

CHIEF DULL KNIFE COLLEGE
NORTHERN CHEYENNE GIS
CAPACITY DEVELOPMENT
AND LAND COVER UPDATE

MONTANA LAND
INFORMATION GRANT
APPLICATION

STATE FISCAL YEAR 2018

SECTION 1 – APPLICANT, PARTNER, AND PROPOSAL INFORMATION

Primary Applicant:	
Name of principle individual:	Dr Richard Littlebear
Name of agency/entity:	Chief Dull Knife College
Street:	P.O. Box 98
City:	Lame Deer
County:	Rosebud counties
State:	Montana
Zip Code:	59043
Contact email address:	rlbear@cdkc.edu
Contact fax address:	(406) 477-6219
Contact phone:	(406) 477-6215
Department:	Office of the President
Division:	

Funding Partners: <i>(required for each partner, copy box as needed)</i>	
Name of contact:	Marcia Pablo
Name of Agency:	Bureau of Land Management
Street:	5001 Southgate Drive
City:	Billings
County:	Yellowstone
State:	Montana
Zip Code:	59101
Contact email address:	mpablo@blm.gov
Contact phone:	(406) 896-5263
Funding Partners:	

(required for each partner, copy box as needed)

Name of contact:	Conrad Fisher
Name of Agency:	Northern Cheyenne Tribe
Street:	P.O. Box 128
City:	Lame Deer
County:	Rosebud
State:	Montana
Zip Code:	59043
Contact email address:	nctribalservice@ncheyenne.net
Contact phone:	(406)477-6284

Funding Partners:

(required for each partner, copy box as needed)

Name of contact:	Ken Wall
Name of Agency:	Geodata Services, Inc.
Street:	P.O. Box 8081
City:	Missoula
County:	Missoula
State:	Montana
Zip Code:	59807
Contact email address:	kwall@geodataservicesinc.com
Contact phone:	(406) 203-4684

Proposal Information	
Date Submitted:	February 15, 2017
Date Received by State:	
Short Title of Proposal: Chief Dull Knife College and Northern Cheyenne GIS Capacity Building and MSDI Land Cover Update.	
Executive Summary (<i>required – 134 out of 200 maximum word count</i>):	
<p>The MLIA project will provide ArcGIS Pro and ArcGIS online training to build a sustainable GIS capacity at Chief Dull Knife College (CDKC). CDKC is participating in a regional multi-jurisdictional GIS consortium with tribal, local, state and federal partners, the Northern Cheyenne Ecoregional Ethnographic Assessment Project (NCEEAP) funded by BLM a funding partner. The NCEEAP project focus is on cultural and natural resources data to evaluate impacts from development projects, and facilitate economic development while protecting tribal values and resources. Geodata Services will provide on-site GIS training for staff, students, and faculty, and approved consultants at CDKC. Selected participants from the training will review land cover and fire history on the Northern Cheyenne reservation and provide a GIS layer with recommended updates to the Montana MSDI land cover steward following a review and approval by the CDKC and the Northern Cheyenne Tribal Government, a funding partner.</p>	

List All Past Awarded MLIA Grants:
Neither the Chief Dull Knife College nor the Northern Cheyenne Tribe have submitted or been awarded an MLIA grant in the past.

SECTION 2 – RELEVANCE

This project furthers two objectives of the 2017-2018 Land Plan. The first and primary objective is defined in Land Plan objective 3 Local and Tribal GIS and Grant application package FY 2018 Land Information Plan Grant Priority A in the following ways.

The CDKC have GIS licensed software but they are the only partner in the regional NCEEA consortium without **trained Esri GIS users**. This project is capacity building that furthers the Land Plan priority by on-site GIS training provided by contractor and funding partner Geodata Services for Chief Dull Knife College (CDCK) staff, Northern Cheyenne staff (a funding partner), and NCEEA contractors, enabling their capacity to use ArcGIS Pro and ArcGIS Online. It will also enable them to publish GIS layers to and demonstrate the value of GIS to the Northern Cheyenne Tribal Council and other policy makers.

