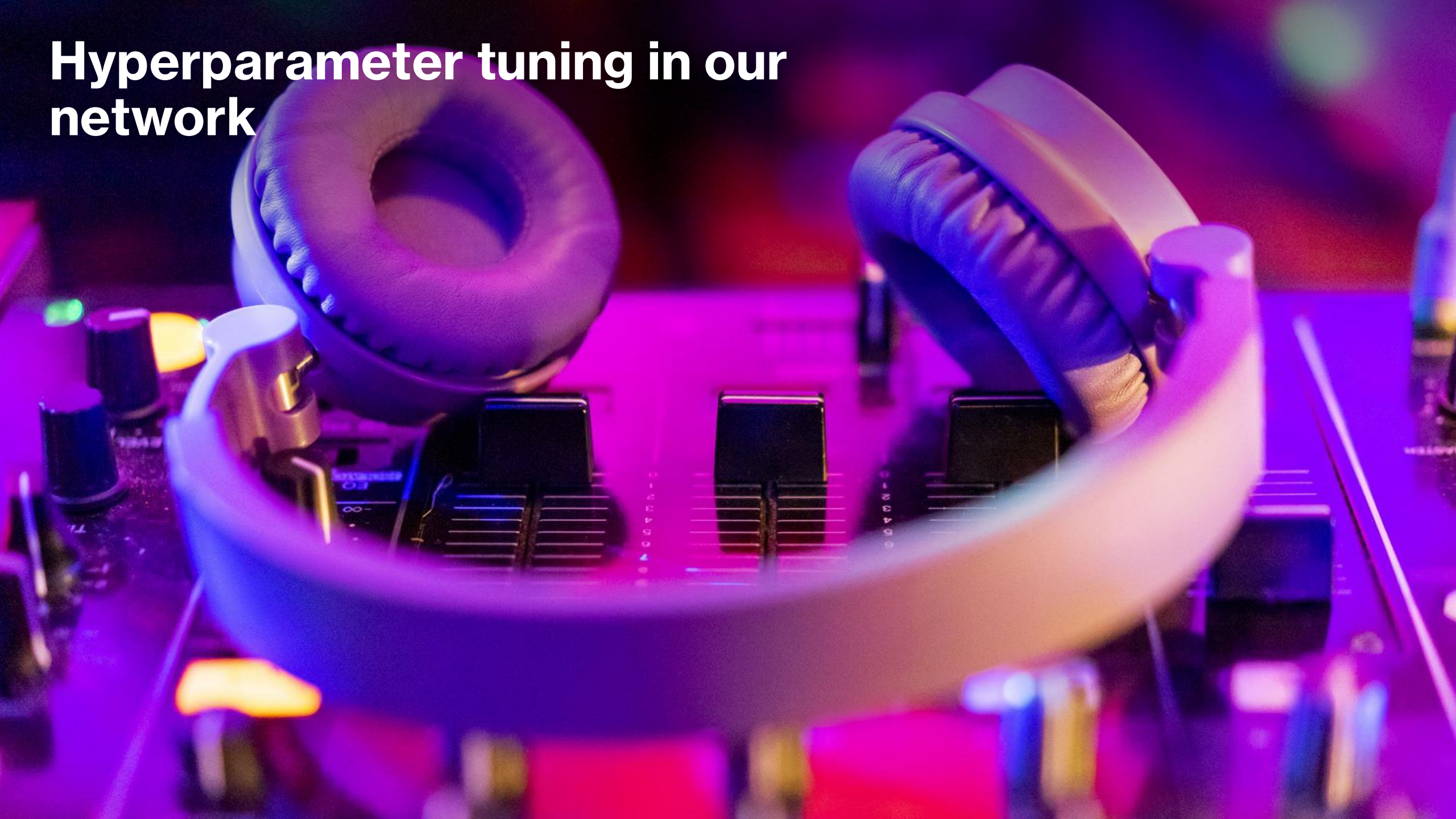


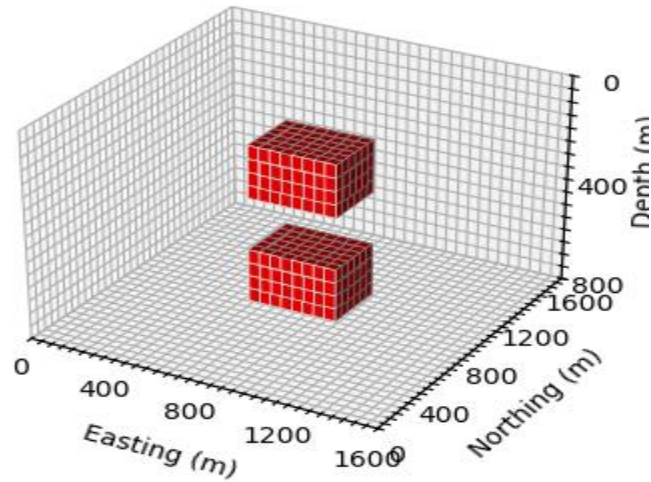
# Hyperparameter tuning in our network



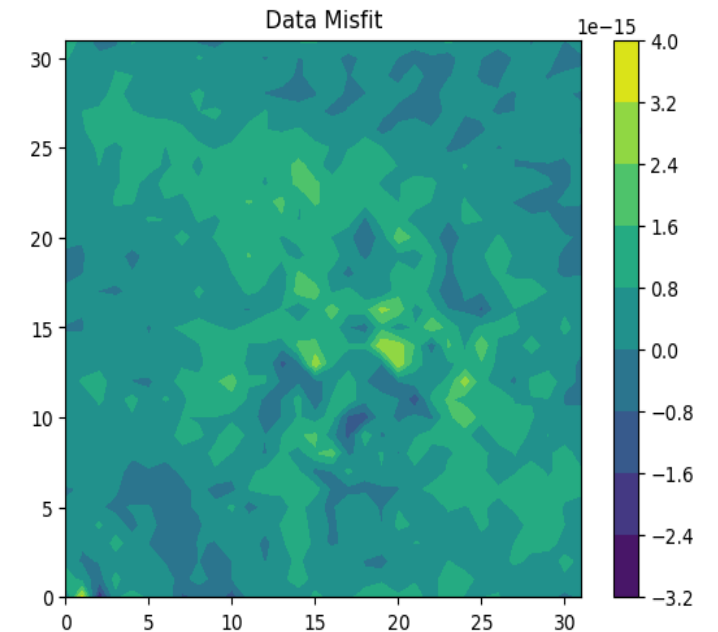
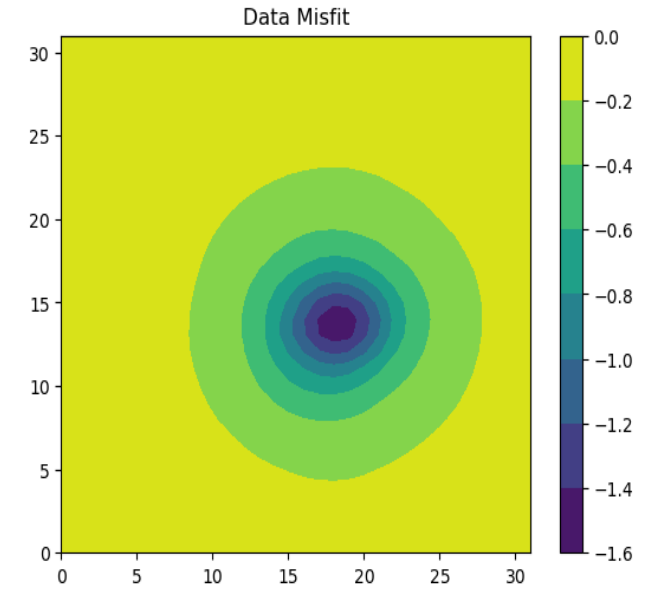
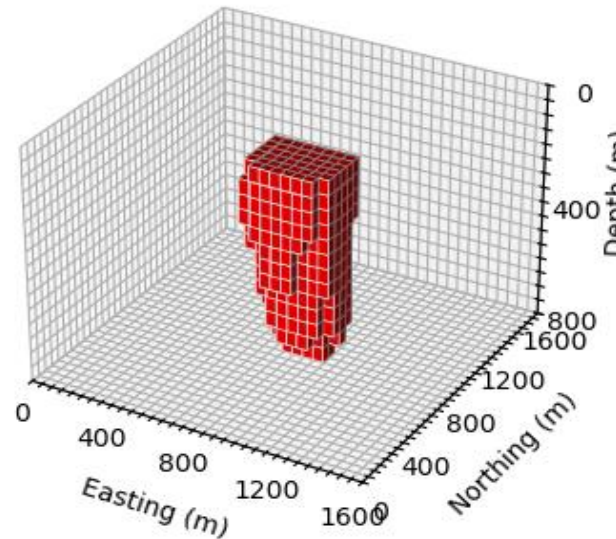
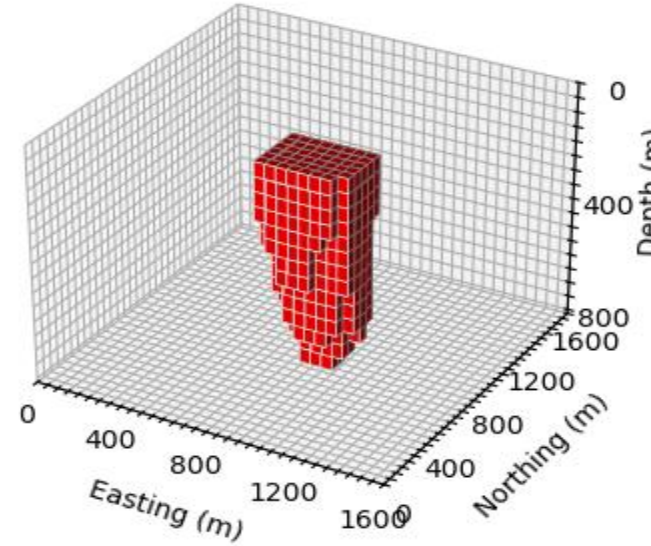


