EXTERNAL EVENTS

The WILDCARD of EMERGENCY MANAGEMENT

The Website for the Hanford Meteorology Station

May 2006

Cliff Glantz (PNNL)
cliff.glantz@pnl.gov
509.375.2166

Hanford Meteorological Station - Microsoft Internet Explorer

Address http://hms.pnl.gov/ Go File

Pacific Northwest National Laboratory
Operated by Battelle for the U.S. Department of Energy

The Hanford Meteorological Station (HMS)

The Hanford Meteorological Station (HMS), funded through the Meteorological and Climatological Services Project, is operated by the Pacific Northwest National Laboratory for the United States Department of Energy. The Hanford Site is located in south-central Washington State.

The mission of the HMS is to provide operational meteorological support to the U.S. Department of Energy and its Hanford Site contractors to help ensure that activities on the Hanford Site that might be affected by adverse meteorological events or conditions can operate in as safe and efficient a manner as possible. The HMS provides a variety of forecast products for Hanford Site activities, and maintains a historical database of a number of meteorological parameters collected via the Hanford Meteorological Monitoring Network.

Monthly summaries and annual compendia are prepared which summarize Hanford Site meteorological data.

System Status

Quick Links ☞ / Products / Real Time / Observations / Wind Chill Chart / Summer Contest 2005 / Winter Contest 2005-2006 / Fire 2000 /
Quick Links ☞ / Funnel Cloud Pictures /

HMS stays on Pacific Standard Time (PST). All data time stamps are PST.

Numbers to Call

Using the telephone is the ONLY way to get up to the minute information

On duty Forecaster:	**(509) 373-2716**	*(current conditions, forecasts)*
Recorded Forecast:	**(509) 373-2875**	*(updated at least twice daily)*
Data Requests:	**(509) 373-3215**	*(Data processing)*
Project Information:	**(509) 372-6414**	*(Project Manager)*

Address http://hms.pnl.gov/ Go File

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Project Information:	**(509) 372-6414**	*(Project Manager)*

Current Status of Data Collection System

Products Currently Available

Capabilities and Services

Real Time Data from Around the Site

Latest Observations at HMS

Latest Telemetry Daily Summaries for Hanford

Sign Our Guest Book?

If you would like to send us email: weather.station@pnl.gov

Last modified 11/16/2004

Author: KW Burk
Contact: DJ Hoitink
Security and Privacy PNNL-SA-28682

HMS Products - Microsoft Internet Explorer
Address http://hms.pnl.gov/products.htm Go File

Pacific Northwest National Laboratory
Operated by Battelle for the U.S. Department of Energy

The Hanford Meteorological Station (HMS)

Products Currently Available

Yesterday's Daily Summary
National Weather Service Forecast for the Tri-Cities
Sunrise-Sunset Times

Current Climate Document PNNL-15160 [2004]
Past Climate Document PNNL-14616 [2003]

- UPDATED 1/2005 Temperatures JAN / FEB / MAR / APR / MAY / JUN / JUL / AUG / SEP / OCT / NOV / DEC

- Monthly and Annual Temperatures (Table 3.1)
- Seasonal Average Temperatures (Table 3.2)
- Monthly Number of Days for Maximum Temperature (Table 3.3)
- Monthly Number of Days for Minimum Temperature (Table 3.7)
- Annual First and Last Dates for Temperatures (90°F & 32°F) (Table 3.5)
- Monthly and Annual Maximum Temperatures (Table 3.6)
- Monthly and Annual Minimum Temperatures (Table 3.9)
- Monthly and Annual Precipitation (Table 4.1)
- Seasonal Precipitation (Table 4.2)
- Monthly and Seasonal Snowfall (Table 4.6)
- Daily Normal Precipitation (Table 4.10)
- Monthly/Hourly Distribution of Temperatures

Monthly Summaries

- Calendar Year 2005, 2004, 2003, 2002, 2001, 2000, 1999, 1998, 1997, 1996, 1995
- January 2006, Table, Narrative, Temperature Chart
- February 2006, Table, Narrative, Temperature Chart

