

Technnology
Planning and
Integration Office
(TPIO)

United States Department of Commerce
National Oceanic and Atmospheric Administration
NOAA Program Observation Requirements
Document (PORD)

Consolidated Observation Requirements List (CORL)

NOAA Program Observation Requirements Document (PORD)

FINAL for Program Concurrence

FY 2007

Weather and Water Goal

**Air Quality Program
(WW-AQL)**

September 25, 2008¹

¹ PORD Document Date reflects date for publication of this final for program concurrence
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Table of Contents

Signatures	ii
Observation Requirement Validation	ii
Observation Requirement Verification	iii
1. Program Summary	1
2. Observation Requirements Summary	1
2.1 <i>Observation Requirements by Priority</i>	2
2.2 <i>Observation Requirements by Discipline</i>	2
2.3 <i>Observation Requirements by Type</i>	3
3. Observation Requirements Mapping to Performance Measures.....	4
4. Status of Program List.....	5
Appendix A Air Quality Program, Observation Requirements	A-1
Appendix B Priority-1 Observation Requirements Validation	B-1
Appendix B.1 Validation Documents Submitted.....	B-1
Appendix B.2 Validation Documents Mapping to Observation Requirements.....	B-1
Appendix B.3 Validation Assessment for Priority-1 Requirements.....	B-2
Appendix C Program Acronym List	C-1
Appendix D PORD Table Column Definitions.....	D-1

List of Figures

Figure 1: WW-AQL Observation Requirements by Priority (%).....	2
Figure 2: WW-AQL Observation Requirements by Discipline.....	3
Figure 3: WW-AQL Observation Requirements by Type.....	3

List of Tables

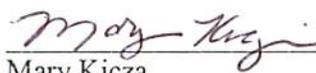
Table 1: WW-AQL Observation Requirements Mapping to Performance Measures	4
Table 2: WW-AQL Observation Requirement Attributes Remaining [blank] or [tbs]	5
Table B-1: Validation Documents provided to support Priority- Requirements	B-1
Table B-2: Validation Document Mapping to Observation Requirement.....	B-1
Table B-3: Level of Validation for each Priority 1 Requirement Attribute.....	B-2

Signatures

Observation Requirement Validation

NOSC Endorsement

The NOSC has received the Air Quality Program's Observation Requirements with Goal Lead and Line Office concurrence, and is satisfied with the Level-of-Validation provided for the Priority-1 Requirements.



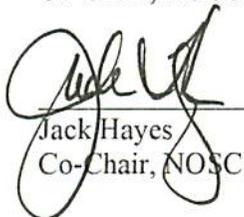
 Mary Kicza
 Co-Chair, NOSC

3/30/2010

 Date



 Endorsed



 Jack Hayes
 Co-Chair, NOSC

3/30/2010

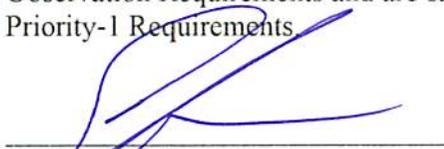
 Date



 Endorsed

Goal Lead and Line Office Concurrence

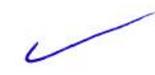
The Program Manager's Supervisor and Air Quality Program's Goal Team Lead concur with the Observation Requirements and are satisfied with the Level-of-Validation provided for the Priority-1 Requirements.



 Ed Johnson
 Goal Lead, Weather and Water Goal

3/8/10

 Date



 Concurred



 Alexander MacDonald
 Deputy AA for Lab & COOP Institute ESRL

2/26/10

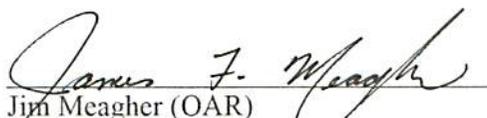
 Date



 Concurred

Program Manager Validation

The Air Quality Program Manager has validated the Priority-1 Observation Requirements by providing the Documentation listed in Appendix B as evidence of a substantiated basis for each of the 5 Key Attributes of those requirements.



 Jim Meagher (OAR)
 Program Manager, Air Quality Program

Feb 25, 2010

 Date



 Validated

Observation Requirement Verification

The Program Manager, with Program Membership concurrence, has verified that the Air Quality Program's Observation Requirements, as documented in the CORL and reproduced in this document, comprise the Air Quality Program's Threshold and Objective level requirements for environmental observations and are ready for validation.

