UT professor first non-NASA employee to direct mission
By Elisa Gonzalez (Daily Texan Staff)
March 06, 2002

UT professor Byron Tapley will be the first non-NASA employee to direct one of the space agency's missions March 16, the day GRACE satellites are set to take flight from Plesetsk, Russia.

Tapley, the director of the UT Center for Space Research, proposed the Gravity Recovery and Climate Experiment in 1995.

Scientists hope the satellite mission will help them better understand global climate change and global warming, Tapley said, at a mission preview presentation Tuesday at the Microelectronics and Computer Technology Corporation Building in North Austin.

The twin satellites will allow scientists to gather vital information about the Earth's gravity and its effect on ocean currents.

Scientists can use the data to better gauge ocean temperatures and currents, which will in turn lead to improved global climate studies. For instance, the data could provide indications of storms such as El Niño before they actually occur. Another possibility is finding magma, which would allow scientists to predetermine a volcano's eruption.

"If it operates at nominal performance, GRACE, in 30 days, will provide us with information 3,000 times better than what we have today," Tapley said.

Tapley said he and his wife plan to travel to the project's operations center just south of Munich, Germany, on Sunday to witness its takeoff.

He said he would monitor GRACE's activity there for two to four weeks, depending on the satellite's stability and the potential for danger.

Tapley will then witness GRACE's discoveries from an operations room on the second floor of the MCC.

"The Germans will take the data and put it over a security wall so that we will be able to see it on the terminals here," Tapley said.

UT graduate and undergraduate students working for the project will also be able to
study the satellite's findings, said Wallace T. Fowler, who teaches a class in mission plans.

"They will sift through the data to see if it is good, and if it isn't, they will try to come up with ways to fix it," he said.

Fowler said his students actually developed the plan for the project.

He also said he and his students plan to witness GRACE's launch live from a conference room at MCC.

"We'll have to be there at about 2 a.m. to watch it, 11 a.m. Russian time," Fowler said.

GRACE is scheduled for five years, during which students involved with the project will follow it from MCC, Fowler said.

"After those five years, if the satellites remain intact and in space, the German commitment will be gone," Tapley said, "Maybe then we can turn [Austin] into GRACE's central control."