HMS Daily Summary for Yesterday - Microsoft Internet Explorer

Address http://hms.pnl.gov/clihms.htm

```
Climatic Summary for Hanford Meteorology Station

Created: 01:54  04/06/2006

. . . Temperature . . .

High Yesterday. . .  61
 Low Yesterday. . .  43
Mean Temp . . . . .  52    Departure from Normal . . .   1

Normal High for Today. . .  64
Normal  Low for Today. . .  38
Record High for Today. . .  82   1977
Record  Low for Today. . .  25   1997

. . . Degree Day Data (Base 65). . .

Heating                        Cooling
Yesterday . . . . .   13      Yesterday . . . . .    0
Month . . . . . . .   83      Month . . . . . . .    0
Season (Jul-Jun). . 4682      Season (Jan-Dec). .    0

. . . Precipitation . . .

Yesterday . . . . . . .    T
Total for the Month . . 0.43     Normal Month to Date. . 0.05
Total for the Year. . . 2.26     Normal Year to Date . . 2.18

Total Since Oct. 1. . . 5.45     Normal Since Oct. 1 . . 4.76

Snowfall Yesterday. . . . . .   0.0
Snowfall this Month . . . . . .   0.0
Snowfall this Season (Oct-Apr). .   2.9

. . . Wind Data (MPH) . . .

Average Wind Speed Yesterday. . .11.5
Fastest 2-min Wind Yesterday. . .  22 from 300 degrees
Peak Wind Gust Yesterday. . . . .  42 from 300 degrees

. . . Astronomical Data . . .
```

Note: + Latest of multiple occurances

JAN / FEB / MAR / APR / MAY / JUN / JUL / AUG / SEP / OCT / NOV / DEC / Back to Products

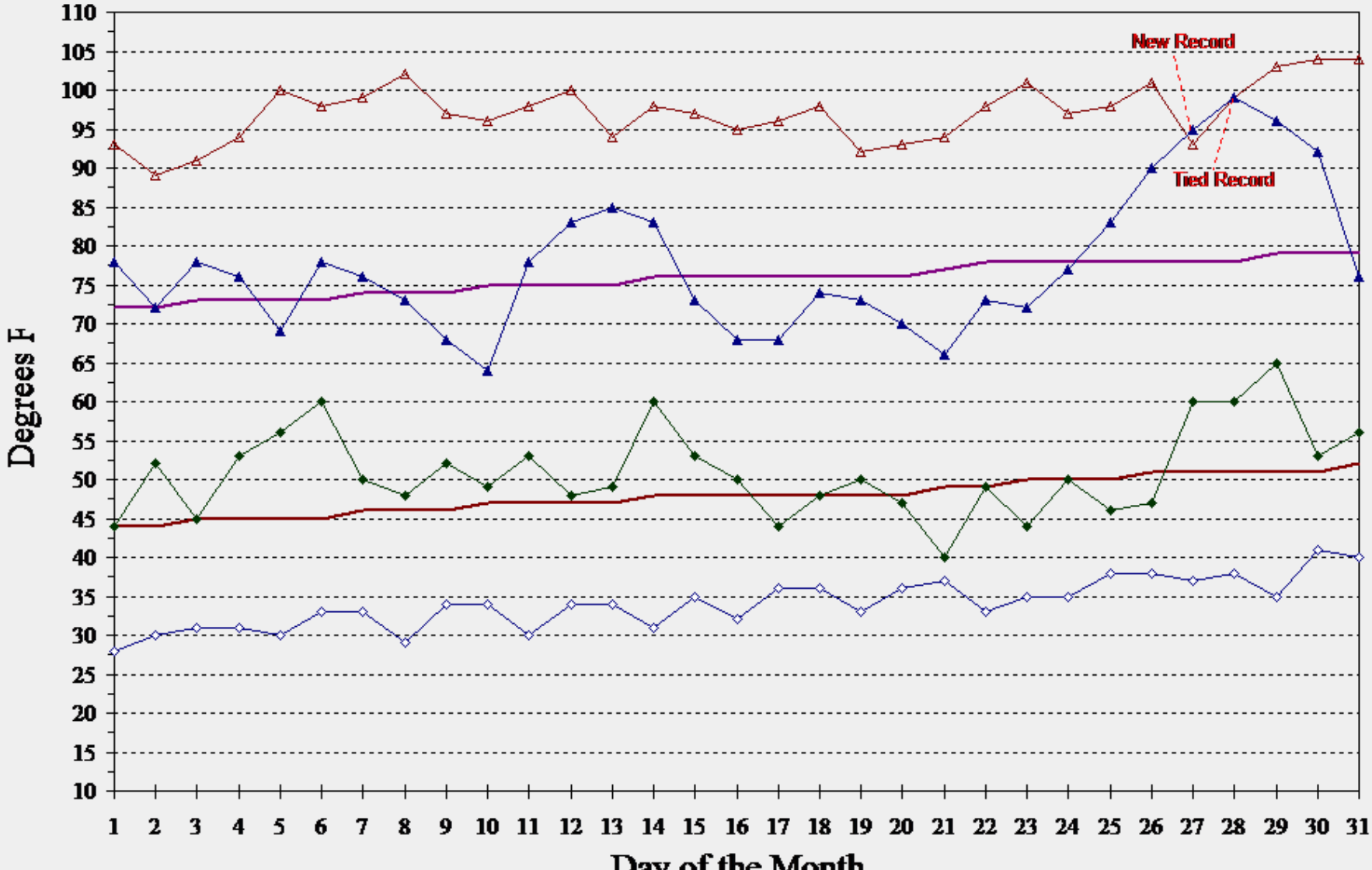
MAY			Extremes (1945-2004)							
	Normals (1971-2000)		Maximum				Minimum			
Day	Max	Min	High	Year	Low	Year	High	Year	Low	Year
1	72	44	93	1998	53	1969	59	1998+	28	1954
2	72	44	89	1998+	56	1988	60	1971	30	1997
3	73	45	91	1966	58	1993	60	1971	31	1949
4	73	45	94	1966	56	1963	57	1946	31	1962
5	73	45	100	1966	52	1961	65	1966	30	1959
6	73	45	98	1992	56	1986	62	1987	33	2000
7	74	46	99	1987	59	1999	66	1992	33	1984
8	74	46	102	1987	56	1999+	67	1994+	29	1996
9	74	46	97	1987	56	1948	66	1949	34	1999+
10	75	47	96	1949	53	1967	66	1949	34	1970
11	75	47	98	1949	51	1967	68	1949	30	1970
12	75	47	100	1993	57	1970+	66	1993	34	1985
13	75	47	94	1997	57	1955	66	1997	34	1985
14	76	48	98	1973	56	1955	61	1973+	31	1955
15	76	48	97	1973	57	1959	67	1997	35	1974
16	76	48	95	1973	54	1955	60	1973	32	1974
17	76	48	96	1973	58	2003	59	1985	36	2003
18	76	48	98	1954	62	1974	67	1956	36	1972
19	76	48	92	1993	56	1962	70	1956	33	1975
20	76	48	93	1947	58	1960	59	1956	36	1971
21	77	49	94	1958	62	1960+	59	1958	37	1974+
22	78	49	98	1958	63	1964	64	1958	33	1960