# Results

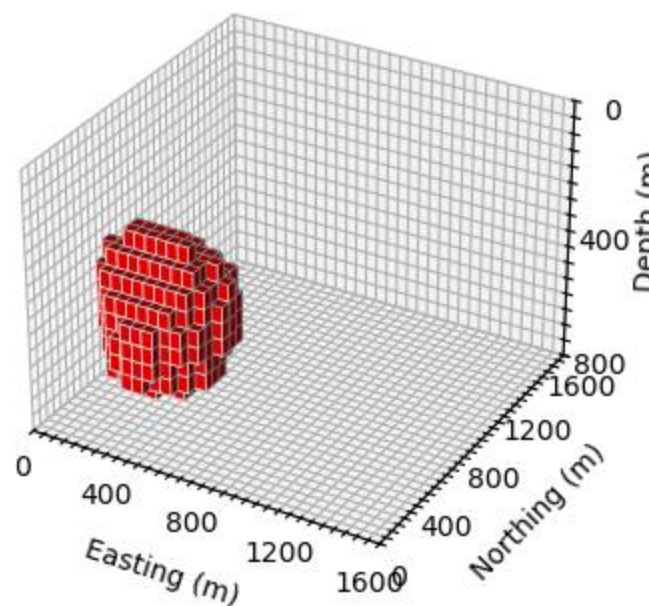
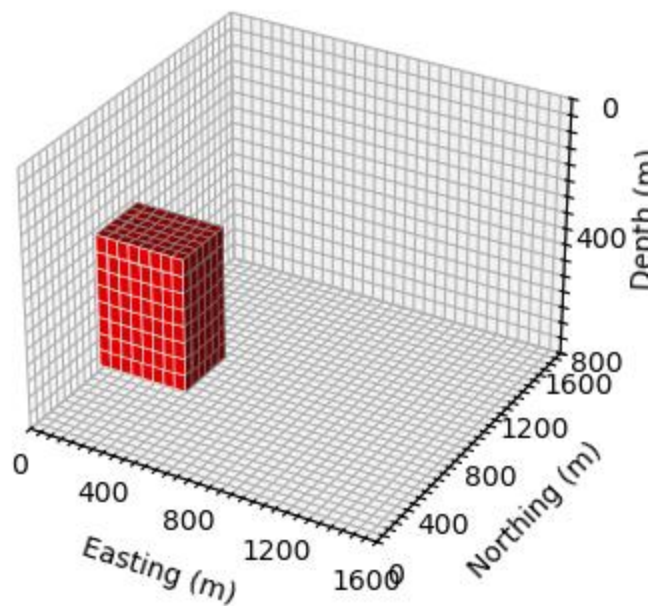
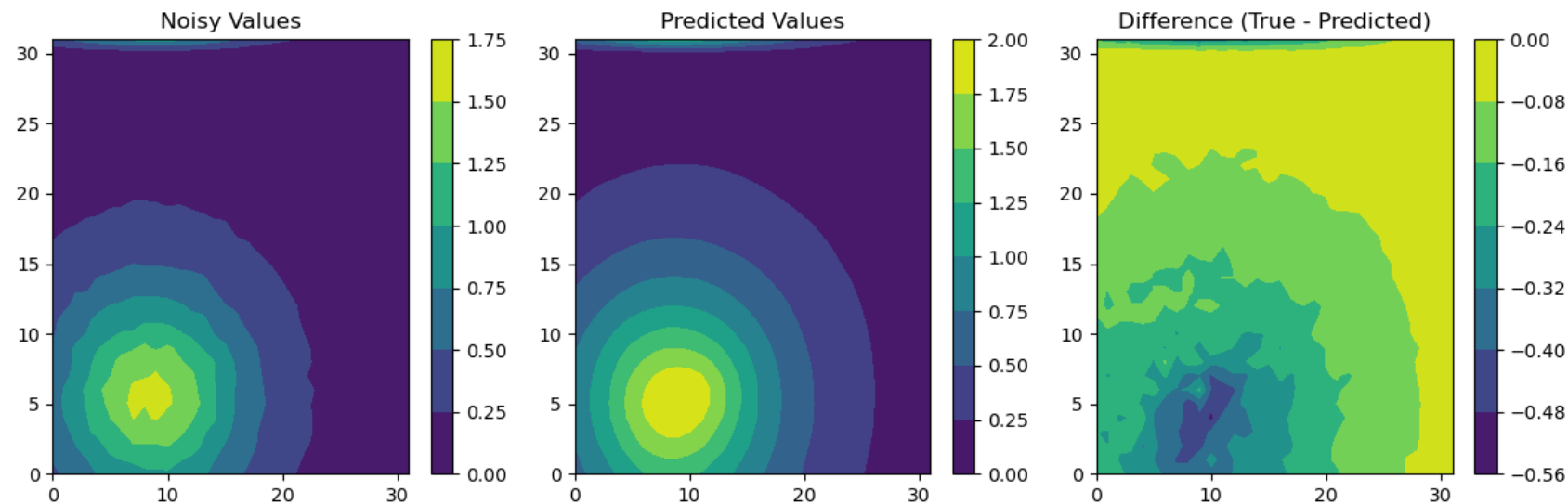
Quantitative evaluation for direct reconstruction  
PSNR: 19.34142916522926  
Relative Error: 0.704649031162262  
RMSE: 0.10787692666053772  
Correlation Coefficient: 0.739835824922733



Quantitative evaluation for direct reconstruction  
PSNR: 19.53576567237831  
Relative Error: 0.6890584423080386  
RMSE: 0.10549010300220205  
Correlation Coefficient: 0.7409599950336192

