

# **Cave Diving Fatalities**

## **A Summary**

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# Cave Diving Fatalities

- The Past
- Summary of Current Data
- The Future
  - Data Collection
  - Incident Rate
  - Non-Fatal Incidents

# The Past

- Originally to learn why cave diving fatalities occurring
- Demonstrate how “safe” cave diving could be
- Data collection “uneven” at best
  - Thanks to past coordinators, especially David Desautels

# Source Data

## 1997

- 429 cases
- Sources
  - NSS-CDS: 258
  - NACD: 361
  - Other: 87
- Cave Trained: 40

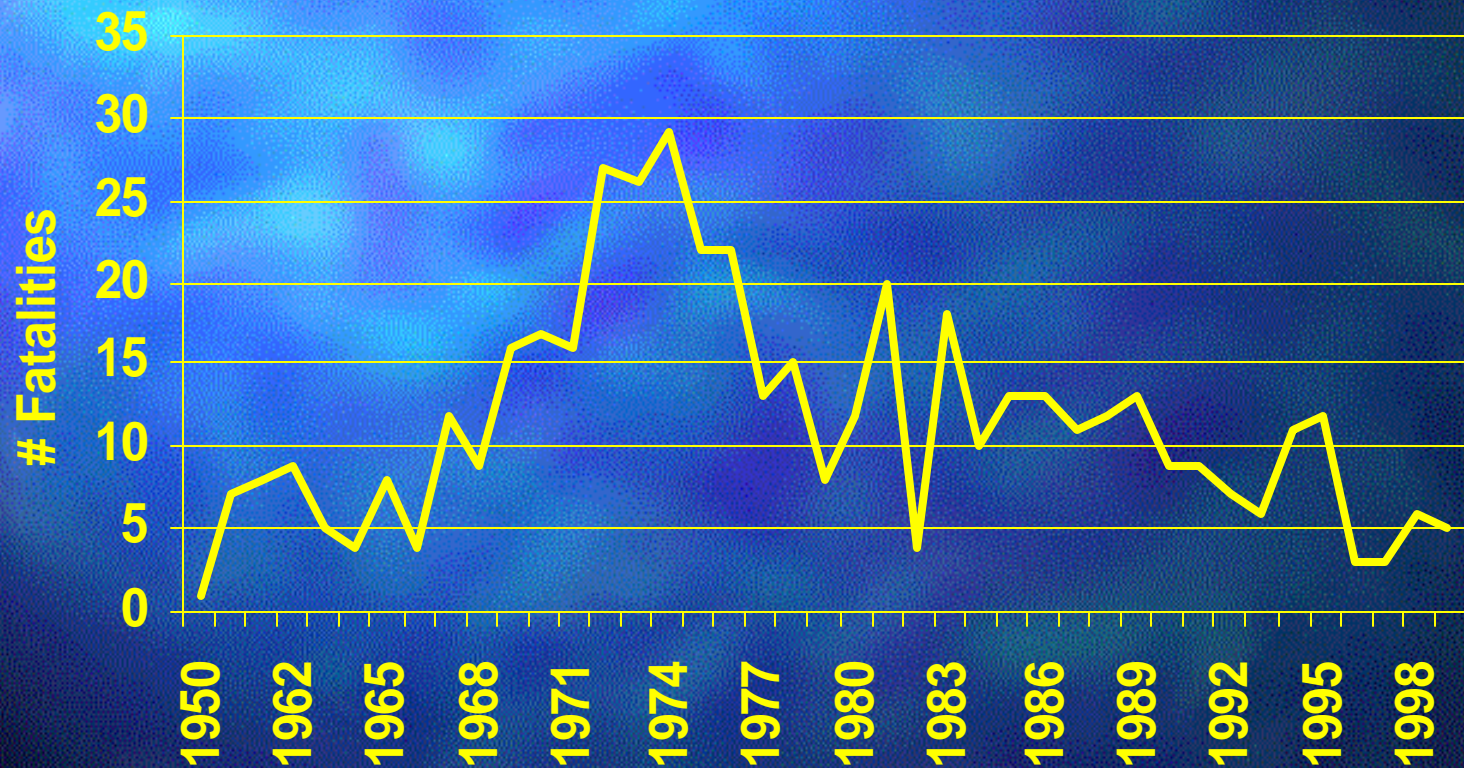
## 1999

- 478 cases
- Sources
  - Combined
  - 14 "new" cases
  - 35 "old" cases
- Cave Trained: 47

# Summary of Current Data

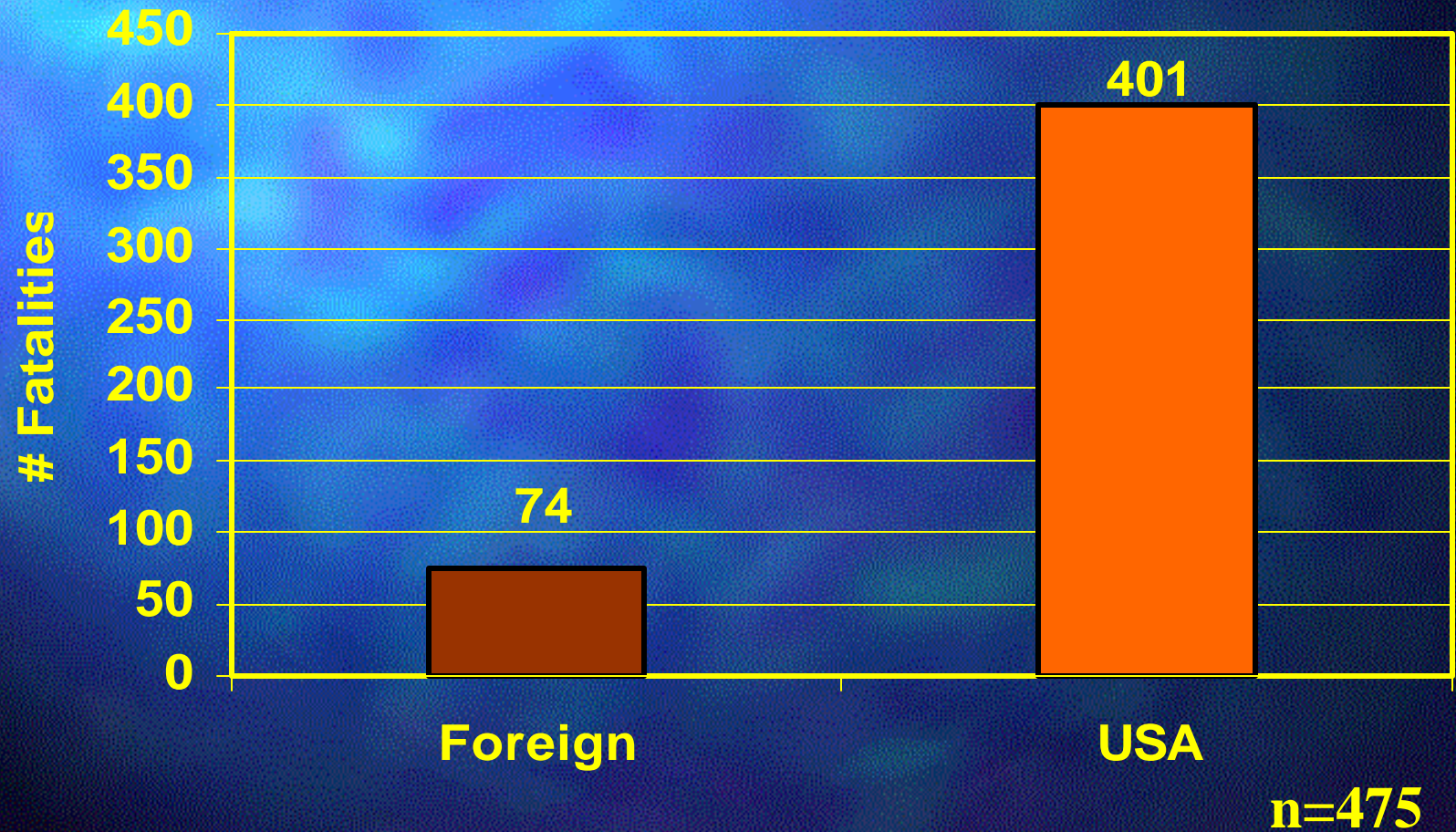
- Overall review
- Open water vs cave training
- Trends?

