

Have you seen a film on a 10 times  
larger than a normal Screen?

Gear up for a immersive experience at  
*Pushpa Gujral Science City at*

**LARGE FORMAT FILM  
PROJECTION SYSTEM  
(ULTRA-70)**

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# Dome Theatre

❑ Science City has a Large Format Film Projection System which is housed in a dome theatre.

❑ The theatre is distinctive outside, as well as, inside.

❑ On the outside, it is covered with **25 lakhs** computer designed glass mosaic tiles of one square inch each and looks like a giant globe.

❑ Inside, it has a large format film theatre with a 23-metre diameter screen which provides 328 persons an immersive experience.



# Large Format Film Projection System (Ultra 70)

The projector is huge and the film size is 10 times larger than used in regular theatres and 3 times larger than standard 70mm film used in classic Hollywood epics.

These films are shot by special cameras to give you a surreal experience



# Film Frame Size

- ❑ The frame size used is of 15 perforations wide on 70 mm film which is largest in the world.
- ❑ Whereas in normal theatres the size used is of 8 perforations wide on 35 mm film.



# Features of ULTRA-70 Projection over 35 mm Projection

## 70 mm Film Projection

- 15 KW Xenon arc lamp is used.
- Water cooling system is required.
- High resolution and brightness.
- Ten times larger image formation in the theatre as compared to the normal theatres.
- Fish eye lens used to give out maximum view (almost 170 deg.) to the audience.
- Frame size is of 15 perforations, 70 mm.
- Can be projected on domed type screen as well as on Flat screen.

## 35 mm Film Projection

- 5 or 6 KW lamp is used.
- Air cooling system is enough.
- Brightness is not as high as of 70 mm.
- Screen is much smaller than that of the 70 mm theatres.
- Wide angle lens is used
- Frame size is of 8 perforations, 35 mm
- Mainly used to be projected on flat screens.



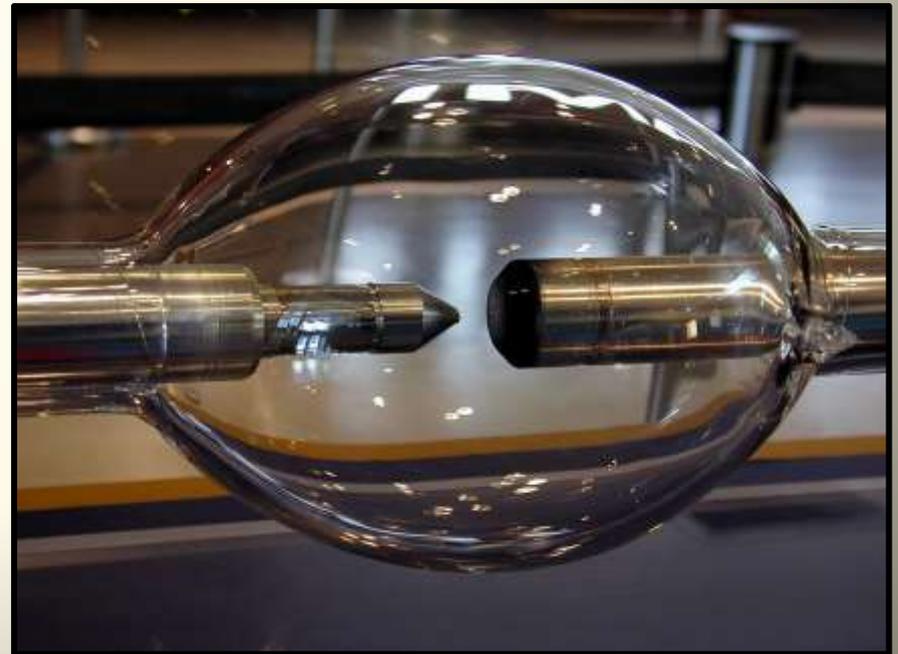
A comparison of film formats.

# Technical Specifications

Ultra-70 Projection System is a combination of Electrical-Electronics-Mechanical Equipments.

## 1. Xenon Arc Lamp

- A 15KWA Xenon arc lamp is used for projection.



## 2. Reel Trays

- There can be installed two Imax movies at a time.
- There are two different motors to control/adjust the speed of rotation of the trays.
- There is requirement of rewind the reel every time we run the show.



### 3. Rectifier Section

To operate 15KWA xenon arc lamp, 110v dc supply is maintained through rectifier section.

There are three rectifiers. Among these three, one is standby.



## 4. Water Chiller System

- To maintain the proper functioning of the 15kWA lamp, a water chiller is installed for the lamp to work in prescribed limits of temperature.
- 80ltr. of distilled water is used in the water chiller



## 5. Air Compressor

To remove the small peck of dust during and before running the show, air pressure is required which is maintained through the air compressor.



## 6. Air Dryer and Storage Tank

Before supplying the pressurized air to the reel, it is necessary to reduce the content of humidity from it.

Therefore, a dryer is installed after the compressor but before the storage tank



# 7. Control Podium

- To handle the system before, during and after the show, a complete control of the system is given in the control podium.
- The operator can observe the behaviour of the system and all other required readings during , before and after the show from here.



