



Theme Implementation Plan for Land Use / Land Cover Theme

US Geological Survey
US Forest Service

Federal Geographic Data Committee (FGDC)

April 28, 2017



Land Use / Land Cover Theme FY17 Implementation Plan Report



Theme Personnel	
Theme Lead (Co-Leads):	Jonathan H. Smith, Gregory Reams
Theme Lead Agency(ies):	DOI – USGS, USDA - USFS
Executive Theme Champion(s):	Stephen Lowe
Executive Champion Agency(ies):	USDA-USFS

Land Use / Land Cover Theme NGDA Datasets	NGDA Agency
Coastal Change Analysis Program (C-CAP) High Resolution Land Cover and Change	Department of Commerce, National Oceanic and Atmospheric Administration (NOAA)
Coastal Change Analysis Program (C-CAP) Regional Land Cover Data and Change	Department of Commerce, National Oceanic and Atmospheric Administration (NOAA)
CropScape - Cropland Data Layer (CDL)	Department of Agriculture, National Agricultural Statistical Survey (NASS)
US Forest Service Forest Inventory and Analysis (FIA) Database	Department of Agriculture, US Forest Service, (USFS)
LANDFIRE Potential Vegetation	Department of Agriculture, US Forest Service, (USFS)
LANDFIRE Existing Vegetation	Department of Agriculture, US Forest Service, (USFS)
LANDFIRE Historical Fire Regimes	Department of Agriculture, US Forest Service, (USFS)
LANDFIRE Canopy Fuels	Department of Agriculture, US Forest Service, (USFS)
LANDFIRE Surface Fuels	Department of Agriculture, US Forest Service, (USFS)
Monitoring Trends in Burn Severity (MTBS)	Department of Agriculture, US Forest Service, (USFS)
National Land Cover Database (NLCD) Land Cover Collection	Department of Interior, US Geological Survey, (USGS)
National Land Cover Database (NLCD) Percent Developed Imperviousness Collection	Department of Interior, US Geological Survey, (USGS)
National Land Cover Database (NLCD) Percent Tree Canopy Collection	Department of Interior, US Geological Survey, (USGS)
North American Land Change Monitoring System (NALCMS) Collection	Department of Interior, US Geological Survey, (USGS)

[Theme Strategic Plan Link](#)

Human and Financial Resources Needed for Theme Management

Reporting Period for Human and Financial Resources¹: October 2016 – March 2017

Description of Theme Management Activities	Role <i>(Theme Lead, co-Theme Lead, NGDA Coordinator, other as specified)</i>	FTE ²	FTE Grade
A–16 NGDA Theme management (e.g., attend meetings, review NGDA documents, develop Theme Strategic Plans, etc.) <i>(repeat for co-Theme Leads)</i>	Co-Theme Lead	0.2	15
A–16 NGDA Theme management (e.g., attend meetings, review NGDA documents, develop Theme Strategic Plans, etc.) <i>(repeat for co-Theme Leads)</i>	Co-Theme Lead	0.1	15

Goal 1: Ensure the Effective Development of the LULC NGDA Datasets				
Objective 1.1: Datasets are updated and published with the most current possible information in accordance with their specific mission requirements in a manner conducive to their broad application Agency and/or Stakeholders Involved: NOAA, NASS, USFS, USGS Anticipated Outcome: Datasets contain up-to-date information that is of use to its customers and partners				
Actions <i>(Describe discrete activities)</i>	Milestones <i>(A significant change in development with associated date)</i>	Performance Indicators <i>(A metric to assess progress of the action)</i>	Action Responsibility <i>(Agency, individuals, and/or groups leading the action)</i>	Projected Completion Date <i>(FY)</i>
1.1.1 Recent remote sensing data is incorporated in accordance with dataset revision schedule	Completion of dataset revisions, or updating	Percent of datasets meeting their revision/updating schedule	Dataset managers	On-going

¹ Reporting periods should align with the Oct 1 - Mar 31 and April 1 - Sep 30 submission dates.

² A full-time employee was available a maximum of 976 hours during the inclusive period of October 1 – March 31 or April 1 – September 30; assuming a Monday-Friday schedule with 8-hour workdays and not counting Federal Holidays. The FTE was determined by taking actual number of hours worked in support of Theme Management divided by 976 hours (per reporting period), rounded to the nearest 0.01.

