

China's Grand Canal

Objective: China has applied for UNESCO World Heritage status for its Grand Canal. In this lesson, students will study the canal's development over the course of several dynasties, its purpose as a means of transporting grain from the fertile south to the capital and soldiers stationed in the north, and the development of cities along its route.

Standards addressed:

Geography Standard—Human Environment Interaction and Movement

6-8 Benchmark C: Explain how the environment influences the way people live in different places and the consequences of modifying the environment.

Indicator 6.5 Describe ways human settlements and activities are influenced by environmental factors and processes in different places and regions including **a. bodies of water;** b. landforms; c. climates; d. vegetation; e. weathering; f. seismic activity.

Indicator 6.7 Describe ways humans depend on and modify the environment and the positive and negative consequences of the modifications including a. dam building; b. energy production/usage; c. agriculture; d. urban growth.

6-8 Benchmark D: Explain reasons that people, products and ideas move from place to place and the effects of that movement on geographic patterns.

Indicator 7.5 Describe the geographic factors and processes that contribute to and impede the diffusion of people, products and ideas from place to place including a. physical features; b. culture; c. war; d. trade; e. technological innovations.

History Standard—Chronology

6-8 Benchmark A: Interpret relationships between events shown on multiple-tier time lines.

Indicator 6.1 Construct a multiple-tier time line from a list of events and interpret the relationships between the events.

Indicator 6.2 Arrange dates in order on a time line using the conventions of B.C. and A.D. or B.C.E. and C. E.

Lesson requirements:

Time: one to two days (class periods)

Materials needed:

Outline maps of China—ones to project in the classroom and individual student copies

Colored pencils

Time line dating from 486 B.C. to 1000 A.D. (This could be two-tier, allowing for the Chinese dynasties on one tier and the development, decline, and repair of the Grand Canal on a second tier.)

Lesson Plan:

1) Introduction: Show the students photos of well-known Chinese landmarks—the Great Wall, the Forbidden City, the Beijing Olympic Venues, etc. Ask them what they know about these places. Tell the class that China is also home to the longest canal in the world, the Grand Canal. Show several photos. (See the website *Cultural China*, in the list of resources. Click on Kaleidoscope-> Science and Invention)

Alternative introduction: Read *Ms. Frizzle's Adventures: IMPERIAL CHINA*. The Grand Canal is mentioned on pgs. 16-21.

2) Mapping the canal: Give each student a map of China's major rivers. Point out the Yangtze River and the Huang He. Ask the students in which direction the rivers flow. (from west to east) **Project** the Location Map of the Grand Canal that is found at

<http://www.chinatouristmaps.com/travel/jiangsu/grand-canal/grand-canal-location.html>

(It is also included in the resources for this lesson.) Point out the Grand Canal. Tell students to draw the canal on their maps. Place the cities at either end of the canal. (Beijing and Hangzhou) Which direction would ships be able to travel on the Grand Canal? (north and south) Ask students to think of possible benefits of such a canal system. A more detailed map of the cities along the canal is found at

<http://www.chinatouristmaps.com/travel/jiangsu/grand-canal/1045.html> and included in this plan.

Next, **project** the Agricultural Regions and Crops map found at

http://afe/easia/columbia.edu/china/geog/M_agr.htm

Point out the difference in types of crops grown in China's northern and southern regions. Explain that the canal was built to transport grain from fertile South China, which gets sufficient rainfall and enjoys a longer growing season, to the dryer region to the north. Share this explanation from the *Asia for Educators* website:

Grand Canal. Since China's major rivers — the Huang He and Chang Jiang — flow from west to east and there is no natural communication north to south except by way of a coastal route, the Chinese dug the Grand Canal as a safe, inland water route between the two major rivers, in the process connecting a number of minor regional rivers. Constructed around 605 AD to serve commercial as well as military considerations, the canal was extended several times, most notably to the Hangzhou in 610 and eventually in 1279 to Dadu, the great Mongol (Yuan dynasty) capital. During the Ming and Qing dynasties which followed the Mongol dynasty, the Grand Canal ensured that Beijing, the great successor imperial capitals to Dadu, had sufficient grain from the southern rice bowl areas. The Grand Canal is the longest artificial waterway in the world and has a long history of barge traffic along its course. Although many parts of it fell into disrepair over the years, today it is still possible to traverse the man-made Grand Canal from Hangzhou, Zhejiang Province northward 1801 km to Beijing.