## 8. Sound System

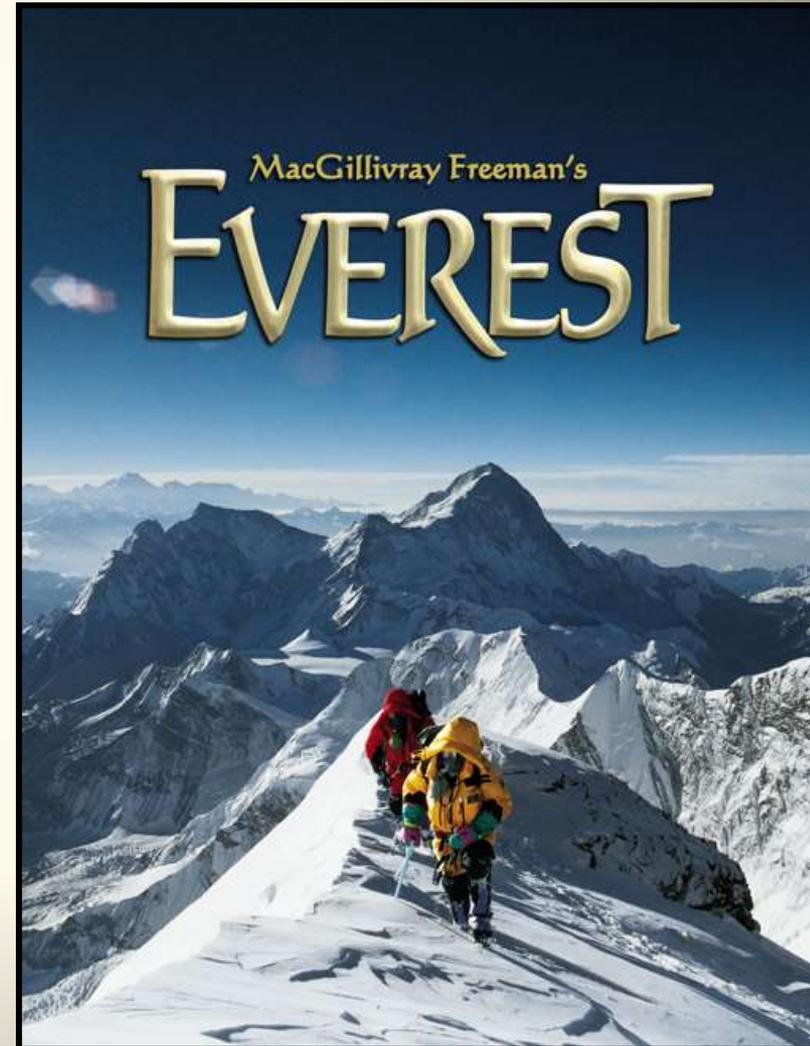
A 5.1 channel Yamaha audio system is installed for narration and other audio delivery.



# On-going Movie at Science City- Everest

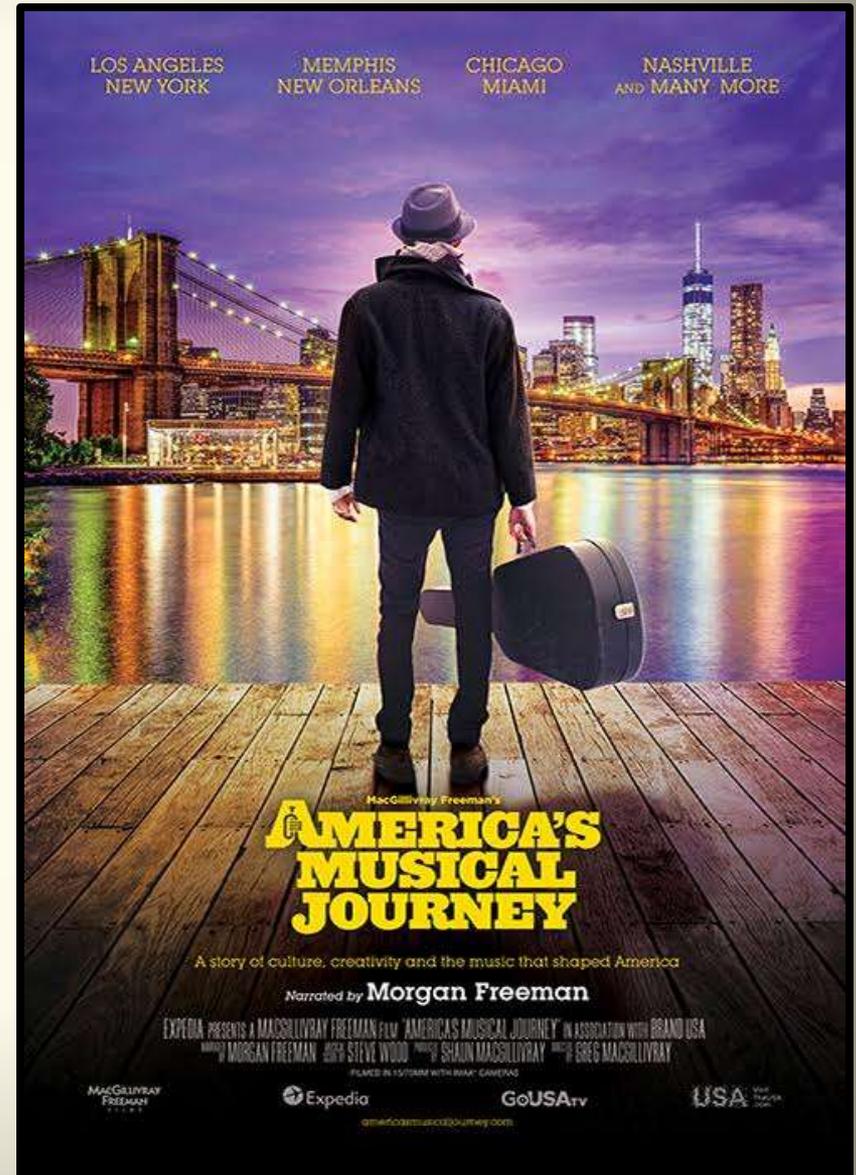
Presently, Everest and American's Musical Journey are running at Dome Theatre.