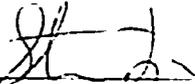
Program Manager Verification

 Jim Meagher (OAR) Program Manager, Air Quality Program	9/27/08 Date	✓ Verified
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Program Membership Concurrence

 Mitch Goldberg	9/23/08 Date	✓ Concurred
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 Paula Davidson	 Date	 Concurred
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 Steve Fine	10/2/08 Date	✓ Concurred
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1. Program Summary

Poor air quality, from elevated ozone and particulate matter concentrations, is responsible for tens of thousands deaths each year (Science, 2005; JAMA, 2005). High ozone concentrations are linked to acute asthma attacks; while high concentrations of particle pollution are linked to respiratory problems and to heart attacks. Reliable predictions of when and where these unhealthy conditions will occur is helping people to limit their exposure to poor air quality, new studies show that where people have been provided with such information, there are fewer hospitalizations due to poor AQ.

Moreover, recent studies have revealed health impacts at lower concentrations than previously recognized, which have led EPA to successively tighten standards for ozone and particulate matter. The new standards result in more areas violating the standard, more frequent violations, and more counties designated as not attaining the standard. Air quality decision-makers now must craft effective management plans that will require greater emission controls, and even greater investment. (The Nation's current annual investment in air pollution controls is \$20 B.) This greater investment must be properly targeted.

The Nation's ability to improve and forecast air quality is limited by the understanding of processes that form and transport air pollution; the National Research Council identified this as a key issue for air quality management. To address this limitation, NOAA's Air Quality Matrix Program provides environmental policy-makers and resource manager's information and tools they can use to prevent future problems, and provides air quality forecast guidance to help communities mitigate the impacts of high pollution levels. In this manner, the Program enables decision-makers to better protect public health while maintaining a vital economy. A primary activity in this area is improving the understanding of key atmospheric processes through a series of assessments in regions with high pollution levels. Results from one such assessment in Texas will save more than \$9B and 64,000 jobs by 2010 by focusing air pollution controls on the most important sources.

The Program produces timely and accurate air quality forecast guidance. Air quality forecasters with state and local governments use NOAA's guidance to issue forecasts and alerts for more than 300 localities. The public uses NOAA's guidance for areas not covered in those 300 cities and to obtain spatial and temporal information about the onset, severity and duration of episodes of poor air quality for all areas--information that is not included in the state/local forecasts. Currently, NOAA issues operational next-day ozone predictions and smoke forecast guidance for the contiguous 48 states. Plans include expanding ozone forecasts nationwide, initiating quantitative particulate matter forecast guidance with the same reliable accuracy as the ozone predictions, and extending the forecast lead time to two days.

2. Observation Requirements Summary

The Air Quality Program of NOAA's Weather and Water Goal requires a total of 4 environmental observation requirements to address its mission. The following graphs provide a breakdown of these requirements by mission Priority, environmental Discipline and Type.

Total Records: 4

2.1 Observation Requirements by Priority

The Air Quality program's observation requirements are distributed among priority levels as follows:

- 4 = **Priority 1, Mission Critical:** Cannot meet operational mission objectives without this data.
- 0 = **Priority 2, Mission Optimal:** Data not critical but would provide significant improvement to operational capability.
- 0 = **Priority 3, Mission Enhancing:** Needed to enhance state of knowledge / assess potential for operational capability.

The following chart provides the distribution of the Air Quality program's requirements by priority.

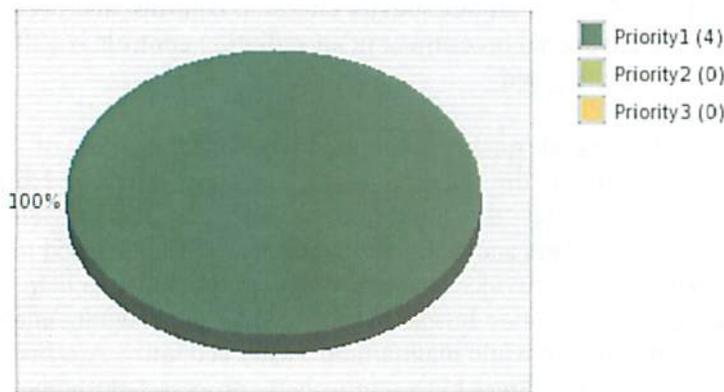


Figure 1: WW-AQL Observation Requirements by Priority (%)

