



# Segmentation of Tussock Cotton Grass in UAV Imagery Using Deep Learning Approach

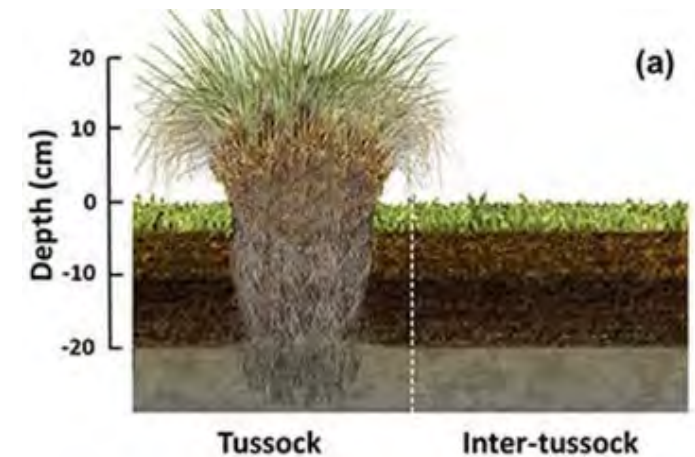
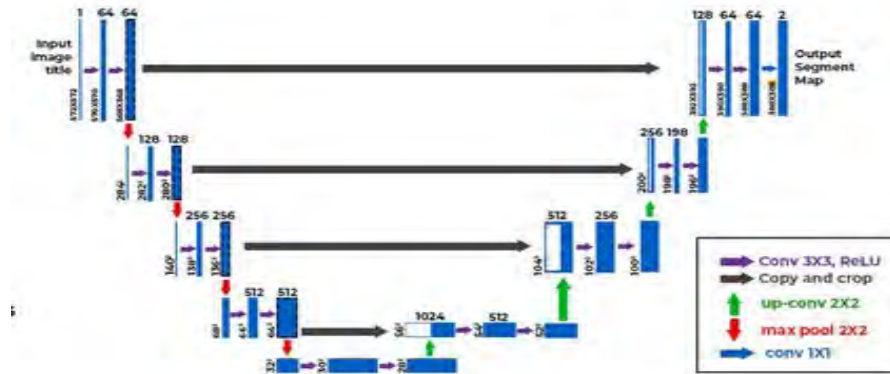
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# Objective

- Can we use **UAV-derived images and Deep Learning** approaches to **automatically segment tussock individuals**?
- **Approach:**
  - Segmentation using Deep Learning architecture such as **U-Net**
  - Encoder learns to identify features in the image
  - Decoder learns to reconstruct the segmentation mask for the original image