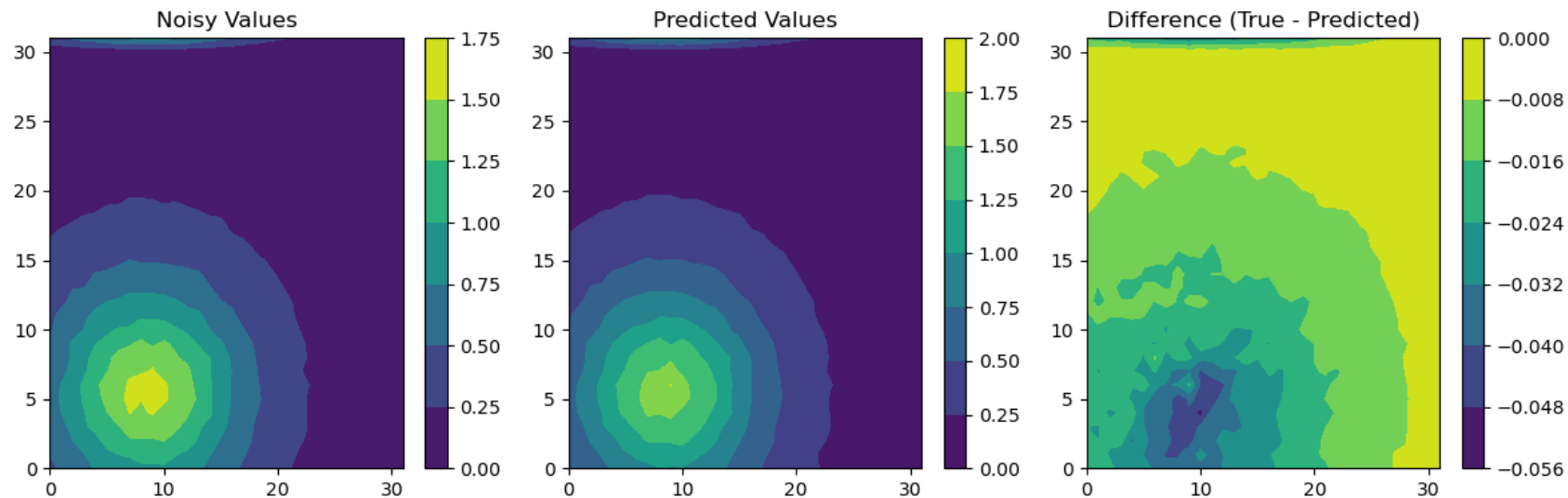
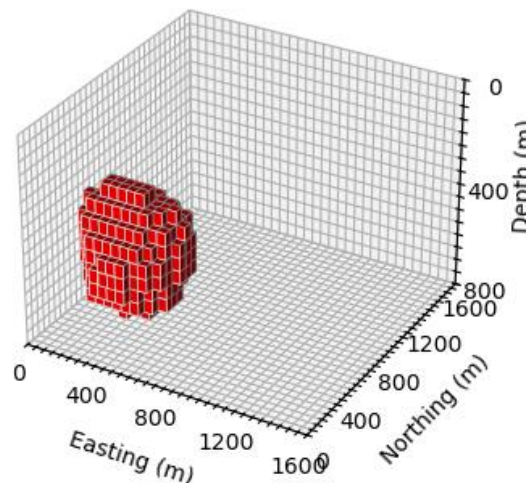
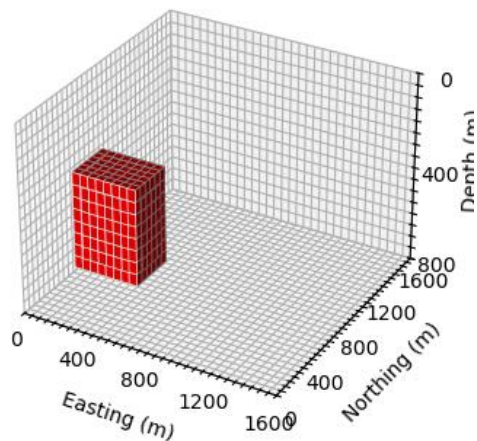


# Noise Level: 2%



Quantitative evaluation for direct reconstruction  
PSNR: 20.10479561008989  
Relative Error: 0.6453636884689331  
RMSE: 0.09880074113607407  
Correlation Coefficient: 0.7777627900309365

# Improvement



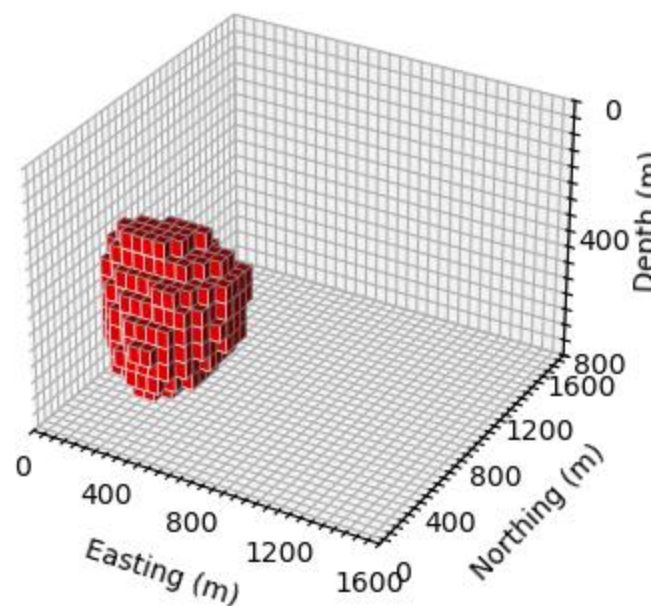
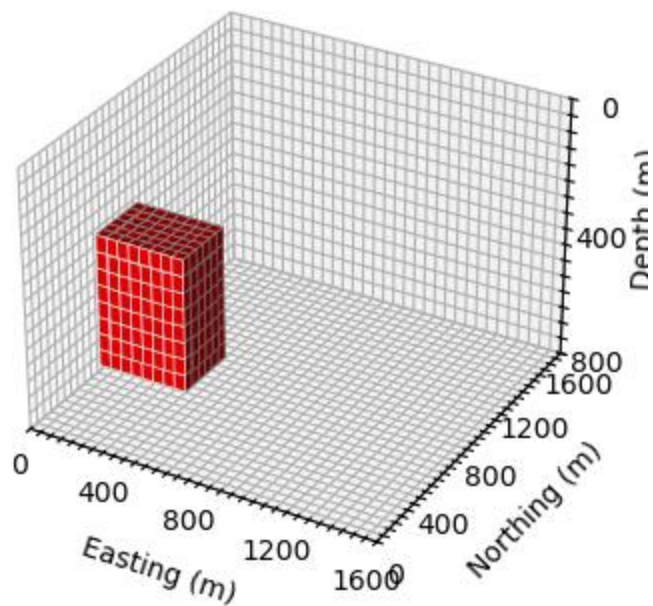
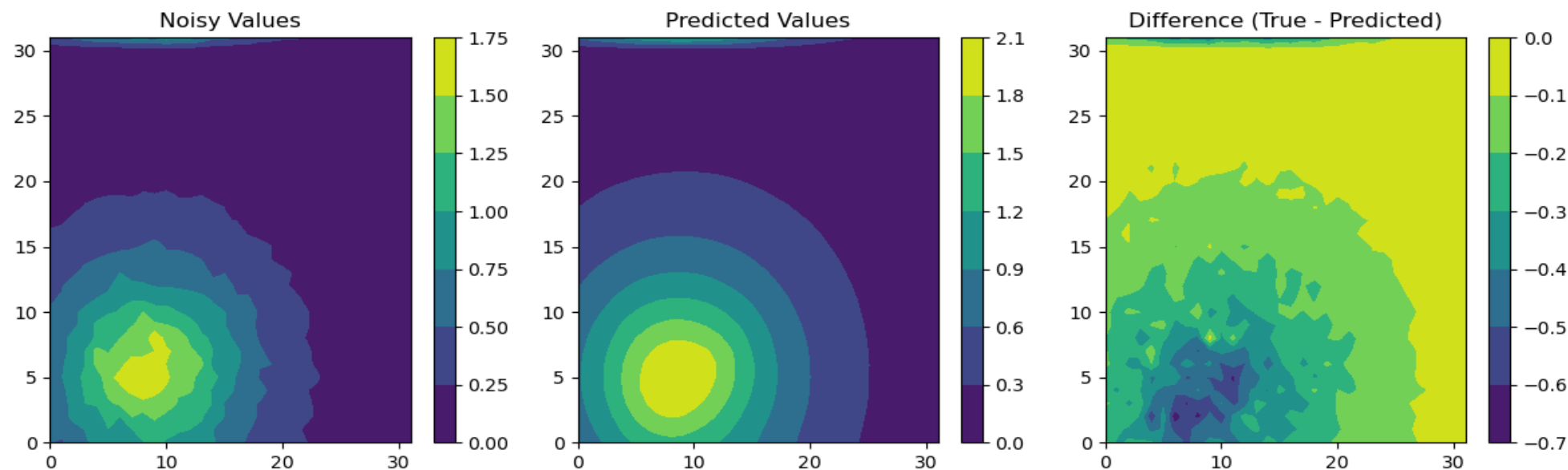
Existing