Daily Temperatures - May 2005 - Microsoft Internet Explorer

Address http://hms.pnl.gov/summary/may05c.htm

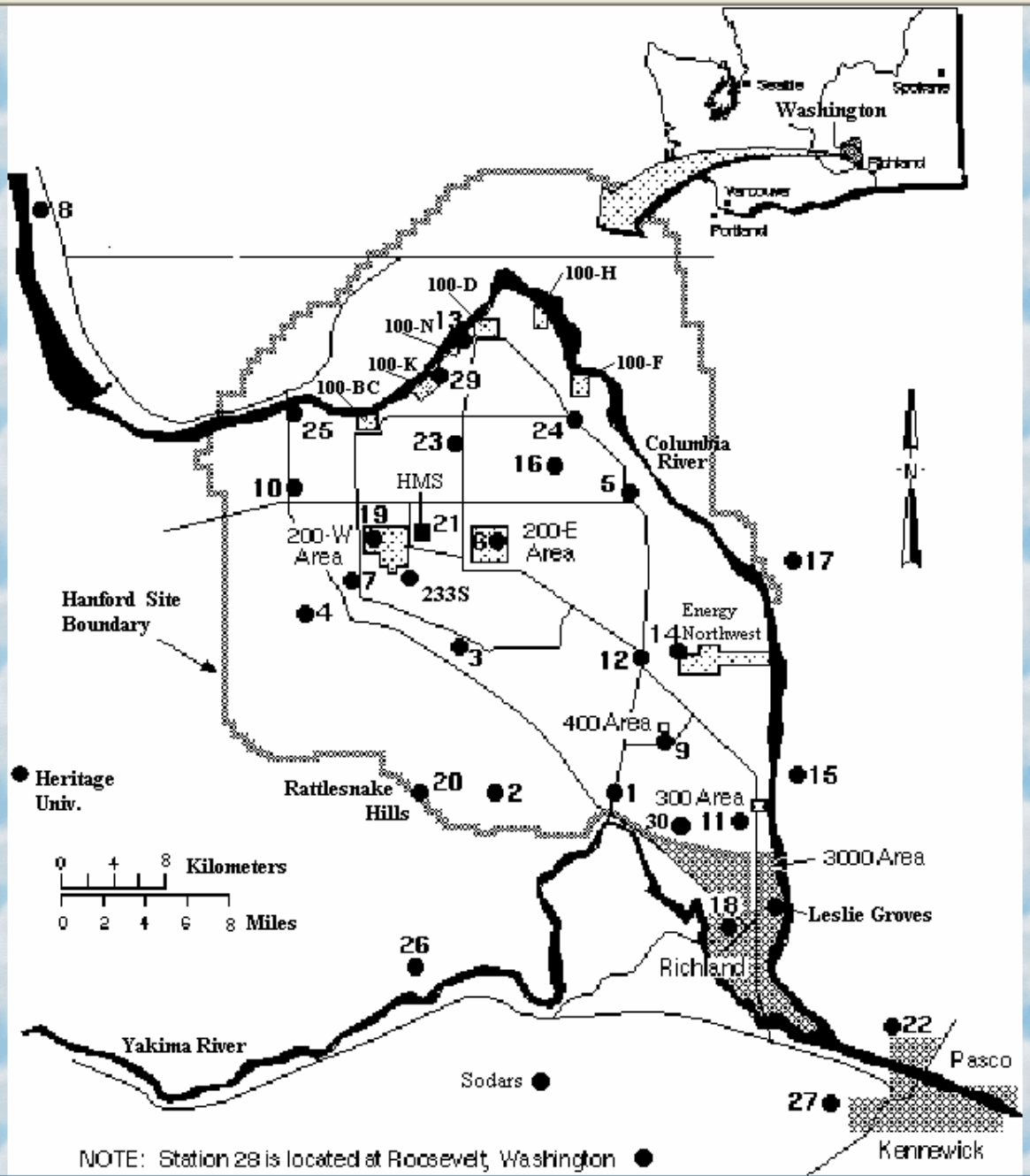
Daily Temperatures - May 2005

Hanford Meteorological Station



HMS Real Time Data - Microsoft Internet Explorer

Address http://hms.pnl.gov/stamap.htm



HMS Telemetry Information - Microsoft Internet Explorer

Address http://hms.pnl.gov/stainfo.htm#stat21 Go File

Station# 21 (HMS) at 733 ft above MSL Back to Map

Time: 18:15:05 PST Date: 4/6/2006

Ave Wind Direction = 307
Ave Wind Speed = 11
Max Wind Speed = 18

Ave BP = 29.166 in/Hg 740.831 mm/Hg
Max BP = 29.170 in/Hg 740.933 mm/Hg
Min BP = 29.163 in/Hg 740.755 mm/Hg

Ave SLP= 29.994 in/Hg 1015.724 mbs

Ave Temp = 58.8
Max Temp = 59.7
Min Temp = 58.3

Dew-Point = 30.2 Relative Humidity = 34.3
Hygro Temp = 58.1

Rain Gauge = 0.00

Station# 22 (PASC) at 410 ft above MSL Back to Map

Time: 18:15:00 PST Date: 4/6/2006

Ave Wind Direction = 217
Ave Wind Speed = 10
Max Wind Speed = 15

		Celsius
Ave Temp	= 58.9	14.95
Max Temp	= 59.5	15.30
Min Temp	= 58.1	14.52

Rain Gauge = 0.00

HMS Latest Observation - Microsoft Internet Explorer

Address http://hms.pnl.gov/lastob.htm

HMS Latest Observation

