

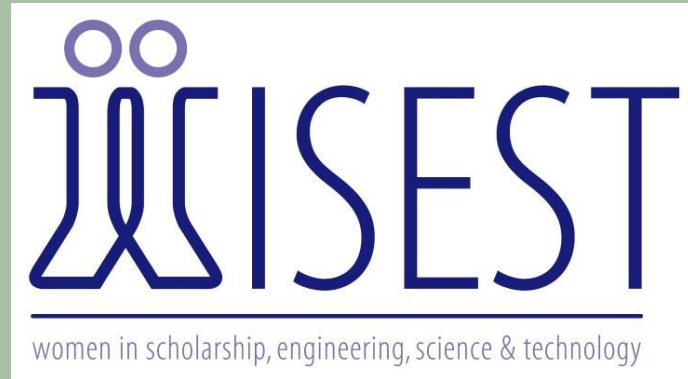
# The Distribution of Ankylosauridae, Hadrosauridae, and Ceratopsidae Dinosaurs Across Alberta

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Slide 3	Introduction and Abstract
Slides 4-7	Background Info
Slide 8	Institutional Abbreviations
Slides 9-12	Map Overview
Slides 13-20	Closer Looks on High Concentration Areas
Slide 21	Acknowledgements
Slides 22-24	Literature Cited



# Background Information

This project looks at three different families of dinosaurs that have been found in Alberta: Ankylosauridae, Hadrosauridae, and Ceratopsidae. All three of these families are herbivores.

In talking about “families” of dinosaurs, I am referring to their phylogenetic classification on the family level. In later slides I will also be referring to the specimens by their binomial nomenclature names.

In some of the later slides and maps, I have areas of the maps highlighted. The program that I used to create and take images of the maps, Google Earth Pro, refers to the shapes as “polygons”, and I will be using the same wording when referring to them.

# Background Information: Ankylosauridae

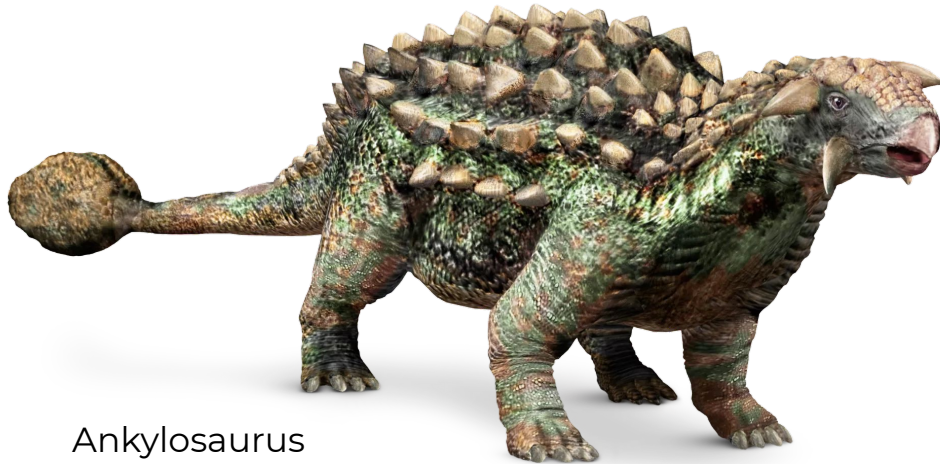
In the maps, Ankylosauridae are represented by orange pins.

Species that I have mapped:

*Scolosaurus cutleri*

*Ankylosaurus magniventris*

*Dyoplosaurus acutosquameus*



Ankylosaurus

# Background Information: Hadrosauridae

In the maps, Hadrosauridae are represented by dark purple pins.

Species that I have mapped:

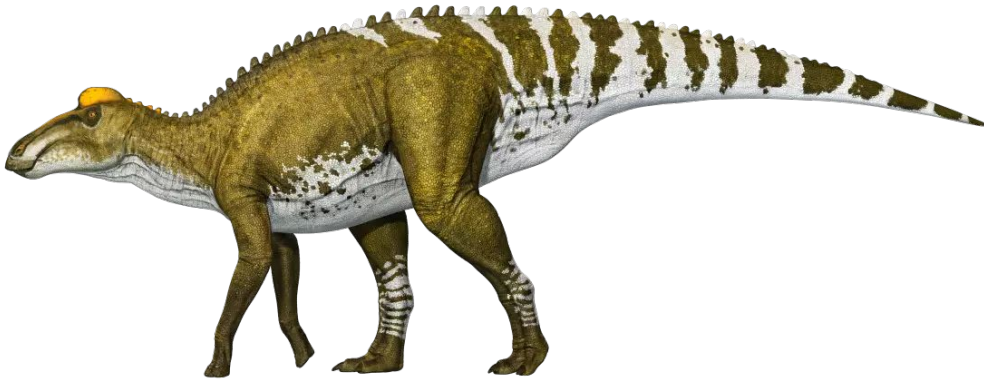
*Lambeosaurus magnicristatus*

*Brachylophosaurus canadensis*

*Prosaurolophus maximus*

*Corythosaurus excavatus*

*Edmontosaurus regalis*



Edmontosaurus

# Background Information: Ceratopsidae

In the maps, Hadrosauridae are represented by pink pins.