- ❑ This film takes audiences on an inspirational and difficult climb of the world's tallest mountain with a team of four international climbers who find hope, beauty, and triumph in the wake of tragedy.
- ❑ Audiences discover how Mt. Everest was formed, how high-altitude challenges a climber's physical and mental capabilities, and how Sherpa culture and tradition is prevalent in the area.
- ❑ The film was the first large-format film to be shown in over 90 theatres simultaneously, making history as the largest and fastest network-wide rollout ever for a large-format film.



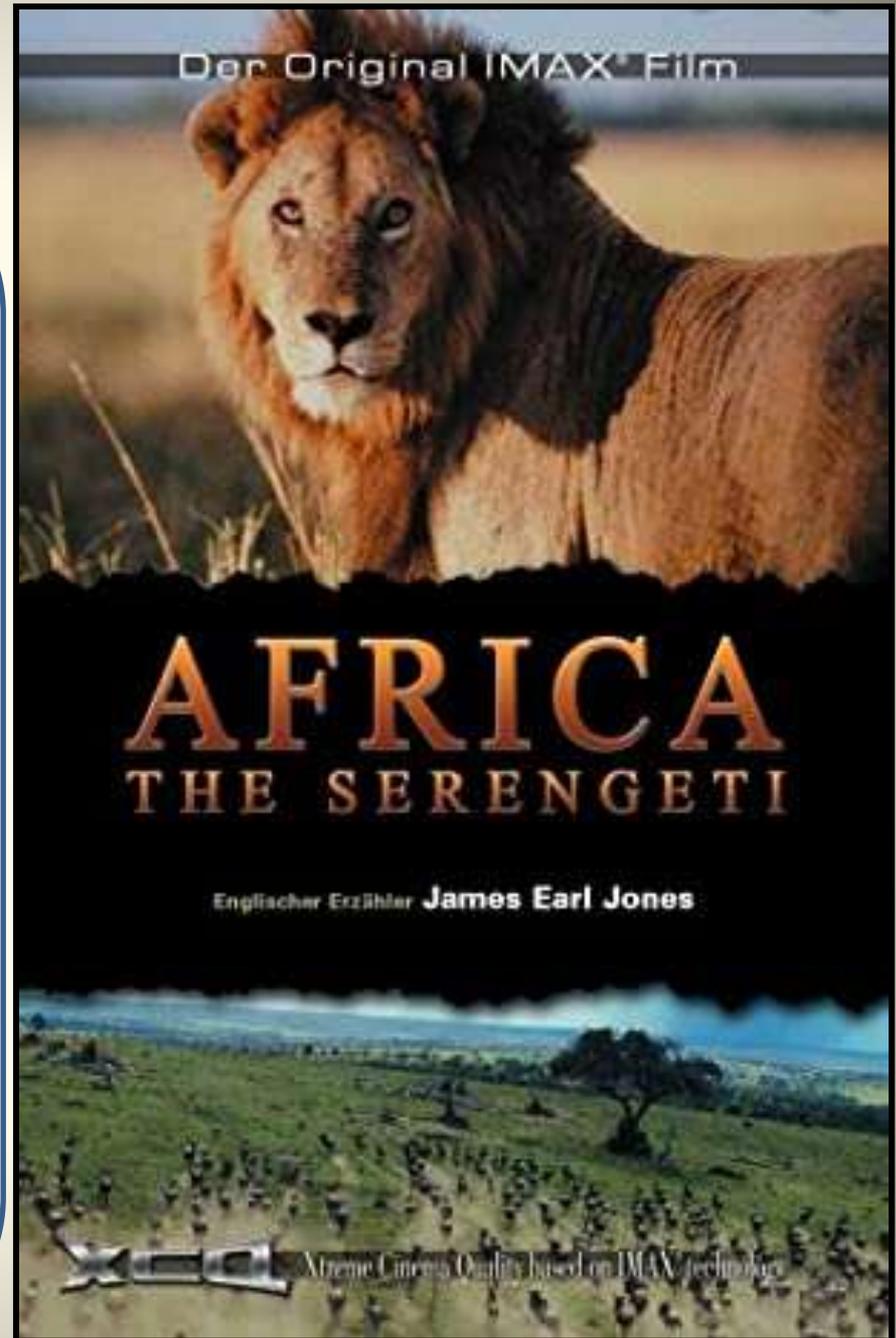
## 2. America's Musical Journey

- ❑ The film celebrates the diversity of cultures and the creative risk-taking that characterize America, as told through the story of its music.
- ❑ The film follows Grammy-Award nominated singer and songwriter Aloe Blacc as he traces Louis Armstrong's footsteps through the colorful locales and cultures where America's music was born.
- ❑ Visiting cities such as New Orleans, Chicago, Detroit, New York City, Nashville, Miami and more, audiences experience unique adventures like, paddle-wheel boating up the Mississippi Delta, flash mob dancing in Chicago or skydiving with Elvis impersonators above Memphis
- ❑ The scenes shot specifically for the giant screen.