Date: 4/ 6/2006 Time: 1700 PST (6:00 pm Local Time)

Ceiling	Unlimited
Visibility	15.0 miles
Liquid Precip	none
Frozen Precip	none
Obstructions	none
Sea-Level Pressure	1014.1 mbs
Dew Point Temp.	24 °F
Wind Direction	190° S
Wind Speed	9 mph
Mixing Height	1500 m

Station Pressure	29.16 inches Hg
Ambient Temp.	65 °F
Wet Bulb Temp.	47 °F
Relative Humidity	20%
Sky Cover	0 tenths
Total Precip.	0.00 inches
Snow (melted)	0.00 inches
Snow (unmelted)	0.0 inches
Solar Radiation	0.45 Langleys/min.
WBGT**	0 °F

Most Recent 24 Observations

0100 / 0200 / 0300 / 0400 / 0500 / 0600 / 0700 / 0800 / 0900 / 1000 / 1100 / 1200 /
1300 / 1400 / 1500 / 1600 / 1700 / 1800 / 1900 / 2000 / 2100 / 2200 / 2300 / 2400 /

** WBGT is the Wet Bulb Global Temperature Outside observed at HMS (0=unavailable)

The HMS is staffed 24 hours on weekdays, weekends and
holidays the hours are 6:00 a.m. to 2:00 p.m.

Back to HMS Front Page

Author: KW Burk
Contact: DJ Hoitink

Pacific Northwest National Laboratory
Operated by Battelle for the U.S. Department of Energy

The Hanford Meteorological Station (HMS)

Capabilities and Services

The HMS is staffed 21 hours (8:00pm to 11:00pm unstaffed) on weekdays, weekends and holidays the hours are 6:00 a.m. to 2:00 p.m.