Species that I have mapped:

*Centrosaurus apertus*

*Monoclonius lowei*

*Chasmosaurus russelli*

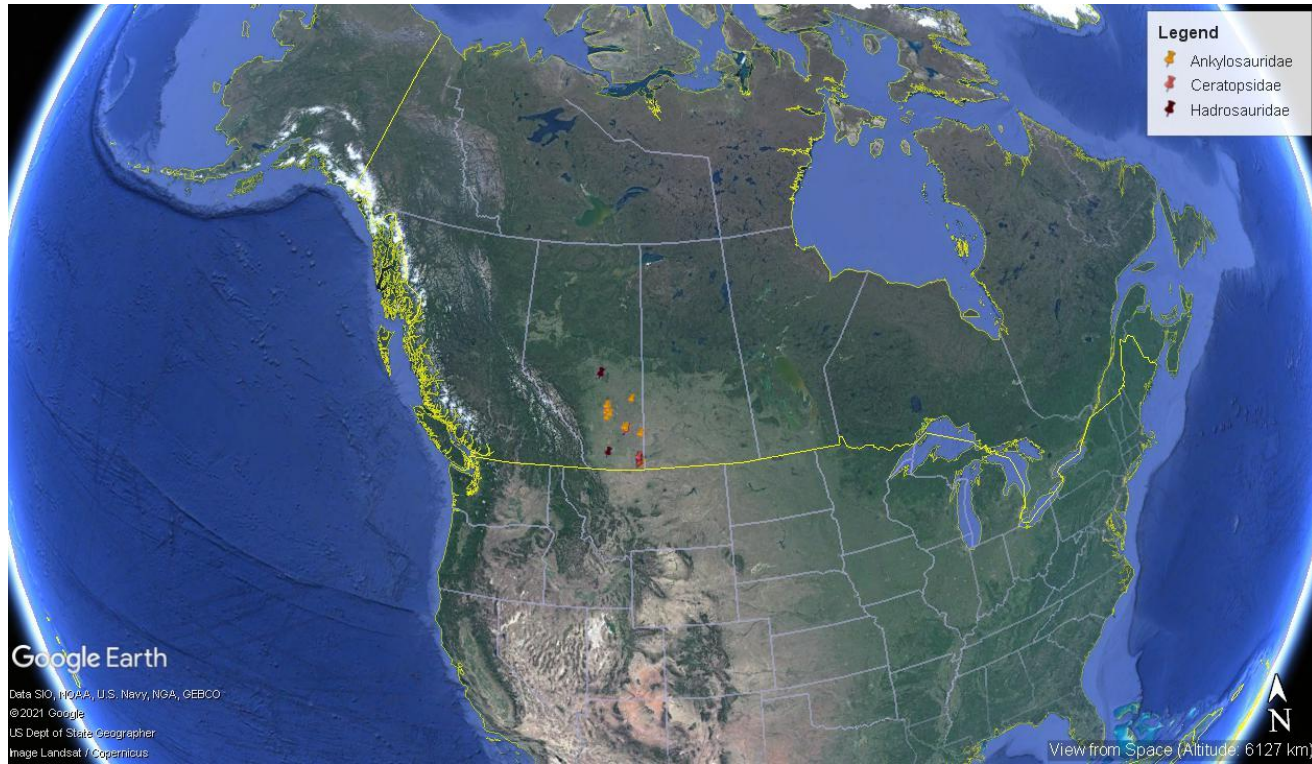


Styracosaurus

# Institutional Abbreviations

ROM, Royal Ontario Museum, Toronto, Ontario, Canada;  
CMN, Canadian Museum of Nature, Ottawa, Ontario, Canada;  
AMNH, American Museum of Natural History, New York;  
TMP, Royal Tyrrell Museum of Paleontology, Drumheller;  
USNM, Smithsonian Museum of Natural History, Washington, DC, USA;  
NHMUK, Natural History Museum, London, UNited Kingdom;  
UALVP, University of Alberta Laboratory for Vertebrate Paleontology, Edmonton,  
Alberta, Canada; (Arbour)