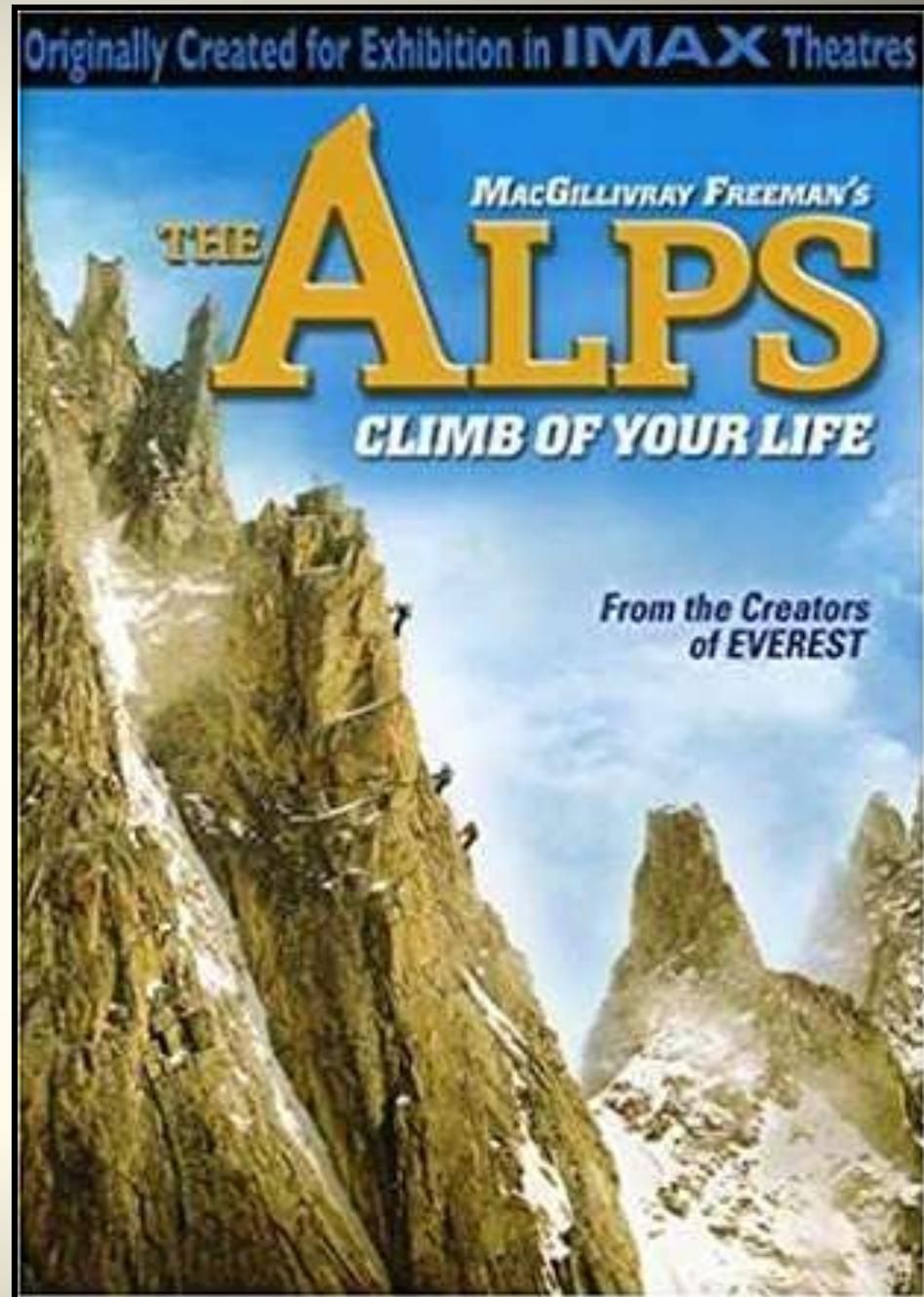
### 3. Africa The Serengeti

- ❑ This is a 70 mm American documentary film released in 1994
- ❑ It is narrated by Academy Award nominated actor James Earl Jones, and directed by George Casey.
- ❑ It was shot on location in Tanzania and Kenya.
- ❑ The film features nature cinematography during a year at East Africa's Serengeti plain. The Serengeti is a huge area of grassland in Tanzania. Once a year, in time of drought, animals travel north in order to survive. This "great migration", an event in which millions of wild beasts, zebras, and antelopes travel several hundred miles across the plain, while lions and other dangers await them along the way, is considered one of the great wonders of the world.