# Fatalities by Year

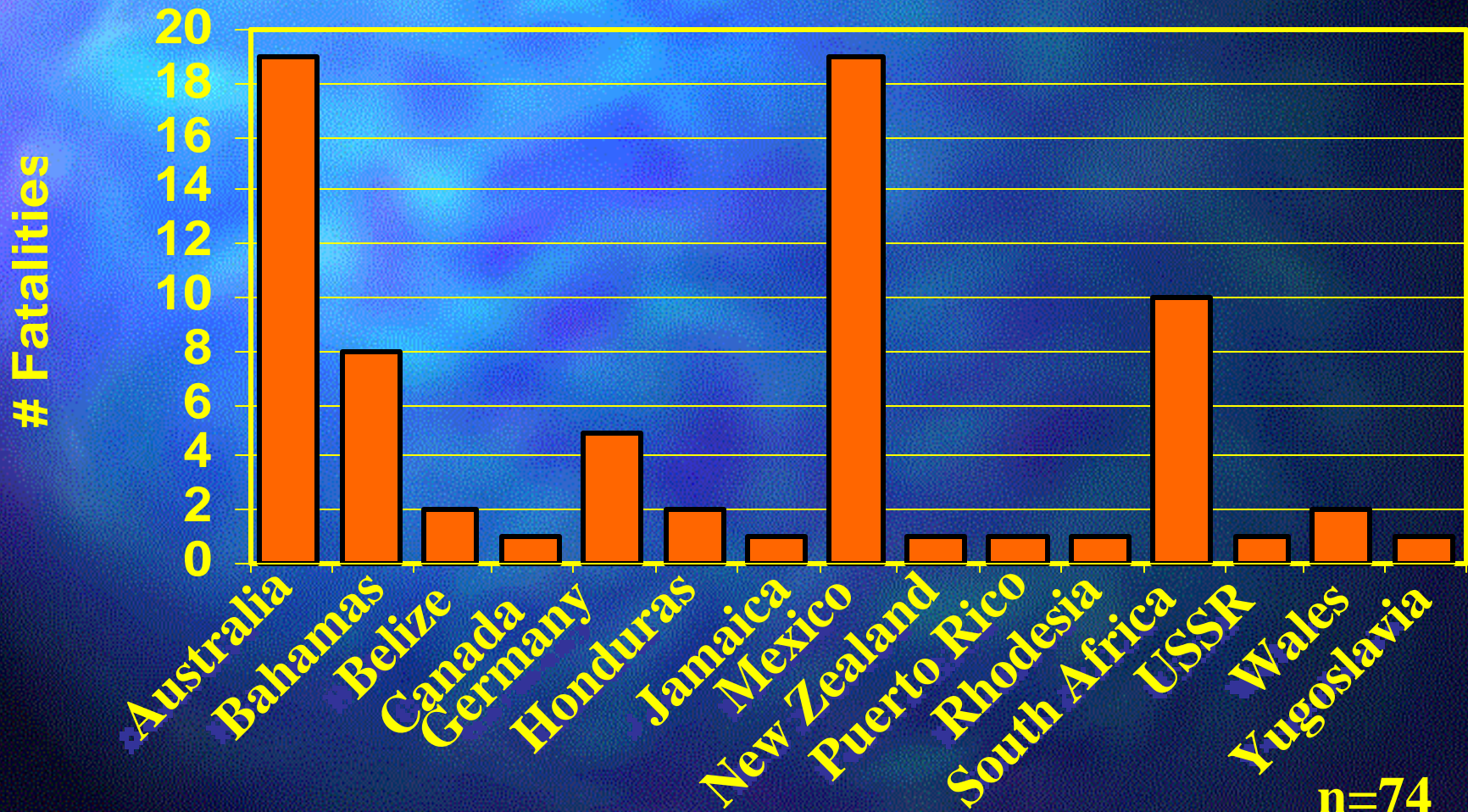


n=475

# Geographic Location



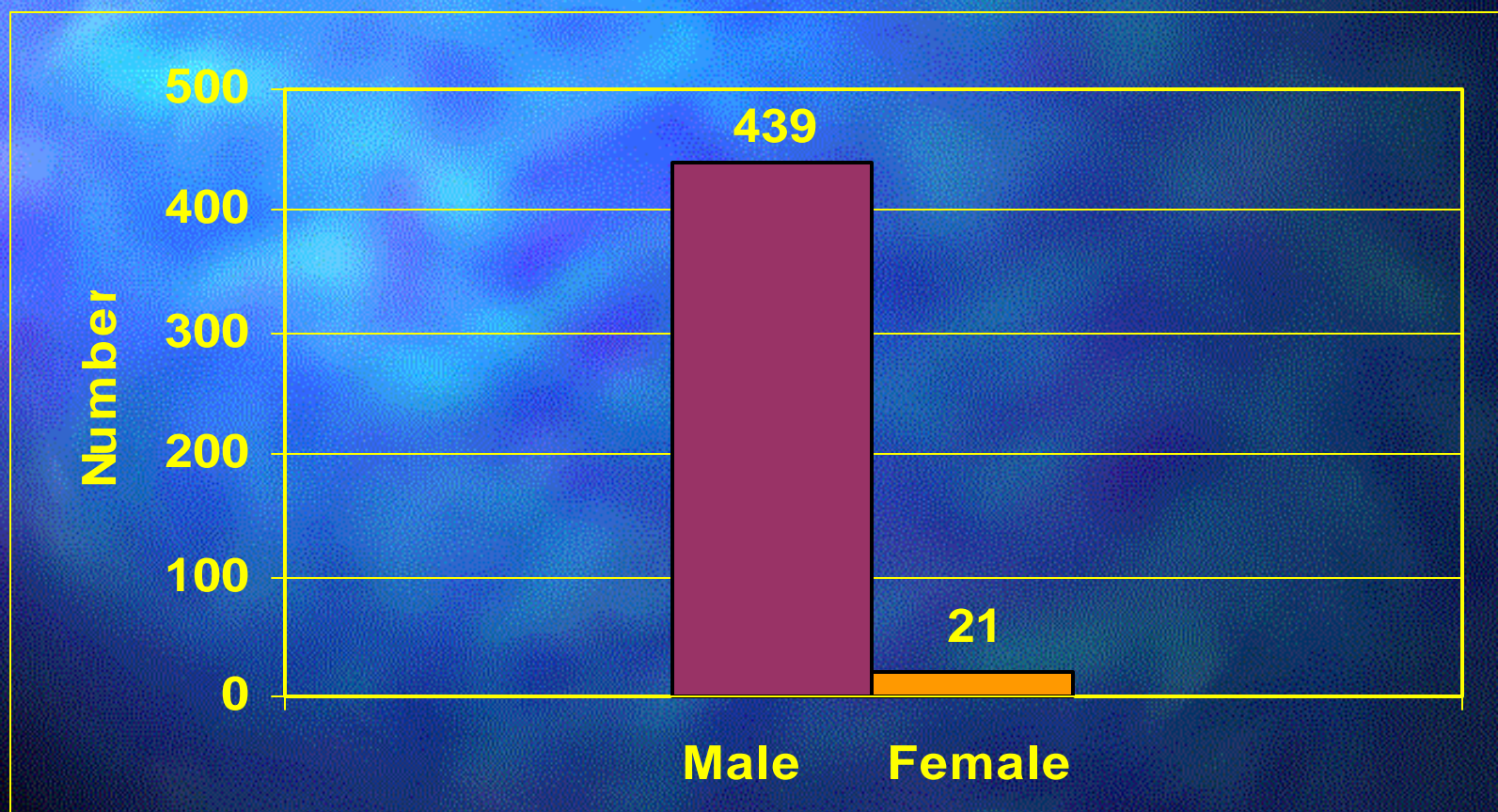
# Foreign Fatalities



n=74

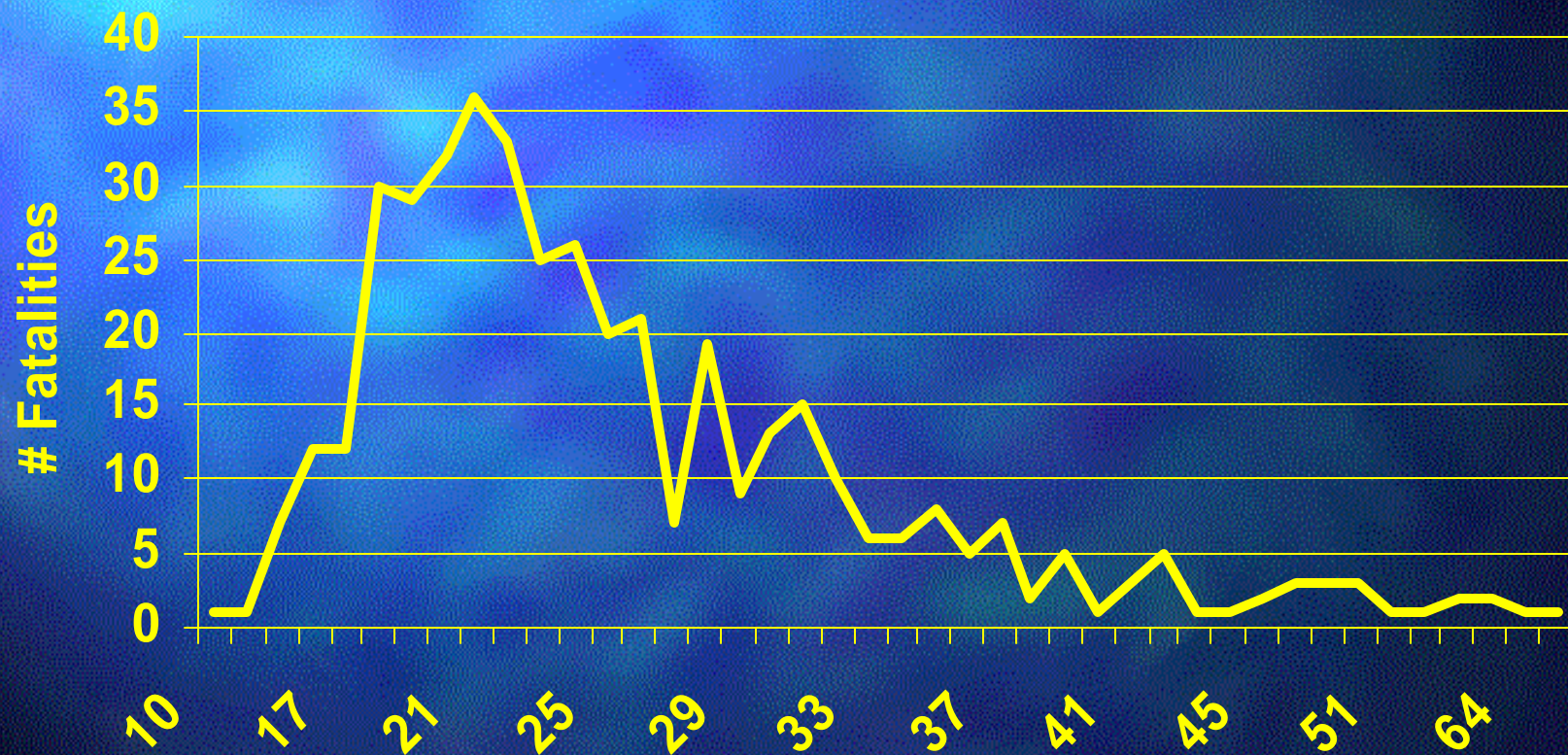


# Fatalities by Gender



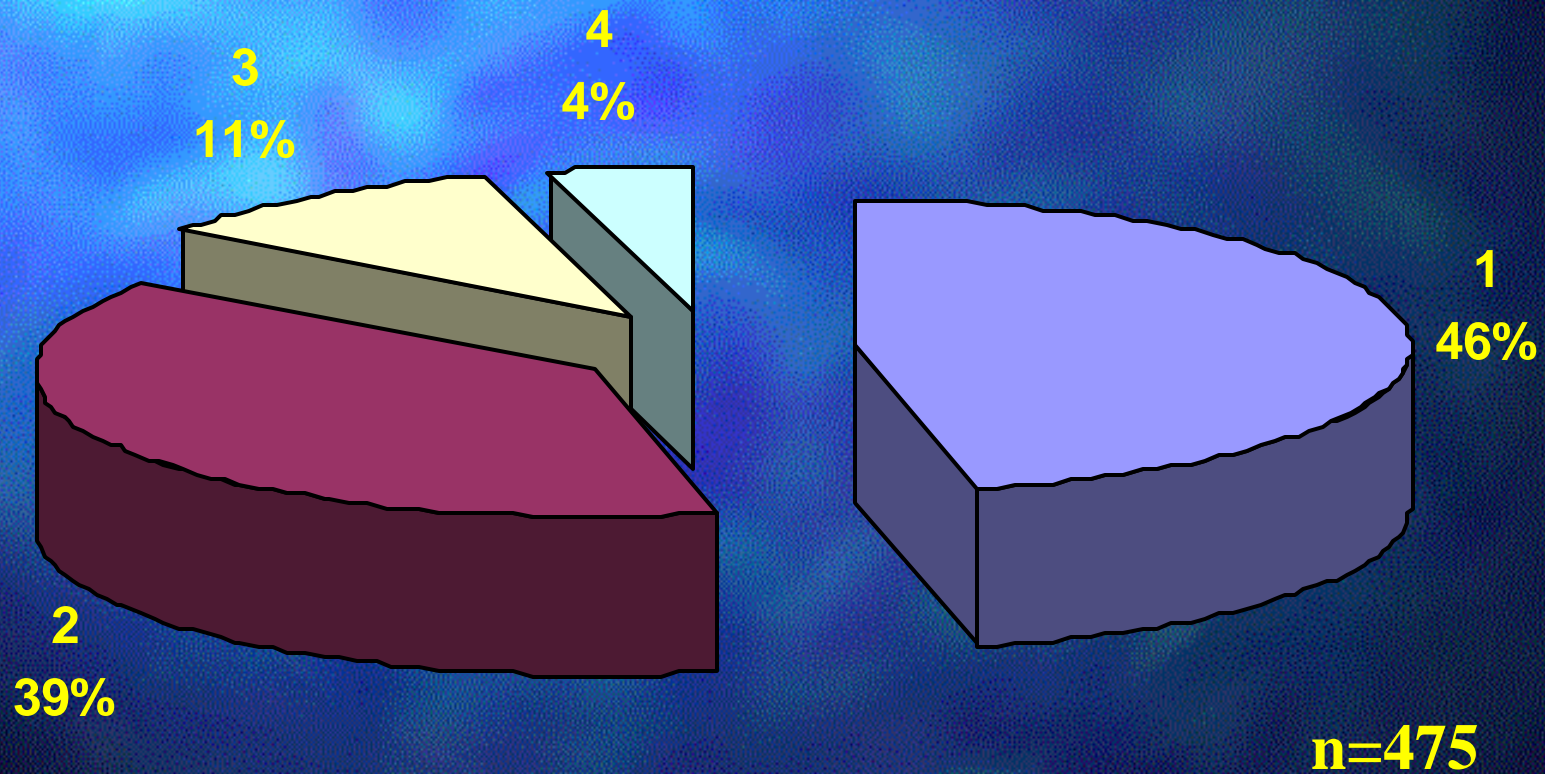
**n=460**

# Age of Decedents

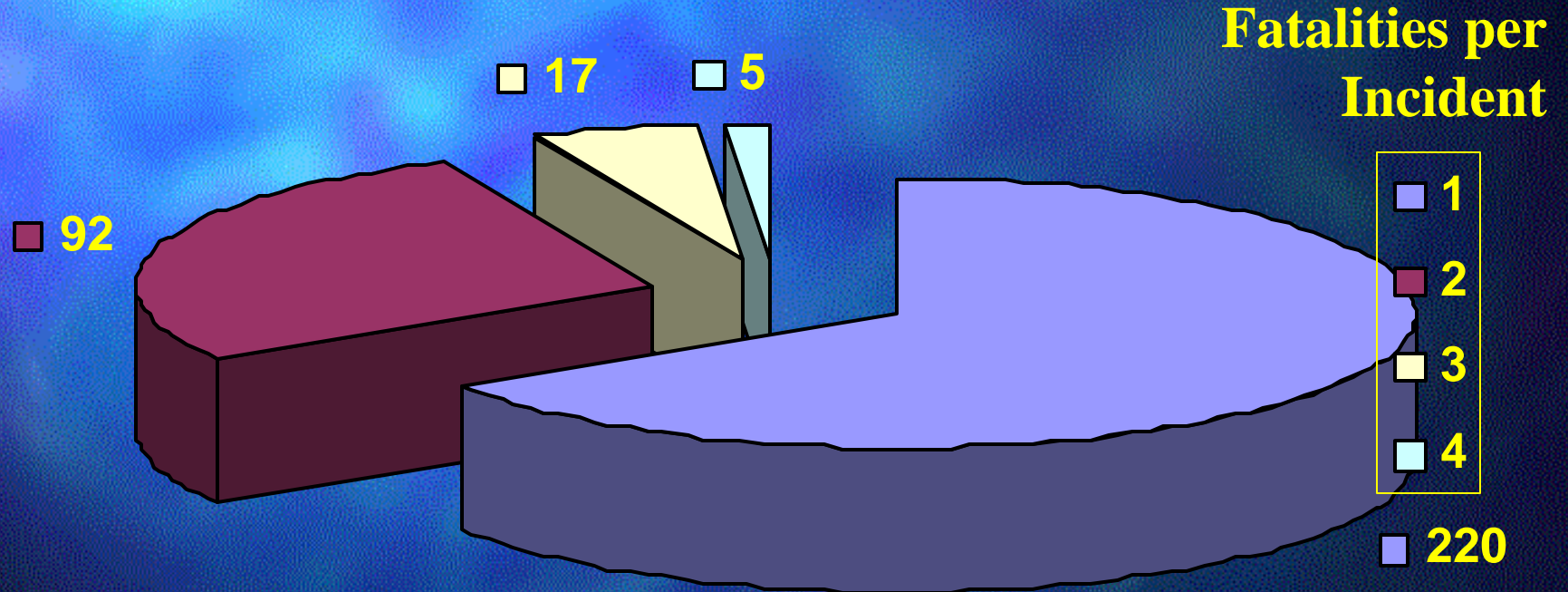


n=427

# Multiple Fatalities

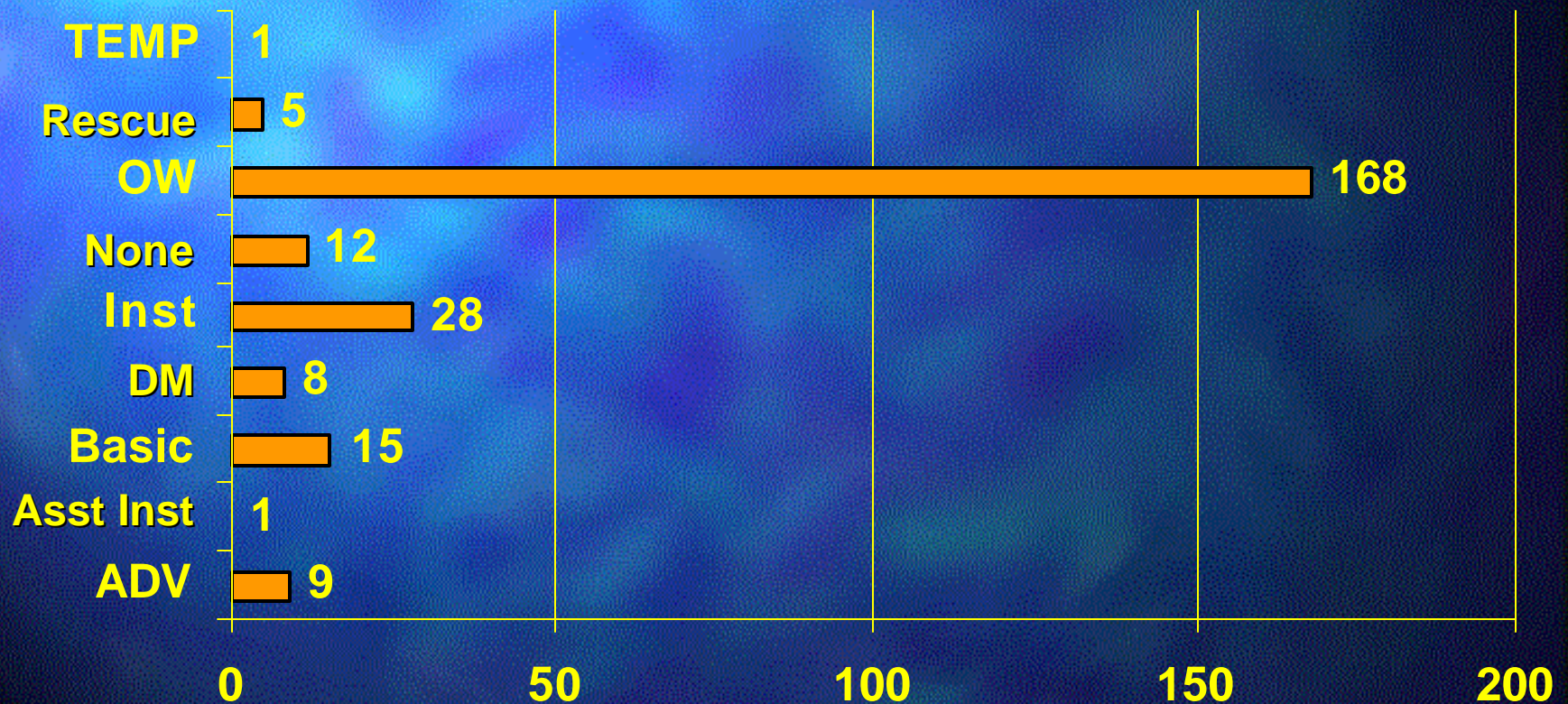