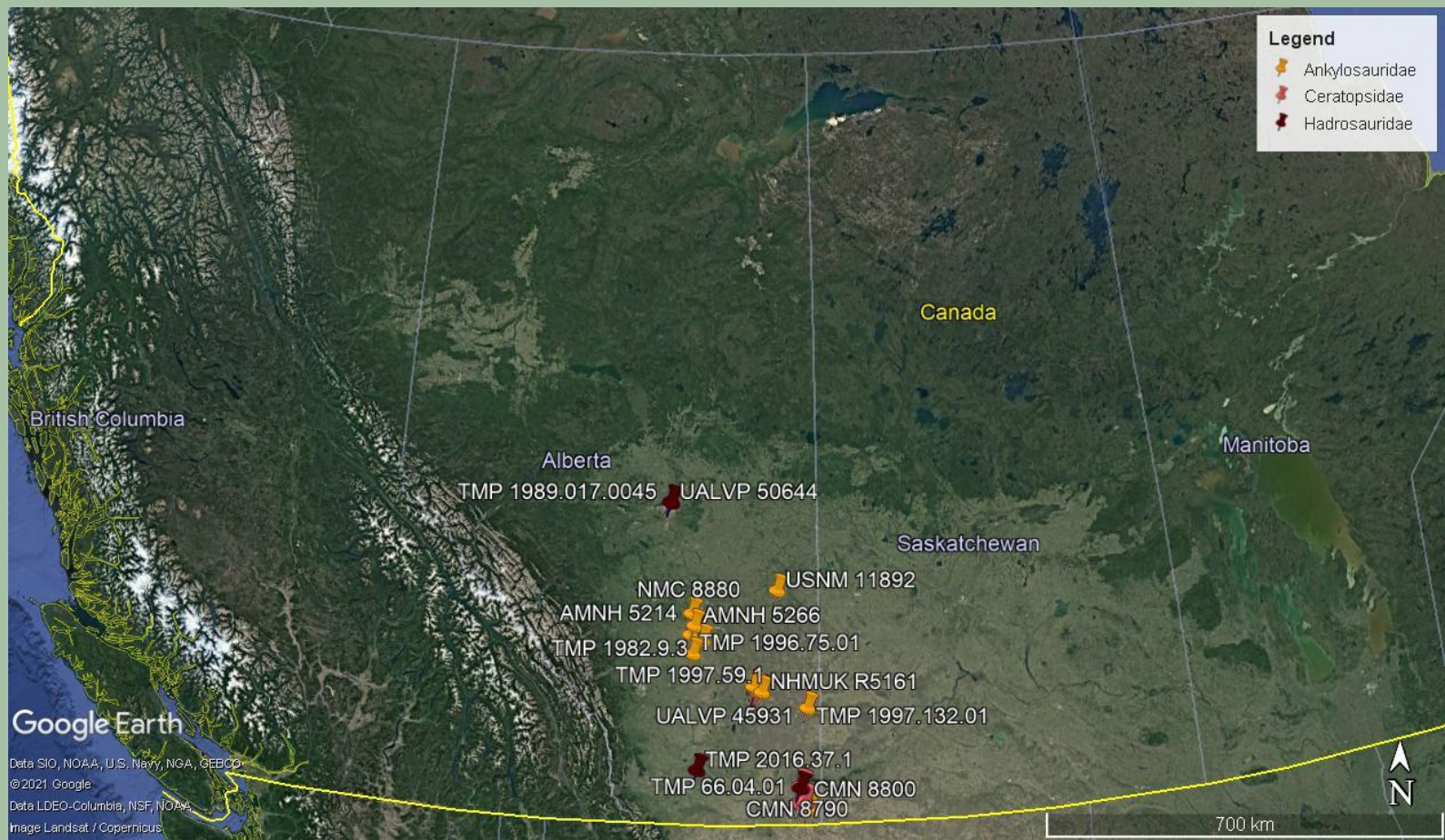
# Wide Map



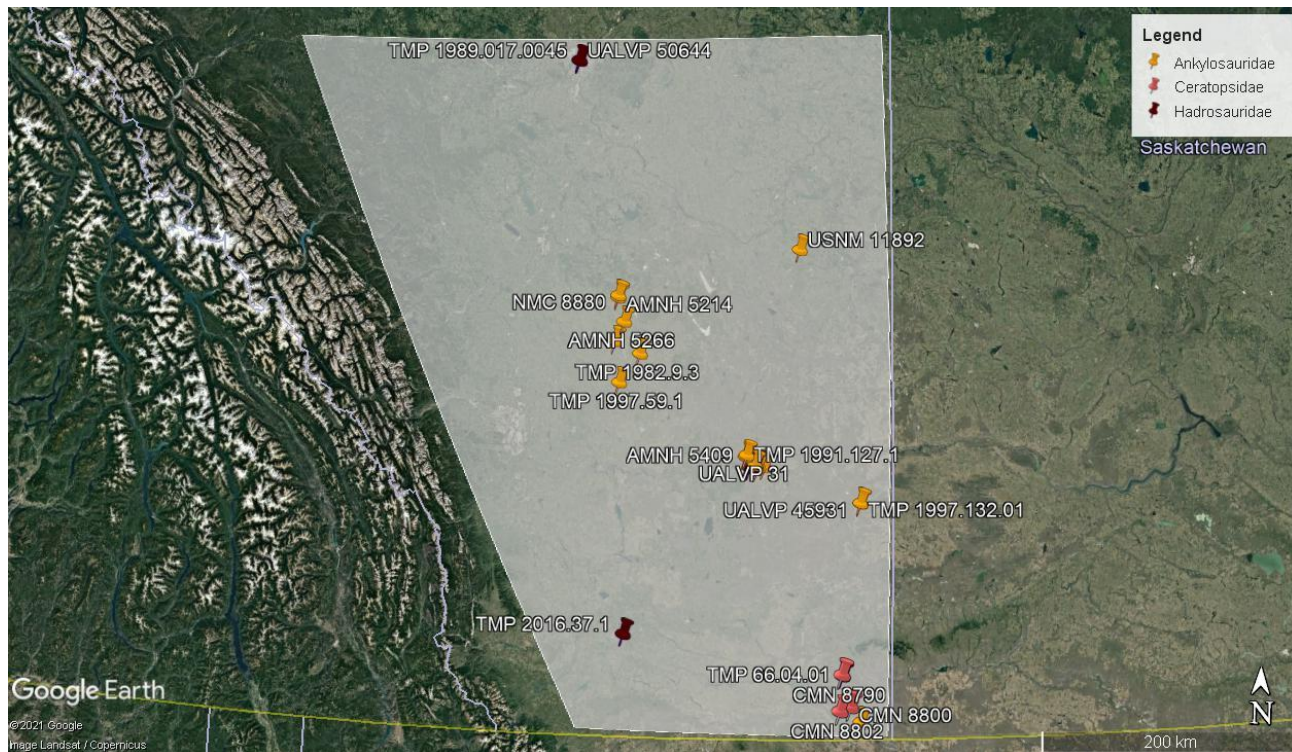
The image of this map is taken from long distance for a reason - it helps to see the general shape and distribution of the pins without any excess and distracting text. (The next slides show close ups with the labels and text).

# Alberta

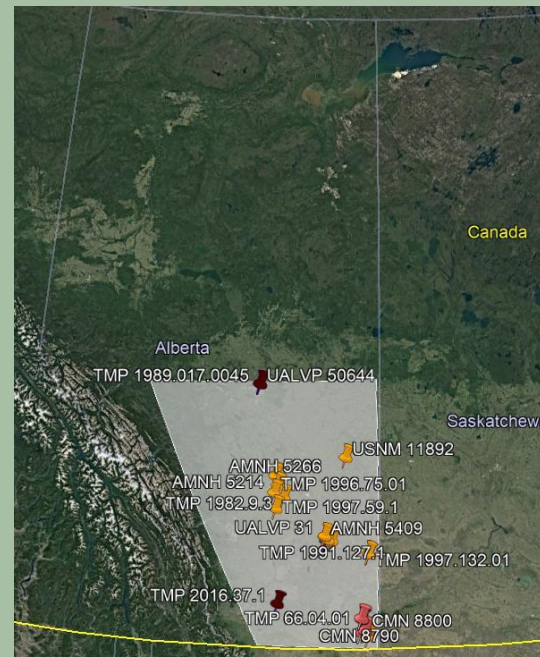
The text near each pin is the catalogue number of each specimen. This map shows more detail than the last one. While it is a bit harder to read because of the text surrounding the pins, this map also shows the distribution of the found specimens across Alberta. The next slides go into more detail about the areas with the highest concentrations of specimens.



