Projekt

# Introduction

The Peace River Regional district in British Columbia, Canada has been damaged by several floods in the last few years. These floods are caused by the summer downpour, in 2011 a 150 mm of rain fell in north-eastern British Columbia in a few days, hundreds of homes were damaged, wells become polluted and the main highway in the area was washed out in several places. Disasters have occurred in 2011, 2013 as well as 2014 and there is reason to believe that similar floods could occur again. The objective of this project is to visualize which areas are at risk using Landsat 7 satellite imagery and extracting the river boundaries year by year. The result should help visualize the flooding in time space which will make it possible to monitor the changes of the river basin.

# Method

Automatic scanning/loading of images from user-specified folder, the detected files are added to a cell-array which we perform our processing on using for-loops etc.

FFT is performed static polygons for all images since the periodic noise is equal or uniform on all the images. Some data may be lost however it has been within reasonable levels.

Contrast adjustment is performed using imsharpen (default parameters) and imadjust (default parameter, may need to change threshold values).  
Afterwards we pre-process to enhance river / shorelines before performing the canny operation.

# Result

TBA - [To be announced]

# *Discussion*

*Discuss da shitty yolo stuff.*

*Discussion on Landsat 7 imagery and a motivated choice of band/bands. Accurate and motivated pre-processing is done. Modification of Canny edge detector is described & motivated.  
The algorithm with all the steps is described*.

Discuss possible improvements.