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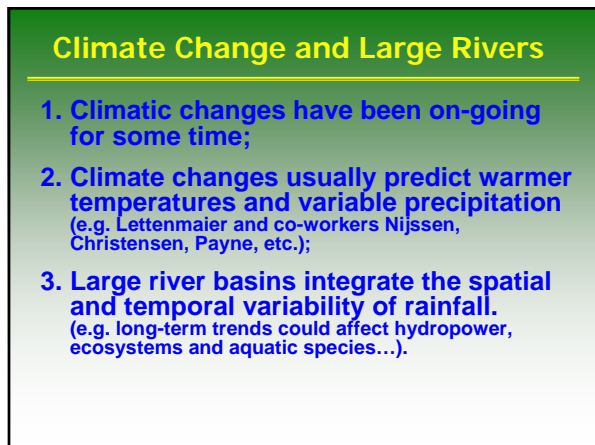
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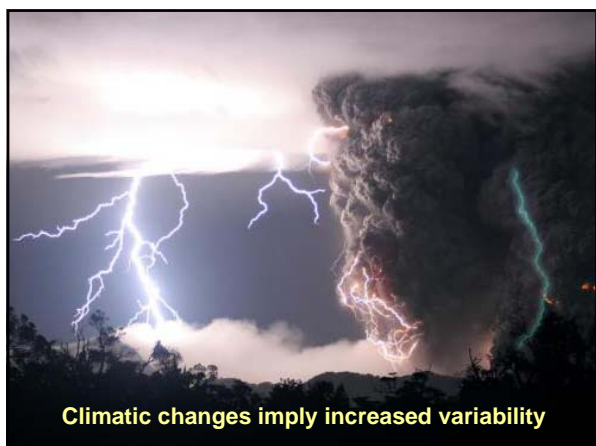
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Climatic changes imply increased variability

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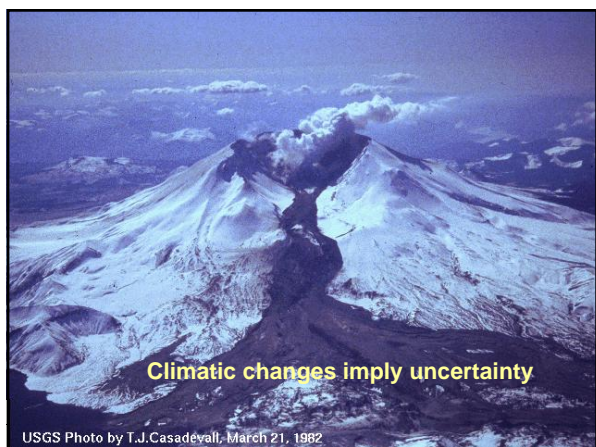
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Climatic changes imply uncertainty

USGS Photo by T.J.Casadévall, March 21, 1982

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## Climate Change Issues in the US

### 1.Rainfall vs Snowmelt;

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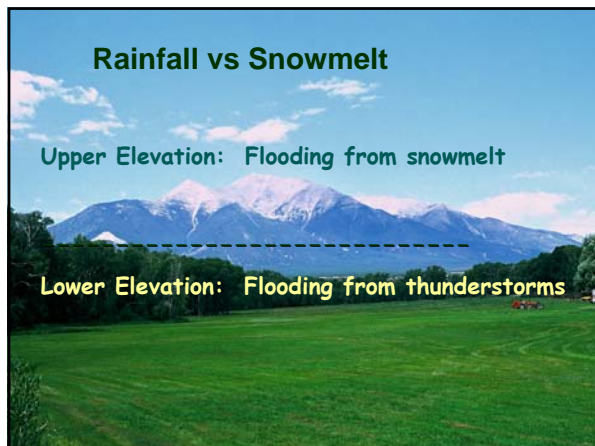
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**Climate Change Issues in the US**