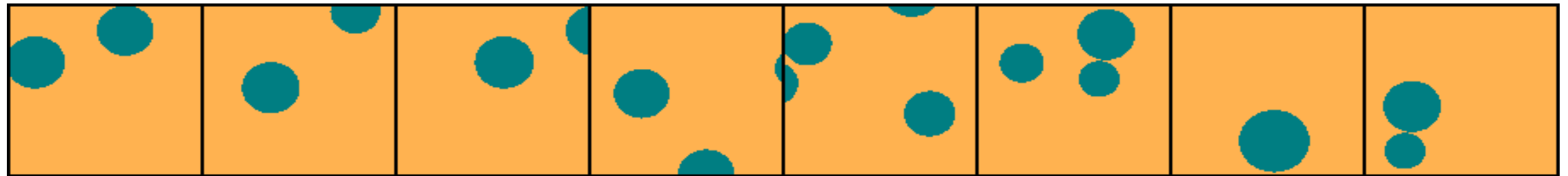




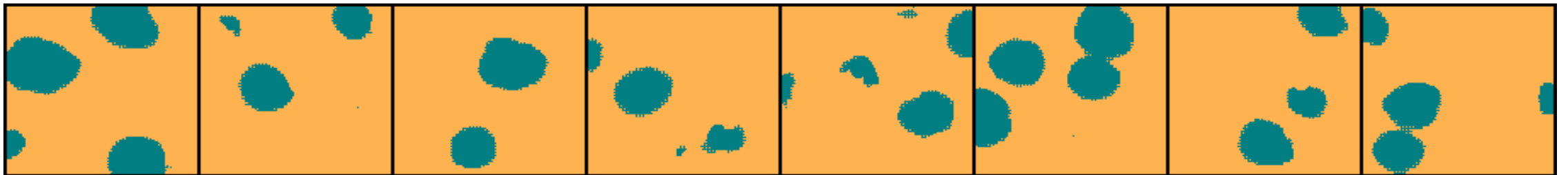
# Model Prediction



Input to the U-Net model



Human annotated labels



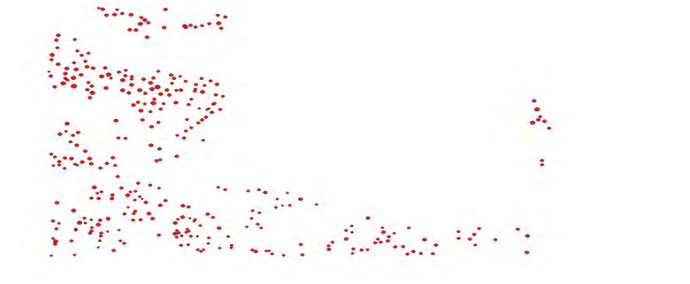
Prediction

# Model Prediction

Input  
Images



Manual  
Annotation



Model  
Prediction

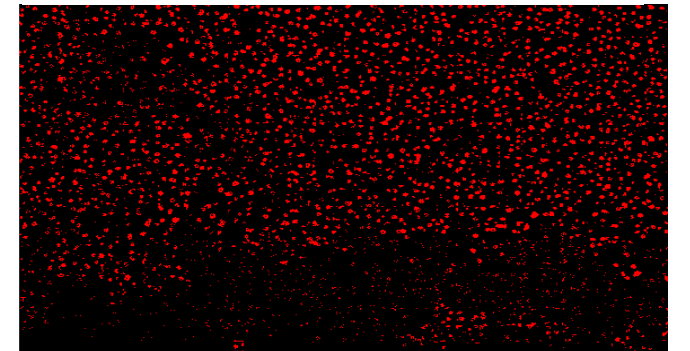
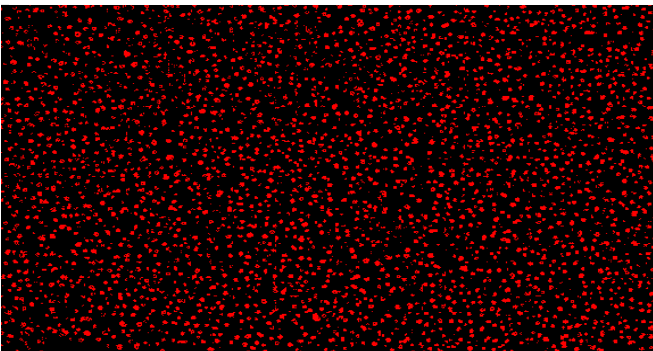
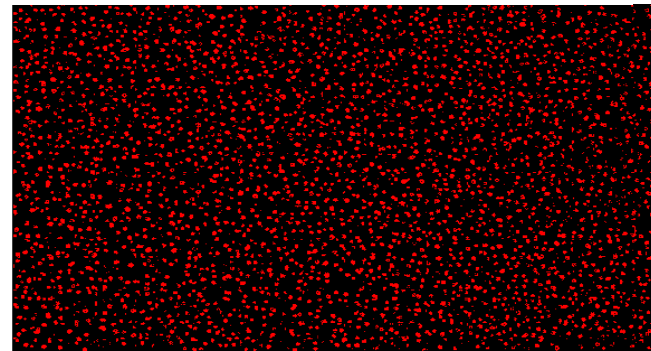


Image 1

Image 2

Image 3

# Conclusion & Future Work

- Segment Tussocks using U-Net segmentation model
- Promising outcomes obtained, indicating potential effectiveness
- **Future Work:**
  - › Improve model prediction through post-processing steps
  - › Validate predictions using in-situ density estimates