A part of this project also meets land plan objectives 2.b. Natural Resource Data - Land Cover and Grant application package FY 2018 Land Information Plan Grant Priority C.b. Natural Resource Data (MSDI) Land Cover.

A team, selected from the participants who attend the training will follow it up by reviewing the MSDI Land Cover theme and fire history on the Northern Cheyenne reservation and prepare a GIS layer, and metadata with recommendations to the Land Cover steward to support regular updates to the Land Cover MSDI theme. It is our understanding from discussions with the land steward for this MSDI theme that fire history was a regular part of the theme updates on an annual basis, so our analysis and recommendations should be applicable to the traditional updates for this layer. The BLM is the funding partner, and source for the NCEEA project.

SECTION 3 – PUBLIC BENEFIT

The BLM funded the Northern Cheyenne Ecoregional Ethnographic Assessment Project (NCEEAP) regional consortium and is a funding partner.

The primary intent of this project is to develop ArcGIS Pro and ArcGIS online capabilities along with training to build a sustainable GIS capacity at Chief Dull Knife College (CDKC). The CDKC, and funding partners the Northern Cheyenne Tribe and the BLM through the NCEEAP all have a common interest in the fire history and land cover of the Northern Cheyenne Reservation. Wildfire is one of the major influences on the plants and wildlife in this ecological region and fire history ties the past to the present, fitting within the scope of the NCEEAP project. CDKC is treating this MLIA project as a pilot, and hope to expand the work in the future to historic Northern Cheyenne lands beyond the reservation boundary.

A deliverable will include GIS training by Geodata Services, a funding partner, a GIS layer, and metadata submitted with recommendations to the MSDI Land Cover steward to support regular updates to the Land Cover MSDI theme. This project has the potential of achieving a national profile demonstrating a regional consortium working on tribal lands with a federal agency. This may provide an opportunity in the future to develop additional funding to engage the University of Montana Land Cover steward who historically has done these fire history updates of the land cover MSDI theme.

SECTION 4 – SCOPE OF WORK

Goal 1: Training and Capacity Building

Objective A: Conduct a one week on-site GIS training session at the Chief Dull Knife College

Tasks and Activities:

1. Plan on-site training, arrange the week the training will be held, schedule training facility and equipment, and identify participants.
2. Develop training materials and tutorials.
3. CDKC IT staff set up their lab for the workshop.
4. Geodata Services prepares for and conducts the one week on-site training session in the CDKC computer lab in Lame Deer, Montana. This will focus on ArcGIS Pro and ArcGIS Online (AGO) and public domain GIS resources from federal, state and local sources. We will also focus on Esri living atlas layers and their Green Infrastructure tools and data.

Objective B: Set up CDKC ArcGIS Online for Organizations Account and Site Configuration

Tasks and Activities:

1. Coordinate with the CDKC IT staff to set up user accounts, credit allocations and publishing privileges for the workshop participant team selected to review the fire history and land cover MSDI data layer. The CDKC have licensed a 50 seat AGO account with capacity to add named users for this project.
2. Geodata Services builds a gallery for the project, creates an ArcGIS Online (AGO) group for the project, and populates an AGO gallery with public domain resources for the project team to access.

Objective C: Set up an agreement with the Northern Cheyenne Tribe (NCT) on how historic tribal fire history data and public domain data is used.

Tasks and Activities:

1. In addition to the federal, state and local GIS data available in the public domain, the NCT has additional fire history data from previous projects. Some of this data has cultural sensitivity. Some of the public domain data may also be sensitive to the tribe and the Tribal Cultural Commission in specific geographic locations. We will need to work through this process to respect the NCT traditions, and obtain proper permissions on the parameters of the project.

Objective D: Conduct the fire history and land cover MSDI theme update recommendations and report the final results.

Tasks and Activities:

1. Organize the team to conduct the research and analysis to assess fire history and land cover update recommendations.
2. Review the federal, state and local government data, and tribal data subject to permissions and agreement of the CDKC and NCT and make draft recommendations to the entire team and consultants and BLM on the recommended land cover updates.
3. Prepare the final GIS layer with polygon areas recommended for updates.
4. Prepare metadata and description of methods.
5. Submit final GIS layer and metadata to the NCT for review and recommendations on

modifications before releasing it into the public domain and uploading it to the Montana GIS Coordinator and MSDI Land Cover steward.