Hanford Site Forecasting

- 24-Hour General Forecast
- 72-Hour Forecast sent via Email
- 8-Hour Production Forecast
- Adverse Weather Notification (Warning)

Database Information

- Surface Observation Data (1955 - current)
- 400 ft. Tower Data (1945 - current)
- Site Monitoring Network Data (1983 - current) Station Locations
- Site Heat Stress (WBGT) Data (1994 - current)

Publications

- Monthly Summaries (see Products Currently Available)
- Annual Summaries
  - 1993 PNL-9809
  - 1994 PNL-10553
  - 1995 PNNL-11107
  - 1996 PNNL-11471
  - 1997 PNNL-11794
  - 1998 PNNL-12087

Potential Areas for Improvement

- Update its “old fashioned” look
- Not very dynamic
- Navigation banner lacking on most pages
- Limited marketing of ASD capabilities
- Forecasts not prominently posted on the website
- No real-time or close to real-time graphic presentations of meteorological conditions

PNNL Energy Sciences & Technology Directorate - Microsoft Internet Explorer

File | Address http://energy.pnl.gov/index.stm | Go

Pacific Northwest National Laboratory

Energy Science & Technology Directorate

ESTD Home | Energy & Engineering Division | Materials Division | Labweb

- ESTD Home
- Organization
- News and Events
- Business Development
- Research Projects and Programs
- Staff/Career Development
- Presentations and Publications
- Safety, Operations & Environment

Welcome

Mike Davis

Welcome to the Energy Science & Technology internal website, where you can access helpful information and resources about the directorate and laboratory. Drawing upon a broad spectrum of capabilities and expertise, the Energy Science & Technology Directorate delivers an integrated approach to addressing our nation's most critical energy challenges. Contributions range from new materials for solid oxide fuel cells, hydrogen storage, next-generation lighting and abatement of auto emissions to technology advancements targeted at energy-smart buildings and a safe, secure power grid. Through development of new technologies, materials and processes, ESTD delivers solutions to enable clean, secure, efficient and affordable energy systems.

Vision: We will be the premier resource for energy science and technology, providing strategies and capabilities to address our nation's most critical energy needs.

Mission: We deliver solutions that enable clean, secure, efficient and affordable energy systems.

Guiding Philosophy

ESTD External Home
Content Contact
Webmaster
Last Modified: 08 March 2006

EMSL: William R. Wiley Environmental Molecular Sciences Laboratory - A Scientific User Research - Microsoft Internet Explorer

File | Address http://www.emsl.pnl.gov/ | Go

William R. Wiley EMSL Environmental Molecular Sciences Laboratory

Site Index | Virtual Tour | Search: Go

Home | About EMSL | Capabilities | Research | People | User Access | Publications | News

A NATIONAL USER FACILITY FOR THE SCIENTIFIC COMMUNITY

EMSL's Mission

The William R. Wiley Environmental Molecular Sciences Laboratory (EMSL), a U.S. Department of Energy national scientific user facility located at Pacific Northwest National Laboratory (PNNL) in Richland, Washington provides integrated experimental and computational resources for discovery and technological innovation in the environmental molecular sciences to support the needs of DOE and the nation.

More About EMSL »

EMSL News

[archives]

- Dr. Sebastien Kerisit receives M.T. Thomas Award
- MSCF 2007 Computational Grand-Challenge call for proposals
- EMSL has issued a new Call for User Proposals

USING EMSL

Would your current or future research benefit from unique or state-of-the-art equipment and collaboration with world-leading scientists asssociated with the Environmental Molecular Sciences Laboratory?

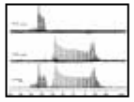
Information regarding **Calls for User Proposals**, the Proposal Process, and Guidelines for submitting proposals are available online.

EMSL use is generally free to those engaged in open research.

Learn More »

RESEARCH HIGHLIGHTS

[more]



- High-Field Magnetic Resonance Characterization of Titanate-Based Ceramics and Glasses for High-Level Waste Immobilization - Researchers have developed a technique that allows normal titanium samples to be studied for the first time by nuclear magnetic resonance spectrometry.
- Discovery of "Shrinking New Giant" Mechanism of Fullerene Formation by QM/MD Simulations
- Crystalline Ice Growth on Pt(111): Observation of a Hydrophobic Water Monolayer

USER PUBLICATIONS

[more]

- Probing Inhomogeneous Vibrational Reorganization Energy Barriers of Interfacial Electron Transfer
  Journal of Physical Chemistry B
- Comparison of Probability and Likelihood Models for Peptide Identification from Tandem Mass Spectrometry Data
  Journal of Proteome Research
- The Respiratory Substrate Rhodoquinol Induces Q-Cycle Bypass Reactions in the Yeast Cytochrome bc1 Complex: Mechanistic and Physiological Implications
  Journal of Biological Chemistry

FSD: Fundamental Science Directorate - Microsoft Internet Explorer

File Address http://www.pnl.gov/fsd/ Go

fundamentalscience DIRECTORATE

Atmospheric Science & Global Change Biological Sciences Chemical Sciences

fsd home core values search: Go

Fundamental Science Directorate

The Fundamental Science Directorate (FSD) at Pacific Northwest National Laboratory (PNNL) features signature capabilities in the chemical, computational, biological and atmospheric sciences. FSD researchers lead major R&D efforts in Systems Biology and Biotechnology , and Nanoscience & Nanotechnology. Support to the management and scientific oversight of the DOE Atmospheric Radiation Measurement (ARM) Program has been an important part of FSD's climate research activities.