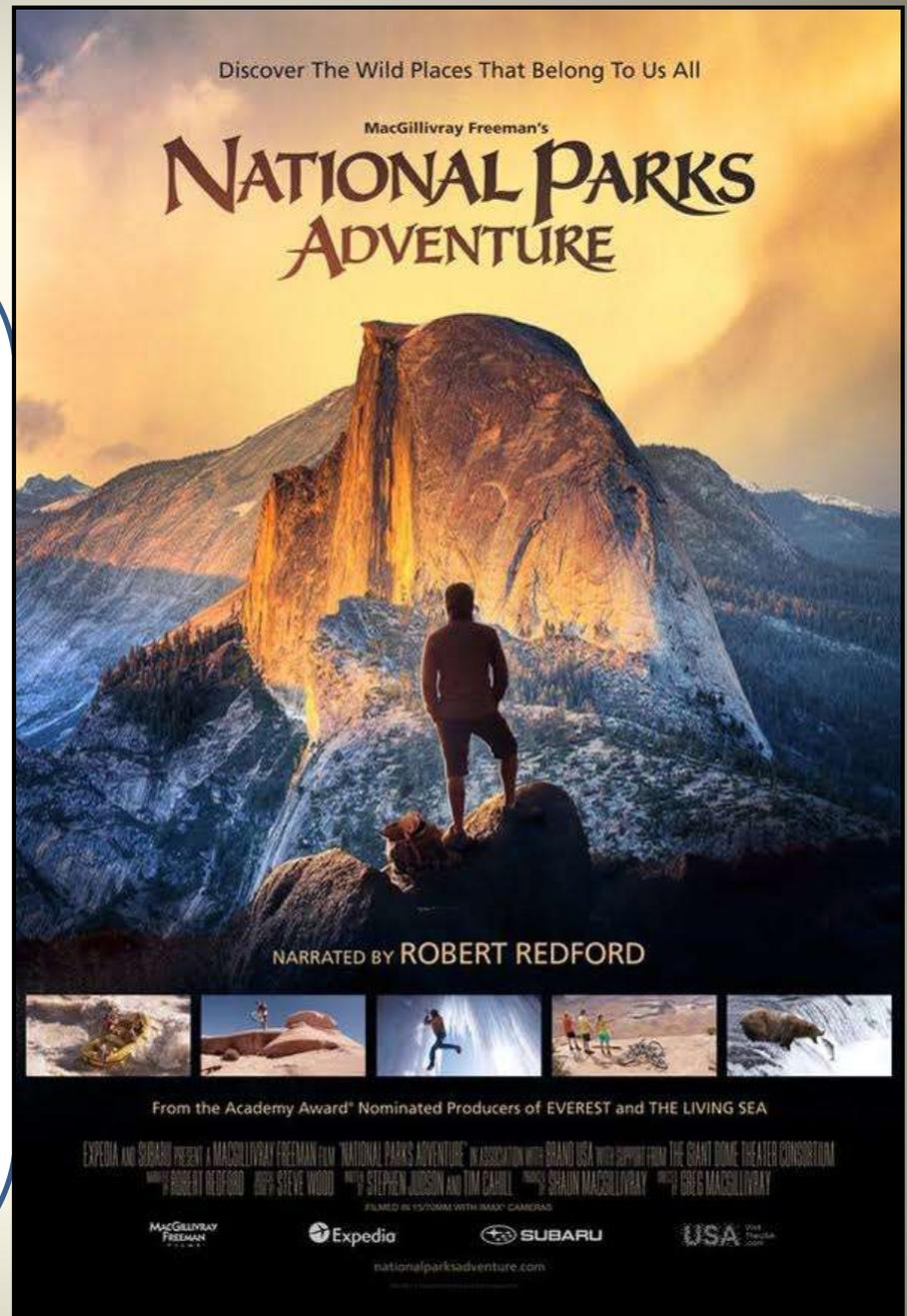
## 4. The Alps

The Alps is a 2007 American documentary film about the climbing of the north face of the Eiger in the Bernese Alps by John Harlin III, son of John Harlin who died on the same ascent 40 years earlier. It was shot in 70mm IMAX.



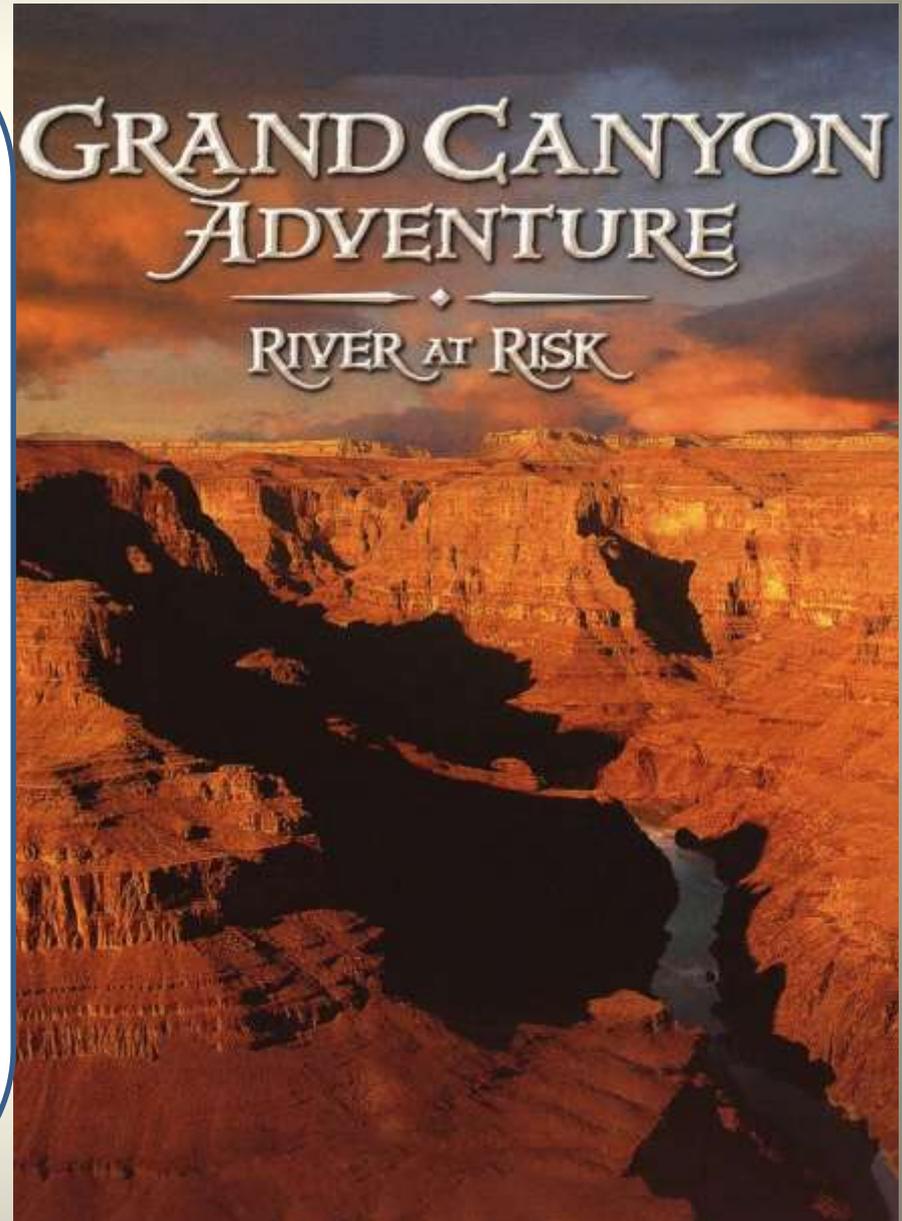
## 5. America Wild - National Park Adventure