Equipment – We are not requesting any equipment for this project.

Project Schedule

GOAL/OBJ	TASK	Jul-17	Aug	Sept	Oct	Nov	Dec	Jan-18	Feb	Mar	April	May	June
Goal 1: Develop and conduct training and capacity building													
Objective A:	Conduct a one week on-site GIS training session at the Chief Dull Knife College for 15 participants		■										
Objective B:	Set up CDKC ArcGIS Online for Organizations Account and Site Configuration	■											
Objective C:	Set up an agreement with the Northern Cheyenne Tribe (NCT) on how historic tribal fire history data and public domain data is used.				■	■	■						
Objective D:	Conduct the fire history and land cover MSDI theme update recommendations and report the final results.		■	■	■	■	■						

The CDKC has the legal authority to sole source for contractors. We will implement a contract with Geodata Services on July 3, 2017 and begin work on the project. We will determine a sole source for a contractor to prepare the quarterly and final reports on the same date. The training in Goal 1.A will be held in mid August at a date to be determined by July 7, 2017.

Goal 1, Objective B will commence July 10 and be completed August 4, 2017.

Goal 1, Objective C will begin October 16 and conclude December 4, 2017

Goal 1, Objective D will begin following the training session in mid August and will be completed with the deliverables provided to the MSDI Land Cover data stewards by December 16, 2017.

SECTION 5 – PROJECT MANAGEMENT AND ORGANIZATIONAL CAPABILITY

Chief Dull Knife College

Dr. Richard Littlebear is president of Chief Dull Knife College. On-site training and project work will take place at the computer lab at the CDKC. They have licensed over 30 licenses for ArcGIS Desktop, and maintain a 50 named user ArcGIS Online Account that will be used for project work that does not involve sensitive cultural data.

Geodata Services, Inc.

Geodata Services specializes in GIS services for local, state and federal governments, natural resource management, regional and community planning, and demographic and socioeconomic analysis. For 21 years Geodata Services has provided training and services in GIS including, spatial analysis, image analysis, database development, collaborative GIS, suitability modeling, and 3D scenario visualizations. Geodata Services has been an Esri business partner for 19 years, and has more than 60 years of combined experience with GIS.

Geodata Services has worked with ten previous successful MLIA projects, including two NG 9-1-1 MLIA projects in the 2017 fiscal year with Carbon and Teton counties. Geodata Services has presented testimony on behalf of the Montana State Library at interim legislative sessions demonstrating the effectiveness of the grant program and has presented at past MACO conferences on the success of the MLIA program.

The two primary staff who will provide training, consulting and support will be Ken Wall and Kyle Balke. Ken Wall has 25 years of experience in GIS experience, as founder and president of Geodata Services since 1993. Ken served on the MLIAC council for 6 years, and currently serves on the Montana State Library Commission. He served as a senior analyst for GIS projects throughout the US, Canada, and Australia. Geodata Services has been a business partner with ESRI for 18 years. Ken Wall has earned certification as an Esri Desktop Associate and served as a certified ArcGIS Desktop instructor, and is a CompTIA CTT+ Certified technical trainer. Geodata Services is the only ArcGIS Online Specialty Partner in Montana. Ken serves on the NENA NG 9-1-1 data review subcommittee, reviewing the current data standard.

Kyle Balke has 13 years of applied GIS experience in the local government, engineering, natural resources, and telecommunication fields. He has worked as a GIS analyst for firms in Wisconsin and Montana. His professional experience includes GIS data maintenance and editing, project development, CAD and GIS integration, geodatabase design, spatial and statistical analysis, web mapping and cartography. He has extensive expertise with the full suite of Esri GIS programs and modules, including ArcMap, Business Analyst, ArcGIS Online for Organizations, ArcGIS Pro and Spatial Analyst. For the last two years Kyle has taught a course on Internet GIS at the University of Montana focused on ArcGIS Online and ArcGIS Pro.

