Introduction

The state's flood risk and key population density are factors in determining the likelihood of severe and minor flooding. MODIS sensors have been used to study flood and ice extent in the U.S. and global river basins. These MODIS images provide large-scale views of surface water extent and vegetation change. However, LiDAR imagery does not clearly differentiate river flows from clouds.

The Great Falls FLOOD (Flood Resiliency District) has been monitoring the effects of the MODIS false color image. The MODIS data is a product of the National Aeronautics and Space Administration's (NASA) Earth Observing System (EOS) Program. The MODIS data is useful for assessing flood extent and vegetation changes in the Great Falls area. MODIS data is a valuable tool for flood risk assessment and management.

MODIS False Color Composite

MODIS data is an image representation of the Earth's surface as seen by the MODIS sensor. The data is combined to create a false color image that highlights certain features and provides information about water, land, and vegetation. The MODIS data can be used to track changes in vegetation and water extent over time.

Comparison to Other Satellites

MODIS data can be compared to other satellite data such as LANDSAT or QuickBird. LANDSAT data provides high-resolution images of the Earth's surface, while QuickBird data provides high-resolution images of specific areas. MODIS data is useful for tracking changes in vegetation and water extent over large areas.

Floods in the Missouri River Basin

The MODIS false color image can be used to monitor flooding events in the Missouri River Basin. The image shows the extent of flooding in the basin and provides information about the extent of water inundation. The image can be used to assess the impact of flooding on the basin and to identify areas that require emergency management.

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Assessment Samples

The MODIS false color image can be used to assess the extent of flooding in the Missouri River Basin. The image can be used to identify areas that require emergency management and to assess the impact of flooding on the basin.

River Ice Monitoring Samples

The MODIS false color image can be used to monitor changes in river ice extent. The image can be used to assess the impact of ice extent on river flow and to identify areas that require emergency management.

Assessment of Flooding Potential

The MODIS false color image can be used to assess the potential for flooding events in the Missouri River Basin. The image can be used to identify areas that require emergency management and to assess the impact of flooding on the basin.

2004 Case Assessment

The MODIS false color image can be used to assess the impact of flooding events in the Missouri River Basin. The image can be used to identify areas that require emergency management and to assess the impact of flooding on the basin.

Findings

Advantages of false color composite

- Complete assessment of water extent
- High spatial resolution
- Integration of various data sources

Disadvantages of false color composite

- Cost:
- Limited to two images daily
- Snow/ice data requires multiple images for accurate assessment

Conclusions

The MODIS false color image can be used to monitor flooding events in the Missouri River Basin. The image can be used to assess the impact of flooding on the basin and to identify areas that require emergency management.

References