- ❑ The film takes audiences on the ultimate off-trail adventure into awe-inspiring outdoors and wilderness.
- ❑ Viewers fly over red rock canyons, craggy mountain peaks and legendary parks including Yellowstone, Glacier National Park, Yosemite, the Everglades and Arches.
- ❑ It celebrates the 100-year anniversary of the national parks with world-class mountaineer Conrad Anker, adventure photographer Max Lowe and artist Rachel Pohl as they hike, climb and explore majestic parks in an action-packed expedition. The Narration is by Academy Award winner Robert Redford
- ❑ The film will inspire the adventurer in us all.



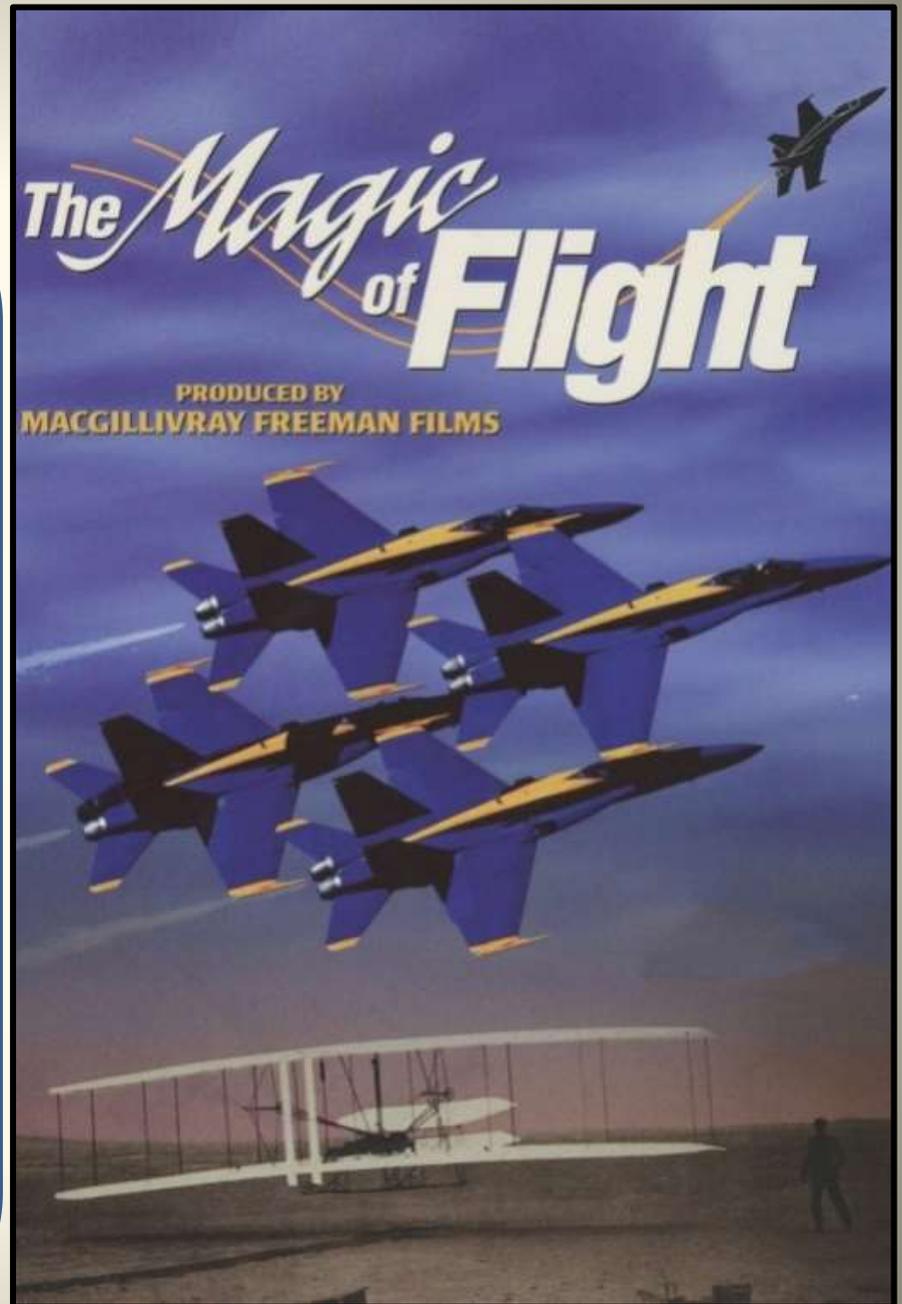
## 6. Grand Canyon Adventure: River at Risk

