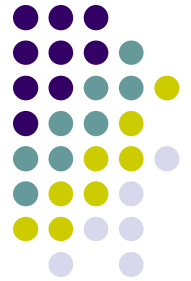


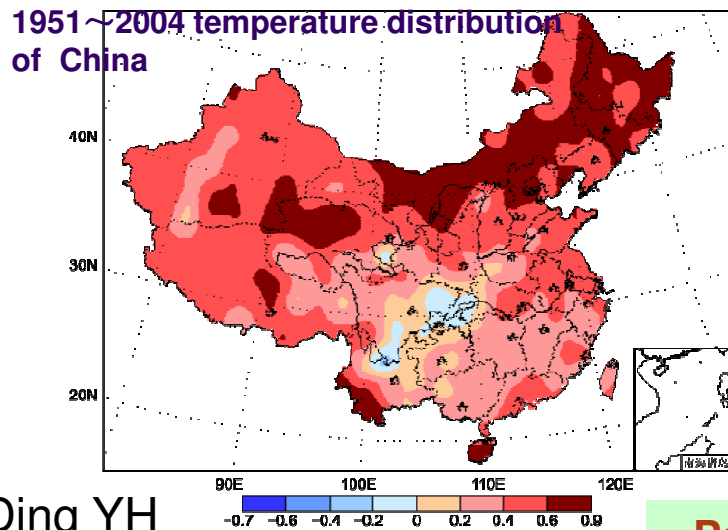


Observed and Expected Impacts of Climate Change and Response Strategies



Lin Erda

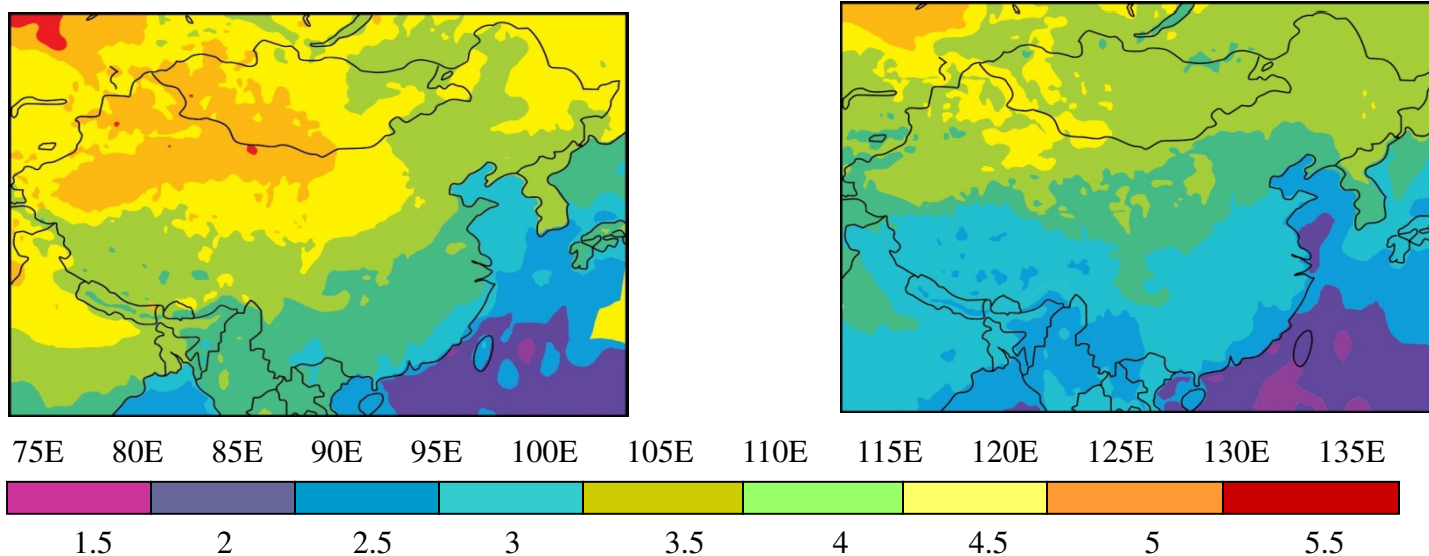
**Agro-Environment and Sustainable
Development Institute, Chinese Academy of
Agricultural Science**



时段	A2 (中-高 排放情景)			B2 (中-低 排放情景)		
	温度增量 (°C)	降水变化 (%)	CO ₂ (ppmv*)	温度增量 (°C)	降水变化 (%)	CO ₂ (ppmv*)
2010~2019	1.00	3.3	440	1.16	3.7	429
2040~2049	2.11	7.0	559	2.20	7.0	492
2070~2079	3.89	12.9	721	3.20	10.2	561