Quantitative evaluation for direct reconstruction  
PSNR: 20.10479561008989  
Relative Error: 0.6453636884689331  
RMSE: 0.09880074113607407  
Correlation Coefficient: 0.7777627900309365

Improved

Quantitative evaluation for direct reconstruction  
PSNR: 20.140697823579224  
Relative Error: 0.6427017026979348  
RMSE: 0.09839320535744468  
Correlation Coefficient: 0.776463533664261

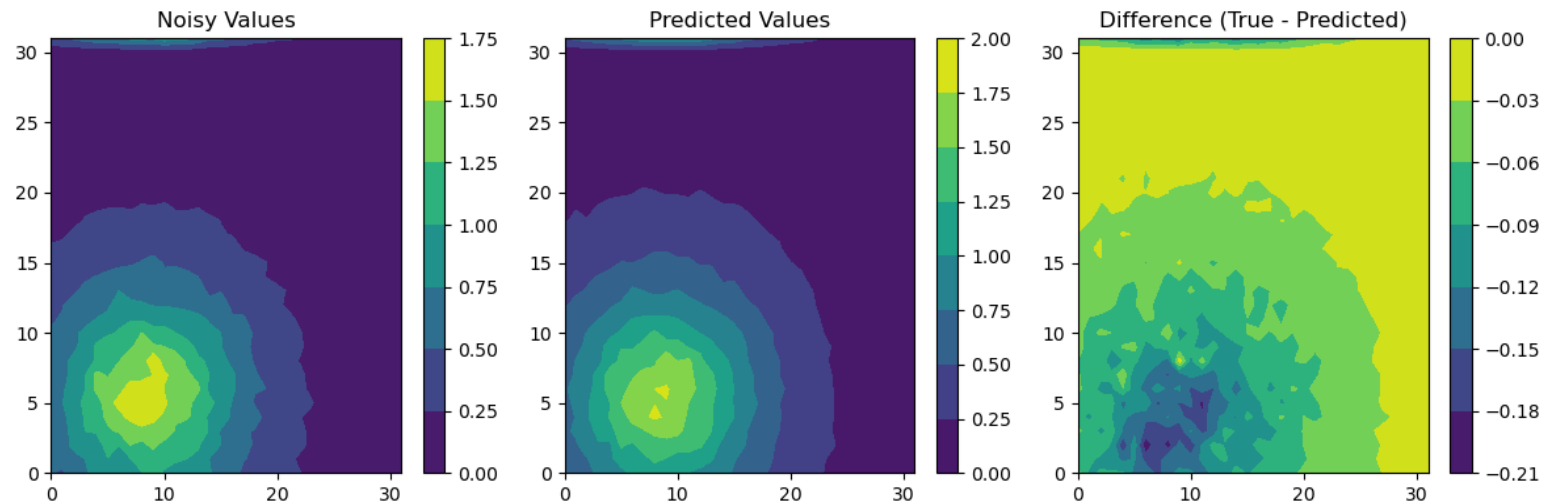
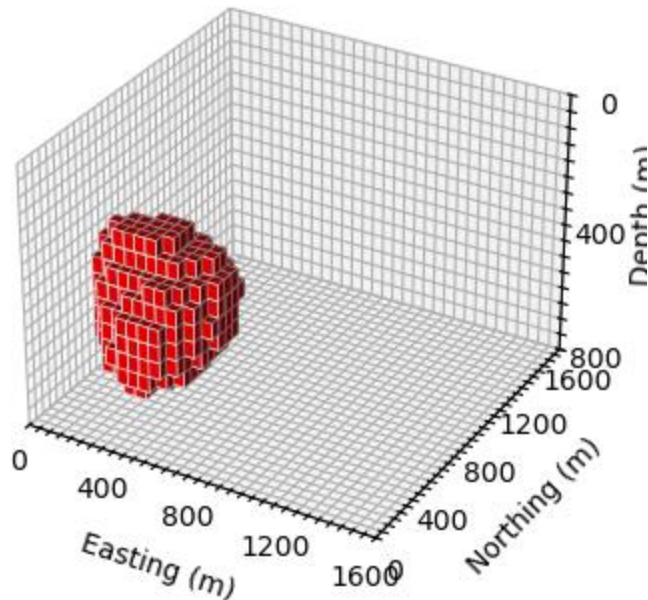
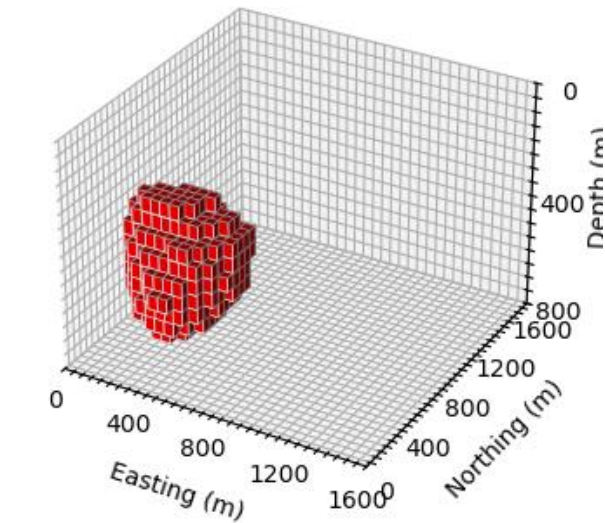
# Noise Level 4%



Quantitative evaluation for direct reconstruction  
PSNR: 19.983134716222416  
Relative Error: 0.6544667482376099  
RMSE: 0.10019435733556747  
Correlation Coefficient: 0.7756696765902329



