

# NGDA Dataset Report

**Official NGDA Title:** Monitoring Trends in Burn Severity

**Metadata Record Title:** Monitoring Trends in Burn Severity

**A-16 NGDA Theme:** Land Use - Land Cover

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## Metadata:

**Registration Status:** Complete

**Registered on**

**GeoPlatform Link\*:** <https://www.geoplatform.gov/node/243/960e11d4-4762-4beb-a0e1-aed0c82e03c2>

**Data.gov Metadata Link\*:**

\*If the metadata has been updated and reharvested after publication of this report, the link may no longer be valid. The dataset may be searched for manually in Data.gov or GeoPlatform.gov.

# NGDA Lifecycle Maturity Assessment (LMA) Report

## Time Frame:

Baseline assessment include dataset activities from 2006 to 2015.

## LMA Submission:

**Status:** Complete

**Date:** 10/29/2015

**Extension Requested:** No

## LMA Reviewer(s):

**Supervisor:** Kevin Halverson

**Theme Lead:** Did not review

**Executive Champion:** Did not review

**SAOGI\*:** Did not review

**Other:** Did not review

## LMA Verifier:

**Name:** Kevin Halverson

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## Attachments:

To get access to any attachments referenced in the report, email the LMA Help Desk at [NGDA\\_LMA\\_help@fgdc.gov](mailto:NGDA_LMA_help@fgdc.gov). Please use the subject "Dataset Report Attachment(s)" and indicate the associated official NGDA title.

\*Senior Agency Official for Geospatial Information (SAOGI)

## Lifecycle Maturity Assessment (LMA) Summary

### Overall Maturity:

**Mature; Consistent**

General Questions: 72%

**Mature; Consistent**

Stage 4 - Access: 100%

**Optimized; Established**

Stage 1 - Define/Plan: 81%

**Mature; Consistent**

Stage 5 - Maintain: 100%

**Optimized; Established**

Stage 2 - Inventory/Evaluate: 100%

**Optimized; Established**

Stage 6 - Use/Evaluate: 77%

**Mature; Consistent**

Stage 3 - Obtain: 78%

**Mature; Consistent**

Stage 7 - Archive: 100%

**Optimized; Established**

### NGDA Dataset Maturity Definitions:

**How To Calculate Maturity:** [https://www.geoplatform.gov/sites/default/files/How\\_to\\_Calculate\\_Maturity.pdf](https://www.geoplatform.gov/sites/default/files/How_to_Calculate_Maturity.pdf)

Maturity	Maturity Characteristics for All Lifecycle Stages
Optimized; Established Rank = 5	Dataset meets virtually all business needs of all users. The dataset is considered authoritative by owners and secondary users. It is curated across all stages of the approved lifecycle. Future needs are defined on a regular basis and resources for addressing both current and future business requirements are available.
Mature; Consistent Rank = 4	Dataset meets all the business needs of the primary owner and most of the secondary users. The dataset is curated and used as authoritative by the primary owner. Dataset is used widely by secondary users actively engaged in sustaining the dataset. Future needs are identified and steps are planned to address these. All stages are supported and reviewed on a recurring basis. The dataset is well managed in relation to the approved lifecycle.
Managed; Predictable Rank = 3	Dataset meets a significant number of the business needs of the primary owner and is widely used as an authoritative resource by secondary users. Benchmark activities are occurring in at least four of the approved lifecycle stages. Management practices in relation to the approved lifecycle is moderate but consistent. Dataset is integrating changing business requirements in lifecycle stages impacting overall maturity.
Transition; Transformation Rank = 2	Dataset meets business needs of the primary owner and has moderate use by secondary users. Benchmark activities are occurring in at least three stages. Efforts to integrate funding, include partners, and obtain data are not supported in a sustained manner. Management practices in relation to the stages of the approved lifecycle is limited.
Planned; Initial Development Rank = 1	Dataset limited in meeting business needs of the primary owner. Benchmark activities in the approved lifecycle are just starting to consider secondary uses, partnerships are forming to support additional dataset uses. Dataset development is in a very early stage. Minimal or limited management against the benchmarks in the approved lifecycle.
No Activity Rank = no activity	Dataset meets project or local business needs of the primary owner, secondary or additional uses or users were not considered, not recognized as an authoritative data or is part of a similar dataset. Not managed to any of the benchmarks in the approved lifecycle.