FSD is PNNL's primary steward for research supported by the DOE's Office of Science , including research supported by the Offices of Biological and Environmental Research, Basic Energy Sciences, Advanced Scientific Computing Research, and Fusion Energy.

Additionally, FSD performs research and development for private industry and other government agencies, such as the Department of Health and Human Services, the Environmental Protection Agency, the Department of Defense, and NASA. FSD researchers are members of interdisciplinary teams tackling challenges of national importance that cut across all missions of the Department of Energy.

The directorate is organized into three divisions: Atmospheric Sciences and Global Change, Biological Sciences, and Chemical Sciences.

Steve Colson

Associate Laboratory Director
Fundamental Science Directorate
Pacific Northwest National Laboratory

- Job Opportunities
- Research Capabilities
- News/Highlights
- Partnerships
- User Facilities
- Organization

Content Owner: Steve Colson
WebMaster: Christine Novak
Security & Privacy
Last Modified: 04 March 2006

Pacific Northwest National Laboratory
Operated by Battelle for the U.S. Department of Energy

Office of Science

NSD: News and Information - Microsoft Internet Explorer

File Address http://nsd.pnl.gov/news-info/ Go

Pacific Northwest National Laboratory's
NATIONAL SECURITY DIRECTORATE

External NSD sites | Labweb |Search Go!

Home

News and Information
- All Hands
- Scorecards
- Communications/Marketing Resources

Organization

Business Development

Research Areas

Staff/Career Development

Operations

People

Publications

Safety First

News and Information

Finding needles in haystacks is getting a little easier, as data-visualization software for businesses matures.

From the Sept. 5, 2005 issue of Information Week

Data-visualization tools

The Department of Homeland Security has a keen interest in the development of data-visualization tools that make it easier for intelligence analysts to extract key pieces of information from large volumes of structured and unstructured data. With terrorists taking advantage of the wide-open borders of the Internet and E-mail messaging groups to find recruits, raise money, and encourage jihad against the United States, the department needs a way to ferret out immediate threats as well as uncover sleeper cells and other dangers. So last year, it created the National Visualization and Analytics Center at the Pacific Northwest National Laboratory in Richland, Wash., with $2.5 million in funding to develop technology that combines data mining and analysis with visual-presentation capabilities to detect, assess, and reduce the threat of attacks, as well as respond to them.

See the full *Pulse* article at
http://www.ornl.gov/info/news/pulse/pulse_v185_05.htm#profile

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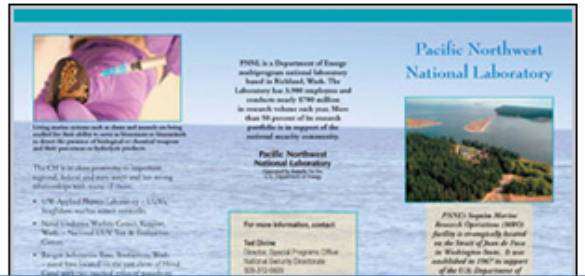
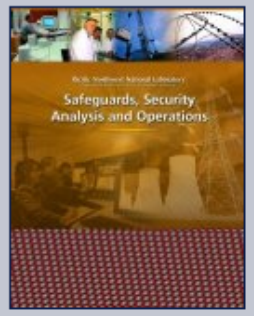
A full-color trifold brochure PDF 5,319 KB) that describes the Coastal Security Institute and Coastal Measurement and Signatures Intelligence (MASINT) research, is available. This brochure provides a high-level description of the Coastal Security Institute, Coastal MASINT research, and the



Three new brochures have been developed showcasing the capabilities of NSD's technical groups. They are among a series of brochures developed by Communications to market the technologies and capabilities in NSD. The brochures are available on BrochureSource or by contacting the individual groups.



A new brochure was developed showingcasing the capabilities of the Safeguards, Security Analysis and Operations Group.