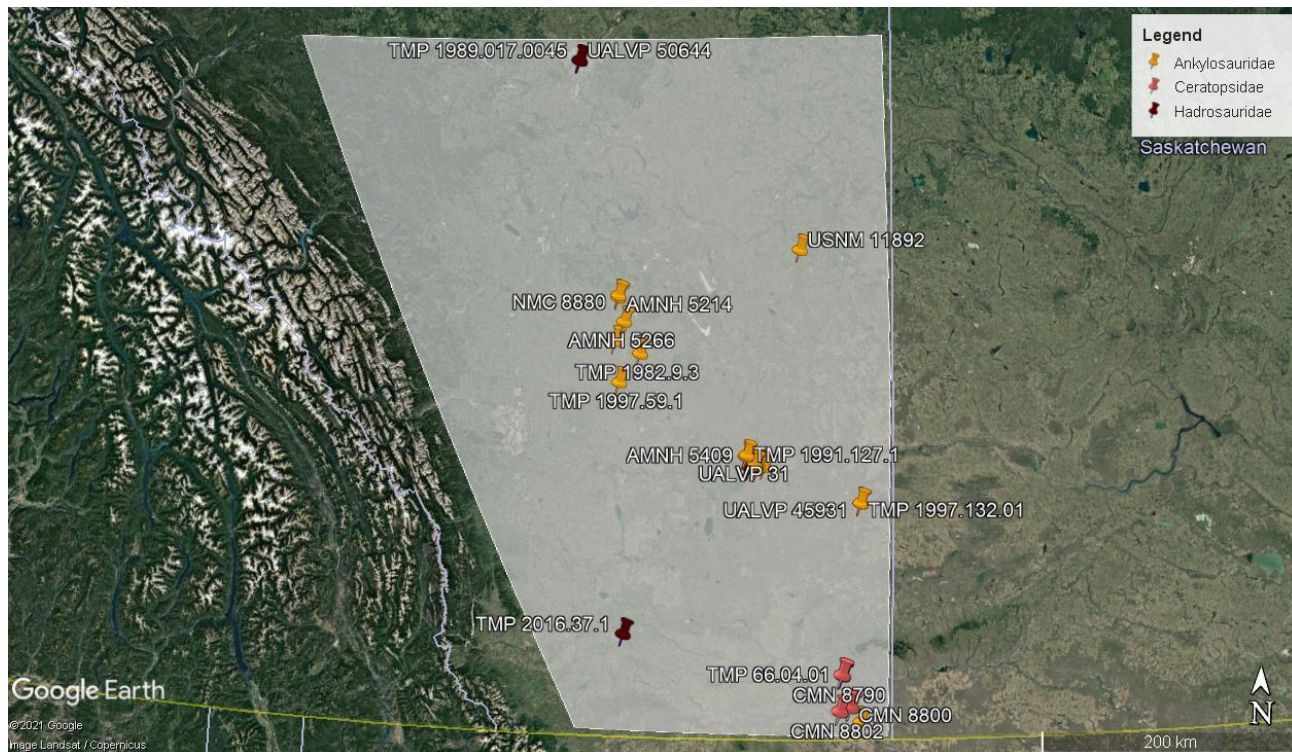
# Southern Alberta Polygon



This image below shows the area of Alberta that the image on the left is zoomed in to.