# Number of Incidents



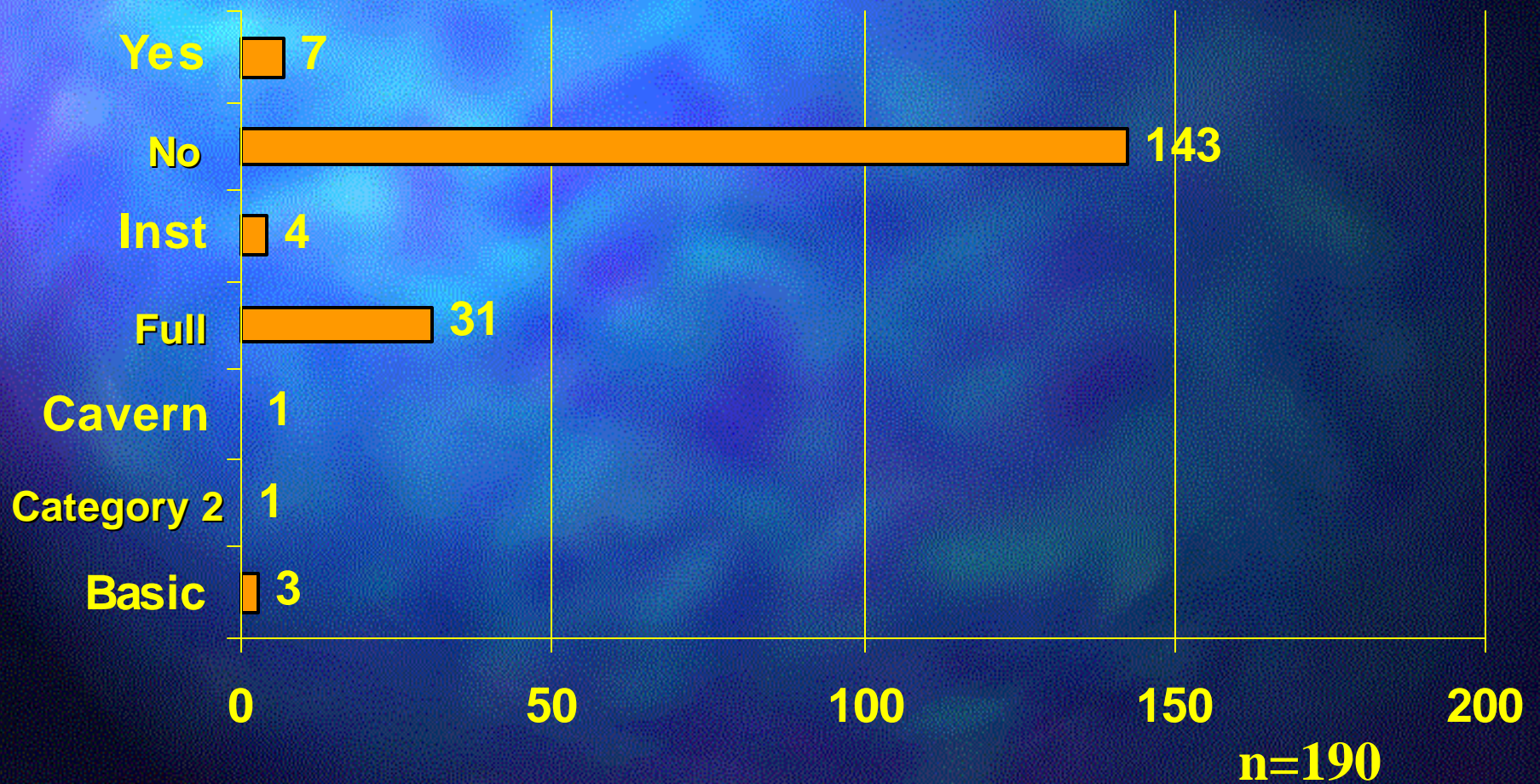
n=334

# Open Water Certification Level

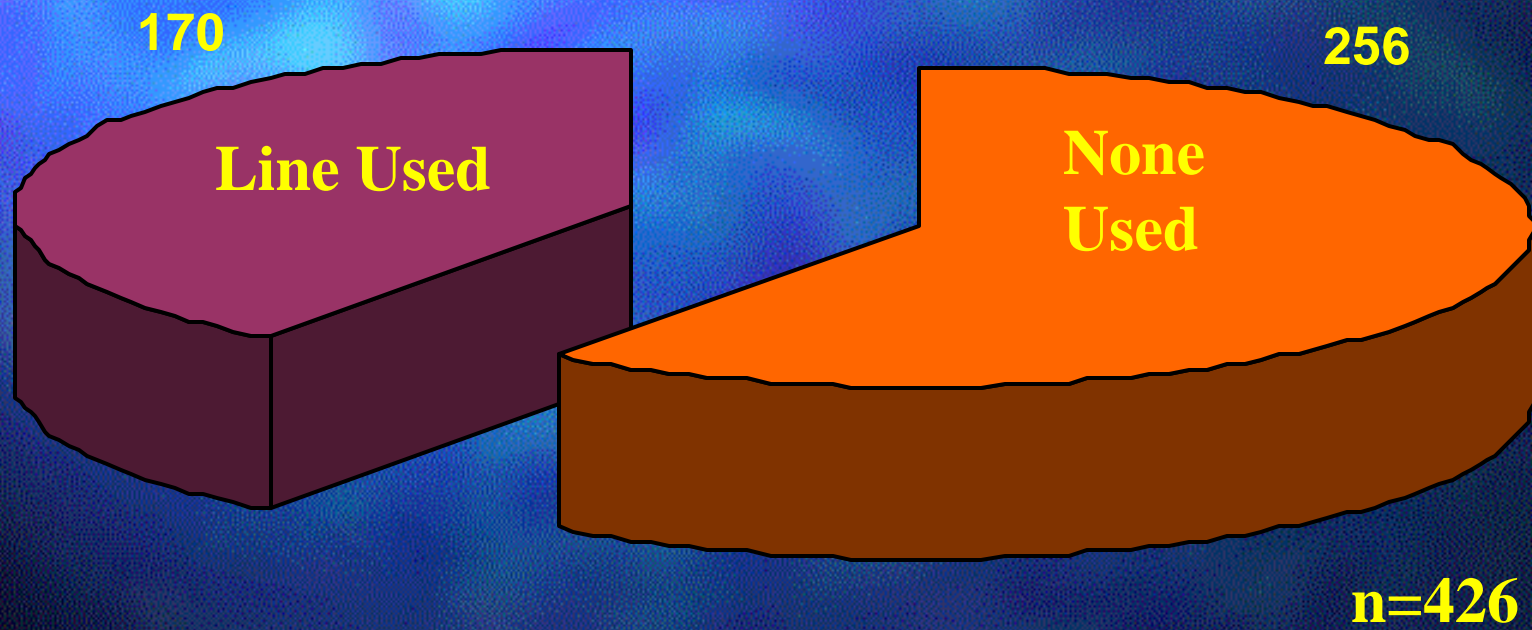


n=247

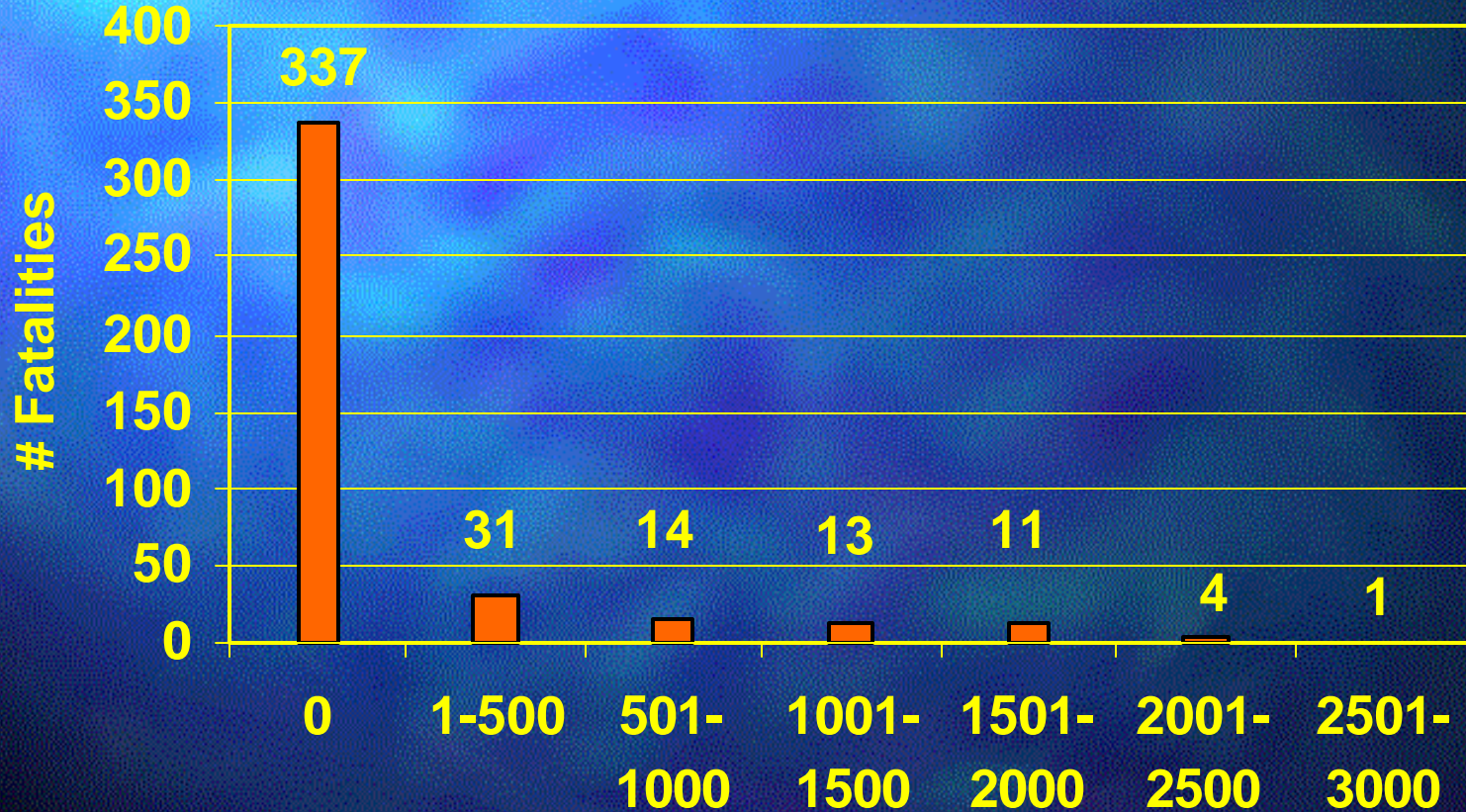
# Cave Certification



# Guideline Use



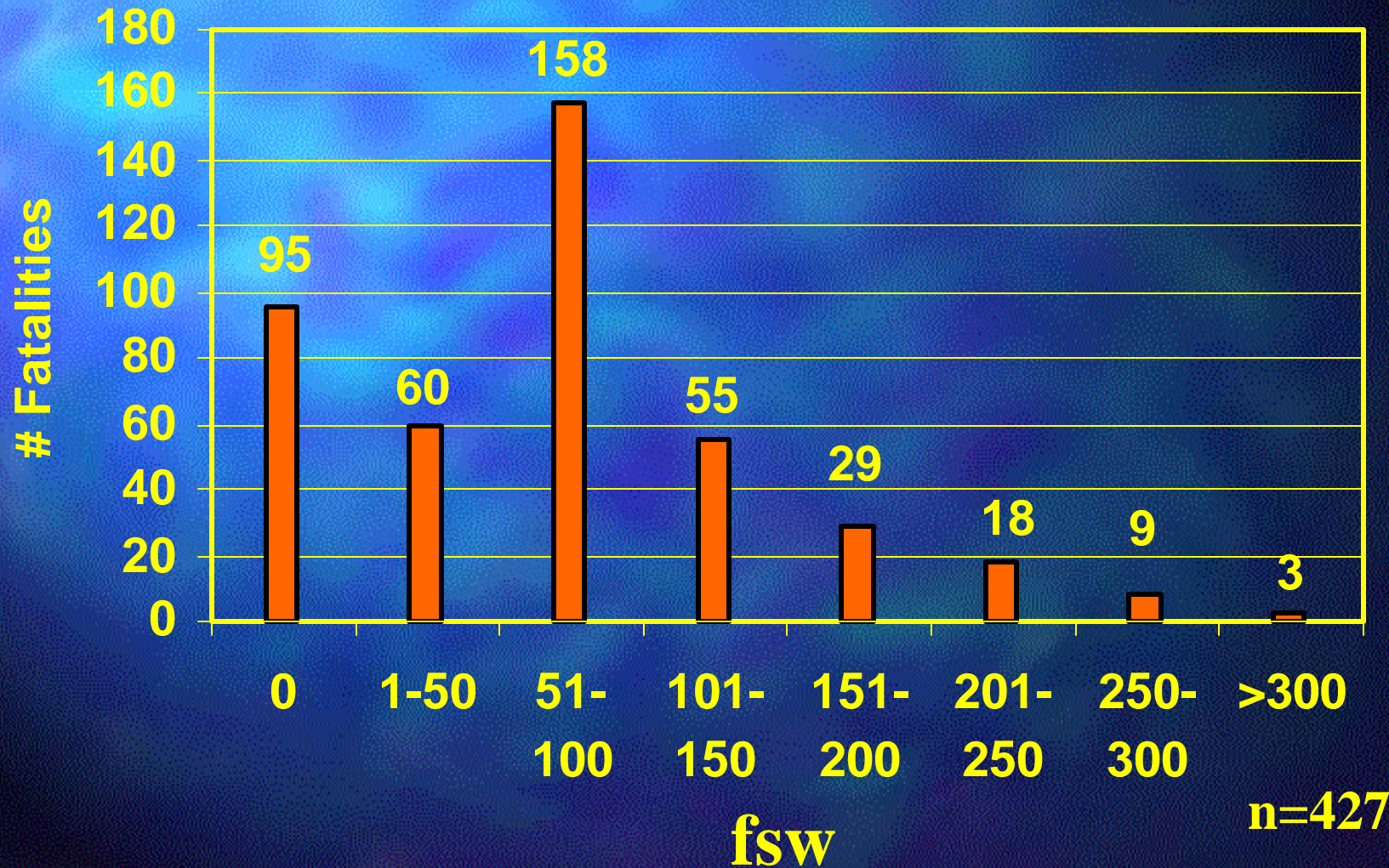
# Final Cylinder Gas Pressures



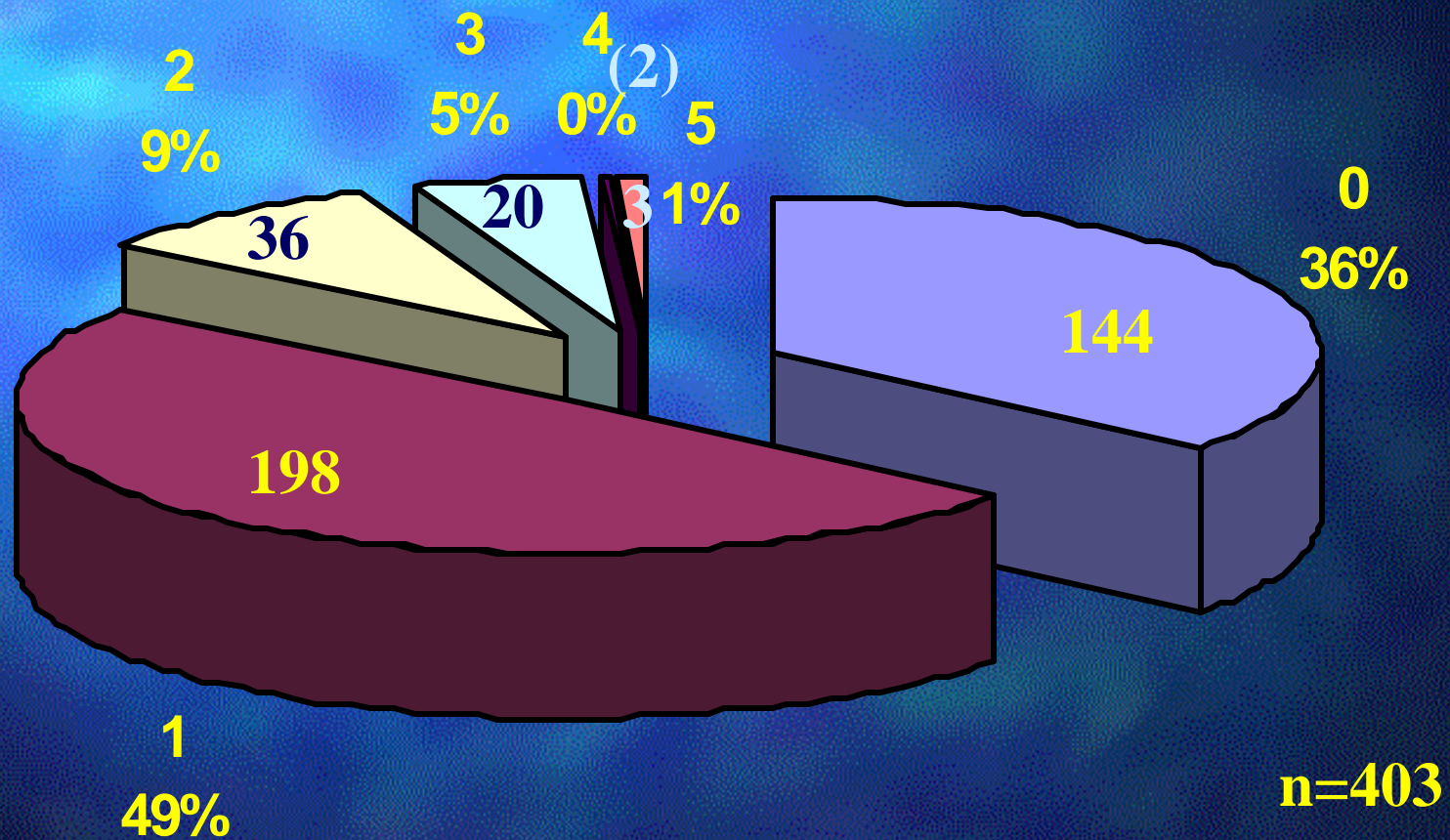
n=411



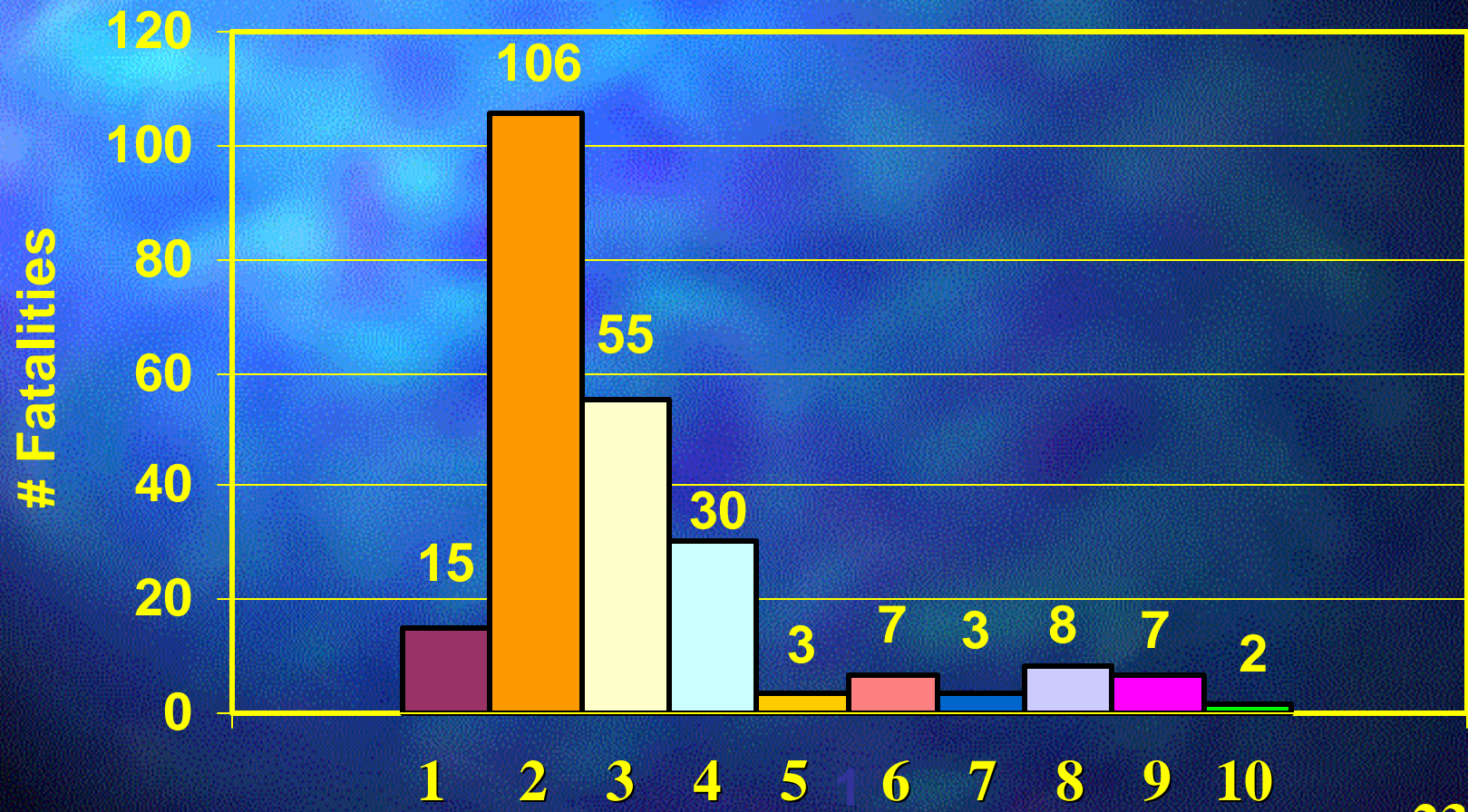