3) Historical development of the Grand Canal: Explain how the Grand Canal was built in sections over hundreds of years. Distribute the handout, "The Grand Canal," and read it together. (As an alternative, you could assign this page as reading homework prior to the lesson.) After reading, arrange the events on a timeline, beginning in 486 B.C. Point out the dynasties associated with each addition to the canal. A handout with a timeline is included with this lesson.

Project this map onto a screen or whiteboard and compare the information with the handout.

<http://people.hofstra.edu/geotrans/eng/ch2en/conc2en/grandcanal.html>

4) Taking a virtual journey along the Grand Canal: Share the story of an emperor's inspection tour along the Grand Canal and its documentation on a scroll. View the scroll at Columbia University's website: <http://www.learn.columbia.edu/nanxuntu/start.html>

As you move through the interactive scroll, pause to observe the towns along the canal. Ask students to identify elements of Chinese culture—clothing, food, social classes, religion, etc.

***Be sure to view** The *Qianlong Emperor's Southern Tour, Scroll Six*, which according to the website, "not only records the lavish pageantry of the emperor's arrival, but provides an encyclopedic catalogue of daily life in 18th century Suzhou, including closely observed descriptions of shops and residences and inhabitants of the city, as well as famous temples, government offices, and scenic attractions."

NOTE: Another way to view a scroll that records an emperor's travel on the Grand Canal is by viewing part of the DVD, *A Day on the Grand Canal with the Emperor of China*, by David Hockney. (see the resources list.)

Resources

Books:

Cole, Joanna, and Bruce Degen. *Ms. Frizzle's Adventures: Imperial China*. New York: Scholastic, 2005. Print.

Lu, You, and Philip Watson. *Grand Canal, Great River: the Travel Diary of a Twelfth-century Chinese Poet*. London: Frances Lincoln, 2007. Print.

Websites:

"China's Grand Canal Applies for World Heritage Status." *欢迎访问新华网*. Web. 09 May 2011. <http://news.xinhuanet.com/english2010/video/2011-04/21/c_13839380.htm>.

"Chinese Geography: Readings and Maps." *Asia for Educators | Columbia University*. Columbia University. Web. 10 Apr. 2011. <<http://afe.easia.columbia.edu/china/geog/maps.htm>>.

A Day on the Grand Canal with the Emperor of China. By David Hockney. Dir. Philip Haas. Perf. David Hockney. Milestone Films/Turner Classic Movies, 1988. DVD.

"Grand Canal of China." *China the Beautiful*. Web. 28 Mar. 2011. <<http://www.chinapage.com/canal.html>>.

"Grand Canal (China)." *Wikipedia, the Free Encyclopedia*. 25 Mar. 2011. Web. 28 Mar. 2011. <[http://en.wikipedia.org/wiki/Grand_Canal_\(China\)](http://en.wikipedia.org/wiki/Grand_Canal_(China))>.

"The Grand Canal - China Culture." *Kaleidoscope - China Culture*. Hongtu Real Estate Development Company. Web. 10 Apr. 2011. <<http://kaleidoscope.culturalchina.com/en/10Kaleidoscope5290.html>>.

"Grand Canal System." *Hofstra People*. Web. 28 Mar. 2011. <<http://people.hofstra.edu/geotrans/eng/ch2en/conc2en/grandcanal.html>>.

Hartin, Adric, Ginny Min, and Giles Peng. "The Grand Canal." *Beauty, the Land of China*. Oracle ThinkQuest, 1998. Web. 28 Mar. 2011. <<http://library.thinkquest.org/20443/grandcanal.html>>.

"Recording the Grandeur of the Qing." *Visual Media Center | Columbia University in the City of New York*. 2005. Web. 06 Apr. 2011. <<http://www.learn.columbia.edu/nanxuntu/html/scrolls/index.html>>.