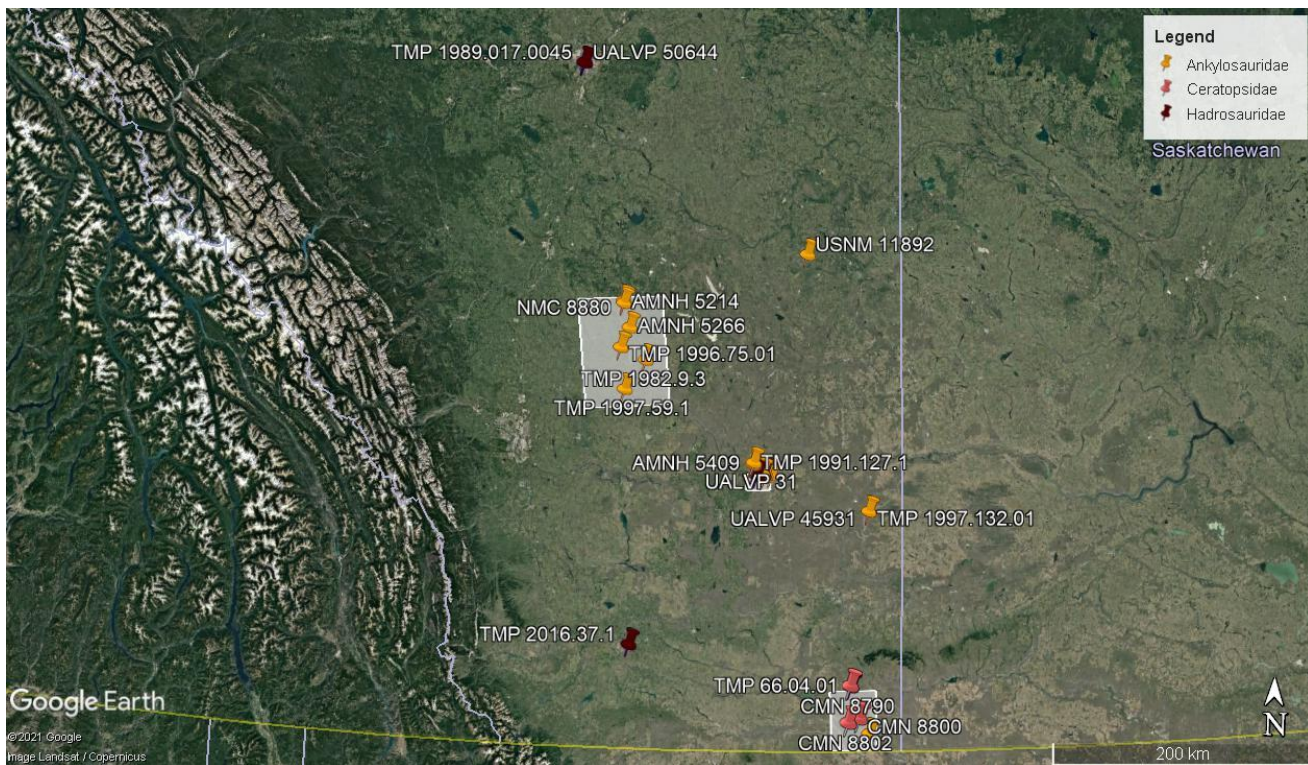


# Southern Alberta Polygon, cont.



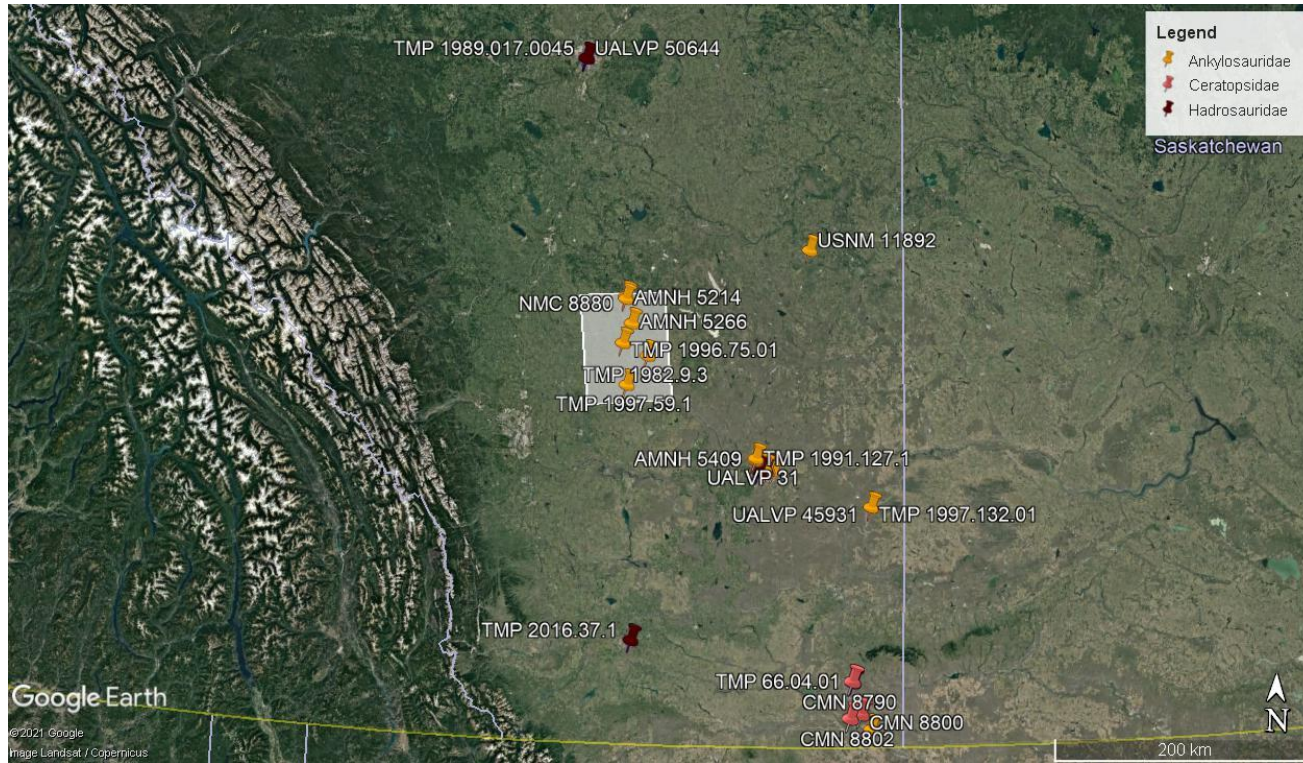
This map shows a polygon highlighting the southern half of Alberta. This is the area where all the points that I mapped landed in.

# The 3 Main Areas of Pin Concentration

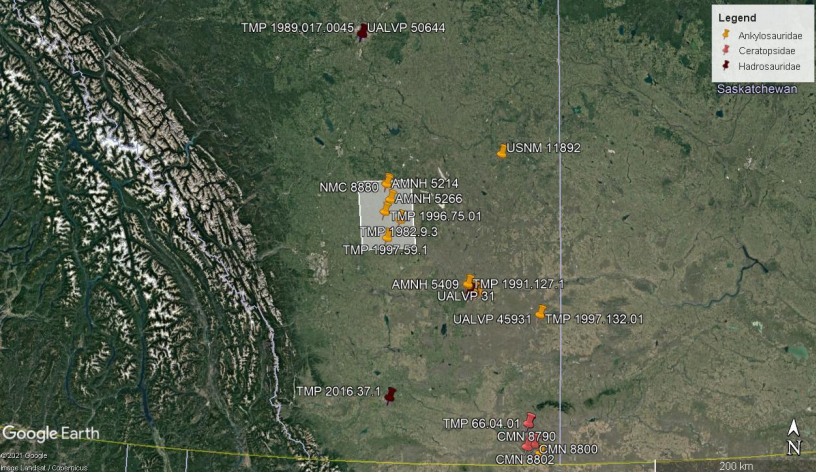


The highlighted polygons shown in this image outline the three main areas that had the highest concentrations of pins. They are the polygons that the following slides will zoom in on. The middle polygon is a bit more difficult to see on this map due to the concentration of pins and text in that small area, but it will be easier to see them in the following slides. There are pins that do not fall within these areas which are discussed in a later slide.

# Polygon One Highlighted



The polygon highlighted in this image contains six pins, all of which are from the Ankylosauridae family.