# Improvement



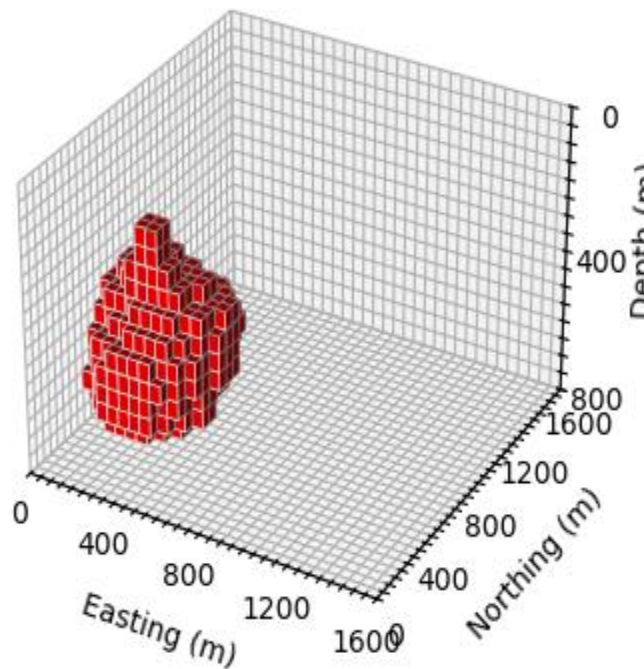
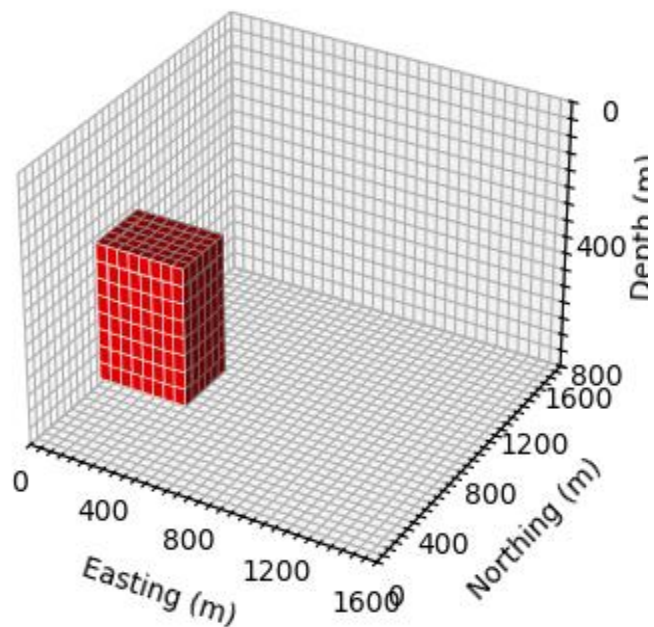
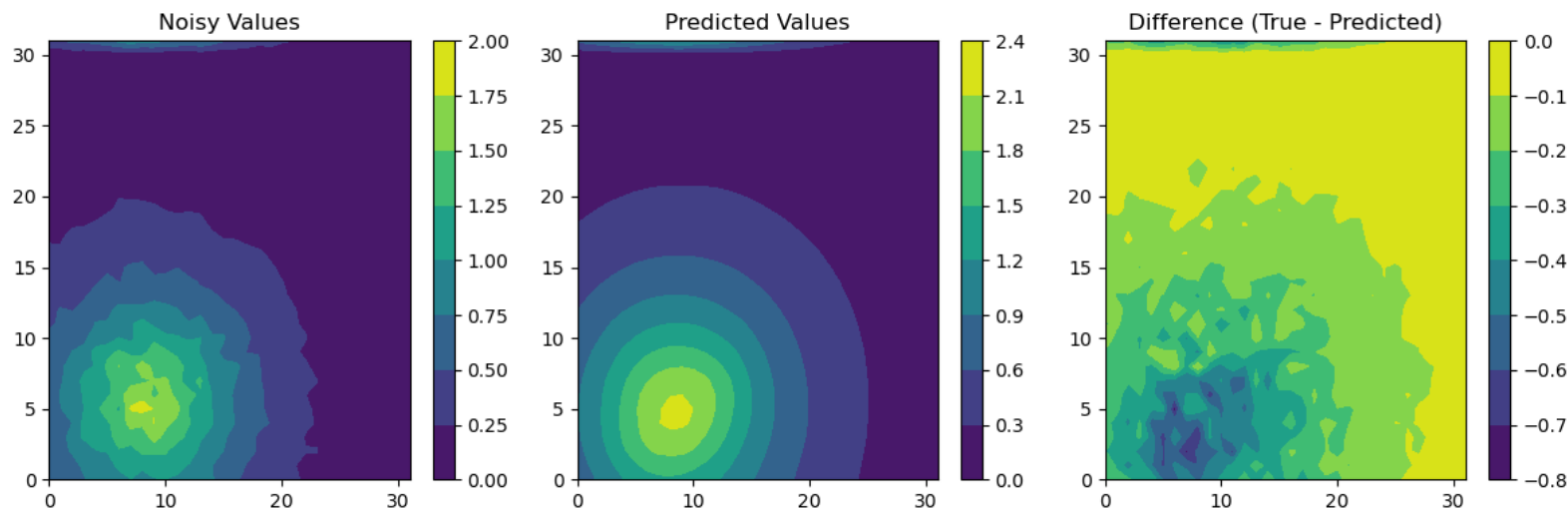
Existing

Quantitative evaluation for direct reconstruction  
PSNR: 19.983134716222416  
Relative Error: 0.6544667482376099  
RMSE: 0.10019435733556747  
Correlation Coefficient: 0.7756696765902329

Improved

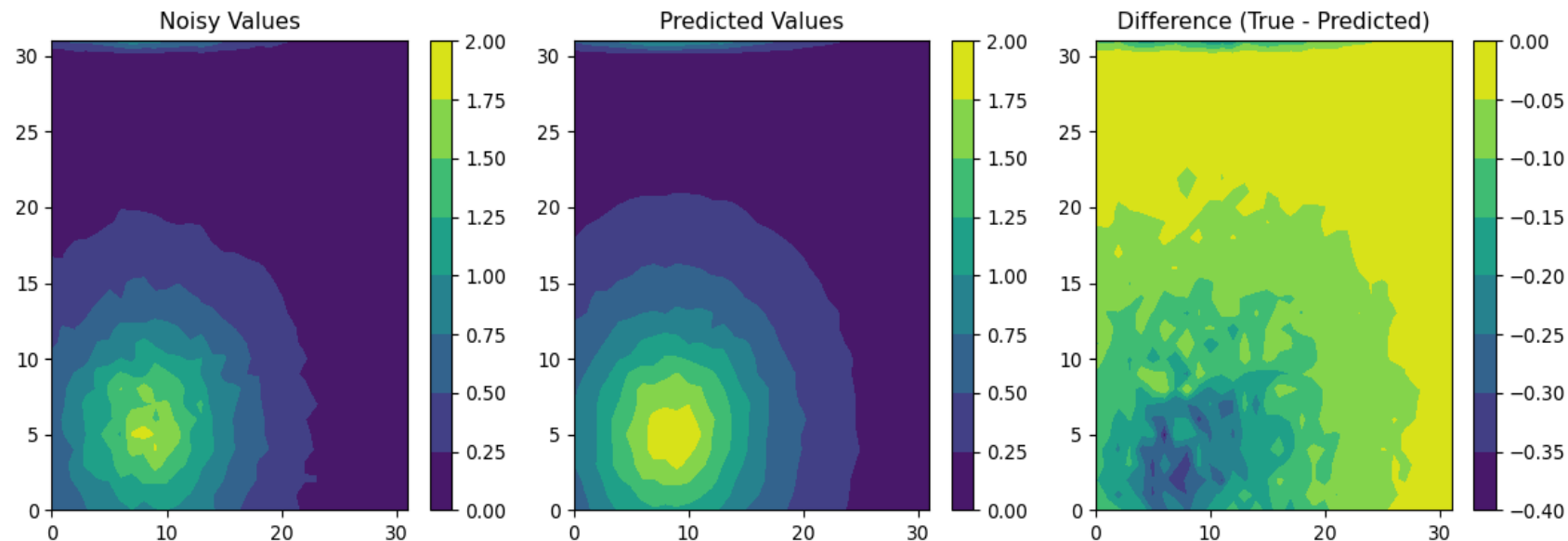
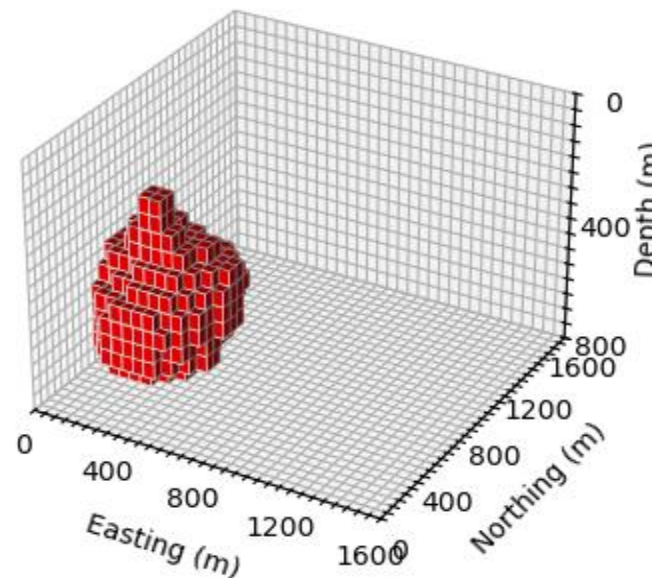
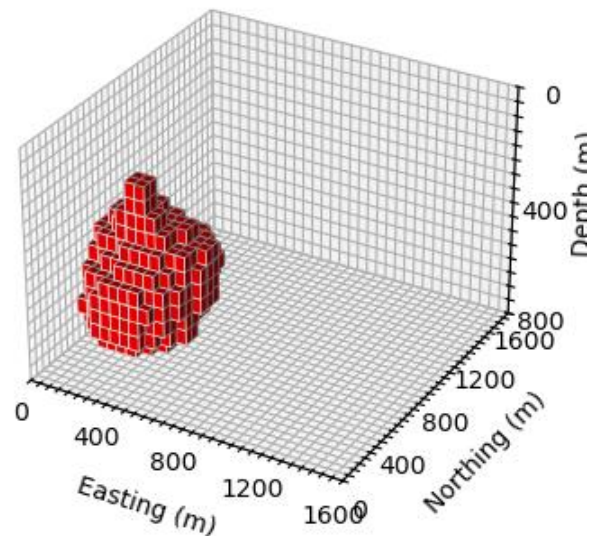
Quantitative evaluation for direct reconstruction  
PSNR: 20.02240983720209  
Relative Error: 0.6515141460449123  
RMSE: 0.09974232975574665  
Correlation Coefficient: 0.7741873345914311