1.1.2 Most current in-situ data is incorporated in accordance with dataset revision schedule	Completion of reference data collection	Quality assessments of reference data	Dataset managers	On-going
1.1.3 Datasets are published on schedule, including making source data, methodological documents, metadata, and accuracy assessments available via the internet	Completion of dataset revisions, or updating and supporting documents	Datasets meeting their revision/updating schedule	Dataset managers	On-going
Agency and/or Stakeholder	Activity through FY 2017, Q2			
DOI-USGS	NLCD (land cover class, percent impervious, shrub, grass and bareground) are being updated circa 2016			
DOI-USGS	Developing NALCMS data product derived from Landsat TM imagery			
USDA-NASS	2016 CDL published on CropScape			
DOC-NOAA	Completed 2015/16 C-CAP land cover update for Michigan and coastal Wisconsin			
DOC-NOAA	Initiated C-CAP land cover update for coastal Washington state, Mid-Atlantic States and the Great Lakes states			
USDA-USFS	All updated LANDFIRE ca 2014 data released as of April 20, 2017			
USDA-USFS	Completion of mapping year 2015 MTBS data and finalization of updates to relevant historical MTBS fire data - all to be released early May 2017			
Objective 1.2: Accuracy of datasets is assessed, with results published in a manner accessible to users				
Agency and/or Stakeholders Involved: NOAA, NASS, USFS, USGS				
Anticipated Outcome: Datasets contain accuracy assessment information that is of use to its customers and partners and can be incorporated into resource assessments and modeling systems				
Actions <i>(Describe discrete activities)</i>	Milestones <i>(A significant change in development with associated date)</i>	Performance Indicators <i>(A metric to assess progress of the action)</i>	Action Responsibility <i>(Agency, individuals, and/or groups leading the action)</i>	Projected Completion Date <i>(FY)</i>

1.2.1 Rigorous, comprehensive accuracy assessments are performed	Completion of accuracy assessments	Dataset accuracy	Dataset managers	On-going
1.2.2 Accuracy assessment results are made available via the internet	Publication of accuracy assessment results	Availability of accuracy assessment results	Dataset managers	On-going
Agency and/or Stakeholder		Activity through FY 2017, Q2		
USDA-NASS		Field level accuracy assessments of the 2016 CDL were published on-line		
USDA-NASS, DOI-USGS and DOC-NOAA		Thematic accuracy assessment of the 2011 NLCD published in the journal Remote Sensing of Environment		
Objective 1.3: Datasets are capable of being integrated with other geospatial data				
Agency and/or Stakeholders Involved: NOAA, NASS, USFS, USGS				
Anticipated Outcome: Metadata is of sufficient quality to enable the dataset to be incorporated into resource assessments and environmental analyses				
Actions <i>(Describe discrete activities)</i>	Milestones <i>(A significant change in development with associated date)</i>	Performance Indicators <i>(A metric to assess progress of the action)</i>	Action Responsibility <i>(Agency, individuals, and/or groups leading the action)</i>	Projected Completion Date <i>(FY)</i>
1.3.1 Reviews of metadata are conducted periodically to insure accuracy, currentness and completeness	Completion of metadata reviews	Last update/review of metadata	Dataset managers	December 2017
Agency and/or Stakeholder		Activity through FY 2017 Q2		
USDA-NASS		2016 CDL accuracy assessment metadata published on-line		
USDA-USFS		2014 LANDFIRE accuracy assessment metadata published on-line		
Goal 2: Facilitate the Sharing of LULC Geospatial Data				
Objective 2.1: Provide the most available advanced web services for visualizing, querying and assessing LULC NGDA datasets				
Agency and/or Stakeholders Involved: NOAA, NASS, USFS, USGS				
Anticipated Outcome: Current data and analytical tools are easily available and searchable via on-line tools				

Actions <i>(Describe discrete activities)</i>	Milestones <i>(A significant change in development with associated date)</i>	Performance Indicators <i>(A metric to assess progress of the action)</i>	Action Responsibility <i>(Agency, individuals, and/or groups leading the action)</i>	Projected Completion Date <i>(FY)</i>
2.1.1 Develop, maintain, and publish web services for the LULC datasets	Updating and maintaining web services	Availability of applicable web services	Dataset managers	On-going
2.1.2 Web services are registered on the Geospatial Platform	Web service registration	Completion and availability of web services	Dataset managers	On-going
2.1.3 Market the web services to other agencies and the stakeholder community in order to encourage feedback and partnerships	Communication strategies are implemented	Partners and stakeholders are actively involved in planning updates and revisions	Dataset managers	On-going
2.1.4 Maintaining and updating LULC analytical tools	Development of analytical tools	Availability of applicable analytical tools	Dataset managers	On-going
Agency and/or Stakeholder	Activity through FY 2017 Q2			
DOI-USGS	Multi-Resolution Land Characteristics (MRLC) web pages are being updated to serve new 2016 datasets			
USDA-USFS	LANDFIRE web pages being updated to serve new 2014 datasets			
USDA-USFS	MTBS data are provided as downloadable datasets on OGC-compliant web mapping services.			
USDA-USFS	MTBS website is currently being updated to provide new tools for users to access and visualize data with the website migrating to a USGS EROS web production environment in FY17Q4.			