Pins in this polygon:

AMNH 5214 - *Ankylosaurus magniventris*; Ankylosauridae

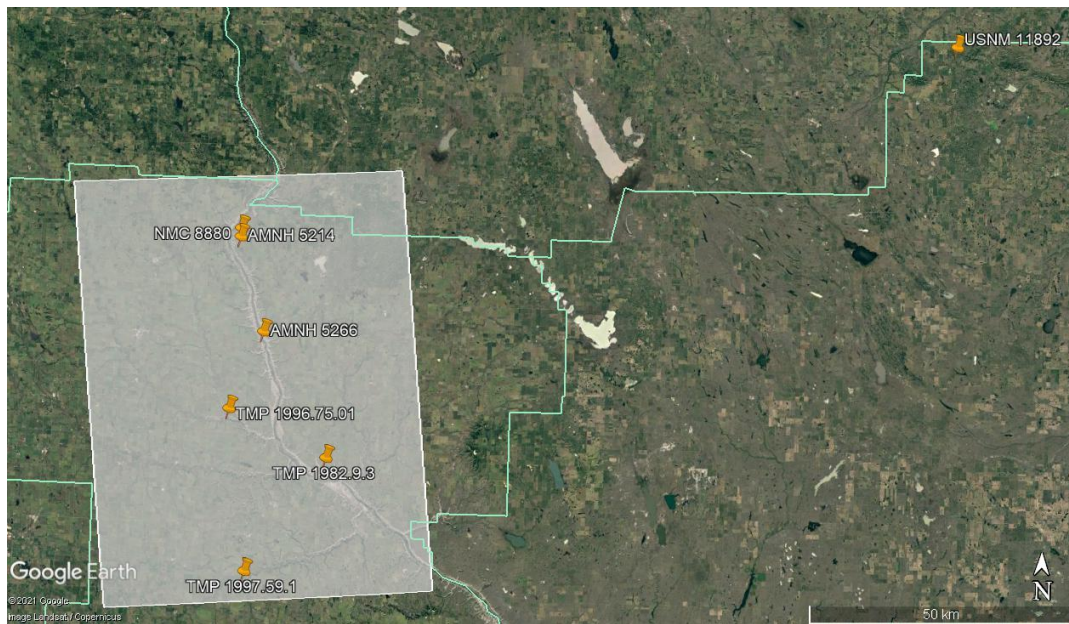
NMC 8880 - *Ankylosaurus magniventris*; Ankylosauridae

