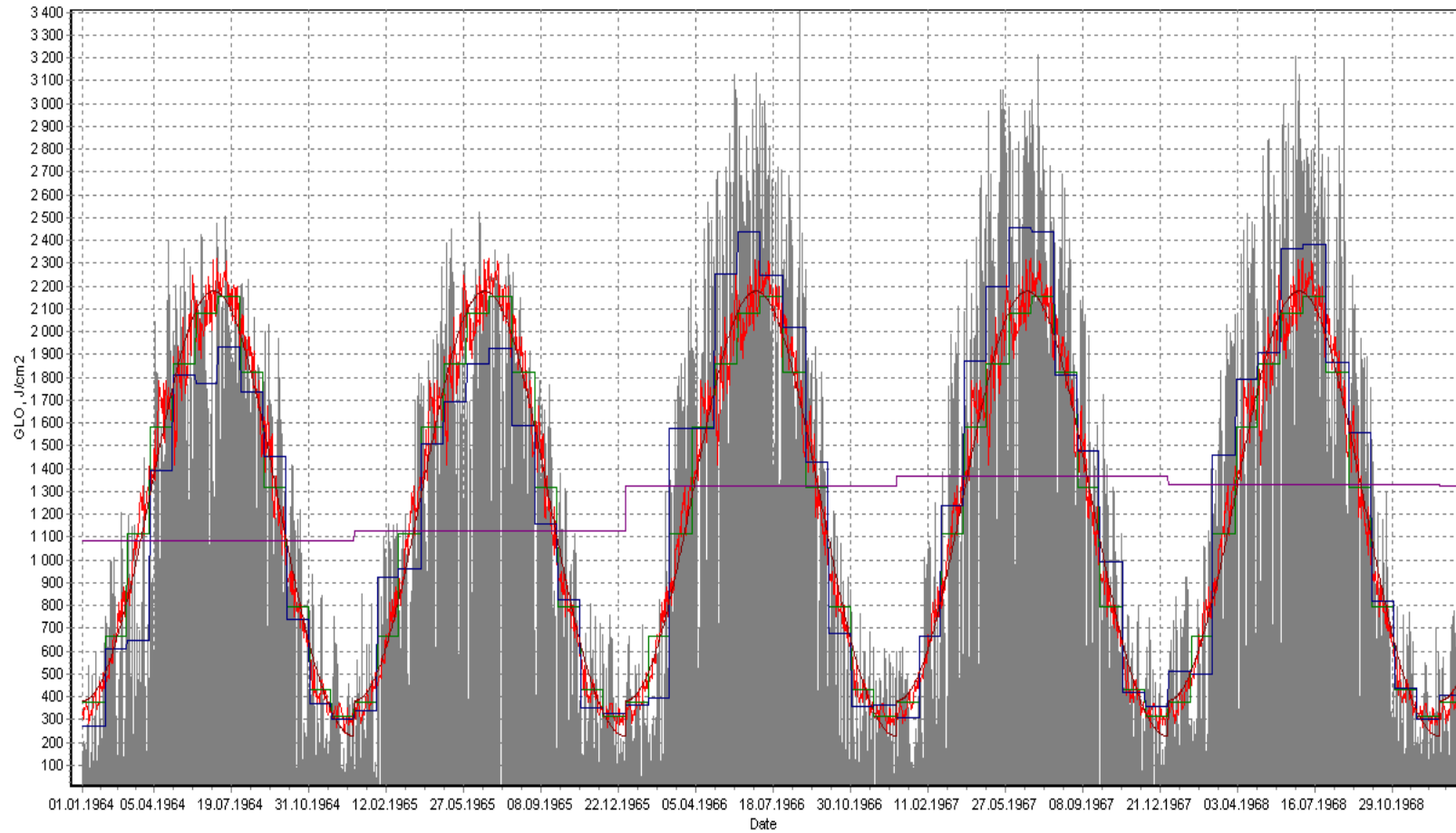
STATION INFO

Region	2 (Asia)
Country	JAPAN
Station	MINAMITORISHIMA
WMO Index	47991
Changes of WMO Index and (or) station and country names	-
Latitude	24°17'N
Longitude	153°59'E
Elevation	6 m
Station relocation	-
Elements	Global Radiation Diffuse Radiation Sunshine Duration
Instrumentation	Info
Units	J/cm2
Scale	WRR
Time system	TST
Instrumentation relocation	-