The Grand Canal

The Grand Canal is the world's longest man-made waterway, being 1,800 kilometers long. The canal connects the present cities of Beijing in the north and Hangzhou in the south, which served as dynastic capitals in the past, and contains 24 locks and 60 bridges. Since most of China's major rivers flow from west to east, the fact that the Grand Canal runs north and south provides it as an important connector between the Yangtze River valley and the Yellow River valley, and other minor river systems. It is being restored as a water-diversion conduit.

The series of waterways in eastern China is not only very long, but also very old, which makes the Grand Canal a masterpiece of both the ancient and the new. The oldest section, between the Yangtze River and the Huang He, was constructed during the 4th and 5th centuries B.C.

The building of the canal began in 486 B.C. during the Zhou Dynasty. It was extended during the Qi Dynasty, and later by Emperor Yangdi of the Sui Dynasty during six years of furious construction from 605-610 A.D.



the Grand Canal from Above

The shifting of China's "breadbasket" from the wheat and millet producing regions of the north to the rice fields of the south prompted Sui Dynasty emperors in the 6th century to construct the canal linking this productive southern region to the northern capitals.



the Grand Canal, a Link

Beginning in 584, existing portions of the canal, dating as far back as the Zhou dynasty, were linked together into a unified system that stretched some 1800 kilometers.

The southern section connected the north to Yangzhou on the Yangtze River. A branch built in 608-609 that led to the Beijing region was designed to supply the armies protecting the north and northeastern frontiers. The Grand Canal greatly improved the administration and defense of China and served to increase the

economic interdependence of the north and south.

The political unity under the Sui made it possible to build the Grand Imperial Canal. Building techniques were primitive, and the peasants, who did most of the work, endured much suffering.

About half of the six million men recruited to build the Canal died at their work. This contributed to the downfall of the short-lived Sui Dynasty (589-618).

This "artificial Nile" accomplished for China what the real Nile had done for Egypt thousands of years ago. It integrated the north and the south and formed the basis for a unified national economy. It also restored the authority of the imperial officials who were needed for the administration and maintenance of the Canal. Hence the foundations were laid for the brilliant epoch of the Tang Dynasty (618-907) as China emerged as the most powerful state in the world.



Traveling on the Grand Canal

NOTE: This is a page from *China, an Inner Realm*, an Oracle Thinkquest site. The authors are Adric Hartin, Ginny Min, and Giles Peng.