AMNH 5266 - Ankylosauridae

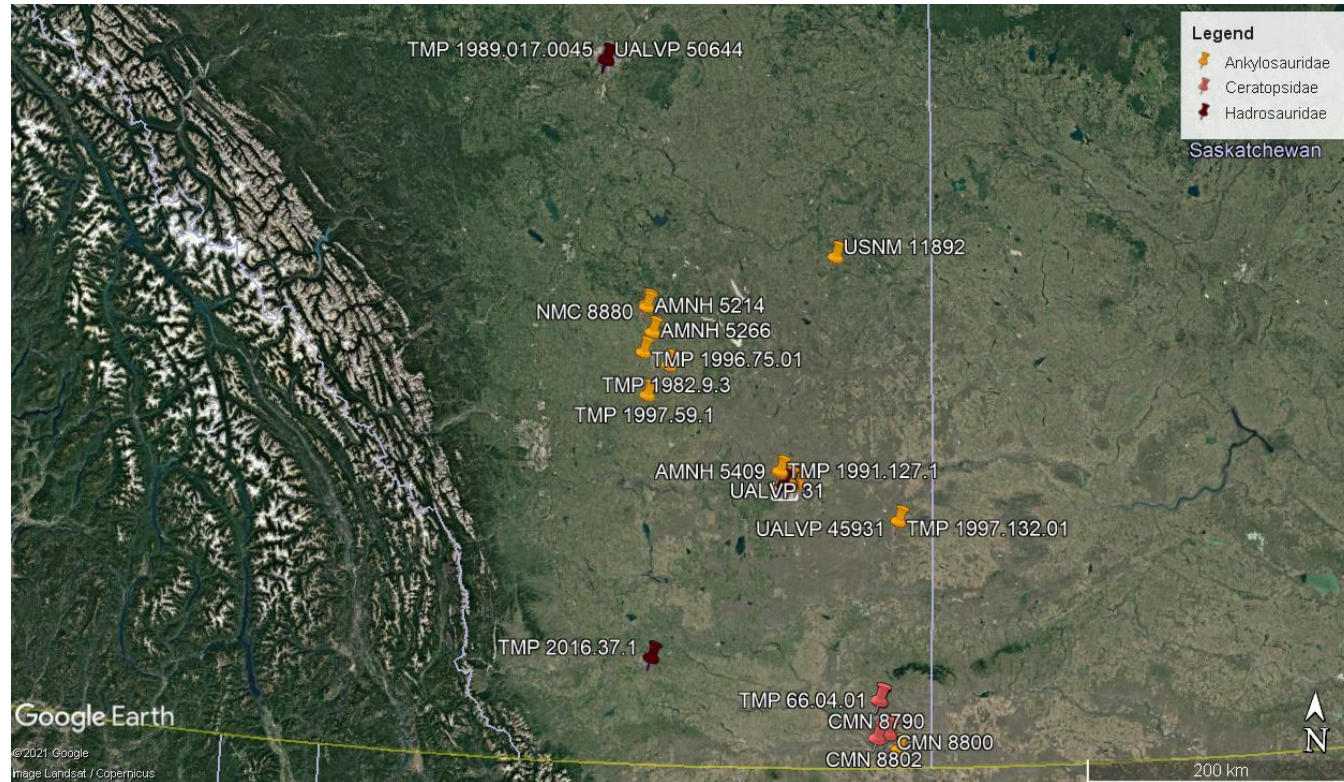
TMP 1996.75.01 - Ankylosauridae

TMP 1982.9.3 - Ankylosauridae

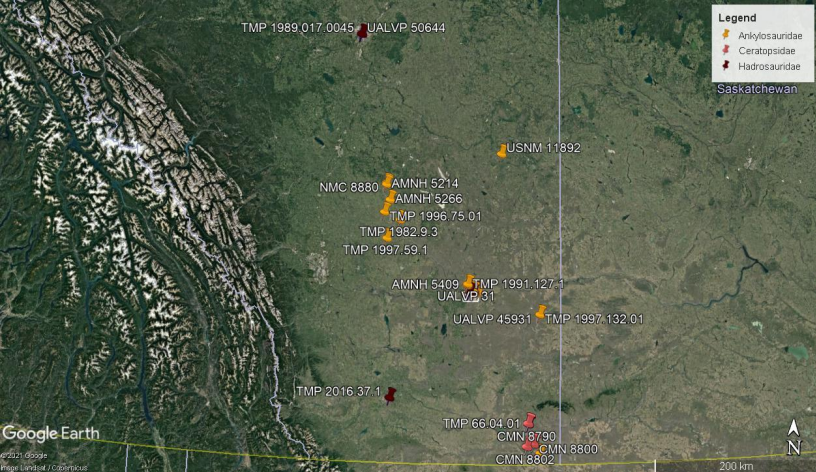
TMP 1997.59.1 - Ankylosauridae



# Polygon Two Highlighted



This polygon contains eleven pins, with some from all three families. This polygon also centers around Dinosaur Provincial Park; a site where a lot of dinosaur specimens have been found.



Pins in this polygon:

UALVP 31 - Ankylosauridae

TMP 1991.127.1 - Ankylosauridae

AMNH 5409 - Ankylosauridae

CMN 8705 - *Lambeosaurus magnicristatus*; Hadrosauridae

AMNH 5404 - Ankylosauridae

NMC 8893 - *Brachylophosaurus canadensis*; Hadrosauridae

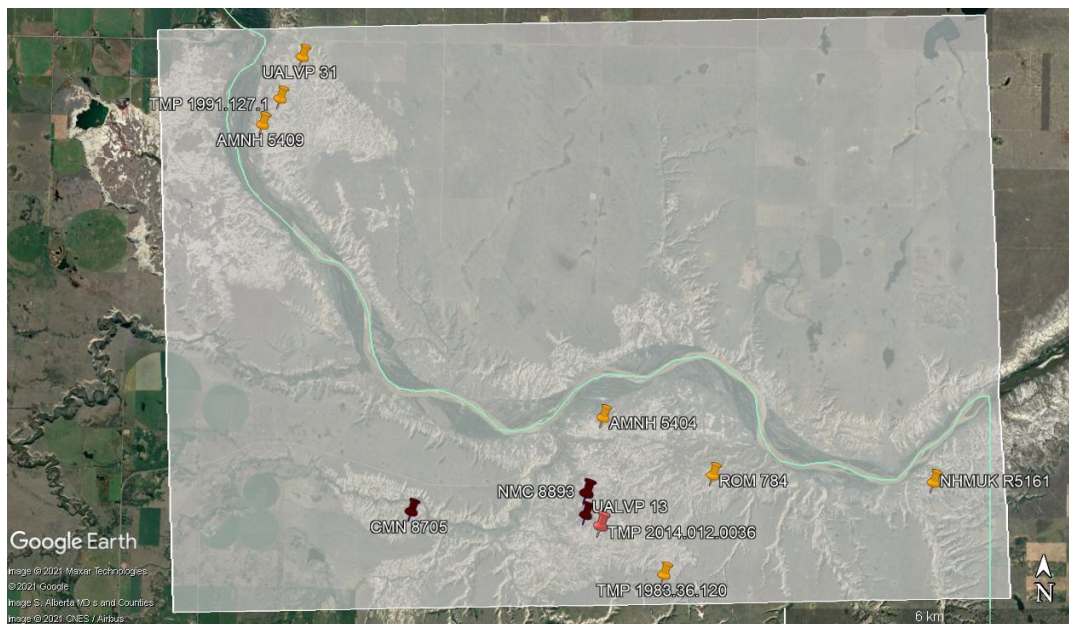
UALVP 13 - *Corythosaurus excavatus*; Hadrosauridae