1. Rainfall vs Snowmelt;
2. Extended Droughts;

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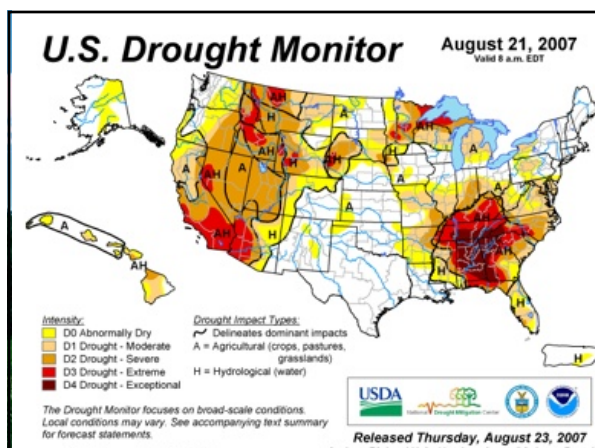
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## Reduced Water Supply from Reservoirs



White "bathtub rings" show the pre-drought water level of Lake Powell, Arizona.

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## Climate Change Issues in the US

1. Rainfall vs Snowmelt;
2. Extended Droughts;
3. Forest Fires and Sedimentation;

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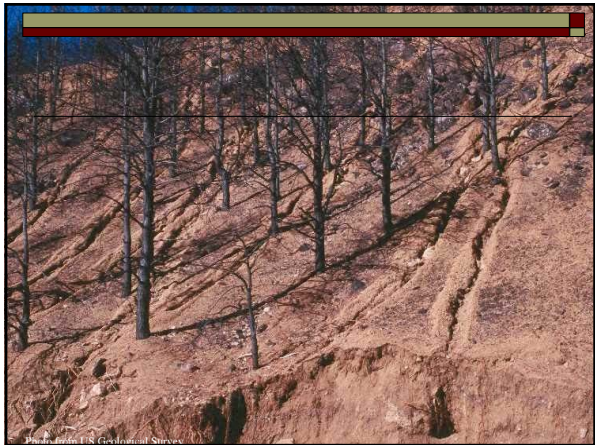
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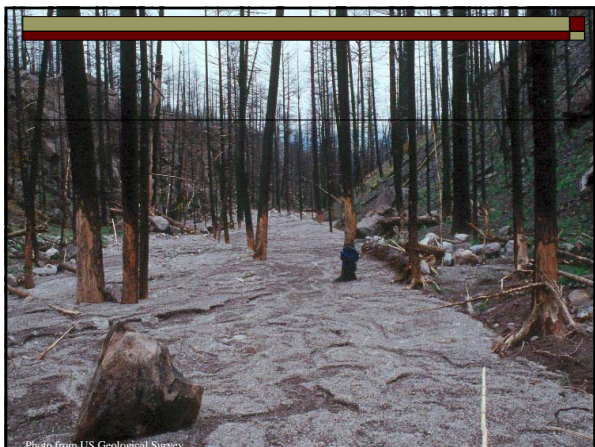
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### Sediment Plugs on the Rio Grande



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### Climate Change Issues in the US

1. Rainfall vs Snowmelt;
2. Extended Droughts;
3. Forest Fires and Sedimentation;
4. Water Quality and Floods;

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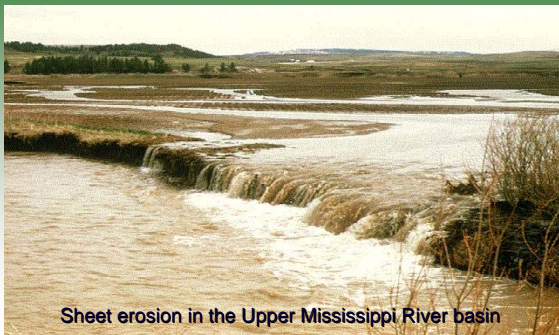
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### Upland Erosion (water quality, nutrients, fertilizers, pesticides, etc.)



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### **Climate Change Issues in the US**

- 1. Rainfall vs Snowmelt;**
- 2. Forest Fires and Sedimentation;**
- 3. Extended Droughts;**
- 4. Water Quality and Floods;**
- 5. Hurricanes**

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In face of sweeping changes,  
it is better to build on strength and live right ...

