Preparing A Useful 5-Year Network Assessment

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Regulatory Text

"The State, or where applicable local, agency shall perform and submit to the EPA Regional Administrator an assessment of the air quality surveillance system every 5 years to determine, at a minimum, if the network meets the monitoring objectives defined in appendix D to this part, whether new sites are needed, whether existing sites are no longer needed and can be terminated, and where new technologies are appropriate for incorporation in the ambient air monitoring network. The network assessment must consider the ability of existing and proposed sites to support air quality characterization for areas with relatively high populations of susceptible individuals (e.g., children with asthma), and, for any sites that are being proposed for discontinuance, the effect on data users other than the agency itself, such as nearby States and Tribes or health effects studies. For $PM_{2.5}$, the assessment also must identify needed changes to population-oriented sites. The State, or where applicable local, agency must submit a copy of this 5-year assessment, along with a revised annual network plan to the Regional Administrator. The first assessment is due July 1, 2010."

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Contrasting Annual Plans and Network Assessment

Element	Annual Plan	5-Year Assessment
Frequency	Annually	5-years (2010, 2015, etc)
EPA Approval & Public Inspection Requirement	Yes (for changes)	No (although language murky)
Specified Content Requirements	Extensive	Minimal
Applicability period	Relatively short - 18 months (see 58.10(b)(5))	Long

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A Few (Mis)impressions About the Assessment

Belief	EPA Position
The content and format of the assessment is closely specified by EPA.	There is a lot of freedom to design and implement an assessment according to agency needs. Work closely with your region to meet expectations.
EPA is the primary client for the assessment.	The assessment is a tool to encourage the agency and it's stakeholders to plan for the future. We believe that YOU are the client for this product.
The assessment needs to justify the operation of the current network.	Networks are expected to evolve over time as objectives and requirements change. Assessments should present the case for network divestments and investments.
Use of statistical analysis tools is essential.	A successful assessment can be completed without complex statistics. What IS needed is a basic analysis of current air quality and trends, thoughtful evaluation of agency needs and priorities, understanding of EPA requirements, and a dose of creativity, insight, and imagination.

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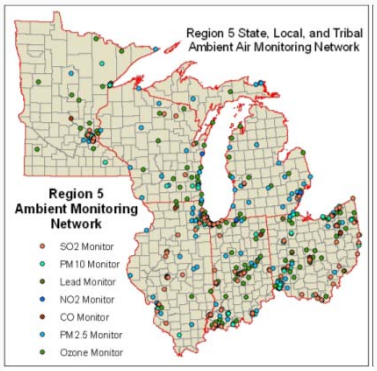
Useful Components & Random Observations

- Develop a scoring system for monitors
  - Factors might include population, emissions, concentration relative to NAAQS, trends, correlation, and qualitative issues (e.g., use in health studies)
  - CO DPHE: http://www.epa.gov/ttn/amtic/files/networkplans/COAssess2010.pdf
- Band together with your neighbors
  - LADCO/Region 5: http://www.epa.gov/ttn/amtic/files/networkplans/R5Assess2010.pdf



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Useful Components & Random Observations

- Include consideration of logistical and budgetary issues
  - Shelter and equipment condition; manpower, capital, and related costs
  - Clark County NV: http://www.epa.gov/ttn/amtic/files/networkplans/NVClarkAssess2010.pdf
- Have a good Executive Summary
  - Address specific changes upfront (add, replace, remove)
  - WA Dept of Ecology: http://www.epa.gov/ttn/amtic/files/networkplans/WAAssess2010.pdf

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Useful Components & Random Observations

- Acknowledge what you know and what you don't know
- Consider the needs and interests of your internal and external stakeholders
- Distribute the assessment as widely as possible to gather input

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Status of OAQPS Resources

- Annual Plans and 5-year assessments
  - http://www.epa.gov/ttn/amtic/plans.html
- Guidance Documents
  - http://www.epa.gov/ttn/amtic/network-assessment.html
- Statistical Tools
  - 2010 tools are not workable; AQAG will create and post a limited number of static national files, for example, on site-site correlation

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Potential Assessment Products

Year	Site1	Site2	Dist	parm	Rval	Pval
2013	370670022	370030004	88561.17	44201	0.834568	0
2013	370670022	370030005	89072.04	44201	0.700529	1.09E-14
2013	370670022	370330001	71222.38	44201	0.876661	0
2013	370670022	370590003	37891.88	44201	0.940897	0
2013	370670022	370670028	10286.42	44201	0.911802	0
2013	370670022	370670030	13935.12	44201	0.939089	0
2013	370670022	370671008	9929.178	44201	0.945158	0
2013	370670022	370810013	37246.27	44201	0.905283	0
2013	370670022	371191009	94449.15	44201	0.888655	0
2013	370670022	371570099	39492.63	44201	0.907653	0
2013	370670022	371590021	63691.53	44201	0.890498	0
2013	370670022	371590022	75083.14	44201	0.89599	0
2013	370670028	370030004	92295.22	44201	0.884994	0
2013	370670028	370030005	92971.08	44201	0.657332	1.47E-12
2013	370670028	370330001	67794.16	44201	0.906771	0
2013	370670028	370590003	45629.62	44201	0.940136	0
2013	370670028	370670022	10286.42	44201	0.911802	0
2013	370670028	370670030	22618.64	44201	0.955273	0
2013	370670028	370671008	18039.38	44201	0.940556	0
2013	370670028	370810013	37968.46	44201	0.913882	0
2013	370670028	371570099	33925.82	44201	0.949367	0
2013	370670028	371590021	73883.24	44201	0.872452	0
2013	370670028	371590022	84409.23	44201	0.868685	0

Inter-site correlation matrix for ozone and PM2.5 for sites within 100 km of each other

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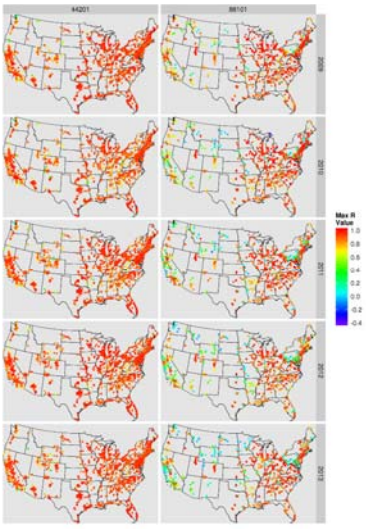
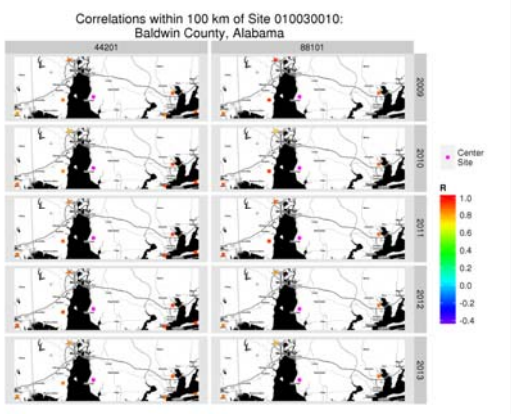
Potential Assessment Products





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