TMP 2014.012.0036 - *Centrosaurus apertus*; Ceratopsidae

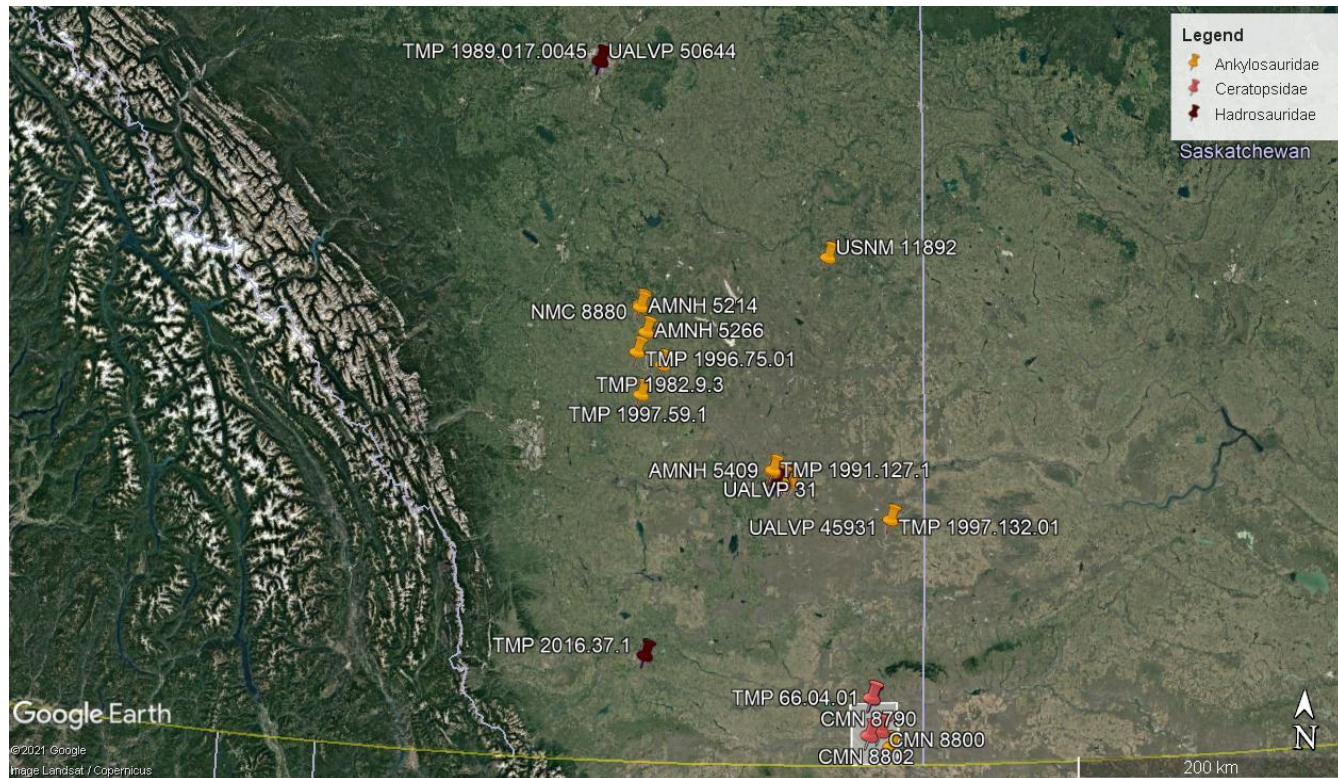
TMP 1983.36.120 - Ankylosauridae

ROM 784 - *Dyoplosaurus acutosquameus*; Ankylosauridae

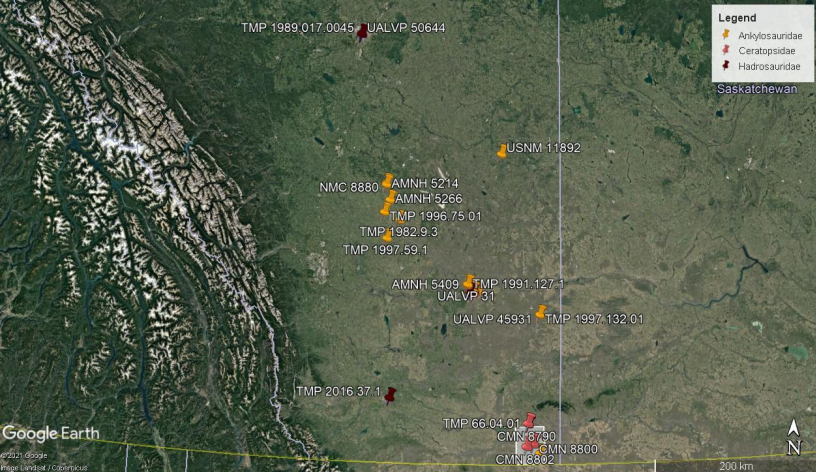
NHMMUK R5161 - *Scolosaurus cutleri*; Ankylosauridae



# Polygon Three Highlighted



This polygon contains five pins with at least one from all three families. It is in the south eastern corner of Alberta, near Onefour and Manyberries.



Pins in this polygon:

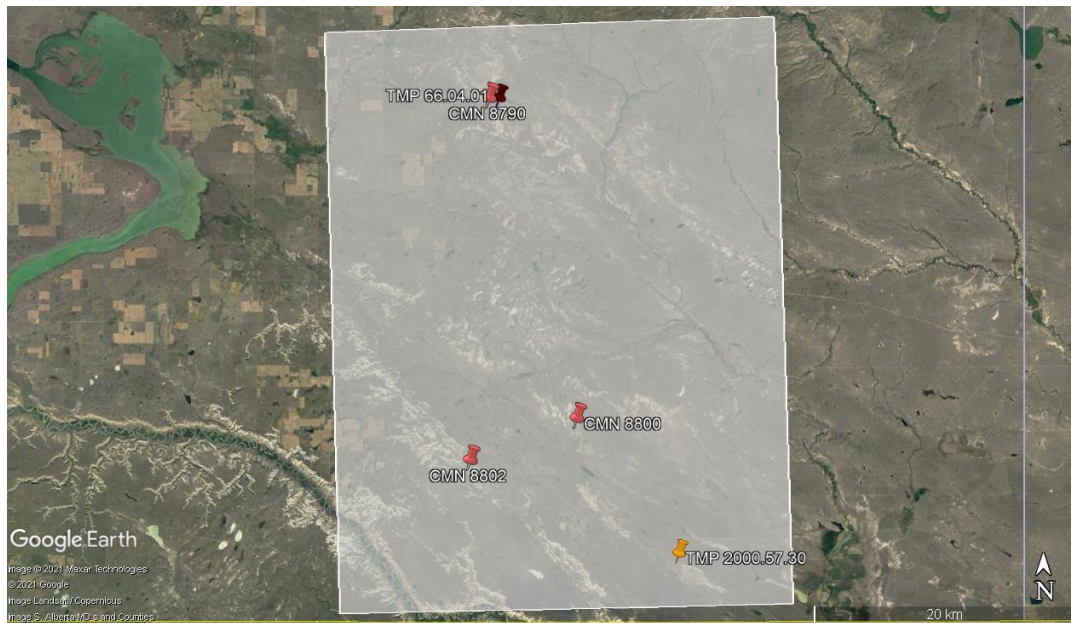
CMN 8790 - *Monoclonius lowei*; Ceratopsidae

TMP 66.04.01 - *Lambeosaurus magnicristatus*; Hadrosauridae

CMN 8800 - *Chasmosaurus russelli*; Ceratopsidae

CMN 8802 - *Chasmosaurus russelli*; Ceratopsidae

TMP 2000.57.30 - Ankylosauridae



# Pins that didn't fall in the concentrated areas

These pins didn't fall within the polygons that were seen in the previous close up maps. They were more easily seen in the wider maps in the earlier slides.

**TMP 1989.017.0045** - *Edmontosaurus regalis*; Hadrosauridae

**UALVP 50644** - *Edmontosaurus regalis*; Hadrosauridae

**USNM 11892** - Ankylosauridae

**TMP 1997.132.01** - Ankylosauridae

**UALVP 45931** - Ankylosauridae

**TMP 2016.37.1** - *Prosaurolophus maximus*; Hadrosauridae

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