# Noise level 5%



Quantitative evaluation for direct reconstruction  
PSNR: 19.504849230152626  
Relative Error: 0.6915153861045837  
RMSE: 0.10586624592542648  
Correlation Coefficient: 0.7509595463412774

# Improvement



Existing

Quantitative evaluation for direct reconstruction

PSNR: 19.504849230152626

Relative Error: 0.6915153861045837

RMSE: 0.10586624592542648

Correlation Coefficient: 0.7509595463412774

Proposed

Quantitative evaluation for direct reconstruction

PSNR: 19.54040739846822

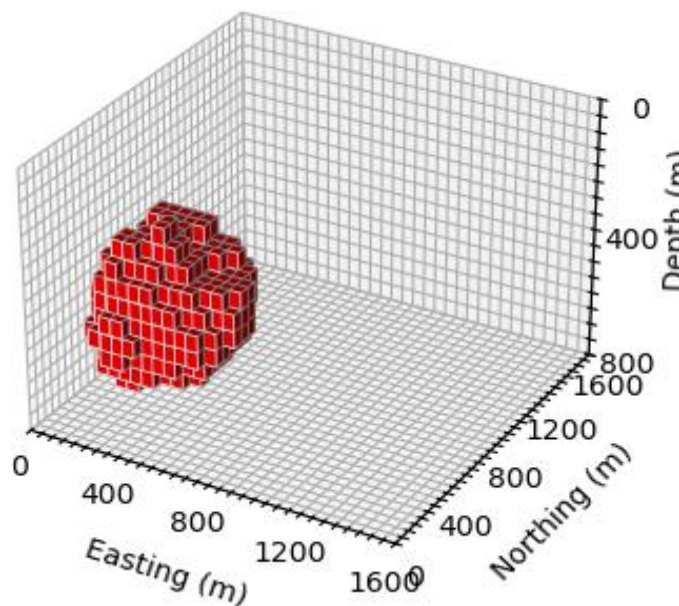
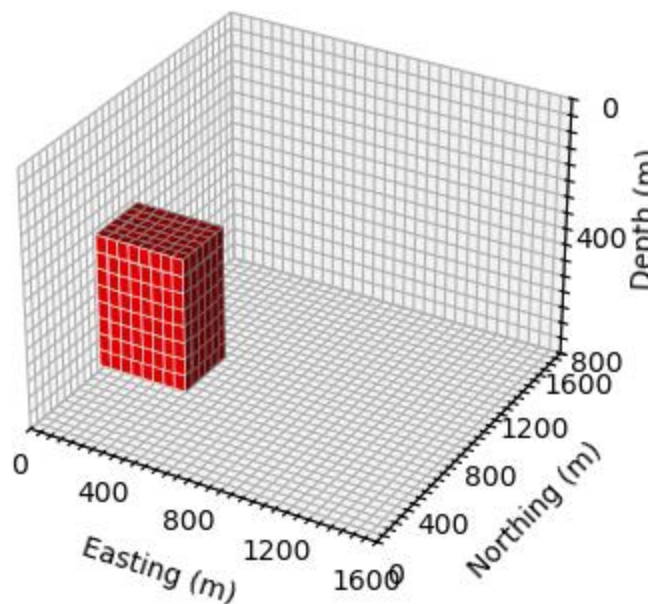
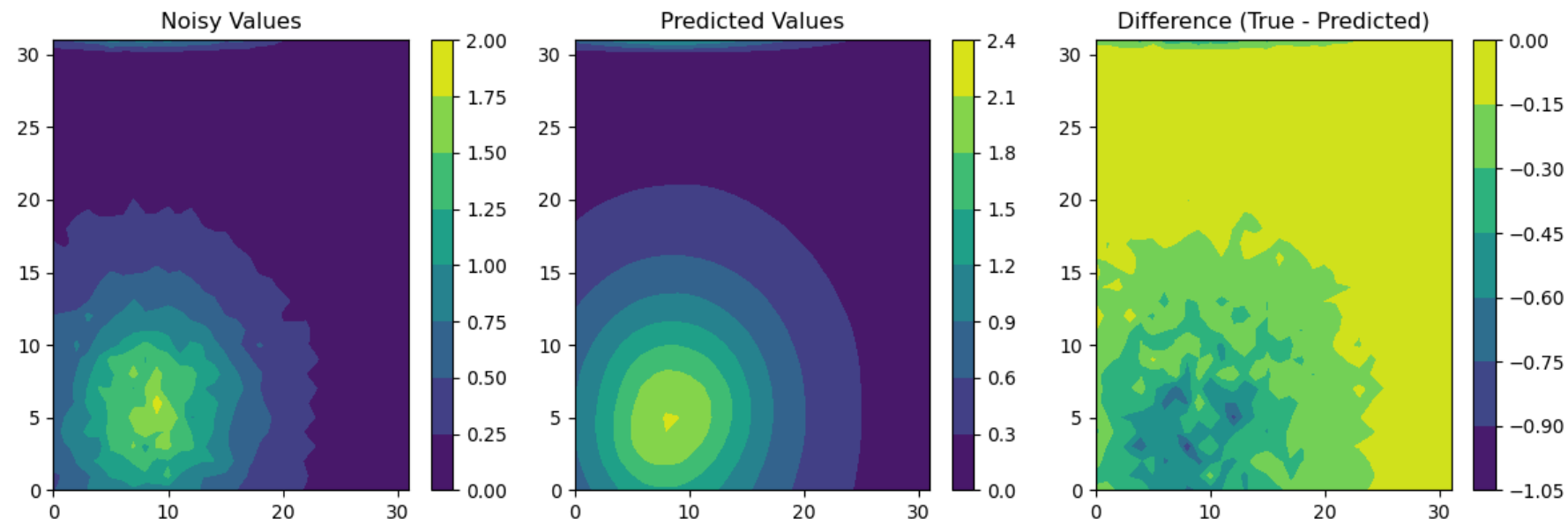
Relative Error: 0.6886903089078837