- ❑ This 3D film combines exhilarating river-rafting action on America's most iconic river, the Colorado, while drawing attention to the world's growing shortage of clean, fresh water.
- ❑ One of the world's mightiest rivers, the Colorado no longer reaches the sea.
- ❑ This river journey is led by noted river advocate Robert F. Kennedy Jr. and anthropologist Wade Davis, accompanied by their teenage daughters and guided by Shana Watahomigie, the first Native American National Park Ranger.
- ❑ Narrated by Robert Redford and featuring songs and music by Dave Matthews Band, the film gives audiences a special experience of the Grand Canyon, a nature's wonder, while learning about the challenges and opportunities that exist for conserving and restoring our waterways.



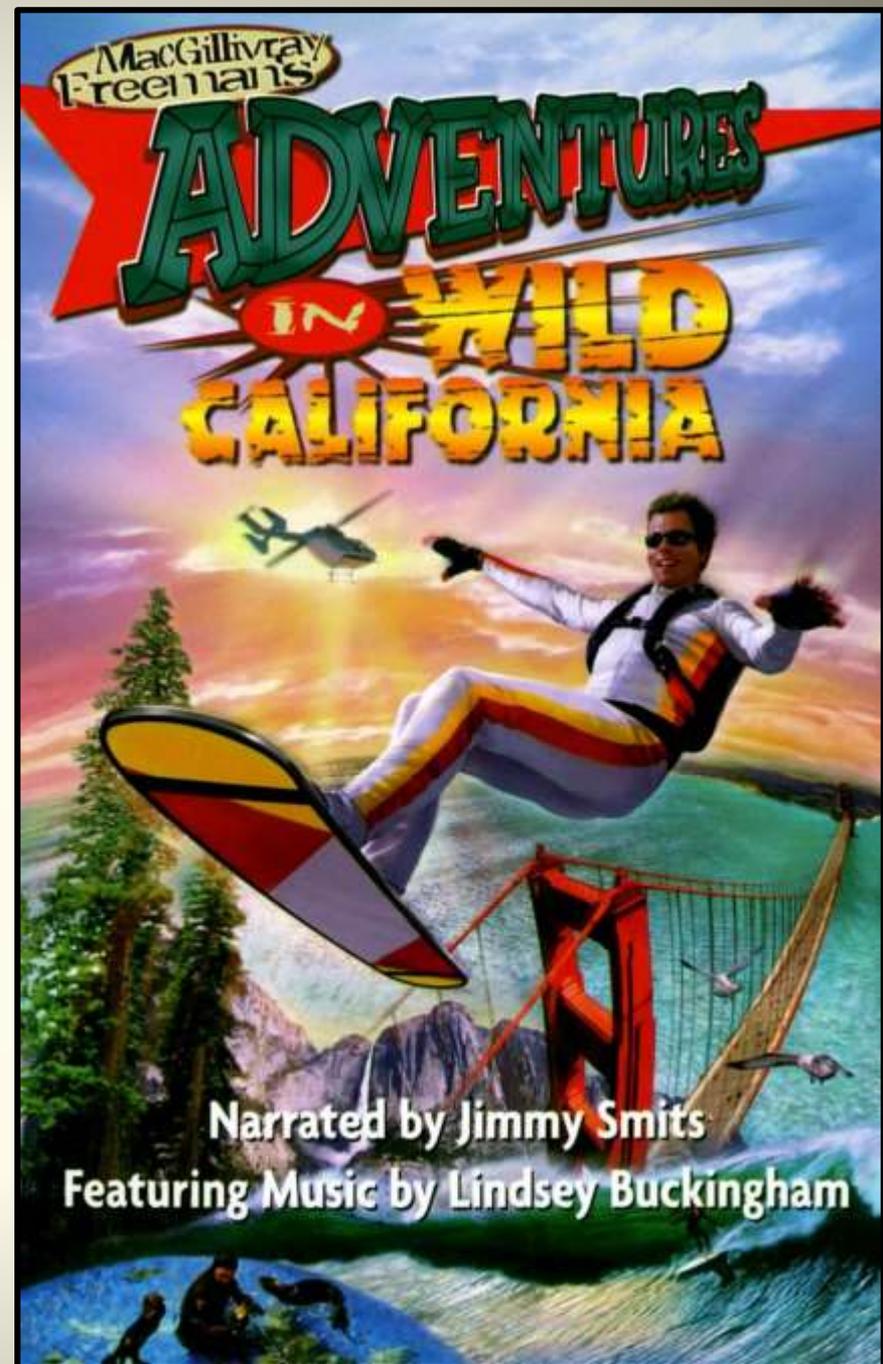
## 7. The Magic of Flight

- ❑ The Magic of Flight brings the thrill of flight and jet aircraft technology to the big screen with a film that balances the excitement of a Blue Angels air show with the science and history of flight.
- ❑ The film begins by examining how birds fly and reviews the success of the Wright Brothers' first flight in 1903. Steering from earlier flight ventures to modern aviation, audiences are introduced to high-performance jets.
- ❑ The variety and versatility of today's flying machines are displayed throughout the film. In addition, we see naval aviators, with the ability to fly up to 1,300 mph, precisely land on an aircraft carrier, the most difficult maneuver in all of aviation.
- ❑ More than a story of machines, The Magic of Flight is the story of human potential and the importance of training and performance.