SECTION 6 – BUDGET JUSTIFICATION AND BUDGET TABLE

GOAL/OBJ	TASK	GEODATA HOURS	GEODATA BUDGET	GEODATA SUBTOTAL
Goal 1: Develop and conduct training and capacity building				
Objective A: Conduct a one week on-site GIS training session at the Chief Dull Knife College for 15 participants				
	Plan on-site training, arrange the week the training will be held, schedule training facility and equipment, and identify participants	4	\$ 300	
	Consult with CDKC IT staff set up their lab for the workshop	1	\$ 75	
	Geodata Services prepares for and conducts the one week on-site training session in the CDKC computer lab in Lame Deer, Montana. This will focus on ArcGIS Pro and ArcGIS Online (AGO) and public domain GIS resources from federal, state and local sources. We will also focus on Esri living atlas layers and their Green Infrastructure tools and data.	72	\$ 5,400	
				\$5,775
Objective B: Set up CDKC ArcGIS Online for Organizations Account and Site Configuration				
	Coordinate with the CDKC IT staff to set up user accounts, credit allocations and publishing privileges for the workshop participant team selected to review the fire history and land cover MSDI data layer. The CDKC have licensed a 50 seat AGO account with capacity to add named users for this project	4	\$ 300	
	Geodata Services builds a gallery for the project, creates an ArcGIS Online (AGO) group for the project, and populates an AGO gallery with public domain resources for the project team to access.	12	\$ 900	
				\$1,200
Objective C: Set up an agreement with the Northern Cheyenne Tribe (NCT) on how historic tribal fire history data and public domain data is used.				
	In addition to the federal, state and local GIS data available in the public domain, the NCT has additional fire history data from previous projects. Some of this data has cultural sensitivity. Some of the public domain data may also be sensitive to the tribe and the Tribal Cultural Commission in specific geographic locations. We will need to work through this process to respect the NCT	8	\$ 600	
				\$600
Objective D: Conduct the fire history and land cover MSDI theme update recommendations and report the final results.				
	Organize the team to conduct the research and analysis to assess fire history and land cover update recommendations	8	\$ 600	
	Review the federal, state and local government data, and tribal data subject to permissions and agreement of the NCT and make draft recommendations to the entire team and consultants and BLM on the recommended land cover updates.	6	\$ 450	
	Prepare the final GIS layer with polygon areas recommended for updates.	4	\$ 300	
	Prepare metadata and description of methods.	8	\$ 600	
	Submit final GIS layer and metadata to the NCT for review and recommendations on modifications before releasing it into the public domain and uploading it to the Montana GIS Coordinator and MSDI Land Cover steward.	4	\$ 300	
				\$2,250
				Geodata Labor Subtotal \$9,825
OTHER BUDGET ITEMS				
	Geodata Travel (Mileage and lodging and per diem)			\$ 1,207
	Geodata training documents			\$550
				Other Geodata Subtotal \$1,757
				Geodata Grand Total \$11,582
	Prepare Quarterly and final reports			\$1,500
	CDKC Lab set up and post clean up by IT staff			\$600
	CDKC Overhead/Indirect Cost			\$1,351
				Other Subtotal \$3,451
				GRAND TOTAL \$15,033

The budget above lists the direct request from MLIA. It is composed of consulting and training by Geodata Services, Inc for preparing and providing a one week on-site training session (\$5,775), the training handouts (\$550), and travel expenses (\$1,207) using standard federal mileage rates, It also includes consulting time for a Geodata Services to coordinate the selected participant team in reviewing and preparing the fire history recommendations and GIS layer for the update to the land cover MSDI theme (\$4,050).

The CDKC has the legal authority to sole source for contractors. The CDKC will sole source for a contractor to prepare the quarterly and final reports (\$1,500). This contractor has not yet been determined, but will be determined and awarded July 3, 2017 if the project is funded. CDKC will also set up a sole source contract for Geodata Services, Inc. for the total amount of \$11,582 the first week of July, 2017.