2.2 Observation Requirements by Discipline

The Air Quality program's observation requirements are distributed among environmental disciplines as follows:

- 3 = Atmosphere
- 0 = Biosphere
- 0 = Cryosphere
- 1 = Human Dimensions
- 0 = Terrestrial Hydrosphere
- 0 = Land Surface
- 0 = Oceans
- 0 = Solid Earth
- 0 = Spectral/Engineering
- 0 = Sun-earth Interactions

The following chart provides the distribution of the Air Quality program's requirements by discipline.

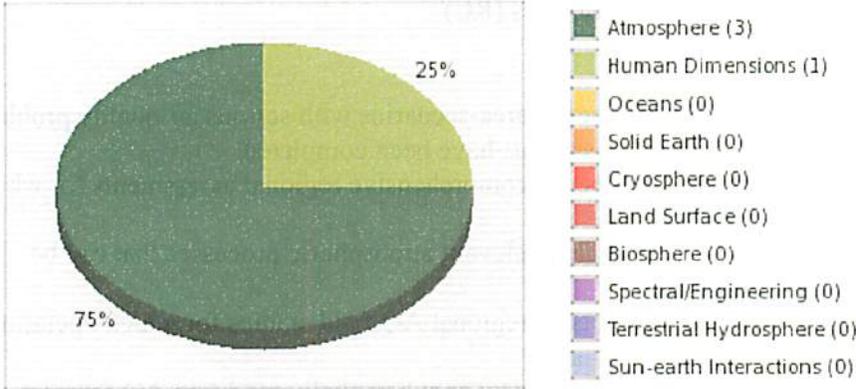


Figure 2: WW-AQL Observation Requirements by Discipline.

2.3 Observation Requirements by Type

The Air Quality program's observation requirements are distributed among types as follows:

- 0 = Biological
- 3 = Chemical
- 1 = Physical
- 0 = Social
- 0 = Socio-economic

The following Chart gives the distribution of the Air Quality program's requirements by type.

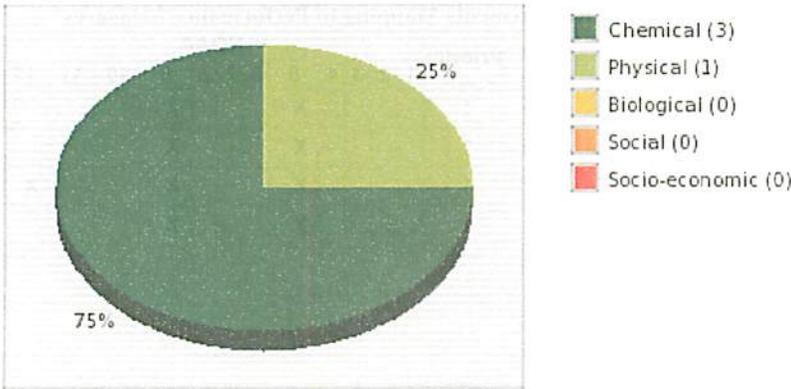


Figure 3: WW-AQL Observation Requirements by Type.

3. Observation Requirements Mapping to Performance Measures

The following table provides the listing of observation requirements for the **Air Quality** Program of NOAA's Weather and Water Goal by GPRA and Corporate (NOAA) Performance Measures, and Regional Collaboration Priorities (RC).

- NOAA-1:** WW-AQL Cumulative number of area-scenarios with serious air quality problems for which comprehensive air quality assessments have been completed
- NOAA-2:** WW-AQL Cumulative number of comprehensive regional assessments for which field measurements have been collected
- NOAA-3:** WW-AQL Number of air quality-relevant atmospheric processes that can be characterized in regional field studies
- NOAA-4:** WW-AQL Cumulative number of regional AQ field studies for which operational and prototype AQ models have been evaluated
- NOAA-5:** WW-AQL Cumulative number of new or substantially modified AQ forecast-relevant modules or model releases
- NOAA-6:** WW-AQL Cumulative number of peer-reviewed articles related to AQ modeling/forecasting accepted for publication
- NOAA-7:** WW-AQL Cumulative number of peer-reviewed articles related to regional assessments accepted for publication
- NOAA-8:** WW-AQL Cumulative number of wet deposition measurements
- NOAA-9:** WW-AQL Air quality forecasting efficiency
- NOAA-10:** WW-AQL Cumulative number of stakeholder groups informed in person about the results from each regional air quality assessment
- NOAA-11:** WW-AQL Cost per process characterized in comprehensive regional assessments
- NOAA-12:** WW-AQL Operational ozone 8-hour forecast guidance accuracy