## General Questions for All Stages

1) Is there a recurring process to obtain funding for all lifecycle stages of this dataset?

**Answer:** Funding support exists but is not adequate to meet known requirements, most lifecycle stages are supported.

**Justification Comment:**

**Attachment(s):** 0

Funding for MTBS is addressed at the agency level via the USDA Forest Service Information Resource Direction Board (IRDB). As an Information Technology (IT) asset, the IRDB process requires updates to the MTBS project proposal on an annual basis for review and approval, including documentation of current project objectives and requested funding, project accomplishments, project risks and risk mitigation strategies, etc. Funding provided to MTBS is provided "off the top" from the agency budget that has been allocated for Information Technology and Information Asset projects supported by the IRDB.

Relevant Links:

Forest Service Manual 6810/Information Management Standards - [http://www.fs.fed.us/im/directives/fsm/6800/wo\\_6810.doc](http://www.fs.fed.us/im/directives/fsm/6800/wo_6810.doc).

Forest Service Acquisition of Information Technology Software/Hardware - <http://www.usda.gov/oig/webdocs/08501-0001-Te.pdf>

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2) Is there a process in place to ensure that open government and transparency guidelines are followed in all lifecycle stages for this dataset?

**Answer:** Process established, significant portions of the documentation is complete.

**Justification Comment:**

**Attachment(s):** 0

MTBS data are compiled based on the latest in image processing/analysis approaches for mapping and characterizing the effects of wildfires. Applied methods are documented in the scientific literature and documentation regarding MTBS protocols and processes have been compiled and are available publicly.

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3) Are there processes and tools in place so that staff are sufficiently knowledgeable to ensure a continuity of the dataset for all stages of the lifecycle, especially during staffing transitions?

**Answer:** Processes and tools to ensure dataset continuity are defined and beginning to be implemented.

**Justification Comment:**

**Attachment(s):** 0

MTBS processes/protocols conducted by the USDA Forest Service and the US Geological Survey have been documented. That information is currently being revised as needed to address changes in technologies and revisions in methods. Additional documentation is also compiled as needed.

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## STAGE 1 - Define/Plan

4) Are user and business requirements defined and formalized?

**Answer:** A recurring process is in place, including defining new partner and stakeholder business needs as they arise, and is fully implemented.

**Justification Comment:**

**Attachment(s):** 2

MTBS was implemented primarily to provide a consistent and comprehensive information base of the location, extent and severity of large wildland fires from the early 1980s to the present. This information is intended to support monitoring the effectiveness of national fire management policies (i.e. National Fire Plan and the Healthy Forest Restoration Act, and now, the National Cohesive

Wildfire Management Strategy).

MTBS also meets the requirements defined by the GAO to the Forest Service and DOI to compile comprehensive data characterizing the effects of wildland fire across landscapes and ecosystems in order to support land management agencies in managing resources in the context of the occurrence and severity of fire disturbance, and monitor fire effects over time.

Relevant Links:

GAO-04-705 - <http://www.gao.gov/products/GAO-04-705>

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**5)** How are partners/stakeholders involved in the requirements collection process?

**Answer:** Ad hoc process is used for involving Partners/stakeholders in identifying requirements.

**Justification Comment:**

**Attachment(s):** 0

Project stakeholders help identify requirements to be met by the MTBS project, including: the Wildland Fire Leadership Council (WFLC) to ensure information needs to monitor the effectiveness of national fire policy are met; similarly-scaled, national land cover programs (e.g. LANDFIRE) which rely on MTBS for a comprehensive source of fire disturbance data; and field management units in the Forest Service and other federal/state agencies that use MTBS data products for pre- and post-fire assessment and long term monitoring.

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**6)** Is there a quality assurance process for the dataset?

**Answer:** Process established, significant portions of the documentation is complete.

**Justification Comment:**

**Attachment(s):** 0

MTBS quality assurance processes are compiled and followed by USDA Forest Service and US Geological Survey analysts that generate MTBS data. QA processes are not published publicly.

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**7)** Is there a process to evaluate the sensitivity, privacy, and confidentiality of this dataset?

**Answer:** Sensitivity, privacy, and confidentiality evaluations fully implemented, reviewed and updated on a recurring basis.

