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# **Progress report of USCCC**

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# Introduction to six sites of EC towers



# 1 *Stipa krylovii* grassland (Duolun)

**Location:** 116°13'36" E, 42°32'03" N,

**Elevation:** 1350m

**Climate:** The average annual temperature is 1.6°C. The annual precipitation is 386 mm, with 67% of which occurring from June to August.

**Vegetation:** dominated by *Stipa krylovii*, *Artemisia frigida*, etc

**Land use history:** free grazing pasture and fenced since 2001

## 2 Cropland (Duolun)

**Location:** very near to the grassland site and the distance between two towers is less than 1km.

**Elevation:** 1350m

**Climate:** the same as last one

**Biome/Vegetation:** *Triticum aestivum* plantation

**Land use history:** reclaimed about 35 years ago



### 3 Degraded grassland (Xilinhot)

**Location:** 116°40'40" E, 43°32'45" N

**Elevation:** 1250m

**Climate:** The average annual temperature is 2°C. The annual precipitation is 350mm, with 80% of which occurring from June to September.

**Biome/Vegetation:** Typical steppes dominated by *Leymus chinensis*, *Stipa grandis* and *Artemisia frigida* etc.

**Land use history:** a grazing steppe

## 4 *Stipa grandis* steppe (Xilinhote)

**Location:** 116°40'40" E, 43°32'45" N

**Elevation:** 1250m

**Climate:** The average annual temperature is 2°C. The annual precipitation is 350mm, with 80% of which occurring from June to September.

**Biome/Vegetation:** Typical steppes dominated by *Stipa grandis* and *Artemisia frigida* etc.

**Land use history:** Fenced about 1980

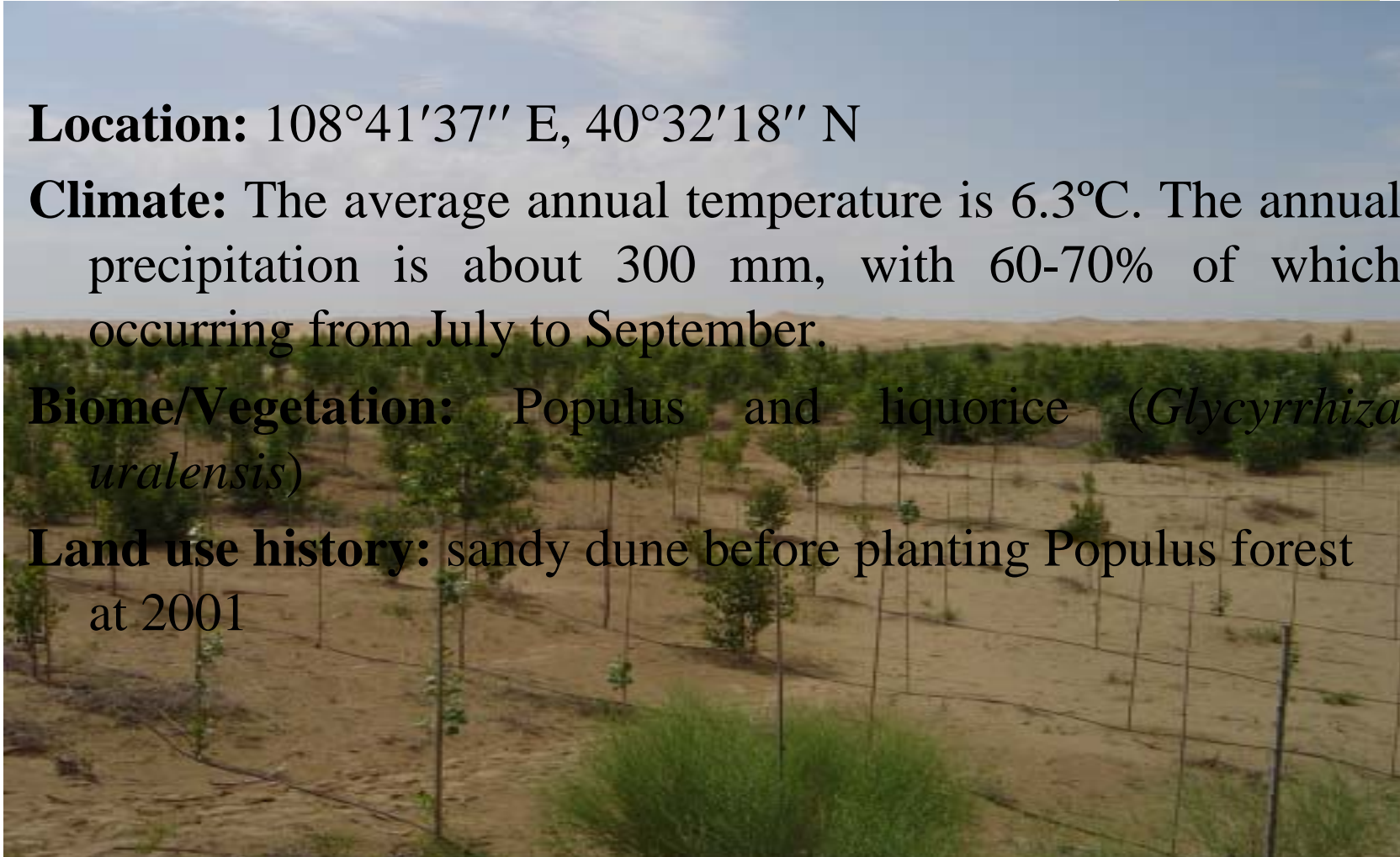
## 5 Populus artificial forest

**Location:** 108°41'37" E, 40°32'18" N

**Climate:** The average annual temperature is 6.3°C. The annual precipitation is about 300 mm, with 60-70% of which occurring from July to September.

**Biome/Vegetation:** Populus and liquorice (*Glycyrrhiza uralensis*)

**Land use history:** sandy dune before planting Populus forest at 2001



## 6 portable EC tower

For comparing study with other sites.

We plan to setup this tower at a bare sandland comparing with populus artificial forest ecosystem.







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# Progress with tower installation

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Until now, we have setup four towers in Duolun (2), Xilinhot (1) and Kubuqi (1), respectively. And all of instruments work well from data collected from them.

# Installation of solar panel



# Establishment of tower



# Installation of EC instruments





*Stipa krylovii* grassland in Duolun



Degraded grassland in Xilinhot



Cropland in Duolun



*Populus* artificial forest in Kubuqi

# research in progress

- ❖ Eddy flux and micromet
- ❖ Vegetation: LAI, leaf N content, biomass, litter fall
- ❖ Leaf gas exchange
- ❖ Soil respiration
- ❖ Stable isotope partition (leaf, soil and air  $^{13}\text{C}$  and  $^{18}\text{O}$ )
- ❖ Belowground processes: root production, SOM, TN, TC, available N, etc
- ❖ Database and web

# Thanks!



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