



TeachEngineering

MOSQUITOS (SUCKING THE FUN OUT OF SUMMER): HYDROLOGY POWERPOINT



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What is hydrology?

- **Hydrology** is the study of water's movements, and how those movements affect the land surrounding them.
 - **Hydro** = water & **logy** = study of
- A **hydrologist** is someone who studies hydrology. They look at erosion rates and water velocity to study how bodies of water change over time.
- Hydrologists study previous flood data and use that to make predictions about future floods.



History: Fargo-Moorhead Flooding

In 1997, the Red River reached a peak discharge of 27,800 cubic feet per second, flooding the Fargo-Moorhead area. In 2009, the Red River reached a peak discharge of 29,100 cubic feet per second.

Prediction models indicate that the discharge level for a return period of 100 years is 39,071 cubic feet per second. If a flood with this much river discharge occurs, the entire Fargo-Moorhead area will be underwater.

How can hydrologists help to mitigate the damage from a severe flood?

Diversion Project

- Hydrologists have helped to create the river diversion project in the area, which has a total cost of approximately \$3 billion.
- How does the benefit of the diversion project outweigh the cost for our area?
- Hydrologists have helped develop the diversion project – a channel designed to alleviate future flooding.

References

- <https://www.bls.gov/ooh/life-physical-and-social-science/hydrologists.htm#:~:text=in%20the%20field.-,Hydrologists%20study%20how%20water%20moves%20across%20and%20through%20the%20Earth's,or%20eventually%20reach%20the%20oceans.>
- <https://fmdiversion.gov/about/faqs/>
- <https://waterdata.usgs.gov/monitoring-location/05054000/>