Objective 2.2: Leverage the Geospatial Platform Agency and/or Stakeholders Involved: NOAA, NASS, USFS, USGS Anticipated Outcome: Efficient, effective use of shared technology infrastructure to encourage and support better information sharing and reduce dataset costs				
Actions <i>(Describe discrete activities)</i>	Milestones <i>(A significant change in development with associated date)</i>	Performance Indicators <i>(A metric to assess progress of the action)</i>	Action Responsibility <i>(Agency, individuals, and/or groups leading the action)</i>	Projected Completion Date <i>(FY)</i>
2.2.1 Publish dataset web services on the Geospatial Platform	Dataset web service registration	Completion and availability of dataset web services	Dataset managers	On-going
2.2.2 Develop and maintain the LULC community pages on the Geospatial Platform	Completion and updating LULC community pages	Availability and applicability of LULC community pages	Theme co-leads	On-going
Agency and/or Stakeholder		Activity through FY 2017 Q2		
USDA-USFS		MTBS is migrating to a new web production environment in the USGS EROS Science Data Infrastructure, which will facilitate technology and data integration opportunities with USGS and other interagency LU/LC data programs.		
Objective 2.3: Support multi-agency efforts to create, maintain and disseminate LULC information Agency and/or Stakeholders Involved: NOAA, NASS, USFS, USGS Anticipated Outcome: Sharing of available source data and advances in methodologies will reduce dataset costs and promote dataset inter-operability and applicability				
Actions <i>(Describe discrete activities)</i>	Milestones <i>(A significant change in development with associated date)</i>	Performance Indicators <i>(A metric to assess progress of the action)</i>	Action Responsibility <i>(Agency, individuals, and/or groups leading the action)</i>	Projected Completion Date <i>(FY)</i>
2.3.1 Support multi-agency efforts to coordinate LULC mapping efforts, such as the Multi-Resolution Land Characteristics	Constant support of multi-agency coordinating efforts	Activities supporting multi-agency coordination	Theme co-leads Dataset managers	On-going

(MRLC) Consortium and LANDFIRE				
Agency and/or Stakeholder	Activity through FY 2017 Q2			
DOU-USGS	Conducted preparations for the annual MRLC meeting to be held in April 2017			
Goal 3: Provide Leadership to the LULC Geospatial Community				
Objective 3.1: Lead and participate in the development and coordination of national and international standards applicable to the LULC geospatial community				
Agency and/or Stakeholders Involved: NOAA, NASS, USFS, USGS				
Anticipated Outcome: Enhanced interoperability of geospatial data, services, and systems				
Actions <i>(Describe discrete activities)</i>	Milestones <i>(A significant change in development with associated date)</i>	Performance Indicators <i>(A metric to assess progress of the action)</i>	Action Responsibility <i>(Agency, individuals, and/or groups leading the action)</i>	Projected Completion Date <i>(FY)</i>
3.1.1 Consult and collaborate with both existing and emerging geospatial communities to advance common standards and methodologies	Constant support of improving land cover/use classification and coordinating efforts	Activities supporting advancements in land cover/use classifications	Theme co-leads Dataset managers	On-going
Agency and/or Stakeholder	Activity through FY 2017 Q2			
DOI-USGS	Coordination activities with international partners seeking to promote global land cover monitoring and harmonization			
USDA-USFS	MTBS and related post-fire mapping programs conducted by USFS and other interagency partners are planning a meeting with the Forest Survey of India in FY17Q4 to provide technology transfer for burned area/burn severity mapping.			

Objective 3.2: Lead the LULC geospatial community and advocate the sharing of methodologies and resources Agency and/or Stakeholders Involved: NOAA, NASS, USFS, USGS Anticipated Outcome: Increased usage of shared services, resulting in lower costs and greater inter-operability				
3.2.1 Produce comprehensive, effective, and applicable LULC geospatial data that will demonstrate the government's commitment to the NSDI and its stakeholders	Constant support of multi-agency contributions to the NSDI	Activities supporting multi-agency coordination	Theme co-leads Dataset managers	On-going
3.2.2 Engage with the stakeholder communities, including resource managers and scientists, and federal agencies, to keep them informed of LULC geospatial activities and to solicit their feedback on useful data and services	Promoting applications of governmental supported LULC activities	Engagements with stakeholders	Theme co-leads Dataset managers	On-going
Agency and/or Stakeholder	Activity through FY 2017 Q2			