Name: _____

China's Grand Canal

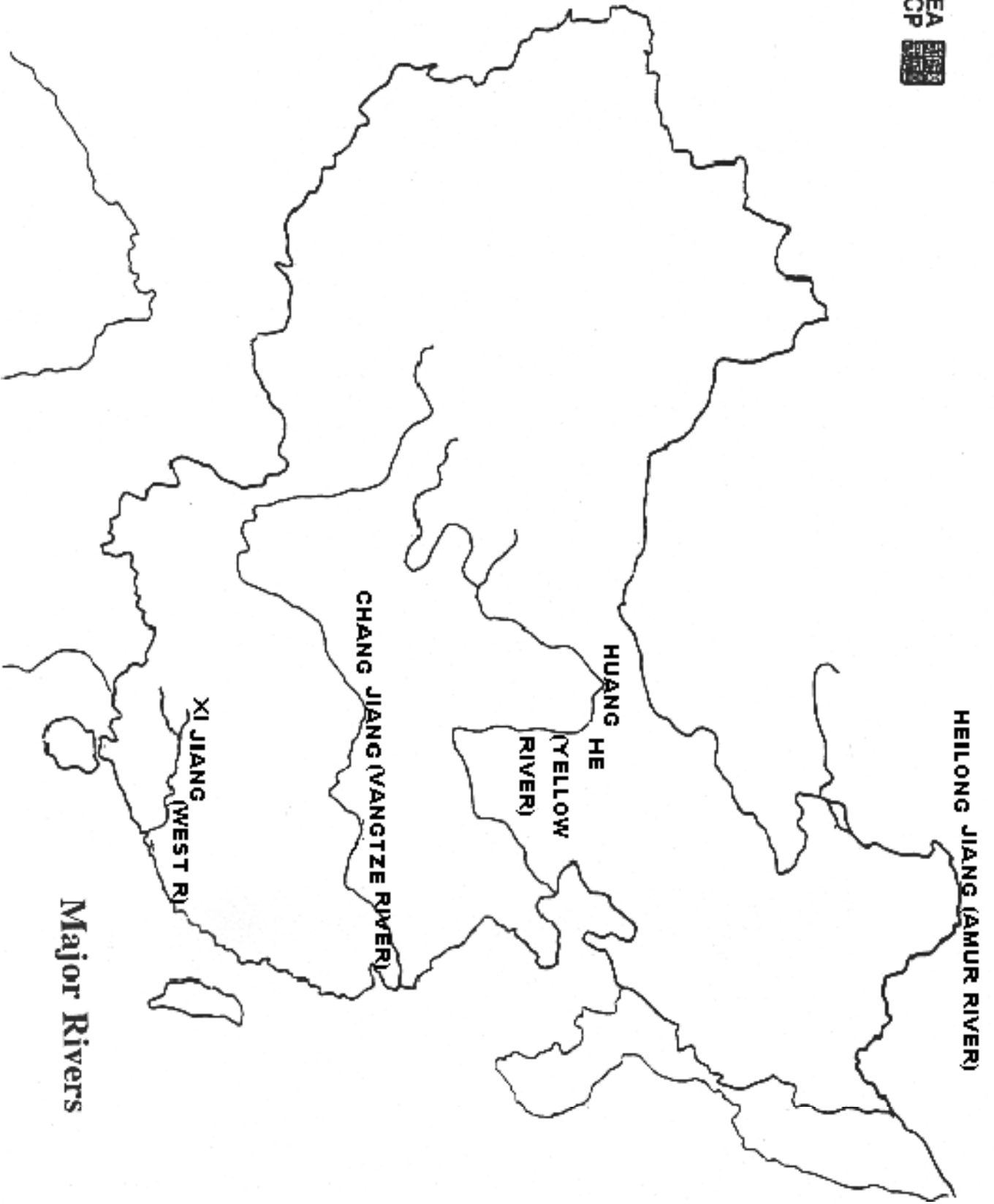
Two-tier Timeline

| Building the Grand Canal | Chinese Dynasties |
|--------------------------|-------------------|
| 486 B.C. | |
| 584 A.D. | |
| 604-609 A.D. | |
| 984 A.D. | |
| 1128 A.D. | |
| 1280's A.D. | |
| 1411-1415 A.D. | |
| 1855 A.D. | |