Example

MILANO / LINATE (ITALY), 1964 - 2010
Global Radiation



An Example of a kind of Metadata at WRDC

Station	Data available at WRDC					
	Data are submitting	Global Radiation postponed to be observed				
Nemuro						1.1964-9.2010
Sapporo	1.1964-12.2012					
Akita	1.1964-12.2012					
Miyako			1.1964-9.2007			
Sendai		1.1964-12.1971				
Wajima						1.1972-9.2010
Matsumoto			6.1972-9.2007			
Tateno	1.1964-12.2012					
Yonago				1.1964-9.2008		
Osaka		1.1964-12.1971				
Fukuoka	1.1964-12.2012					
Shionomisaki					1.1964-9.2009	
Shimizu			1.1964-9.2007			
Kagoshima	1.1964-12.2012					
Shishijima	8.1969-12.2012					
Naha	1.1968-12.2012					
Ishigakijima	1.1969-12.2012					
Minaminorishima	9.1969-12.2012					

An Example. Cover Letters with info

- Letter of 3.03.2008 – сообщают о прекращении измерений суммарной радиации на станциях Miyako, Matsumoto, Shimizu
- Letter of 23.03.2009 – сообщают о прекращении измерений суммарной радиации на станции Yonago
- Letter of 24.05.2010 – сообщают о прекращении измерений суммарной радиации на станции Shionomisaki
- Letter of 10.02.2011 – сообщают о прекращении измерений суммарной радиации на станции Nemuro, Wajima

WRDC. Sunshine Duration from Japan

Station	Data available at WRDC		
	Continued	Submission stopped	
Nemuro			1.1972-9.2010
Sapporo	1.1969-12.2012		
Akita	1.1972-12.2012		
Miyako			4.1972-12.2010
Sendai		1.1969-12.1972	
Wajima			1.1972-12.2010
Matsumoto			6.1972-12.2010
Tateno	1.1969-12.2012		
Yonago			5.1972-12.2010
Osaka		1.1969-12.1971	
Fukuoka	1.1969-12.2012		
Shionomisaki			1.1972-12.2010
Shimizu			1.1972-12.2010
Kagoshima	1.1972-12.2012		
Shishijima	1.1971-12.2012		
Naha	1.1969-12.2012		
Ishigakijima	1.1969-12.2012		
Minaminorishima	1.1971-12.2012		

USSR CHIEF ADMINISTRATION OF THE HYDRO-METEOROLOGICAL SERVICE
ГЛАВНОЕ УПРАВЛЕНИЕ ГИДРОМЕТЕОРОЛОГИЧЕСКОЙ СЛУЖБЫ СССР

A.I. VOEIKOV MAIN GEOPHYSICAL OBSERVATORY
ГЛАВНАЯ ГЕОФИЗИЧЕСКАЯ ОБСЕРВАТОРИЯ ИМЕНИ А.И. ВОЕЙКОВА



SOLAR RADIATION AND RADIATION BALANCE DATA
(THE WORLD NETWORK)

СОЛНЕЧНАЯ РАДИАЦИЯ И РАДИАЦИОННЫЙ БАЛАНС
(МИРОВАЯ СЕТЬ)