MetView 07:47:28 PM PDT - [Telemetry Data 4/6/2006 7:30 PM PDT]

Most Recent | Sodar Data | Tower Data | Telemetry Data | Configure | Show Options | Print

Available Layers

stations

Telemetry Data

Print | WebEOC

Display Near-Surface Parameter

Wind Speed & Dir | mph

1 PROS	11,	214°
2 EOC	12,	223°
3 ARMY	12,	320°
4 RSPG	13,	317°
5 EDNA	8,	299°
6 200E	13,	304°
7 200W	12,	325°
8 BVLY	10,	312°
9 FFTF	13,	207°
10 YAKB	16,	313°
11 300A	11,	210°
12 WYEB	12,	204°
13 100N	11,	313°
14 WPPS	11,	205°
15 FRNK	12,	192°
16 GABL	21,	304°
17 RING	9,	211°
18 RICH	12,	218°
19 PFP	10,	328°
20 RMTN	9,	235°
21 HMS	10,	312°
22 PASC	9,	216°
23 GABW	13,	301°
24 100F	9,	296°
25 VERN	16,	300°
26 BENT	9,	209°
27 VSTA	10,	234°
28 SURF	12,	271°
29 100K	12,	282°
30 HAMR	13,	211°

586685.67 , 93392.71

MetView 07:51:30 PM PDT

Most Recent | Sodar Data | Tower Data | Telemetry Data | Configure | Hide Options | Print

Time: 07: 30 PM

Date: April 2006

Sun	Mon	Tue	Wed	Thu	Fri	Sat
26	27	28	29	30	31	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	1	2	3	4	5	6

Wind Vectors: Unit / Scaled / Normalized / Barbs

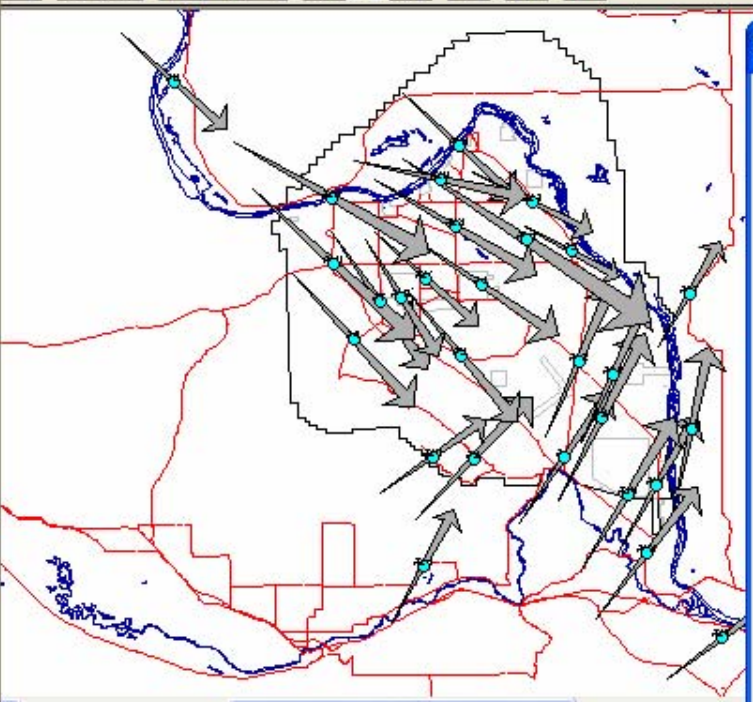
Scale: 1500

Latest data: 4/6/2006 07:30 PM PDT

Auto Update

Refresh Display

Telemetry Data 4/6/2006 7:30 PM PDT



23708.03 , 165243.94

Sodar Data 12/15/1999 7:15 AM

Meteorological Station

Tower Data 4/6/2006 7:30 PM PDT

Meteorlogical Station: HMS

Delta T(200ft - 33ft): 0.0 F

Solar at HMS: 0.016 ly/mn

Stability class: D EPA

Sea level pressure: 1014.1 mmHg

Precipitation: 0 in

Dew point: 30.4 F

Relative humidity: 20 percent

Height	Temperature	Wind Direction	Wind Speed
ft	F	degrees	mph
400	57.4	317.6	21.1
300	57.7		
250	57.9		
200	58.2	313.6	17.6
100	58		
50	58.1	310	12.3
30	58.2	311.6	9.8

Surface Observations
4/6/2006 6:00 PM PDT

Sunrise: 06: 36 AM

Sunset: 07: 37 PM

Mixing height: 1500 m

Station pressure: 29.16 inHg

Ceiling: 0 hft

Visibility: 150 mi

Wind direction: 190 deg

Wind speed: 9 mph

Sky Cover: 0 10ths

APGEMSh 07:57:46 PM PDT - [APGEMSh Contours from 4/6/2006 4:30 PM PDT to 4/6/2006 8:00 PM PDT]

File Configure Define Source Run Simulation Hide Options

Release scenario: PFP Unit Release

Release Start Date

April 2006

Sun	Mon	Tue	Wed	Thu	Fri	Sat
26	27	28	29	30	31	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	1	2	3	4	5	6