Other expenses included in the MLIA request include set up fees for the lab for training (\$600) and administrative costs at 5% of project costs (\$1,351).

We are matching the MLIA request with a contractual match from the BLM of \$50,000. This is the portion of the BLM NCEEAP project that will be spent during the MLIA 2018 fiscal year.

MLIA GRANT BUDGET SUMMARY										
Category	Applicant Summary				Project Partner* Summary				Total	
	MLIA Share	Applicant Cash	Other Cash	In-kind	Applicant Subtotal	BLM	Geodata Services	Partner Subtotal		
a. Personnel							\$ 9,825			
a. 1. Fringe Benefits										
b. Travel							\$ 1,207			
c. Equipment										
d. Supplies							\$ 550			
e. Contractual	\$ 13,082				\$ 13,082	\$ 50,000				
f. Other	\$ 1,951				\$ 1,951					
Total	\$ 15,033				\$ 15,033	\$ 50,000			\$ 50,000	\$ 65,033

The MLIA Grant Budget Summary includes a contractual amount including the funding partner Geodata Services consulting totals for training (\$5,775) and consulting advice on the land cover updates (\$4,050), totaling \$9,825 and the material (\$550) and travel cost (\$1,207). It also includes the sole source consulting amount for assistance in quarterly and final reporting (\$1,500). The total for these items are \$13,082 listed in the MLIA share contracting row e in the worksheet. These are not subtotaled in the Project partner half of the worksheet to avoid double counting these in the grant total for the project.

The f. Other total of \$1,951 is the sum of the CDKC lab set up and tear down fee (\$600) and their administrative cost at 5% (\$1,351) totaling \$1,951.

Funding partner BLM who is funding the NCEEAP project is being used as a contractual match listed in the contractual row of the project partner summary (\$50,000) and subtotaled on the

project partner half of the worksheet and included in the grant total. This represents the portion of the overall NCEEA project budget that is expected to be available between July 1, 2017 and June 30, 2018.

SECTION 7 – STATEMENTS OF SUPPORT



United States Department of the Interior



BUREAU OF LAND MANAGEMENT
Montana State Office
5001 Southgate Drive
Billings, Montana 59101-4669
www.blm.gov/montana-dakotas

In Reply Refer To:

Montana Land Information Advisory Council
State of Montana

RE: 2017 Montana Land Information Act Grant

Dear Members,

The Bureau of Land Management, Montana State Office in Billings, Montana fully supports the 2017 Montana Land Information Act (MLIA) Grant application submitted by Chief Dull Knife College (CDKC). The MLIA grant would help provide ArcGIS Pro and ArcGIS online training to build a sustainable GIS capacity at the CDKC. Selected participants from the training will review land cover and fire history on the Northern Cheyenne reservation and provide a GIS layer with recommended updates to the Montana MSDI.

The Chief Dull Knife College is participating in a regional multi-jurisdictional GIS consortium with tribal, local, state and federal partners, the Northern Cheyenne Ecoregional Ethnographic Assessment Project (NCEEAP) funded by BLM a funding partner. The NCEEAP project focus is on cultural and natural resources data to evaluate impacts from development projects and facilitate economic developments while protecting tribal values and resources. The MLIA grant will enable CDKC to develop another layer of pertinent resource data involving the Historic effects of fire on the natural and built environment. The grant will also provide the opportunity to digitize historical resource information.

It is my hope that you choose the application submitted by CDKC for the 2017 MLIA Grant.

Thank you in advance for your time and consideration.

Sincerely,

Marcia Pablo 

Marcia Pablo, Tribal Coordinator



**NORTHERN CHEYENNE TRIBE
ADMINISTRATION**
P.O. BOX 128
LAME DEER, MONTANA 59043
(406) 477-6284
FAX (406) 477-6210



Wednesday, February 15, 2017

Montana Land Information Advisory Council
State of Montana

Dear: Members,

RE: 2017 Montana Land Information Act Grant

The Northern Cheyenne Tribe (NCT), would like to express support for the 2017 Montana Land Information Act (MLIA) Grant application submitted by Chief Dull Knife College (CDKC). It is our understanding that the overarching MLIA goals involve the creation and maintenance of publicly available digital land information. These objectives are closely aligned with our ongoing efforts to create data sets and GIS applications that will allow tribal government officials to make more informed land management decisions. To this end, and for the purposes of the MLIA grant, CDKC intends to use non-discretionary wildfire history maps and associated data to produce an integrated map set that shows how range and forest fires have affected Reservation landscapes. MLIA goals reflect our educational commitment – shared by CDKC - to expose tribal members to advanced digital technology in ways that will ultimately be useful both on and off the Northern Cheyenne Indian Reservation.