SUPPLEMENT
ПРИЛОЖЕНИЕ

SHORT CHARACTERISTICS OF THE ACTINOMETRIC
STATIONS POSITION

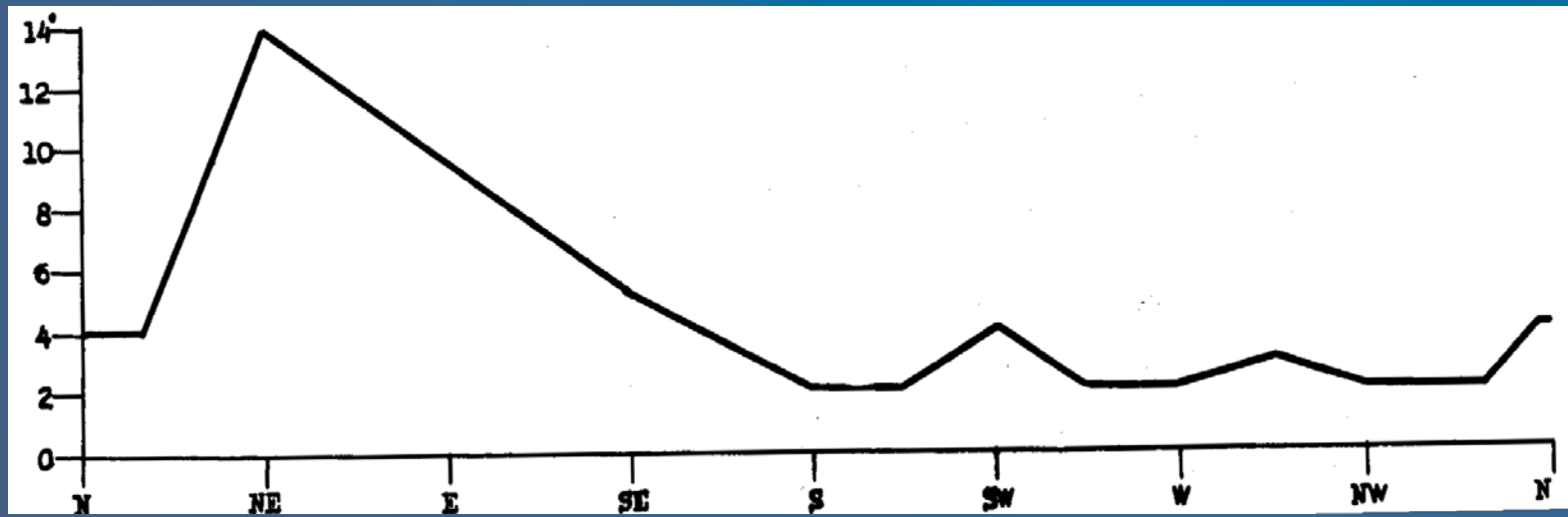
КРАТКАЯ ХАРАКТЕРИСТИКА МЕСТОПОЛОЖЕНИЯ