# Dive Depths



# Number of Lights Carried by Victims

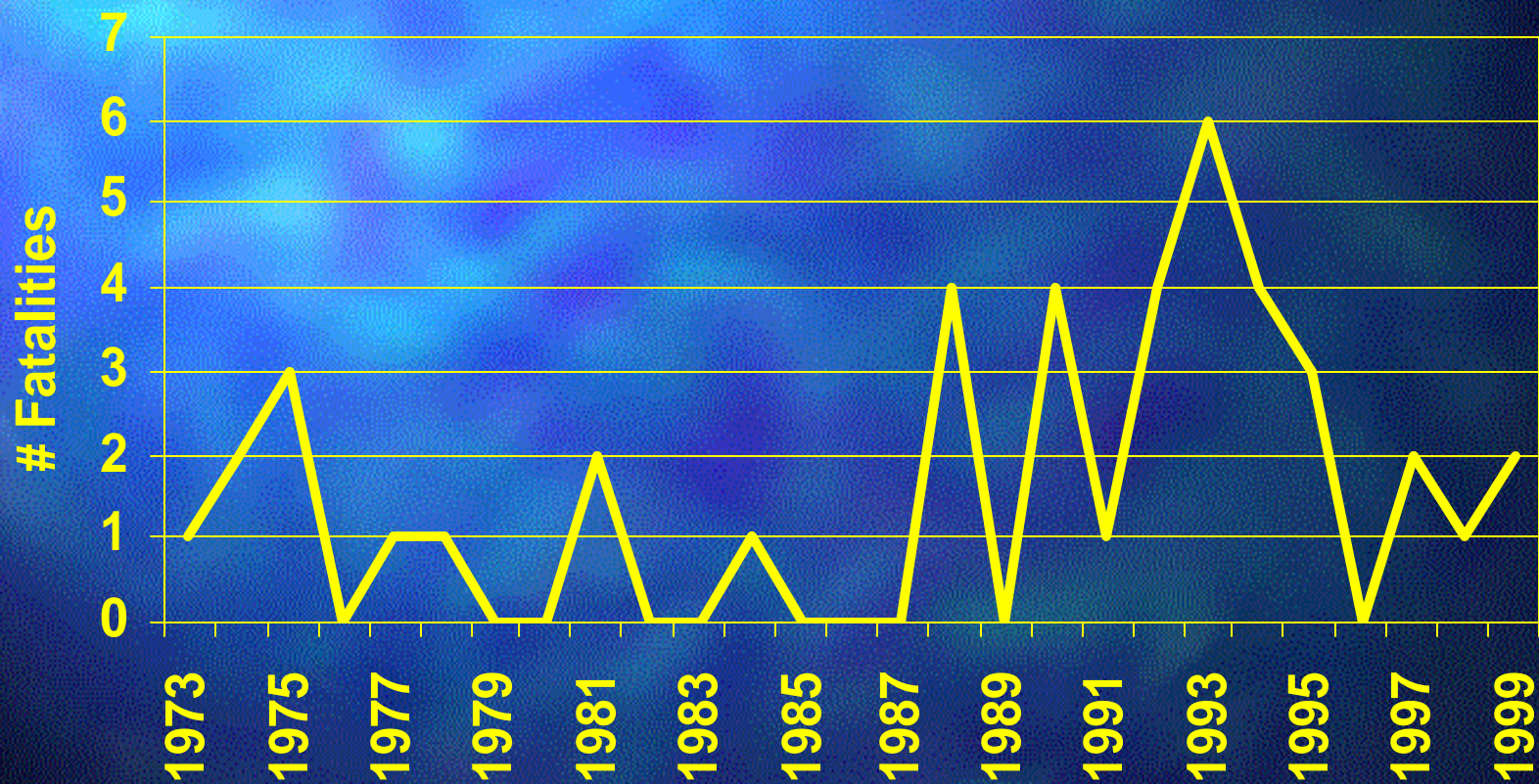


# Number of Divers in Team



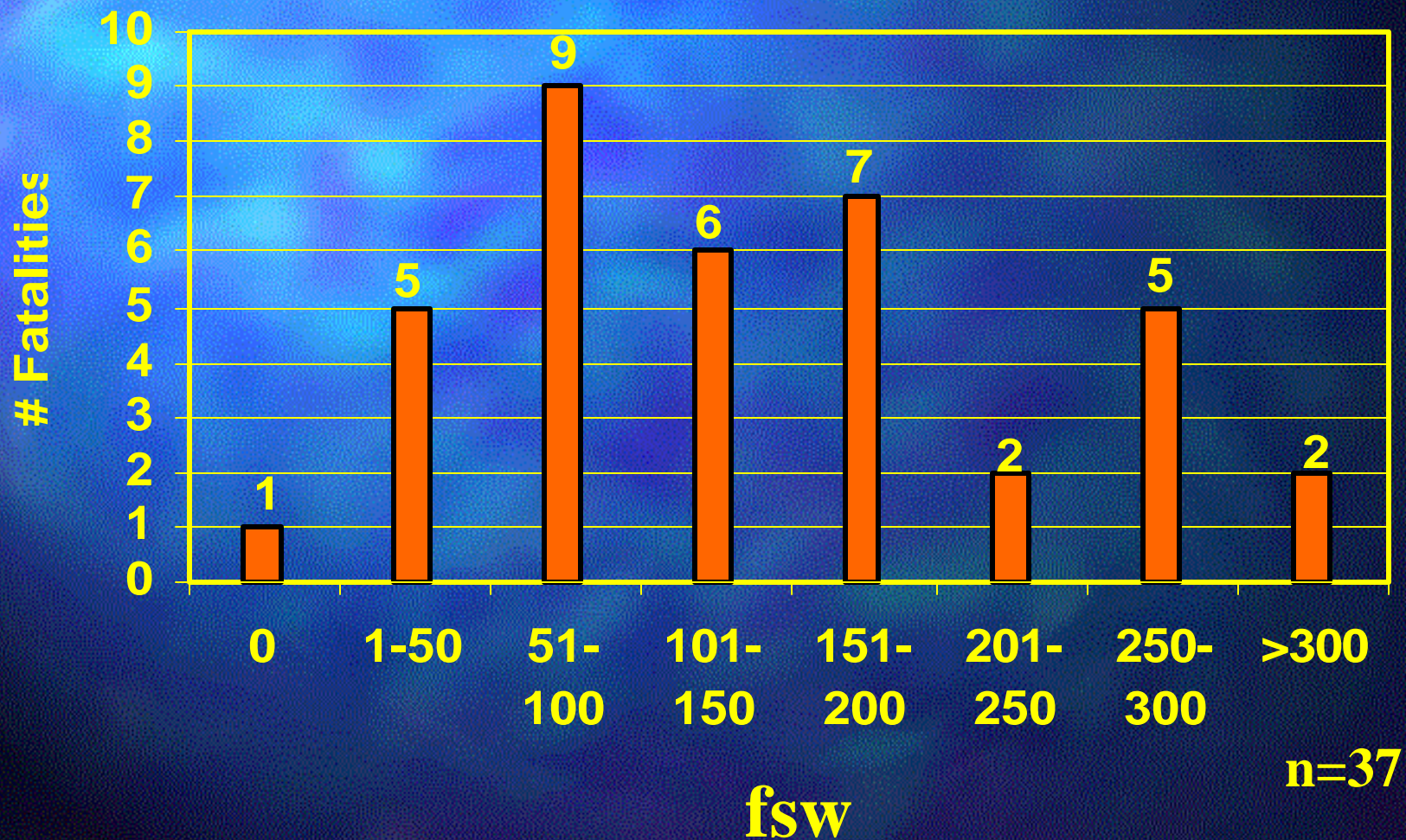
n=236

# Fatalities Involving Divers Certified Full Cave or Above

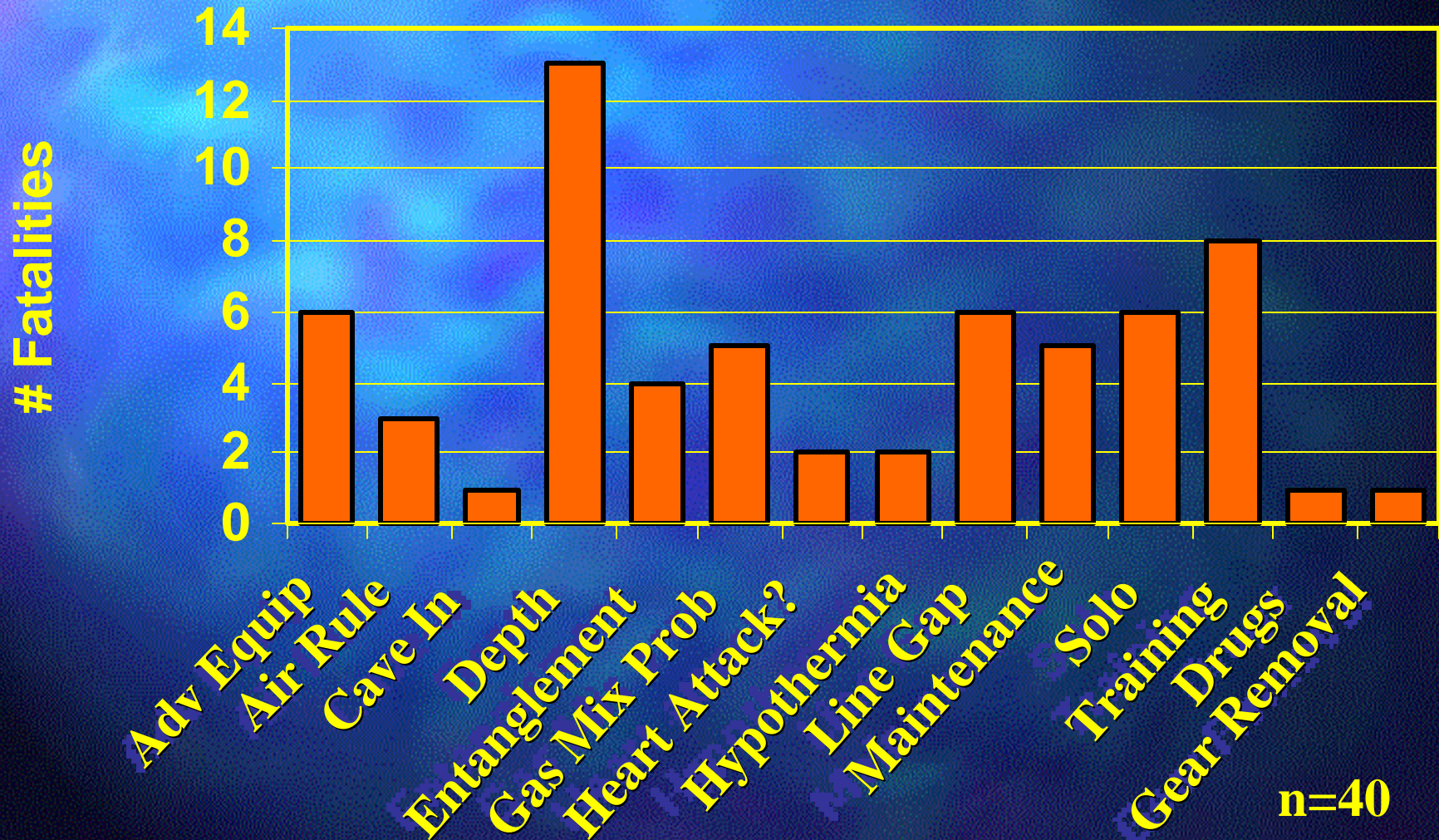


n=42

# Dive Depths of Cave Certified Victims



# Causes of Fatalities Among Trained Cave Divers



# The Future

- Data Collection
- Incident Rate
- Non-Fatal Incidents