CDKC is currently implementing a multi-year pilot project to systematically collect all cultural and natural resource information important to the Northern Cheyenne people within a five-state study area. This project is being conducted in cooperation with the Northern Cheyenne Cultural Commission, the Tribal Historic Preservation Office, and the Montana Bureau of Land Management (BLM). The MLIA grant will enable us to assemble another layer of pertinent resource data involving the historic effects of fire on the natural and built environment.

In summary, we regard the 2017 MLIA grant as an opportunity to help synthesize and preserve information that will benefit not only ongoing efforts to conduct fire planning on the Northern Cheyenne Indian Reservation, but also serve recent CDKC initiatives to capture and digitize historical resource information.

We sincerely hope you will affirmatively consider the MLIA grant application submitted by CDKC.

Thank you,



Brandon Woodenlegs, Acting-President, NCT

CC: file

LITTLE WOLF AND MORNING STAR – Out of defeat and exile they led us back to Montana and won our Cheyenne homeland that we will keep forever.



Erin Fashoway
State GIS Coordinator
Montana State Library

I am writing in support of this proposal in our role as funding partner and consultant. We have worked with Chief Dull Knife College on this project proposal and understand that we have been listed as a funding recipient. We support the project plan in the scope of work. Geodata Services is prepared to provide training and consulting to further the goals, objectives and tasks in the proposal. We understand that we are listed as a funding recipient for portions of the direct request from MLIA and are not providing any in-kind services. We are not providing data holdings or serving as a data provider for this project.

Sincerely,

A handwritten signature in black ink that reads "Kenneth E Wall". The signature is written in a cursive, flowing style.

Ken Wall
President
Geodata Services, Inc.
P.O. Box 8081, Missoula, MT 59807

SECTION 8 – RENEWABLE GRANT ACCOUNTABILITY

Not applicable. The Chief Dull Knife College did not submit a 2017 grant application.

SECTION 8 – Sign the Application

SECTION 8 – Sign the Application

Authorizing Statement

I hereby certify that the information and all statements in this application are true, complete and accurate to the best of my knowledge and that the project or activity complies with all applicable state, local and federal laws and regulations.

I further certify that this project will comply with applicable statutory and regulatory standards.

I further certify that I am (by my signature) authorized to enter into a binding agreement with the Montana State Library to obtain a grant if this application receives approval.

Richard E. Littlebeer

Name (print or type)

President Chief Dull Knife College

Title (print or type)

Richard E. Littlebeer

Signature and Title of Authorized Representative(s) of Public Entity Applicant

02/15/17

Date

SECTION 9 – CHECKLIST – SIGNATURES REQUIRED

Initial or mark n/a	Completed Required Task
RL	Section 1 – Applicant, Partner, and Proposal Information
RL	Primary Applicant Information
RL	Funding Partner <i>(if applicable)</i>
RL	Project Partner <i>(if applicable)</i>
RL	Proposal Information
RL	List All Past Awarded MLIA Grants
RL	Section 2 – Relevance <i>(300 max word limit)</i>
RL	Section 3 – Public Benefit
RL	Section 4 – Scope of Work Narrative <i>(4-page limit)</i>
RL	Section 5 – Project Management and Organizational Capability Narrative
RL	Section 6 – Budget Justification Narrative and Table
RL	Budget Justification Narrative
RL	Complete Budget Table
RL	Section 7 – Statements of Support <i>(if applicable)</i>
RL	Section 8 – Renewable Grant Accountability Narrative <i>(if applicable)</i>