АКТИНОМЕТРИЧЕСКИХ СТАНЦИЙ

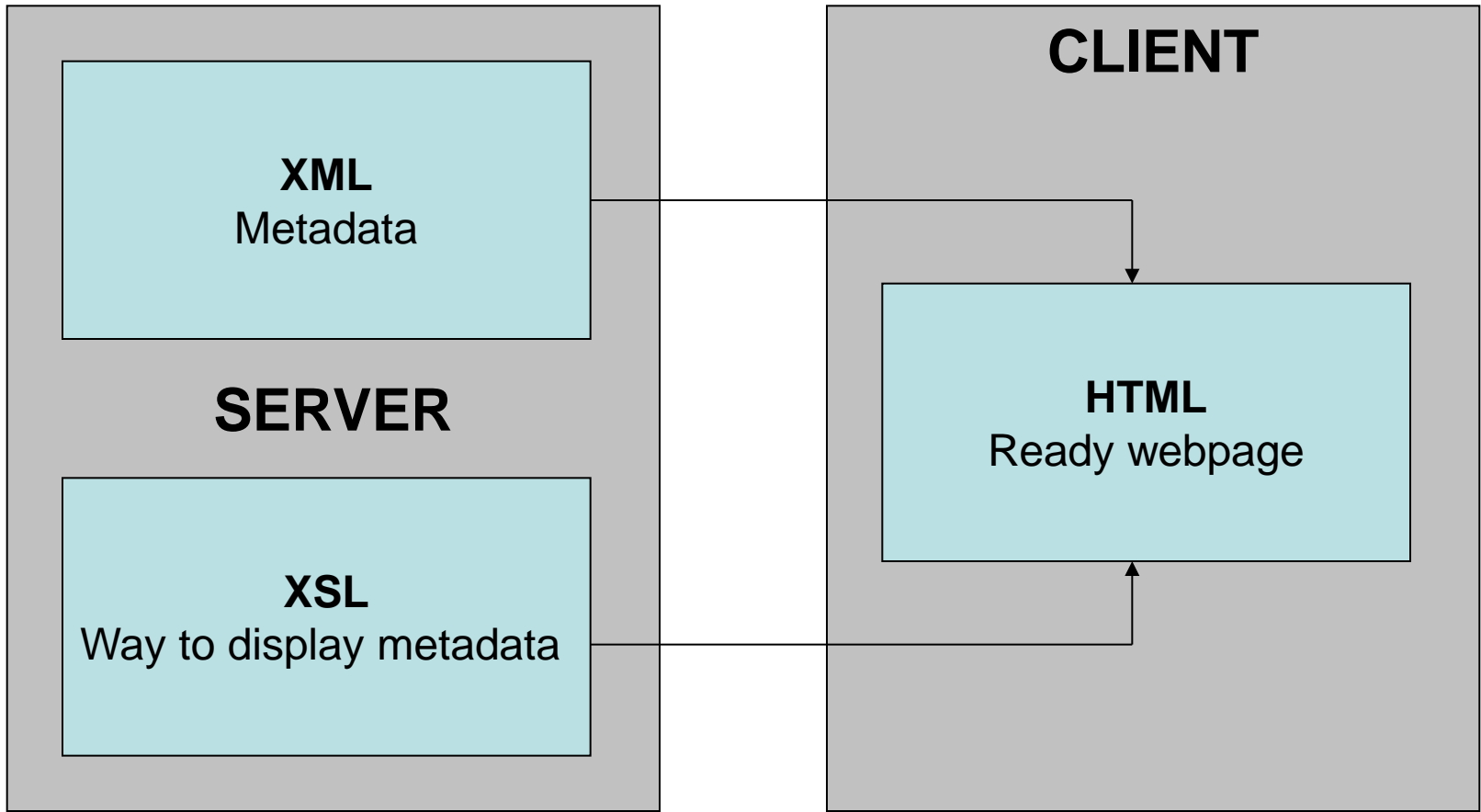
SPONSORED BY WORLD METEOROLOGICAL ORGANIZATION
ИЗДАНИЕ ПО ПОРУЧЕНИЮ ВСЕМИРНОЙ МЕТЕОРОЛОГИЧЕСКОЙ ОРГАНИЗАЦИИ

