**RESULTS**

**1. Effect of drought on alpha diversity of ammonia-oxidizing communities**

* Sequencing summary (Figure S1: Rarefaction curves of the 3 genes)
* Alpha diversity (Figure 1: Alpha diversity (richness, inverse Simpson, Shannon diversity) of the 3 communities)

**2. Effect of drought on the structure and composition of ammonia-oxidizing communities**

* Beta diversity (Fig.2: PCoA plots of Bray-Curtis and/or Weighted)
* Taxonomic composition (Fig.3: Mean relative abundance bar plots)

**3. amoA gene abundances of ammonia-oxidizing communities in response to drought**

* qPCR results (Fig.5)

**4. Differentially abundance of ammonia-oxidizing ASVs in response to drought**

* DAA analysis result (Fig.4: Heatmap of the significant changes ASVs)

**5. Relationship between environmental factors and ammonia-oxidizing communities**

* Correlation analysis of environmental variables with ammonia-oxidizing community structures (Fig.6)