**Justification Comment:**

**Attachment(s):** 0

Sensitivity concerns for these data is not an issue. All MTBS data are generated using data that is fully available in the public-domain and without restriction in their use (e.g. Landsat satellite imagery, relevant GIS data layers, etc.).

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**8)** Are defined data standards used in collecting, processing, and/or rendering the data?

**Answer:** Standards fully implemented documented and published as appropriate.

**Justification Comment:**

**Attachment(s):** 0

MTBS data standards for collecting, processing and analyzing satellite imagery, creation of burn severity indices and other remote sensing derivatives, and generation of thematic geospatial data products are documented and available publicly.

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Relevant Links:

A Project for Monitoring Trends in Burn Severity -

[http://mtbs.gov/files/tech\\_transfers/articles/Eidenshink%20final.pdf](http://mtbs.gov/files/tech_transfers/articles/Eidenshink%20final.pdf).

Understanding and Using MTBS Data -

[http://mtbs.gov/files/tech\\_transfers/outreach/Understanding%20&%20Using%20MTBS%20Data.zip](http://mtbs.gov/files/tech_transfers/outreach/Understanding%20&%20Using%20MTBS%20Data.zip)

## STAGE 2 - Inventory/Evaluate

9) Is there a process for determining if data necessary to meet requirements already exist from other sources (either within or outside the agency) before collecting or acquiring new data?

**Answer:** Process for determining appropriate data is being reused fully implemented, reviewed, and updated on a regular basis.

**Justification Comment:**

**Attachment(s):** 0

The MTBS project is an unprecedented effort to map the location, extent and associated burn severity of all large fires in the United States at 30 meter resolution using the Landsat TM/ETM+/OLI data record. Until the implementation of the MTBS project, the availability of comprehensive geospatial data describing the location, extent and burn severity for all documented large fires in the U.S. This effort is predicated on the unrestricted availability of cost-effect Landsat data spanning from 1984 to present and provided by the USGS.

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## STAGE 3 - Obtain

10) Is there a process for obtaining data in relation to this dataset?

**Answer:** Process is fully implemented, reviewed and updated on a regular basis.

**Justification Comment:**

**Attachment(s):** 0

Thematic MTBS burn severity data are analyzed in the context of several key geospatial strata to address necessary information needs, including administrative ownership/units, geopolitical boundaries, land cover, etc. Burn severity geospatial summaries for targeted fires defined by the end user are available for access as statistical summaries and graphs/charts on the MTBS project website.

Relevant Links:

MTBS Data Access (geospatial data, reporting data, etc.) - <http://mtbs.gov/dataaccess.html>.

MTBS Data Process Methods - <http://mtbs.gov/methods.html>

A Project for Monitoring Trends in Burn Severity -

[http://mtbs.gov/files/tech\\_transfers/articles/Eidenshink%20final.pdf](http://mtbs.gov/files/tech_transfers/articles/Eidenshink%20final.pdf).

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11) Is the metadata in a FGDC endorsed geospatial metadata standard?

**Answer:** Metadata or documentation is available but not in a format endorsed by the FGDC (i.e. - FGDC CSDGM or ISO 19115).

**Justification Comment:**

**Attachment(s):** 0

Metadata is compiled for fire-level and national-level MTBS datasets. However, the metadata are not currently compiled in an FGDC-compliant format.

Relevant Links:

Metadata for fire-level MTBS data - <http://mtbs.gov/data/customquery.html>

Metadata for national MTBS burn severity mosiacs - <http://mtbs.gov/nationalregional/download.html>

Metadata for national MTBS burn area boundaries - <http://mtbs.gov/nationalregional/burnedarea.html>

Metadata for MTBS fire occurrence data - <http://mtbs.gov/nationalregional/pointdata.html>

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**12)** How complete is the geographic coverage as defined in the requirements for the dataset?

**Part 1 Answer:** Business requirements for cyclic updates identified and a process is in place.

**Part 2 Answer:** Dataset has presently attained the greatest geographic coverage as defined by the current requirements or roughly 100%.