LENINGRAD ЛЕНИНГРАД
1968

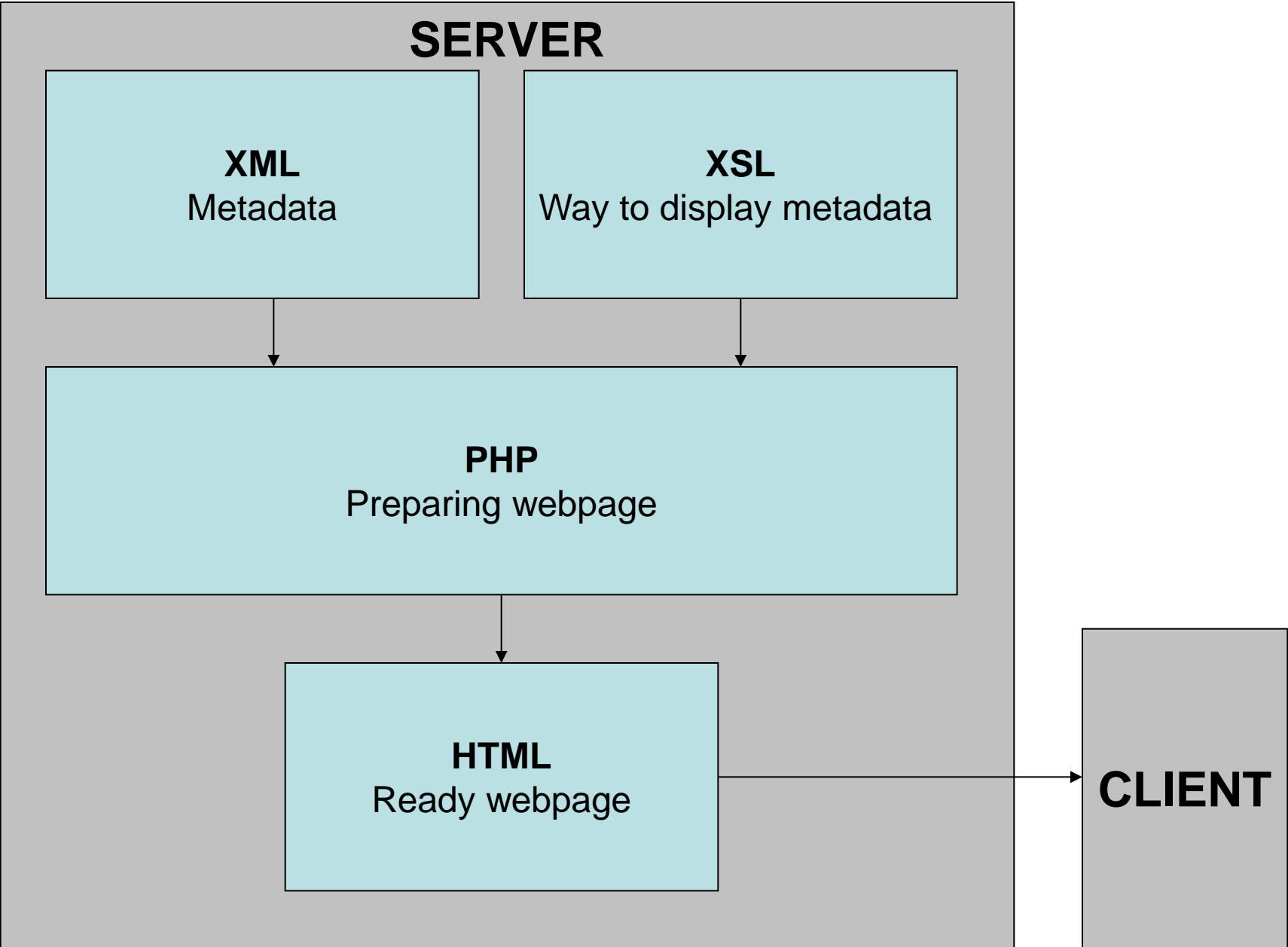
47. PETROPAVLOVSK NA KAMCHATKE H=32 metres

- The station is situated on the eastern shore of Avacha Bay surrounded by mountains 400 to 500m high, which are covered with the leaf-bearing forest and shrubs.
- The thermoelectric pyranometer (Tt/M/) is installed on the meteorological site which is at the high extremity of the cape and to the west borders upon a sheer rocky precipice.
- The underlying surface consists of a loamy and gravelly soil covered with grass in summer and snow in winter. The nearest buildings are located below station level.





Supported by MS Internet Explorer only



Supported by all browsers

Связывает XML (смысловая информация) и XSL (алгоритм ее отображения) в HTML-страницу, отображаемую пользователю. Причем, происходит это НА СЕРВЕРЕ, а не у клиента. Таким образом, безразлично, какой у клиента браузер.

2) Как связаны XML и PHP?

3) Какова общая структура модели PHP в нашем случае. Желательно мне слайд в презентацию

Сделал фрагмент презентации (см. присоединенный файл).

Там два слайда.

Один - неправильный способ (без PHP, при этом итоговый HTML генерируется у клиента и зависит от причуд его браузера; нормально воспроизводится только Internet Explorer-ом).



Reference

1. ***E. Aguilar, et al. GUIDELINES ON CLIMATE METADATA AND HOMOGENIZATION. WMO/TD No. 1186 World Meteorological Organization. 2003.***



Thank you!