- RC-1:** Hazard Resilient Coastal Communities
- RC-2:** Integrated Ecosystem Assessments
- RC-3:** Integrated Water Resource Services

Table 1: WW-AQL Observation Requirements Mapping to Performance Measures

Requirement	Priority	NOAA												RC			
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
Dust/Smoke	1				X				X								
Fires: Location & Size	1				X				X								
Ozone: Surface	1				X				X				X				
Particulate Matter, Surface: 2.5 micron	1				X				X								

4. Status of Program List

As shown in Appendix A, each NOAA Observation Requirement is further specified by spatial, temporal and accuracy related attributes at both Threshold and Objective levels. The following table provides the attribute completion status of the observation requirements list for the Air Quality Program. All attributes at the Priority-1/Threshold Level must be completed to allow for observation gap analyses to be conducted.

Table 2: WW-AQL Observation Requirement Attributes Remaining [blank] or [tbs]

Priority	Threshold	Objective
1	0	0
2	0	0
3	0	0
Total	0	0

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Sep. 25, 2008

Appendix A Air Quality Program, Observation Requirements

Key: V=value, U=units, W=weight

Observation Requirement	Obs Req Prty	T/O	Geo Cov		Vert Range				Vert Res			Horiz Res				Meas Range				Msmnt Accy			Smping Intvl			Data Ltncy			Long Stab		
			V	W	Low	High	U	W	V	U	W	V	U	W	Low	High	U	W	V	U	W	V	U	W	V	U	W	V	U	W	
Dust/Smoke	1	T	Hemi	10	0	100	hPa	10	25	hPa	10	5	km	10	0	200	micro-g/m ³	10	1	micro-g/m ³	15	1	hr	10	10	min	10	5	%	15	
		O	Hemi	10	0	100	mb	10	5	mb	10	1	km	10	0	200	micro-g/m ³	10	1	micro-g/m ³	15	15	min	10	1	hr	10	5	%	15	
Fires: Location & Size	1	T	Hemi	10	0	0	km	0	na	na	0	5	km	10	0.1	100	km	10	5	%	35	1	hr	10	10	min	10	5	%	15	
		O	Hemi	10	0	0	na	0	na	na	0	1	km	10	0.1	100	km	10	5	%	35	15	min	10	1	hr	10	5	%	15	
Ozone: Surface	1	T	CONUS+AK+HI	10	na	na	na	0	na	na	0	1200	sites	10	0	200	ppb	15	1	ppb	35	1	hr	10	10	min	10	5	%/decade	10	
		O	CONUS+AK+HI	10	na	na	na	0	na	na	0	1200	sites	10	0	200	ppb	15	1	ppb	35	15	min	10	1	hr	10	5	%/decade	10	
Particulate Matter, Surface: 2.5 micron	1	T	CONUS+AK+HI	10	0	100	hPa	10	na	na	0	5	km	10	0	200	micro-g/m ³	10	1	micro-g/m ³	15	1	hr	10	10	min	10	5	%	15	
		O	CONUS+AK+HI	10	0	100	mb	10	na	na	0	1	km	10	0	200	micro-g/m ³	10	1	micro-g/m ³	15	15	min	10	1	min	10	5	%	15	

NOAA Program Observation Requirements Document (PORD)

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(WW-AQL)

Feb. 5, 2010

Appendix B Priority-1 Observation Requirements Validation**Appendix B.1 Validation Documents Submitted**

The following Validation Documents have been submitted in support of the Air Quality Program's Priority-1 Observation Requirements.