Galveston Texas, Sept. 14, 2008  
after Hurricane Ike

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..... than gamble and guess wrong.

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**Katrina,**  
**A category 5 Hurricane**

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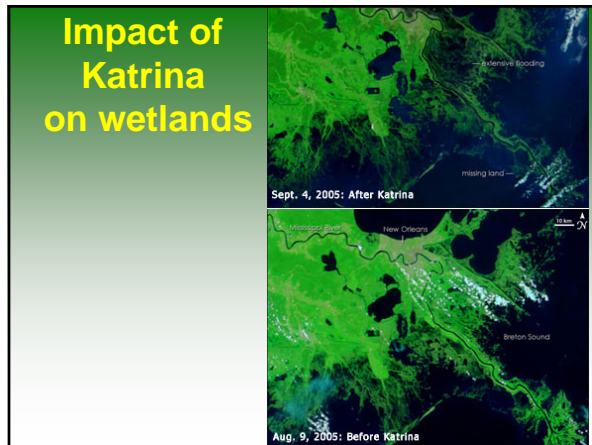
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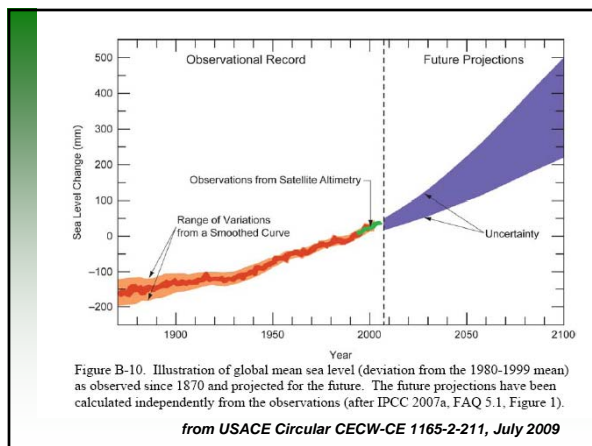
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### Potential Issues in South Korea

1. Upland Erosion;
2. Water Quality;
3. Sedimentation and Dredging;
4. Typhoons and Floods;
5. ...

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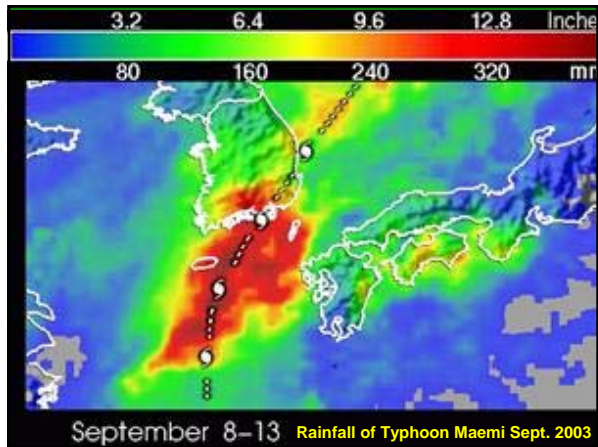
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### Mangun mountain, South Korea



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**Crop field area, Imha watershed, S.K.**