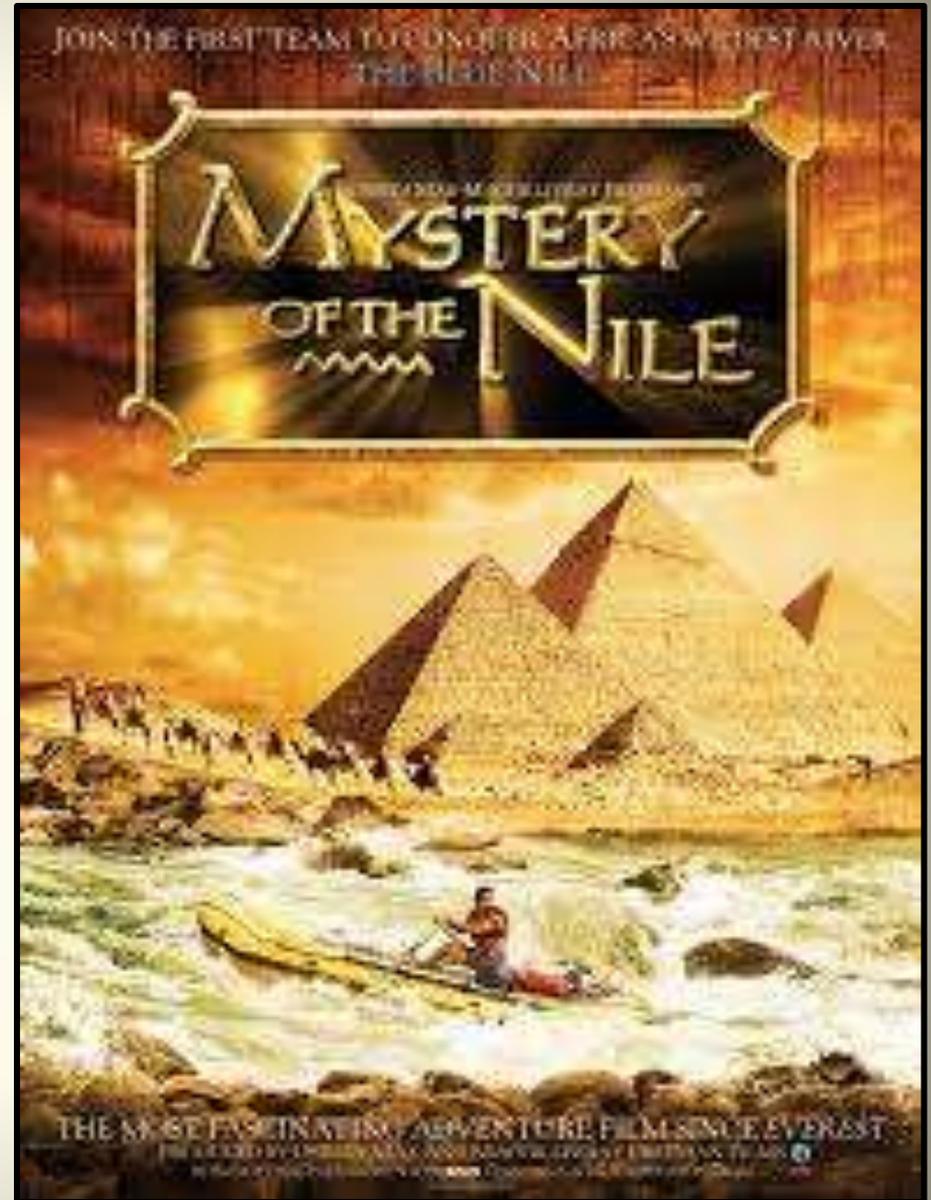
## 7. Adventures in Wild California

- ❑ Caren down an icy, steep mountain face with snowboarders; twirl above the clouds with skysurfers; climb a thirty-story tall Giant Sequoia and emerge from under the spray of one of California's biggest, surfable waves.
- ❑ This film explores the vast beauty, landscapes, and creative spirit that make this state and its people unique.
- ❑ Audiences are introduced to such adventuresome individuals as Steve Sillett, a biologist studying life in the canopies of California's giant redwood trees; Sue Campbell, an otter aquarist whose job is to help introduce orphaned sea otter pups back into the wild; skydivers Troy Hartman and Joe Jennings; and two ironworkers who perform the upkeep on the Golden Gate Bridge.



## 8. Mystery of the Nile

- ❑ Mystery of the Nile is a 2005 IMAX film documenting the first successful expedition to navigate the entire length of the Blue Nile and Nile from its source in Ethiopia to the Mediterranean Sea.
- ❑ The expedition was led by geologist Pasquale Scaturro. The journey took 114 days starting on December 22, 2003 and was finished on April 28, 2004.
- ❑ The film was released in 2005.



## 9. Great White Shark

- ❑ The great white shark is an iconic predator: a creature which we love but also fear.
- ❑ The film explores its place in our imagination and its role at the top of the oceanic food chain.
- ❑ The film concentrates on key aggregation points around the world: Mexico, South Africa, Los Angeles and New Zealand.
- ❑ It highlights that the animal is on the verge of extinction.
- ❑ Key experts in shark research and people whose lives have been changed by contact with the animal share their experiences, culminating in a direct encounter between man and shark.



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# THANKS

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PUSHPA GUJRAL SCIENCE CITY,  
KAPURTHALA