China's Grand Canal

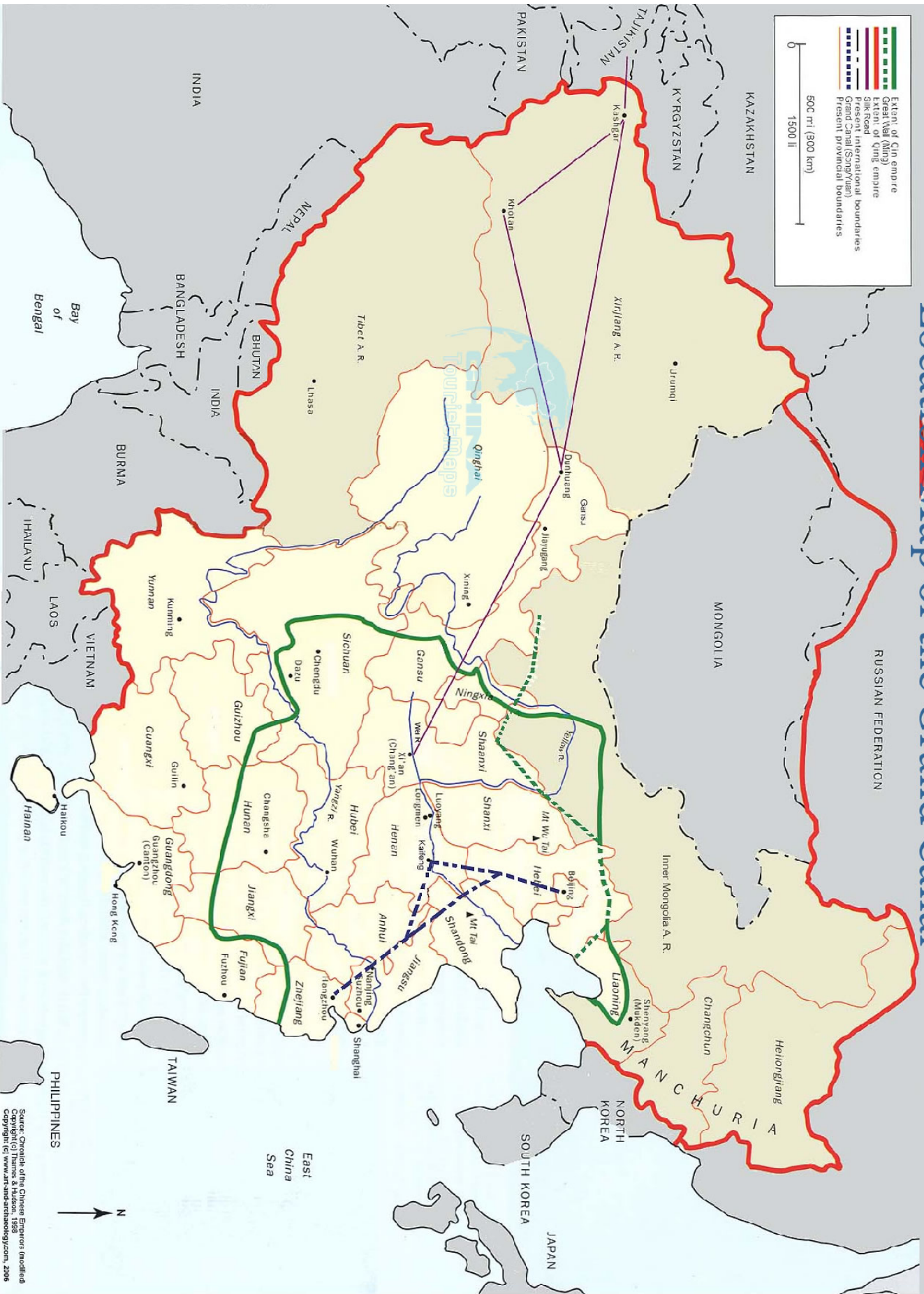
Two-tier Timeline

| Building the Grand Canal | Chinese Dynasties |
|--|---|
| 486 B.C. Building of the canal began at the request of King Fuchai of Wu (now Suzhou) | Zhou Dynasty Confucius lived 551-479 B.C. |
| 584 A.D. Parts of the canal are brought together into a unified system. | Sui Dynasty China was reunified. |
| 604-609 A.D. The Grand Canal was fully completed under the second Sui emperor. It extended to Beijing in the north and Hangzhou in the south, and grain was shipped from the south to northern troops. | Sui Dynasty |
| 984 A.D. The double-pound lock was invented. | Northern Song Dynasty |
| 1128 A.D. Leader of the Song Dynasty floods the Yellow River to hold back Jurchen invaders and ruins the canal. | Southern Song Dynasty |
| 1280's A.D. Grand Canal was shortened. | Yuan Dynasty Established by Mongol invaders. |
| 1411-1415 A.D. Grand Canal was renovated. | Ming Dynasty |
| 1855 A.D. Yellow River flooded and changed its course, causing a break in the canal in Shandong. | Qing Dynasty |



Major Rivers

Location Map of the Grand Canal



- Extent of Qin empire
- Great Wall (Qing)
- Extent of Qing empire
- - - Grand Canal (Song/Yuan)
- - - Present provincial boundaries

500 mi (800 km)
1500 mi

Source: Chronicle of the Chinese Emperors (modified)
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Copyright (c) www.artandarchitecture.com, 2006

Sketch Map of the Grand Canal



