

Three Gorges Dam

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Basics

- Concrete gravity dam
- 185 meters tall, 1500 meters long, 115 meters wide at base, 40 meters wide on top
- Construction started in 1994, Has been a dream since 1919
- Used grouting seals and rock bolts to keep it stable
- The largest dam in the world
- Dams the Yangtze River
- Will cost just under 30 billion
- Has produced 23.7 billion kilowatt hours in the first 6 months of 07
- Will eventually displace 2.3 million people

Geology/ Earthquakes

- This site was chosen due to its solid granite foundation
- Granite was weathered to depths of 60 meters (which some was excavated to a safe depth)
- Monitoring the strength of the rock is done with iron staining on joints
- The dam will need to withstand a class seven earthquake, Historically has never had more than a class six, Granite should withstand a class eight earthquake
- Dam could initiate more earthquakes

Landslides

- Many landslides blamed on the Construction of TGD
- Concerns is that the water is seeping into surrounding rock weakening them making them more prone to slides, Already caused deaths like November 2007 a bus was crushed killing 31
- Government spending 1.6 billion dollars on landslide prone areas

Sedimentation

- Naturally occurring silt might build up overtime if not properly accounted for.
- Silt might increase the pressures on the dam causing failure like the Banqiao Dam in 1975
- Silt might clog the turbines not allowing power to be generated, On the dam 23 big holes that open in the rainy season to counteract the silt accumulation.
- The track record is not good 61 dam failures resulting in 20,000 deaths in the past
- Without the silt downstream cities could be effected, Shanghai could be more prone to flooding
- The Jinsha project which consists of four more dams built in the Jinsha tributary will cut down the sedimentation
- 28 million dollars will be spent to monitor the silt accumulation