Table B-1: Validation Documents provided to support Priority- Requirements

#	Validation Document Title	Document Type
1	NOAA Air Quality Matrix Program Observation Plan	NOAA Plan
2	Toward a US National Air Quality Forecast Capability: Current and Planned Capabilities, Davidson et al, Air Pollution Monitoring and its Application XIX	Journal Article
3	Part II, Environmental Protection Agency, 40 CFR Part 50, National Ambient Air Quality Standards for for Particulate Matter; Final Rule: October 17, 2006	EPA Final Rule
4	Observing Weather and Climate from the Ground Up, A Nationwide Network of Networks, National Research Council, The National Academies Press	NRC Report
5	Wildland Fires and Air Pollution, edited by Bytnerowicz, A. et al, 2009	Technical Report
6	About the Monitor Values Report - Criteria Air Pollutants	EPA Technical Document
7	AQ observational requirements for the operational NAQFC	Requirements Document
8	H.R.4 Energy Policy Act of 2002	Act of Congress
9	Air Quality Observation Systems in the United States	Technical Report

Appendix B.2 Validation Documents Mapping to Observation Requirements

Air Quality Program and Technology Planning and Integration Office representatives worked jointly to identify references to validate both the need for an observation requirement and its specific measurement attributes. These validation documents support one or more of the Priority-1 Requirements as shown in Table B-2 below. For occurrences where validation documents could not be identified, Program Subject Matter Experts (SME) justifications are provided.

Table B-2: Validation Document Mapping to Observation Requirement

Observation Requirement	Priority	Documents Submitted
Dust/Smoke	1	1, 2, 3, 4, 6, 7, 8, 9
Fires: Location & Size	1	1, 2, 5, 8, 9
Ozone: Surface	1	1, 2, 6, 8, 9
Particulate Matter, Surface: 2.5 micron	1	1, 2, 3, 4, 6, 8, 9

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(WW-AQL)

Feb. 5, 2010

Appendix B.3 Validation Assessment for Priority-1 Requirements

Air Quality Program and TPIO representatives worked jointly to review the submitted documentation, and identify the “level of validation” for the Threshold value of each of the five key attributes of each Priority-1 Observation Requirement.

Table B-3: Level of Validation for each Priority 1 Requirement Attribute

Parameters	Attribute Validated				
	Geo Cov	Vert Res	Horiz Res	Meas Acc	Sampling Interval
Dust/Smoke	Hemi US	25 hPa	5 km	1 micro-g/m ³	1 hr
Fires: Location & Size	Hemi US	na	5 km	5 %	1 hr
Ozone: Surface	CONUS+AK+HI	na	1200 sites	1 ppb	1 hr
Particulate Matter, Surface: 2.5 micron	CONUS+AK+HI	na	5 km	1 micro-g/m ³	1 hr

Legend: Level of Validation

Direct Validation Documentation Submitted	
Associated Validation Documentation Submitted	
SME Consensus Validation Documentation Submitted	
Not Validated	
Attribute not applicable	

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(WW-AQL)

Feb. 5, 2010

Appendix C Program Acronym List

Acronym	Definition
CL-COM	Climate - Observations and Monitoring
CL-COM Atmos	Climate - Observations and Monitoring, Atmosphere Sub-Program
CL-COM CF	Climate - Observations and Monitoring, Climate Forcing Sub-Program
CL-COM Land	Climate - Observations and Monitoring, Land Sub-Program
CL-COM Oceans	Climate - Observations and Monitoring, Ocean Sub-Program
CL-CRM	Climate - Research & Modeling
CT-AWX	Commerce and Transportation - Aviation Weather
CT-GEO	Commerce and Transportation - Geodesy
CT-MTS	Commerce and Transportation - Marine Transportation Systems
CT-MWX	Commerce and Transportation - Marine Weather
CT-SFX	Commerce and Transportation - Surface Weather
EC-AQC	Ecosystem - Aquaculture
EC-CMR	Ecosystem - Coastal Marine Resources
EC-COR	Ecosystem - Corals
EC-EAP	Ecosystem - Ecosystems Assessment Program
EC-ERP	Ecosystem - Ecosystem Research
EC-HAB	Ecosystem - Habitat
MS-IOS	Mission Support - Integrated Ocean Observing System
MS-EMP	Mission Support - Environmental Modeling
MS-EMP Atmos	Mission Support - Environmental Modeling, Atmosphere Sub-Program
MS-EMP Climate	Mission Support - Environmental Modeling, Climate Sub-Program
MS-EMP Marine	Mission Support - Environmental Modeling, Marine Sub-Program
MS-TRP	Mission Support - Technical Requirements, Planning and Integration
WW-AQL	Weather and Water - Air Quality
WW-CEO	Weather and Water - Coasts, Estuaries and Oceans (CEO)
WW-IWF	Weather and Water - Integrated Water Forecasting
WW-LFW	Weather and Water - Local Forecasts and Warnings
WW-SWX	Weather and Water - Space Weather
WW-WWS	Weather and Water - W&W Science & Technology Infusion
WW-WWS_HURR	Weather and Water - W&W Science & Technology Infusion, Hurricanes Sub-Program
WW-WWS_OCW	Weather and Water - W&W Science & Technology Infusion, Ocean & Coastal Weather Sub-Program
WW-WWS_SEV	Weather and Water - W&W Science & Technology Infusion, Severe Weather Sub-Program
WW-WWS_WR	Weather and Water - W&W Science & Technology Infusion, Water Resources Sub-Program