RMSE: 0.1054337443134226

Correlation Coefficient: 0.7499103077741562



# Noise level 6%



Quantitative evaluation for direct reconstruction

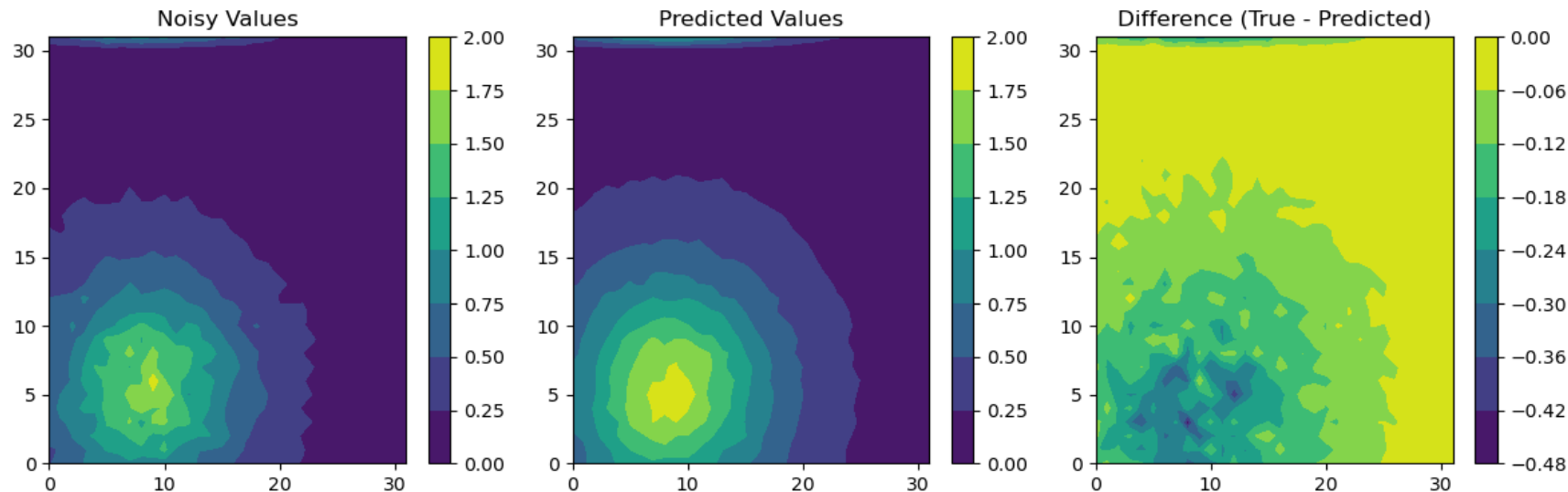
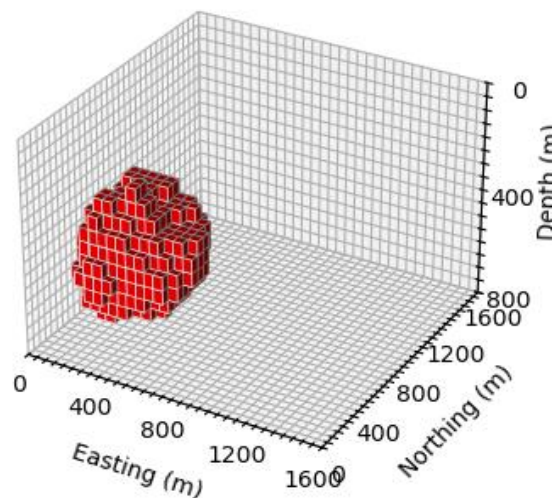
PSNR: 19.364077024978418

Relative Error: 0.7028141021728516

RMSE: 0.1075960025191307

Correlation Coefficient: 0.7398150639077102

# Improved



Existing

Quantitative evaluation for direct reconstruction

PSNR: 19.364077024978418

Relative Error: 0.7028141021728516

RMSE: 0.1075960025191307

Correlation Coefficient: 0.7398150639077102

Proposed

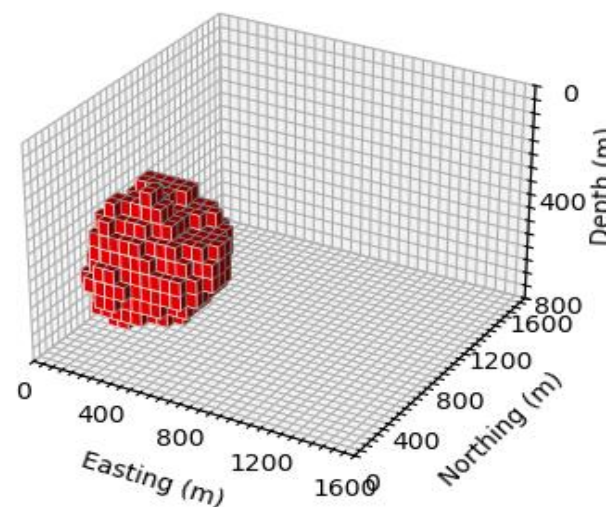
Quantitative evaluation for direct reconstruction

PSNR: 19.398118759710687

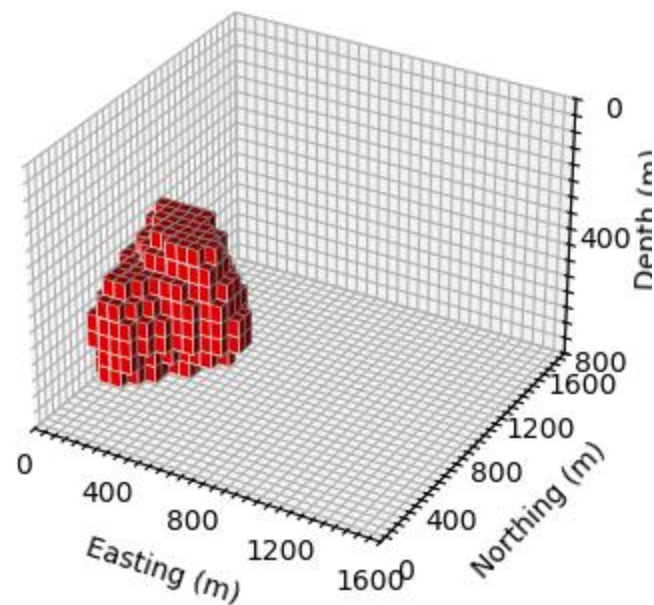
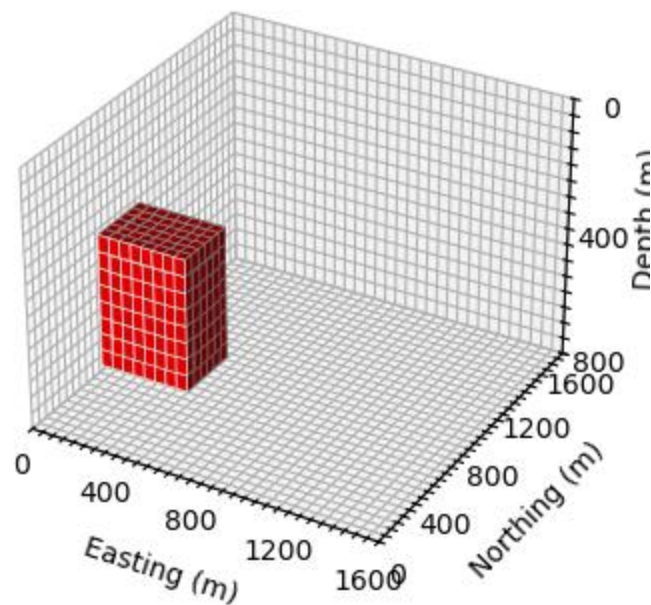
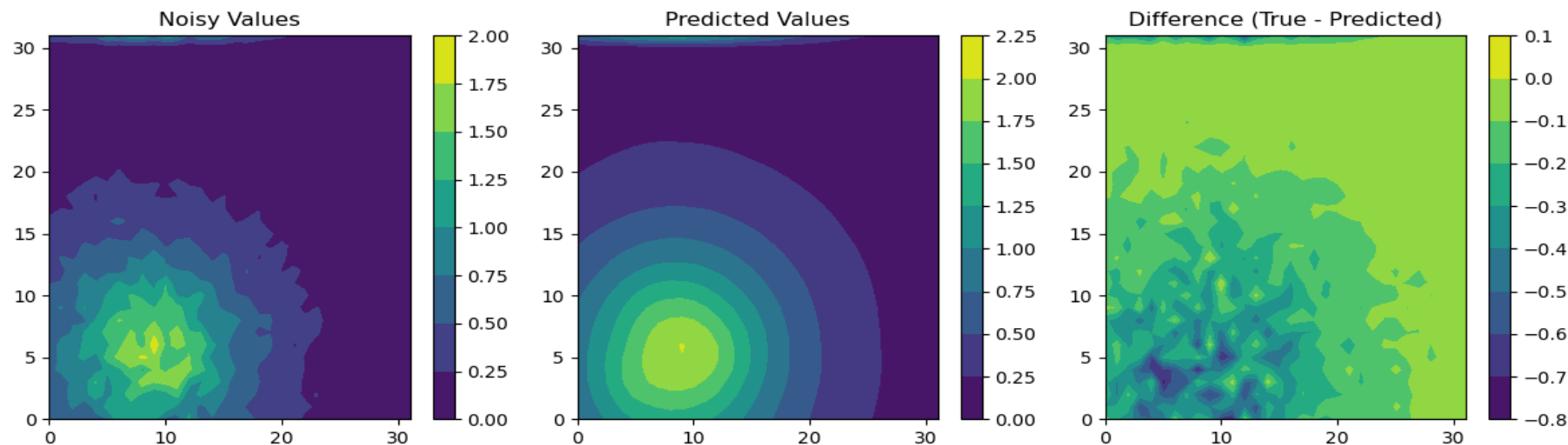
Relative Error: 0.700065061555963