# Data Collection

## ■ IUCRR Efforts

- Spearheaded by Henry Nicholson
- Coordination of all groups collecting data
- Information cleared through Annette Long

## ■ New Accident Reporting Form

## ■ Past Information

- "Completion" of files
- Documentation filed

## ■ Web Site Reporting and Presentation



# Incident Rates

- What are they?
- Quantification of activity levels
  - Voluntary reporting by divers of annual activity
  - Site activity reporting
  - Database of combined cave(rn) training
  - Summarization of award data (Abe Davis, etc)
  - “Specialized” equipment, techniques
- Importance to diving community
- Importance to cave diving community

# Non-Fatal Incidents

- Should we collect them?
- Types
  - Air management problems
  - Equipment/maintenance problems
  - Events related to “advanced” equip/techniques
  - Other
- Importance to cave diving community
  - Pro-active development of the recreation
  - Texts and training concerns
  - Trends

# Issues

- By collecting non-fatal incident data, would we be compromising our perceived safety record?
- Should we include “marginal” cases?
  - Cave diver who died at entrance at start of dive because he forgot to turn air on
  - 2 ffw on steps
  - Rebreather in spring pool
- Availability of source data
- Extension to other “technical” penetration diving activities

**WE NEED  
YOUR  
HELP!!**

# Acknowledgements

- NSS-CDS

- NACD

- Individuals

- David Desautels
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- Henry Nicholson
- Lamar Hires
- Pat Watson
- Jim Fishback

- Peter Horne
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- Grant Graves
- LeeAnn Hires
- Waitomo Caves
- Recovery Divers