Appendix D PORD Table Column Definitions

[Note: In PORA tables "V" = attribute value, "U" = attribute units, "W" = attribute weight]

Attribute Weight: Attribute weight: relative weight of each of the basic attributes, a value from 1 to 100, with the most important of the attributes given the highest relative value. All weights across a requirement row should add up to 100.

Observational Requirement Title	Geographic Coverage Weight	Vertical Resolution Weight	Horizontal Resolution Weight	Measurement Accuracy Weight	Sampling Interval Weight	Number of ODS/Flt Hrs/HODs Weight*
Air Temperature: Surface	50	0	10	30	10	0
Land Cover	0	0	30	50	20	0
Water Vapor: Profiles	20	30	10	30	10	0
At Sea Data Collection	20	10	10	10	10	40
Airborne Data Collection	30	10	10	10	10	30

*Only for Program that have At Sea Data Collection, Flight Hours, or Human Observer Observation Requirements

Data Latency (Data Ltncy): Elapsed time from data acquisition until delivery of data to the user. Latest time by which an element can be delivered and still be useful to the customer.

Data Latency Units: Measurement units for data latency of the element.

Use:

- "sec" for 1-59 seconds
- "min" for 1-59 mins
- "hr" for 1-23 hours
- "day" for 1-6 days
- "wk" for 1-3 wks
- Etc.

Data Latency Weight: See "Attribute Weights."

Geographic Coverage (Geo Cov): Geographic coverage categories can be defined as needed for the Program. See separate list of Geo Cov category definitions.

Geographic Coverage Weight: See "Attribute Weights."

GPRA: Government Performance and Results Act

Horizontal Resolution (Horiz Res): The smallest horizontal increment needed of the data. Spatial granularity in the horizontal with which information and data are required.

Horizontal Resolution Units: Measurement units for horizontal resolution of the element. Use:

- "km" for kilometers
- "m" for meters
- Etc.

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Feb. 5, 2010

Horizontal Resolution Weight: See "Attribute Weights."

Long-Term Stability (Long Stab): The maximum excursion of the short-term average measured value of a parameter under identical conditions over a stated period of time (e.g. decade). The smaller the maximum excursion, the greater the stability of the observations. The short-average is the average of a sufficient number of successive measurements of the variable under identical conditions such that the random error is negligible relative to the systematic error.

Long-Term Stability Units: Measurement units for Long-Term Stability of the element.

Long-Term Stability Weight: See "Attribute Weights."

Measurement Accuracy (Msmnt Accy): The systematic error, as specified by the difference between a measured or derived parameter and its true value in the absence of random errors.

Measurement Accuracy Units: Measurement units for Measurement Accuracy of the element. If possible use %.

Measurement Accuracy Weight: See "Attribute Weights."

Measurement (Meas Range) Range Low: Lowest value of range of parameter, within which the parameters must be measurable or reportable (e.g., for temperature 273 to 303 Kelvin enter 273)"

Measurement Range High: Highest value of range of parameter, within which the parameters must be measurable or reportable (e.g., for temperature 273 to 303 Kelvin enter 203)"

Measurement Range Units: Measurement units for measurement range of the element. For example: Kelvin enter "K"

Measurement Range Weight: See "Attribute Weights."