RMSE: 0.10717514062293047

Correlation Coefficient: 0.7385046389521212



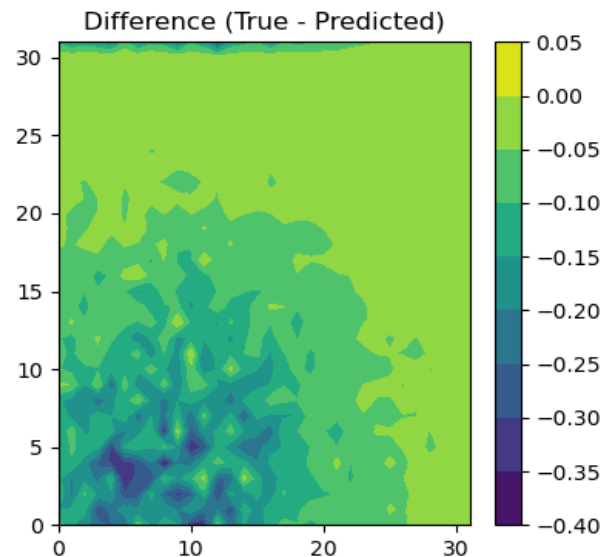
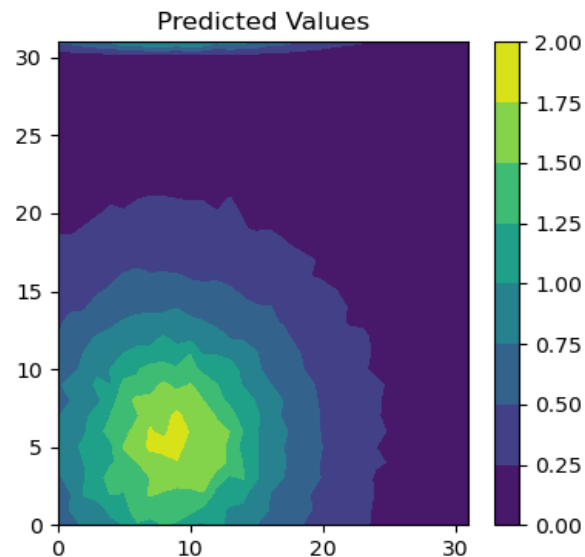
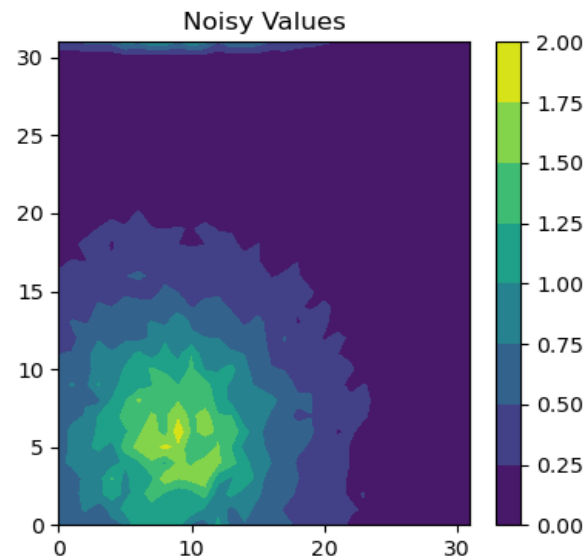
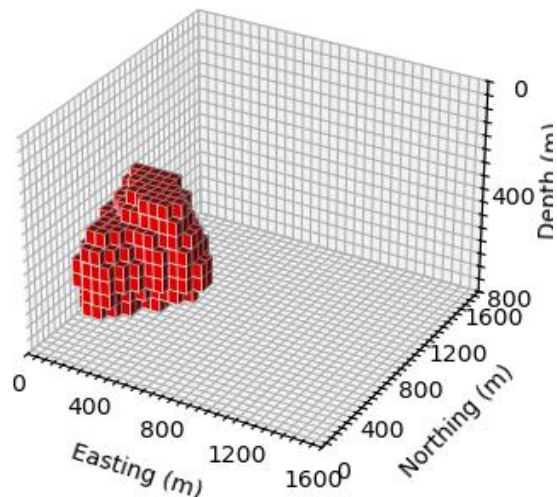
# Noise Level 8%



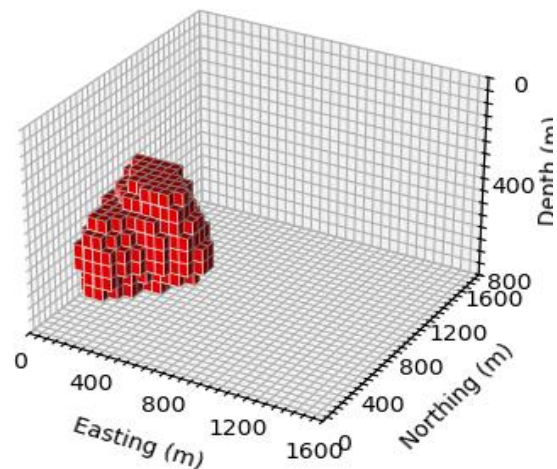
Quantitative evaluation for direct reconstruction  
PSNR: 19.260690934261557  
Relative Error: 0.7112295031547546  
RMSE: 0.10888434201478958  
Correlation Coefficient: 0.7278946855200827



# Improved



Existing



Proposed

Quantitative evaluation for direct reconstruction

PSNR: 19.260690934261557

Relative Error: 0.7112295031547546

RMSE: 0.10888434201478958

Correlation Coefficient: 0.7278946855200827

Quantitative evaluation for direct reconstruction

PSNR: 19.27412712819589

Relative Error: 0.7101302045578868

RMSE: 0.10871604471293533

Correlation Coefficient: 0.7273118559381846

# Recommendation

- For noise level: 2% of the data-range.
- Choose lambda as **0.9** to 1.
- For noise level: 4% of the data-range.
- Choose lambda as **0.7** to 0.9
- For noise level: 5% (choose lambda as **0.5** to 0.7)
- For noise level: 6% (choose lambda as **0.5**)
- For noise level: 8% (choose lambda as **0.25** to 0.5)

**Thank you!!!**