**Justification Comment:**

**Attachment(s):** 2

MTBS requirements are to map the location, extent and burn severity for all documented large fires in the United States from 1984 to present. Project requirements specify that all fires greater than 1,000 acres in the western United States, and all fires greater than 500 acres in the eastern United States, be targeted for mapping and assessment. Completeness of coverage is dependent on several factors, including: accuracy and completeness of source fire occurrence databases used to target fires that meet the MTBS threshold; availability of appropriate satellite imagery to support appropriate mapping and assessment of each fire; etc.

Relevant Links:

MTBS Mapping Status - <http://mtbs.gov/schedule.html>

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## STAGE 4 - Access

**13)** Do you have a process for providing users access to the data in an open digital machine readable format?

**Answer:** User access process is fully implemented, data is available, process is reviewed and updated on a recurring basis.

**Justification Comment:**

**Attachment(s):** 0

MTBS data and products are provided for consumption in a variety of formats. The geospatial data and services are provided in formats that are usable in COTS and open-source geospatial software packages. Additional geospatial products such as maps and visualizations are also provided in universally supported formats consumable in freely available applications. Reporting tools that yield MTBS burn severity tabular summaries and charts/graphs in the context of several key geospatial strata are provided to end users via the MTBS project website.

Relevant Links:

Fire-level MTBS data - <http://mtbs.gov/data/customquery.html>

National MTBS burn severity mosaics - <http://mtbs.gov/nationalregional/download.html>

National MTBS burn area boundaries - <http://mtbs.gov/nationalregional/burnedarea.html>

MTBS fire occurrence data - <http://mtbs.gov/nationalregional/pointdata.html>

MTBS map services (burn area boundaries, fire occurrence locations and burn severity) - <http://mtbs.gov/nationalregional/intro.html>

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## STAGE 5 - Maintain

**14)** Is there a maintenance process for updating and storing the dataset?

**Answer:** Dataset maintenance process is fully implemented and processes are reviewed and periodically updated.

**Justification Comment:**

**Attachment(s):** 0

MTBS data are stored using IT infrastructure at the USDA Forest Service and US Geological Survey

facilities. The MTBS data record is continually updated on a daily basis with new fire mappings. Releases of new/revised data are made available to all users on a semi-annual basis.

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**15)** Is there an error correction process as part of dataset maintenance?

**Answer:** Error correction process includes user notification, process reviewed on a recurring basis.

**Justification Comment:**

**Attachment(s):** 0

Daily MTBS data compilation is conducted using a quality assurance protocol. A quality check process is also implemented on MTBS data before each data release. Updated MTBS datasets are documented as such on the MTBS website, including the reasons requiring the dataset revision.

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## STAGE 6 - Use/Evaluate

**16)** Is there a process to determine if the dataset meets user needs?

**Answer:** Process is fully implemented and repeated on a recurring basis.

**Justification Comment:**

**Attachment(s):** 0

MTBS data meet the original needs documented in the project charter. A user feedback mechanism is also available via the MTBS project website to receive feedback/questions from users regarding MTBS data.

Relevant Links:

MTBS Contact Us/Feedback - <http://mtbs.gov/contactus.html>

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**17)** Is there a process to provide users information on how to access and properly use the dataset?

**Answer:** Process is fully implemented supporting access and proper use, process is reviewed on a recurring basis.

**Justification Comment:**

**Attachment(s):** 0

Information describing how to access and properly use MTBS data are documented on the project website.

Relevant Links:

MTBS Geospatial Data Access - <http://mtbs.gov/dataaccess.html>

MTBS Technology Transfer - [http://mtbs.gov/tech\\_transfer/techtransfer.html](http://mtbs.gov/tech_transfer/techtransfer.html)

Applying MTBS Data - <http://mtbs.gov/cooperators.html>

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**18)** Are the business processes and management practices assessed to meet changing technology?

**Answer:** Assessment process is being developed to take advantage of changing technology.

**Justification Comment:**

**Attachment(s):** 0

Processes are in place to evaluate new/emerging technologies that can potentially be leveraged to generate MTBS data more effectively.

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## STAGE 7 - Archive

**19)** Is there an archiving process for the dataset?

**Answer:** Archival and disposition processes are fully implemented.

**Justification Comment:**

**Attachment(s):** 0

Onsite archival processes required by the Forest Service and US Geological Survey for the MTBS project are in place and implemented. No offsite storage of generated MTBS data at NARA, etc. is currently conducted.

