Image Strips from IODP Legacy Datasets for use in Visualization Software

Chris Jenkins #1, **Sean Higgins** #2, **Carla Moore** #3, **Chen, J.Y.-C.** #4
1. INSTAAR, University of Colorado, Boulder CO 80309-0450; 2. Consortium for Ocean Leadership, Washington DC 20005; 3. National Geophysical Data Center, NOAA, Boulder, CO 80305; 4. EVL, University of Illinois at Chicago, Chicago, IL 60607

PROJECT

The Integrated Ocean Drilling Program (IODP) recorded the visual appearance of the drilled and recovered sediments and rocks using whole-core photography. Those photographs exist in the IODP legacy data collections, principally the National Geophysical Data Centre (NGDC).

Recent software developments use image strips of the core as the basis for the associated measured and observed data. An example of these systems is Corelyzer (Ito et al., 2008, Chen et al., 2008). Such systems not only improve the integration and publication of the data, they also foster collaboration and work efficiencies. They can accept machine-scanned colour images, various geophysical imagings, and image strips extracted from photos.

To work with the new systems, the IODP core image strips were extracted from the whole-core photos using image-processing techniques. The extraction processing is now being performed on the >36,000 photos of the IODP, covering 236km of core recovery, at 653 sites worldwide and totalling 2TB of data. The strips are at the same resolution as the original photos (83dpi). They complement the more modern Digital Imaging System outputs (IODP 2003). In the future, the older Deep-Sea Drilling Project (DSDP) image collection may also be processed to image strips.

The core images will be served on public web sites including "http://instaar.colorado.edu/~jenkinsc/IODPimagestrips/". This will happen as they are processed. All images are currently "Beta version", and reports of problems and suggestions for improvement are being accepted.

CONCLUSION

The availability of the image strips will provide a strong visual framework for the display, manipulation and communication of all the descriptive, analytical and geophysical data on the cores.

Fig. 2

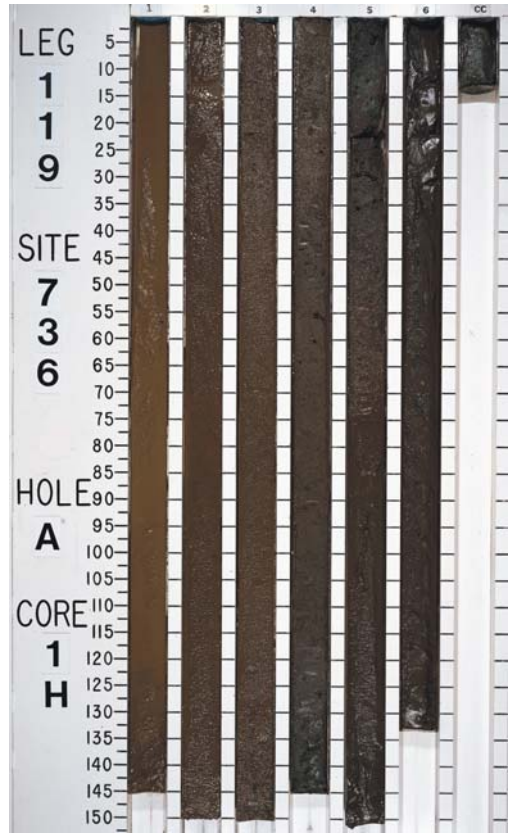

Fig. 1

Figures:

1. *A whole-core photo from the IODP legacy data collection.*
2. *Image strips extracted from the photo and arranged in depth sequence.*
3. *Display of an image strip in Corewall. Track data on physical-chemical properties, components and features are plotted alongside. Research annotations are also displayed.*

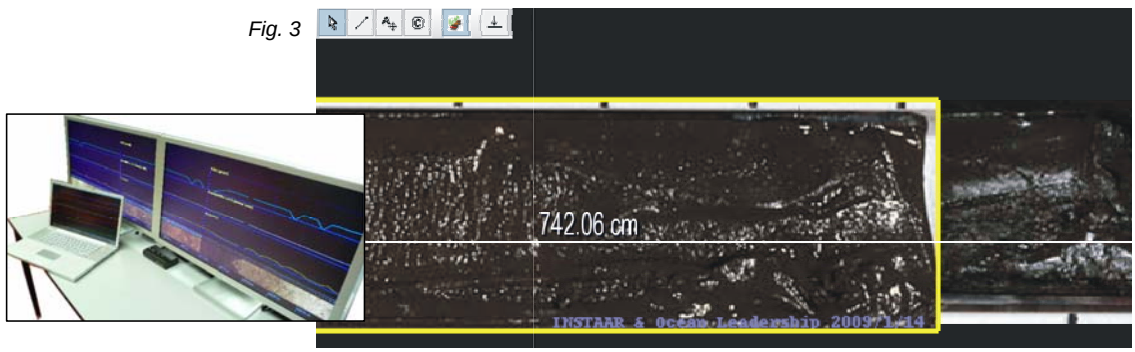

Fig. 3

REFERENCES

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