Release Start Time: 04: 00 PM

Release Duration: 00: 15 hr

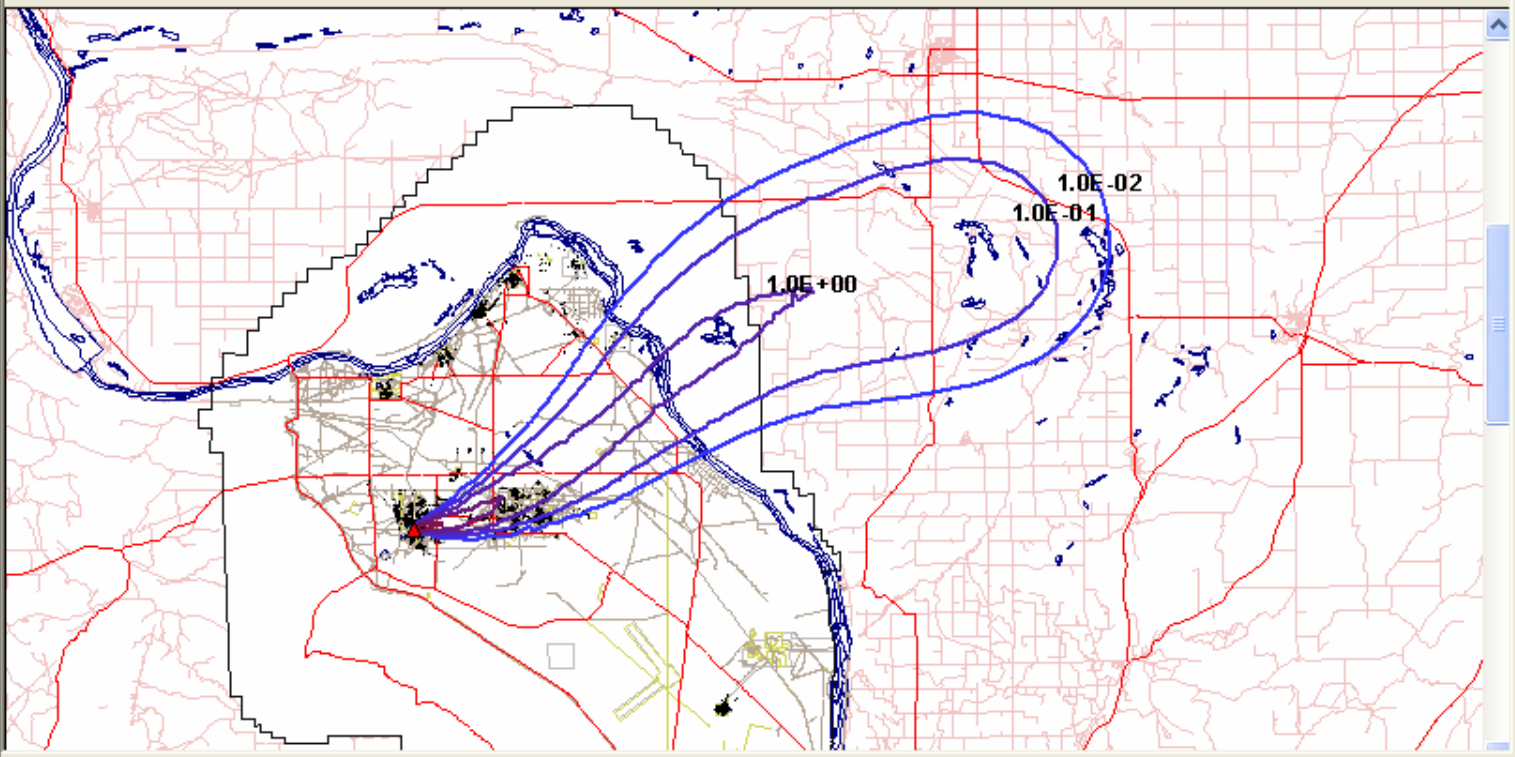
Run Duration: 04: 00 hr

Release Location: 200W

Northing: 135.00

Easting: 567.00

Run Description



Identify Layer: contour

View

Animate Print WebEOC

Contour selection: Total Effective Dose Equivaler

Date &Time: 4/6/2006 7:30 PM PDT

Contour Intervals in mRem

1.0E+03
1.0E+02
1.0E+01
1.0E+00
1.0E-01
1.0E-02

Contour Width: 2

Refresh Map

616.57 , 134.72

What Are Other DOE Sites Doing?

To provide:

- Website navigation
- Site forecasts
- Real-time or close to real-time data
- Graphical displays of information
- Climatological reports and data
- Program news
- Marketing capabilities