Past and future temperature changes

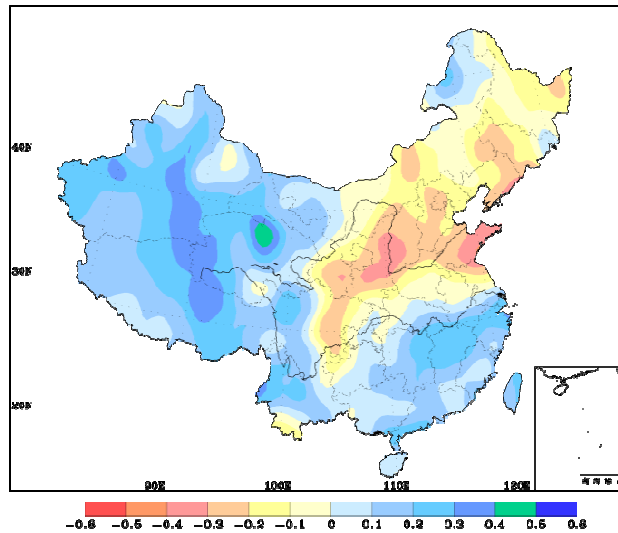
Xu Yi



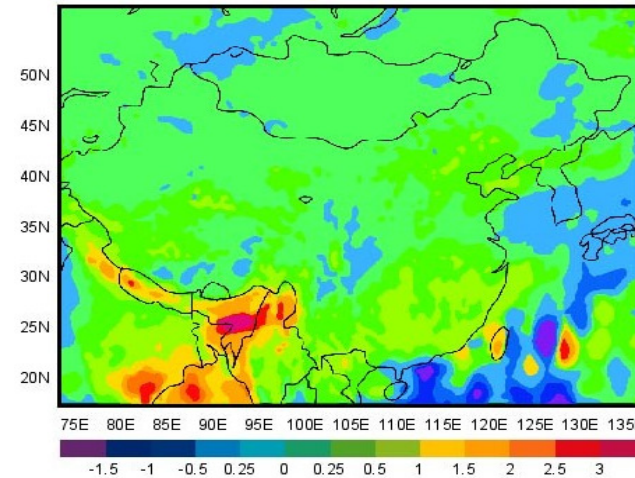
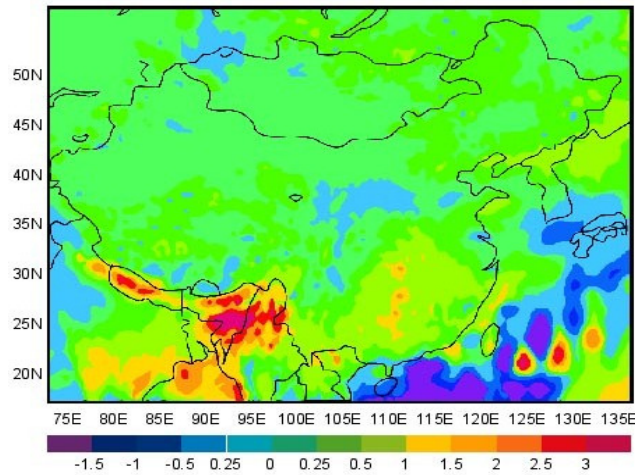
Simulated annual increase (°C) in mean temperature (Tmean) for 2071-2079 under SRES A2 & B2 scenarios from PRECIS relative to baseline (1961-1990) (Xu Yi)



Current and Future Precipitation



1956~2002 precipitation
and Change Distribution
in China (Ding YH)



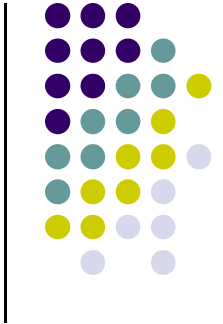
Simulated average change in rainfall (mm/day) for 2071–2079 under SRES A2 scenarios from PRECIS relative to baseline (1961–1990) (Xu YI)

The Impacts of climate change on ecosystems, agriculture and water of China under different stabilization scenarios and corresponding emission scenarios



RCP SRES	RCP3		RCP4.5	
	B2(A1B)		A2	
Global Warming after 2050	2°C	2.5°C	3°C	3.6°C
Ecosystem	aggravating coral bleaching in South China Sea, suffering adverse impacts on costal biodiversity	Suitable area for forest would decrease largely in Northeast China; ecosystem vulnerability getting higher in Northwest and Tibet; panda habitat decrease significantly; NEP reach a peak at 2050 then going down	Vulnerable areas in NE, S, and SW extend significantly, NE's eco-vulnerability continues seriously; in ecosystems of South to Yangtze river middle vulnerability happen; Ecologic evolution become more; Jilin and Liaoning provinces' ecosystems change into C source	Dry area would extend 30%; Eco-evolution become popular
Agriculture	Agricultural disasters increase, adverse impacts happened in main cropping regions; the yield of rice would increase in Northeast China	The yield of wheat and maize would decrease 11%、14% separately, irrigation can relief yield fall; the yield of irrigated rice would decrease 4%; food produced would be near 400kg/a.p	The yield of wheat and maize would decrease 20%、23% separately, irrigation can relief yield fall; the yield of irrigated rice would decrease 12%; food produced would be near 330kg/a.p, adaptation still can trade off decreased yield	Agro-disaster get more, adaptation costs increase largely
Water Resources	Temperature may raise 1°C in middle latitude, demand of irrigation water required would increase 6%-10%;	Run off of Yellow and Songhua river increase 11%-24%, of Yangzi and Pearl increase 5%-13; 14 provinces and cities lack for water in northern, increased 4 provinces	Increased run off of Song, Yellow, Yangtze and Pearl rivers getting less of 50% than Under B2, Even rainfall increase, but western water still lack for 10 billion m ³ , 4%-7% of demand, water supply decrease 20%-40%; North dry and South wet will be aggravated.	

(Lin Erda, Li Yingchun, Ma Zhanyun, 2009)



Thanks for
your
attention