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**Imha reservoir**



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**Nakdong River Flood**



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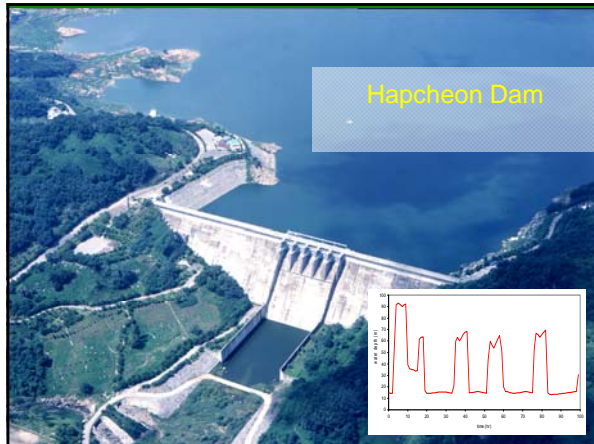
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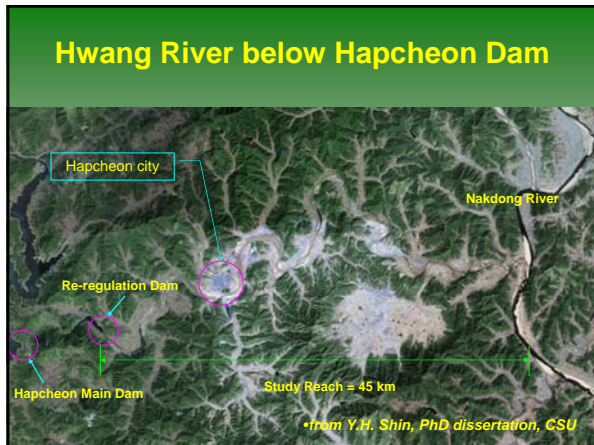
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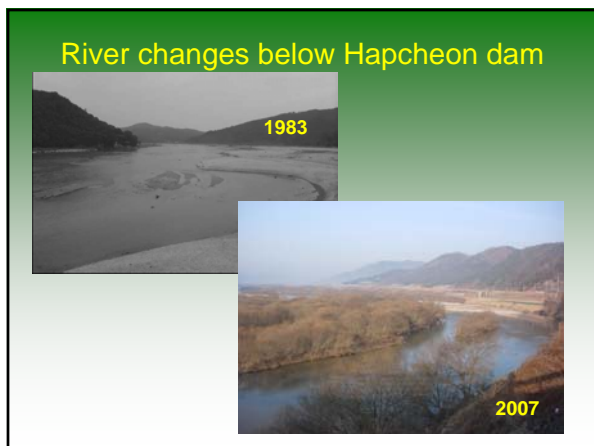
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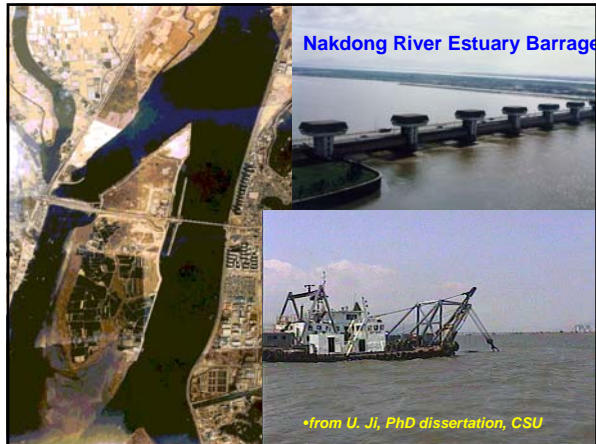
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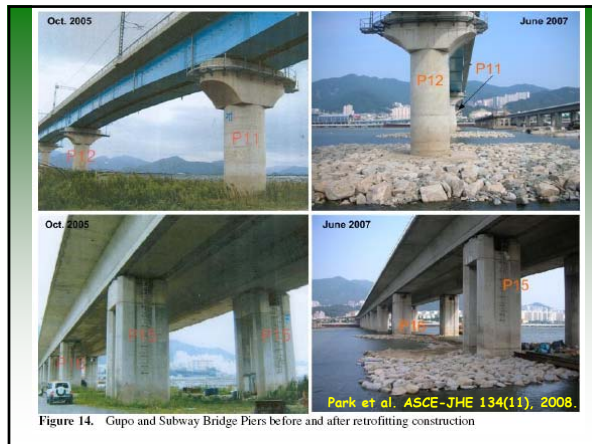
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## Acknowledgments

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- *Dr. Sang Kil Park, PNU*
- *Dr. Un Ji, MJU*
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- *Dr. Hyoseop Woo, KICT*
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- *Dr. J. Salas, CSU*
- *P. O'Brien, CSU*

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