

Performance and Success Measures for NOAA Testbeds and Operational Proving Grounds

Performance and Success Measures for Testbeds and Operational Proving Grounds should focus on Relevance, Quality and Efficiency/Effectiveness. Some measures are best tracked quarterly by the Testbed/Proving Ground Manager (Annual Operating Plan metrics, etc), and others are best addressed annually in reports. Consistency in these measures will allow the NOAA Testbed & Operational Proving Ground Coordinating Committee and others to better quantify performance and identify successes. This short whitepaper addresses both types.

The following (preferably all but no fewer than one item each under Relevance, Quality and Efficiency/Effectiveness) should be tracked by the Testbed/Proving Ground Manager and used as appropriate in their Annual Operating Plan:

Relevance:

Did items go into operations or advance to the next phase of testing?

- Number of products, techniques or technologies transferred into operations
- Number of projects or activities that moved to the next phase of testing

Quality:

Are testbed/proving ground projects characterized by soundness and rigorous scientific methods, i.e. are the tests conclusive in addressing the criteria specified in the “Recommended Guidelines for testbeds and proving grounds”, posted at <http://www.testbeds.noaa.gov/> under Sections III.A.1.c., III.A.2.c., V.A.2.a. and V/B/2 ?

- Do projects employ sound approaches that will lead to referenceable results and/or serve as a foundation for future activities (either positive or negative)? (Tailor to appropriate Testbed/Proving Ground - use quantitative metric rather than yes/no question)
- Do results of a finished testbed/proving ground project indicate similar results are likely in an operational environment and/or the next phase of testing? (Tailor to appropriate Testbed/Proving Ground - use quantitative metric rather than yes/no question)

Do testbed/proving ground projects result in improved skill with respect to current operational capability? (Tailor to appropriate Testbed/Proving Ground - use quantitative metric rather than yes/no question)

Are testbed/proving ground project results published in peer reviewed literature?

- Number of publications acknowledging testbed/proving ground, annual and cumulative
- Number of publications with research and operational co-authors, annual and cumulative
- Number of publications frequently cited (optional)

Efficiency/Effectiveness:

Were testbed/proving ground activities executed as planned?

- Percent of scheduled tests completed as planned
- Were funding/opportunities/announcements and resource support provided as planned?

- Were annual reports submitted at completion of annual testbed/proving ground cycle?
(see next section on annual report contents)

Were participants satisfied with testbed/proving ground experience, including communication between research and operational communities? (Tailor to appropriate Testbed/Proving Ground - use quantitative metric rather than yes/no question)

Are testbed/proving ground participants representative of appropriate stakeholders (example: Cross Line Office, Cross research and operational boundaries)? (Tailor to appropriate Testbed/Proving Ground - use quantitative metric rather than yes/no question)

Annual Report: The following items should be contained in a brief annual report (typically ~5pp) due each year before the next cycle of the Testbed/Proving Ground begins.

List

- Testbed/Proving Ground activities, calendar of testing, and participants
- Funding/Opportunity announcements (internal and external)
- Publications

Discuss

- Significant outcomes as determined by various groups such as
 - Testbed/Proving Ground Manager
 - Users
 - Publication citations
- Testbed/Proving Ground activities that worked well
- Lessons learned that are relevant to future projects and/or agency priorities
- Methods used to foster collaborations between research and operations/applications and external stakeholders
- Project alignment with agency technical and service priorities - consider NOAA Annual Guidance Memorandum, strategic plans, operational roadmaps, etc
- Balance of Testbed/Proving Ground portfolio (example: how many incremental/evolutionary ideas and how many larger/revolutionary ideas are represented and why?)
- Demonstrations of consistent practices with guidelines (examples: active/functioning expert panels, providing reports of activity, publicizing announcements of opportunity as resources allow)
- Efficiency and effectiveness of Testbed/Proving Ground in terms of timeliness, cost-savings, cost-sharing, re-use and/or “low overhead”
- Leveraged resources from broader community (e.g. in-kind services, other federal funding)