Number of ODS/Flt Hrs/HODs: Number of Operating Days at Sea (ODS), Flight Hours (Flt Hrs), or Human Observer Days (HODs)

Number of ODS/Flt Hrs/HODs Units: Measurement units for Number of Operating Days at Sea (ODS), Flight Hours (Flt Hrs), or Human Observer Days (HODs)

Number of ODS/Flt Hrs/HOD Weight: See "Attribute Weights."

Observational Requirement: Requirement Name

Observational Requirement Priority (Obs Req Prty):

"1" = Mission Critical / Cannot meet operational mission objectives without this data. Not having these data will prevent performance of the mission or preclude satisfactory mission accomplishment.

"2" = Mission Optimal / Data not critical but would provide significant improvement to operational capability.

"3" = Mission Enhancing / Needed to enhance state of knowledge / assess potential for operational capability.

RC: Regional Collaboration Priorities

NOAA Program Observation Requirements Document (PORD)

FINAL w/ Pgm Concur

(WW-AQL)

Feb. 5, 2010

Sampling Interval (Smplng Intvl): Average time interval between consecutive measurements of the same area of the environment.

Sampling Interval Units: Measurement units for sampling interval of the element. For example: Use:

"sec" for 1-59 seconds
"min" for 1-59 mins
"hr" for 1-23 hours
"day" for 1-6 days
"wk" for 1-3 wks
Etc.

Sampling Interval Weight: See "Attribute Weights."

Threshold (T)/Objective (O): Threshold is the minimum acceptable specification. Objective is the optimal specification that, if met, would significantly enhance meeting the mission.

T/O: Threshold/Objective. See definitions above.

Type: Observation requirement type

"B" = Biological
"C" = Chemical
"P" = Physical
"S" = Socio-economic
"E" = Economic

Vertical Range (Vert Range) Low: Lowest value of vertical range of parameter, within which the parameters must be measurable or reportable (e.g., for temperature profile with vertical range of surface to 15 kilometers enter 0)"

Vertical Range High: Highest value of vertical range of parameter, within which the parameters must be measurable or reportable (e.g., for temperature profile with vertical range of surface to 15 kilometers enter 15)"

Vertical Range Units: Measurement units for vertical resolution of the element.

Use:

"km" for kilometers
"m" for meters
"hPa" for hectopascal
Etc.

Vertical Range Weight: See "Attribute Weights."

NOAA Program Observation Requirements Document (PORD)

FINAL w/ Pgm Concur

(WW-AQL)

Feb. 5, 2010

Vertical Resolution (Vert Res): The smallest height increment of the data. Spatial granularity in the vertical with which information and data are provided, For example: distance between adjacent vertical grid points in a radiosonde observation.

Vertical Resolution Units: Measurement units for vertical resolution of the element.

Use:

“km” for kilometers

“m” for meters

Etc.

Vertical Resolution Weight: See “Attribute Weights.”

Weight: See “Attribute Weights.”

Geographic Coverage Table

CORL Geographic Coverage Category*	Definition*
Alaska Complex	One of the eight NOAA identified ecosystem regions.
California Current	One of the eight NOAA identified ecosystem regions.
Caribbean Sea	One of the eight NOAA identified ecosystem regions.
Coastal Global	The coast is defined as the part of the land adjoining or near the ocean. Coastal is a few km either side of water/land boundary. Includes both littoral and sub littoral (http://en.wikipedia.org/wiki/Littoral_zone).
Coastal US	The coast is defined as the part of the land adjoining or near the ocean.
Conus	Contiguous U.S. rectangle, 3000 km N/S by approx 5000 km E/W.
CONUS+AK+HI	Contiguous U.S. rectangle, 3000 km N/S by approx 5000 km E/W. Plus Alaska and Hawaii.
CONUS+AK+HI+US EEZ	Contiguous U.S. rectangle, 3000 km N/S by approx 5000 km E/W. Plus Alaska, Hawaii and US Exclusive Economic Zone (see below for definition of EEZ.)
CONUS+AK+HI+US Territories	Contiguous U.S. rectangle, 3000 km N/S by approx 5000 km E/W. Plus Alaska, Hawaii, US EEZ and US Territories (Palmyra Atoll, U.S. coastal waters out to 12 nautical miles, U.S. flag vessels at sea, Guam, Northern Mariana Islands (commonwealth), Puerto Rico (commonwealth), United States Virgin Islands, American Samoa, Wake Island, Midway Islands, Johnston Atoll, Baker Island, Howland Island, Jarvis Island, Kingman Reef, Bajo Nuevo Bank, Serranilla Bank, Navassa Island)
Equatorial EEZ	The Equatorial EEZ starts at the coast of all states/countries within the equatorial regions of the world (limited in latitude by the Tropic of Cancer in the northern hemisphere at approximately 23°26' (23.4°) N latitude and the Tropic of Capricorn in the southern hemisphere at 23°26' (23.4°) S latitude) and extends 200 nautical miles (370 kilometers) out into the sea, perpendicular to the baseline.
EEZ Global	Under the law of the sea, an Exclusive Economic Zone (EEZ) is a sea zone over which a state has special rights over the exploration and use of marine resources. Generally a state's EEZ extends to a distance of 200 nautical miles (370 km) out from its coast. The exception to this rule occurs when EEZs would overlap; that is, state coastal baselines are less than 400 nautical miles apart. When an overlap occurs, it is up to the states to delineate the actual boundary. Generally, any point within an overlapping area defaults to the most proximate state. States also have rights to the seabed of the continental shelf up to 350 nautical miles from the coast, where this extends beyond the EEZ, but this does not form part of their EEZ.
EEZ US	The Exclusive Economic Zone starts at the coastal baseline and extends 200 nautical miles out into the sea, perpendicular to the baseline. Thus, the EEZ overlaps both the contiguous zone and US territorial waters./td>

NOAA Program Observation Requirements Document (PORD)

FINAL w/ Pgm Concur

(WW-AQL)

Feb. 5, 2010

CORL Geographic Coverage Category*	Definition*
Equatorial Ocean	Seated in the equatorial regions of the world, limited in latitude by the Tropic of Cancer in the northern hemisphere at approximately 23°26' (23.4°) N latitude and the Tropic of Capricorn in the southern hemisphere at 23°26' (23.4°) S latitude
Global	Of, relating to, or involving the entire earth; worldwide. (http://www.thefreedictionary.com/global)
Global Land	The continents and islands that cover nearly 30% of the surface of the earth.
Global Ocean	The whole body of salt water that covers 71% of the surface of the earth.
Great Lakes	One of the eight NOAA identified ecosystem regions.
Gulf of Mexico	One of the eight NOAA identified ecosystem regions.
Hemi Eur	Hemispheric coverage centered on Europe and Africa.
Hemi India	Hemispheric coverage centered on India and the corresponding offshore waters.
Hemi Japan	Hemispheric coverage centered on Japan, Australia and southeast Asia.
Hemi US	Hemispheric coverage centered on the US.
Northeast US Shelf	One of the eight NOAA identified ecosystem regions.
Offshore	The zone beyond the near shore zone where sediment motion induced by waves alone effectively ceases and where the influence of the sea bed on wave action has become small in comparison with the effect of wind; the portion of the littoral system that is always submerged.
Pacific Island Complex	One of the eight NOAA identified ecosystem regions.
SE US Shelf	One of the eight NOAA identified ecosystem regions.
Targeted Mesoscale	Prefer to have programs define specific regions (example, NHC, SPC regions)
tbs	to be specified
Other	Other geo cov category as defined by program. Program provides specific details/definition.
GEO In-situ, Global	A local geosynchronous observation required at multiple locations in that orbit
Heliocentric	A location relative to the center of the sun, or in some cases, relative to the center of the observed solar disk.
L1 In-situ	An observation made at the solar Lagrange point, or libration point, between Earth and sun. At this position a satellite can remain between Earth and sun as Earth revolves about the sun. It is about 99 % of the distance from sun to Earth or 0.99 AU (astronomical units) from the Sun. The location is about 1.5 million km from Earth or about 230 Earth radii from Earth towards the sun.
LEO In-situ, Polar	A local observation made in low-Earth polar orbit
MEO; 3-axis orthogonal	Medium Earth Orbit located above Low Earth Orbit (LEO) and below geosynchronous orbit (GEO); 3-axis orthogonal refers to 3 measurements made at 90 degrees to each other to define a vector
Whole Sun	Whole Sun plus out to some distance in corona (about 2 solar radii)

Note: "Targeted" can be added to any of the above